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Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS



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HIGHLIGHTS

Food markets in 2019/20 are bracing for some additional uncertainties beyond their own fundamentals. A fast-changing trade environment and the rapid spread of African Swine Fever constitute important challenges to overcome. However, prospects point to generally well supplied markets, which is seen to contribute to a lower food import bill in 2019.

WHEAT

Given the expectations of a strong rebound in world wheat production and a less buoyant growth in overall demand, global wheat markets should remain adequately supplied in 2019/20, with inventories rising – especially among the major exporters – and prices expected to remain under pressure.

COARSE GRAINS

Despite a forecast rebound in world coarse grain production in 2019, global inventories have to decline to meet projected total utilization in 2019/20. However, export availabilities should remain sufficient amid less vibrant trade prospects.

RICE

Less attractive margins and adverse weather are tentatively forecast to constrain world rice production in 2019 from expanding beyond the 2018 all-time high. Despite the forecast stagnation, world rice supplies should remain ample in 2019/20, bolstering expectations of global rice utilization expanding further.

OILCROPS

FAO's latest forecasts for 2018/19 point towards a balanced supply-demand situation for oils/fats, while meals/cakes are characterized by a sizeable production surplus. Preliminary projections for 2019/20 suggest that production of both oils and meals could fall short of demand, possibly triggering stock releases.

SUGAR

World sugar production is forecast to drop in 2018/19 from last season's record level, but to remain slightly above global consumption. Expectations of lower production has not eased the downward pressure on prices. World sugar trade is forecast to contract marginally on higher availabilities in importing countries.

MEAT

World meat output is forecast to decline due to a fall in pig meat output, primarily in China, more than offsetting expansions in bovine, poultry and ovine meat categories. Trade is forecast to expand, fueled by an expected sharp rise in imports by China.

DAIRY

World milk production is heading for an increase in 2019, underpinned by rising dairy herd numbers and milk yields, although warm and dry weather conditions may pose a threat. Trade is forecast to expand for a fourth successive year, but at a slower pace than in 2018.

FISHERIES

Growth in global fish production in 2019 is expected to remain flat, with low catches for several wild-caught species and steady aquaculture expansion. Demand growth is positive but slowing as well, in part on trade tensions and weaker economic growth.

SPECIAL FEATURES

African Swine Fever: Challenge for some, opportunities for others?

The outbreak of African Swine Fever in East Asia is likely to have a noticeable effect on meat and feed markets worldwide. This article reviews the current extent of the spread, examines potential changes in production and consumption patterns while discussing the implications for trade flows.

Bananas and major tropical fruits in Latin America and the Caribbean

This article represents an introductory background note to the medium-term outlook for bananas and major tropical fruits in Latin America and the Caribbean, which will be published in July 2019 in the forthcoming edition of the OECD-FAO Agricultural Outlook 2019-2028.

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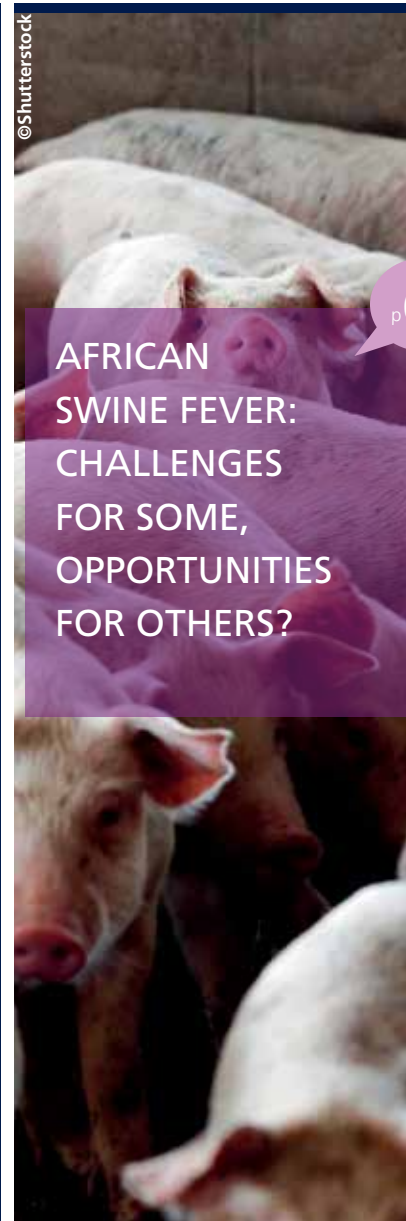
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AFRICAN
SWINE FEVER:
CHALLENGES
FOR SOME,
OPPORTUNITIES
FOR OTHERS?

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FAO Food Price Index



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MARKET SUMMARIES

CEREALS

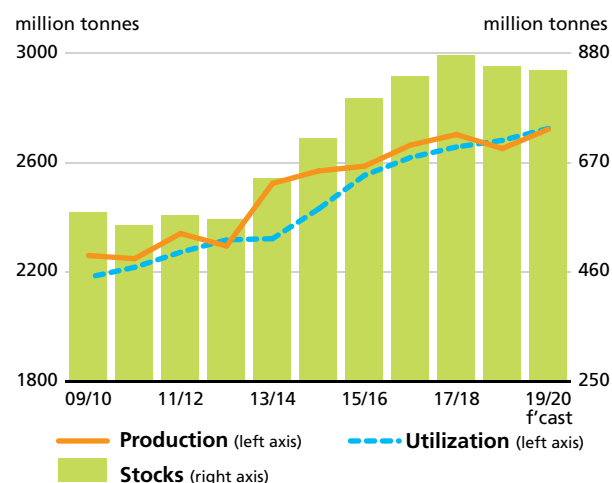
Early prospects point to a likely rebound of 2.7 percent in global cereal production in 2019, following a decline registered in 2018. Based on the conditions of crops already in the ground and on planting intentions for those still to be sown, and assuming normal weather for the remainder of the season, world cereal output is forecast to reach a new record level of 2 722 million tonnes (including rice in milled equivalent), that is 71 million tonnes higher than in 2018. Among the major cereals, wheat, maize and barley would account for most of the rise in cereal production, with projected year-on-year increases of 5.0 percent, 2.3 percent and 5.4 percent, respectively. Global rice production is likely to remain close to the 2018 all-time high.

World cereal utilization is set to increase by 1.5 percent in 2019/20, and reach a high of 2 722 million tonnes, precisely matching the forecast production. The expansion would be most pronounced for coarse grains, with their utilization expected to be up 1.7 percent from 2018/19, largely driven by strong demand for animal feed and industrial applications. Global food consumption of cereals is also expected to increase, by at least 1.1 percent, due to the continued rise in world population. Food consumption of rice and wheat, the two leading staples, is projected to increase by 1.7 percent and 1.0 percent, respectively.

Based on FAO's first forecasts for cereal production in 2019 and total utilization in 2019/20, world cereal stocks would need to be drawn down marginally, by 0.7 percent, to 847 million tonnes, the lowest volume since 2016/17. Lower coarse grains and, to a lesser extent, rice inventories would account for most of the anticipated contraction in world cereal reserves. By contrast, wheat stocks are set to increase, to their second highest level on record. However, the decline in cereal stocks would only result in a small drop in the global cereal stock-to-use ratio, to a four-year low of 30.1 percent.

World trade in cereals in 2019/20 is forecast at 413 million tonnes, up just 0.5 percent (2.0 million tonnes) from the estimate for 2018/19, but still 1.9 percent (8 million tonnes) below the 2017/18 high. Most of the anticipated decline is associated with a likely drop in maize trade; whereas trade prospects for most of the other cereals are positive, especially for wheat and rice. Against a backdrop of overall comfortable supply and demand balances for nearly all the cereals, their international prices are likely to remain under pressure, at least through the first half of the 2019/20 season.

CEREAL PRODUCTION, UTILIZATION AND STOCKS



WORLD CEREAL MARKET AT A GLANCE ¹

	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	Change: 2019/20 over 2018/19
	million tonnes			%
WORLD BALANCE				
Production	2 703.0	2 651.5	2 722.2	2.7
Trade²	421.4	411.1	413.2	0.5
Total utilization	2 657.3	2 681.5	2 722.4	1.5
Food	1 127.3	1 142.2	1 154.9	1.1
Feed	949.5	954.5	971.5	1.8
Other uses	580.4	584.8	595.9	1.9
Ending stocks³	873.7	852.9	847.2	-0.7
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	149.3	149.6	149.7	0.1
LIFDC ⁴ (kg/yr)	149.5	150.5	150.3	-0.1
World stocks-to-use ratio (%)	32.6	31.3	30.1	
Major exporters stocks-to-disappearance ratio (%)	18.0	17.6	18.0	
FAO CEREAL PRICE INDEX (2002-2004=100)				
	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	152	165	166	1.6

¹ Rice in milled equivalent.

² Trade refers to exports based on a July/June marketing season for wheat and coarse grains and on a January/December marketing season for rice.

³ May not equal the difference between supply and utilization due to differences in individual country marketing years.

⁴ Low-Income Food-Deficit countries.

WHEAT

Following some tightening in 2018/19, global wheat markets are expected to benefit from a likely significant rebound in supplies in the new season (2019/20), on the back of anticipated production recoveries in many countries. Total wheat output in 2019 is pegged at 767 million tonnes, up 5.0 percent from 2018 and, if confirmed, would mark a new record. Most of the growth is expected to result from production increases in the European Union (EU), the Russian Federation and Australia.

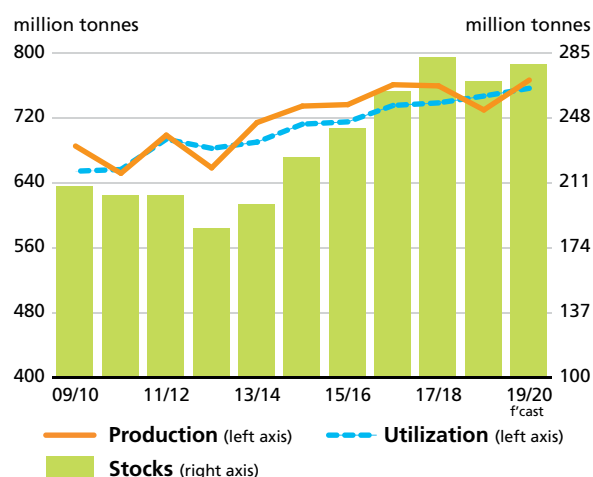
Global wheat utilization in 2019/20 is forecast to grow by 1.3 percent, to 757 million tonnes. Despite the rise, total utilization would still fall short of the 10-year trend value for the third consecutive season. While food consumption of wheat is foreseen to keep pace with the overall population growth, reaching 519 million tonnes, feed utilization of wheat in 2019/20 is pegged at nearly 144 million tonnes, up 1.5 percent from the 2018/19 estimated level, with most of the increase expected to take place in China, the EU and the Russian Federation.

Based on the preliminary forecasts for 2019 production and 2019/20 utilization, world wheat stocks are set to increase by 3.7 percent to 278 million tonnes by the close of seasons in 2020, still below the record level of 282 million tonnes registered in 2017/18. Expected higher stocks in China and replenishing inventories in several wheat exporting countries are behind the anticipated rise in global wheat stocks.

The preliminary forecast for world trade in wheat (including wheat flour in wheat equivalent) in 2019/20 (July/June) stands at 173.5 million tonnes, some 1.6 percent higher than the 2018/19 level. The rebound mainly stems from anticipated larger wheat purchases by several countries in Asia and North Africa. The expected increase in wheat world import demand in 2019/20 is likely to be easily met by larger surpluses in major exporting countries, with the Russian Federation maintaining its position as the world's leading exporter for the third consecutive season.

International wheat markets have already started to react to the ample supply prospects in 2019/20, with export prices generally under downward pressure in recent weeks. However, much of the market's developments rest on the final outcome of this year's major harvests, which are still a few months away.

WHEAT PRODUCTION, UTILIZATION AND STOCKS



WORLD WHEAT MARKET AT A GLANCE

	2017/18	2018/19 estim.	2019/20 f'cast	Change: 2019/20 over 2018/19
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	759.9	730.2	767.0	5.0
Trade¹	176.7	170.7	173.5	1.6
Total utilization	738.9	747.3	756.9	1.3
Food	508.9	514.2	519.4	1.0
Feed	136.1	141.4	143.6	1.5
Other uses	94.0	91.7	94.0	2.5
Ending stocks²	282.3	268.2	278.0	3.7
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	67.4	67.4	67.3	-0.1
LIFDC (kg/yr)	49.0	49.0	49.0	0.0
World stocks-to-use ratio (%)	37.8	35.4	36.2	
Major exporters stocks-to-disappearance ratio ³ (%)	20.9	17.6	18.7	
FAO WHEAT PRICE INDEX⁴ (2002-2004=100)				
	2017	2018	2019 Jan-Apr	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	133	148	149	5.5

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

³ Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States of America.

⁴ Derived from the International Grains Council (IGC) wheat index.

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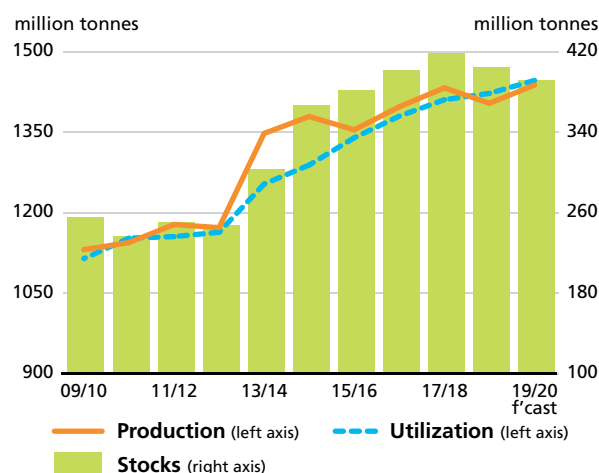
COARSE GRAINS

FAO's first assessment of supply and demand prospects for coarse grains in 2019/20 points towards yet another comfortable season ahead. World production of coarse grains in 2019 is forecast to increase by 2.4 percent from the 2018 reduced level, to reach 1 438 million tonnes. Much of the increase will most likely stem from higher production of maize and, to a lesser extent, barley. The increase in maize output reflects expectations of a strong production recovery in Argentina and Brazil, while given the likelihood of increased plantings compared to last year, maize production in the United States of America could rebound to the second highest level on record. World production of barley is also set to rise from the 2018 level, with most of the increase expected in Canada, the European Union (EU) and the Russian Federation.

Global trade in coarse grains in 2019/20 could decline by 1.4 percent, to nearly 191 million tonnes, with expectations of reduced import demand for maize and sorghum. The predicted contraction in maize trade - the first in nearly two decades, would be mainly on account of a sharp anticipated fall in imports by the EU, after record purchases in 2018/19. Similarly, sorghum trade is seen to contract, primarily because of reduced import demand by the EU. Trade in barley is likely to benefit from stronger demand by Saudi Arabia but still remain similar to the 2018/19 level because of the anticipated smaller purchases by China. Regarding exporters, reductions in overall sales of coarse grains from Canada, South Africa, the United States of America and Ukraine are likely to be largely offset by bigger shipments from Argentina, Brazil, the EU and the Russian Federation.

World utilization of coarse grains is forecast to reach a new record of 1 447 million tonnes, a 1.7 percent increase from 2018/19, primarily driven by a faster increase in feed use, especially in Asia and North America. Against a backdrop of rising global utilization, world stocks of coarse grains should decline by 3.4 percent to 390.5 million tonnes, with most of the decrease expected in China and the United States of America. The projected decline would lead to a lower world stocks-to-use ratio, as well a decrease in the ratio of major exporters' closing stocks to their total disappearance (domestic demand plus exports), an outlook that could provide some support to international prices in 2019/20, especially if demand were to accelerate faster than currently envisaged.

COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS



WORLD COARSE GRAIN MARKET AT A GLANCE

	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	Change: 2019/20 over 2018/19
	million tonnes			%
WORLD BALANCE				
Production	1 433.2	1 404.4	1 438.3	2.4
Trade¹	196.4	193.6	190.8	-1.4
Total utilization	1 411.1	1 422.9	1 447.0	1.7
Food	211.7	216.2	216.9	0.3
Feed	796.1	796.8	812.1	1.9
Other uses	403.3	409.8	418.0	2.0
Ending stocks²	417.4	404.2	390.5	-3.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	28.0	28.3	28.1	-0.7
LIFDC (kg/yr)	36.4	37.2	36.4	-2.2
<i>World stocks-to-use ratio (%)</i>	29.3	27.9	25.7	
<i>Major exporters stocks-to-disappearance ratio³ (%)</i>	15.0	14.6	14.2	
FAO COARSE GRAIN PRICE INDEX (2002-2004=100)				
	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	146	156	157	-0.3

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¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

³ Major exporters include Argentina, Australia, Brazil, Canada, EU, Russian Fed., Ukraine and the United States of America.

RICE

World rice production is tentatively forecast to amount to 516.8 million tonnes (milled basis) in 2019, virtually unchanged from the 2018 all-time high. Amid climatic uncertainties associated with the ongoing El Niño phenomenon and prospects of another decline in China's production, early expectations point to output growth decelerating in Asia. By contrast, with the exception of Europe, all other regions appear to be heading towards smaller harvests, as poor producer margins and less ideal growing conditions are anticipated to curtail plantings.

After stabilizing at a fresh peak in 2018, international trade in rice is forecast to contract by 3.1 percent in 2019 to 46.8 million tonnes, pressured by waning import demand from Bangladesh and Indonesia, as well as from China, Nepal, Sri Lanka and various West African countries. Against a backdrop of ample global exportable availabilities and intensifying competition for markets, a supply shortfall could cause Thailand to shoulder much of the expected trade fall. However, smaller crop harvests are also expected to undermine exports by Australia, Argentina, Brazil, Egypt and Uruguay, while Cambodia, China, India, the United States of America and Viet Nam are anticipated to export more. Trade in 2020, although tentative, is projected to rebound by 4.5 percent.

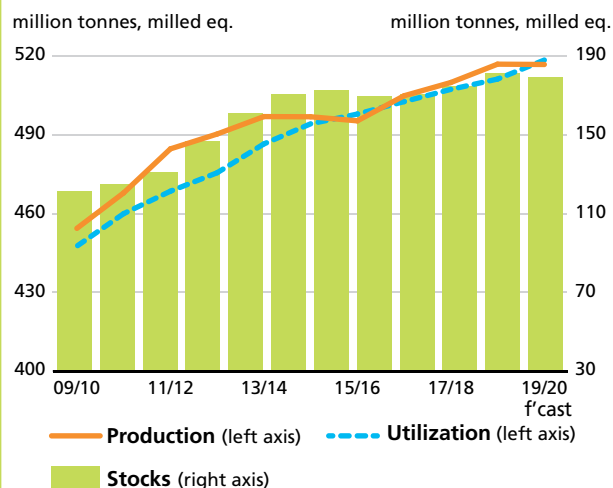
Under current prospects of stagnating world production and another food-driven expansion in total use, rice stocks at the close of 2019/20 are forecast to fall 1.0 percent below their record opening levels to 178.7 million tonnes. An expected drawdown in China would account for much of this reduction, eclipsing anticipated stock replenishments in the rest of the world. These would be driven by another stock build-up in the major rice exporting countries, in particular India.

Firming Japonica and fragrant prices have underpinned a 3.5 percent recovery in international rice prices since November 2018, as reflected by the FAO All Rice Price Index, which averaged 222.2 points in April 2019. Still, at this level, the Index remained below its year-earlier value, reflecting persistently thin international demand for Indica rice.

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RICE PRODUCTION, UTILIZATION AND STOCKS



WORLD RICE MARKET AT A GLANCE

	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	Change: 2018/19 over 2019/20
	<i>million tonnes, milled equivalent</i>			<i>%</i>
WORLD BALANCE				
Production	509.9	516.9	516.8	0.0
Trade¹	48.3	46.8	48.9	4.5
Total utilization	507.3	511.2	518.5	1.4
Food	406.8	411.7	418.7	1.7
Ending stocks²	174.0	180.6	178.7	-1.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	53.9	53.9	54.3	0.6
LIFDC (kg/yr)	57.4	57.6	58.1	0.9
<i>World stocks-to-use ratio (%)</i>	34.0	34.8	34.0	
<i>Major exporters stocks-to-disappearance ratio³ (%)</i>	18.0	20.7	21.1	
FAO RICE PRICE INDEX (2002-2004=100)				
	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	206	224	222	-2.2

¹ Calendar year exports (second year shown).

² May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

³ Major exporters include India, Pakistan, Thailand, the United States of America and Viet Nam.

OILCROPS

In 2018/19, growth in global oilseed production is set to resume, with soybeans accounting for much of the expected increase, led by a strong production rebound in Argentina and a bumper crop in the United States of America. While higher soybean output would facilitate a rise in global meal production, growth in protein meal demand is forecast to come to a halt in 2018/19 – largely due to a decline in China’s soymeal uptake following the outbreak of African Swine Fever (ASF). Tied to the unexpected contraction in China’s domestic demand, as well as continued repercussions of the United States of America–China trade tensions, global trade in soybeans is expected to contract, while soybean/soymeal inventories are poised to rise sharply, notably in the United States of America. With global meal stocks heading towards unprecedented levels, international meals/cakes prices have continued trending downward.

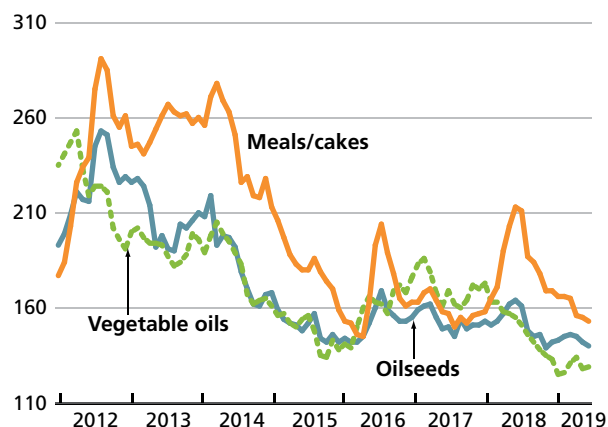
For oils/fats, subdued expansion in palm oil output due to continued production challenges in Southeast Asia is weighing on global production growth in 2018/19. By contrast, consumption growth could accelerate compared with last season, underpinned by attractive prices and more dynamic demand from the biodiesel industry. Nonetheless, global production is anticipated to exceed demand, likely resulting in a fresh rise in international oils/fats reserves. Accordingly, international oils/fats prices have continued to linger at multi-year low levels.

Highly tentative projections for 2019/20 suggest that global oilseeds production could fall short of the current season’s level. Assuming a continuation of recent utilization trends, global demand for both vegetable oils and oilmeals could surpass forecast production levels, possibly triggering inventory releases and a retreat in stocks-to-use ratios, especially in the oils/fats market. Overall, given the current season’s massive carry-over stocks, the market for oilseeds and their derived products should continue to be characterized by a comfortable supply and demand situation in 2019/20 – barring unusual weather events and major policy changes, notably with regard to trade policies.

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FAO MONTHLY INTERNATIONAL PRICE INDICES FOR OILSEEDS, VEGETABLE OILS AND MEALS/CAKES (2002-2004=100)



WORLD OILCROP AND PRODUCT MARKET AT A GLANCE

	2016/17	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	Change: 2018/19 over 2017/18
	<i>million tonnes</i>			<i>%</i>
TOTAL OILCROPS				
Production	585.1	592.3	609.8	2.9
OILS AND FATS				
Production	226.1	233.9	239.6	2.4
Supply	261.0	270.4	277.7	2.7
Utilization	221.7	229.0	238.6	4.2
Trade	124.0	124.7	128.5	3.0
<i>Global stocks-to-use ratio (%)</i>	16.5	16.7	16.4	
<i>Major exporters stocks-to-disappearance ratio (%)</i>	10.8	11.7	13.4	
MEALS AND CAKES				
Production	152.0	152.5	158.2	3.8
Supply	179.7	183.1	185.5	1.4
Utilization	145.6	153.7	154.0	0.2
Trade	95.9	97.9	98.3	0.4
<i>Global stocks-to-use ratio (%)</i>	21.0	17.8	19.9	
<i>Major exporters stocks-to-disappearance ratio (%)</i>	14.1	11.1	14.4	
FAO PRICE INDICES (Jan-Dec) (2002-2004=100)	2017	2018	2019 Jan-Apr	Change: Jan-Apr 2019 over Jan-Apr 2018 %
Oilseeds	152	150	143	-9.8
Meals/cakes	159	184	157	-18.9
Vegetable oils	169	144	130	-17.6

NOTE: Refer to footnote 1 on page 32 and to table 2 on page 35 for explanations regarding definitions and coverage.

SUGAR

FAO foresees world sugar production to decline in 2018/19 (October/September), but to remain above total consumption, with the anticipated surplus likely to be smaller than last year's record level. Expected decreases in sugar output in Brazil, the European Union (EU) and Thailand will likely be offset by expansions in China, Mexico, Australia and Egypt. On the demand side, world sugar consumption is set to rise, reflecting predicted increases in several developing countries, prompted by lower domestic sugar prices. Sugar consumption growth is expected to be particularly marked in Africa, Asia and Central America and the Caribbean.

Sufficient domestic supplies in traditional importing countries should lead to a contraction in global import demand relative to the last marketing season. The implementation of import restriction measures in some major markets could also limit global import demand. Exports are set to fall for Brazil, the world's largest sugar exporter, but to rise for Thailand, the second largest sugar exporter, prompted by abundant sugar stocks. A key feature in the current season is India maintaining its status as the world's largest sugar producer for the second consecutive season, surpassing Brazil.

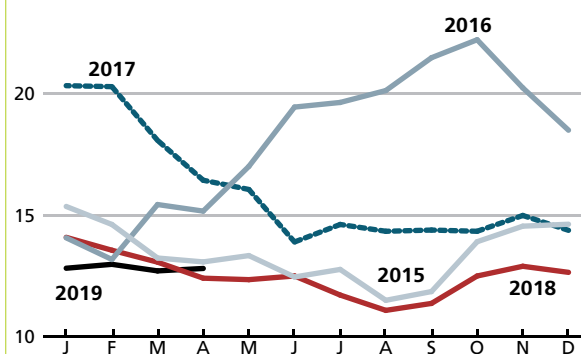
International sugar prices have followed a declining trend since the beginning of 2019, extending the steady price fall that has characterized the market since mid-2017. The price slide is mainly associated with prospects of ample sugar availabilities, following large accumulated inventories in both importing and exporting countries. Policy measures to curb imports, or boost exports, as well as the strength of the US dollar against currencies of key sugar exporters, particularly during the last quarter of 2018, have further exacerbated the price weakness. On the other hand, the recent firming of international crude oil prices will likely play an indirect role in sustaining sugar values, as more sugar crops are used to produce ethanol instead of sugar. In addition, a possible production setback in 2019/20 may provide further support to prices.

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INTERNATIONAL SUGAR PRICES

US cents per lb.
25



* as measured by the International Sugar Agreement (ISA)

WORLD SUGAR MARKET AT A GLANCE

	2016/17	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	Change: 2018/19 over 2017/18
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	169.2	183.0	179.3	-2.0
Trade	65.3	55.4	55.1	-0.6
Total utilization	170.5	173.2	176.1	1.7
Ending stocks	87.4	95.5	97.0	1.6
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	22.8	22.9	23.1	0.57
LIFDC (kg/yr)	14.7	14.9	15.1	1.74
World stocks-to-use ratio (%)	51.3	55.2	55.1	-0.1
ISA DAILY PRICE AVERAGE (US cents/lb)				
	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	16.01	12.52	12.84	-3.39

MEAT AND MEAT PRODUCTS

Global meat production is forecast to hover around 337 million tonnes in 2019 – slightly lower than in 2018. If confirmed, the 0.2 percent anticipated decline would represent the first output fall since 1996, marking a reversal shift from the slow but stable growth trend witnessed over the past two decades. Despite a likely sharp fall in pig meat output, largely as a result of the African Swine Fever (ASF), especially in China, 2019 global meat production is only expected to drop slightly, as current prospects point to a solid worldwide expansion for poultry meat production and a steady progress in bovine and ovine meat outputs. As a result of ASF, which is likely to depress pig meat output in China by at least 10 percent, the country's overall meat sector may record a 5 percent (4.3 million tonnes) contraction in 2019. Elsewhere, meat output is predicted to expand in the United States of America, Brazil, Mexico, India, the European Union (EU) and the Russian Federation, while a small production decline is anticipated in Australia.

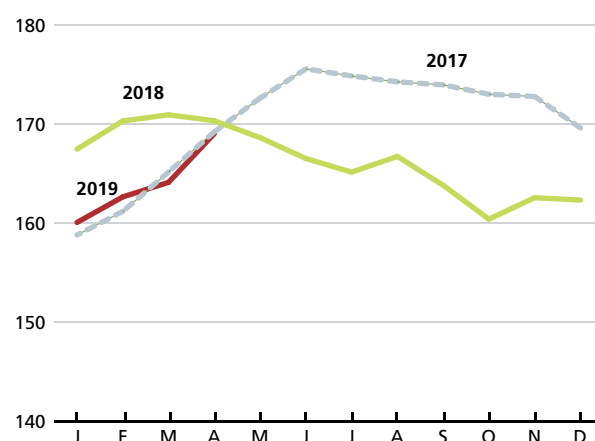
World trade in meat and meat products is forecast to surpass 35 million tonnes in 2019, up 4.8 percent from last year. Much of the expansion is projected to stem from an expected increase of 19-20 percent in overall meat imports by China, which could reach 26 percent for pig, 23 percent for poultry and 15 percent for bovine meat. Japan, Mexico, the Philippines, Viet Nam and the Russian Federation are also expected to step up their meat purchases, while Saudi Arabia, Angola, Cuba and the Republic of Korea may import less. The expected expansion in world import demand is forecast to be met largely by increased exports from Brazil, the EU, the United States of America, Thailand, India and Argentina, while limited supplies may depress meat foreign sales by Australia, New Zealand, China and Uruguay.

Despite large export availabilities in major supplying countries, international meat prices, measured by the FAO Meat Price Index, have firmed up since January, underpinned by increased demand for pig, bovine and poultry meats, especially by China. By contrast, ovine meat prices retreated on large export supplies, mostly from Australia, where dry weather continues to induce slaughtering.

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FAO INTERNATIONAL MEAT PRICE INDEX (2002-2004 = 100)



WORLD MEAT MARKET AT A GLANCE

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	332.4	337.3	336.5	-0.2
Bovine meat	69.6	71.2	71.6	0.7
Poultry meat	122.3	124.8	128.4	2.8
Pigmeat	119.8	120.5	115.6	-4.0
Ovine meat	15.2	15.2	15.3	0.4
Trade	32.8	33.8	35.4	4.8
Bovine meat	10.2	10.9	11.3	4.0
Poultry meat	13.1	13.3	13.8	3.7
Pigmeat	8.2	8.4	9.1	8.4
Ovine meat	1.0	1.0	1.0	-1.9
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	43.9	44.0	43.4	-1.3
Trade - share of prod. (%)	9.9	10.0	10.5	5.0
FAO MEAT PRICE INDEX (2002-2004=100)	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	170	166	164	-3.4

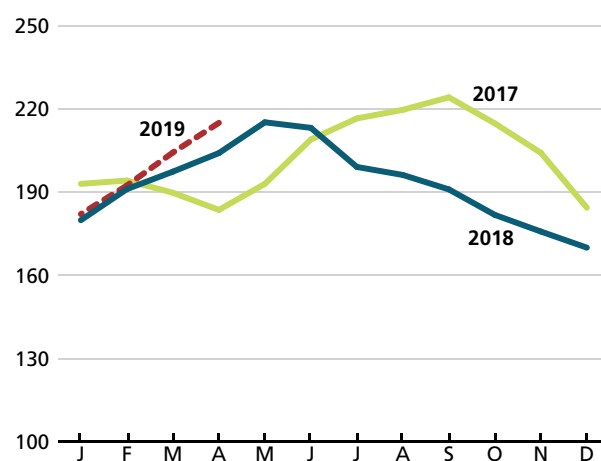
MILK AND MILK PRODUCTS

World milk production is predicted to expand by 1.9 percent (16 million tonnes) to 859 million tonnes in 2019. All major regions are anticipated to see growth, albeit at slower rates than last year. India, Pakistan, the European Union (EU), the United States of America, New Zealand and Brazil are expected to be the principal contributors to the global expansion, whereas significant contractions are foreseen for Australia, China, Argentina and Ukraine. Unusually warm and dry weather conditions continue to affect milk production in Australia, while there is concern in Europe about a repetition, this summer, of the abnormally high temperatures and drought conditions that prevailed in 2018. While the presence of an El Niño weather pattern has been confirmed in South America, its impact has so far been mild. A restructuring of the dairy sector, mainly in China, Argentina and the Russian Federation, is fostering a retreat of smallholders. This, together with rising feed costs, may result in an overall production decline in China this year. Moreover, uncertainties arising from the China-United States of America trade dispute, and delays in ratification of the Mexico-United States of America-Canada Agreement, are making it difficult for farmers and processors to make production decisions, and for traders to identify alternative market options.

World dairy exports (in milk equivalent) are forecast to grow by 1.8 percent (1.3 million tonnes) to 76 million tonnes in 2019, stimulated by a sharp increase in import demand by China, as well as by Mexico, Malaysia, Egypt and Brazil. Advances in production and restrictions on imports may instead depress deliveries to the Russian Federation, Oman and Algeria. Most of the increased dairy trade is forecast to be met by supplies from New Zealand, Mexico, the EU and Argentina. Dairy exports by India, which more than doubled in 2018, are anticipated to make further inroads this year. By contrast, tight availabilities are expected to depress deliveries from Australia, while trade tensions are likely to restrain United States of America dairy exports.

International dairy prices, measured by the FAO Dairy Price Index, have firmed since January, interrupting a seven-month streak of continuous declines that began in June 2018. The recent recovery of dairy product prices partly reflects increased import demand in anticipation of a seasonal tightening of supplies from Oceania, but also concerns about relatively short availabilities in other major suppliers, in particular the EU, where butter and skim milk powder (SMP) stocks have virtually disappeared.

FAO INTERNATIONAL DAIRY PRICE INDEX (2002-2004 = 100)



WORLD DAIRY MARKET AT A GLANCE

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes, milk equiv.</i>			%
WORLD BALANCE				
Total milk production	824.8	843.2	859.0	1.9
Total trade	72.7	74.7	76.1	1.8
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	109.2	110.5	111.3	0.8
Trade - share of prod. (%)	8.8	8.9	8.9	-0.1
FAO DAIRY PRICE INDEX (2002-2004=100)				
	202	193	198	2.8
			<i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 %

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FISH AND FISHERY PRODUCTS

Global fish¹ production in 2019 is expected to reach 177.8 million tonnes², which is around the same level as in 2018, while demand growth is positive but slowing. Total capture fisheries production is expected to decline by around 3.4 percent in 2019, as anchoveta production will decrease after exceptionally good production in 2018, and catches will be low for some other key wild-caught species, including cod, mackerel, other small pelagics and octopus. For aquaculture, continued growth of around 4 percent is forecast for 2019, but overall the supply picture remains mixed. The market balance is tight for some important farmed species such as salmon and bivalves, but in other markets, such as shrimp, seabass and seabream, plentiful supply is pushing prices down.

Global trade of fish and fish products in 2017 and 2018 was buoyed by high prices and good demand worldwide, but these previously positive conditions have worsened somewhat in 2019. The negative effects of the United States of America-China trade disputes will persist throughout 2019, with the additional threat of an escalation in transatlantic trade tensions between the United States of America and the EU. Compounding these uncertainties are further Brexit delays and slower overall global economic growth which will make 2019 a more challenging year for the seafood³ industry.

Multiple major seafood exporters, particularly in Asia, are expected to see decreases in exports following positive performances in 2018. China, the world's leading seafood exporter, will feel the impact of trade tensions and demand headwinds. On the import side, Japan, the EU and the United States of America have all seen declines in the total value of seafood imports so far in 2019, while import growth in developing countries is set to slow, but remain positive. Overall, demand is still expected to be strong enough to support prices at a relatively elevated level, given that catches remain low for several highly traded wild-caught species. For aquaculture producers, while several species are well supplied at present, recognition of long-term demand trends will continue to drive investment and research into alternative means of farmed fish production.

¹ Unless otherwise specified, throughout this publication, the terms 'fish' or 'seafood' indicate fish, crustaceans, molluscs and other aquatic animals, but exclude aquatic mammals, reptiles, seaweeds and other aquatic plants. They can originate from marine capture fisheries, freshwater capture fisheries, or all forms of aquaculture.

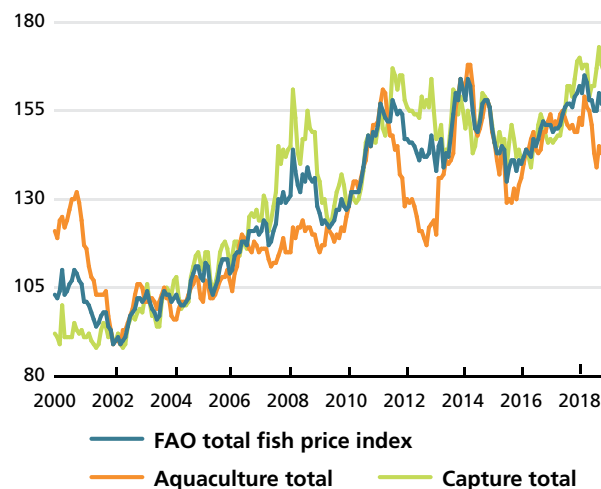
² Recently, China revised its aquaculture and capture fishery production statistics as a result of a new census that was carried out in the country. These new production statistics report from 2009 to 2016 and reflect a major downward revision, thereby resulting in lower global volumes as well.

³ Unless otherwise specified, throughout this publication, the term 'seafood' indicates fish and fishery products from marine capture fisheries, freshwater capture fisheries, or all forms of aquaculture.

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FAO FISH PRICE INDEX (2002-2004 = 100)



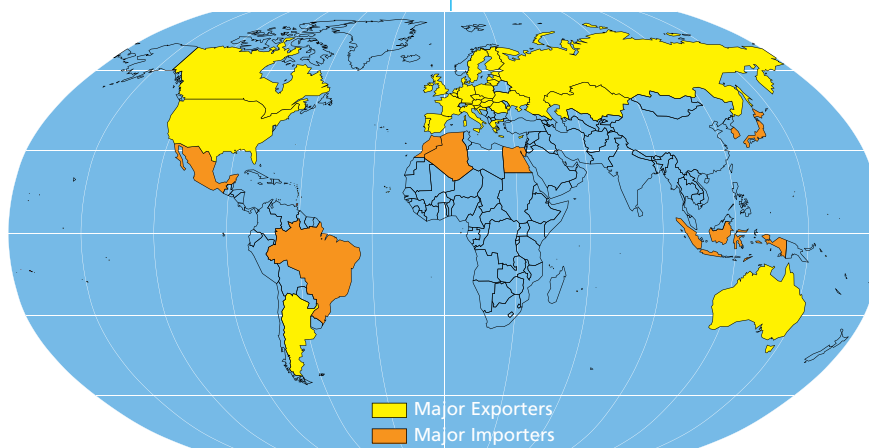
WORLD FISH MARKET AT A GLANCE

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes (live weight)</i>			<i>%</i>
WORLD BALANCE				
Production	172.6	177.7	177.8	0.0
Capture fisheries	92.5	94.5	91.3	-3.4
Aquaculture	80.1	83.2	86.5	3.9
Trade value (exports USD billion)	155.7	163.1	164.5	0.9
Trade volume (live weight)	60.5	61.7	60.1	-2.6
Total utilization	172.6	177.7	177.8	0.0
Food	153.4	155.7	158.2	1.6
Feed	14.6	17.5	15.0	-14.2
Other uses	4.7	4.6	4.6	0.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
Food fish (kg/yr)	20.3	20.4	20.5	0.6
From capture fisheries (kg/year)	9.7	9.5	9.3	-2.0
From aquaculture (kg/year)	10.6	10.9	11.2	2.8
FAO FISH PRICE INDEX (2002-2004=100)	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	146	154	159	3.2

MARKET ASSESSMENTS

WHEAT

Major Wheat Exporters and Importers



PRICES

Large supplies to weigh on international wheat prices

A generally upward movement in international prices of wheat in 2018 has given way to a declining trend since March 2019. At the start of this year, wheat prices were framed by less than ideal weather during harvesting in Argentina and Australia, followed by reports of historically low winter wheat seeding in the United States of America and growing concerns over tightening exportable supplies in the Russian Federation – conditions that combined to

push February prices up to their highest level since October 2018. However, in March wheat prices started to drift lower, influenced primarily by continued large sales from the Russian Federation and a favourable outlook for crops to be harvested this year, especially among the major exporters. The benchmark **US wheat, No.2 Hard Red Winter, f.o.b. Gulf**, averaged USD 213 per tonne in April, over 10 percent below its level at the start of the current year and also the same period last year.

Similarly, wheat futures at the **Chicago Board of Trade (CBOT)** for nearby delivery fell in recent months on favourable growing conditions, boosting yield prospects,

Figure 1. IGC Wheat Price Index

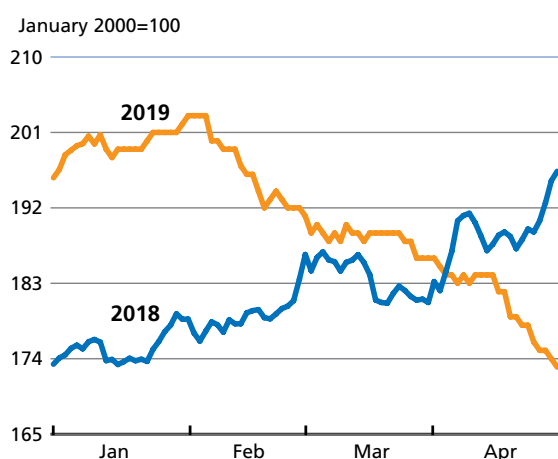


Figure 2. CME wheat futures for September



particularly in the EU and the Black Sea region, and expectations of larger export availabilities than in the current marketing season. In April, the **September CBOT soft red winter futures** averaged USD 170 per tonne, down almost 14 percent from the start of this year and 9 percent lower than the same month last year. The price pressure extended to higher quality (protein) wheat, traded at the Kansas City Board of Trade, which also experienced a downward trend (a more detailed analysis of the futures markets can be found in the Market Indicators section of this report).

PRODUCTION

World wheat production set to hit a new record in 2019

FAO's forecast for global wheat production in 2019 is pegged at 767 million tonnes, nearly 37 million tonnes (5.0 percent) above last year's output and, if confirmed, it would set a new record. Most of this year's growth is expected to result from anticipated production increases in the EU, the Russian Federation and Australia.

In *Europe*, the aggregate wheat output is projected to rise in 2019. A large proportion of this increase is attributed to a favourable outlook in the **EU**, where wheat production is forecast to rebound by 8.7 percent to 149.5 million tonnes. The positive prospects are engendered by a foreseen upturn in yields, reflecting generally beneficial weather and an estimated 2 percent expansion in total wheat plantings, driven by expectations of better profitability. Wheat production is also forecast to rise in the **Russian Federation** to at least 82 million tonnes, almost 14 percent higher year-on-year, based on larger plantings and good yield prospects following favourable winter weather conditions and sufficient soil moisture in spring. **Ukraine** has a similarly positive production outlook, and the country's wheat harvest is forecast at 26.5 million tonnes – 7.7 percent higher than the preceding year's output.

In *North America*, wheat plantings in the **United States of America** are forecast to fall to their lowest level on record, instigated by wet weather during the winter planting period and comparatively lower profitability prospects for spring wheat crops. However, and in consideration of an expected upturn in yields, total wheat production in the United States of America is projected at 51 million tonnes, nearly unchanged from 2018. In **Canada**, an expansion in plantings for the main spring season is expected to boost total wheat production to over 33 million tonnes in 2019, a 4.2 percent year-

Table 1. World wheat market at a glance

	2017/18	2019/19 <i>estim.</i>	2019/20 <i>f'cast</i>	Change: 2019/20 over 2018/19
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	759.9	730.2	767.0	5.0
Trade¹	176.7	170.7	173.5	1.6
Total utilization	738.9	747.3	756.9	1.3
Food	508.9	514.2	519.4	1.0
Feed	136.1	141.4	143.6	1.5
Other uses	94.0	91.7	94.0	2.5
Ending stocks²	282.3	268.2	278.0	3.7
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	67.4	67.4	67.3	-0.1
LIFDC (kg/yr)	49.0	49.0	49.0	0.0
World stocks-to-use ratio (%)	37.8	35.4	36.2	
Major exporters stocks-to-disappearance ratio ³ (%)	20.9	17.6	18.7	
FAO WHEAT PRICE INDEX⁴ (2002-2004=100)	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	133	148	149	5.5

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

³ Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States of America.

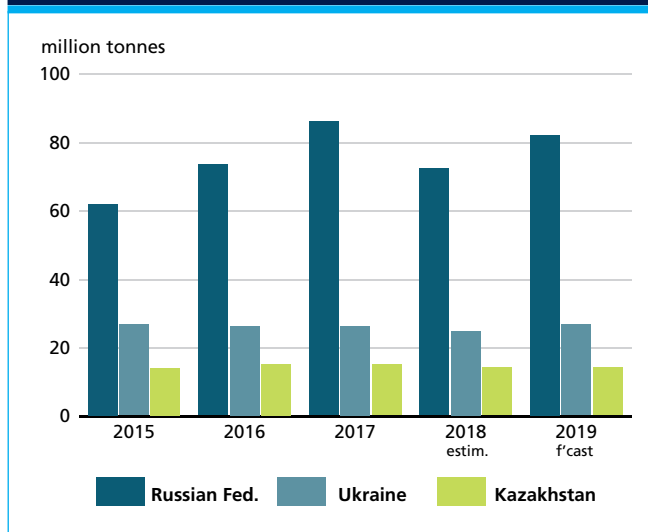
⁴ Derived from the International Grains Council (IGC) wheat index.

Table 2. Wheat production: leading producers*

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes</i>			<i>%</i>
European Union	152.0	137.5	149.5	8.7
China (Mainland)	134.3	131.4	132.0	0.4
India	98.5	99.7	99.6	-0.1
Russian Federation	85.9	72.1	82.0	13.7
United States of America	47.4	51.3	51.0	-0.6
Canada	30.0	31.8	33.1	4.2
Pakistan	26.7	25.5	26.2	2.8
Ukraine	26.2	24.6	26.5	7.7
Turkey	21.5	20.0	21.0	5.0
Australia	21.2	17.3	23.9	38.3
Argentina	18.5	19.5	19.8	1.7
Kazakhstan	14.8	13.9	14.0	0.4
Iran Islamic Rep. of	12.5	13.4	13.4	0.0
Other countries	70.5	72.2	75.0	3.9
World	759.9	730.2	767.0	5.0

* Countries listed according to their position in global production (average 2016-2018)

Figure 3. Wheat production in major CIS producers



on-year increase.

In *Asia*, the wheat harvest is underway and prospects indicate a moderate production upturn in 2019. In **China** (Mainland)¹, the region's major producer, the area planted to wheat is estimated at 23.8 million hectares, close to the five-year average. This reflects the continued attractive margins earned by wheat producers, in spite of the reduction in the minimum state purchase price for the second consecutive year -- a policy intended to steer farmers away from wheat production and consequently help in reducing stocks. Assuming average yields, China's wheat output in 2019 is forecast at a near average level of 132 million tonnes. In **India**, harvesting of the *rabi* (main season) crop began in March, and latest official reports estimate the country's total wheat output at 99.6 million tonnes, close to last year's record. In **Pakistan**, wheat production in 2019 is forecast at 26.2 million tonnes, moderately above the harvest of 2018. The current outlook is in contrast to earlier subdued prospects, as beneficial rainfall in February and March alleviated early seasonal water deficits and boosted yield prospects. In the minor wheat producing countries of the Far East Asia subregion, including **Bangladesh**, **Mongolia** and **Nepal**, harvest prospects are generally positive, as strong domestic demand has sustained above average plantings, while generally favourable weather conditions are expected to support an upturn in yields.

In the *Near East*, favourable weather is anticipated to foster a production increase in **Turkey**, where the wheat harvest is predicted to reach 21 million tonnes, 5 percent higher on a yearly basis. In **Iraq** and **Iran**, production

forecasts were recently trimmed due to the impact of floods in late March and early April, but outputs are nevertheless expected to attain good levels, due to the exceptionally beneficial weather in the preceding months. In *North Africa*, higher production is forecast for **Egypt** but in **Algeria** and **Morocco**, the 2019 harvests are expected to revert to a near average level.

Sowing of the 2019 wheat crop in **Australia** is underway, and despite lingering dry conditions in the eastern parts that adversely affected the 2018 crop, the area sown this year is expected to increase by 20 percent. Given the expected enlarged planted area, combined with an anticipated weather-driven increase in yields, production could rebound to almost 24 million tonnes, up over 38 percent from the drought-stricken harvest of 2018.

In *Latin America and the Caribbean*, planting of the 2019 wheat crop started in May in **Argentina**, and based on the prevailing elevated prices, the area sown is forecast to expand. As a result, wheat production is foreseen to remain above the five-year average for a second consecutive year. In *Mexico*, harvesting of the wheat crop is underway, and based on a 13 percent year-on-year expansion in the area sown, production is forecast to increase, though likely to remain slightly below the five-year average.

TRADE

Wheat trade to rebound in 2019/20

FAO's first forecast for world trade in wheat (including wheat flour in wheat equivalent) in 2019/20 (July/June) stands at 173.5 million tonnes, up by 2.8 million tonnes (1.6 percent) from the current season's reduced level, but below the 2017/18 record of almost 177 million tonnes. The rebound in world trade in 2019/20 largely stems from an anticipated rise in wheat purchases by several countries in Asia and North Africa.

In *Asia*, aggregate wheat imports in 2019/20 are forecast to reach just over 86 million tonnes, 1.3 percent higher than the current marketing season's estimated volume. Higher wheat purchases by several Asian countries, in particular **China**, **Indonesia**, the **Republic of Korea**, the **Philippines** and **Thailand** are expected to more than offset lower imports by **Iraq**, **Turkey**, **Saudi Arabia** and several Central Asian **Commonwealth of Independent States** (CIS) countries.

In *Africa*, total wheat imports in 2019/20 are forecast to rise to an all-time high of 49.3 million tonnes, up 5.2 percent from the current season. However, nearly all of the projected increase is concentrated in **Algeria** and **Morocco** - the two northern African countries

¹ All references to China are to Mainland China unless otherwise specified.

Table 3. Top 10 wheat importers*

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
Egypt	12.0	12.6	0.6
Indonesia	10.4	10.7	0.3
Algeria	7.9	7.7	-0.2
Brazil	7.2	7.5	0.3
Philippines	5.8	6.3	0.5
Bangladesh	5.9	6.1	0.2
European Union	5.5	6.0	0.5
Japan	5.7	5.8	0.1
China	5.6	5.4	-0.2
Turkey	5.5	5.3	-0.2

* Imports are based on a common July/June marketing season

that are facing reduced production prospects this year. Imports by Algeria are forecast to rise by 10 percent to 7.7 million tonnes. However, at this level, imports would still remain below the five-year average and the country's record purchases of nearly 8.5 million tonnes in 2016/17. In Morocco, imports could surge by as much as 42 percent to reach 4.7 million tonnes, given the anticipated 25 percent drop in domestic production. Wheat imports by **Egypt**, the world's largest wheat importer, are expected to increase slightly, to 12.6 million tonnes, amid growing demand from the rising population. Wheat shipments to most other major destinations in Africa are likely to remain steady at around the 2018/19 levels.

In *Europe*, total wheat imports in 2019/20 are forecast at around 8.5 million tonnes, similar to 2018/19, with purchases by the **EU** remaining steady at 6 million tonnes. In *Latin America and the Caribbean (LAC)*, aggregate imports in 2019/20 are pegged at around 25 million tonnes, also unchanged from 2018/19. Anticipated slightly higher purchases by **Brazil** are expected to nearly offset a likely decline in imports by **Mexico**, where production is forecast to increase this year. In March 2019, Brazil, the largest wheat importer in the LAC region, entered into an agreement with the **United States of America** to implement a duty-free tariff rate quota (TRQ) for wheat. This allows the importation of 750 000 tonnes of wheat under TRQ on an annual basis. By contrast, wheat purchases by Mexico from the United States of America, its traditional wheat supplier, have declined since last year due to trade disputes, a situation that has prompted Mexico to seek alternative suppliers, from both nearby countries in Latin America and also the **Russian Federation** and **Ukraine**.

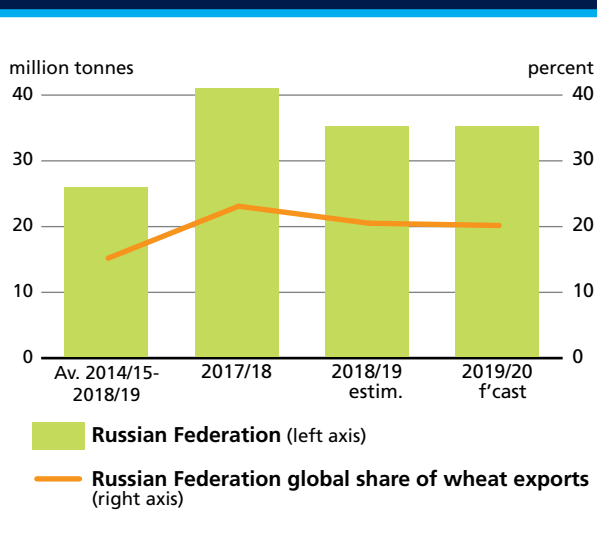
Table 4. Top 10 wheat exporters*

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
Russian Federation	34.5	35.0	0.5
United States of America	26.6	27.0	0.4
European Union	23.7	23.5	-0.2
Canada	21.8	23.0	1.2
Ukraine	17.3	17.0	-0.3
Australia	16.0	14.0	-2.0
Argentina	13.1	13.6	0.5
Kazakhstan	8.0	8.0	0.0
Turkey	4.8	4.0	-0.8
Mexico	1.0	1.3	0.3

* Exports are based on a common July/June marketing season

World wheat *export supplies* in 2019/20 are expected to be even more abundant than in the current season, with major exporters expecting similar, if not larger, production this year. Consequently, competition for market share among exporters is set to intensify even further in 2019/20. For the third season in a row, the **Russian Federation** is expected to lead the global wheat trade as the largest exporter, projected to ship at least as much wheat as in 2018/19, or around 35 million tonnes. This would be supported by the projected rebound in domestic production combined with favourable prospects for market expansion beyond its traditional markets in North Africa and the Middle East. The **United States of America**, at 27 million tonnes and just slightly below the estimated shipments in 2018/19, will likely maintain its

Figure 4. Wheat exports from the Russian Federation



position as the world's second largest wheat exporter in 2019/20. However, a larger **EU** crop this year is expected to drive up exports from this region by nearly 7 percent, to 23.5 million tonnes. Should the current projection for a production recovery in **Australia** materialize, its wheat exports could rebound to 14 million tonnes, up 32 percent from the low of 2018/19, though still below the five-year average. By contrast, in **Canada**, although total wheat production is heading towards a strong increase over last year's output, exports could decline by some 4 percent, to 23 million tonnes. This reflects not only stiffer overall competition from other exporters, but also the issue surrounding durum wheat sales to **Italy**, traditionally a leading market for the Canadian product. Since last year, the demand for Canadian durum has suffered a serious setback in Italy – a major market for high-protein durum – following the implementation of a new labeling rule for pasta, requiring indication of the country of origin.

UTILIZATION

Wheat utilization rising in 2019/20, but at a slower pace

Early forecasts for world wheat utilization in 2019/20 point to a likely increase of 1.3 percent from 2018/19, to 757 million tonnes. Nonetheless, this anticipated growth would still fall short of the 10-year trend value for the third consecutive season. Slowing population growth, especially in some of the more important wheat consuming countries, coupled with a slower increase in feed consumption of wheat due to large availabilities of cheaper alternatives and less demand for industrial uses, have all contributed to a slower expansion in total wheat utilization compared with

earlier years. Global utilization of wheat for **direct human consumption**, which accounts for 80 percent of total wheat United States of America, is forecast at 519 million tonnes, up by just 1.0 percent from 2018/19. This would yield an average annual consumption on per caput basis at 67.3 kg globally, very close to the 2018/19 level. Per caput wheat consumption in the world's two most populated countries, China and India, is projected to reach around 65 kg and 60 kg, respectively, in 2019/20, up by nearly 1 kg over the last decade in both cases.

Total **feed utilization** of wheat is forecast to approach 144 million tonnes in 2019/20, up 1.5 percent from 2018/19. Most of the projected increase is expected in China, the EU (which is the world's largest market for feed wheat) and the Russian Federation. Feed utilization of wheat is also seen heading for increases in the Republic of Korea, Thailand and the Philippines. **Other uses** of wheat, which include the industrial sector, seeds and post-harvest losses, are forecast to approach 94 million tonnes in 2019/20, up almost 2 percent from 2018/19. Seeds and post-harvest losses account for the bulk of the other uses category. However, industrial use of wheat, which has expanded rapidly over the past decade, is expected to experience slower growth, mostly due to weaker intake from the biofuel sector. According to a recent report by the International Grain Council, in 2018/19 wheat destined for the production of ethanol (excluding non-fuel uses) fell by almost 10 percent to just over 6 million tonnes, with most of the decline in the EU, where levels dipped by more than 18 percent to 3.6 million tonnes. The anticipated rebound in this year's EU wheat output could encourage some increases in its use for ethanol production in 2019/20. However, at around 12 million tonnes, starch manufacturing still accounts for the biggest industrial use of

Figure 5 . Global wheat utilization

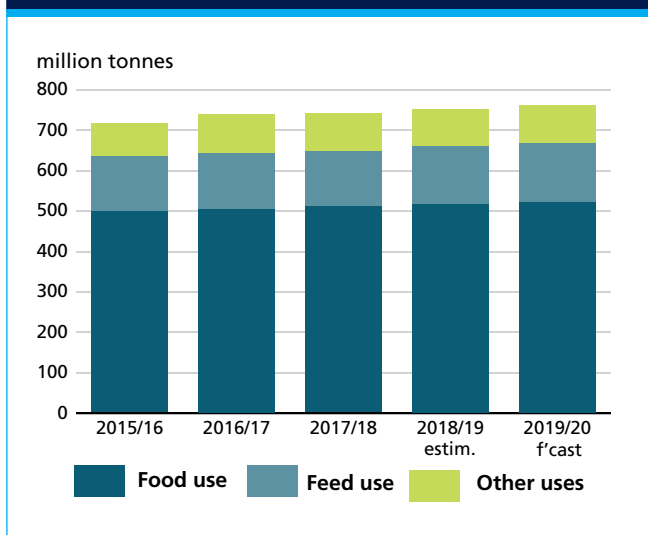
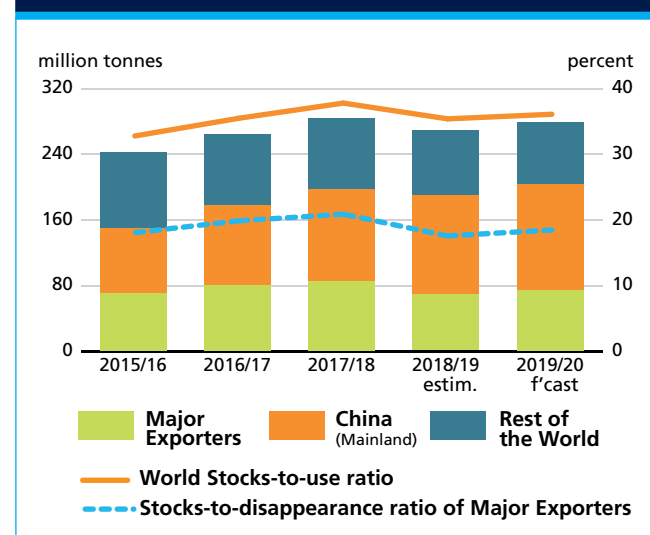


Figure 6. Wheat stocks and ratios



wheat, and this category is also the most vibrant, especially in the EU, China and Canada.

STOCKS

Wheat inventories seen increasing in 2019/20

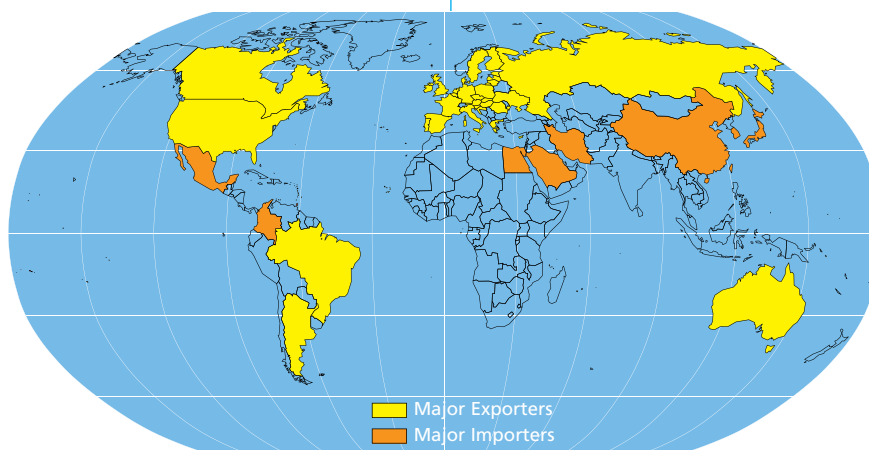
Based on the preliminary forecasts for 2019 production and 2019/20 utilization, world wheat stocks are tentatively predicted to reach 278 million tonnes by the close of seasons in 2020, nearly 10 million tonnes (3.7 percent) higher than their opening levels and only slightly below the record (282 million tonnes) registered in 2017/18.

This increase in 2019/20 follows a rise of nearly 5 percent in the size of world inventories estimated for the current marketing season (2018/19), on the back of significant drawdowns in the **EU** and the **Russian Federation**. The anticipated increase in the overall level of wheat stocks in 2019/20 would be mostly on account of an expected 7-percent increase in **China**, where inventories are projected to set a new record at 129 million tonnes.

At the current forecast levels, the world wheat *stocks-to-use ratio* in 2019/20 is set to reach 36.2 percent, up from 35.4 percent expected for the current season and well above the historic low of 23.5 percent registered in 2008/09. When China is taken out from this calculation, the ratio remains steadier on a year-on-year basis, at 23.2 percent but still significantly above the low of 19.2 percent registered in 2007/08. In fact, the ratio of *major exporters' closing stocks to their total disappearance* (defined as domestic utilization plus exports), which is considered a better measure of availability in global markets, is heading for an increase from 17.6 percent in 2018/19 to 18.7 percent in 2019/20. This reflects expectations of notable inventory buildups in the **Russian Federation** (40 percent), **Australia** (36.5 percent), **Canada** (16.7 percent) and the **EU** (7.4 percent), more than offsetting a likely sharp (10.4 percent) decrease in the **United States of America**. Elsewhere, in **India**, with another bumper crop expected this year, wheat inventories are likely to remain stable, at around 20 million tonnes.

COARSE GRAINS*

Major Coarse Grain Exporters and Importers



* Coarse grains include maize, barley, sorghum, millet, rye, oats and NES (not elsewhere specified)

PRICES

Prices remain generally subdued on large export supplies

Despite a decline in global production in 2018 and some tightening of the supply and demand balance during the 2018/19 season, international prices of major coarse grains remained generally under downward pressure. Large export availabilities and strong competition for markets in the face

of declining import demand kept world prices particularly subdued between June and November 2018. While maize export price quotations rebounded considerably between late 2018 and February 2019, in reaction to adverse weather in South America and some weather-related shipping disruptions in the United States of America, the gain proved short-lived. In April, the benchmark **US maize prices (yellow, No. 2, f.o.b.)** averaged nearly USD 161 per tonne, down by almost 8 percent from April 2018.

Figure 1. Maize export price (US No. 2 yellow, Gulf)

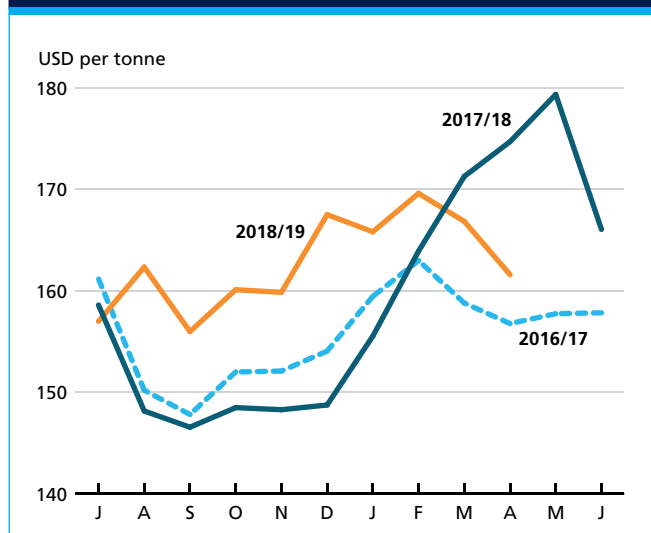
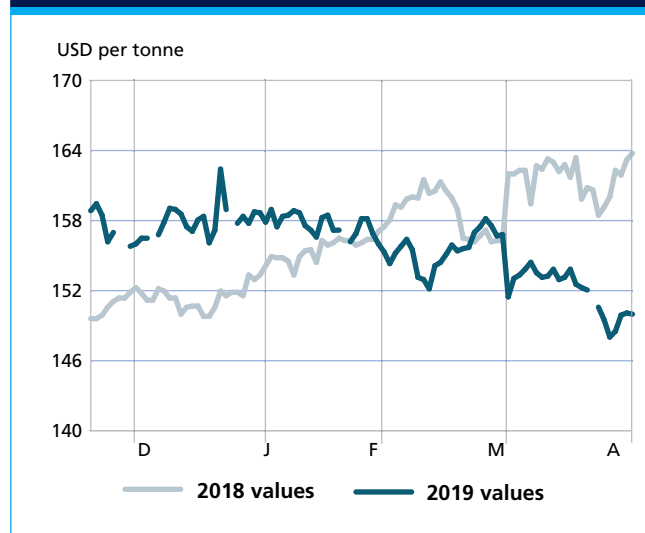


Figure 2. CBOT maize December futures



Pressured by good production prospects, the year-on-year declines in the prices of **Argentina- (up River, f.o.b.)** and **Brazil- (Paranagua)** origin maize were even more significant, at closer to 20 percent. International prices of barley and sorghum also remained generally below last year's levels.

Prospects for continued large export availabilities in the 2019/20 season, underpinned by ample supplies in South America and a slow pace in trade, have kept futures prices under downward pressure. The **Chicago Board of Trade (CBOT) maize futures for delivery in December 2019**, which is the benchmark delivery month for the new United States of America crop, averaged USD 152 per tonne in April, down nearly 7 percent from the previous year's level. More detailed analysis of the futures markets can be found in the Market Indicators section of this report.

PRODUCTION

World production of coarse grains to rebound in 2019/20

FAO's first forecast of global coarse grains production in 2019 stands at 1 438 million tonnes, 2.4 percent (34 million tonnes) higher than in 2018. The projected increase is principally based on an expected rise in maize production, while expectation of a higher barley output reinforces the buoyant outlook.

World maize production in 2019 is forecast to increase year-on-year by 2.3 percent (25.2 million tonnes) to 1 140 million tonnes. The increase is largely tied to an expected production rebound in Latin America and the Caribbean. Specifically, outputs by leading producers **Argentina** and **Brazil** are forecast to increase, respectively, to 49.7 million tonnes (14.4 percent higher on a yearly basis) and 94 million tonnes (16.5 percent higher), driven by a price-induced expansion in the area sown. In addition, mostly favourable weather conditions, particularly compared with the below-average rainfall experienced the previous year, are expected to result in an upturn in yields, further supporting this year's positive outlook.

In *North America*, maize production in the **United States of America**, the world's largest maize producer, is forecast to reach 375 million tonnes, 2.4 percent up year-on-year. Assuming trend yields, the projected increase mainly rests on an expected enlargement in acreage, reflecting favourable profitability prospects relative to both soybeans and spring wheat crops, as well as the employment of crop rotation practices. However, excessively wet weather conditions prior to the planting period could limit the increase in sowings relative to initial intentions. Production of maize in **Canada** is also expected to rise on

account of larger plantings and a small upturn in yields. Forecast at 14.7 million tonnes, the harvest would be nearly 6 percent higher year-on-year.

In *Europe*, maize production in the **EU** in 2019 is predicted to remain virtually unchanged from 2018 at 68.5 million tonnes, with a likely decline in yields offset by an expansion in the area sown. The **Russian Federation** is expected to harvest a maize output of 13.5 million tonnes in 2019, up 18 percent from the previous year. The increase is mainly the result of a 15 percent expansion in the area sown. By contrast, **Ukraine** is forecast to produce a smaller maize harvest in 2019, projected at 29 million tonnes, down by 19 percent, as yields are predicted to revert to average levels following last years' record highs.

In *Africa*, maize production is forecast to fall in 2019, mostly due to a second consecutive year of anticipated reduced outputs in *Southern Africa*. Production in **South Africa**, the continent's largest maize producer, is forecast at about 11 million tonnes, down 12 percent, as dry weather conditions lowered yield prospects and cut the area planted compared to the previous year. Similarly unfavourable dry weather conditions, as well as recent cyclone-induced flooding, have sharply lowered production prospects in most countries in the subregion. In *West Africa* – although still early in the season – based on a generally favourable rainfall outlook, maize production is forecast to remain at average to above-average levels in 2019.

In *Asia*, planting of the main season maize crop is under way in **China**, and the early production outlook indicates a small increase in production to 260 million tonnes. Similarly, in **India** and **Indonesia**, which are both relatively large maize producing countries, outputs in 2019 are projected to rise slightly compared to the previous year.

Figure 3. Major maize producers



Table 1. World coarse grain market at a glance

	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	Change: 2019/20 over 2018/19
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	1 433.2	1 404.4	1 438.3	2.4
Trade²	196.4	193.6	190.8	-1.4
Total utilization	1 411.1	1 422.9	1 447.0	1.7
Food	211.7	216.2	216.9	0.3
Feed	796.1	796.8	812.1	1.9
Other uses	403.3	409.8	418.0	2.0
Ending stocks³	417.4	404.2	390.5	-3.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	28.0	28.3	28.1	-0.7
LIFDC ⁴ (kg/yr)	36.4	37.2	36.4	-2.2
<i>World stocks-to-use ratio (%)</i>	<i>29.3</i>	<i>27.9</i>	<i>25.7</i>	
<i>Major exporters stocks-to-disappearance ratio (%)</i>	<i>15.0</i>	<i>14.6</i>	<i>14.2</i>	
FAO CEREAL PRICE INDEX (2002-2004=100)				
	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	146	156	157	-0.3

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

³ Major exporters include Argentina, Australia, Brazil, Canada, EU, Russian Fed., Ukraine and the United States of America.

Table 2. Coarse grain production: leading producers*

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes</i>			<i>%</i>
United States of America	384.8	380.3	389.0	2.3
China (Mainland)	269.1	267.0	269.7	1.0
European Union	156.0	154.0	160.1	4.0
Brazil	100.7	84.1	97.5	16.0
Argentina	56.4	50.8	56.8	11.9
India	46.6	46.1	44.6	-3.3
Russian Federation	44.3	36.6	40.8	11.4
Ukraine	34.6	44.6	38.8	-13.0
Mexico	33.7	32.8	33.8	3.1
Canada	26.4	26.3	28.7	9.3
Indonesia	24.3	25.7	26.5	3.1
Ethiopia	22.0	21.9	21.9	0.0
Nigeria	19.0	19.2	19.3	0.0
South Africa	18.0	13.1	11.6	-11.5
Turkey	13.7	13.4	13.7	2.3
Other countries	104.8	173.5	85.8	-50.5
World	1.354.4	1.389.4	1.338.7	-3.7

* Countries listed according to their position in global production (average 2016-2018)

FAO's forecast for global barley production in 2019 stands at 147 million tonnes, 5.4 percent (7.5 million tonnes) above the preceding year's output. Most of the foreseen upturn concerns an expected rebound in the **EU's** harvest, despite some recent dry weather that curtailed prospects compared with initial expectations. Notable production gains are also forecast in **Canada**, where higher prices are anticipated to drive up the sown area by 14 percent, and in the **Russian Federation**, due to a forecast recovery in yields on account of mostly conducive weather conditions.

World sorghum production is forecast at nearly 59 million tonnes, virtually unchanged from 2018. This mainly reflects lower expected outputs in **Australia** and the **United States of America**, which are foreseen to offset production increases anticipated in several West African countries, including **Nigeria** and **Mali**.

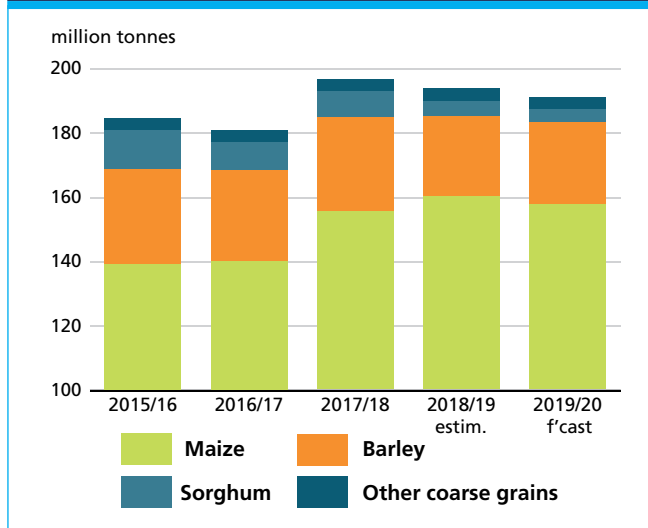
TRADE

World trade in coarse grains to contract in 2019/20

FAO's first forecast for world trade in coarse grains in 2019/20 (July/ June) is pegged at almost 191 million tonnes, down 1.4 percent from 2018/19. Global trade of all coarse grains is heading to a decline in 2019/20, in particular maize, barley and sorghum.

Global maize trade in 2019/20 (July/June) is expected to total 157.5 million tonnes, down 2.5 million tonnes from 2018/19. The anticipated contraction, the first since 2004/05, would be mostly on account of a likely reduction in imports by the **EU**, outweighing expected higher imports by several countries. After record purchases in 2018/19, total maize imports by the EU in 2019/20 could fall by at least 4 million tonnes (19 percent) to 17 million tonnes. This decline would be largely due to substantial carry-over stocks from the current season, sustaining ample domestic supplies. By contrast, in *Asia*, total maize imports are set to rise for the third consecutive season, reaching an all-time high of 77 million tonnes in 2019/20. Maize imports by the **Islamic Republic of Iran**, **Turkey** and **Viet Nam** are forecast to increase, reflecting growing feed demand in those countries. Predicted at almost 23 million tonnes, aggregate maize imports in *Africa* would also be higher than in 2018/19, approaching the record registered in 2016/17. The largest year-on-year increase in maize imports is expected in Southern Africa, where maize is the primary staple. Falling production in **Zambia** and **Zimbabwe** should result in both countries importing more maize in 2019/20 than in 2018/19.

Figure 4. Global trade of coarse grains by type

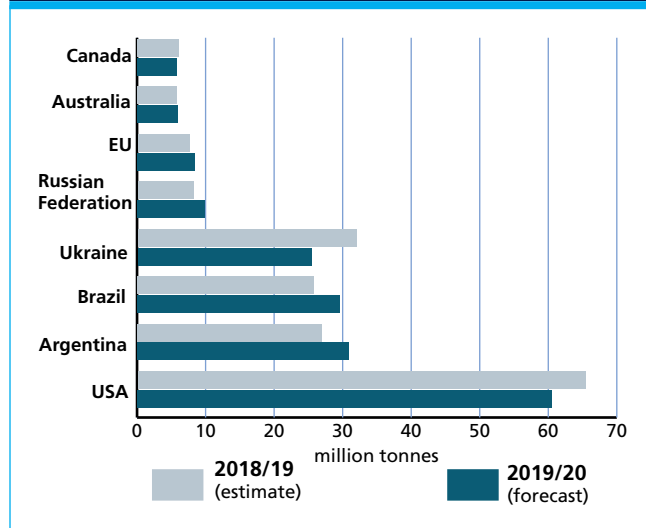


In *Latin America and the Caribbean*, maize imports by **Mexico**, the world's largest importer, could reach 17.4 million tonnes, up 400 000 tonnes from the estimated imports in 2018/19, despite a probable rise in this year's production. Strong feed sector demand continues to underpin large purchases by Mexico. For the region as a whole, however, aggregate maize imports are expected to be broadly in line with 2018/19, with higher purchases by Mexico and **Peru** offset by somewhat lower imports by several other countries, including **Brazil**, **El Salvador**, **Guatemala** and **Honduras**.

Early indications regarding maize exports point to a sharp increase in sales from **Argentina**, **Brazil** and, to a lesser extent, the **Russian Federation**, but this will most likely be outweighed by probable declines in exports from **Ukraine**, the **United States of America** and **South Africa**. The biggest year-on-year fall in exports is forecast for Ukraine where, due to the anticipated decline in domestic production this year, exports in 2019/20 could drop to 21 million tonnes, down 25 percent from the 2018/19 record of 28 million tonnes. Similarly, maize shipments from the United States of America, the world's largest maize exporter, are set to decline to 58 million tonnes, down by more 7 percent from 2018/19.

World trade in **barley** (excluding malt) in 2019/20 is pegged at 25.7 million tonnes, close to the estimated trade in 2018/19. Imports by **Saudi Arabia**, the world's leading barley importer, are forecast to rebound by at least 23 percent from the 2018/19 reduced level and reach 8 million tonnes. Barley imports by **Morocco** are also forecast to increase to 800 000 tonnes, up 95 percent from 2018/19, primarily due to the anticipated reduction in this year's domestic production. By contrast, imports by **China**

Figure 5. Coarse grain exports: major exporters



could decline for the second consecutive season, reaching 5 million tonnes, down 1 million tonnes from 2018/19. Regarding exports, higher shipments are projected primarily from the **EU**, **Ukraine** and, to a lesser extent, **Australia** and the **Russian Federation**, offsetting possible declines in sales from **Argentina** and **Canada**.

Global trade in **sorghum** is forecast to fall further in 2019/20, reaching 4 million tonnes, down 11 percent from 2018/19 and well below the record trade volume of 12 million tonnes registered in 2015/16. The projected year-on-year decrease is mainly driven by reduced purchases by the **EU**, mostly due to higher domestic feed supplies compared with 2018/19. On the export front, sales from both **Australia** and the **United States of America** could decline given the prospect for smaller trade.

UTILIZATION

Total utilization of coarse grains to peak in 2019/20

World utilization of coarse grains in 2019/20 could reach 1 447 million tonnes, 1.7 percent higher than in 2018/19 and marking a new record. A greater than previously expected feed use, especially in Asia and North America, is the primary factor behind the total utilization increase in 2019/20. Among the major coarse grains, total use of maize is projected to reach 1 154 million tonnes, up just 1.7 percent from 2018/19, while barley utilization is set to reach around 143 million tonnes, 3.6 percent above the 2018/19 level. Total utilization of sorghum is projected to rise marginally to nearly 59 million tonnes.

Total **feed utilization** of coarse grains in 2019/20 is foreseen to increase by 1.9 percent to 812 million tonnes,

Table 3. Top 10 maize importers

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
Mexico	15.6	17.4	1.8
European Union	17.5	17.0	-0.5
Japan	15.8	16.0	0.2
Korea Rep. of	9.8	10.3	0.4
Viet Nam	9.1	10.0	0.9
Egypt	9.3	9.7	0.4
Iran Islamic Rep. of	8.5	9.5	1.0
Colombia	5.0	5.4	0.4
Saudi Arabia	4.1	5.1	1.0
Chinese prov. of Taiwan	4.5	5.0	0.5

Table 4. Top 10 maize exporters

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
United States of America	60.7	58.2	-2.6
Brazil	23.3	29.5	6.2
Argentina	24.1	28.5	4.4
Ukraine	22.2	21.0	-1.2
Russian Federation	4.6	4.5	-0.1
European Union	2.2	2.5	0.3
Paraguay	1.9	2.0	0.1
Canada	1.7	1.8	0.0
South Africa	1.7	1.5	-0.2
Myanmar	1.2	1.3	0.1

Table 5. Top 5 sorghum importers

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
China	4.1	1.3	-2.8
Japan	0.6	0.6	0.0
Mexico	0.4	0.5	0.1
European Union	0.5	0.3	-0.2
Sudan	0.2	0.2	0.0

Table 6. Top 5 sorghum exporters

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
United States of America	4.9	2.0	-2.8
Ethiopia	0.4	0.5	0.1
Australia	0.5	0.4	-0.1
Sudan	0.3	0.3	0.0
Argentina	0.4	0.3	-0.1

Table 7. Top 10 barley importers

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
Saudi Arabia	7.5	8.0	0.5
China	7.4	5.0	-2.4
Iran Islamic Rep. of	2.3	2.7	0.4
Japan	1.2	1.3	0.1
Libya	1.2	1.0	-0.2
Morocco	0.4	0.8	0.4
Jordan	0.8	0.8	0.0
Algeria	0.6	0.6	-0.1
Syria	0.5	0.6	0.1
Brazil	0.6	0.6	-0.1

Table 8. Top 10 barley exporters

	2016/17-2018/19 average	2019/20 f'cast	Change
	million tonnes		%
European Union	5.3	5.5	0.2
Australia	7.1	5.2	-1.9
Russian Federation	4.6	5.2	0.6
Ukraine	4.5	4.2	-0.3
Canada	1.8	2.0	0.2
Argentina	2.7	2.0	-0.7
Kazakhstan	1.2	1.3	0.1
Uruguay	0.1	0.1	0.0
United States of America	0.1	0.1	0.0
Serbia	0.0	0.0	0.0

Source: FAO
Imports and exports are based on a common July/June marketing season

Box: Trends in Brazilian maize exports

New maize varieties, expansion of production to higher-yielding regions of Mato Grosso, the country's climatic ability to produce two crops in the same year, geographical shifts in livestock feeding and targeted government support are among the key factors that have contributed to a rapid rise in Brazil's maize production over the past decade.

With production increasingly exceeding domestic demand, Brazil has emerged as one of the world's largest maize exporters. Total maize production in Brazil has increased from just under 52 million tonnes in 2007/08 to nearly 98 million tonnes in 2017/18. This growth in output has enabled the country to increase almost continuously its maize exports, reaching 36 million tonnes in 2015/16 (July/June), and capture almost 26 percent of global market share. This compares with just 6 million tonnes exported a decade earlier, which represented less than 1 percent of the global total. Indeed, Brazil became the world's largest maize exporter in 2012/13, when severe drought damaged the maize crop in the United States of America - the world's largest maize producer and traditionally largest maize exporter.

Developments in currency markets also contributed to the robust expansion of maize exports from Brazil. Continued weakening of the national currency (Real) helped exporters to remain competitive and expand their markets well beyond neighbouring Latin American countries to Asia and Africa.

Maize shipments from Brazil to Asia jumped from 1.5 million tonnes in 2007/08 to a peak of 27 million tonnes in 2015/16, making notable inroads into important markets such as the Islamic Republic of Iran, Japan, the Republic of Korea, Viet Nam and Malaysia. In Africa, where Brazil's maize exports expanded from zero to just under 5 million tonnes in less than a decade, some 30 countries have become customers of Brazilian maize, led by Egypt, Morocco and Algeria.

Another factor contributing to Brazil's emerging role as a leading world exporter of maize is the strong government-backed investment strategy to develop ports and transportation infrastructure. These two areas have been key government priorities since 2010. Changes in the country's regulatory framework have favoured public-private partnerships in road and rail expansion, as

well as in port capacity improvements. In particular, new developments in the centre-west agricultural frontier, where more than two-thirds of the country's soybeans and maize are produced, have boosted the transport of commodities to the north (involving a much shorter distance than to southern ports), thereby lowering export costs and delivery times.

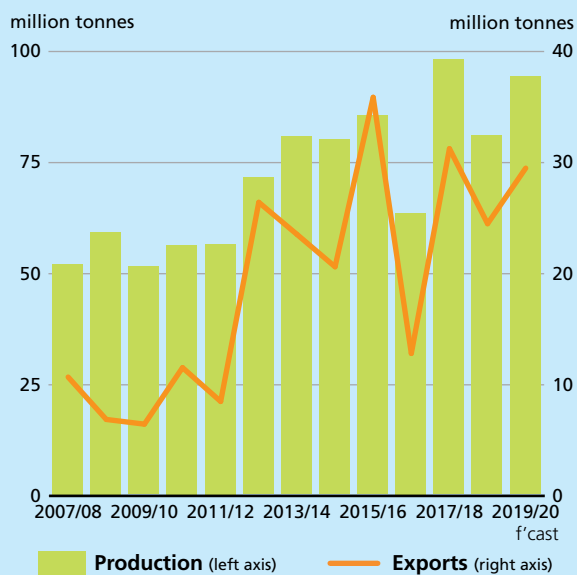
In recent years, new terminals have become operational in the so-called Northern Arc port area. This has boosted the region's share of grains transportation. In 2017/18, shipments from these ports reached 10 million tonnes, representing a sharp rise from less than 0.5 million tonnes registered in 2011/12. Indeed, while the northern terminals transported 9 percent of total maize exported from Brazil that year, this share rose to 34 percent in 2017/18.

The new terminals in the north provide much better market opportunities for buyers in Central America, Asia and Africa, reducing shipping costs and increasing the competitiveness of maize produced in Mato Grosso, Tocantins and Pará, all important producing areas in the north and northeast of the country.

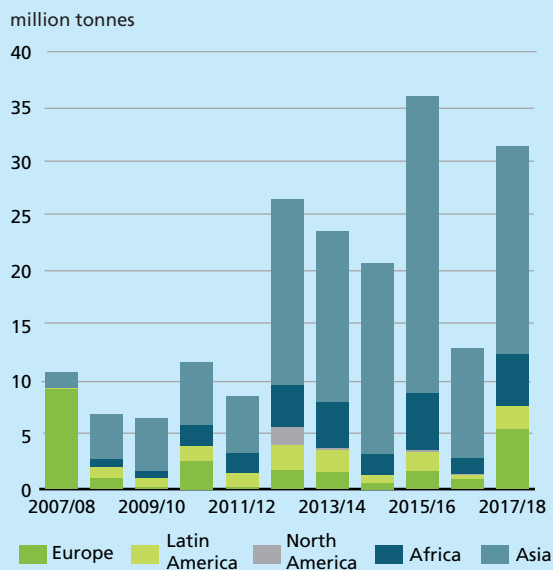
Brazil's maize exports have also shifted their seasonal pattern. Initially, maize shipments remained small, and generally took place during the early months of the season. However, since 2010 an increasing share of maize has been exported from August to January, which coincides with the months when harvesting of the second-crop maize (*safrinha*) begins, when supplies are normally at their peak in the northern hemisphere – a development that has generated stiffer competition with other major exporters, in particular the United States of America. In fact, March-July shipments from Brazil remain relatively small (representing just over 2 percent of annual exports), while the period from August to January now accounts for the largest share of country's trade activity, with monthly exports making up more than 12 percent of the total during this period.

Early indications for the 2019/20 trade season (July/June) point to maize exports from Brazil rising to 29.5 million tonnes, some 15 percent higher than in 2018/19. This would place Brazil as the second largest maize exporting country in the world, after the United States of America.

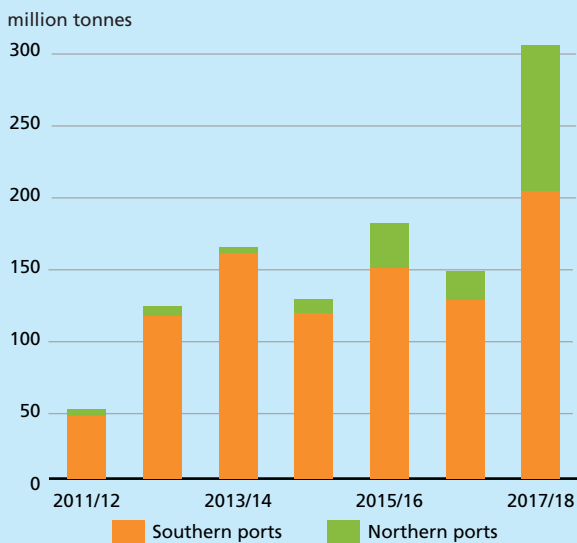
Brazil: Maize production and exports



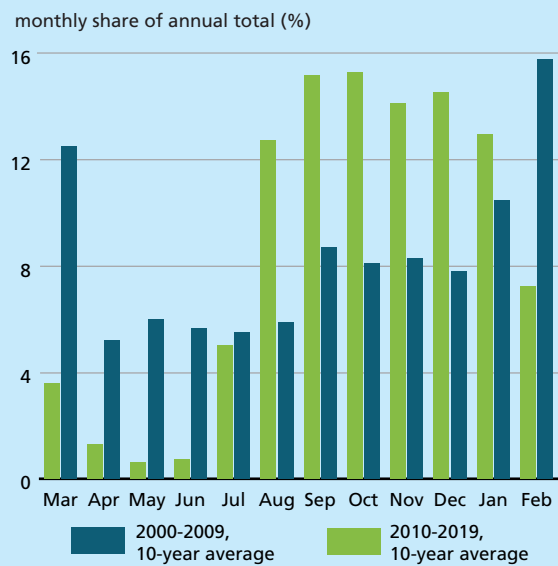
Brazil: Maize export destinations



Brazil maize shipments: Northern and southern ports



Brazil: Maize export seasonality



Source: FAO, TDM and Reuters

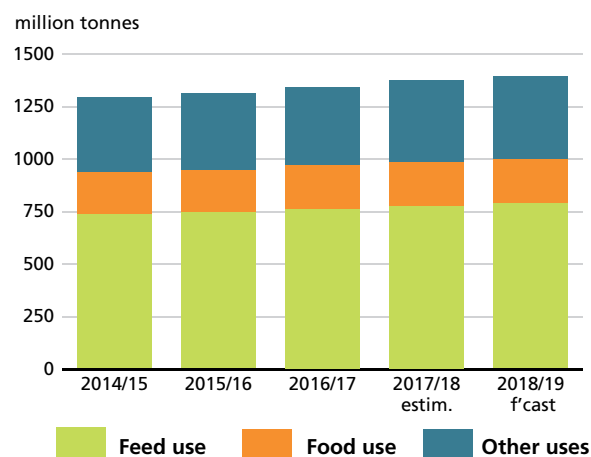
Contact:

Lavinia.Lucarelli@fao.org

with maize feed use alone anticipated to surpass the 2018/19 level by 1.5 percent and reach 656 million tonnes. Much of the expected increase in maize feed use reflects higher utilization in the United States of America which, at the current projected level of around 138 million tonnes, would represent an increase of nearly 3 percent from 2018/19. At 167 million tonnes, China is also anticipated to use more maize for feeding in 2019/20. However, the increase is expected to remain small and that after the 2018/19 stagnated level. Feed use of maize in China has slowed considerably following the rapid spread of African Swine Fever since August 2018 (when the outbreak was first detected). In view of reduced import prospects of other feed grains, as well as soybeans, the maize intake for feed in China could still increase, but by only 1.2 percent, underpinned by a rapidly expanding poultry sector. More on the recent dynamic of the feed sector in China is discussed in the Special Feature of this report. Feed use of maize is seen to increase significantly (up 11 percent) in the Russian Federation, as well as in Mexico (up 6.8 percent), supported by large domestic supplies and a strong demand from the livestock sector. In the EU, growth in the feed use of coarse grains would be mostly driven by greater utilization of barley, given the anticipated production recovery this year. The EU's barley feed use is projected to reach 38 million tonnes in 2019/20, up nearly 9 percent from 2018/19.

World food consumption of coarse grains in 2019/20 is expected to remain steady at close to 217 million tonnes, with anticipated increases in Africa and Latin America to compensate for a small decline foreseen in Asia. At the current forecast level, food consumption of coarse grains represents about 15 percent of total utilization. Within coarse grains, maize food consumption accounts for the biggest share and is expected to increase by around 1 percent in 2019/20 to reach 140 million tonnes. This would be sufficient to maintain a steady level of per caput consumption, most notably in Southern Africa and several countries in the Latin America and the Caribbean region, where maize is a leading staple. By contrast,

Figure 6. Coarse grains utilization



food consumption of sorghum is projected to contract by 1.4 percent in 2019/20 to 28.6 million tonnes, mostly on expectations of reduced intakes in India and in several African countries.

Total **industrial use** of coarse grains is likely to increase further in 2019/20, surpassing the 2018/19 record of 350 million. Based on early forecasts, largely derived from recently published data by the International Grains Council, the increase in 2019/20 would be mostly driven by continued growth in maize-based starch production in China and further rises in the use of maize to produce biofuels in the United States of America, with the latter forecast to exceed 140 million tonnes.

World inventories of coarse grains to decline further in 2019/20

Based on the current forecasts for production in 2019 and utilization in 2019/20, world stocks of coarse grains will likely decline to a four-year low of 390 million tonnes, down 14 million tonnes, or 3.4 percent, from their opening levels. Consequently, the **world stocks-to-use ratio** of coarse grains in 2019/20 is set to decline – down around

Table 9. Maize use for ethanol (excluding non-fuel) in the United States of America

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19 estim.	2019/20 (f'cast)
Maize production	313 956	273 188	351 270	361 101	345 504	384 774	371 083	366 282	375 000
Ethanol use	127 005	117 886	130 155	132 085	132 695	137 978	142 373	139 706	140 976
Yearly change (%)	8.9	-7.2	10.4	1.5	0.5	4.0	3.2	-1.9	0.9
As % of production	40.5	43.2	37.1	36.6	38.4	35.9	38.4	38.1	37.6

Source: WASDE-USDA 9 April 2019 and FAO (2019/20 forecasts)

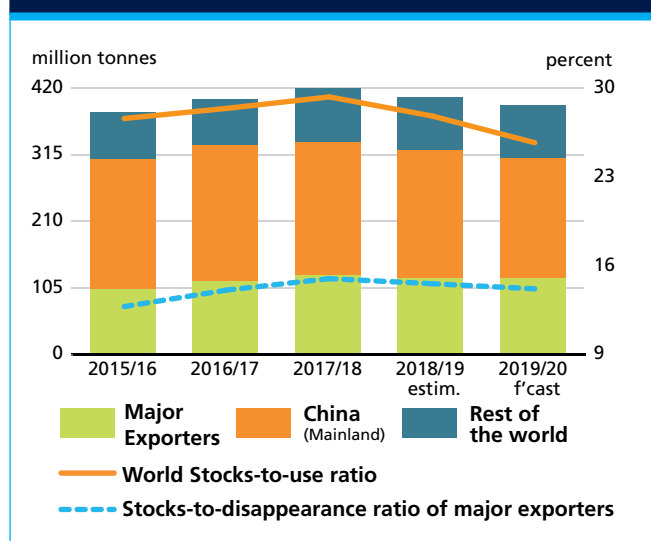
2 percentage points to 25.7 percent, the lowest level since 2013/14. In addition, the ratio of **major exporters' closing stocks to their total disappearance** (defined as domestic utilization plus exports), which is a more accurate indicator of global availabilities from a trade perspective, is also set to decrease, from 14.6 percent in 2018/19 to 14.2 percent in 2019/20.

Nearly all the anticipated declines in world inventories of coarse grains would be due to drawdowns in maize stocks, which are expected to fall to 332 million tonnes, representing a decrease of almost 19 million tonnes, or 5.3 percent, from their opening levels. A continued drawdown of maize inventories in **China** accounts for the bulk of this decrease. China's maize stocks are forecast to approach almost 185 million tonnes, down almost 12 million tonnes, or 6 percent, from their opening levels, and the lowest since 2014/15. Despite this projected decline, maize stocks in China remain elevated. As a reminder, in recent months, FAO's historical maize inventory estimates for China were scaled up significantly, due to

sharp upward adjustments made by China to its domestic maize production figures since 2007. Maize inventories in the **United States of America** could also be heading for a decline in 2019/20. Despite the anticipated rise in domestic production, stronger prospects for exports combined with higher domestic utilization could bring United States of America maize stocks down to 47 million tonnes, declining by nearly 5 million tonnes, or 9 percent, below their opening levels. Among other notable declines, smaller maize inventories are forecast for **South Africa**, where end-season volumes could reach 1.2 million tonnes, a reduction of 60 percent compared to the start of the season level, mostly reflecting lower domestic production.

Among other major coarse grains, global sorghum inventories could increase by 4.8 percent, to 9.4 million tonnes, with most of the increase concentrated in **Australia** and the **United States of America**. Global inventories of barley in 2019/20 are also projected to increase, up 10 percent from their opening levels, to 30 million tonnes, which would be the highest level in nearly a decade. Greater barley production in 2019 is expected to boost end-season inventories, particularly in **Canada**, the **EU**, **Kazakhstan**, and the **Russian Federation**, more than offsetting a likely decline in **China**.

Figure 7. Coarse grain stocks and ratios



RICE

Major Rice Exporters and Importers



PRICES

International prices recover, but increases capped by subdued Indica demand

Since hitting a 14-month low in November 2018, international rice prices have tended to move up. This has been reflected by the **FAO All Rice Price Index (2002–2004=100)**, which averaged 222.2 points in April 2019, 3.5 percent higher than in November 2018. The increase was driven by a rebound in medium/short grain quotations, sustained by the launch of a series of Asian import tenders,

undertaken in the context of poor supply prospects for drought-stricken Australia and Egypt's shift from a supplier to a net importer of rice. Although this bullish Japonica sentiment tended to subside during April, the Japonica Index still stood 8.4 percent above November levels that month, at an average of 264.1 points. A stronger Thai baht and general inflationary pressure in Pakistan have likewise underpinned a 5.2 percent rebound in the Aromatic Index to 217.2 points, but these increases have contrasted with continued declines in the prices of the most widely traded Indica varieties. In this segment, persistently thin import

Figure 1. FAO all rice price index

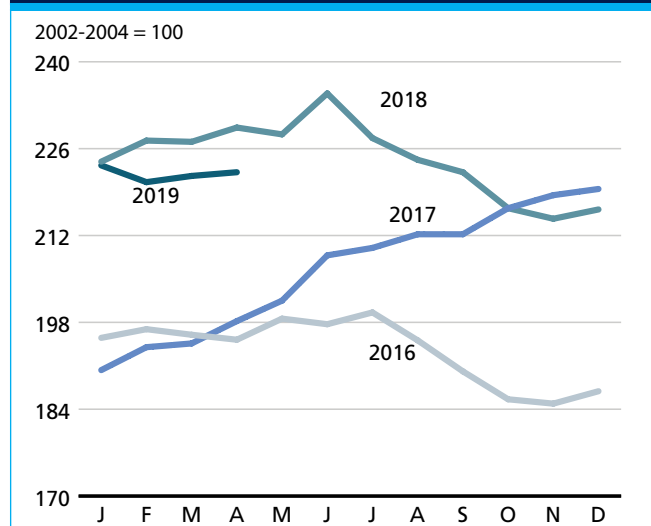
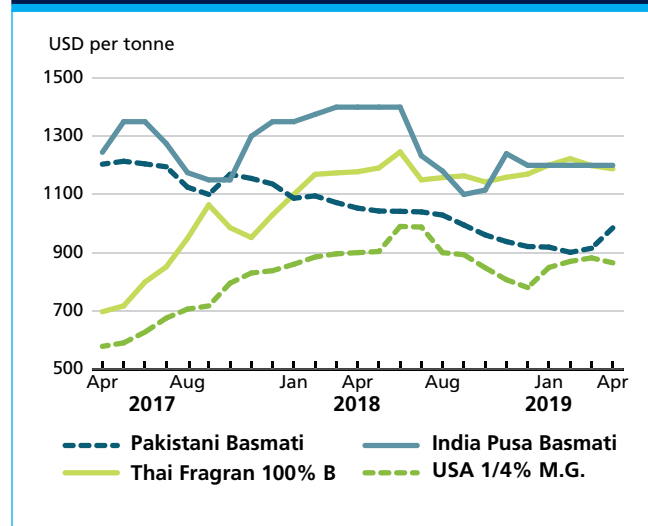


Figure 2. Export prices of Aromatic and Japonica rice



demand from important buyers, such as Bangladesh, China,¹ Indonesia and Nigeria, outweighed support provided by currency appreciations in India and Thailand, along with concerns over the impact of short water availabilities to irrigate secondary crops in both countries. Largely as a result of the bearish undertone lingering in the Indica market, the January-April 2019 average of the Indica index remained 2.2 percent below its value in the corresponding period in 2018, at 221.9 points.

PRODUCTION

Production in 2019 seen unchanged year-on-year

The 2019 paddy season is well advanced in countries along and south of the Equator, while in Northern Hemisphere countries, planting operations of the main season are about to start. Based on available information on crops already harvested, and assuming average weather conditions during the critical Northern Hemisphere summer months, FAO forecasts the 2019 global rice production at 516.8 million tonnes (milled basis), unchanged from the previous year's record level.

In *Asia*, the aggregate rice output is predicted to rise in 2019. A large proportion of this year-on-year increase is expected to come from **India**, where remunerative producer prices and large Government purchases are likely to boost plantings. Similarly, the outputs are expected to increase in **Bangladesh, Indonesia, Sri Lanka** and **Thailand**. In **China**, the 2019 rice production is expected to decrease for the second consecutive year, reflecting

expectations of area contractions as farmers replace some paddy cultivation with more profitable crops, including soybeans.

In *Latin America and the Caribbean*, the 2019 aggregate rice production is pegged at 17.4 million tonnes, down 7 percent from the previous year's output and well-below the past five-year average. This is the result of an expected sharp contraction in area planted in **Brazil**, the subregion's main rice producer, as farmers shift paddy areas to other crops that are more remunerative. Similarly, in **Argentina, Bolivia, Colombia, Peru, Uruguay** and **Venezuela**, low producer margins are expected to instigate a contraction in paddy plantings, resulting in a year-on-year decline in output. In the remaining countries, including **Cuba, Dominican Republic, Ecuador, Guyana** and **Paraguay**, prospects for the 2019 rice production are favourable.

In *Africa*, the aggregate 2019 rice output is forecast at 20.6 million tonnes, 6 percent below the previous year's above-average level. The year-on-year decline is the result of expectations of outputs returning to more normal levels in **Nigeria** and **Mali** and a drop in **Egypt** due to water constraints. By contrast, prospects are favourable in **Côte d'Ivoire, Ghana, Burkina Faso** and **Mauritania**, where the production is expected to remain similar or slightly surpass the five-year-average level. **Madagascar**, the largest rice producer in Southern Africa, is likely to attain a harvest similar to the previous year, resting on generally conducive weather in the main rice-producing regions. Rest of the countries in the subregion, production is expected to decline, due to a combination of dry weather conditions and cyclone-induced floods, which notably impacted Mozambique (second largest rice producer). In the **United Republic of Tanzania**, the main rice producer in East Africa, reduced precipitations since February in some northern and northeastern rainfed lowland growing areas are expected to result in localized production shortfalls.

In the *other regions*, the 2019 rice production outlook is negative for the **United States of America**, where poor price prospects are anticipated to result in output falling by 2.5 percent to 6.9 million tonnes. In **Australia**, the 2019 harvest is officially estimated at just 69 000 tonnes, down 84 percent year-on-year, as short supplies for irrigation caused plantings to slump to a decade-low. By contrast, production is seen as hardly varied in the **Russian Federation**, while a price-driven area increase in Italy and more conducive weather in Portugal should sustain a modest (0.5 percent) output increase in the **European Union (EU)** to 1.7 million tonnes.

¹ All references to China are to Mainland China unless otherwise specified.

Figure 3. Global paddy production and area

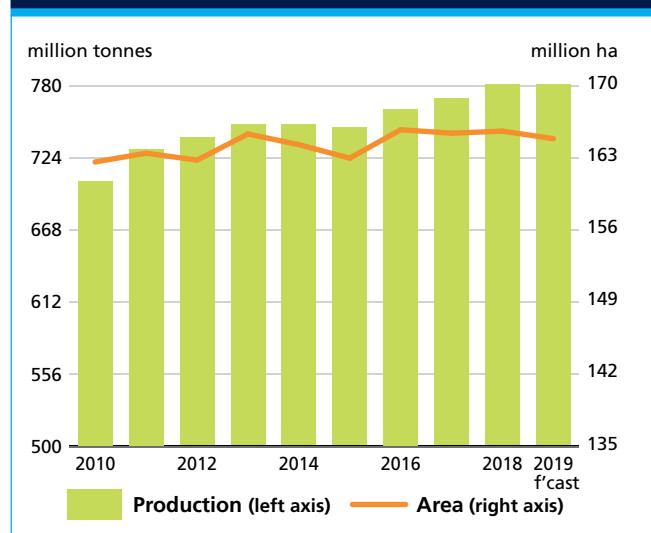


Table 1. World rice market at a glance

	2017/18	2018/19	2019/20	Change: 2018/19 over 2019/20
	<i>million tonnes, milled equivalent</i>			<i>%</i>
WORLD BALANCE				
Production	509.9	516.9	516.8	0.0
Trade¹	48.3	46.8	48.9	4.5
Total utilization	507.3	511.2	518.5	1.4
Food	406.8	411.7	418.7	1.7
Ending stocks²	174.0	180.6	178.7	-1.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	53.9	53.9	54.3	0.6
LIFDC (kg/yr)	57.4	57.6	58.1	0.9
World stocks-to-use ratio (%)	34.0	34.8	34.0	
Major exporters stocks-to-disappearance ratio ³ (%)	18.0	20.7	21.1	
FAO RICE PRICE INDEX (2002-2004=100)				
	2017	2018	2019 Jan-Apr	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	206	224	222	-2.2

¹ Calendar year exports (second year shown).

² May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

³ Major exporters include India, Pakistan, Thailand, United States of America and Viet Nam.

Table 2. Rice Production: leading producers *

	2017	2018	2019 <i>f. cast</i>	Change: 2019 over 2018
	<i>million tonnes, milled equivalent</i>			<i>%</i>
China	145.7	145.3	143.4	-1.3
India	112.9	115.6	117.5	1.7
Indonesia	46.3	46.7	47.2	1.1
Bangladesh	34.7	36.2	36.7	1.4
Viet Nam	27.8	28.6	28.3	-0.9
Thailand	22.2	21.2	22.0	3.5
Myanmar	17.7	18.2	18.3	0.3
Philippines	12.7	12.4	12.7	2.1
Brazil	8.4	8.2	7.2	-11.7
Japan	7.5	7.5	7.7	2.0
Pakistan	7.4	7.1	7.2	1.5
United States of America	5.7	7.1	6.9	-2.5
Cambodia	6.3	6.5	6.6	1.9
Nigeria	4.7	5.3	4.8	-10.1
Republic of Korea	4.0	3.9	3.9	0.1
World	509.9	516.9	516.8	0.0

* Countries listed according to their position in global production (average 2017-2019).

TRADE

Reduced Far Eastern demand to depress world rice trade in 2019

At a forecast 46.8 million tonnes, international trade in rice in calendar year 2019 is predicted to fall 1.5 million tonnes below the 2018 record level. The contraction is expected to be demand-driven and concentrated in the Far East, where aggregate deliveries will likely fall by 18.2 percent year-on-year to 13.2 million tonnes. Individually, **Bangladesh** and **Indonesia** would be responsible for much of the region's import decline, as ample local inventories should preclude the need for both countries to resort to large imports, as in 2018. Combined with expected import declines in **China**, **Nepal** and **Sri Lanka**, this would offset expected increases elsewhere, namely in the **Republic of Korea**, **Malaysia** and **Singapore**, but also in the **Philippines**. Indeed, the latter could overtake Nigeria as the world's second largest rice importer once more, raising 2019 purchases by another 6 percent to an all-time high of 2.5 million tonnes. This volume would mostly comprise private sector purchases, facilitated by the recent replacement of longstanding quantitative restrictions on rice imports with tariffs.

Prospects of subdued demand in the Far East overshadow expectations of purchases accelerating in most other regions. For instance, greater import needs by **Afghanistan**, the **Islamic Republic of Iran**, **Iraq** and **Saudi Arabia** could drive a 7.9 percent increase in deliveries to the *Asian Near East* to a fresh peak of 7.4 million tonnes. Aggregate imports by *Africa* are also anticipated to stage a 3.5 percent annual increase in 2019, to 17.3 million tonnes. Within the region, a 450 000 tonne purchase by **Egypt**, traditionally a rice exporter, would contribute towards consolidating the country's position as a net importer of rice, a move resulting from government promoted output cuts aimed at conserving scarce water resources. In the case of **Mozambique**, expectations of greater purchases follow storm-related output losses, which would increase import needs resulting from diminished stockpiles. **Angola**, **Cameroon**, **Kenya**, **Mali** and **Niger** are also predicted to import more. On the other hand, a bumper 2018 crop could allow **Nigeria** to keep purchases close to the 2018 reduced level of 2.3 million tonnes, while comfortable supply situations are likely to enable **Benin**, **Côte d'Ivoire**, **Ethiopia**, **Guinea** and **Senegal** to meet consumption needs, while reducing imports.

Imports by *Latin America and the Caribbean* are forecast to expand by 3.4 percent in 2019, to a total of 4.4 million tonnes. A 46 percent rebound in purchases by **Brazil** to 840 000 tonnes is envisaged to underpin the regional increase, with increased imports required

to cover consumption needs and maintain a presence in export markets, in the face of a sizeable output reduction. Combined with greater imports by **Colombia** and **Haiti**, these are likely to outweigh anticipated lower purchases by **Cuba**, **Mexico** and **Venezuela**. Elsewhere, import demand, primarily for fragrant varieties, is expected to remain strong in the **United States of America** and the **EU**, even if in the latter, higher tariffs on selected classes of imports from Cambodia and Myanmar and on non-basmati husked rice could cause 2019 purchases to subside by 3 percent to 1.9 million tonnes.

Among suppliers, prospects of subdued global demand are anticipated to dampen export prospects for **Thailand** more than any other country, as this would compound a second successive season of fragrant rice output shortfalls, a stronger currency and intense competition for markets. On this basis, Thai shipments are seen sliding by 1.9 million tonnes in 2019, to 9.2 million tonnes. Poor harvests also look set to undermine the competitive capacity of **Australia**, **Brazil** and **Uruguay**, whereas for **Myanmar**, an expected reduction would be linked to Chinese steps to thwart cross-border deliveries. By contrast, **Argentina**, **Cambodia**, **China**, **Paraguay** and the **United States of America** could all see their shipments rise, while **Pakistan** replicates its robust 2018 export performance. A competitive edge in the parboiled and aromatic segments could likewise help shipments from **India** to recover by 2.3 percent to 12.1 million tonnes. This, however, assumes that the announced United States of America withdrawal of sanction waivers for buyers of Iranian oil do not undermine the rupee payment mechanism, through which transactions with Iran, one of India's largest basmati destinations, are being settled. The export outlook is also positive for **Viet Nam**, given competitive prices and expectations of further forays into the Japonica and aromatic segments. Combined with greater access to markets offered by the entry into force of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and possibly also a trade accord with the EU, these could compensate for smaller deliveries to key Far Eastern destinations and raise Vietnamese rice exports by 3.1 percent year-on-year to 7.1 million tonnes.

Although still highly tentative, based on preliminary expectations of 2019 crops in the northern hemisphere and of supplies south of the Equator in 2020, **world trade in rice in calendar year 2020** is pegged at 48.9 million tonnes. This level would stand 4.5 percent above current expectations for 2019 and imply a fresh historical peak. Although purchases by the Philippines are also expected to continue growing in 2020, African imports are forecast to be the main factor underpinning the

Figure 4. Rice imports by region

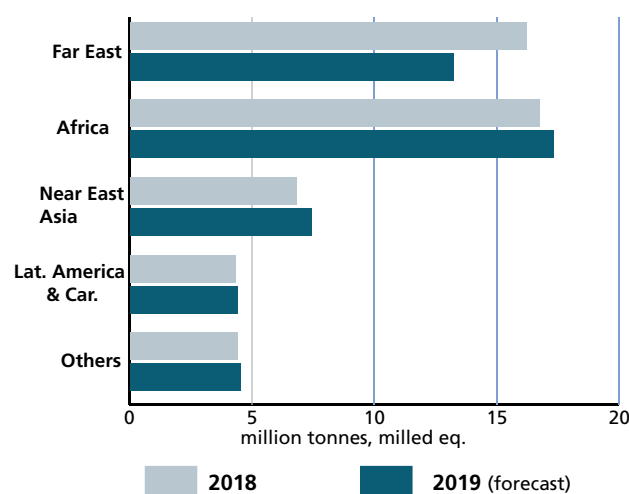


Figure 5. Rice exports by the major exporters

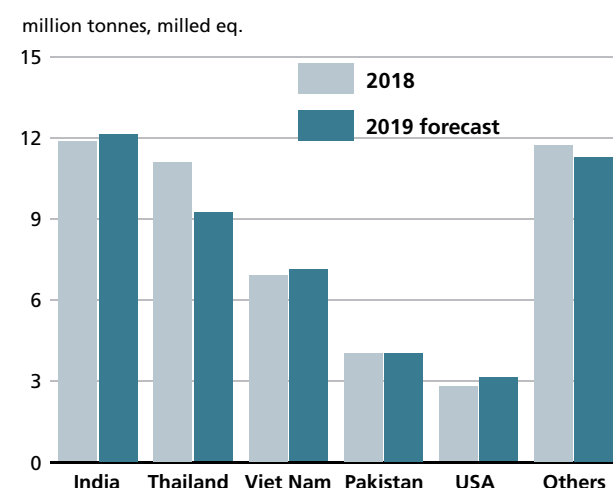
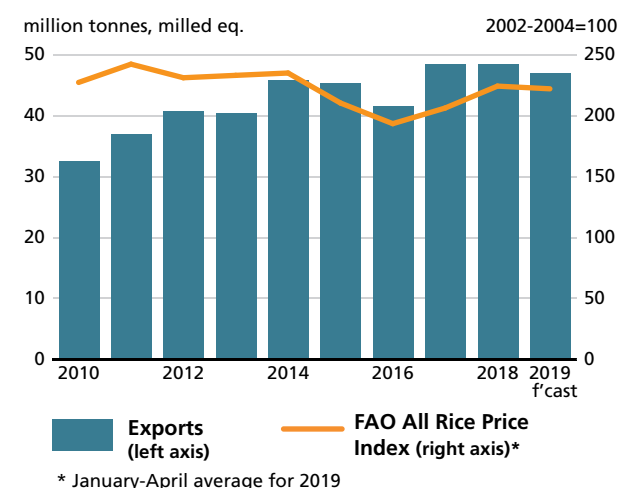


Figure 6. World rice trade and FAO all rice price index



increase. Indeed, faced with output reductions, countries such as Egypt, Guinea, Senegal, and especially Nigeria, would need to resort to greater supplies from abroad to meet the needs of their expanding populations. On the export side, ample availabilities would best place India to meet much of the forecast global trade expansion, although shipments by China, Myanmar and Viet Nam are also predicted to grow.

UTILIZATION

Food demand to continue driving growth in world rice use

Global rice utilization is forecast to reach an all-time high of 518.5 million tonnes (milled basis) in 2019/20, up 7.2 million tonnes, or 1.4 percent, from 2018/19. The expansion is anticipated to result from a 1.7 percent expected increase in food use to 418.7 million tonnes. Taking population growth into account, this level would be sufficient to lift rice per capita food use globally to 54.3 kg, up from 53.9 kg the previous season. From a regional perspective, the increase would reflect expectations of a somewhat more buoyant pace of food intake growth in Asia, where prospects point to abundant availabilities. These add to continued official efforts in the region to stabilize prices and ensure affordable supplies for vulnerable groups through measures such as price controls, imports or subsidized distribution programmes. This is the case of Bangladesh, Indonesia, the Philippines and Sri Lanka, but also of India, where officials could accelerate rice releases through the country's public distribution system next season, in an effort to trim the size of state inventories. Such a move could contribute to Asian per capita rice use rising by 0.5 kg in 2019/20 to 78.0 kg. Food demand is also anticipated to remain strong in Africa, where intake could rise by a further 1.0 percent to 26.8 kg, while it is foreseen to stay close to 2018/19 levels in all other regions. On the other hand, volumes destined for animal feed are predicted to drop by 2.6 percent year-on-year to 15.9 million tonnes, while seeds, post-harvest losses and industrial uses would together absorb another 83.9 million tonnes.

STOCKS

China to drive a 1.0 percent reduction in world rice stocks

Based on preliminary expectations of stagnating global production and continued growth in use, FAO tentatively forecasts world rice stocks at the close of 2019/20 marketing seasons to fall 1.0 percent below the record high of 2018/19 to 178.7 million tonnes (milled basis). This

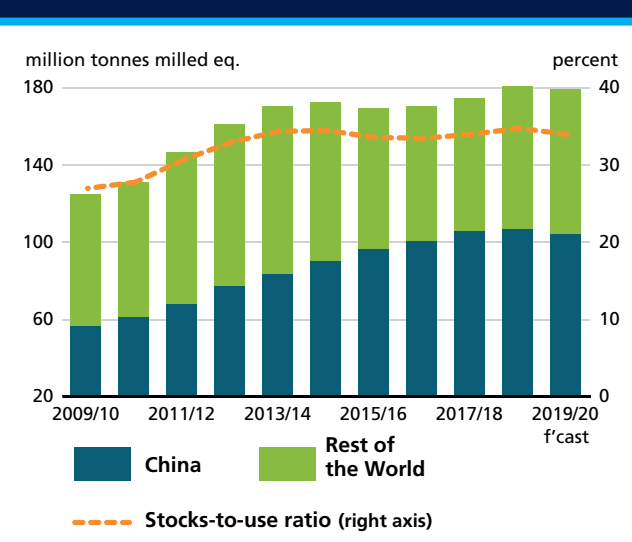
volume would still represent the second highest reserve level on record, sufficient to keep the global stocks-to-use ratio at 34.0 percent, just 0.8 percentage points short of the 2018/19 level. Much of the forecast decline in global carry-overs is anticipated to be concentrated in **China**, where, in the context of agricultural supply-side reforms, officials have signalled their intention to intensify steps to address the supply overhang caused by successive large crops and imports. On this basis, rice reserves in the country are seen dropping from a record 106.5 million tonnes in 2018/19 to 104.0 million tonnes in 2019/20. If confirmed, this would mark the first stock drawdown to take place in the country since 2007/08.

Nevertheless, expectations of stock reductions in China contrast with prospects of rice carry-overs edging up for the second successive season in the rest of the world. Largely, this mirrors expectations of another accumulation taking place in the five major rice exporters,² particularly in **India**. Bolstered by another record domestic crop and large public carry-ins, reserves in India are seen expanding by 7.2 percent in 2019/20, to 27.6 million tonnes. Within the group, lower exports could also sustain a 3.7 percent rise in stocks held by **Thailand** to 5.6 million tonnes, while forecast production reductions should drive moderate cuts in **Viet Nam** and the **United States of America**, as should do an upbeat pace of exports in **Pakistan**. These tendencies would result in another small (0.4 percentage point) increase in the major exporters' **stocks-to-disappearance ratio** in 2019/20, which would nonetheless place it at a five-year high of 21.1 percent.

Carry-over prospects are less buoyant for other

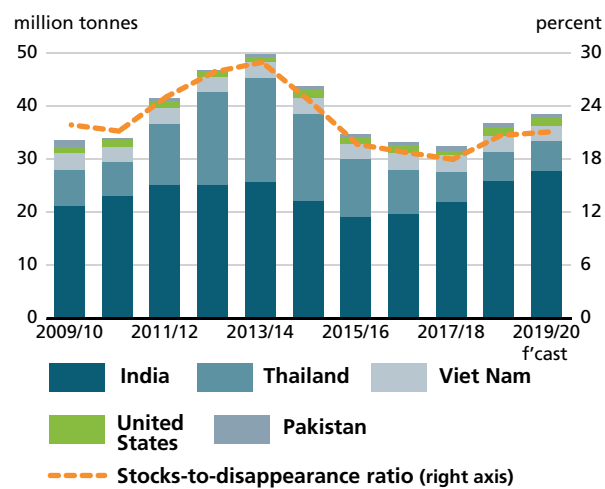
² India, Pakistan, Thailand, the United States of America and Viet Nam.

Figure 7. Global closing stocks and stocks-to-use ratio



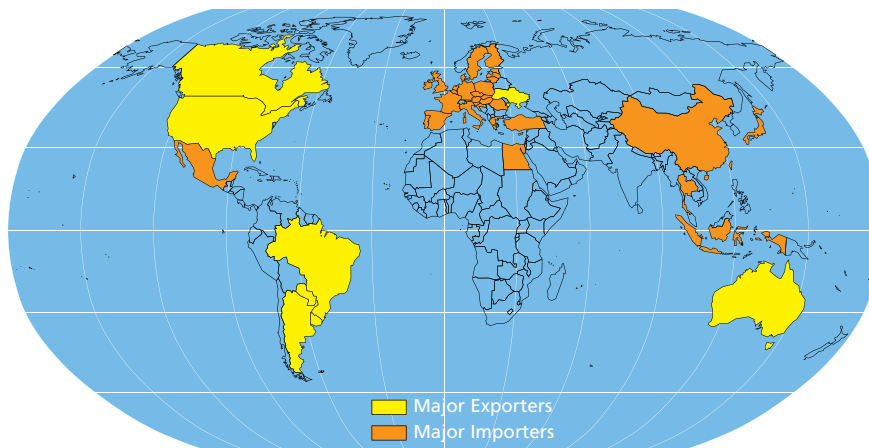
traditional rice suppliers. For instance, in the wake of large 2019 output shortfalls, **Argentina, Australia, Brazil** and **Egypt** could all see significant stock reductions, outweighing expected increases in **Cambodia** and **Myanmar**. Among importers, reserves held by **Bangladesh** and **Indonesia** are similarly anticipated to return to more normal levels, after the highs reached the previous season as a result of good crops and imports. This would offset anticipated accumulations in **Sri Lanka** and **Japan**, but also the **Philippines**, where record-breaking imports combined with efforts to reconstitute state reserves through local procurement could boost carry-overs to a nine-year high of 2.9 million tonnes.

Figure 8. Stocks held by the five major rice exporters and stocks-to-disappearance ratio



OILCROPS, OILS AND MEALS ¹

Major Oilseed Exporters and Importers



PRICES ²

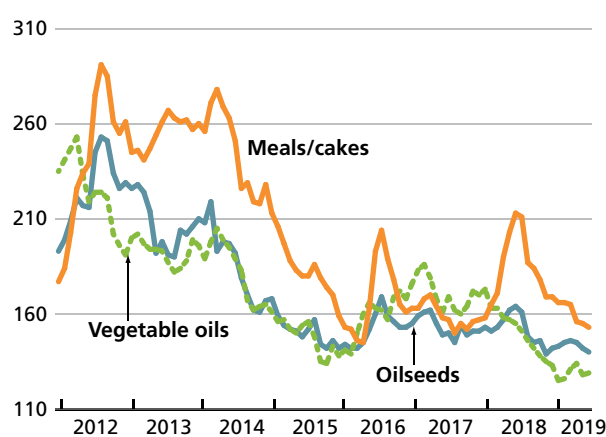
Prices of oilseeds and oils stabilise, while those of meal continue to decline

Following the downward trend recorded in the final stretch of the 2017/18 (October/September) season, international price quotations for oilseeds and derived products lingered at historically low levels during the first half of 2018/19. In April 2019, **FAO's price indices for oilseeds and vegetable oils** stood, respectively, 15 percent and 17 percent below their year-earlier levels, while the oilmeal price index was 28 percent down, marking a 20-month low.

The course of the oilseed price index largely reflects developments in the global soybean market. After the sharp decline experienced towards the end of the 2017/18

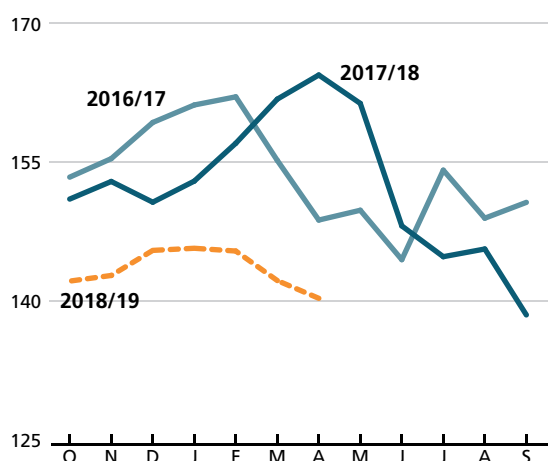
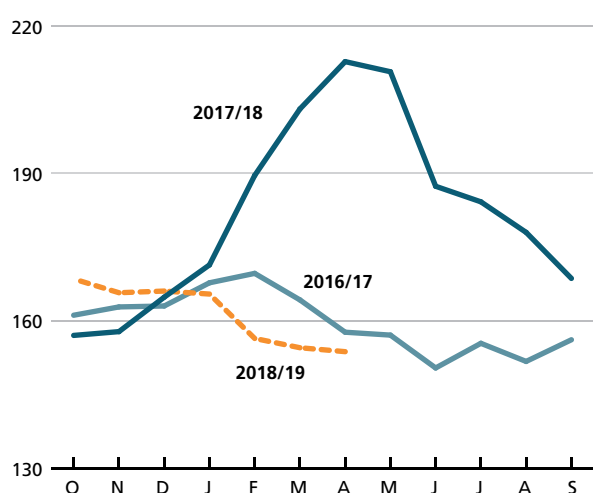
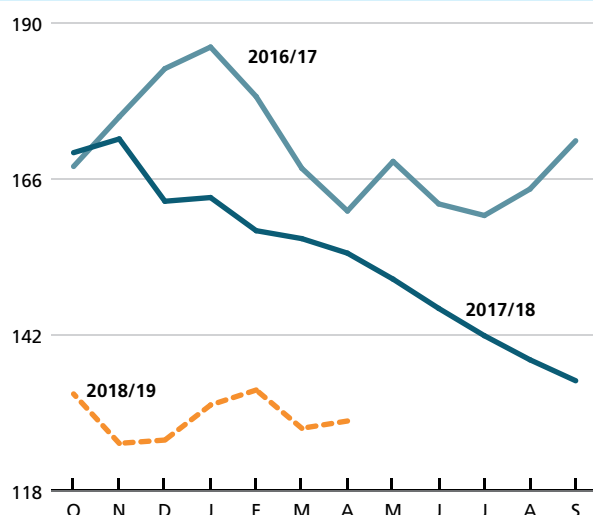
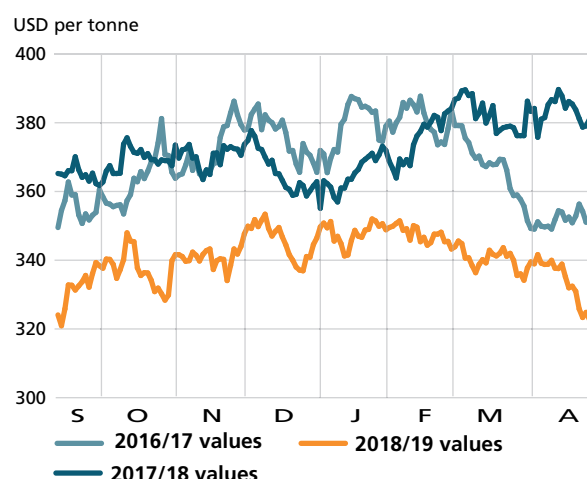
season, soybean prices stabilized, fluctuating within a relatively narrow range until April 2019. On the one hand, forecasts of record global production, combined with signs of subdued import demand and the ensuing prospects of a massive build-up in inventories, kept prices under pressure. On the other, as the crop season gradually unfolded in the southern hemisphere, reports of unfavourable weather in parts of South America provided sporadic support to soybean prices. In addition, the prolonged United States of America-China trade negotiations affected market

Figure 1. FAO monthly international price indices for oilseeds, vegetable oils and meals/cakes (2002-2004=100)



¹ Almost the entire volume of oilcrops harvested worldwide is crushed to obtain oils and fats for human nutrition or industrial purposes, and to obtain cakes and meals that are used as feed ingredients. Therefore, rather than referring to oilseeds, the analysis of the market situation is mainly undertaken in terms of oils/fats and cakes/meals. Production data for oils and meals are derived from domestic production of the relevant oilseeds in a specific year, i.e. they do not reflect the outcome of actual oilseed crushing in a given country and period. Regarding oilseed trade, situations where oilseeds are produced in one country but crushed in another are reflected in national oil/meal consumption figures. It is important to note that data on trade in oils (meals) refer to the sum of trade in oils (meals) plus the oil (meal) equivalent of oilseeds traded. Similarly, stock figures for oils (meals) refer to the sum of oil (meal) stocks plus the oil (meal) equivalent of oilseed inventories.

² For details on prices and corresponding indices, see statistical appendix, table 24

Figure 2. FAO monthly price index for oilseeds (2002-2004=100)**Figure 3. FAO monthly price index for oilmeals/ cakes (2002-2004=100)****Figure 4. FAO monthly price index for vegetable oils (2002-2004=100)****Figure 5. CBOT soybean futures for September**

sentiment. Notwithstanding the upward momentum provided by the 90-day trade hostility truce announced in December 2018, the lack of an agreement, combined with lower than anticipated Chinese purchases of United States of America soybeans, continued to cause concern. Meanwhile, led by soybean meal, international prices of oilmeals continued trending downward amid signs of a brisk slowdown in meal uptake, notably in China, due to African Swine Fever (ASF).

With regard to oils/fats, world prices continued to fall in the initial months of the 2018/19 season, underpinned by several factors: i) continued growth in palm oil and soyoil output due to, respectively, favourable weather conditions in Southeast Asia and attractive crush margins in the United States of America; ii) sluggish global import demand; and iii) ample palm oil inventories held in key exporting countries. Then, in December 2018, given temporary production slowdowns of palm oil in Southeast Asia and strengthening oils/fats uptake in several countries, notably for biodiesel production, international price quotations for major vegetable oils started somewhat firming up – though, overall, FAO's price index stayed at multi-year low levels.

As to the Chicago Board of Trade futures price for soybeans, its persistent low level compared with the past two seasons largely confirms concerns over the accumulation of massive soybean stocks, which could weigh on oilseed, meal and oil markets well into the 2019/20 season.

OILSEEDS

Global oilseed production to expand moderately after last season's slowdown

Global oilseed production is estimated at about

610 million tonnes in 2018/19, up 2.9 percent from 2017/18 and marking a new historic record – reflecting both a recovery in yield levels and fresh rises in area harvested. Marked year-on-year output gains are forecast for soybeans, together with more modest improvements in global sunflower-seed production, whereas contractions are expected for rapeseed, groundnut and cottonseed. Global soybean production is pegged at 364 million tonnes, more than recovering from last season's decline, and marking an all-time high. In the northern hemisphere, output expanded in all major producing countries except **Canada**, where a contraction in area planted was followed by yield declines. The crop in the **United States of America** is forecast at a record 123.7 million tonnes, reaffirming the country's position as the world's top soybean producer. Although plantings contracted marginally from the 2017/18 level, mostly favourable weather led to sizeable yield improvements. In **China** and **India**, production gains stemmed from a combination of higher plantings and beneficial growing conditions, while in **Ukraine**, record yields compensated a contraction in sowings. In the southern hemisphere, latest reports point to a full recovery of production in **Argentina**, where crops benefited from mostly favourable weather conditions. By contrast, **Brazil's** output is estimated to decline by 6 percent, reflecting a return to average yield levels and only modest area increases – though, at around 115 million tonnes, production would still be the second highest on record.

After last season's marked gains in both area harvested and yields, global rapeseed production is estimated to retreat to 73 million tonnes in 2018/19. Production increases in **India**, the **Russian Federation**, **Ukraine** and the **United**

States of America would not be sufficient to compensate for sharp declines in the world's three leading producers: the **EU**, **Canada** and **Australia**, all of which incurred production losses due to unfavourable weather conditions. **China** reported a further slight contraction in production, linked to cuts in plantings.

With respect to sunflower seed, global production is seen surging to an all-time high of 53.5 million tonnes, resting on record crops in **Ukraine**, the **Russian Federation** and **Argentina**, with production rising on account of favourable weather conditions (in the Black Sea region) and higher plantings (in Argentina and the Russian Federation). In the **EU**, a repeat of last season's high yields resulted in a near-record crop. By contrast, in **China** and **Turkey**, reduced sowings led to production contractions.

Global groundnut production is pegged at 40.4 million tonnes – a three-year low. The anticipated year-on-year contraction mainly reflects output reductions in **India** and the **United States of America**, fuelled, respectively, by lower yields and lower plantings. Conversely, a near-record crop has been harvested in **China**, the world's top producer, while in **Argentina**, production is estimated to more than recover from last season's fall.

OILS AND FATS ³

World oils/fats production poised to increase modestly in 2018/19

The above crop forecasts translate into a modest year-on-year rise in oils/fats production (+2.4 percent). With regard to individual oils, sizeable gains in soybean, palm and, to a lesser extent, sunflowerseed and palm kernel oils are expected to outweigh declines in rapeseed, groundnut and olive oil production. As for palm oil, output is forecast to rise considerably less than during the past two seasons, as the world's two largest producing countries, **Indonesia** and **Malaysia**, continue to face production challenges. Factors constraining growth in 2019 include slower expansion in mature area (due to ongoing replanting efforts) and lower yields as producers reduced fertilizer applications and harvesting frequencies in response to low market prices. Moreover, a mild El Niño event could lead to below average rainfall in Southeast Asia, contributing to reduced oil palm productivity in the region.

Global oils/fats supplies, which comprise 2017/18 carry-over stocks, are forecast to increase by almost 3 percent year-on-year. Aided by increased crop harvests, domestic availability should climb to record levels in **Indonesia**, **Malaysia**, the **Russian Federation**, **Ukraine** and the **United States of America**, while in **Argentina**, supplies are set to rebound after falling for two consecutive years.

Table 1. World production of major oilcrops

	2016/17	2017/18 <i>est.</i>	2018/19 <i>f'cast</i>	Change 2018/19 over 2017/18
	<i>million tonnes</i>			<i>%</i>
Soybeans	351.2	344.9	364.0	5.5
Rapeseed	70.0	75.4	73.1	-3.1
Cottonseed	39.8	44.6	43.1	-3.4
Groundnuts (unshelled)	41.1	42.3	40.4	-4.3
Sunflower seed	50.0	50.2	53.5	6.6
Palm kernels	16.5	17.5	18.1	3.7
Copra	5.1	5.8	5.7	-1.4
Total	573.5	580.7	598.0	3.0

Note: The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown. For tree crops, which are produced throughout the year, calendar year production for the second year shown is used.

Table 2. World oilcrops and product market at a glance

	2016/17	2017/18 estim.	2018/19 f'cast	Change: 2018/19 over 2017/18
	million tonnes			%
TOTAL OILCROPS				
Production	585.1	592.3	609.8	2.9
OILS AND FATS ¹				
Production	226.1	233.9	239.6	2.4
Supply ²	261.0	270.4	277.7	2.7
Utilization ³	221.7	229.0	238.6	4.2
Trade ⁴	124.0	124.7	128.5	3.0
Global stocks-to-use ratio (%)	16.5	16.7	16.4	
Major exporters stocks-to-disappearance ratio (%) ⁵	10.8	11.7	13.4	
MEALS AND CAKES ⁶				
Production	152.0	152.5	158.2	3.8
Supply ²	179.7	183.1	185.5	1.4
Utilization ³	145.6	153.7	154.0	0.2
Trade ⁴	95.9	97.9	98.3	0.4
Global stocks-to-use ratio (%)	21.0	17.8	19.9	
Major exporters stocks-to-disappearance ratio (%) ⁷	14.1	11.1	14.4	
FAO PRICE INDICES (Oct-Sept) (2002-2004=100)				
	2017	2018	2019 (Oct-Apr)	Change: Oct-Apr 2018/19 over Oct-Apr 2017/18 %
Oilseeds	154	152	143	-8.0
Oilmeals/cakes	160	182	161	-10.1
Vegetable oils	171	154	129	-20.4

Note: Refer to footnote 1 on page 32 for overall definitions and methodology.

¹ Includes oils and fats of vegetable, animal and marine origin.

² Production plus opening stocks.

³ Residual of the balance.

⁴ Trade data refer to exports based on a common October/September marketing season.

⁵ Major exporters include Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States of America.

⁶ All meal figures are expressed in protein equivalent; meals include all meals and cakes derived from oilcrops as well as meals of marine and animal origin.

⁷ Major exporters include Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, the Russian Federation, Ukraine, Uruguay and the United States of America.

By contrast, supply contractions are likely in a number of countries, notably **Brazil**, **China** and the **EU** – generally reflecting reduced crop harvests, with the exception of Brazil, where low opening stocks are expected to contribute to the drop in supplies.

Growth in oils/fats consumption could accelerate in 2018/19

Stimulated by low international prices, global oils/fats consumption is forecast to expand by about 4–4.5 percent year-on-year. Growth is expected to be driven by palm

³ This section refers to oils from all origins, which – in addition to products derived from the oilcrops discussed under the section on oilseeds – includes palm oil, marine oils and animal fats.

oil and, to a lesser extent, soybean oil, resulting in palm oil further increasing its share in total oils/fats uptake. Meanwhile, rapeseed oil consumption could fall on the back of reduced availabilities.

As a group, developing nations in Asia would continue to drive the expansion in global oils/fats uptake. While consumption growth could decelerate in **China**, mirroring slower economic growth, stable growth is envisaged in **India**. At the same time, a marked acceleration in uptake is expected in **Indonesia**, which could account for one-third of global consumption growth. Sizeable gains are also anticipated in **Brazil** and the **United States of America**, whereas consumption may contract in the **EU**.

While population and income growth remain key drivers of demand for food and other traditional uses, robust demand from the biodiesel sector is bound to play an important role in 2018/19. Linked to both higher national consumption mandates and more dynamic discretionary blending, global biodiesel production – and with it the uptake of vegetable oils – is estimated to expand by 10–12 percent annually in both 2018 and 2019. National consumption targets or biodiesel blending rates have been raised in several countries, including **Brazil**, **Colombia**, **Indonesia**, **the Republic of Korea**, **Malaysia**, **Thailand** and the **United States of America**, while plans to raise mandatory use are under consideration in **Argentina** and **India**. In the United States of America, Brazil and, in particular, Indonesia, higher biodiesel output would be the main driver behind domestic consumption growth. In **Indonesia**, the biodiesel sector is estimated to account for about 65 percent of total palm oil uptake. In general, mandatory biodiesel production and discretionary blending have been stirred by a narrowing in the price gap between

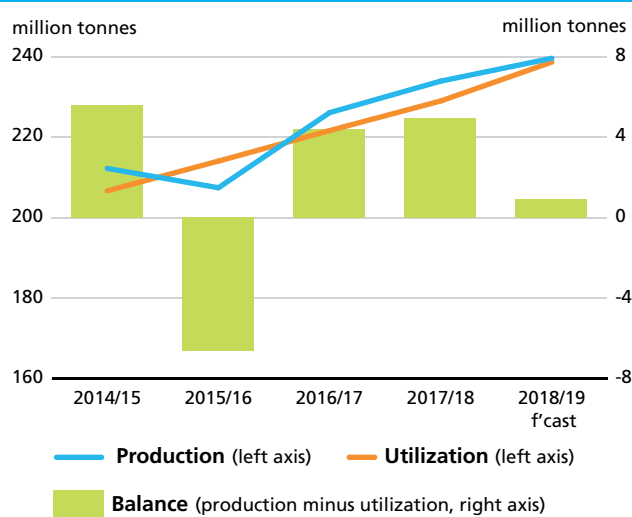
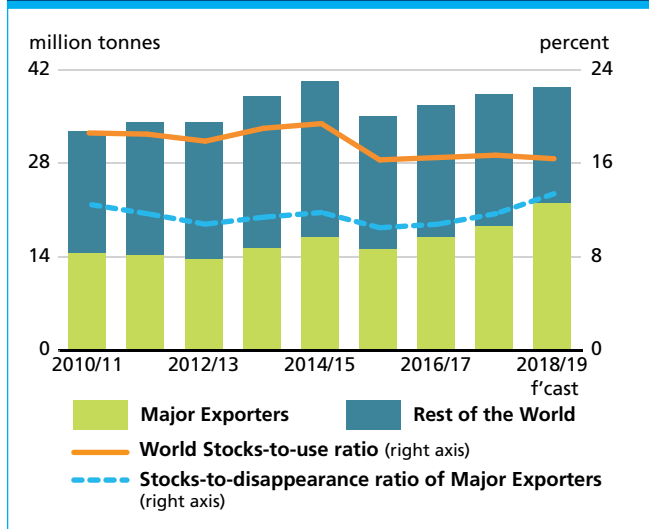
Figure 6. Global production and utilization of oils/fats

Figure 7. World stocks and ratios of oils/fats (including the oil contained in seeds stored)



vegetable oils/animal fats and mineral oils, which has made biodiesel more competitive. Additionally, national programmes in support of biodiesel production are driven by government efforts to reduce supply pressure on domestic oils/fats markets and stabilize prices.

Global inventories of oils/fats poised to rise further

In 2018/19, a modest surplus in global production relative to demand is expected to lead to a fresh rise in inventories. Ending stocks (including the oil contained in stored oilseeds) are tentatively pegged at 39.2 million tonnes, marking a 4-year high. Commodity wise, soybean oil reserves could climb to near-record levels, while palm oil inventories would remain at historic highs.

Among the main stockholding countries, massive accumulations are expected in the **United States of America**, along with more contained increases in **Indonesia** and **Canada** – all resulting in unprecedented inventory levels. The surge in United States of America reserves would stem from both production gains and subdued exports. By contrast, fresh stock drawdowns are expected in **China** and, to a lesser extent, **India**.

Based on the above forecasts, the global stocks-to-use ratio for oils/fats should remain flat in 2018/19, whereas the stocks-to-disappearance ratio for the major exporting countries⁴ would increase significantly, explaining why international oils/fats prices are lingering at multi-year lows.

⁴ Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States of America.

Global oils/fats trade likely to gain momentum in 2018/19

After last season's minimal growth, international oils/fats trade transactions are forecast to expand by 3 percent in 2018/19, likely reaching 129 million tonnes (including the oil contained in traded oilseeds). Much of the anticipated rise would be on account of record-high sales of palm oil, the leading traded oil, which, due to its competitive price, could see its market share rise to above 40 percent. By contrast, global soybean oil transactions would remain close to the levels recorded in the past two years – despite the anticipated production gains. Trade in soyoil (which comprises oil contained in traded soybeans) is bound to stagnate due to an exceptional contraction observed in **China's** soybean imports. Global trade in sunflower-seed oil could expand, while rapeseed oil transactions are expected to remain unchanged, given the anticipated drop in production. Meanwhile, the pattern of global rapeseed/rapeseed oil trade could be affected by China's recently raised concerns over shipments from Canada, which could lead China to look for alternative suppliers or search for rapeseed substitutes, while Canada might seek new export destinations.

On the import side, attractive prices are stimulating oils/fats purchases in numerous countries, especially in Asia – with the exception of **China**, the world's leading importer, whose purchases are poised to remain flat based on the reported decline in soybean imports. In the **EU**, the world's second largest oils/fats buyer, import growth is expected to resume following higher feedstock demand from the biofuel industry. Meanwhile, **India's** purchases should remain close to last season's level, due to adequate domestic supplies.

Figure 8. Oils/fats imports by region or major country (including the oil contained in seed imports)

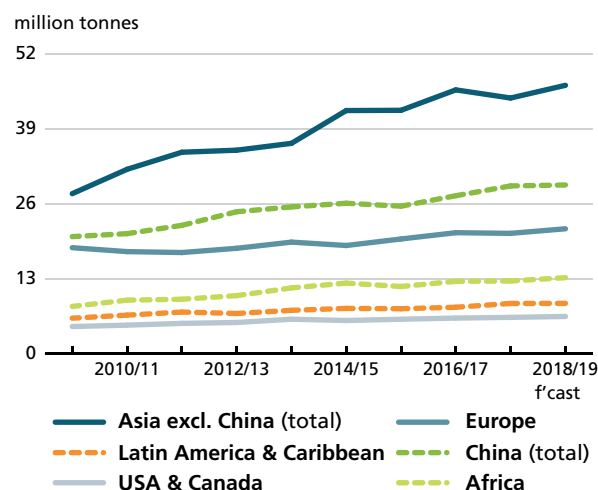
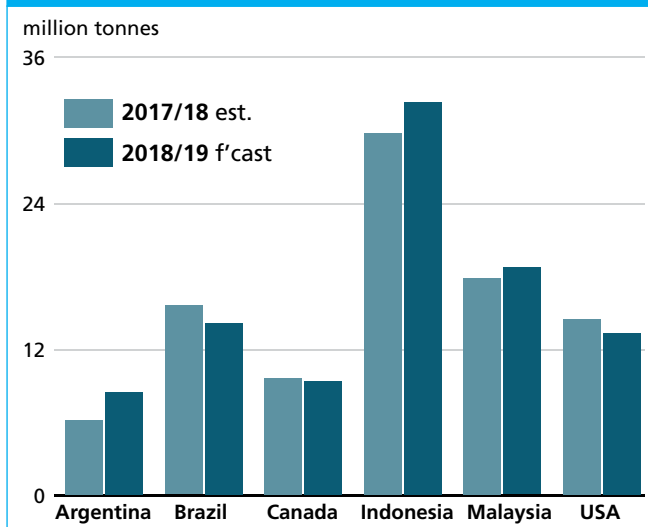


Figure 9. Oils/fats exports by major exporters (including the oil contained in seed exports)



Regarding exports, anticipated higher shipments by **Indonesia, Argentina** and, to a lesser extent, **Malaysia, Ukraine** and the **Russian Federation**, are expected to outweigh contractions foreseen in **Brazil, the United States of America** and a few other countries. Backed by higher domestic supplies, Indonesia and Malaysia are seen expanding their palm oil exports, owing to the oil's competitive price. In Argentina, shipments are expected to recover on the back of higher domestic soybean production. Increased sales by Ukraine and the Russian Federation could raise the two countries' combined market share to 10 percent in 2018/19. By contrast, Brazil's shipments are expected to retract from the record level reached last season, when China hiked its purchases of Brazilian soybeans due to its trade tensions with the United States of America. Given that United States of America–China trade negotiations are still ongoing, total **United States of America** exports are currently forecast to contract for the second consecutive year. Similarly, **Canada's** shipments may fall, hinging on its newly emerged differences with China.

MEALS AND CAKES ⁵

Growth in global meal production to resume in 2018/19

Following last season's stagnation, global meal production in 2018/19 is expected to expand by about 3.5 percent, reaching a record 369 million tonnes (expressed in product weight). Soymeal would account for much of the expansion,

⁵ This section refers to meals from all origins. In addition to products derived from the oilcrops discussed under the section on oilseeds, fish meal and meals of animal origin are included.

fuelled primarily by the prospective rebound of soybean production in **Argentina**.

Notwithstanding the anticipated rise in production, growth in global supplies is pegged at only 1.4 percent, reflecting relatively low 2018/19 opening stocks, especially of soymeal. Low carry-in stocks are expected to weigh, in particular, on **Brazil's** meal supplies. Availabilities would also be limited in **Australia, the EU, Paraguay** and **China**, mostly because of lower domestic harvests. By contrast, **Argentina's** good soybean harvest should allow domestic supplies to recover. Improved harvests should also lead to fresh supply gains in **India, the Russian Federation** and **Ukraine**. Meanwhile, in the **United States of America**, exceptionally high carry-over stocks would bolster the country's domestic availabilities.

Expansion in world meal/cake consumption poised to come to a halt

After expanding by nearly 5 percent annually during the past three seasons, meal consumption in 2018/19 is forecast to remain virtually unchanged – despite the anticipated bounty in global meal production and the related, steady downward trend in international prices.

The looming slowdown in global utilization essentially rests on reduced forecasts for one single country, **China**, the world's leading oilmeal consumer. China's consumption of oilmeals is tentatively forecast to contract by about 3 percent in 2018/19 – as opposed to the customary vigorous growth (of 6–7 percent) linked to the constant expansion of the livestock sector, especially the pork industry, which is a major user of protein meals. The anticipated drop in China's meal demand primarily stems from the outbreak

Figure 10. Global production and utilization of meals/cakes (in protein equivalent)

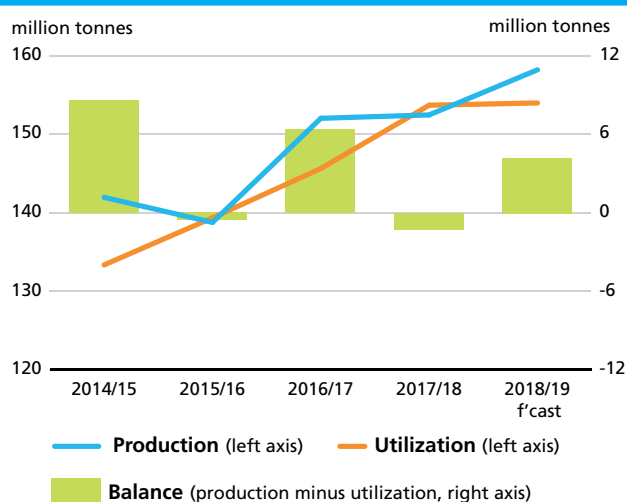
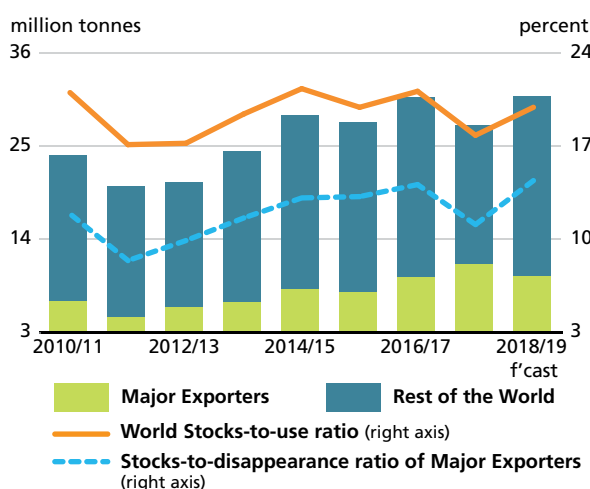


Figure 11. World stocks and ratios of meals/cakes (in protein equivalent and including the meal contained in seeds stored)



of ASF, a deadly disease that is leading to massive losses in the country's pig herd. Furthermore, prompted by the United States of America-China trade tensions, China's feed producers embarked on measures to lower protein inclusion rates in feed formulations, further affecting meal demand. Ultimately, China's meal uptake will also depend on contingent demand increases in non-pig livestock sectors and aquaculture, as consumers shift to different sources of animal protein.

While estimates for China remain subject to revision, at the global level the envisaged drop in China's meal consumption is likely to be offset by continued demand growth in other parts of the world, notably in other Asian nations, Europe and South America.

Global meal inventories (including the meal contained in seed stocks) set to swell to unprecedented levels

Contrary to last season, when a deficit in global production led to inventory drawdowns, in 2018/19 a sizeable production surplus points to a replenishment in end-of-season stocks. Global reserves are currently pegged at 70.1 million tonnes, up 12 percent from last season, and marking a new record. In particular, reserves of the world's leading protein meal – soymeal – are bound to rise, along with more modest gains in rapeseed meal. Much of the accumulation is expected to occur in the **United States of America**, where meal inventories are anticipated to almost double compared with last season. The concurrence of large

⁶ Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, the Russian Federation, Ukraine, United States of America and Uruguay.

carry-in stocks, increased domestic production and depressed exports is forecast to push United States of America ending stocks beyond 20 million tonnes – by far the highest level on record. Elsewhere, stock replenishments are expected in **Argentina**, as well as, to a lesser extent, in **Canada**, whereas fresh drawdowns are anticipated in **China** and **Brazil**.

Based on the above forecasts, the global stocks-to-use ratio and, to an even greater extent, the stocks-to-disappearance ratio for the major exporters⁶ would surge from last season's levels, which tallies with the observed decline in international meal prices.

Growth in global meal/cake transactions expected to slow significantly

In 2018/19, trade in meals (including the meal contained in traded oilseeds) is forecast to expand by less than 1 percent – well below the pace recorded in recent years. The slowdown primarily concerns soybean meal, the most widely traded meal, which, rather than driving global growth could experience a slight contraction in sales. Trade in all other meals is expected to grow, notably sunflower meal shipments.

The prospective deceleration in global import demand essentially concerns **China**, which is by far the largest buyer of meals in the world. As mentioned above, due to the expected contraction in domestic demand and adjustments triggered by trade tensions with the United States of America, China's 2018/19 purchases are tentatively estimated at 75 million tonnes – down significantly from last season and, if confirmed, marking the first year-on-year contraction in more than 10 years. Meanwhile, imports by countries other than China would continue to expand at average or

Figure 12. Meal/cake imports by region or major country (in protein equivalent and including the meal contained in seed imports)

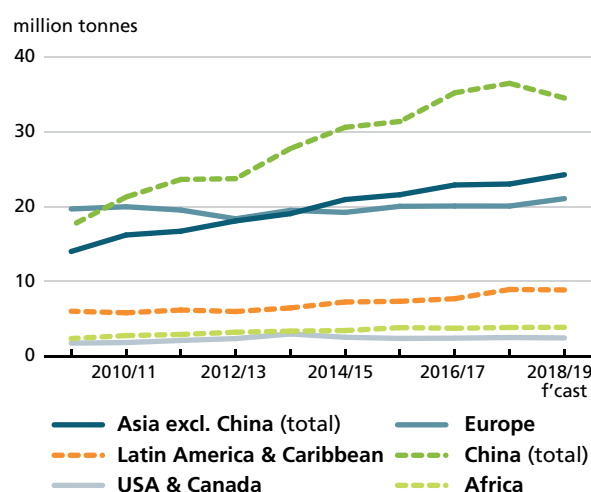
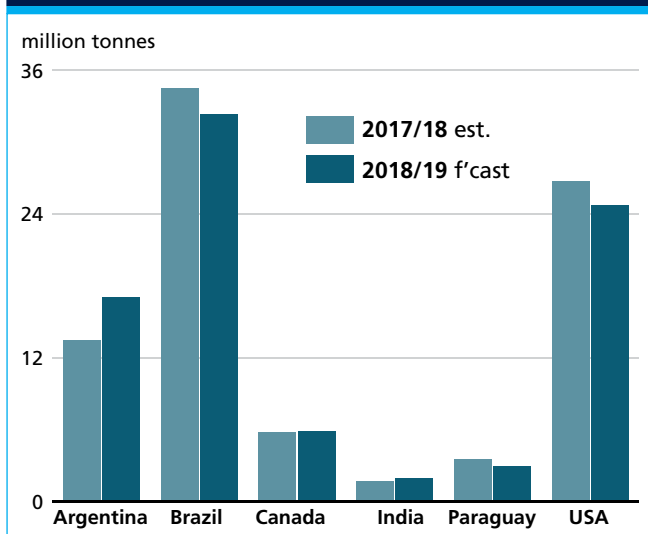


Figure 13. Meal/cake exports by major exporters (in protein equivalent and including the meal contained in seed exports)



above-average rates, stimulated by attractive prices. Most importantly, in the **EU**, the world's second largest import market, purchases are forecast to reach 44 million tonnes, up 4 percent from 2017/18.

On the export side, both **Brazil** and the **United States of America** are forecast to ship 4–5 million tonnes less than last year, because of China's anticipated reduced import demand and a likely rebound in **Argentina's** exports. Based on current forecasts, the shares of Brazil and the United States of America in the global market would stand, respectively, at 32 and 24 percent – confirming Brazil's lead, while Argentina's share could return to 17 percent. As for other exporters, **Ukraine** and **India** are expected to scale up their sales, drawing on larger domestic supplies, hence consolidating their respective positions as regional suppliers, while **Paraguay** will likely reduce its shipments, hand-in-hand with its lower soybean crop.

The trade estimates for 2018/19 and 2017/18 also reflect multiple adjustments in trade flows triggered by developments in the trade relation between the **United States of America** and **China**, which affected the global pattern of trade in soybeans as well as substitute products. Further adjustments may occur, depending on the outcome of the ongoing trade negotiations.

2019/20 PRODUCTION OUTLOOK

With the 2018/19 season still ongoing, it is too early to make concrete world supply and demand projections for 2019/20. Currently, only limited information about planting intentions or planting progress is available for selected northern hemisphere countries, whereas in the southern hemisphere, sowings will only commence during the last quarter of this year.

Against the backdrop of generally subdued oilseed prices, total area planted could remain flat in 2019/20, which, combined with the assumption of normal growing conditions, would point towards a slight drop in global oilseed production next season.

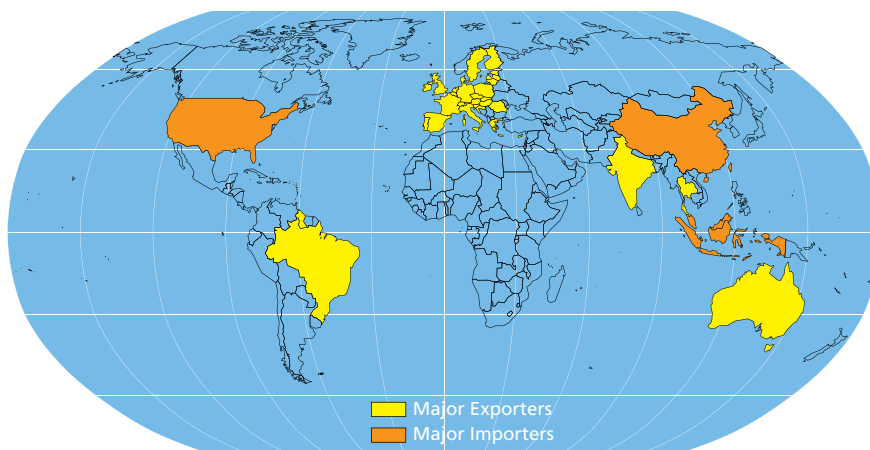
With regard to individual crops, modest increases in groundnut, cottonseed, palm kernel and copra output could be offset by contractions in soybean, sunflowerseed and rapeseed. Global soybean production may retreat from the current season's level, led by a possible drop in **United States of America** production – linked to ample inventories and uncertain import demand in key export destinations. According to official surveys, United States of America farmers could reduce plantings by as much as 5 percent. While **Brazil** and **Paraguay** offer scope for production gains based on yield improvements, **Argentina's** output could remain unchanged, with likely marginal area expansions probably offset by a return to average yield levels. In **China**, modest area-driven growth may continue, as producer support payments remain in place. World rapeseed output may contract again in 2019/20, as a contraction in **Canada's** plantings, linked to uncertain export prospects, could outweigh fresh production gains in the Black Sea region and a recovery in **Australia's** output, while in the **EU**, unfavourable weather conditions at the start of the season have reduced the possibilities of a production rebound. Global sunflower-seed production may fall, following reduced sowings in the Black Sea region and the anticipated return to average yield levels in the **EU**. Global groundnut, cottonseed and copra production, on the other hand, could post slight increases, facilitated by yield improvements.

If confirmed, the new season crop forecasts would translate into a slight year-on-year drop in meals/cakes output, while oils/fats output would remain about unchanged. Assuming a continuation of recent utilization trends, global demand for both vegetable oils and oilmeals could exceed anticipated production, possibly triggering stock releases, especially in the oils/fats market, and, with it, a retreat in stock-to-use ratios, which could lend some support to international prices.

Overall, due to the expected large 2018/19 carry-over stocks, the markets for oilcrops and derived products should continue to present a comfortable supply and demand situation in 2019/20. Of course, the outlook remains subject to a number of uncertainties with regard to not only weather developments, evolving price relationships between oilseeds and competing crops and changes in biofuel and other policies, but also concerning i) the outcome of ongoing bilateral trade negotiations of relevance to the oilcrops complex, and ii) the spread of ASF and its repercussions on feedstuff markets.

SUGAR

Major Sugar Exporters and Importers



PRICES

Ample supplies to weigh on international sugar price quotations

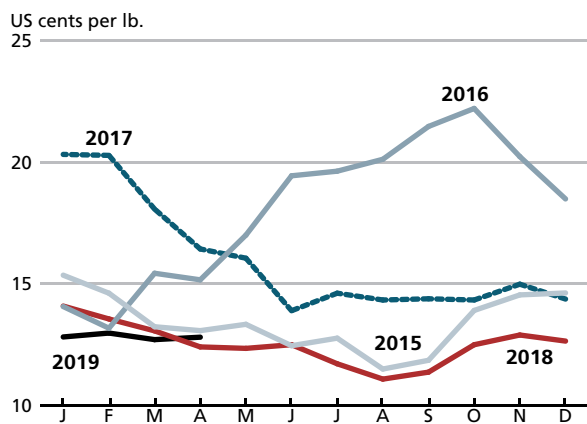
Since the release of the last issue of the Food Outlook report in November 2018, international sugar prices, as measured by the **International Sugar Agreement's (ISA) daily prices** for raw sugar, have been moving within a narrow price band, ranging between US 12.71 cents per pound (lb)¹ and US 12.90 cents/lb.² Overall, the ISA daily

prices averaged US 12.52 cents/lb in 2018, which is down by about 22 percent from 2017. The slide is attributed to large expansions in production capacity, notably in India and Thailand, boosted by remunerative returns that prevailed between 2011 and 2016. After averaging US 12.90 cents/lb in November 2018, sugar quotations increased for two successive months, before retreating in March 2019 to US 12.71 cents/lb, and increasing to US 12.81 cents/lb in April 2019. Consequently, over the period January-April 2019, prices were down 3.2 percent compared to the same period in 2018. Reports of large exportable surpluses in **India** and **Thailand**, coupled with greater production in traditional sugar importing countries, have put further downward pressure on international prices so far in 2019. Firmer estimates indicating a reduction in sugar production in **Brazil** in 2018/19, as well as expectations of higher imports by **China**, were not sufficient to reverse the tendency of falling prices.

At these current levels, international sugar prices are below production costs for the vast majority of world producers, including Brazil, where cost of production hovers around US 13.5 cents/lb and US 15 cents/lb. At the same time, the rate of consumption growth that could lift prices is not happening, due to the structural changes taking place on the demand side of the market. These are evidenced by slower population growth and a shift in the attitude of consumers and governments towards sugar consumption. The supply side of the market will therefore have to adjust quite markedly for prices to return

¹ Equivalent to USD 280.2 per metric tonne.
² Equivalent to USD 284.4 per metric tonne.

Figure 1. International sugar prices*



* as measured by the International Sugar Agreement (ISA)

to more remunerative levels. Given the perennial nature of sugarcane crops, the shift in supply will take some time to materialize. Nonetheless, preliminary indications for the 2019/2020 season suggest that world sugar consumption will surpass production, though by a relatively small margin, after two consecutive years of a production surplus. This could help to bring about a more balanced market from the start of next season.

PRODUCTION³

World sugar production to expand significantly in 2017/18

World sugar production is estimated by FAO to reach 179.3 million tonnes in 2018/19 (October/September), a 2.0 percent decline from the 2017/18 record crop. Unfavourable weather conditions, coupled with a decline in planted areas, spurred by shifts to other alternative crops, are expected to lead to lower output in some of the key producing countries, the most notable case being **Brazil**. The expected fall in world sugar output would mean that production could surpass consumption by 2.6 million tonnes, compared to a 9.8 million tonne production surplus recorded in 2017/2018, the largest in history. The bulk of the decline in world output in 2018/19 is anticipated to occur in the developed countries, where production is forecast to retract by about 3.8 million tonnes, while in the developing countries it is predicted to increase by 100 000 tonnes with respect to the previous season.

In *South America*, the latest estimates show that production is expected to decline in 2018/19, amid generally unfavourable weather conditions and a higher share of the sugarcane harvest being used to produce ethanol (Brazil). In fact, sugar output in **Brazil** is forecast to decrease, following dry weather conditions that affected the country's centre-south main producing region. A decline in the rate of renewal of sugarcane fields, coupled with reduced use of pesticides and fertilizers due to financial constraints, had further contributed to a contraction in sugarcane output. Brazil's production is now estimated at 30.5 million tonnes, down 1.3 million tonnes from the volume realized in 2017/18. About 65 percent of the sugarcane harvest is expected to be used to produce ethanol – more than last season, when sugar mills converted about 53.1 percent of the crop into ethanol. Brazil's sugar output is influenced by changes in the ethanol parity-price, which is the raw sugar price below which it becomes more profitable to convert cane into ethanol. For 2018/19, and given current market conditions, FAO estimates the parity-price to hover around US 14 cents/lb. Unless, crude oil prices fall below their current trading range (i.e. USD 60/barrel to USD 70/barrel), it is unlikely that more cane is used for sugar for the remainder of the season, or well into the next season. Elsewhere in South America, sugar production is anticipated to increase in **Colombia**, the region's second largest producer, and in **Peru**, as a result of favourable growing conditions that prevailed at the onset of the season in the main producing regions. On the other hand, sugar output is anticipated to remain relatively stable in **Argentina**, amid extreme dry conditions during the early stages of the season.

³ Sugar production figures refer to centrifugal sugar derived from sugarcane or beet, expressed in raw equivalents. Data relate to the October/September season.

Figure 2. World sugar production by region

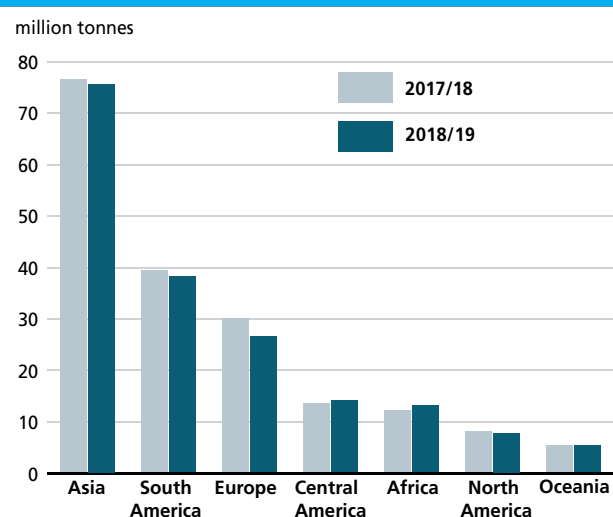


Figure 3. Sugar production in major producing countries

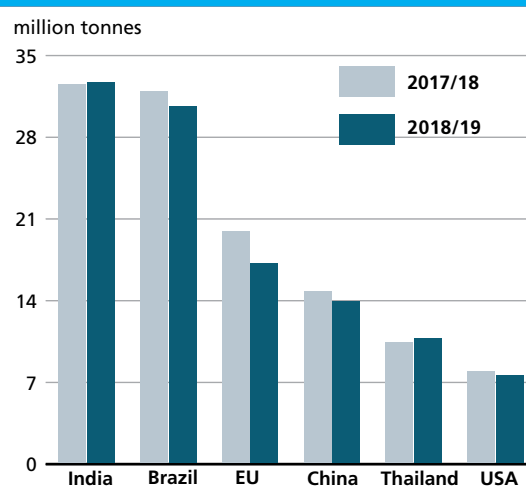


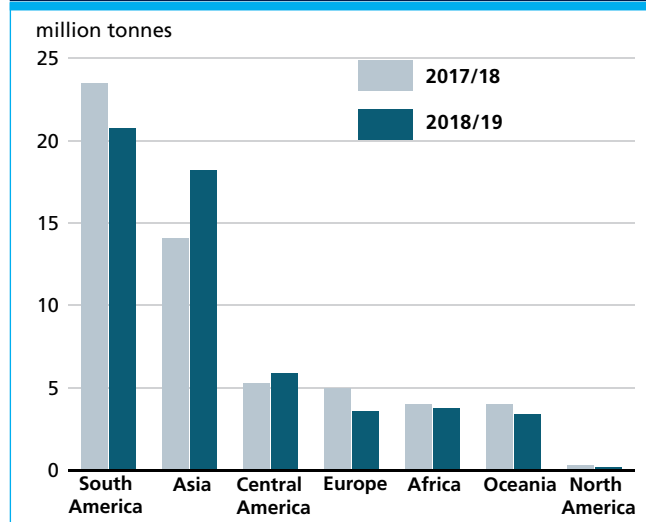
Table 1. World sugar market at a glance

	2016/17	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	Change: 2018/19 over 2017/18
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	169.2	183.0	179.3	-2.0
Trade	65.3	55.4	55.1	-0.6
Total utilization	170.5	173.2	176.1	1.7
Ending stocks	87.4	95.5	97.0	1.6
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	22.8	22.9	22.9	0.57
LIFDC (kg/yr)	14.7	14.9	14.9	1.74
World stocks-to-use ratio (%)	51.3	55.2	55.2	-0.1
ISA DAILY PRICE AVERAGE (US cents/lb)				
	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	16.01	12.52	12.84	-3.39

In *Central America and the Caribbean*, 2018/19 estimates indicate that sugar production in **Mexico** will increase, following a relatively marked expansion of planted area to sugar cane (+5 percent). In **Guatemala**, despite strong competition from alternative crops, notably bananas, which led to a reduction in area harvested in recent years, sugar output in 2018/19 is foreseen to remain at about the same level as in the previous season, on the back of gains in sugar extraction rates. In **Cuba**, sugar production is set to increase by 43 percent in 2018/19, compared to 2017/18, reaching 1.5 million tonnes, as the sugar subsector recovers from the damage caused by Hurricane Irma in 2017. Better sugar recovery rates, coupled with a larger harvested area, account for the increase in 2018/19, as the restructuring of the subsector continues to attract new investments. As part of an ambitious objective to increase the use of bioenergy, the Government of **Cuba** has developed a plan to expand the country's capacity to produce electricity from sugarcane residues.

In *Africa*, 2018/19 sugar production is set to rise, prompted by continued area expansion and improved processing capacities. **Egypt, South Africa, Ethiopia** and **Mozambique** are anticipated to harvest larger crops, while output is expected to fall in **Mauritius** due to less than ideal weather conditions. The significant boost in sugar output in **Ethiopia** is the result of substantial expansion projects undertaken by the Government, with a declared strategy of achieving self-sufficiency. A total of six sugar mills are now operational in the country, with plans to expand their current capacity and also build new factories

Figure 4. Sugar production by region



in the near future. Sugar output in **South Africa** has recently been expanding, but at a moderate rate, as labour disputes and land reform challenges have limited any significant increase. In **Mozambique**, sugar production has expanded by an annual average rate of 10 percent over the past 10 years, driven by investment in irrigation and price incentives offered by trade opportunities in the region. Sugar production is forecast to increase further in 2018/19.

In *Asia*, output forecasts for 2018/19 have been revised a number of times since November 2018, and now point to a decline of 1.2 percent compared to the 2017/18 marketing season. The cutbacks in sugar output are attributed to **Japan** (-8.7 percent), **Pakistan** (-7.8 percent) and **Thailand** (-6.3 percent). By contrast, production is set to remain stable in **Turkey**, and to expand in **China, Indonesia, the Philippines** and **Viet Nam**. In **India**, the world's largest sugar producer for the second consecutive season, production is expected to be 400 000 tonnes above last season, as late rains did not end up delaying the start of the harvesting season. However, considerable uncertainties still persist regarding the final numbers. To address the supply glut situation that characterizes the domestic market in India, and to help sugar factories reduce their financial obligations towards farmers, the Government increased the minimum price for white sugar at the mill gate. Large cane arrears have been a recurrent feature of the Indian sugar subsector, resulting from a misalignment between the administered sugarcane prices and wholesale white sugar prices. Looking ahead, the greatest uncertainty concerns whether the significant surge in sugar output recorded in recent years represents a permanent shift or a short-lived phenomenon, mostly reflecting the effects of the recent subsidy measures. In

Thailand, unfavourable weather conditions throughout the growing season are expected to lead to a 6.3-percent reduction in the country's sugar output compared to the 2017/18 level. The decline is also underpinned by some shifts to other cultivations, notably rice, in the northeastern part of the country, in response to low sugarcane prices. For the moment, the temporary deregulation of the domestic sugar market, implemented on 15 January 2018 by the Government of Thailand, is not expected to have a negative impact on the sugar subsector. The deregulation calls for the elimination of the sugar price control and the sugar sales administration.

Sugar production in **China** is expected to increase in 2018/19, due to expansion in both sugarcane and beet planted areas, prompted by profitable returns. Favourable weather conditions also helped to boost cane yields, while direct subsidies provided by local governments should sustain additional gains in farm productivity. Production is foreseen to contract in **Pakistan**, amid an estimated 10 percent decline in planted area, as farmers shifted to alternative crops such as cotton and maize. During 2017/18, the Government of Pakistan introduced a freight subsidy of USD 97 per tonne in an effort to move excess production into the world market. By contrast, **Indonesia's** sugar output is forecast to rise from the 2017/18 level, with planted area and yields both set to increase. The area expansion over the past years occurred mainly in Central Java, Lampung and South Sulawesi. The expansion is largely attributed to remunerative domestic prices, sustained by buoyant demand for sugar by the food and beverage industries. In **Turkey**, the world's fifth largest sugar beet producer, production is not expected to surpass the level of last season. In 2017/18, sugar output rose to 2.7 million tonnes, following a 3-percent growth in cultivated beet area, driven by higher procurement beet prices.

In *Europe*, FAO's latest estimates for the EU point to a significant cutback in sugar production, amid dry weather conditions during the growing season, which had a negative impact on beet yields. However, the area planted to sugar beet is estimated to remain at about the same level as last season. With the elimination of production quotas, the EU is predicted to become self-sufficient in sugar in the medium term, while the price gap between EU white sugar and world white sugar is anticipated to tighten, as witnessed so far during the 2018/19 season. Nevertheless, there are two main downside risks for the subsector. First, the significant decline in profitability at the mill level has renewed expectations of consolidation in the sector, as economies of scale become critical. Indeed, the average price for white sugar fell by 18.5 percent between

February 2018 and February 2019. Second, the ban on certain neonicotinoids is set to create significant challenges at farm level, as producers will have to look for alternative insecticides to maintain remunerative yield levels. Sugar production in the **Russian Federation** in 2018/19 is expected to fall by 8.6 percent year-on-year, on the back of reduced planted area and lower beet yields. The beet sugar enterprise has been relatively profitable in recent years, yet growth remains hampered by high input costs. Likewise, sugar production in **Ukraine** is expected to decline from last season's level, as planted area has shrunk and yields are reduced due to low soil moisture. The sugar value chain in **Ukraine** is highly integrated, with large agribusinesses controlling the entire production process from farm to retail sales. By contrast, sugar production is anticipated to increase in **Australia**, as favourable weather conditions and higher sucrose content are set to boost output. In the *rest of the world*, production in the **United States of America** is forecast to retract from its 2017/2018 record level, on the back of lower beet production due to cold temperature that hit the growing region of the northern Midwest. The expected output increase from cane sugar is unlikely to offset the declines in beet sugar, and this should result in a substantial reduction in the stock-to-use ratio.

UTILIZATION

Per capita sugar consumption to increase in 2018/19

Global sugar consumption is forecast to reach 176.1 million tonnes in 2018/19, up around 3 million tonnes, or 1.7 percent, from 2017/18 and slightly above the 10-year trend. Large supply availabilities and lower domestic sugar prices are foreseen to underpin increases in per capita sugar intake in 2018/19. Domestic prices are already falling in several countries, particularly in the **EU, China, the Russian Federation, Mexico and India**, although in the latter case, the Government recently announced an increase in the minimum white sugar prices. One noticeable exception is **Brazil**, where domestic prices have been rising over the past year in both local currency (Real) and US dollar terms. Under current prospects, world per capita sugar consumption is set to rise slightly, from 22.9 kg in 2017/18 to 23.1 kg in 2018/19. In developing countries, aggregate sugar use is estimated to expand from 131.3 million tonnes to 133.5 million tonnes, equivalent to 75.8 percent of the world total use, underpinned by expansion in *Africa, Asia and the Caribbean*. In the generally saturated markets of the developed countries, both total and per capita consumption are estimated to remain relatively unchanged.

Three elements of uncertainty underpin the outlook on the consumption side. First, should the economic outlook for 2019 deteriorate further, current forecasts for sugar consumption growth may turn out to be lower than anticipated. Strong economic growth usually leads to dynamic derived demand for sugar, as beverages and food processing sectors – which account for the bulk of aggregate sugar use – are positively influenced by positive economic conditions. Second, a number of countries have introduced legislation to tax sugar-sweetened beverages. At this point, the impact of these taxes on consumer demand for beverages, and hence sugar, remains ambiguous, as manufacturers can decide either to absorb the tax or modify their product formulas to retain consumers. Nonetheless, both **Thailand** and **South Africa** have reported a decline in the use of sugar by the beverages subsector since the introduction of the sugar excise tax. More evidence on this will become apparent over time. Finally, movements in the value of currencies of major sugar net importing countries with respect to the US dollar can alter the cost of sugar imports, and hence overall consumption.

TRADE

Sugar trade to contract in 2018/19

The forecast for world trade in sugar in 2018/19 (October/September) is pegged at 55.1 million tonnes, slightly down from the previous season. A key feature of international sugar trade in 2018/19 is the greater availability of supplies in the traditional largest importers, including **China**, **Indonesia** and the **United States of America**. Occasional large importers, such as **India**, are also expected to produce substantial quantities of sugar. **Brazil**,

although not expected to export more than in 2017/18 given the cutbacks in sugar production, is set to supply about 35 percent of world exports in 2018/19. The bulk of Brazilian exports is in raw form and mainly shipped to the markets of **Algeria**, **Bangladesh** and **Egypt**. However, the final volume that Brazil will export will depend on the quantity of sugarcane processed into ethanol, especially given the tighter relationship between gasoline and hydrous ethanol domestic prices. In addition, any further appreciation of the Brazilian *Real* against the US dollar could limit Brazil's exports beyond current estimates.

Propelled by large accumulated inventories, **Thailand**, the world's second largest sugar exporter, is expected to consolidate its position and raise its foreign sales from about 7.1 million tonnes in 2017/18 to 10 million tonnes in 2018/19. Around 60 percent of the country's exports are forecast to be shipped in raw form to neighbouring countries, including **Indonesia**, **Cambodia**, **China** and **Japan**. Thai exports to the Association of Southeast Asian Nations (ASEAN) countries benefit from duty free access, with the exception of **Indonesia**, **Myanmar** and the **Philippines**, where a tariff of 5 percent is charged. Likewise, as a result of relatively elevated stocks, as well as recently approved measures to cut the export duty on sugar (from 20 percent to 0 percent), shipments from **India** are foreseen to rise by over 46 percent. The objective of the support measures, most notably a transportation subsidy, is to provide sugar millers with additional cash flow through export revenues, which can help to address accumulating sugarcane arrears. India's exports are composed of raw sugar and geared towards markets in *Africa* and *Asia*. **Brazil** and **Australia** recently asked the World Trade Organization (WTO) to begin a consultation with **India**

Figure 5. Sugar consumption per capita, 2018

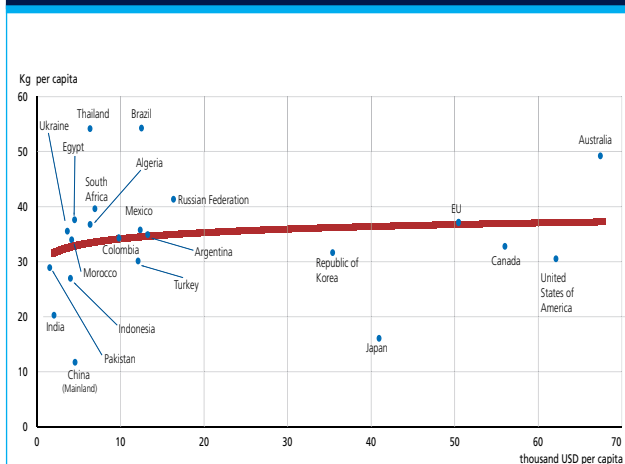
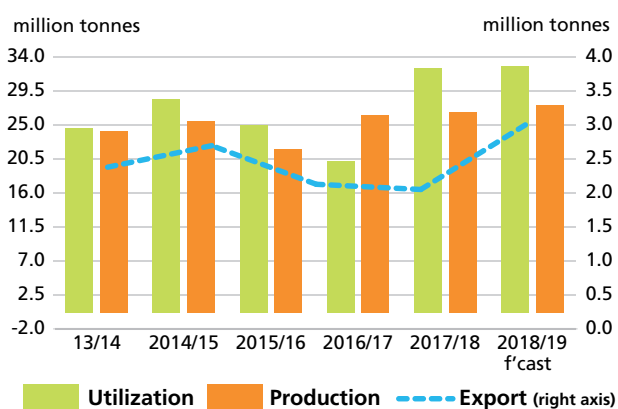


Figure 6. India: Sugar production and exports (million tonnes, raw value)



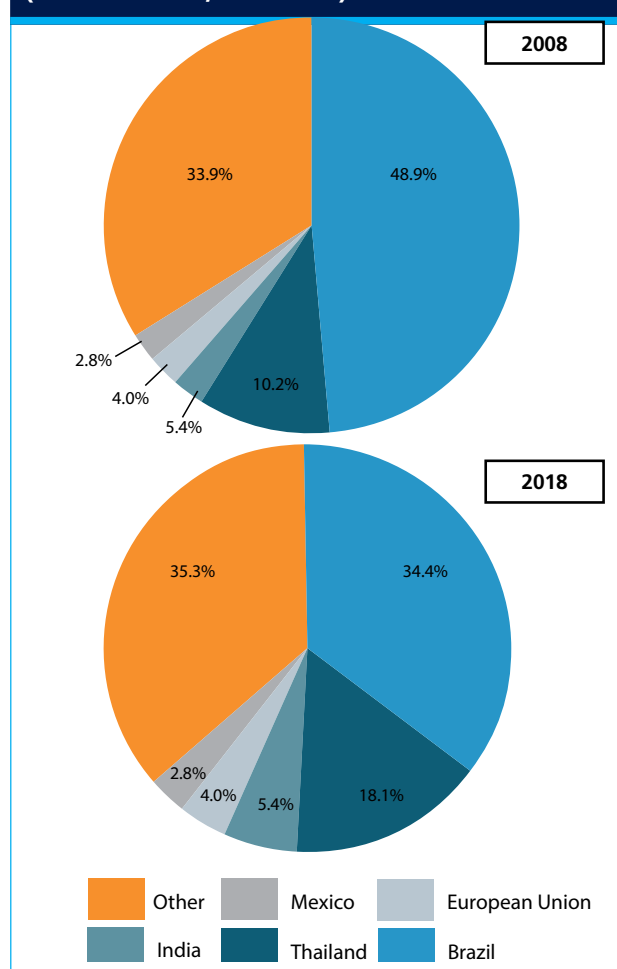
regarding its subsidy programme, claiming it distorts world sugar trade. Deliveries from **Australia**, the world's third largest raw sugar exporter, are forecast to decline to 3.1 million tonnes in 2018/19, down 16.8 percent from the previous season. The country is able to supply the world market with sugar throughout the year, supported by a vast network of bulk port terminals. The recently concluded free trade agreement between **Australia** and **Peru** provides **Australia** with a sugar duty-free quota access of 30 000 tonnes per year, increasing to 90 000 tonnes after 18 years. **Australia** and **Indonesia** signed a similar agreement, which could provide new trade opportunities for the Australian sugar industry.

After surging to 3.1 million tonnes in 2017/18, corresponding to a 136 percent increase from 2016/17, the **EU** sugar exports will likely retreat by 28.4 percent in 2018/19, on the back of the anticipated decline in production and low world sugar prices. On the other hand, sales by **Mexico** are anticipated to expand, underpinned by greater production and the market opportunities offered under the assigned maximum quota allotment of sugar to be exported to the **United States of America**. Exports by **Guatemala**, the second largest sugar exporter in *Latin America and the Caribbean*, are foreseen to remain about the same level as in 2017/18, supported by ample stock availabilities and competitive pricing. Sugar has become a key source of foreign exchange earnings for the country, which has increasingly focused on gaining market shares in the refined sugar segment. Deliveries from **Cuba** are also forecast to increase, following the bumper crop expected for 2018/19. The bulk of export sales are directed to **China**, as part of an export agreement between the two countries.

Imports by *Asian* countries are estimated to remain stable compared with 2017/18, given larger domestic availabilities, notably in **India**. Despite a larger sugar crop in 2018/19, greater sugar purchases are foreseen for **China**, where demand for sugar remains robust. Imports do not account for informal trade, which, as in the past, can constitute a sizeable volume. For 2018/19, **China** is expected to retain its rank as the world's largest sugar importer. Likewise, sugar imports by **Indonesia** are set to remain strong, underpinned by robust domestic demand, especially from the beverage and food processing industries. The Government of **Indonesia** regulates the level of sugar imports by allocating permits at the beginning of each year.

In *Europe*, imports by the **EU** are forecast to decline by 5.5 percent from the previous season, as the domestic market has become well supplied, following the abolition of the sugar production quota regime. With lower imports by the EU, duty-free preferential imports from Everything

Figure 7. Shares of world sugar exports (million tonnes, raw value)



but Arms (EBA) countries are expected to be halved, while the WTO's CXL quotas⁴ are most likely to remain unused. In the **Russian Federation**, as a result of declining domestic production, imports are anticipated to grow in 2018/19. However, any depreciation of the Russian Ruble against the US dollar (beyond current levels) could limit purchases. **Belarus** and **Australia** are the main suppliers to the Russian Federation. Imports by **Kenya** and **Morocco** are expected to fall, contrary to those by the **Sudan**, which are set to increase. Consignments to the **Islamic Republic of Iran** might go up, in view of the recent flooding that caused severe damage to sugarcane crops and sugar factories. The Government has already signalled its intention of importing up to 800 000 tonnes of sugar. In the *rest of the world*, imports by the **United States of America**, about half of which are managed through a tariff-rate quota system of 1.56 million tonnes for 2018/19, are set to contract, while *African* countries are expected to import less than last season, owing to anticipated gains in their sugar production.

⁴ CXL quotas result from a compensation agreement following the 1995 EU enlargement to account for traditional sugar imports from Austria, Finland and Sweden. The countries of origin of the sugar are mainly Brazil and Cuba.

MEAT AND MEAT PRODUCTS

Major Meat Exporters and Importers



PRICES

Notwithstanding increased export availabilities in all major supplying countries, international meat prices, measured by the **FAO Meat Price Index**, have firmed up since January, underpinned by strong import demand for pig, bovine and poultry meats, especially by China. The price increase concerned all meat categories except ovine meat, which saw prices retreat on large export supplies, mostly from Australia, where dry weather continues to encourage slaughtering.

OVERALL PRODUCTION AND TRADE

World meat output¹ in 2019 is forecast to drop by 0.2 percent to nearly 337 million tonnes, breaking the pattern of slow but steady growth witnessed by the sector for almost two decades. The decline in global meat production fundamentally reflects expectations of a 5 percent output contraction in **China**, along with a small decrease in **Australia**, which are likely to outweigh expansions anticipated in all the major meat producing countries, especially the **United States of America**, **Brazil**, **Mexico**, **India**, **the European Union (EU)**, **the Russian Federation** and **Pakistan**. The spread of African

¹ This section refers to meat and meat products, derived from animals in the broad groups of bovines (cows, buffaloes, oxen, etc.), pigs, poultry (chickens, turkeys and ducks) and ovine (goats and sheep).

Figure 1. FAO monthly meat price index (2002-2004=100)

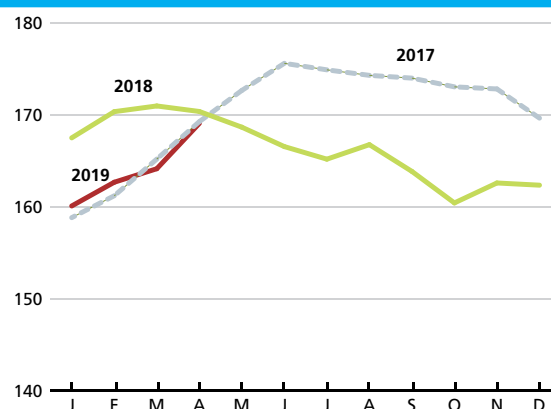


Figure 2. FAO monthly international price indices for bovine, ovine, pigmeat and poultry meat (2002-2004=100)

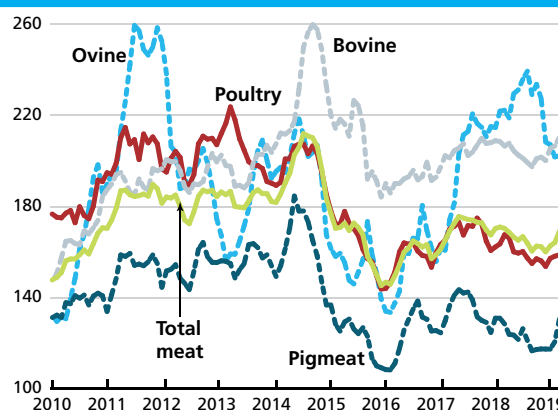


Table 1. World meat market at a glance

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	332.4	337.3	336.5	-0.2
Bovine meat	69.6	71.2	71.6	0.7
Poultry meat	122.3	124.8	128.4	2.8
Pigmeat	119.8	120.5	115.6	-4.0
Ovine meat	15.2	15.2	15.3	0.4
Trade	32.8	33.8	35.4	4.8
Bovine meat	10.2	10.9	11.3	4.0
Poultry meat	13.1	13.3	13.8	3.7
Pigmeat	8.2	8.4	9.1	8.4
Ovine meat	1.0	1.0	1.0	-1.9
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	43.9	44.0	43.4	-1.3
Trade - share of prod. (%)	9.9	10.0	10.5	5.0
FAO MEAT PRICE INDEX (2002-2004=100)	2017	2018	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 %
	170	166	164	-3.4

Swine Fever (ASF) in China, with its impacts on production, consumption and trade, represents the most significant factor currently shaping the world meat market outlook for 2019. Spread of the disease is largely behind the foreseen contraction of 4 percent in world pig meat output; although, through the substitution effect on demand, it is also expected to contribute to the 2.8 percent anticipated increase in global poultry meat output. The impact of ASF on the production of bovine and ovine meats is likely to be more limited, with both forecast to expand by less than 1 percent, reflecting industry specific circumstances, including the fact that major global producers are in distinct stages of their herd cycles.

World trade in meat and meat products is forecast to surpass 35 million tonnes in 2019, up 4.8 percent from last year. Much of the momentum is expected to stem from a 19-20 percent surge in overall meat imports by **China**, partly because of the ASF spread. Elsewhere, **Japan, Mexico, the Philippines, Viet Nam and the Russian Federation** are also expected to step up their meat purchases, while **Saudi Arabia, Angola, Cuba** and the **Republic of Korea** may import less. The expected expansion in world import demand is forecast to be largely met by increased exports from **Brazil, the EU, the United States of America, Thailand, India and Argentina**, while limited supplies may depress meat sales by **Australia, New Zealand, China and Uruguay**. Across the various

meat types, world trade is forecast to expand by more than 8 percent in the case of pig meat (to 9.1 million tonnes), and by close to 4 percent in the case of poultry (to 13.8 million tonnes) and 4 percent for bovine meat (to 11.3 million tonnes). On the other hand, trade in ovine meat may decline slightly (to 1.0 million tonnes).

BOVINE MEAT PRODUCTION AND TRADE

Production to expand modestly on reduced cattle numbers

World bovine meat production is forecast to hover around 72 million tonnes in 2019, only 0.7 percent more than last year. Expansions are expected in **Brazil** and the **United States of America**, but also in **China, Mexico, India, Pakistan, South Africa** and **the Russian Federation**. By contrast, production is anticipated to fall in the **EU** and **Australia**, as well as in **Uruguay, Argentina** and **New Zealand**.

In **Brazil**, production could rise by 3 percent in 2019, surpassing the 10 million tonnes threshold, in view of a generally positive economic and financial outlook, the availability of a large cattle inventory, more affordable feed costs and a promising export environment. In the **United States of America**, bovine meat production is predicted to reach 12.4 million tonnes, up 1.5 percent from 2018. The relatively modest output growth reflects a slowdown in calf crop growth last year, signalling an end to the herd growth phase of the cattle cycle. **China's** beef production is forecast to increase by 1.5 percent to 6.5 million tonnes, with expansions in large-scale operations moderated by limited smallholders' contribution, as rising costs of rearing cattle continue to push less efficient producers out of the industry. **Mexico** is forecast to expand its beef production by about 2 percent, building on recent success in expanding feedlot production and federally inspected slaughter and improved meat processing technology. For **India**, although the factors affecting the outlook are relatively mixed, production is expected to rise by just 1 percent. While the emerging favourable external trading environment may offer opportunities to increase production, laws restricting the transport and slaughter of cows, effective in 23 out of the 29 states, are likely to hinder growth. Although production is set to rise somewhat in **South Africa**, the country's sector continues to face challenges, especially poor rainfall and dryness. Moreover, recent detection of food-and-mouth disease in the country has led to temporary import bans of its products by some countries such as Botswana and Namibia, dimming production prospects. The **Russian Federation** may see an increase in beef production on improved prospects for exports and state support.

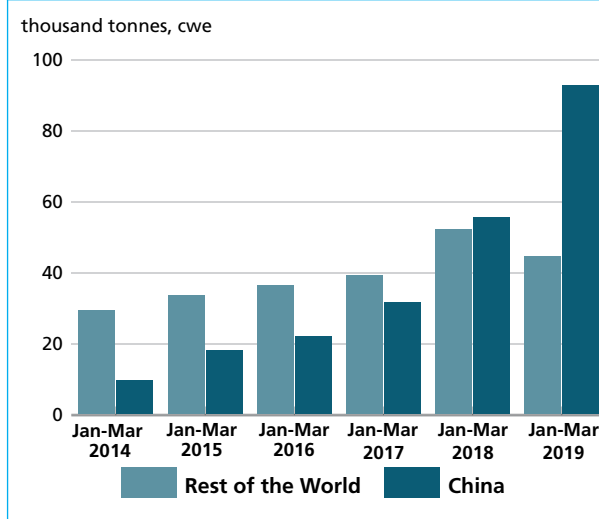
Notwithstanding increased import demand, some of the world's leading beef suppliers may face production contractions in 2019. These include the **EU**, where the cattle herd has shrunk – both due to the structural decline seen in recent years and to the high slaughter induced by dry weather last summer – which may result in a 1.3 percent contraction in output. Following the recent drought-induced slaughter, **Australia's** beef production may fall by almost 5 percent. Moreover, Australia may begin its next phase of herd rebuilding, which would further reduce animals available for slaughter. In **Uruguay**, limited availability of animals for slaughter may also reduce production by 5 percent, despite strong import demand – the primary driver of production given the near saturation of the domestic market. Although **Argentina** realized a 7.3 percent expansion in 2018, bovine meat production prospects are not as positive this year; production could fall by 1 percent, given the limited availability of cattle with the minimum slaughter-weight. Likewise, given the need to reconstitute its cattle herd, following elevated beef production in 2018, **New Zealand** may be obliged to cut production by almost 2 percent in 2019.

Trade expansion is likely

World bovine meat exports are forecast to reach 11.3 million tonnes in 2019, up 4.0 percent from last year. **China's** imports are predicted to increase by almost 15 percent to about 2.3 million tonnes in 2019, equivalent to one-fifth of the global bovine meat trade. In addition, **Japan, Canada, Mexico** and **the Republic of Korea** may import more in 2019, mostly on rising demand for more specialized meat types, including processed meat. In the case of **Japan**, the expansion is likely to be facilitated by a reduction of tariffs on beef imports (effective 30 December 2018) from countries in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

Most of the increased import demand will be met by supplies from the Americas and the **EU**. In the Americas, **Brazil's** exports are anticipated to surge by 10 percent, with shipments mostly going to Asia, especially China, and the Middle East. Sales may also receive a boost from the Russian Federation's lifting of its ban on imports from some Brazilian processors. **Argentina** is forecast to expand exports by more than 20 percent on rising demand for imports of quality beef, mostly from China, but also the United States of America, under newly gained market access for premium chilled, grass-fed beef cuts. Benefiting from the emerging global meat market tightness, **India's** exports could recover from the

Figure 3. Bovine meat: Argentina exports



slump it recorded last year, rebounding by more than 9 percent in 2019. However, increased restraints by the Chinese customs authorities on 'grey meat' imports from its neighbouring countries, such as Viet Nam, could limit export growth of bovine meat from India - the country of origin.

PIGMEAT PRODUCTION AND TRADE

Production: New outbreaks of African Swine Fever behind a sharp contraction in output

Global pig meat production is forecast at 115.6 million tonnes, a decline of 4.0 percent from 2018. The contraction principally reflects a sharp fall in **China**, which is expected to outweigh expansions especially in the **United States of America, Brazil** and **the Russian Federation**. Meanwhile, pig meat output in the **EU** is forecast to remain stable.

In **China**, official notifications had confirmed 129 ASF outbreaks and the culling of more than 1 million pigs by 23 April 2019. In addition to culling, in an effort to keep the spread in check, the Government is creating separate, self-sufficient zones and ban the cross-regional transport of animals and products. However, the continued relevance of backyard farming and the use of food waste as animal feed make controlling the spread extremely challenging. The transboundary spread of ASF to other countries in the region, with confirmed detections in Viet Nam, Mongolia and Cambodia, will make controlling the spread even harder. According to the Chinese Ministry of Agriculture and Rural Affairs, by March 2019, the hog inventory had declined by 18.8 percent, and that of the breeding sow by 21 percent year-on-year. In view of these developments, China's pig meat output is anticipated to fall by at least

10 percent in 2019, to 6 million tonnes.

In the **EU**, pig meat production is forecast to remain stable at about 24 million tonnes. Although sharp increases in import demand from China have brightened the sector's prospects, with pig meat prices showing a recent upturn, the continued spread of ASF in countries such as Romania, Hungary and Poland is dimming the EU 2019 production outlook. The **United States of America** is forecast to raise production by 3.8 percent to nearly 12 million tonnes this year, relying on its largest pig herd inventory since 2009. After two years of contraction, **Brazil's** production is anticipated to rebound by 5.5 percent, spurred by robust availability of feed supplies following record maize and soybean crops and a strong foreign demand. However, there is concern

that feed costs may rise if the Brazilian *real* depreciates further, as such development would encourage grain exports over supplying to the domestic feed industry. In the **Russian Federation**, pig meat output is set to expand by 3 percent, underpinned by large-scale investments in new breeding operations, farms and processing facilities. Growing import demand may provide additional support, although depressed domestic prices and escalating costs, in part to meet tighter environmental regulations, could undermine progress. In **Mexico**, year-on-year growth in pig meat production may reach 4 percent, underpinned by larger herd numbers, attractive producer prices and the prospect of a new trade deal with its northern neighbours that may come into force.

Figure 4. FAO meat and feed price indices

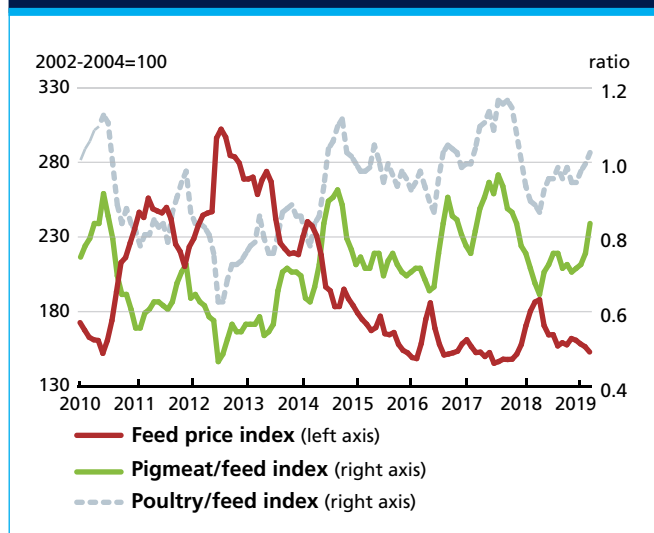


Figure 5. China's pig meat imports



Trade to expand sharply

World pig meat exports are forecast to reach 9.1 million tonnes in 2019, an increase of 8.4 percent from last year. **China** is expected to boost its pig meat imports by as much as 26 percent, to a total of nearly 2.4 million tonnes, equivalent to nearly 27 percent of world trade. Elsewhere, imports are predicted to increase in the **Russian Federation, Japan** and **Mexico**, but decline in the **Republic of Korea, the United States of America** and **Angola**. The **EU, the United States of America, Canada** and **Brazil** are anticipated to supply 90 percent of total world pig meat exports in 2019, with the balance mostly to be covered by **Chile, Mexico, China** and the **Russian Federation**.

The **EU** will remain a top pig meat exporter, with the bulk of its shipments going to Asia, namely China, Japan, the Republic of Korea and the Philippines. Notwithstanding the stagnation in production, a reliance on accumulated large meat stocks could allow the EU to expand its exports by 10 percent this year. **Brazil's** exports are also anticipated to advance in 2019. The country may benefit from abundant export availabilities, improvements in the image of its meat quality, and increased or newly gained market access in the Philippines, the Republic of Korea, Viet Nam and South Africa. Despite retaliatory tariffs in place, China has begun importing significant quantities of pig meat from the **United States of America**, giving rise to an expectation that United States of America exports may register a 5 percent growth in 2019.

POULTRY MEAT PRODUCTION AND TRADE

Poultry production to regain vigour in 2019 after two years of subdued growth

After two years of sluggish growth, world poultry meat output is forecast to expand by 2.8 percent to 128 million tonnes in 2019, showing signs of regained vigour. This year's positive outlook is due to the successful containment of the spread of Highly Pathogenic Avian Influenza (HPAI) and the strong potential for poultry meat to be used as a substitute for pig meat. The expected expansion in global poultry meat production would mostly occur in **China**, the **EU**, **Brazil**, the **United States of America**, **India**, **Pakistan** and **Mexico**, with smaller expansions in **Turkey**, **Colombia** and **Thailand**.

Following two years of near stagnation linked to the prevalence of HPAI, poultry production in **China** is anticipated to rebound by 7 percent in 2019. The increase is expected amid rising consumer demand for poultry meat, partly as a substitute for pig meat – a factor that is exerting pressure on domestic poultry prices to rise, which should enable producers to increase output, despite costly feeds. Output in the **United States of America**, the world's leading producer, is currently anticipated to grow by 1 percent to 22.6 million tonnes, with the expansion resulting from a large bird flock and newly added processing capacities. In **Brazil**, the sector is expected to recover by 2 percent this year, as the country implements several programmes to solve problems faced by the industry in 2018, which led to the restriction of access to various important markets. Programmes include the application

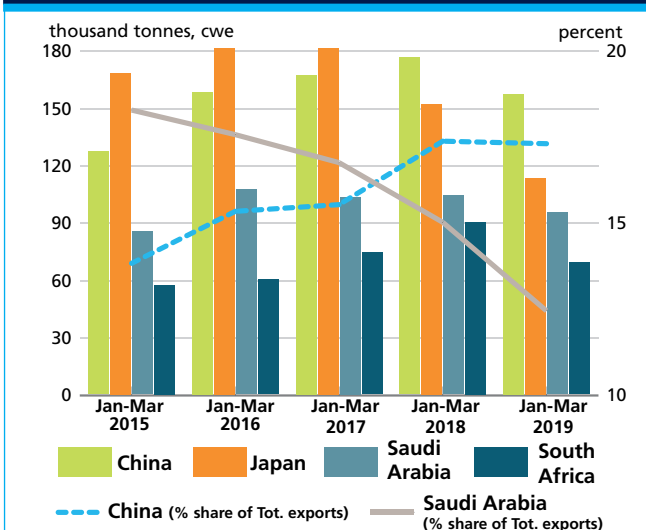
of scientific methods for monitoring slaughterhouses and packing operations, and a self-regulating system. Brazil also aims to overcome technical difficulties in meeting *halal* food requirements in the Middle East. Overall, the Brazilian poultry sector continues to benefit from its HPAI-free status, a strong internal market and geographically diversified foreign markets. **India's** poultry production is forecast to expand by 5 percent this year, mainly to meet the dynamic domestic demand, with the increase facilitated by a growing market for hatcheries. **Pakistan's** poultry meat output is set to expand by more than 8 percent, on better market access opportunities in the Middle East and improvements to the production facilities. Elsewhere, a combination of factors is behind the expected slow output growth in several countries, especially some reluctance on the part of smallholders to expand production due to low producer prices (the Russian Federation) and high input costs (Indonesia).

Trade: rising optimism amidst a surge in imports

World exports of poultry meat are predicted to expand by 3.7 percent and reach 13.8 million tonnes in 2019. The market optimism rests principally on expectations of a strong growth in import demand, mainly from **China**, but also **Japan**, **the Philippines**, **Mexico** and **Ghana**. Purchases by **China**, one of the main drivers of the global poultry trade, are currently forecast to surge by nearly 23 percent year-on-year. The Government has granted exemptions from anti-dumping tariffs on imports from 14 Brazilian firms, on the condition of setting a floor price for their exports, which would facilitate more imports. In addition, China also opened its market to poultry meat from the Russian Federation. In **Japan**, consumer demand for processed, ready-to-eat poultry products from reliable suppliers has been rising, a trend that is expected to boost imports by 3 percent this year. Imports are also expected to increase vigorously in **the Philippines**, **Mexico** and **Ghana**, as poultry remains the most affordable meat for the bulk of middle- and low-income populations. By contrast, **Saudi Arabia** may purchase less this year, as restrictions on imports remain, with further reductions in the number of firms eligible to export poultry from Brazil, one of the largest suppliers in 2018.

Nearly 80 percent of global exports of poultry meat is forecast to originate in **Thailand**, **Brazil**, **Turkey**, **Ukraine**, the **United States of America** and the **EU**.

Figure 6. Brazil's poultry meat exports by major destinations



OVINE MEAT PRODUCTION AND TRADE

Production: continued modest growth

World ovine meat output is forecast at 15.3 million tonnes in 2019, an increase of 0.4 percent from 2018, mostly originating in Asia, especially in China, along with more modest expansions in Africa. By contrast, outputs are forecast to decline in Oceania and Europe.

China's sheep and goat flock expanded by an average rate of 3.1 percent from 2013 to 2017, but by only 0.8 percent in 2018, reflecting a reduction in breeding ewes. Despite the need to rebuild flocks, meat price increases may encourage Chinese farmers to slaughter animals and increase production by almost 2 percent. Following a decline in 2018, ovine meat output in the **EU** is forecast to slightly decrease this year, due to high ewe mortality in 2018. Meanwhile, there is a growing concern that a no-deal Brexit will generate supply imbalances across the English Channel, since nearly one-third of ovine meat in the EU is produced in the United Kingdom. Ovine meat output is anticipated to fall by 3.5 percent in **Australia**, where dry weather conditions continued into 2019, further depleting

feedstock and deteriorating pasture. Under current expectations for weather improvements, flock rebuilding in the country is likely to begin from mid-2019, probably reducing export availabilities. **New Zealand's** ovine meat production is also forecast to decline, in view of the continued reduction in its sheep numbers, partially moderated by an increase in carcass weight.

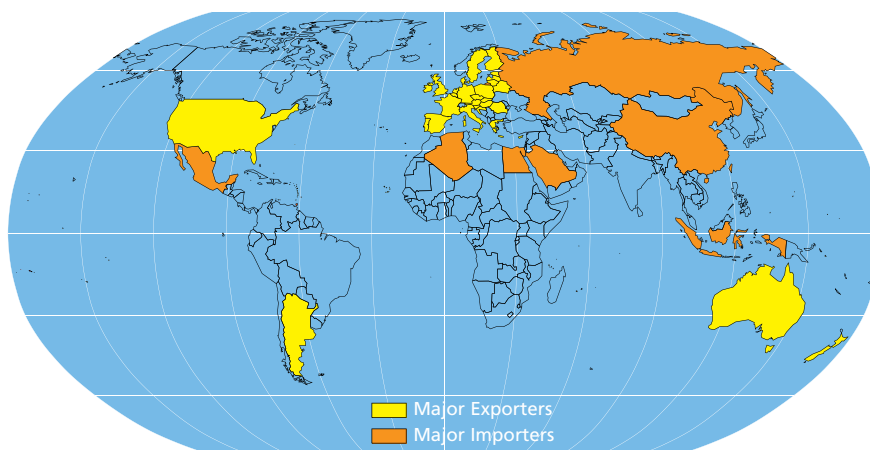
Trade: limited availability for exports to depress trade

World trade in ovine meat is forecast to decline by 1.9 percent in 2019, due to reduced export availabilities from Australia and New Zealand, which together historically supply more than 80 percent of the ovine meat traded internationally. **Australia** is projected to record a 4.5 percent drop in exports, while **New Zealand** may see a contraction of around 1 percent. In recent years, an increasingly high proportion of exports has been destined for Asia, mainly China

Limited export availabilities in 2019 are forcing global importers, including China, to cut back on their international purchases.

MILK AND MILK PRODUCTS

Major Dairy Exporters and Importers



PRICES

Rebounding since January after a 7-month slide

The **FAO Dairy Price Index** stood at 215 points in April 2018, up 5.2 percent from March, and 5.3 percent higher year-on-year. Compared with May 2018 – the month when prices peaked in 2018 – international quotations declined by 21 percent in December 2018, but have begun rising again since January, interrupting a seven-month streak of continuous declines. Compared with January 2019, quotations for all dairy products covered in the index were higher in April: butter by 15.9 percent to USD 5 246 per tonne; cheese by 23.4 percent to USD 4 288 per tonne; whole milk powder (WMP) by 13.8 percent to USD 3 326 per tonne; and skim milk powder (SMP) by 4.9 percent to USD 2 404. The recent price recovery reflects increased import demand in anticipation of a seasonal tightening of supplies from Oceania, as well as concerns about relatively short availabilities in other major suppliers, in particular the European Union (EU), where butter and SMP stocks have virtually disappeared.

PRODUCTION

Milk production to expand, but warm and dry weather may pose a threat

Milk production is forecast to grow by 1.9 percent (16 million tonnes) to 859 million tonnes in 2019. All

Figure 1. FAO monthly dairy price index (2002-2004=100)

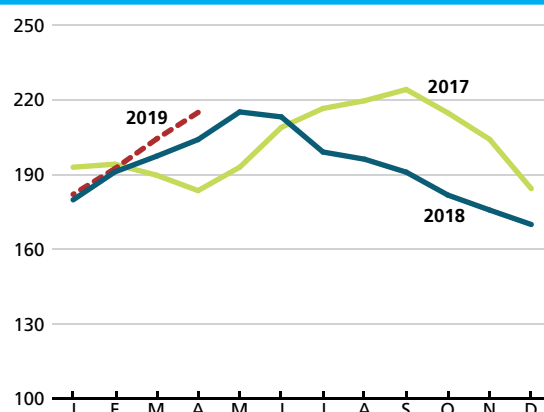


Figure 2. FAO monthly international price indices for butter, cheese, SMP and WMP (2002-2004=100)

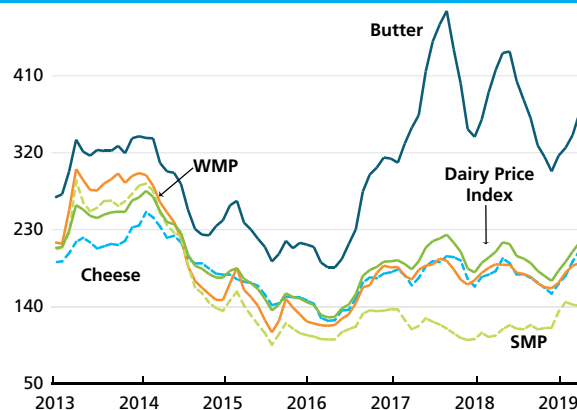


Table 1. World dairy market at a glance

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes, milk equiv.</i>			<i>%</i>
WORLD BALANCE				
Total milk production	824.8	843.2	859.0	1.9
Total trade	72.7	74.7	76.1	1.8
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	109.2	110.5	111.3	0.8
Trade - share of prod. (%)	8.8	8.9	8.9	-0.1
FAO DAIRY PRICE INDEX (2002-2004=100)				
	2016	2017	2018 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	202	193	198	2.8

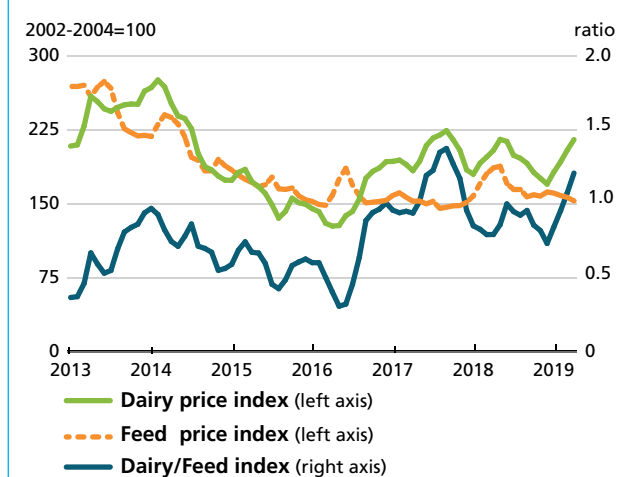
regions are anticipated to see production expansions, albeit at slower rates than last year. The expansion is led by Asia (+3.5 percent), followed by North America (+1.1 percent), South America (+0.9 percent), Europe (+0.6 percent), Central America and the Caribbean (+0.6 percent), Africa (+0.5 percent) and Oceania (+0.4 percent). The principal contributions to the global milk output expansion are expected to come from India, Pakistan, the EU, the United States of America, New Zealand and Brazil, whereas significant contractions are foreseen for Australia, China, Argentina and Ukraine.

Driven by a large dairy herd and sustained by demand from an increasingly urbanized middle- and upper-middle income population, milk output in **India** is anticipated to increase by 5.3 percent in 2019, to nearly 196 million tonnes, equivalent to 23 percent of world milk output. Milk output in **Pakistan**, the world's fourth largest producer, is expected to sustain a growth rate of about 3 percent, producing nearly 47 million tonnes, backed by increases in dairy herd numbers, despite rising costs of fodder and transport charges. A more modest growth of 0.7 percent (1.2 million tonnes) is anticipated for the **EU**, the second largest milk producer, to 168 million tonnes, under expectations that improved milk yields will more than compensate for the continued decline in the dairy herd. However, limited availability of fodder and costly feed remain a matter for concern in member countries, which fear a repetition, in the coming months, of the severe heat and drought conditions that prevailed in the summer of 2018. In the **United States of America**, milk output is expected to expand by about 1 percent (1 million tonnes) to nearly 100 million tonnes, underpinned by increases in milk yields. The outlook is more positive

for **New Zealand**, where milk output is forecast to grow by 3.5 percent (748 000 tonnes) in the 2018/19 season to 22 million tonnes. In the first three months of this year, the country benefited from mild temperatures and good soil moisture, endowing farms with sufficient stock of hay and feed for the rest of the season, raising expectations of heightened milk yields. Higher producer prices announced in February by the New Zealand dairy cooperative group should further contribute to the production increase, amid robust international demand. In **Brazil**, milk production is forecast to grow by more than 2 percent (744 000 tonnes), to 36 million tonnes in 2019. Despite the presence of an El Niño event in South America, good weather has prevailed in the country, favouring grass growth and grain production. Moreover, a combination of technological innovations, the introduction of more stringent quality requirements for milk producers, and a revival of the cooperative movement, are expected to give a further boost to milk productivity. Producers unable to meet the new rules may opt to leave the sector. By contrast, **Australia's** milk production is anticipated to contract by almost 7 percent (632 000 tonnes) to nearly 9 million tonnes, since the dairy herd has declined due to drought-induced cow slaughtering in 2018. Rainfall received by parts of Australia in last March was inadequate to restore pasture and improve feed availability, and this may eventually result in reduced cereal crops and rising feed costs, with negative implications for dairy producer margins.

Continuing the negative trend that started in 2016, **China's** milk output is predicted to decline by about 1 percent (299 000 tonnes) in 2019, to 31.3 million tonnes, the lowest level since 2007. Financial pressure due to rising input costs and low milk prices has been forcing smallholders out of the industry over the past few years, reducing the size of the national dairy herd, notwithstanding ongoing structural reforms that have fostered consolidation of the sector into large-scale farms, with a heavy reliance on animal feed. In 2019, feed availabilities, especially of hay and alfalfa, are likely to be limited due to reduced imports of these products from the United States of America – the main supplier in recent years. This is a result of the retaliatory tariffs imposed by China, probably reducing the milk production prospects of these large-scale dairy farms. In sharp contrast with the 4.2 percent expansion recorded in 2018 in the wake of an industry consolidation, increased processing capacity and higher farmgate prices, **Argentina's** milk output is forecast to decline by 1.8 percent (194 000 tonnes) to 1.3 million tonnes. This reflects an anticipated decline in milk output by smallholder farms, where high input costs are likely to discourage production. In **Ukraine**,

Figure 3. FAO dairy and feed price indices



milk production is likely to decline by 1.7 percent (171 000) to 9.9 million tonnes, as reduced import demand has continued to weaken the country's milk production system.

TRADE

Dairy trade to expand, but growth rate to slow due to trade frictions and moderate prospects for world economic growth

World dairy product exports (in milk equivalent) are forecast to rise by 1.8 percent (1.3 million tonnes) to 76 million tonnes in 2019, a significant slowdown from the 2.8 percent estimated for 2018. Much of the expansion in world exports is anticipated to be sustained by a surge of deliveries from **New Zealand**, and more modest increases of exports from **Mexico**, the **EU**, **Argentina**, **India** and **Canada**. By contrast, limited supplies are likely to depress shipments from the **United States of America** and **Australia**. **China** is anticipated to lead the expansion in world dairy imports again this year, with **Mexico**, **Malaysia**, **Egypt** and **Brazil** also forecast to step up purchases. On the other hand, the **Russian Federation**, **Oman** and **Algeria** are anticipated to import lower volumes.

Largely relying on its abundant availabilities, **New Zealand's** exports of dairy products are predicted to surge by over 7 percent (1.4 million tonnes) in 2019, to more than 20 million tonnes, mostly on greater sales of WMP, which may account for more than half of the total dairy products delivered, and moderate expansions of butter, cheese and SMP. Shipments from the EU are forecast to increase modestly again in 2019, at a growth rate of about

0.6 percent (125 000 tonnes) to 20.6 million tonnes, mostly in the form of butter, cheese and SMP, though still preserving EU's primacy among dairy exporters. By contrast, **United States of America** exports are foreseen to decline by around 4 percent (460 000 tonnes) to 11.3 million tonnes. United States of America deliveries to China, Mexico and Canada, in particular, are likely to retreat, as the United States of America-China trade dispute drags on and the timeline for ratification of the Mexico-United States of America-Canada agreement remains uncertain. **Australia's** limited milk supply this year is likely to result in a 3 percent (92 000 tonnes) cut in its overall dairy exports in terms of volume, although probably not in terms of value, as Australia's deliveries are increasingly concentrated on higher value-added products.

As for imports, dairy purchases by **China** are predicted to grow by 6 percent (876 000 tonnes) to 15 million tonnes, providing the main impetus to world dairy trade in 2019, a year otherwise overshadowed by trade frictions and moderate world economic growth prospects. WMP is likely to account for 34 percent of China's dairy imports, most of which will be sourced from New Zealand and the EU. In **Mexico**, dairy purchases are likely to soar by nearly 4 percent, as rising costs of production are resulting in high domestic prices compared with imports. Mexico's increased purchases also reflect rising demand for value-added dairy products, manufactured mostly at home using imported raw materials. In view of the increased demand for milk products, Mexico has offered tariff-free access to its market for 25 000 tonnes of milk powder, 4 250 tonnes of cheese, and 1 500 tonnes of butter under the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). **Malaysia** and **Egypt** are also expected to import more dairy products in 2019, as dairy self-sufficiency continues to be low, despite efforts to increase domestic milk production. **Argentina's** dairy exports may expand, benefiting from competitive prices and increased import demand, especially from neighbouring countries. India is likely to gain more market access in global dairy markets, with sharper increases in butter and SMP exports. **Canada** is making inroads in the high value market segments such as casein, enabling its dairy exports to recover from a small dip last year.

By contrast, imports in 2019 are set to decline in a number of countries, with the sharpest contractions anticipated for the **Russian Federation**, **Oman**, **Algeria** and the **EU**. The **Russian Federation**, which already cut imports by 18 percent in 2018, is forecast to reduce them by a further 13 percent (some 477 000 tonnes), to 3.2 million tonnes this year. This would confirm that

**Table 2. Trade in dairy products:
Principal exporting countries**

	Average 2015-17	2018 prelim.	2019 f'cast	Change 2019 over 2018
<i>thoUnited States of Americand tonnes (product weight)</i>				
WHOLE MILK POWDER				
World	2 484	2 458	2 514	2.3
New Zealand	1 355	1 381	1 471	6.5
European Union*	392	334	308	-7.8
Uruguay	110	143	148	3.4
Argentina	106	135	142	4.8
SKIM MILK POWDER				
World	2 269	2 589	2 662	2.8
European Union*	685	834	857	2.8
United States of America	587	716	683	-4.7
New Zealand	419	363	416	14.6
Australia	174	156	151	-3.1
BUTTER				
World	922	921	939	2.0
New Zealand	480	459	477	4.1
European Union*	186	158	162	2.0
Belarus	84	90	91	1.2
United States of America	30	52	45	-13.0
India	10	30	34	15.8
CHEESE				
World	2459	2559	2603	1.7
European Union*	783	833	845	1.4
New Zealand	342	324	354	9.2
United States of America	317	350	341	-2.6
Belarus	190	210	214	1.9
Australia	170	173	172	-0.5
Egypt	106	101	99	-2.0

* Excluding trade between the EU member countries. From 2013: EU-28

domestic availabilities are improving in the country, with an increasingly sophisticated mix of dairy products produced domestically. Increased domestic supplies may also depress purchases by Oman. After an increase of nearly 12 percent in 2018, **Algeria's** dairy imports are expected to fall by about 2 percent, as the Government has suspended imports of certain dairy products under an initiative to better control spending of foreign currency in the wake of falling oil revenues. Dairy imports by the **EU** may also decline, reflecting increased domestic availabilities. However, this may change, depending on the outcomes of emerging trade flows between the EU and its partners in new trading agreements, namely the member countries of the CPTPP and Mexico. The splitting of dairy tariff quotas between the EU27 and the United Kingdom will also have an impact on the volume of trade, if Brexit materializes in 2019.

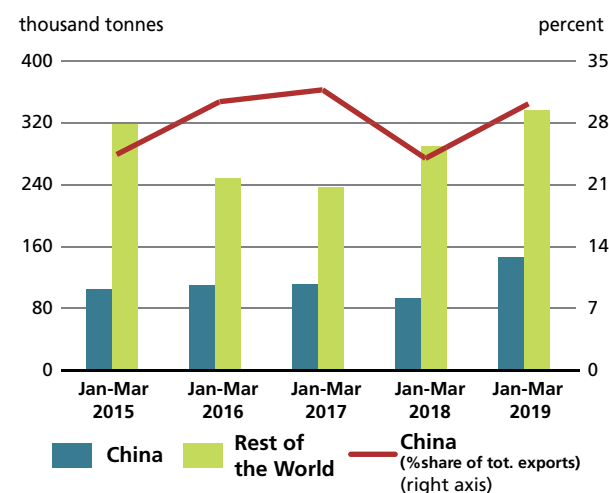
Trade performance of key milk products

Global trade in dairy products is expected to expand across all major categories in 2019, with the sharpest expansion projected for whole milk powder (+2.3 percent), followed by butter (+2.0 percent), skim milk powder (+ 2.8 percent) and cheese (+1.7 percent).

Whole milk powder

World exports of WMP are likely to expand for a second year in 2019, growing by 2.3 percent, to 2.5 million tonnes, mostly driven by sharp rises in imports by **China** and **Brazil**, and more moderate increases in **Bangladesh, Singapore** and **Viet Nam**. By contrast, **Oman, the United Arab Emirates** and the **Russian Federation** are all expected to cut their purchases. Following a more than 10 percent surge last year, **China's** WMP imports are predicted to grow by 6.5 percent (42 000 tonnes), to nearly 690 000 tonnes, mostly sourced from New Zealand. **Brazil** is likely to step up imports, as WMP production continues to be short of domestic demand, as much of fresh milk supply is used to fulfil demand for liquid milk products.

Much of the expanded WMP trade in 2019 is expected to be supplied by **New Zealand, Argentina, Uruguay** and **Belarus**, while WMP exports from the **EU, the United States of America** and **Australia** are likely to be down. Benefiting from its increased export availabilities, WMP shipments from **New Zealand** are forecast to increase by more than 6 percent to an all-time high of nearly 1.5 million tonnes. Since January this year, international price quotations for WMP from Oceania have been rising, compared with European prices, indicating strong demand for the product. WMP exports by **Uruguay**, the third largest world supplier, may reach some 150 000 tonnes, as

Figure 4. New Zealand's WMP exports by destination


higher profitability relative to other products encourages a shift towards WMP in the dairy production mix, allowing the country to respond to continued import interest from Algeria, China and Brazil. Following a decline of 15 percent in 2018, the **EU's** WMP exports may slide by another 8 percent in 2019, on reduced sales, especially to Oman and China. After jumping by over 90 percent in 2018, WMP exports from **Argentina** are forecast to grow by around 5 percent this year, to 142 000, confirming Argentina as an important global WMP exporter.

Skim milk powder

World SMP exports in 2019 are forecast to grow by 2.8 percent to 2.7 million tonnes, much slower than the average pace of 8.6 percent recorded in the previous two years. Among SMP importers, **China, Mexico, the Philippines and Malaysia** are anticipated to purchase more SMP in 2019, principally to satisfy emerging demand from food manufacturers, while the **Russian Federation** is likely to import less, as the expansion of production is allowing the country to satisfy a growing share of its domestic consumption through local output.

Much of the slowdown in world SMP exports can be attributed to expected declines in shipments from the **United States of America, the Islamic Republic of Iran, Australia, Belarus and Ukraine**. However, a 15 percent rebound of SMP exports expected in **New Zealand**, combined with sizeable increases in shipments by the **EU, Mexico, Canada and Argentina**, is expected to partially compensate for the declines. Following the depletion of SMP stocks held in the EU, which weighed on world SMP prices, the global SMP trade is likely to find a new equilibrium with prices adjusting more in line with current

or expected supply-demand conditions. In the first three months of this year, international SMP prices strengthened. Although prices slipped slightly since then, the average price for the first four months is 33 percent above the corresponding period last year.

Butter

World butter exports in 2019 are predicted to expand by 2.0 percent (18 300 tonnes) to 939 000 tonnes, a significant slowdown from the more than 7 percent growth recorded in 2018. Following a sharp increase in 2018, **China** is forecast to step up its butter imports by a further 10 percent (15 200 tonnes), to 161 800 tonnes in 2019. Improving economic conditions and rising tourist arrivals are expected to underpin imports by **Egypt**, with sizeable increases also predicted for **Saudi Arabia, Malaysia** and the **United Arab Emirates**. Reflecting progress in production, butter shipments to **Canada** and the **Russian Federation** are predicted to fall, with a contraction also forecast for **Mexico**, pending the trade agreement renewal with the United States of America and Canada.

In **New Zealand**, butter accounts for just 16 percent of total dairy exports, but sizeable gains in milk output in the 2018/19 season may give the country an opportunity to expand its butter exports by more than 4 percent, to 477 000 tonnes, still slightly below the volume shipped in 2016. **India's** butter exports, which more than doubled in 2018, are expected to advance by a further 16 percent this year, as the country is gaining increased market access in global markets. **Belarus** may have to accept a smaller growth of exports in 2019, due to limited export availabilities. Overall, butter availabilities for trade are anticipated to remain relatively tight in the first half of

Figure 5. SMP stocks and global SMP prices

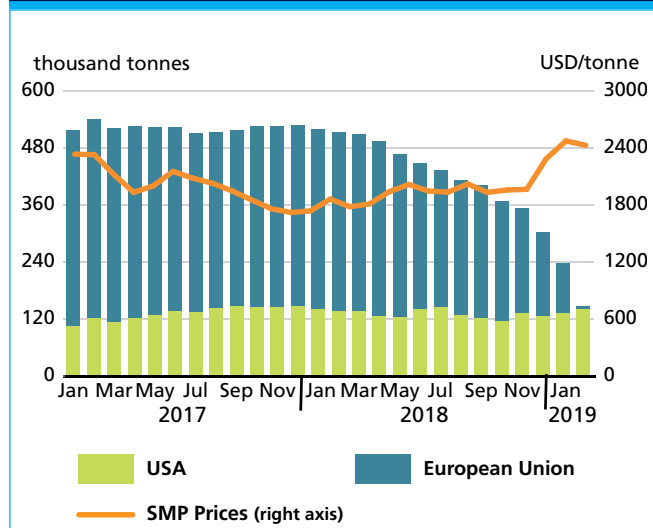
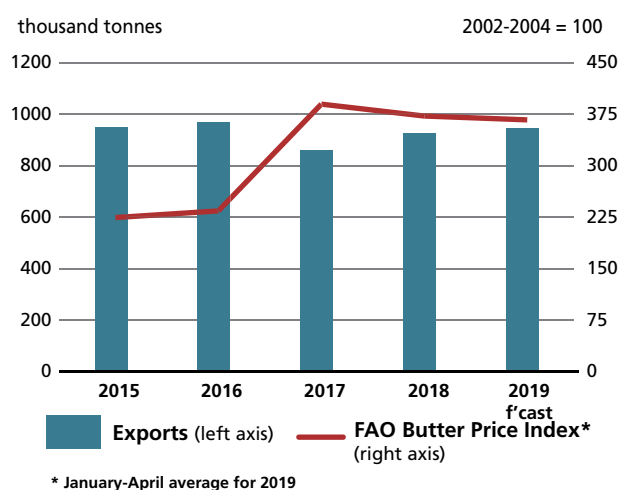


Figure 6. World butter trade and FAO butter price index



2019, until Oceania's butter from the 2019/20 season begins to enter markets in the second part of the year. Reflecting this seasonal pattern, international butter prices recovered in the first four months of 2019, still remaining 10.3 percent short of their corresponding levels in 2018.

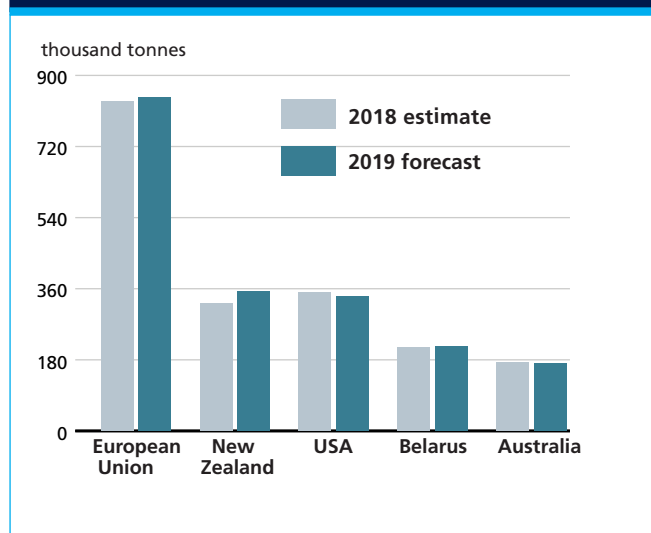
Cheese

Following a year of virtual stagnation, world exports of cheese are forecast to expand by 1.7 percent in 2019, to more than 2.6 million tonnes. In 2019, **Australia**, **Japan**, the **Republic of Korea**, **Canada**, the **United States of America** and **Mexico** are forecast to increase their purchases, generally underpinned by rising consumer demand, combined with increased interest for a wider range of cheese varieties. On the negative side, demand for imports is predicted to be down, especially by the **Russian Federation** and by **Saudi Arabia** – a reflection of rising domestic production combined with trade restrictions.

Much of the anticipated increase in global cheese exports is likely to originate from **New Zealand**, the **EU**, **Argentina** and **Belarus**, more than offsetting declines from the **United States of America**. Cheese exports from **New Zealand** are predicted to rise by more than 9 percent to a record of 354 000 tonnes, spurred by strong demand from its neighbour Australia, but also from Japan, the Republic of Korea, Indonesia, and China. Cheese exports from the EU are forecast to expand by about 1.4 percent, to more than 840 000 tonnes, mostly destined for the United States of America, Japan and Switzerland, confirming the EU's dominant position among cheese exporters. Despite an anticipated decline or stagnation in milk production, cheese exports from **Argentina** may expand, benefiting from competitive prices and increased import demand from

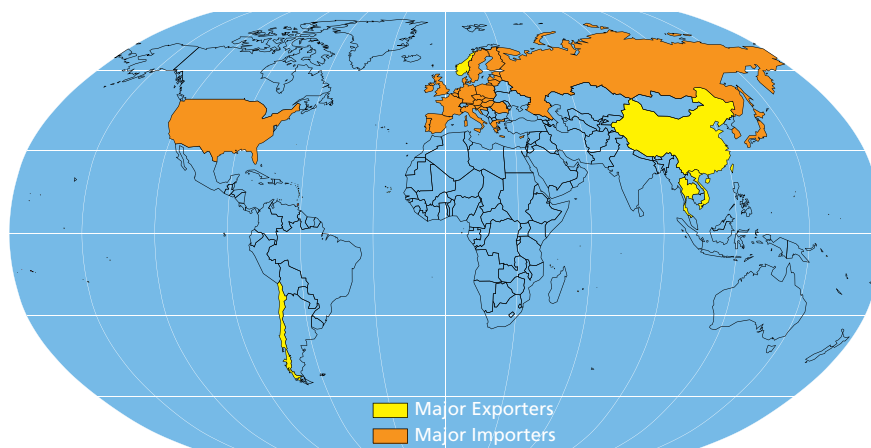
neighbouring countries, namely Brazil, Chile and Paraguay. Similarly, **Belarus** may increase its cheese shipments, as demand from the Russian Federation and other Eastern European countries remains strong. By contrast, **United States of America** cheese exports are likely to fall in 2019, especially if trade disputes with China, Canada and Mexico remain unresolved.

Figure 7. Cheese exports by major exporters



FISH AND FISHERY PRODUCTS

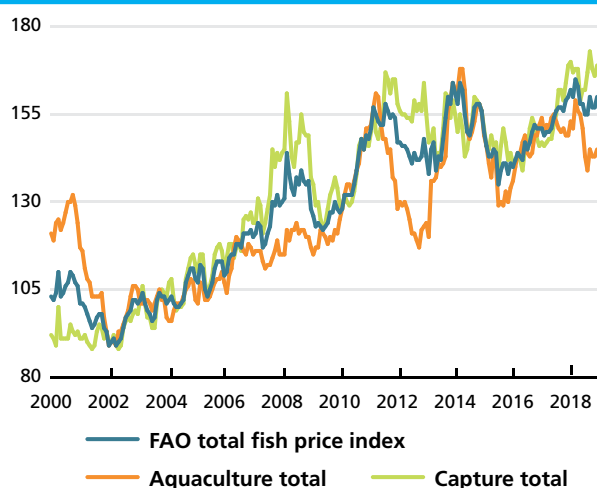
Major Exporters and Importers of Fish and Fishery Products



2019 global fish production forecast is flat, with demand growth slowing

Global fish production in 2019 is expected to be on par with that of last year, while demand growth is positive but slowing. Catches are low for anchoveta and some key wild-caught species, with total capture fisheries production expected to fall by around 3.4 percent in 2019, a sharp reversal of the 2.2 percent growth achieved in 2018 on the back of good anchoveta landings. For aquaculture, continued growth of around 4 percent is forecast for 2019, but supply remains limited for some

Figure 1. The FAO Fish Price Index (2002-2004=100)



Source: FAO Fish price index is Norwegian Seafood Council (NSC)

Table 1. World fish market at a glance

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	Change: 2019 over 2018
	<i>million tonnes (live weight)</i>			<i>%</i>
WORLD BALANCE				
Production	172.6	177.7	177.8	0.0
Capture fisheries	92.5	94.5	91.3	-3.4
Aquaculture	80.1	83.2	86.5	3.9
Trade value (exports USD billion)	155.7	163.1	164.5	0.9
Trade volume (live weight)	60.5	61.7	60.1	-2.6
Total utilization	172.6	177.7	177.8	0.0
Food	153.4	155.7	158.2	1.6
Feed	14.6	17.5	15.0	-14.2
Other uses	4.7	4.6	4.6	0.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
Food fish (kg/yr)	20.3	20.4	20.5	0.6
From capture fisheries (kg/year)	9.7	9.5	9.3	-2.0
From aquaculture (kg/year)	10.6	10.9	11.2	2.8
FAO FISH PRICE INDEX (2002-2004=100)	2016	2017	2019 <i>Jan-Apr</i>	Change: Jan-Apr 2019 over Jan-Apr 2018 <i>%</i>
	146	154	159	3.2

Source: FAO Fish price index is Norwegian Seafood Council (NSC)
Totals may not match due to rounding

important traded species, such as salmon. Of the estimated 177.8 million tonnes of fish to be produced in 2019, some 89 percent will be utilized for direct human consumption, translating into global apparent per capita fish consumption of some 20.5 kg.

Global trade of fish and fish products in 2017 and 2018 was characterized by high prices and significant growth, but previously positive conditions have deteriorated somewhat in 2019. The negative effects of the United States of America-China trade dispute will persist throughout 2019, with the additional possibility of an escalation in transatlantic trade tensions between the United States of America and the European Union (EU). Adding to the unfavourable trade environment is the extension of the deadline for the UK's exit from the EU to 31 October 2019, with no consensus as to the most likely outcome of ongoing negotiations, and the possibility of significant tariff implications still very much on the table. Combined with tighter monetary conditions in many large economies, these uncertainties are expected to slow global GDP growth and trade expansion this year, making 2019 a more challenging year for the seafood industry.

Multiple major seafood exporters, particularly in Asia, are expected to see trade contractions following positive performances last year. China's total seafood exports are likely to be down significantly for the year, while the seafood export revenues of Indonesia, India and the Philippines are also set to take a hit. Norwegian exports should remain steady on good price levels for its most important species, while for Latin American exporters, the combination of a strong salmon market and high fishmeal production is likely to result in a rise in total exports. On the market side, Japan, the EU and the United States of America have all seen declines in the total value of seafood imports in early 2019, giving back some of the gains achieved last year. Meanwhile, in developing countries, import growth is set to slow but remain positive. Total demand is still expected to be sufficient to maintain prices at a relatively high level, considering the ongoing shortages for several highly traded wild-caught species. For aquaculture producers, while several species are currently well supplied, a recognition of long-term demand trends and a need to overcome current restrictions on supply growth will continue to drive investment and research into alternative means of farmed fish production.

TUNA

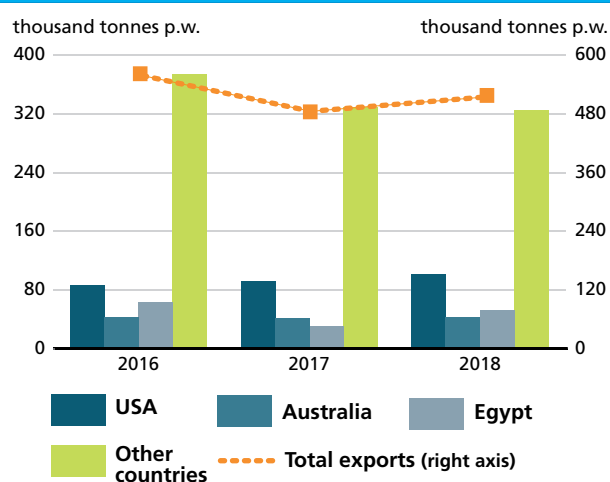
Early 2019 was marked by rising prices of skipjack tuna, due to low catches in the Pacific and Indian Oceans. In contrast, yellowfin prices have declined somewhat. Tuna

fleets in the Western and Central Pacific started the year relatively poorly, as a result of unfavourable weather at the beginning of the year. Fishing in the Eastern Pacific was also poor, and canneries in Manta are now extremely short on raw material. The seasonal fishing restrictions that will take effect in the Western and Eastern Pacific in July this year will compound the already tight supply situation, and prices of both raw material and finished products are likely to be on the higher side in 2019, compared with 2018. This may reverse the positive effect of lower prices on canned tuna demand in 2018. Meanwhile, demand for raw tuna for the sashimi market in Japan will be seasonally low in the summer months, and will improve from autumn onwards. In the United States of America and European markets, meanwhile, demand for tuna fillets and steaks is expected to be strong until the end of summer.

GROUND FISH

While farmed whitefish supplies will increase slightly in 2019, supplies of wild-caught marine groundfish are expected to be lower than in 2018. Specifically, cod and pollock supplies will decrease and cod prices are expected to stay high, or even rise further. In the processing sector, production costs are rising in China, increasing the incentive for some whitefish processors to relocate to Europe in order to reduce transport costs to major markets. Nevertheless, the experience of the industry and the capacity for consistent quality means that the Chinese processing sector remains competitive. In the Alaska pollock market, producers are beginning to turn away from production of blocks and fillets and move towards producing higher-value consumer products, such as surimi.

Figure 2. Thailand exports tuna canned



Source: Thai Customs

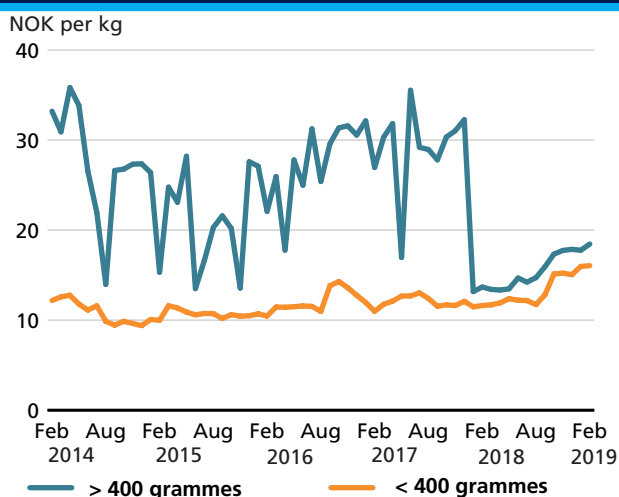
SMALL PELAGICS

In 2018, small pelagic landings were the highest since 2011, with anchovy landings increasing by 47 percent. However, in 2019, total pelagic landings are forecast to decline by 11 percent year-on-year, to some 20.5 million tonnes. Anchovy landings in South America are forecast to be somewhat weaker this year, and prices for most species are expected to rise. Mackerel, in particular, will continue to be in short supply, and prices are expected to rise further from already record levels. While herring have been more abundant, with very low prices, some observers expect that this trend will be reversed soon, despite high cold storage holdings and a reasonably positive outlook for catches. Of the other major small pelagic species, blue whiting prices will most likely go up, while capelin will be in extremely short supply, as quotas in the Barents Sea are set at zero.

FISHMEAL AND FISH OIL

In Peru, 2018 was one of the best fishmeal production years in several years. This positive production trend is unlikely to continue in 2019, with anchoveta landings in South America expected to be somewhat weaker overall. While African Swine Fever outbreaks in China may have a negative impact on demand, the market is generally balanced. Fishmeal prices are relatively low after trending downwards over the course of 2018, but are expected to stabilize this year.

Figure 3. Norwegian exports of small pelagics



Source: Norwegian Seafood Council

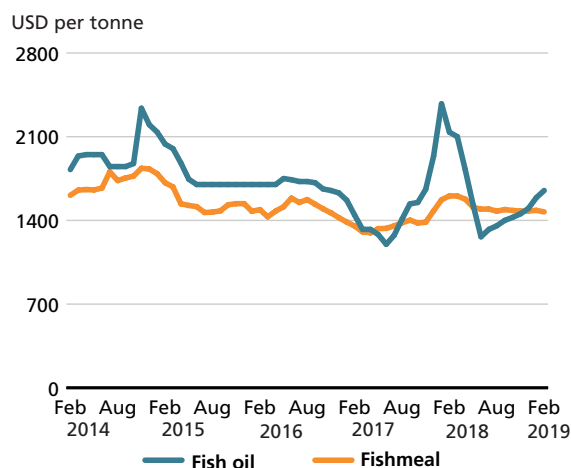
SALMON

With the Chilean sector's performance improving in 2018, the global Atlantic salmon aquaculture industry is matching good profitability with consistent and controlled growth. Despite a 5 percent increase in supply in 2018, production growth continues to lag behind demand, which shows little sign of weakening, and resistance to high prices has largely been temporary. Potential future supply solutions include the development of Atlantic salmon aquaculture in new regions from Iceland to China, innovative technological approaches such as land-based and offshore farming, genetically engineered salmon, and even imitation salmon derived from algae. In 2019, global production of farmed Atlantic salmon is forecast to increase by around 4–5 percent, maintaining a tight market balance that is expected to support prices at current levels. Growth in Chile is expected to slow, and Norway is likely to recover some market share in multiple markets with a 4–5 percent increase in harvests. UK production is set to bounce back strongly, but the major focus of the industry there will be the outcome of Brexit negotiations. Modest but positive economic growth prospects in all major markets, including continued recovery in the Russian Federation and Brazil, will support further strengthening of global demand for salmon over the medium term.

TILAPIA

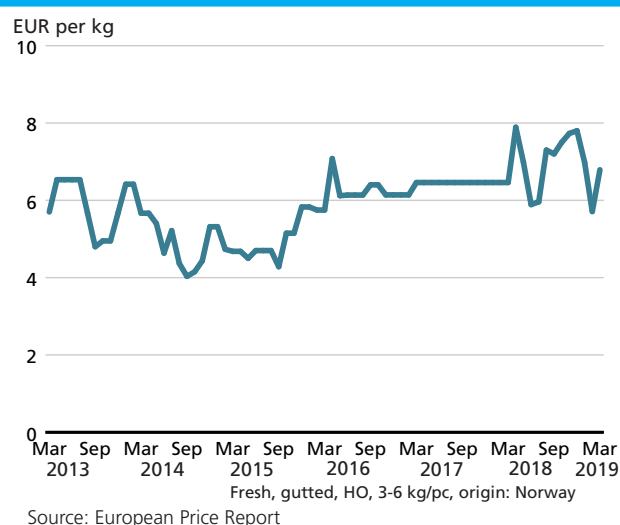
United States of America buyers' accelerated purchasing of tilapia from China in late 2018 and early 2019 turned out to be premature, as the tariff hike expected on 1 March

Figure 4. Prices of fish oil/fishmeal in Europe



Source: Oil World

Figure 5. Salmon prices in France



never materialized. Future price and market development will be heavily dependent on when and if tariffs on United States of America imports of Chinese tilapia are increased or removed. In the meantime, this added barrier to Chinese access to the United States of America market could prompt something of a reshuffling of trade routes between markets and producers. In Latin America, the Brazil and Colombian tilapia industries are on strong growth trajectories, with Brazilian producers focused primarily on the domestic market, and Colombia looking to develop its export business to the United States of America. Global production of tilapia is expected to increase by around 3 percent to 6.5 million tonnes in 2019, with Chinese growth continuing to lag behind that of other major producers. Demand growth is concentrated in developing

Table 2. United States of America imports of frozen tilapia

	2015	2016	2017
<i>Jan-Dec (tho United States of America and tonnes p.w.)</i>			
FROZEN WHOLE			
China	22.9	19.6	22.9
Taiwan Province of China	6.9	6.6	6.3
Viet Nam	1.2	1.5	1.5
Other countries	1.3	1.0	0.8
Total	32.2	28.7	31.5
FROZEN FILLETS			
China	117.1	110.4	112.9
Indonesia	7.7	7.0	5.7
Mexico	1.8	0.6	1.6
Other countries	4.3	3.7	3.5
Total	130.9	121.8	123.8

countries in Latin America, Africa and Asia, which are all significantly outpacing the sluggish United States of America market.

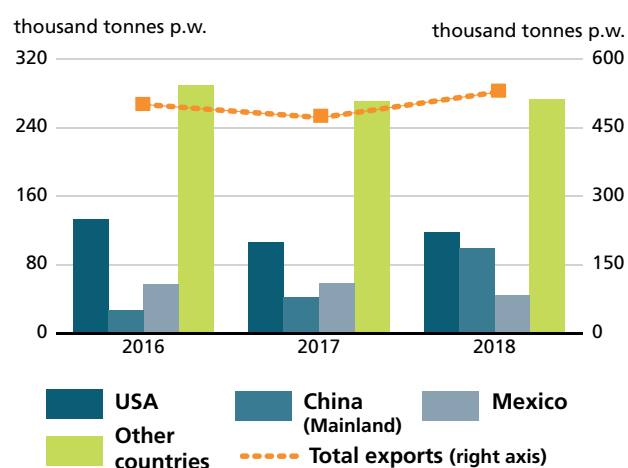
PANGASIOUS

Viet Nam remains by far the dominant producer of traded pangasius, although its share is declining. For the first time, strong price gains saw Viet Nam's pangasius export revenues exceed USD 2 billion in 2018, and the outlook remains positive due to good conditions in multiple markets. This optimistic forecast comes despite an above-forecasted Vietnamese production target of 1.51 million tonnes for 2019. In the United States of America, the reduction of anti-dumping tariffs and Viet Nam's success in meeting United States Department of Agriculture market access standards should open up more opportunities for Vietnamese exporters. In the EU, the recent successful negotiation of a Free Trade Agreement between the EU and Viet Nam will eventually lead to tariff reductions. In addition, the combined effect of an expected decline in total whitefish production and the United States of America-China trade war tariffs on key wild-caught species is also likely to strengthen the global market position of pangasius. Viet Nam's total pangasius export revenue is expected to increase to some USD 2.4 billion in 2019.

SEABASS AND SEABREAM

The Mediterranean seabass and seabream industry suffered from severely depressed prices and challenging market conditions last year, which have persisted into 2019.

Figure 6. Viet Nam' exports of pangasius



Source: Trade Data Monitor, estimates

Demand has been growing, but not fast enough to keep pace with rapid supply expansion led by Turkey, now the world's leading producer of farmed seabass and seabream. Total supply of farmed seabass and seabream should stabilize in 2019, with flat or slightly negative production growth expected by most analysts. Low prices, slowing economic growth in the EU as a whole, and deteriorating business conditions in Turkey have all contributed to conservative business planning as companies seek to minimize further losses. At the same time, however, cheap and plentiful fish will be easier to market to otherwise hesitant buyers, particularly when prices for many other key whitefish species are now prohibitively high.

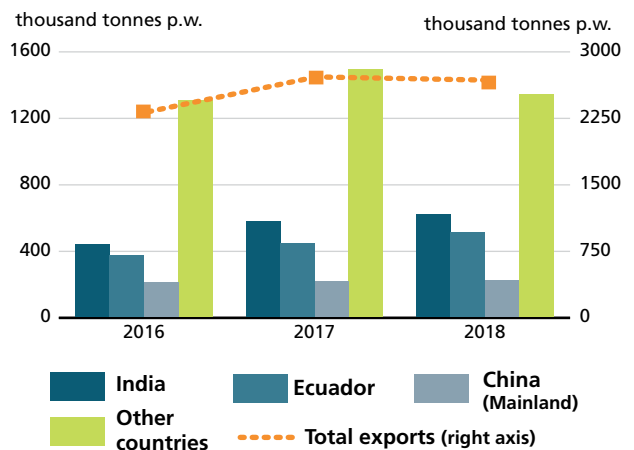
SHRIMP

The supply forecast for this year suggests that global farmed shrimp production in 2019 will be plentiful on global markets, similar to last year. However, market prices have been pushed down to damagingly low levels, which represents a considerable challenge for farmers, who remain conservative and generally undecided in their crop planning for 2019. Some farmers in Southeast Asia are shifting from vannamei to black tiger shrimp, which provided better financial returns in 2018. On the market side, United States of America wholesale prices are low and stable compared with a year ago, encouraging promotional campaigns at retail and restaurants, and it is hoped that these efforts will lead to more consumption and reduced stocks on the market in 2019. Meanwhile, imports into the EU are expected to rise as production in Ecuador, which has zero-tariff access to the EU, is forecast to increase its production of farmed shrimp in 2019. In Asia, while no real recovery is in sight in the Japanese market during 2019, a sharp increase in imports into China earlier this year has given a boost to shrimp farmers' prospects for 2019 as a whole.

CRAB

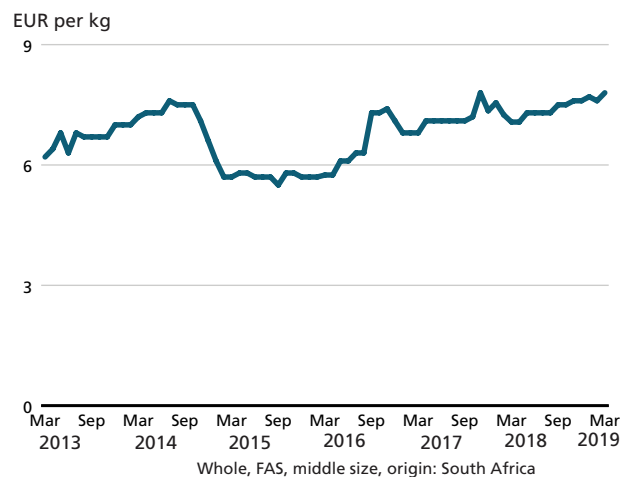
Prices for king crab and snow crab are expected to rise during 2019 on tight supply. For king crab, supply is very limited, and market participants are concerned that the Alaska red king crab fishery may be suspended altogether in 2019. If this occurs, the fishery would probably remain closed throughout 2020 and 2021. Supplies from the Far East and the Barents Sea have been growing for the past few years, but in 2019 they are expected to stagnate, and the overall supply situation for king crab could be very tight. For snow crab, quotas have been increased in Alaska but cut in Canada, and the overall supply situation will

Figure 7. World shrimp exports



Source: Trade Data Monitor

Figure 8. Prices of squid in Italy



Source: European Price Report

be tighter in 2019. Total supplies on the United States of America market have been declining steadily since 2015, mainly as a result of lower volumes from Canada that have not been sufficiently compensated for by volumes from the Russian Federation.

LOBSTER

Global landings of *Homarus* lobster fell in 2017, but recovered ever so slightly in 2018, to an estimated 151 000 tonnes, up from 150 500 tonnes in 2017. However, supply is being outpaced by demand and prices continue to rise. With this increase in demand, particularly in China, prices can be expected to keep rising if the supply situation does not improve. Shore prices in Canada in 2018 were reported at CAD 9.00 (USD 6.78) per lb, their highest

ever. Rock lobster prices have also risen to high levels, up to USD 70 per kg for live lobster destined for China.

CEPHALOPODS

For 2019, a further supply squeeze for octopus can be expected due to a 48 percent reduction of the Moroccan quota, with raw material scarcity compounded by limited inventories in cold storage. For squid, supplies are improving somewhat as the important Argentine fishery has been more productive this year, but the supply-demand balance still remains relatively tight. Overall, demand for cephalopods is strong, and prices are forecast to continue rising. In particular, the global octopus market is projected to grow at a compounded annual rate of some 3 percent from 2018 through to 2022. This could translate into a total market size of about USD 800 million by 2022. As much as 43 percent of this growth is expected to come from the Asia Pacific region.

BIVALVES

Demand for bivalves has been strong, and prices are increasing for all products. Some product diversification is taking place, as marketers seek to build a consumer base among the younger generation. If these attempts are successful, these new products are likely to dominate markets in the coming years. The established status of oysters means there is significant market potential for this species in particular, although oyster supply this year is expected to be tight due to high mortalities during the

summer of 2018 in France, a major exporter. Elsewhere, Chinese farmed scallop production will be impacted over the next two years by the widespread loss of young scallops experienced in early 2018. In the longer term, however, there is no major impediment to increased bivalve production in all main producing countries, as fish farms further away from the coast can come into operation. Some investments and changes in legislation are taking place in the United States of America to facilitate development of the bivalve sector, and the attractive prices of bivalves worldwide will push other countries to follow suit.

Table 3. World bivalves production

	2011	2012	2013	2014	2015	2016	2017
	<i>(tonnes-live weight) Jan-Jun</i>						
China	9 962 069	10 428 027	11 009 116	11 403 585	11 867 218	12 664 664	13 224 136
United States of America	703 816	709 162	657 169	616 801	607 578	610 551	612 732
Japan	656 360	726 440	739 840	781 152	697 232	632 259	586 000
Rep. of Korea	443 820	411 586	324 803	394 650	374 700	387 892	454 992
Chile	351 354	290 015	282 867	276 697	252 756	346 740	393 598
Others	2 030 977	1 811 792	1 827 160	1 878 111	1 816 421	1 766 888	1 846 852
Total	14 148 396	14 377 022	14 840 955	15 350 996	15 615 905	16 408 994	17 118 309

Source: Raw data for FAO Fish Price Index is Norwegian Seafood Council (NSC)

SPECIAL FEATURES

AFRICAN SWINE FEVER:

Challenges for some, opportunities for others?

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The outbreak of African Swine Fever (ASF) in East Asia is likely to have a noticeable impact on meat and feed markets worldwide. The extent and speed of the spread and the number of countries affected are still uncertain. FAO monitors the outbreak, providing regular updates through its Emergency Prevention System for Animal Health (EMPRES-AH). It also provides detailed recommendations on how to curb the outbreak and assists governments in their implementation.

The FAO-EMPRES-AH update of 2 May suggests that ASF continues to spread within China. It is now endemic in the autonomous regions of Tibet (Bayi District, Gongbu Jiangda County and Bomi County of Linzhi City) and

Xinjiang Uygur (Yecheng County, Kashgar Prefecture, Shule County in Kashgar Prefecture). Overall, 28 provinces/autonomous regions/municipalities are affected in China; more than 1 million pigs have been culled in an effort to halt the contagion. The actions taken by the country notwithstanding, ASF continues to spread. The latest FAO update notes that the disease has also extended to other countries, now affecting neighbouring countries, notably Viet Nam, Mongolia and Cambodia.

Figure 1 illustrates the newly affected regions of China. By April 2019, the disease had reached all major regions of the country, most recently also spreading into the northwestern provinces. The unabated spread of ASF poses a number of questions, relevant beyond the confines of East Asia and its pig meat market. These include the

Figure 1. ASF situation in Asia (August 2018 to date)



Source: Mongolia: WAHIS, Viet Nam: WAHIS & media information, Cambodia: MAFF. http://www.fao.org/ag/againfo/programmes/en/empres/ASF/situation_update.html

impacts on global markets, challenges to maintaining adequate meat supplies in affected countries, impacts on other types and sources of meat and protein, as well as the opportunities arising for pig meat producers in ASF-free areas.

This note attempts to address some of these issues. It looks at the impacts of the proliferation of ASF on global feed markets, focusing on feed grains and protein-rich oilseeds. It attempts to distinguish between macro and micro impacts, and the effects on consumers and producers; it discusses the need to adjust farm structures and the adjustment process required to improve the biosecurity¹ of pig production systems, especially in the affected countries.

The extent of the problem

Official FAO monitoring efforts are undertaken in close cooperation with local authorities and China's Ministry of Agriculture and Rural Affairs (MARA). While official sources confirm a rapid spread of the disease, both the speed and severity of the spread could prove more pronounced than currently assumed. For instance, reports by government officials, industry sources and news media suggest that around 20 percent of China's pig inventories had already been culled in the first few months of 2019, amid fears of ASF spreading more rapidly.

In many provinces, cull rates in excess of 20 percent have been reported. In Henan Province, for example, the sow inventory was down 26 percent year-on-year at the end of January 2019. A team of experts from the Ministry's animal husbandry bureau found considerable cutbacks in herds by backyard farmers, large commercial companies and key provincial nucleus breeding herds. A separate MARA investigation of the ASF situation in seven Chinese provinces also found 'irrational' culling of sows on breeding farms in February, reducing the sector's core production capacity.

In Jilin province, the MARA team found the swine inventory to be down by 28 percent from the previous year, and some reports are pointing to an even higher drop. Likewise, the Veterinary Bureau of Shandong Province reported a 41 percent 'landslide' decline in sow numbers between July 2018 and February 2019 at the 33 breeding farms monitored by the bureau. Herds on 1

¹ Biosecurity has multiple meanings and is defined differently in different disciplines. Within agriculture, biosecurity includes the implementation of measures that reduce the risk of the introduction and spread of disease agents, pests or other threats. Biosecurity requires the adoption of a set of attitudes and behaviours by people (producers and allied industries) to reduce risks and threats in all their activities from production, marketing, nutrition, vaccination schemes, farm hygiene, occupational safety, building construction, and even disposal of wastes.

100 commercial finishing farms were down 18.8 percent between July 2018 and February 2019.

In Guangdong Province, while the impacts of the disease were not very serious until ASF began to spread in the first months of 2019, hog inventories are now reported down by 20 percent from a year earlier. Some of the reduction was due to direct culling after disease outbreaks, with reports that some farmers were liquidating herds to prevent infection and/or in order to wait-and-see how the market develops.

Indirect support from official meat and feed statistics

The above estimates are corroborated by indirect evidence from the industrial output statistics of the National Bureau of Statistics, showing that production of 'fresh and frozen meat' by processing plants was down by 17.3 percent in January and February 2019, compared with the same period in 2018. These high cull rates are supported by reported feed sales. In Guangdong Province, for example, pig feed sales were down by 10 to 50 percent. By contrast, poultry feed sales were up by 10 percent, although environmental regulations are forcing chicken and duck farms to close. Likewise, pig feed production in Shandong Province saw an accelerated decline, reaching a level of just 67 percent compared with February 2018. The high cull rates in some of the key producing areas suggest that the extent and the severity of the ASF outbreak in China will pose a major challenge. This is also evidenced by the fact that pig meat prices have begun to soar, increasing up to 50 percent, both domestically and at the Chicago futures exchange (see Figure 2²).

Beyond China

While developments in China's agriculture do not always percolate fully into global markets, ASF impacts are likely to be different. They will be felt more noticeably than other changes. China accounts for about 50 percent of the global pig herd, which means that a massive decline of the country's pig inventories will inevitably be felt abroad. This is particularly so as the disease spreads into East Asia, and is already endemic in sub-Saharan Africa as well as many countries of Central and Eastern Europe.

The effect of ASF will be felt all the more since pork is the preferred meat in China. For this reason, demand does not always respond directly to changes in prices, which may see a sustained increase as a result. To avoid soaring

² The red dot in Figure 2 denotes the official confirmation of ASF in China (August 2018). While prices remained volatile from then onwards, it took markets another six months to fully appreciate the likely impacts on pig meat supplies and to react with a pronounced hike in March 2019.

pork prices, with potential impacts on the overall consumer price level and on general inflation, China may have to turn further to the world market to cover some of its domestic production shortfalls. To what extent is a question that is impossible to answer precisely, but given the size of China's meat market and the production shortfall now caused by ASF, repercussions for the global meat markets could be significant. Finally, China is the largest importer of soybeans in the world, accounting for about two-thirds of all international purchases. Around half of these imports end up as feed for the country's domestic pig herds, so lower pig inventories should translate into lower demand for feed grains in general, and lower soybean imports in particular.

What are the impacts on global feed markets?

With the sharp decline in pig inventories, the exponentially rising import trend, especially of soybeans, over the past two decades could come to an abrupt halt. Indeed, the first signs of a slowdown in soybean imports were already evident in 2018 (see Figure 3). Initial estimates for 2019 suggest that this trend would continue (see lower-right pane of Figure 4). The following analysis will first gauge impacts on the global soybean market, before expanding its scope to assess the likely impacts on feed grain markets.

Soybeans

When considering the recent slowdown in China's soybean imports (see Figure 3), it is important to take into account a number of factors that are behind this change. Firstly, consumption levels of meat have reached high levels of about 55 kg (beef, chicken, pork and sheep/goat) per person per annum. These high levels of meat consumption

come on top of high levels of farmed fish and egg consumption, which together with meat add up to about 95 kg per caput per annum. At the same time, growth in meat consumption has been slowing for nearly a decade. Secondly, as a result of slower growth in demand for animal products, feed requirements rose less rapidly. Moreover, feed operations have attained high intensity rates (high shares of compound and concentrate feeds, negligible shares of roughage) and reasonably high efficiency rates, leaving less room for further grain and oil meal feeding. For example, intensity rates for poultry production are estimated to have reached almost 90 percent, and those for pig production around 85 percent. These levels are on a par with those of very advanced feeding systems. Thirdly, soybean feed use and imports have slowed since China embarked on reforms of its maize sector in 2017. Prior to these, the elevated local maize prices attracted not only imports of barley and sorghum into China's feed grain market (see Figure 5), but also boosted demand for soybean meal. In effect, relatively inexpensive soybeans have not only supplemented maize, but have also substituted some of the energy provided by maize and other feed grains. With lower maize prices setting in 2017, soybeans became relatively expensive and imports slowed. The outbreak of ASF could take a further toll on soybean feed. This is particularly so as the Government decided in October 2018 to reduce the protein requirements for pig feed by 1.5 percent and for poultry feed by 1 percent, in order to suppress domestic demand for soybeans in the wake of the United States of America-China trade tensions.

The second change is a shift in the composition of suppliers selling soybeans to China (see Figure 4). Driven

Figure 2. Hog prices: CBOT futures and China's spot prices

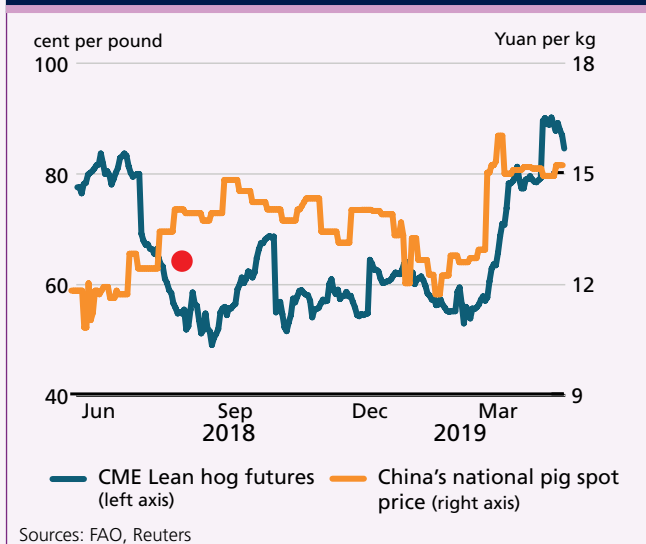
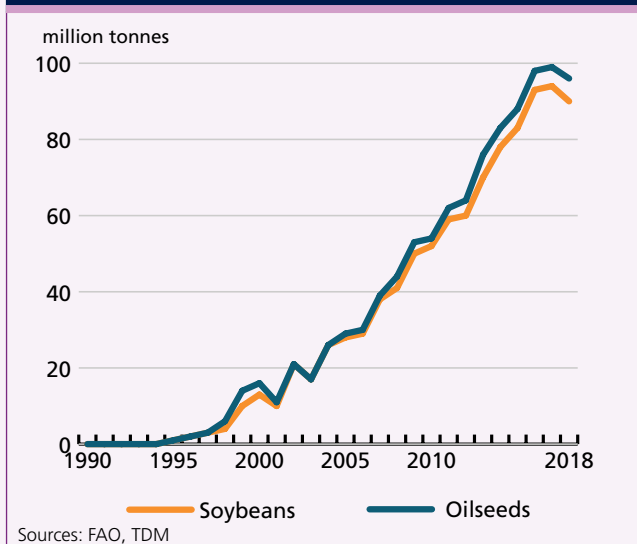


Figure 3. China's soybean imports have started to slow



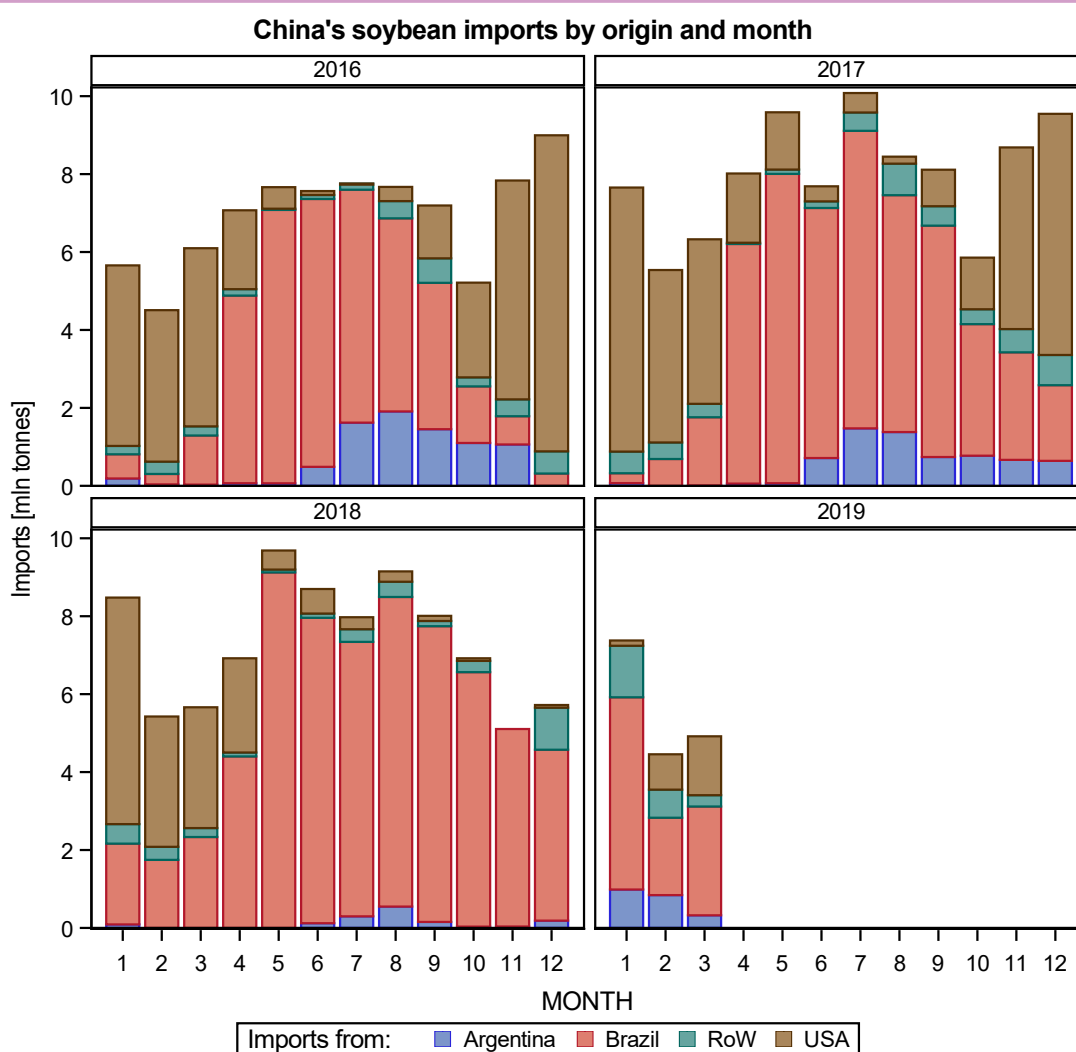
by the ongoing trade dispute with the United States of America, China has sourced a growing amount of its soybean imports from suppliers elsewhere. Its monthly imports shown in Figure 4 illustrate this shift. From November 2018 to March 2019, monthly imports declined from more than 8 million tonnes to less than 6 million tonnes. At the same time, China shifted its imports from the United States of America to Brazil and Argentina, as well as countries subsumed in the Rest-of-the-World (RoW) aggregate of Figure 4.

Whether or not that shift will continue in 2019 remains to be seen. Flows could reverse again as the trade talks between China and the United States of America advance, with United States of America soybeans potentially replacing shipments from Latin America. Against the backdrop of China's shrinking soybean market, this could result in even stiffer competition with suppliers from Latin America. Eventually, that could lead to their shipments redirected to Europe and other markets instead.

From soybeans to the broader feed market

While the decline in overall feed requirements in China may not be as pronounced as for soybeans, other feed ingredients could also see lower demand. This could affect not only feed grains but also grain substitutes such as cassava. A number of factors support this hypothesis. Firstly, there seems to be ample domestic supply of feed grains. The results of the 2017 agricultural census released by China's National Bureau of Statistics (NBS) suggest that, over the past 11 years, China has produced a cumulative volume of nearly 309 million tonnes of cereals in excess of the hitherto estimated quantities. Maize accounts for most of the additional cereal production, i.e. some 266 million tonnes. While it is estimated that about half of the additional grain has already been fed, the other half is assumed to have ended up in China's grain

Figure 4. Lower soybean imports accompanied by a shift in suppliers



Source: TDM

inventories.³ Higher maize stocks support the prospects of lower import needs, possibly producing further downward pressure on local and global feed grain prices. Secondly, given the prospect for a further significant reduction in China's pig herd still for some time to come, domestic feed availability, as measured by the size of inventories, could increase further.

The prospect of lower maize imports is supported by the marked fall in barley and sorghum imports towards the end of 2018 (see Figure 5). Lower imports of barley and sorghum could be a harbinger for the future of maize imports. Driven by a lack of domestic demand and lower maize prices, by the end of last year, barley imports had come to a complete halt, and sorghum imports had declined to a token level. As exporters of barley, farmers

³ <http://www.amis-outlook.org/amis-monitoring/monthly-report/en/#.XMGHR-gzaF4>

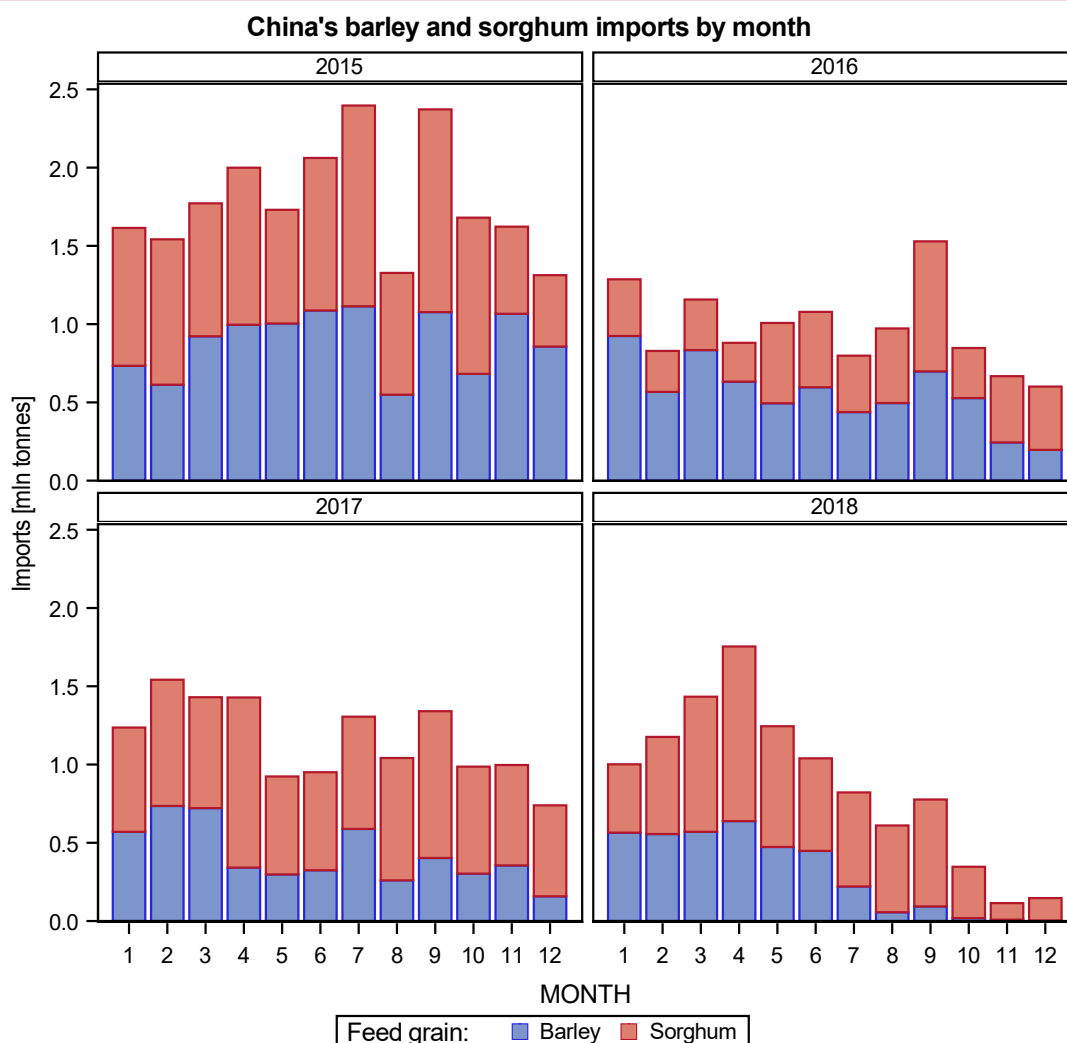
in Europe stand to lose, and the same holds for Australian producers, whereas the lower sorghum demand will mainly be felt by producers in the United States of America.

ASF starts to encroach on dairy markets

The ramification of ASF on feed markets may not be limited to the grain and oilseeds sector. Also the market for milk powders largely used for animal feed is likely to be affected. China is the world's largest importer of whey powder, nearly 60 percent of which is used as animal feed, notably to raise piglets and to provide post weaning rations rich in lactose and protein. As ASF takes a toll on China's pig inventories, it also affects the number of piglets to be fed and the required feedstuffs.

An inspection of the current trade situation suggests that the first impacts on whey powder imports are already becoming visible. Two basic changes stand out. One

Figure 5. Sorghum and barley imports had come to a halt by the end of 2018



Source: TDM

is a decline in overall imports, reflecting the slowdown in feed needs. Another is a more noticeable decline in imports from the United States of America, reflecting the additional tariffs of 25 percent on United States of America shipments as of July 2018. Both changes mirror the shifts for soybean imports, albeit the amounts at stake for whey powder are much smaller and the impacts observed so far much more muted.

ASF is spreading to other countries in East Asia

ASF is now also making inroads into other Asian countries with significant pig herds, notably Viet Nam, but also Cambodia and Mongolia (EMPRES update of 26 April). While Cambodia's and Mongolia's production levels are small by global standards, Viet Nam is the fifth largest pig meat producer worldwide (see Figure 6), exceeding, for example, the production level of Brazil in 2018.

There are also concerns that the current husbandry practices implemented in many East Asian countries fail to provide the required biosecurity standards to contain the disease: pig production is dominated by small, backyard operators, keeping their sows and hogs outside in confined production environments, feeding them with table scraps or uncooked organic refuse (swill). There is also a lack of vertical integration, which means that piglets and sows need to be transported between farms and sometimes even across regions. This is further supporting a rapid and far-reaching spread – either from the introduction of infected or ill animals or the entry of contaminated vehicles and equipment (inanimate objects known as 'fomites'). And finally, also intra-regional trade could be an important vector for the disease to spread. There is a lively exchange of all sorts of pork products within the region, including sausages, cured meats and other processed pig meat products. They may all contain the ASF virus, which is highly resistant to temperature and other treatments (salting) and can persist for months or years. This means that the chances of ASF to spread far and fast are not only high, but the disease may resurface in the region even years after the initial outbreak.

Good news for pig producers in Europe and the Americas

The unfortunate prospect facing Asian producers could bring opportunities for producers elsewhere, particularly those in Europe, the United States of America and Brazil. It is a rare combination of events that presents pig producers with higher prices, higher export volumes and lower feed prices. But the data available for the spread of ASF so

far would indicate that in Europe and the Americas pig producers may be about to enjoy precisely this situation. However, much still depends on how quickly and effectively China will be able to contain the ASF outbreak. The outbreak of ASF in Viet Nam, Cambodia and Mongolia could add to pork production shortfall in Asia, further aggravating feed grain and oil meal requirements of the entire region. Under this scenario, producers from Europe and the Americas stand to benefit the most. They are among the largest exporters of pig meat (see Figure 8) and, at the same time, the leading importers of soybeans.

Poultry exporters worldwide to benefit

While producers in Europe and the Americas could stand to gain the most in terms of pig meat markets, others are poised to benefit in the poultry market. As China may make efforts to supply consumers who normally purchase pig meat with alternative proteins, it will have to resort to other meats, notably poultry meat. The largest poultry producers are Brazil, the United States of America and Thailand (see Figure 9) as well as some EU countries. Within the EU, the Netherlands, Poland and Belgium could benefit from higher exports and higher export prices. They also stand to benefit from lower soybean prices.

Macro versus micro, sector versus farm

In most major exporting countries, farms producing pig and poultry meat are highly specialized. They buy most of their inputs from other farms or countries, and sell their produce at home or abroad. This means that – from the perspective of the individual farm – producers in Europe are unlikely to benefit more than their peers in the Americas or Thailand. Both stand to benefit from higher product prices, lower feed prices and potentially higher sales volumes. However, at a macro level, the farm sector in Europe will see greater benefits than those abroad, as there is practically no internal soybean production, and hence no burden to be borne by soybean or other protein feed producers. By contrast, in the United States of America and Brazil, the sectoral benefits will be limited to the sales side of pig and poultry meat. At the macro level, the lower input costs for meat producers will be offset by the lower revenues of crop producers.

How long will the adjustment process last and how fast will the gaps be filled?

This is no doubt the hardest question to address. Be it in China or any other country, containing the ASF outbreak requires radical changes to pig production systems and stringent adherence to farm biosecurity practices. In the case of China, a country with a sizeable share of backyard

⁴ Preliminary estimates, taken from TDM in April 2019

Figure 6. Pig meat: Top 10 producers in 2016

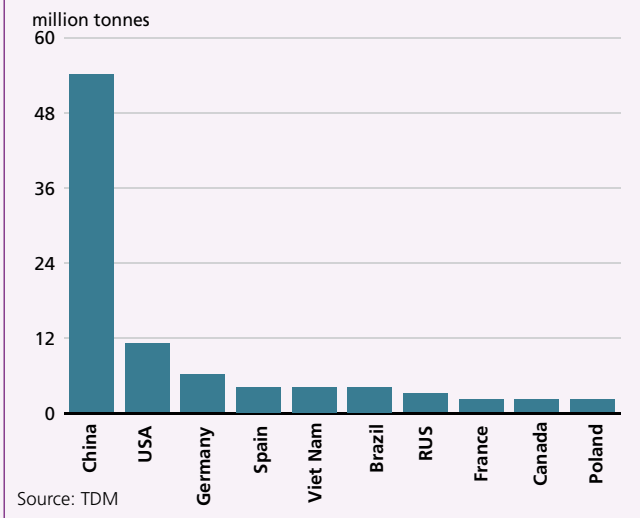
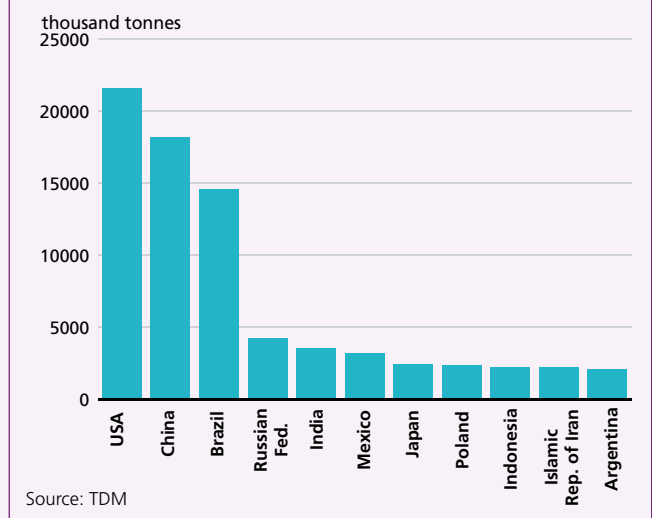


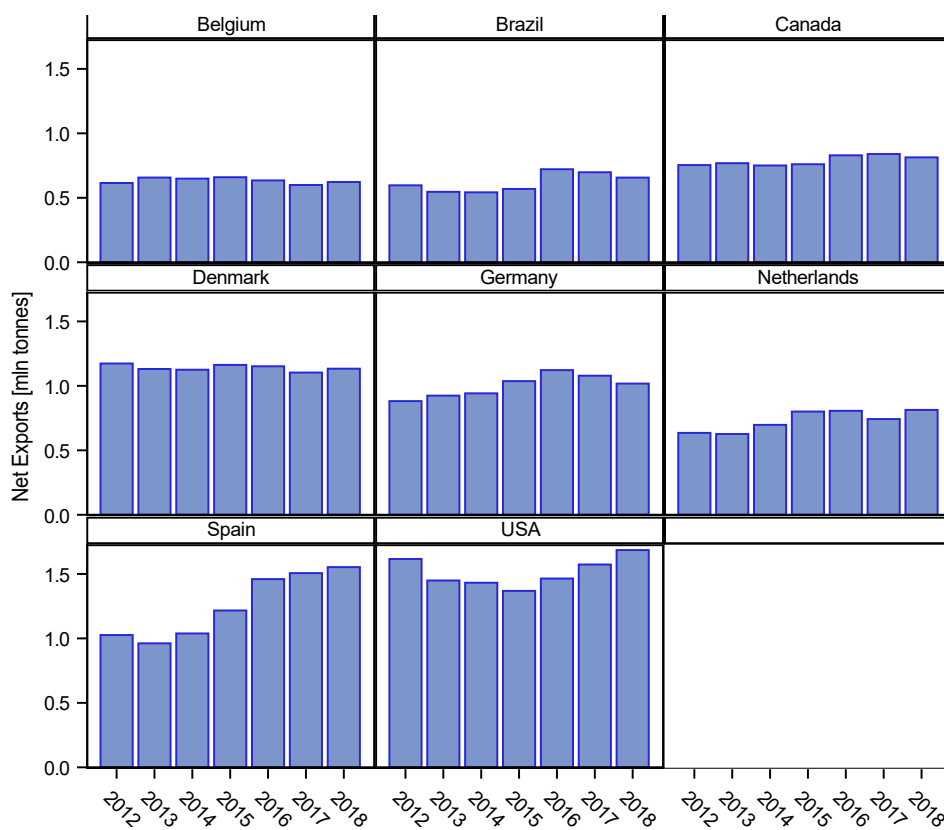
Figure 7. Poultry meat: Top 10 producers in 2016



production, such requirements may not be easily achieved in the short term. While a rapid structural change in China's pig meat sector is already evident, the outbreak of ASF may go some way to accelerate the process and that not only for livestock production but also for crops. Just how these changes will affect the future of China's agriculture, and

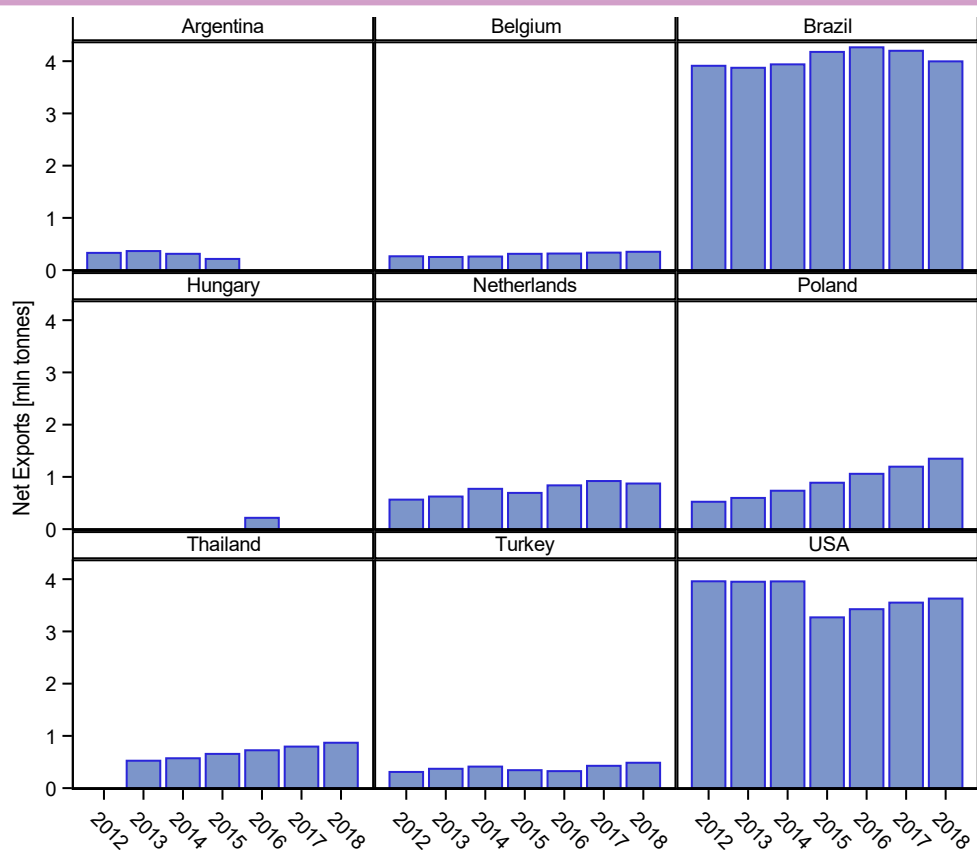
eventually farming worldwide, is likely to be the subject of intensive analysis and research in the future.

Figure 8. Top pig meat exporters (net exports over 5 000 tonnes)



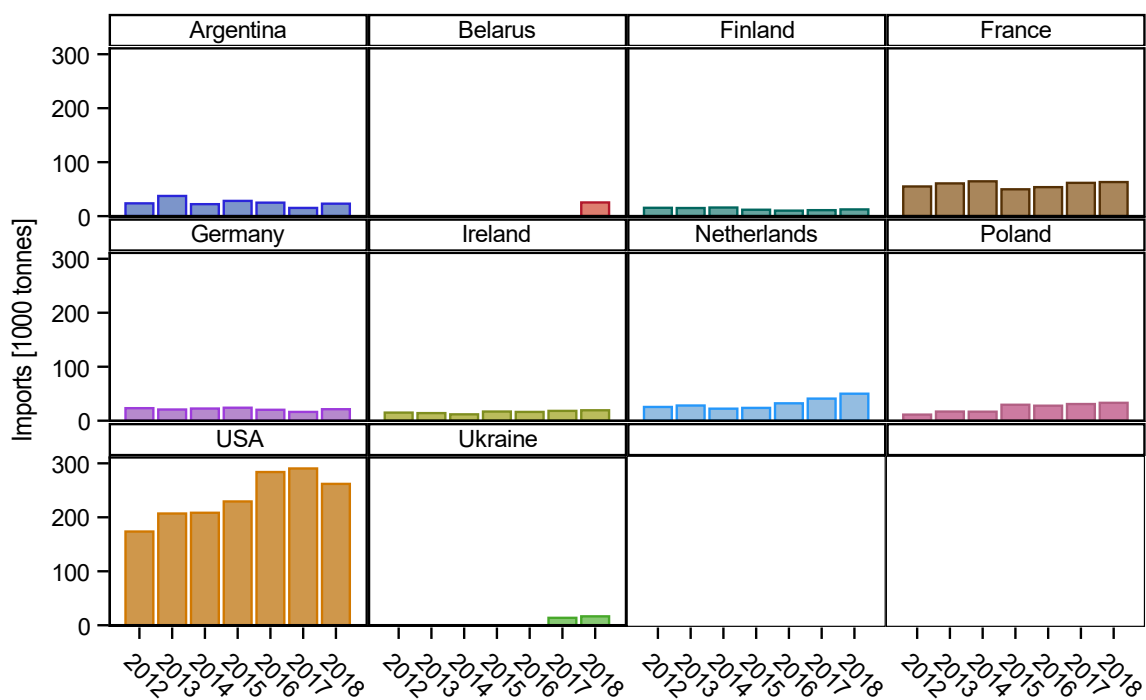
Source: TDM

Figure 9. Top poultry meat exporters (net exports over 2 000 tonnes)



Source: TDM

Figure 10. Whey powder imports by source (net imports over 10 000 tonnes)



Source: TDM

BANANAS AND MAJOR TROPICAL FRUITS IN LATIN AMERICA AND THE CARIBBEAN

The significance of the region to world supply

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This special feature represents an introductory background note to the medium-term outlook for bananas and major tropical fruits in Latin America and the Caribbean, which will be published in July 2019 in the forthcoming edition of the OECD-FAO Agricultural Outlook 2019-2028.

Latin America and the Caribbean constitutes the world's most important exporting region for bananas and the four major tropical fruits – mangoes, pineapples, avocados and papayas – thereby playing a vital role in global fruit supply. Abundantly endowed with land that features highly favourable agro-climatic conditions for the cultivation of tropical products, the region ranks as the second leading producer of bananas and tropical fruits globally, behind Asia. The most prolifically produced and traded fruits in the region in the following order are bananas, pineapples, mangoes, avocados and papayas. On average, approximately 25 percent of total global banana and major tropical fruit production originates in Latin America and the Caribbean, with an annual production volume of roughly 54 million tonnes between 2016 and 2018 (three-year average).¹ With a total combined annual per capita consumption of 55 kg of bananas and major tropical fruits, the region also ranks as one of the major consumers of these fruits globally.

More importantly, shipments of bananas and major tropical fruits from suppliers in Latin America and the Caribbean make up about 75 percent of world exports, with a total annual average volume of 25 million tonnes over the three-year period from 2016 to 2018. Of these, an estimated 80 percent are destined for developed country markets, primarily the United States of America and the European Union (EU). Estimates point to a total combined export value of around USD 11 billion for bananas and major tropical fruits from Latin America and the Caribbean

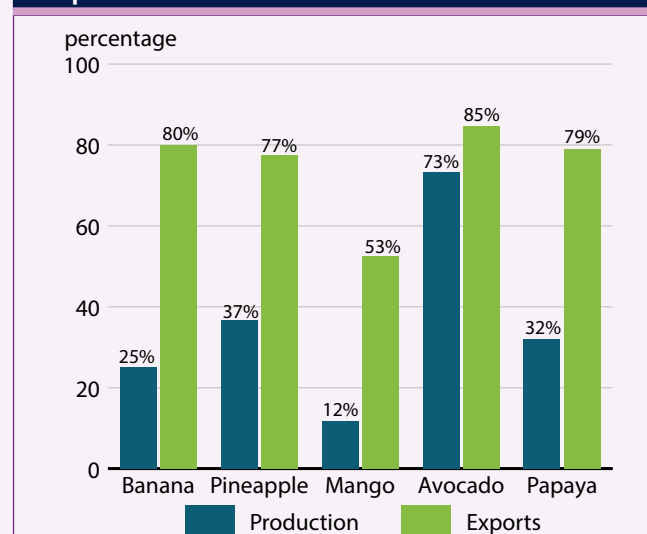
in 2016-2018, of which bananas and avocados accounted for some USD 6 billion and USD 3.5 billion, respectively.²

This article examines the key characteristics of exports of bananas and the four major tropical fruits from Latin America and the Caribbean and their role in world fruit supply, and discusses some of the obstacles and opportunities for growth in production and trade.

BANANAS AND PINEAPPLES – HIGH VOLUME MARKETS

Bananas rank as the most prolifically produced and exported fruit in Latin America and the Caribbean. Over 2016-2018, the total production volume of bananas in the region stood at an estimated 30 million tonnes per year, while total exports reached an annual average of 13 million tonnes, representing 80 percent of world banana shipments. Trade statistics reported an average export revenue of USD 5.6 billion per year for the banana industry

Figure 1. Latin America and the Caribbean volume share in total global production and exports 2016-2018



¹ All figures presented in this article refer to annual average values for the triennium 2016-2018.

² As indicated by reported export values from the region.

in Latin America and the Caribbean over the same period.

Meanwhile, pineapple production in the region stood at an estimated annual average of 9.9 million tonnes, of which around 2.3 million tonnes were exported annually. As such, Latin America and the Caribbean account for approximately three-quarters of global pineapple exports. The two leading producers of pineapples, Costa Rica and Brazil, together accounted for an average production volume of 5.3 million tonnes over the 2016-2018 period. Nearly two-thirds of pineapple supplies from Costa Rica are destined for export markets, primarily the United States of America and the EU, while Brazil's production is almost exclusively destined for the domestic market. Total reported revenue from pineapple exports from the region averaged approximately USD 850 million over 2016-2018.

Given their high production and export volumes, bananas and pineapples play an important role in the region's food security, as well as in the generation of foreign exchange earnings for the exporting nations. Furthermore, by hosting the majority of the world's leading exporting countries of bananas and pineapples, the Latin America and the Caribbean region maintains a firm position as the world's largest exporter of both products and acts as a key determinant of their global supply.

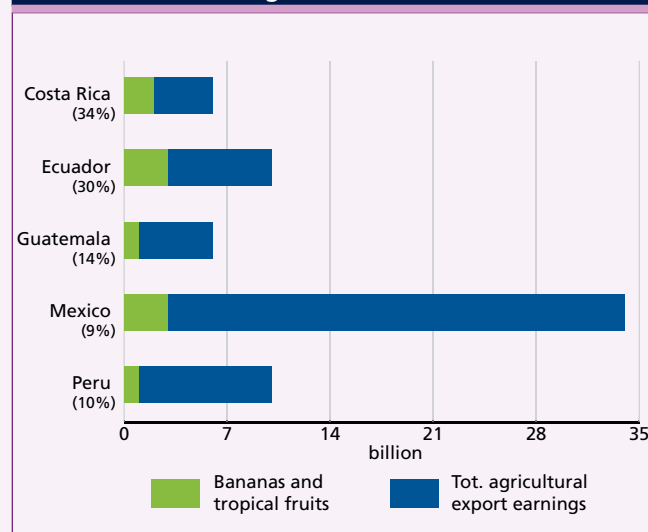
Ecuador ranks firmly as the world's largest exporter of bananas, accounting for an estimated share of 36 percent of world exports over 2016-2018. Total shipments from Ecuador reached a record high of 6.6 million tonnes in 2018, supported by favourable weather and successful investments in production expansion and yield-improving technologies. Banana supplies from Ecuador are primarily destined to the EU and the Russian Federation, which purchased, respectively, about 1.9 million tonnes and 1.5 million tonnes of Ecuadorian bananas on average between 2016 and 2018. Shipments from Ecuador to the EU continued to benefit from the scheduled tariff reductions under the EU-Andean agreements in 2018, which facilitated entries of Ecuadorian bananas into the EU market at a reduced tariff of EUR 96/tonne throughout the year, compared to the standard tariff of EUR 114/tonne. The pace of shipments to the Russian Federation, meanwhile, remained subdued by the depreciation of the Russian rouble against the US dollar, as banana transactions are typically denominated in US dollars. Another key destination of Ecuadorian bananas is the United States of America, which imported an average of 780 000 tonnes per year over the same period. Total annual revenues from banana exports in Ecuador averaged USD 2.9 billion between 2016 and 2018.

Guatemala ranked as the second leading exporter of bananas in the world between 2016 and 2018, with an

average annual export volume of 2.3 million tonnes. The country mainly focuses on the cultivation of Cavendish bananas, the predominant variety in global trade. Banana production in Guatemala benefited strongly from comparatively lower net returns for sugar cane and coffee in 2018, which led to an expansion in harvested area for the relatively more lucrative banana crops. Supplies from Guatemala are chiefly destined for the United States of America, which received on average 80 percent of its shipments between 2016 and 2018. Bananas are Guatemala's leading agricultural export product, generating an annual average revenue of USD 770 million over the period 2016-2018 and accounting for 14 percent of the value of the country's total agricultural export earnings.

Banana exports from Costa Rica averaged 2.2 million tonnes per year between 2016 and 2018, placing the country third among the world's leading suppliers of bananas, ahead of the Philippines. Approximately half of Costa Rica's banana exports go to the EU, with the United States of America ranking as the second leading destination, importing an annual average volume of 800 000 tonnes over 2016-2018. Costa Rica's total revenues from banana exports averaged USD 890 million per year over the same period. The country also ranks firmly as the world's largest producer and exporter of pineapples, with an annual average production volume of 3 million tonnes and an average export volume of 2 million tonnes between 2016 and 2018. Total reported export revenues of pineapples in Costa Rica amounted to an average of USD 715 million per year over 2016-2018. Supplies were almost exclusively destined to the United States of America and the EU, with each accounting for an equal share of approximately 45 percent of the country's total shipments.

Figure 2. Relative importance of bananas and tropical fruits in total agricultural export earnings (USD billion, average 2016-2018)



Costa Rica's total export revenues from bananas and pineapples account for about 34 percent of the country's total value of agricultural exports.

While Peru plays a comparatively small role in banana exports, supplying an average of some 200 000 tonnes per year over the 2016-2018 period, its role in world supply is nevertheless noteworthy, owing to its position as a key exporter of organic bananas. Given the higher unit values of organic bananas, Peru's revenues from banana exports amounted to an annual average of some USD 160 million over 2016-2018.

AVOCADOS, MANGOES AND PAPAYAS – INCREASING VOLUMES ON ACCOUNT OF SOARING GLOBAL DEMAND

With avocado being indigenous to the region, production of the tropical fruit in Latin America and the Caribbean accounts for roughly 70 percent of global output, which reached an annual average of 4.3 million tonnes over the 2016-2018 period. Avocado continues to be a highly demanded tropical fruit in import markets, particularly in the United States of America and the EU, where annual per capita availability in 2018 reached 3.1 kg and 1.2 kg, respectively. World import demand for avocados – largely met by supplies from Latin America and the Caribbean – increased at an estimated annual average growth rate of 14 percent between 2009 and 2018, slightly outpacing growth in supply over the same period. Total exports of avocados from Latin America and the Caribbean averaged 1.6 million tonnes per year over 2016-2018, valued at about USD 3.5 billion. The principal importer of avocados from the region is the United States of America, which procured a reported annual average of 930 000 tonnes over 2016-2018. The region also plays a significant role in supplying avocados to the EU, with shipments originating from Peru, Chile, Mexico, Colombia, Brazil and the Dominican Republic. The claimed health benefits of avocados – particularly in relation to their high content of healthy fats – coupled with their unique taste, have also spurred fast growth in demand for the fruit in burgeoning import markets, most prominently in China and Japan.

Production of mangoes in Latin America and the Caribbean reached an estimated annual average of 6 million tonnes during 2016-2018, supported by investments in yield-improving technologies and area expansion. Mexico and Brazil are by far the largest producers in the region, with average volumes of 2 million tonnes and 1.5 million tonnes per year, respectively. In both countries, production primarily caters for the domestic market, as mangoes are a popular fruit in local diets and

typically benefit from affordable domestic prices. However, in response to mounting international demand, exports from the region have experienced considerable growth over the past decade, expanding at an annual average rate of 4 percent between 2009 and 2018, though in absolute terms they remained at a relatively low level of approximately 760 000 tonnes per year over 2016-2018. Nevertheless, globally the region ranks as the largest supplier of mangoes, accounting for roughly 50 percent of annual world shipments.

World production of papayas averaged 4 million tonnes per year over the 2016-2018 period, with Brazil, Mexico and the Dominican Republic the leading countries, producing around 1 million tonnes each. In world trade, papayas have a relatively niche market, with exports averaging just 200 000 tonnes per year during 2016-2018, of which about 170 000 tonnes originated from Latin America and the Caribbean. Similar to mangoes, papayas are a widely popular fruit in the region and a staple ingredient in local diets. International trade of papayas is rendered difficult by the fruit's perishability and limited suitability for long-distance transportation. In addition, a prolonged outbreak of salmonella contamination, which has been affecting supplies from key producing areas in Mexico since mid-2017, and which resulted in large-scale rejections of shipments on phytosanitary grounds, has further hampered the international trade potential of this fruit.

Regarding world supplies of avocados, mangoes and papayas, Mexico plays a pivotal role as a leading producer and exporter, in particular as a key supplier to the United States of America – the largest import market. On average, Mexico exported annually 1 million tonnes of avocados over 2016-2018, at a value of roughly USD 2.5 billion. The country also ranks as the leading exporter of mangoes and papayas, with annual shipments averaging, respectively, 390 000 tonnes and 160 000 tonnes during the same period. Mexico's total export revenues from bananas and major tropical fruits averaged USD 3.3 billion per year over 2016-2018.

The United States of America is the largest market for major tropical fruits from Mexico, having purchased on average some 820 000 tonnes of avocados, 350 000 tonnes of mangoes and 160 000 tonnes of papayas per year from the Central American country during 2016-2018. Approximately 75 percent of domestically available avocados in the United States of America, 65 percent of mangoes and 80 percent of papayas, originate from Mexico. United States of America wholesale prices of these three fruits, which reflect the intricate supply and demand situation of each commodity, have

displayed high levels of both seasonal and supply shock-induced volatility. Shortages in supply, so far mostly caused by seasonal production fluctuations, adverse weather conditions and phytosanitary concerns, have induced rapid and significant upward price swings for all three fruits, and especially avocados.

Opportunities and challenges

In view of flourishing global demand for fruits, especially tropical varieties, there appears to be an ample opportunity for a demand-driven expansion in global trade of bananas and major tropical fruits. Trade volumes of bananas, the world's number one traded fruit, have reached high levels – leading to near saturated consumption levels in key import regions – and are accordingly expected to display only moderate growth in the medium term. Meanwhile, global production and trade of major tropical fruits are seen facing strong growth prospects, on account of rising incomes and changing consumer preferences in many domestic and import markets, as well as improvements in international transport links and freight technology.

As the world's largest exporting region, Latin America and the Caribbean is particularly well positioned to benefit from the foreseen growth in international demand for tropical fruits. The region's geographic location, not only with regard to its large share of land in the tropical belt, but also its proximity to the United States of America – the largest market for major tropical fruits – should translate into robust prospects for export-led production growth. Established industry structures and solid infrastructure, particularly in the largest exporting countries, make it comparatively easier for producers in many parts of the region to operate at economies of scale and thereby to compete strongly with other exporting regions in world markets.

On the downside, the effects of climate change and adverse, and at times highly damaging, weather conditions, loom heavily over the region's production potential, particularly in the Caribbean, where small island states are especially vulnerable to the destructive effects of increasingly frequent tropical storms. Another non-trivial threat is posed by the increasing prevalence of plant pests and diseases, with industrialized production systems as present in the cultivation of bananas and pineapples being considerably more susceptible to rapid and widespread outbreaks. In particular, the risk of the *Fusarium Wilt Tropical Race 4* fungus in banana cultivation – so far confined to plantations in Asia, the Middle East and Africa – is of worrying concern to producers in the Latin America and the Caribbean region.

Trade flows from the region are similarly susceptible to a number of obstacles, which may encumber further growth. Phytosanitary-related restrictions, trade disputes and protectionist measures represent a threat to smooth trade flows and growth potential, thereby obstructing export earnings for local producers and adequate supply in import markets. These factors threaten to fuel unnecessary price volatility, which can have damaging effects on both producers in the region and consumers in import markets. Furthermore, the effect of trade on development hinges on a fair inclusion of smallholder producers and equitable wage levels for workers employed in these industries. To highlight just two examples: some 200 000 rural families are reported to be directly involved in, and benefiting from, banana production in Guatemala, while around 80 percent of avocado production in Mexico is carried out by smallholder farmers. Ensuring remunerative prices and fair wages, improving smallholders' productivity and their bargaining power, enhancing resilience to climatic disasters and other shocks, and linking remote producing locations to markets, are critical to ensuring inclusive growth and sustainable rural development. Another important factor is the creation of an enabling environment through conducive policies and programmes in order to strengthen the positive results generated by the production and trade of bananas and major tropical fruits in the region.

MARKET POLICY DEVELOPMENTS

GRAINS: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2018 TO MID-APRIL 2019*

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Algeria	Jan-19	Grains	Import policy	Introduced a temporary additional safeguard duty to replace the import ban established in January 2018. The list of goods comprises 1 095 items, including wheat, maize and barley.
Afghanistan	Apr-19	Wheat	Trade agreement	Announced that the country will continue to import wheat and flour from Kazakhstan within the government procurement programme to ensure food security.
Argentina	Mar-19	Maize	Production support	Approved a new biotechnology variety, the Powercore Ultra Enlist, which improves pest management in the maize sector (Resolution No. 20/2019) and enhances the control of resistant weeds.
	Dec-18	Maize	Production support	Increased the price of maize-based ethanol used in blending automobile fuels. The new price increased from ARS 19.846 (USD 0.52) to ARS 20.218 (USD 0.53) per litre.
Australia	Oct-18	Wheat	Trade agreement	Signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). This market access package will be implemented among the CPTPP parties, delivering major new opportunities for Australian exporters, investors and firms engaged in international business.
	Mar-19	Wheat	Bilateral agreement	Signed a Comprehensive Economic Partnership Agreement (IA-CEPA) with Indonesia, under which that country will issue automatic import permits for duty-free access of 500 000 tonnes of feed grains, including wheat, in the first year. The tariff quota volume will be increased by 5 percent annually thereafter. IA-CEPA is expected to come into force in 2020.
Azerbaijan	Mar-19	Wheat	Government market intervention	Announced the extension, for a further two years, of the removal of value-added tax on wheat imports and sales, as well as on wheat flour and bread, first introduced on 15 January 2016.
Bolivia	Apr-19	Wheat	Procurement price	Increased the wheat procurement price from USD 320 per tonne to USD 330 per tonne. The volume of purchases was agreed at 95 000 tonnes.
Brazil	Feb-19	Wheat	Procurement price	Approved new minimum guarantee prices for all wheat grain and seed varieties for the agricultural year 2019/20. Prices were raised by 12.16 percent on average, compared with 2018/19, and will vary according to region and wheat type. In the key producing Southern region, the minimum price for bread wheat was raised to BRL 40.57 per 60 kg (USD 177.2 per tonne), up from BRL 36.17 (USD 157.8 per tonne); and prices of wheat seeds increased from BRL 1.48 per kg (USD 39 per tonne) to BRL 1.66 per kg (USD 43 per tonne).
	Mar-19	Wheat	Import quota	Announced an agreement with the United States of America to implement a duty-free tariff quota (TRQ) for wheat. The agreement allows for the importation of 750 000 tonnes of wheat under TRQ on an annual basis, which represents about 10 percent of the country's average annual wheat imports.
	Mar-19	Maize	Stocks release	Announced the sale of 300 000 million tonnes of maize from public inventories, in order to ease the effects of rising feed prices on livestock producers.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Canada	Dec-18	Grains	Trade agreement	The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) entered into force. As well as Canada, the agreement covers Australia, Japan, Mexico, New Zealand and Singapore. As the world's third largest trade agreement in GDP terms, the CPTPP includes multiple provisions covering trade, investment and intellectual property, as well as substantial improvements to market access policy (reduction or elimination of tariffs, opening of tariff quota access, etc.).
	Dec-18	Grains	Government market intervention	Announced that the fungicides Ferbam, Thiram and Ziram can no longer be used in any commercial seed treatment of wheat, barley, oats, canola, mustard, rapeseed, rye, triticale or maize.
	Mar-19	Wheat	Production support	Announced an investment of up to CAD 6.2 million (USD 4.6 million) funded through the Agri-Marketing Programme to assist the Canadian International Grains Institute in expanding market access opportunities for wheat through technical support, market research, employee exchanges and customized training for customers and commercial partners worldwide.
	Mar-19	Maize	Production support	Improved a maize production insurance plan under the Canadian Agricultural Partnership to help maize farmers impacted by plant disease. Increased the maximum loan limit from USD 120 million to USD 200 million for 2019 and 2020.
Chile	Dec-18	Wheat	Import tariff	Established new applicable discounts on customs duties for wheat, and wheat or meslin flour, for a two-month period, starting on 16 December 2018. The new applicable discounts increased from USD 87.23 to USD 91.69 per tonne of wheat, and from USD 136.07 to USD 143.04 per tonne of wheat or meslin flour.
	Feb-19	Wheat	Import tariff	Increased new applicable discounts on customs duties for wheat from USD 91.69 to USD 117.45 per tonne, and for wheat or meslin flour from USD 143.04 to USD 183.22 per tonne. These discounts will apply for a two-month period, starting on 16 February 2019.
China (Mainland)	Nov-18	Wheat	Procurement price	Lowered the minimum purchasing price for wheat in 2019 to CNY 112 per 50 kg (USD 322.2 per tonne).
	Nov-18	Barley and maize	Import policy	Approved imports of barley and maize from Kazakhstan, in a move aimed at diversifying the country's sources of grain shipments.
	Nov-18	Barley		Launched an investigation into the pricing of Australian barley, which will cover pricing by a number of companies from at least October 2017 to September 2018.
	Dec-18	Wheat	Export quota	Announced the allotted export quota for milled grain to the territories of Hong Kong and Macao for the year 2019. The total quota is 147 379 tonnes, a decrease of 4.1 percent from the previous year.
	Jan-19	Maize	GMO policy	Announced the approval of five genetically modified (GM) crop varieties for import, including one maize and two soybean varieties.
	Feb-19	Barley and maize	Import policy	Approved imports of barley and maize from Uruguay.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
China (Mainland)	Feb-19	Maize	Government market intervention	Published the No.1 Central Document of 2019, a policy statement that included a commitment to deepen agricultural supply-side structural reforms. Further efforts will be made to reduce maize inventories.
	Mar-19	Maize	Government procurement	Raised subsidy payments for maize growers to CNY 100 per mu (USD 223 per hectare (ha)), up by more than USD 120 per ha from 2018 payment levels.
	Mar-19	Maize	Production support	Announced intention to procure 300 000 tonnes of maize in Heilongjiang province for provincial holdings, with a minimum price of CNY 1 600 (USD 239) per tonne.
Ethiopia	Dec-18	Wheat	Production support	Announced a national self-sufficiency plan for wheat production by 2022; introducing mechanized farming and helping smallholder farmers engage in irrigation agriculture.
Ghana	Apr-19	Grains	Import duty	Reduced the benchmark values for all imports by 50 percent, in order to make ports competitive in the West African subregion.
Haiti	Mar-19	Wheat	Import tariff	Increased the applied tariff on wheat flour to 15 percent, in order to promote domestic products.
India	Dec-18	Wheat	Export policy	Approved a new Agriculture Export Policy, which removes all export restrictions on organic and processed food. Export restrictions on major agricultural products, such as rice and wheat, would be reviewed periodically on a case-to-case basis, depending on the price-supply situation.
	Feb-19	Wheat	Government procurement	Fixed the wheat procurement target at 35.7 million tonnes for the 2019/20 marketing year, starting in April.
	Mar-19	Maize	Government market intervention	Announced a Transport and Marketing Assistance Scheme applicable for certain agricultural products, including maize products, from 1 March 2019 to 21 March 2020. The scheme assists exporters through direct bank transfers by reimbursing freight costs and promoting the marketing of agricultural produce worldwide.
	Mar-19	Wheat	Government procurement	Set a target to purchase 130 lakh tonnes of wheat, starting 1 April 2019, through the Cash Credit Limit (CCL) of INR 19 240 crore. The CCL release would facilitate the state government in making timely payments to farmers against purchases of wheat.
	Apr-19	Maize	Import duty	Allowed the import of feed grade maize at a concessional import duty of 15 percent, down from the current 60 percent, in order to address the shortage of poultry feed in the country.
Indonesia	Jan-19	Wheat	Import policy	Resolved to reject wheat imports containing live pests, effective from 1 January 2019, with the Indonesian Quarantine Agency announcing that all cargoes will undergo heat treatment at origin.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Iran	Feb-19	Wheat	Trade agreement	Signed a multi-year wheat supply agreement with the Russian Federation and Kazakhstan, with no fixed ending date, and agreement in jointly exporting grain volumes to third countries. Iran's current import tariff for wheat stands at 30 percent.
	Apr-19	Grains	Government support	Approved the release of USD 2 billion from development fund for flood damages. Khuzestan province was severely hit, destroying 200 000 ha of agricultural land, during the wheat harvest.
	Apr-19	Wheat	Procurement price	Announced guaranteed prices to purchase wheat from farmers from the 2019 harvest. The procurement price for wheat was set at IRR 17 000 per kg (USD 405 per tonne), up from 13 000 per kg (USD 310 per tonne) in 2018. The durum wheat price was set at IRR 17 700 per kg (USD 420 per tonne).
Japan	Dec-18	Wheat	Trade agreement	Arranged for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) to enter into force.
Kazakhstan	Mar-19	Wheat	Government market intervention	Proposed new amendments for crop insurance legislation. Obligatory crop insurance will change to voluntary with subsidized premiums as the existing insurance mechanism did not help to manage risks and in 2018, only 43 percent of area was covered with insurance.
	Nov-18	Maize	Government procurement	Announced the new purchasing price of maize, which was set at KES 2 300 for a 90 kg bag (USD 253.1 per tonne).
Kenya	Jan-19	Maize	Government procurement	Announced the procurement of 2 million 90 kg maize bags from farmers at a price of KES 2 500 (USD 275.1 per tonne).
	Mar-19	Maize	Stocks release	Released 5 222 bags of maize out of the 3.5 million bags currently held as the Strategic Good Reserve, for distribution across drought-stricken counties of Turkana, Baringo and Isiolo.
	Dec-18	Wheat	Trade agreement	Arranged for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) to enter into force.
Mexico	Dec-18	Wheat	Trade agreement	Arranged for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) to enter into force.
	Jan-19	Grains	Production support	Announced a new support programme, called <i>Producción para el Bienestar</i> , which will replace the previous <i>Proagro Productivo</i> programme. The new support programme, of USD 474 million, aims to increase domestic grain production by directly supporting small- and medium-scale grain producers of maize, bread wheat and other products.
	Jan-19	Maize and wheat	Procurement price	Introduced guaranteed prices as part of a drive to achieve food self-sufficiency. The guaranteed price for maize is set at MXN 5 610 (USD 292.2) per tonne for a maximum of 20 tonnes, while for wheat it is set at MXN 5 790 (USD 301.6) per tonne for a maximum of 100 tonnes.
Morocco	Dec-18	Wheat	Import duty	Announced it will maintain the suspension on import duties for soft wheat, first introduced in mid-October 2018, for an additional four months until 30 April 2019.
Nicaragua	Feb-19	Maize and wheat	Government market intervention	Approved new tax reform in which value-added tax will be applied to a significant number of basic consumer goods. Staple foods, including maize and wheat, will remain exempt.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Pakistan	Nov-18	Wheat	Procurement price	The Sindh Government fixed the wheat procurement price of PKR 3 250 per 100 kg (USD 229.2 per tonne) for polypropylene bag and PKR 3 315 (USD 233.8 per tonne) for jute bags.
	Nov-18	Wheat	Export policy	Approved export of 500 000 tonnes of wheat at a subsidized rate of USD 105 per tonne.
	Mar-19	Wheat	Procurement price	Set the wheat support price at PKR 1 300 per 40 kg (USD 229.5 per tonne) for procurement from farmers.
	Apr-19	Wheat	Government procurement	Established 18 wheat procurement centres in Rawalpindi division in order to procure 50 000 wheat bags, and started receiving applications for issuance of Bardana (gunny bags) to farmers.
	Dec-18	Wheat	Import ban	Introduced a ban on import of wheat and other goods from Ukraine.
Russian Fed.	Jan-19	Grains	Government market intervention	Requested the submission of weekly port data on actual and planned grain handling volumes, with the measure expected to be in place until 5 January 2020.
	Feb-19	Wheat	Government market intervention	Announced that a new trade body has been set up to coordinate information sharing between the State and private wheat sellers. The aim of the body is to better understand general market trends and demands, in order to represent the interests of the main exporters.
	Apr-19	Wheat	Trade agreement	Signed a memorandum of mutual understanding with Venezuela in the field of agricultural purchases.
	Apr-19	Barley and wheat	Government market intervention	Revised a ban on domestic production of wheat that had been in place for three years, over concerns for the depletion of groundwater.
Saudi Arabia	Apr-19	Wheat	Government market intervention	Announced the acquisition of 200 000 ha of farmland in Western Australia's wheat belt.
	Nov-18	Grains	Government support	Approved, through the European Investment Bank, a EUR 100 million (USD 114.5 million) credit line, which will support investments carried out by Spanish small- and medium-sized enterprises, mid-cap companies and self-employed persons in the agricultural sector and related value chains.
Syria	Apr-19	Wheat		Issued a decree establishing a grain company that will replace the state silos, mills and grain buyer Hoboob. The company will be responsible for trade, storage and processing grain to cover local consumption and export surplus, and will be located in the northeastern city of Hasaka.
Sudan	Apr-19	Wheat	Government procurement	Announced the receipt of 2 million sacks of wheat from farmers in the Gezira Scheme, including 1 162 000 sacks as surplus production.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Thailand	Dec-18	Grains	Import policy	Agreed on a phytosanitary agreement facilitating grain imports from the Russian Federation.
	Jan-19	Maize	Import requirements	Stopped importing distillers' dried grains from the US due to new sanitary regulations, which require that all incoming shipments be fumigated with methyl bromide.
	Jan-19	Grains	Import quota	Issued new import quotas for 1 million tonnes of wheat, 700 000 tonnes of barley and 700 000 tonnes of maize on a tariff-free basis.
Turkmenistan	Nov-18	Wheat	Procurement price	Announced new purchasing prices for the 2019 wheat crop, which was set at TMT 800 (USD 222) per tonne. The price was increased by 100 percent from its level a year earlier, with the aim of boosting domestic production.
Ukraine	Nov-18	Grains	Transport measures	National railway operator (Ukrzalyznytysya) imposed temporary restrictions, lasting from 20 to 22/23 November, on grain shipments to the Black Sea ports of Odessa and Mykolaiv.
United States of America	Dec-18	Grains	Import tariff	Announced an agreement to maintain import tariffs on USD 200 billion worth of Chinese goods at the 10 percent rate, as of 1 January 2019 (instead of planned increase to 25 percent).
	Dec-18	Grains	Government support	Signed the Agriculture Improvement Act of 2018 (2018 Farm Act) into law. The USD 867 billion farm bill will remain in place for five years, funding food and nutrition, conservation, crop insurance and commodity programmes.
	Feb-19	Grains	Import tariff	Delayed the scheduled 1 March 2019 increase in tariffs on USD 200 billion worth of goods from China from 10 percent to 25 percent.
Viet Nam	Jan-19	Grains	Trade agreement	Arranged for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) to enter into force. Wheat from Canada will benefit from tariff-free entry into the country.
	Apr-19	Wheat	Import requirements	Announced the ban of all herbicides containing glyphosate. Grains containing glyphosate will not be imported into the country.
Zambia	Nov-18	Maize	Export policy	Imposed temporarily restrictive measures on the export of maize grain and maize meal products. These restrictions aim to allow management of the national strategic stock, so as to secure the country's procurement target of 500 000 tonnes of maize.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Zimbabwe	Dec-18	Wheat	Procurement price	Approved a 26 percent increase in the procurement price for the 2018 wheat crop, now pegged at USD 630 per tonne.
	Apr-19	Wheat	Government procurement	Reduced its wheat target by 60 000 tonnes to at least 90 000 tonnes, due to the country's depleted dam levels caused by this year's El Nino-induced drought.
	Apr-19	Maize and wheat	Procurement price	Revised the producer prices of maize and wheat, which are now set at RTGS 726 per tonne and RTGS 1 089.7 per tonne, respectively. The Government also announced that the 38.5 percent subsidy on the selling price to millers will be maintained.
	Apr-19	Wheat	Government market intervention	Announced a plan to set up contract farming as a substitute for wheat imports, which have been hampered by recurrent foreign currency shortages.

* A collection of major grain policy developments starting in July 2010 is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/?groupANDcommodity=grains>

RICE: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2018 TO MID-APRIL 2019*

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Bangladesh	Nov-18	Government procurement, purchasing prices	Announced that it would purchase 600 000 tonnes of parboiled rice from the 2018 Aman harvest, between 1 December 2018 and 28 February 2019. Procurement prices under the drive were set at BDT 36 per kg (USD 422 per tonne), 10 percent less than prices offered for Aman rice the previous season. A successive decision raised the Aman procurement target to 800 000 tonnes, and extended the duration of the drive to 7 March 2019.
	Mar-19	Production support	Announced that some 460 000 farmers cultivating Aus rice on 61 000 hectares (ha) during the 2019 season would be provided with seeds and fertilizers, free of cost.
	Mar-19	Government procurement, purchasing prices	Decided that it would purchase 150 000 tonnes of paddy, 1.0 million tonnes of parboiled rice, and 150 000 tonnes of white rice from the 2019 Boro harvest. The supplies would be procured between 25 April and 31 August 2019, at BDT 26 per kg in the case of paddy (USD 305 per tonne), BDT 36 per kg for parboiled rice (USD 422 per tonne), and BDT 35 per kg for white rice (USD 411 per tonne).
Bolivia	Mar-19	Government procurement, purchasing prices	Announced that the state enterprise EMAPA would offer USD 60 per 176.6 kg fanega (USD 340 per tonne) of paddy it bought in 2019. EMAPA has set a target of purchasing 50 000 tonnes of paddy from the 2019 harvest.
Brazil	Feb-19	Production support	Announced that a fund of BRL 500 (USD 129) million would be availed through the Banco do Brasil, at an 8.5 percent annual interest rate, to assist rice producers in storing and marketing their crops.
Cambodia	Jan-19	Tax policy	Approved a five-year exemption on prepayments of tax on profit for entities engaged in the production, supply or export of rice, paddy and other agricultural products, effective from January 2019.
	Mar-19	Export promotion	Outlined a series of economic reforms, including steps geared towards reducing export costs and enhancing the competitiveness of Cambodian goods abroad. Among others, such measures comprised a late January decision to halve container-scanning fees to USD 16 for 40-foot containers, and to USD 10 for smaller ones as of 1 April 2019, cuts to electricity charges levied on the industrial sector, as well as institutional reforms reducing customs clearance costs and port service fees.
China (Mainland)	Oct-18	Import quota	Decided to keep the 2019 tariff rate import quota for rice unchanged at 5.32 million tonnes.
	Feb-19	Support prices	Announced that government procurement prices for paddy would remain unchanged during the 2019 season at CNY 120 per 50 kg (USD 358 per tonne) in the case of early Indica paddy, CNY 126 per 50 kg (USD 376 per tonne) for late/intermediate Indica paddy, and CNY 130 per 50 kg (USD 388 per tonne) in the case of Japonica paddy.
Colombia	Nov-18	Production support, warehouse receipts programme, trade agreement	Announced that, in a bid to support the rice sector, the storage incentive programme for 2018 second semester crops would be extended by three months to 31 March 2019. Additional measures would include making funds available to support the construction of irrigation, drying and storage facilities, as well as credit assistance, monitoring prices of imported rice, and referring the sector's request to revisit trade commitments under the Andean Community to the High Council of External Trade.
	Jan-19	Production support, production adjustment programme	Approved a rice production organization plan (<i>Plan de ordenamiento productivo para el arroz</i>), with the aim of assisting the sector in coping with oversupply and marketing problems by planning plantings and keeping area under paddy at a maximum of 478 000 ha in 2019. Producers participating in the initiative would be eligible for three special credit lines to help them cover the costs of planting, machinery, infrastructure and productivity improvements. Further interventions envisaged by the plan include technical assistance, debt relief measures, and the continuation of marketing assistance outlays.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Egypt	Mar-19	Cultivation limits	Announced that it would raise the area limit on rice cultivation from 824 000 feddans (346 000 ha) in 2018 to 1.07 million feddans (452 000 ha) in 2019, in an effort to lower the country's import bill and stabilize local quotations. The additional area would be cultivated with water-conserving and salt-tolerant varieties.
	Mar-19	Finance and credit facilities	Rescinded orders requiring upfront cash payment for imports of rice, lentils and fava beans, effective from 6 May 2019 until 15 March 2020. The measure will allow traders of these commodities to obtain letters of credit, without having to deposit the commodities' full import value in foreign currency.
European Union	Jan-19	Safeguard measures	Imposed safeguard measures on selected classes of semi/wholly milled rice (CN codes 10063027, 10063048, 10063067 and 10063098) imported from Cambodia and Myanmar, which had hitherto enjoyed duty- and quota-free access to the EU market under the Everything-But-Arms (EBA) agreement. The decision reinstated a temporary import tariff of EUR 175 (USD 198) per tonne on these classes, effective from 18 January 2019. This rate would be reduced in equal instalments over a three-year period until it reached EUR 125 (USD 141) per tonne, but would not be applied to supplies en route to the EU at the time of the decision's entry into force. Moreover, the import tariff would be adjusted downwards, in the event that the European Commission decides to lower Common Customs Tariffs on semi/wholly milled rice.
	Feb-19	Preferential trade arrangement	Launched a procedure that could result in the temporary withdrawal of trade concessions granted to Cambodia under the Everything-But-Arms (EBA) agreement in 18-months' time. The measure stems from its concerns over human and labour rights in that country.
	Mar-19	Import tariff	Raised tariffs on non-basmati husked rice imported outside of existing trade agreements, given that total imports of these classes during the first half of the 2018/19 marketing year (September-August) exceeded the 258 565-tonne threshold that triggers a higher import duty. Accordingly, import tariffs on these classes of rice would pass from EUR 30 (USD 34) to EUR 65 (USD 73) per tonne, effective from 8 March 2019.
Haiti	Feb-19	Import policy	Announced that it would waive turnover taxes (<i>taxe sur le chiffre d'affaires</i>) on 60 000 tonnes of rice imports, in an effort to reduce local rice prices.
India	Nov-18	Export subsidy	Extended a 5 percent duty credit scrip on the value of exports of non-basmati husked, milled and broken rice, under the Merchandise Exports from India Scheme. The measure was effective from 26 November 2018 until 25 March 2019.
Iraq	Dec-18	Import agreement	Renewed a memorandum of understanding with the United States of America (USA) on the purchase of US rice for its public distribution system until 2021, according to industry reports.
Liberia	Oct-18	Import tariff	Decided that imports of semi/wholly milled and broken rice would remain exempt from import duties, with immediate effect.
Madagascar	Mar-19	Self-sufficiency policy	Announced that it would seek to raise cultivated areas in order to achieve self-sufficiency in food. For the purpose, it had identified 100 000 ha of land to put under rice cultivation, which with development and improved seed usage could facilitate a 500 000-tonne increase in rice production by 2024.
Malaysia	Nov-18	Production support	Announced that assistance provided to rice producers under the Paddy Price Subsidy Scheme would be raised from MYR 300 (USD 73) to MYR 360 (USD 87) per tonne.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Mali	Mar-19	Customs valuation	Decided to lower the customs tax base for 100 percent broken rice from XOF 200 000 (USD 344) to XOF 100 000 (USD 172) per tonne. The measure will be effective from 7 March 2019 to September 2019, and is geared towards lowering the retail price of broken rice to XOF 350 (USD 0.60) per kg until 31 December 2019.
Mexico	Jan-19	Production support, support prices	Launched the Guarantee Prices for Basic Foodstuffs Programme (<i>Programa precios de garantía a productos alimentarios básicos</i>), to sustain 2 million small-scale farmers producing five basic foodstuffs, including rice, through guaranteed prices and state purchases from the local market. The programme will be administered by a newly established state entity SEGALMEX (<i>Seguridad Alimentaria Mexicana</i>), which, among other duties, will be tasked with coordinating imports in the event of supply shortfalls. In the case of rice, rather than engaging in direct purchases from farmers, SEGALMEX will pay producers the difference between the guaranteed price and those they received from millers. For the 2018/19 autumn-winter and 2019/20 spring-summer crop cycles, the guaranteed price for paddy was set at MXN 6 120 (USD 326) per tonne, for a maximum of 120 tonnes per producer.
	Jan-19	Production support	Issued operational guidelines for the Production for Well-being Programme (<i>Programa producción para el bienestar</i>), which aims to boost local production of cereals and beans and reduce reliance on imports. The scheme will provide direct outlays to small and medium-scale producers of beans and cereals, including rice, previously eligible for assistance under the <i>Proagro Productivo</i> and PIMAF programmes. Payments under the programme were set at MXN 1 600 (USD 85) per ha for small-scale farmers cultivating up to 5 ha under rainfed conditions, or up to 0.2 ha under irrigation, and at MXN 1 000 (USD 53) per ha for medium-scale farmers cultivating between 5 and 20 ha under rainfed conditions, or 0.2 to 5 ha under irrigation.
	Oct-18	Price controls	Approved guidelines for Suggested Retail Prices (SRP) of rice. In addition to setting out labelling requirements, the document sets the SRP for locally produced regular milled rice at PHP 39 (USD 0.75) per kg, at PHP 44 (USD 0.85) per kg of local well-milled rice, and at PHP 47 (USD 0.91) per kg of local premium rice. In the case of imported supplies, SRPs of PHP 39, 40 and 43 (USD 0.75, 0.77 and 0.83) would apply per kg of well-milled, PG2 premium and PG1 premium rice, respectively. Specialty rice (including glutinous, aromatic, pigmented, japonica and organic rice) would be exempted from the SRPs, independent of its origin. The measure entered into force on 27 October 2018, initially covering Metro Manila and Greater Manila.
Philippines	Oct-18 to Nov-18	Import quota	Amended the delivery deadline of rice imports conducted under 2017/18 MAV quotas multiple times. These were last set at 31 December 2018 for the 133 500 tonne portion destined to stabilize prices in Zamboanga, Basilan, Sulu and Tawi-Tawi, and to 15 October 2018, but no later than 28 February 2019, for the second phase of MAV shipments.
	Feb-19	Import quota, import tariff, export restrictions, government procurement, stock-production support, stock-holding policy	Signed Republic Act 11203 into law, replacing quantitative restrictions on rice imports with tariffs, among other measures. The law reverts Minimum Access Volumes (MAV) import commitments under the World Trade Organization (WTO) to their 2012 level of 350 000 tonnes, with in-quota and out-of-quota tariffs on rice originated in Association of Southeast Asian Nations (ASEAN) members set at 35 percent, while 40 percent and 180 percent rates are to apply for in-quota and out-of-quota imports from non-ASEAN members, respectively. MAV import quotas are to be administered with the least government intervention, based on requirements of geographical areas and without entailing any costs to importers or end users of the product. While the law allows for the instatement of safeguard measures on rice imports to protect the local industry from sudden or extreme price fluctuations, the President is empowered to adjust import duties up to WTO and ASEAN Trade in Goods Agreement (ATIGA) bound rates, or to lower them for a limited period and volume, when Congress is not in session. The Act migrates the food safety regulatory functions previously entrusted to the National Food Authority (NFA) to the Bureau of Plant Industry, while the NFA is tasked with maintaining sufficient rice buffer stocks, to be sourced solely from local farmers. Furthermore, all quantitative restrictions on rice exports are repealed, while a Rice Competitiveness Enhancement Fund (RCEF), consisting of PHP 10 billion (USD 193.4 million) accrued from tariffs per year, is established for 6 years to finance interventions in favour of local rice producers, in particular those farmers adversely affected by tariffification. Half of RCEF funds will go to financing interventions geared towards enhancing use of equipment/mechanization, 30 percent to develop, propagate and promote seeds, 10 percent to bolster credit support, and 10 percent to enhance extension services, training and knowledge/technology transfer. A Rice Industry Roadmap is also to be formulated, to outline the Government's support delivery to the local rice sector. The Act's Implementing Rules and Regulations are to be issued in 45 days' time, while the Act itself became effective on 5 March 2019.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Philippines	Apr-19	Import quota, import tariff, government procurement, production support, stock-holding policy	Issued the Implementing Rules and Regulations (IRR) of Republic Act 11203, which liberalized rice imports, among other measures. Effective 5 March 2019, the IRR repeals the regulatory powers previously held by the NFA, including those related to the licensing, registration and supervision of structures or entities engaged in production, marketing, transport, storage or processing of rice and other grains, as well as the issuance of rules and regulations regarding their trade. The NFA Council is tasked with devising and disseminating the rules and regulations that will govern the NFA's acquisition, maintenance and release of rice buffer stocks, no later than 31 December 2019. Until then, 15-30 days' worth of national rice consumption are to be considered the optimal level of rice reserves to be maintained, which the agency is to source solely from local purchases. As stipulated by the Republic Act 11203, the NFA's food safety regulatory functions are also to be migrated to the Bureau of Plant Industry, while the IRR grants the NFA 60 days to restructure so as to perform its new functions. MAV imports are to be allocated based on auctions, governed by guidelines issued by the MAV Management Committee, and implemented by the Bureau of the Treasury and the Land Bank of the Philippines. Among other stipulations, the IRR tasks PhilMech, PhilRice, the Land Bank of the Philippines, the Development Bank of the Philippines, the Agricultural Training Institute and the Technical Education and Skills Development Authority with formulating implementing guidelines for the interventions envisaged through the Rice Competitiveness Enhancement Fund in 60 days' time. On the other hand, the Department of Agriculture is to take a lead in formulating the Rice Industry Roadmap, which with a host of other state entities and sector representatives, is to be adopted no later than 5 September 2019.
Sierra Leone	Dec-18	Production support	As part of its budgetary allocations, announced that it would destine SLL 294.1 billion (USD 32.3 million) to assist local production of rice and other basic foodstuffs, so as to reduce dependence on imports. Specific interventions would include the provision of improved seeds and fertilizers, development of irrigation infrastructure, agricultural research, the rehabilitation of inland valley swamps, and promotion of mechanization through the acquisition and enhanced maintenance of tractors.
Sri Lanka	Feb-19	Price controls	Announced that it planned to set maximum retail prices for Samba rice at LKR 85 (USD 0.49) per kg and at LKR 80 (USD 0.46) per kg of Nadu rice, effective 1 April 2019.
	Feb-19	Government procurement	Approved a budget of LKR 5.0 billion (USD 28.6 million) to purchase paddy from the 2019 Maha harvest. Under the procurement drive, the Paddy Marketing Board will offer farmers LKR 41 per kg of Samba purchased (USD 235 per tonne), or LKR 38 per kg (USD 217 per tonne) in the case of Nadu paddy.
	Feb-19	Production support, finance and credit facilities	Approved a relief package for small- and medium-scale rice millers facing financial constraints. The initiative would entail allocating LKR 1.0 billion (USD 5.7 million) to provide interest free loans to small and medium-scale processors through District Co-operative Societies, to enable them to purchase and mill paddy. Millers participating in the scheme would have agreed to buy supplies from farmers at government purchase prices of LKR 38-41 per kg (USD 217-235 per tonne).
	Mar-19	Government procurement	Announced that government purchase prices for the 2019 Yala procurement drive would be raised from LKR 41 to LKR 43 per kg in the case of Samba varieties (USD 235 to 246 per tonne), and from LKR 38 to LKR 41 per kg (USD 217 to 235 per tonne) for Nadu paddy.
Thailand	Feb-19	Production support	Approved a budget of THB 1.74 billion (USD 55 million) to extend a crop insurance scheme for paddy into the 2019 season. Under the programme, the Government would aim to bring 30.0 million rai (4.8 million ha) of paddies under insurance against six types of natural disasters, subsidizing 60 percent of insurance premiums. The scheme will be implemented from 1 April 2019.
Turkey	Nov-18	Government procurement	Raised government purchasing prices for Osmaniçk varieties (with a milling yield of 60 percent) to TRY 2 600 (USD 449) per tonne, up from a TRY 1 675 (USD 289) per tonne level last set in October 2016.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Uruguay	Oct-18	Production support, finance and credit facilities	Announced that a USD 2.0 million credit guarantee line would be availed to support micro-, small- and medium-scale rice farmers with productive activities.
	Mar-19	Production support, tax policy	Approved a one-year extension to the refund on value-added taxes on fuel that had been approved for producers of rice, milk, flowers, fruits, honey and vegetables not liable to income taxes on commercial activities in February 2018. Accordingly, the refund will be effective until 1 March 2020.
Venezuela	Nov-18	Price controls	Set the consumer price for Type I rice at VES 212 per kg, effective from 30 November 2018.
	Feb-19	Support prices, price controls	Set the producer price ceiling for wet paddy harvested between February 2019 and April 2019 (<i>zaifra norte-verano</i>) at VES 462.69 per kg.
Viet Nam	Feb-19	Government procurement	Gave approval to the General Department of State Reserves to purchase 200 000 tonnes of rice and 80 000 tonnes of paddy from the 2019 winter-spring harvest. An additional 100 000 tonnes would also be jointly purchased by the Ministry of Agriculture and Rural Development and the Ministry of Finance. The measures are aimed at sustaining producer prices, which had been weighed down by new crop arrivals and reduced export demand.
	Feb-19	Import quota	Renewed a bilateral trade agreement with Cambodia granting a 300 000 tonne annual duty-free import quota for Cambodian rice, effective for 2019 and 2020.
	Mar-19	Production support, credit	Instructed branches of the State Bank of Vietnam in the Mekong Delta, as well as commercial banks, to facilitate capital and expedite loan disbursements to entities purchasing, storing or exporting rice from the 2019 winter-spring harvest. In order to further assist rice purchases at harvest time, state-owned commercial banks would also lower annual interest rates of short-term loans to 6 percent.

* The full collection starting in January 2011 is available at: http://www.fao.org/economic/est/commodities/commodity_policy_archive/en/?groupANDcommodity=rice.

OILCROPS: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2018 TO MID-APRIL 2019 *

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
Argentina	Nov-18	Biodiesel	Biofuel policy	Implemented two successive increases in the price that oil-refining companies are required to pay for biodiesel.
	Nov-18	Biodiesel	Biofuel policy	Requested formal consultations with Peru at the World Trade Organization (WTO) over anti-dumping duties collected by Peru on imports of biodiesel from Argentina since February 2016.
Brazil	Feb-19	Soybeans	GMO policy	Approved a new genetically modified (GM) soybean trait that was developed jointly by Chinese and Argentine companies. Reportedly, the new variety thrives well under dry conditions and is both herbicide-tolerant and pest-resistant.
	May-18	Soybeans	Environmental policy	Fined a number of trading firms and farmers for failing to respect embargoes imposed on illegally deforested land located across the country's Cerrado region.
	Oct-18	Biodiesel	Biofuel policy	Proposed a gradual increase in the mandatory content of transport diesel sold in the country. In June 2019, the blending rate would rise from 10 percent to 11 percent, followed by annual increments of 1 percent, until it reaches 15 percent.
	Jan-19	Grains, oilseeds	Transport policy	Unveiled new plans to modernize and expand the country's transportation infrastructure, foreseeing substantial long-term benefits for the country's grain and oilseed export sectors.
Canada/Japan	Feb-19	Glyphosate	Pesticide regulation	Determined that glyphosate is not carcinogenic, while recommending new limits on exposure, as well as safer application practices and bans for products with high concentrations of the herbicide – admitting that health risks remain for those exposed to the chemical in agricultural applications.
	Feb-19	Agricultural sector	Farmer support	Considered expanding Government funding for rural insurance programmes under the Government's agricultural support package for 2019/20.
	Apr-19	Agricultural crops	Environmental policies	Launched a project aimed at fostering environmental conservation/restoration and sustainable production practices in the country's Cerrado region.
Canada	Dec-18	Rapeseed oil, rapeseed meal	www	Explored new export opportunities for Canadian rapeseed oil and meal in Japan, based on the recent entry into force of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) agreement.
	Dec-18	Oilcrops	Sector development measures	Announced a CAD 3.7 million (USD 2.8 million) investment into the Eastern Canada Oilseeds Development Alliance, intended to foster oilseed cultivation and marketing in eastern Canada.
China (Mainland)/Malaysia	Jan-19	Soybeans	Sector development measures	Launched a five-year programme to promote innovation and research in soybean, as part of the country's public-private Canadian Agricultural Partnership. The initiative is aimed at achieving sustainable productivity increases in the country's soybean industry, while widening the crop's geographic range.
	Sep-18	Palm oil	Bilateral cooperation	Backed the signing of a memorandum between China's state-owned grain trading enterprise COFCO and a Government-owned Malaysian palm oil corporation, aimed at promoting palm oil related ventures, and increasing trade between the two countries.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
China (Mainland)	Oct-18	Protein meal	Agricultural policy	Backed new voluntary standards introduced by the country's Feed Industry Association to promote a shift towards animal diets with reduced protein content – a measure triggered by efforts to reduce the country's reliance on imported soybean meal.
	Oct-18	Soymeal	Export policy	Discontinued an 11 percent value-added tax rebate hitherto applied to soymeal exports, in a bid to safeguard domestic protein meal supplies.
	Oct-18	Oilcrops	Foreign agricultural investment	Explored possibilities to develop oilcrop production in the Russian Federation's far-eastern districts, for eventual export to China.
	Nov-18	Soybeans	Agricultural policy	Raised area-based payments granted to soybean growers in 2018 in Heilongjiang province, in a bid to boost domestic soybean output.
	Dec-18	Soybeans	Public stockholding	Reported sales – through public auctions – of 2.01 million tonnes of soybeans from Government reserves (between January and December 2018).
	Dec-18	Soymeal, soyoil	Import policy	Agreed to increase China's imports of Argentine soymeal and soyoil, pending inspections of Argentine crushing facilities by Chinese officials.
	Dec-18	Oilseed meal	Import policy	Announced plans to remove, from 1 January 2019, import tariffs on soybean meal substitutes (notably rapeseed, cottonseed, sunflower seed and palm kernel meal).
	Dec-18	Soybeans	Import policy	Allowed imports of soybeans from Bolivia, with a view to diversifying the country's soybean supply origins.
	Dec-18	Soybeans	Import policy	Directed China's state-owned enterprises to resume purchases of US soybeans, following the start of a new round of trade talks with the United States of America.
	Dec-18	Vegetable oil	Food standards	Revised hygienic standards for edible vegetable oils used in frying food.
	Jan-19	Soybeans, rapeseed	GMO policy	Approved the importation of two new GM soybean varieties and two new GM rapeseed varieties, while also renewing a number of existing import permits for three years.
	Feb-19	Oilcrops	Agricultural policy	Released a policy statement containing commitments to deepen agricultural supply-side structural reforms, including the promotion of soybeans and other oilcrops aimed at helping to reduce the country's dependence on imports.
	Mar-19	Rapeseed	Import policy	Suspended import permits for selected Canadian rapeseed suppliers, citing phytosanitary issues.
	Mar-19	Soybeans	Agricultural policy	Announced support measures from the Central Government for soybean, rapeseed and groundnut producers in selected regions of the country. Moreover, Heilongjiang Province decided to retain its per-hectare payments for soybean growers, as well as incentives to promote rotation from rice to soybeans in 2019/20. To stabilize the market, the provincial government also offered to buy soybeans at fixed prices.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
European Union	Oct-18	Trans-fatty acid	Food standards	Proposed introducing an EU-wide threshold of 2 percent for trans-fats content in food products.
	Nov-18 to Dec-18	Biodiesel	Bioenergy policy	Approved key chapters of the bloc's bioenergy policy reform, including plans to phase out the use of crop-based biofuels by 2030.
	Nov-18	Protein crops	Sector development measures	Published a report reviewing the supply and demand situation for plant proteins in the EU and exploring ways to increase production in a sustainable manner, thus contributing to the development of an EU-wide strategy for promoting protein-rich crops, including soybeans.
	Dec-18	Biodiesel	Biofuel policy	Considered reinstating anti-subsidy duties on imports of biodiesel from Argentina, citing an imminent threat of material injury caused to the EU's biodiesel industry.
	Jan-19	Biodiesel	Biofuel policy	Determined that US soybeans certified via the US' voluntary Sustainability Assurance Protocol comply with the sustainability criteria contained in the EU's Renewable Energy Directive, thereby allowing biodiesel produced from US soya to count towards the EU's renewable energy targets.
	Feb-19	Biodiesel	Biofuel policy	Introduced definitive anti-subsidy duties ranging from 25 percent to 33 percent on imports of biodiesel from Argentina, while agreeing to exempt selected Argentine producers who undertook to sell biodiesel at a set minimum price.
	Mar-19	Biodiesel feedstock	Biofuel policy	Released draft criteria for identifying biofuel feedstock that carry high indirect land-use change (ILUC) risks, and determined that oil palm cultivation causes significant deforestation – a measure implying that as of 2030, palm oil-based biodiesel would no longer count towards meeting the EU's green fuel consumption targets. The measures remained subject to final approval by the European Parliament and Council.
	Sep-18	Coconut	Sector development measures	Launched a programme to develop the country's coconut industry and enhance the supply of copra.
	Mar-19	Coconut	Sector development measures	Renewed efforts to promote coconut cultivation as part of the nation's farming systems, focusing on productivity improvement via the rehabilitation of existing plantations.
	Feb-19	Biodiesel	Biofuel policy	Approved a law that envisages a steep rise in domestic biofuel consumption targets by 2030.
Finland	Nov-18	Soybeans, palm oil	Climate policy	Finalized its National Strategy to Combat Imported Deforestation, aimed at ending so-called 'imported deforestation' by 2030. The new policy could affect imports of, inter alia, soybeans and palm oil.
	Dec-18	Biodiesel	Climate/ Environmental policy	Considered ending tax incentives provided when palm oil-based biodiesel is added to regular transport diesel.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
India	Oct-18	Oilcrops	Public procurement/stockholding	Approved proposals from 11 states for oilseed procurement operations during the <i>Kharif</i> (summer crops) marketing year that started in October.
	Nov-18	Edible oils	Food standards	Ordered the closure of an edible oil branding and repackaging facility after detecting sales of adulterated oil.
	Nov-18	Groundnut	Sector development measures	Planned to assist farmers in setting up cooperatives to run their own groundnut mills and other value-addition units in Gujarat state, so as to shield farmers from market price fluctuations and reduce their dependence on private millers.
	Dec-18	Coconut oil	Food standards/safety	Banned the manufacture, storage, distribution and sale of 74 brands of coconut oil, after detecting new cases of adulteration in the state of Kerala.
India/ASEAN	Dec-18	Palm oil	Trade agreement	Lowered the tariff on palm oil imports from Association of Southeast Asian Nations (ASEAN) members, effective 1 January 2019 (in line with the provisions of an agreement signed with ASEAN in 2009).
India/Malaysia	Jan-19	Palm oil	Trade agreement	Reduced import duties on Malaysian crude and refined palm oil to, respectively, 40 percent and 45 percent, in line with the Comprehensive Economic Cooperation Agreement signed between India and Malaysia in 2011.
India	Jan-19	Vegetable oil, trans-fatty acid	Food standards	Published revised standards for refined vegetable oil and blended edible vegetable oil, and lowered the maximum permitted content of trans-fatty acid with effect from January 2021.
India/Indonesia	Feb-19	Palm oil, sugar	Bilateral cooperation	Negotiated improved market access for Indian sugar in Indonesia, in exchange for reduced Indian duties on imports of Indonesian palm oil.
Indonesia/Switzerland	Oct-18	Palm oil	Trade agreement	Concluded free trade negotiations with Switzerland (as part of a Comprehensive Economic Partnership Agreement between Indonesia and the European Free Trade Association comprising Iceland, Liechtenstein, Norway and Switzerland), with a view to fostering its palm oil shipments to the country.
Indonesia	Oct-18	Oil palm	Land governance	Released an in-depth assessment of the Indonesian oil palm industry, identifying major flaws in the nation's plantation licensing system.
	Nov-18 to Mar-19	Palm oil	Export policy	Kept the country's sliding <u>tax</u> on crude palm oil exports at zero, in a bid to stimulate exports and prevent further rises in domestic inventories. In March 2019, this Government move marked the 24th successive month without export tax.
	Nov-18	Palm oil	Export policy	Decided to suspend the country's <u>levy</u> on palm oil exports, in a bid to maintain the products' competitiveness in overseas markets.
	Nov-18	Oil palm	Sector development measures	Released funds for the replanting of 15 000 hectares (ha) of smallholder oil palm with quality seedlings – as part of the national target to replant 2.4 million ha between 2018 and 2025.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
Indonesia/Pakistan	Nov-18	Palm oil	Bilateral cooperation	Conducted negotiations to convert an existing preferential trade pact between the two countries into a more comprehensive free trade agreement, in a bid to foster Indonesia's palm oil shipments to Pakistan, while strengthening that country's role as a regional trade and investment hub for palm oil products.
	Dec-18	Palm oil	Export policy	Modified the price thresholds triggering the collection of levies on palm oil exports.
Indonesia	Dec-18	Biodiesel	Biofuel policy	Announced additional measures to boost domestic biodiesel consumption, with a view to enhancing the uptake of crude palm oil, amid fluctuations in the commodity's global market price.
	Dec-18	Oil palm	Land governance	Published a unified, national map of land-use cover, in a bid to resolve claims related to overlapping concessions for mining, plantation and forest conservation.
Indonesia/India	Feb-19	Palm oil, sugar	Bilateral cooperation	Negotiated reduced import duties for Indonesian palm oil in India – in exchange for improved market access for Indian sugar in Indonesia.
Indonesia/Norway	Feb-19	Tropical forests	Environmental policy	Received a first tranche from a USD 1 billion fund established by Norway in 2010 to assist Indonesia in preserving its tropical rainforests.
Indonesia	Mar-19	Palm oil	Export policy	Ended mandatory use of surveyors for inspecting shipments of certain commodities, including palm oil, to improve the competitiveness of exports.
Indonesia/Philippines/Malaysia	Mar-19	Palm oil	Trade regulation	Agreed to set up a tripartite working group tasked with addressing Philippine concerns over alleged smuggling and dumping of palm oil into the country – a move aimed at averting the introduction of formal import barriers by the Philippines.
Italy	Jan-19	<i>Xylella fastidiosa</i>	Pest control	Determined that olive trees affected by the <i>xylella fastidiosa</i> disease must be felled, in compliance with EU regulations.
Japan/Canada	Dec-18	Rapeseed oil, rapeseed meal	Bilateral trade initiatives	Explored new opportunities for the importation of Canadian rapeseed oil and meal into Japan, based on the recent entry into force of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) agreement.
Japan	Feb-19	Plant/animal products	Genetic engineering standards	Set up a regulatory framework for genome editing technologies, to distinguish the latter from genetic modification methods.
Rep. of Korea	Jan-19	Soymeal, cottonseed meal, animal/vegetable fat	Import policy	Renewed its voluntary tariff rate quotas for feed ingredients (including soybean meal, cottonseed meal and animal/vegetable fat) for the year 2019.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
	Sep-18	Palm oil	Export policy	Decided to suspend the country's export tax on crude palm oil, in a bid to stimulate exports and prevent further rises in domestic inventories. The tax suspension would remain in place until May 2019.
Malaysia	Oct-18	Oil palm	Tax policy	Removed – under the country's newly introduced sales and service tax regime – the Goods and Service Tax on locally produced fresh oil palm fruit branches, with the aim of protecting the interests of the domestic oil palm industry.
	Nov-18	Biodiesel	Biofuel policy	Decided to implement its long-standing plan to raise the country's mandatory blending rate for biodiesel, with the objective of boosting domestic demand for the commodity and supporting palm oil prices. Mandatory blending of transport diesel with 10 percent rather than 7 percent of palm oil-based biodiesel became effective on 1 February 2019.
Malaysia/China (Mainland)	Dec-18	Palm oil	Bilateral cooperation	Backed the signing of a memorandum between China's state-owned grain trading enterprise COFCO and a Government-owned Malaysian palm oil corporation, aimed at promoting palm oil related ventures and enhancing trade between the two countries.
	Feb-19	Biodiesel	Biofuel policy	Considered increasing the country's mandatory biodiesel blending rates further in 2020, with the objective of raising domestic palm oil uptake, thereby helping to stabilize prices and reduce stocks of the commodity.
Malaysia	Mar-19	Palm oil	Food labelling	Advised companies participating in public distribution of palm oil at controlled prices to add 'pro-palm oil' labels on product packages, as part of a year-long campaign aimed at raising consumer awareness of the commodity's beneficial properties.
	Mar-19	Palm oil	Environmental policy	Proposed capping the country's area under oil palm at 6.5 million ha by 2023 – a move aimed at dispelling claims that the expansion of oil palm plantations contributes to deforestation.
Malaysia/Indonesia/Philippines	Mar-19	Palm oil	Trade regulation	Agreed to set up a tripartite working group tasked with addressing Philippine concerns over alleged smuggling and dumping of palm oil into the country – a move aimed at averting the introduction of formal import barriers by the Philippines.
Morocco	Dec-18	Olive oil	Food standards/safety	Intensified its efforts to combat sales of adulterated olive oil, after detecting sales of unregulated products containing blends of different vegetable oils, as well as toxic substances.
	Dec-18	Biodiesel	Environmental policy	Called, through Parliament, for the formulation of a comprehensive set of measures to exclude from the market biofuels whose production entails a high risk of deforestation.
Norway	Feb-19	Biodiesel	Biofuel policy	Requested that proposals to ban the importation of non-sustainable biofuel feedstock be taken up in trade talks between the European Free Trade Association and Malaysia.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
Norway/Indonesia	Feb-19	Tropical forests	Environmental policy	Agreed to release a first tranche from a USD 1 billion fund established in 2010 to assist Indonesia in preserving its tropical rainforests.
Pakistan/Indonesia	Nov-18	Palm oil	Bilateral cooperation	Conducted negotiations to convert an existing preferential trade pact between the two countries into a more comprehensive free trade agreement, in a bid to foster Indonesia's palm oil shipments to Pakistan, while strengthening that country's role as a regional trade and investment hub for palm oil products.
Pakistan	Mar-19	Oilcrops	Sector development measures	Presented a five-year action plan to boost the agricultural sector, including incentives to encourage domestic oilseed production.
	Nov-18	Palm oil	Import policy	Launched anti-dumping investigations into palm oil imports from Malaysia and Indonesia, claiming that a recent surge in imports had led to a decline in domestic prices of coconut and derived products.
Philippines	Feb-19	Soybeans	GMO policy	Approved a GM soybean variety developed in the US to resist treatment with widely used herbicides.
	Mar-19	Coconut products	Marketing support	Provided financial assistance to sellers of fresh coconut products as a means to support coconut farmers facing weak copra prices.
Philippines/ Malaysia/Indonesia	Mar-19	Palm oil	Trade regulation	Agreed to set up a tripartite working group tasked with addressing Philippine concerns over alleged smuggling and dumping of palm oil into the country – a move aimed at averting the introduction of formal import barriers by the Philippines.
Russian Federation	Dec-18	Sunflower oil	Import policy	Expanded an existing ban on goods imported from Ukraine, including sunflower oil.
United Rep. of Tanzania	Feb-19	Oil palm	Sector development measures	Set aside the equivalent of USD 4.3 million to promote palm oil cultivation, amid efforts to reduce the country's dependence on imported edible oil.
Thailand	Mar-19	Biodiesel	Bioenergy policy	Confirmed plans to raise mandatory blending of regular diesel with palm oil-based biodiesel from 7 percent to 10 percent in the first half of 2019, with a view to helping absorb excess domestic palm oil production.
	Mar-19	Palm oil	Agricultural policy	Renewed direct payments to small-scale oil palm growers, in a bid to help shield them from depressed market prices.
Turkey	Dec-18	Sunflower seed	Import policy	Approved a 300 000-tonne duty-free import quota for sunflower seed for the period January–June 2019, with the aim of supporting domestic crush operations.
Ukraine	Jan-19	Sunflower oil	Food standards	Revised the national standard for sunflower oil, requiring producers to add information on shelf-life and after-opening life on packaged product labels.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
United States of America	Oct-18	Glyphosate	Pesticide use	Confirmed an earlier court verdict that found glyphosate-based herbicides responsible for a man's terminal cancer.
	Nov-18	Biodiesel	Biofuel policy	Initiated a 'changed circumstances review' to re-examine the anti-dumping and countervailing duties it placed on imports of Argentine biodiesel in late 2017 and early 2018.
	Nov-18	Biodiesel	Biofuel policy	Finalized the country's biofuel blending obligations for 2019, raising the volume for the 'advanced biofuel' category, while leaving the requirements for 'conventional biofuel' and 'biomass-based biodiesel' unchanged.
	Nov-18	Edible oils	Food standards	Supported a 'qualified health claim' stating that the consumption of edible oils rich in oleic fatty acid may reduce the risk of coronary heart disease.
	Nov-18	Dicamba	Pesticide regulation	Re-authorized use of Dicamba-based herbicides for a period of two years until 20 December 2020.
	Nov-18	Biodiesel	Biofuel policy	Examined proposals, through the US Congress, for a long-term extension of the USD 1 per gallon tax credit traditionally accorded to biodiesel blenders, which expired in December 2017.
	Nov-18, Dec-18	Crops, livestock products	Agricultural policy	Paid out to farmers nearly USD 840 million, as part of a first tranche of payments worth USD 6 billion intended to compensate farmers for losses incurred due to China's imposition of tariffs on US agricultural exports. A second round of payments was authorized in mid-December.
	Dec-18	Crops, livestock products	Agricultural policy	Signed into law a USD 867 billion Farm Bill covering the five-year period 2019-2023. Under the bill, key farm safety net schemes will remain in place, while the country's domestic food aid programme was renewed without significant changes.
	Dec-18	GM crops	GMO policy	Released detailed regulations for the labelling of food products that include genetically modified material, requiring food manufacturers, importers and certain retailers to ensure that bioengineered foods are appropriately disclosed via either text, symbol, electronic/digital link or text message. Highly processed ingredients from GM crops (such as refined vegetable oil) were exempted from the new labelling requirements.
	Mar-19	Glyphosate	Pesticide use	Courts reviewing a new case linking the use of glyphosate to cancer ruled that the pesticide had been a substantial factor in causing human cancer.
Uzbekistan	Mar-19	Cottonseed oil	Consumer policy	Ceased regulating the price of cottonseed oil intended for socially vulnerable parts of the population.

COUNTRY	DATE	PRODUCT	POLICY DOMAIN	DESCRIPTION
Viet Nam	Mar-19	Glyphosate	Pesticide regulation	Took steps to ban the importation and use of glyphosate-based herbicides, citing concerns over their impact on human health.
Intergovernmental	Mar-19	<i>Xylella fastidiosa</i>	Pest control	The FAO-administered International Plant Protection Convention issued protocols on procedures and methods for the diagnosis of <i>xylella fastidiosa</i> , a deadly bacterium affecting olive trees and other crops.

* A detailed description of major policy developments from January 2011 onwards is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/2groupANDCommodity=Oliveeds,%20oil%20and%20meals>

MEAT: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2018 TO MID-APRIL 2019*

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
China (Macao Special Administrative Region)	Feb-19	Poultry meat	Import ban lifted	Lifted ban on imports of poultry and poultry-derived products from Cambodia, China (Taiwan Province), and three provinces from China (Mainland), namely Guangxi, Hubei and Hunan, as well as Indonesia, Japan, the Lao People's Democratic Republic, the Republic of Korea, Thailand and Viet Nam, imposed 15 years ago following Highly Pathogenic Avian Influenza (HPAI) outbreaks.
	Jan-19	Pig meat	Import ban	Banned imports of pigs, wild boars and products from Mongolia and Viet Nam after they reported African Swine Fever (ASF) outbreaks in mid-January.
	Feb-19	Poultry meat	Market access	Granted the right to supply poultry meat products from several farms in the Russian Federation, with no restrictions on the volume, as long as they meet strict Chinese food safety requirements.
China (Mainland)	Feb-19	Poultry meat	Market access	Exempted 14 Brazilian firms from anti-dumping tariffs on imports of poultry products, on condition that they are sold above a certain floor price, which has not been disclosed.
	Mar-19	Poultry meat	Import ban lifted	Signed an agreement with France to lift the embargo on French poultry exports, set in place in 2015 after cases of bird flu were detected in Dordogne.
European Union	Oct-18	All	Trade agreement	Signed a Free Trade Agreement with Singapore, with the objective of eliminating customs duties within five years for qualifying products from Singapore, including meat and meat products.
	Dec-18	All	Trade agreement	Lowered tariffs on beef imports from European Union (EU) member countries under the Japan-EU Economic Partnership Agreement (EPA), effective 1 February 2019. Under the new tariff structure, Japan granted reduced tariff rates from 1 April 2019 on pig meat imports from EU member countries, and allowed imports to fill the domestic supply gap and rebuild stocks when necessary.
Japan	Jan-19	Bovine meat	Import ban lifted	Announced the end of a two-decade ban on the import of beef and lamb from the United Kingdom (UK), implemented in 1996 to prevent the spread of bovine spongiform encephalopathy (BSE).
	Mar-19	All	Quota	Announced safeguard trigger levels for chilled beef and pork for the first three-quarters of Japanese fiscal year 2019 (April-December), applicable for all trading partners.
Republic of Korea	Feb-19	All	Market access	Cleared 9 more Brazilian poultry and pig meat processing plants to export products. This follows the lifting of restrictions last year on 4 Brazilian processing plants after a 10-year negotiation.
Malaysia	Oct-18	Pig meat	Import ban lifted	Lifted ban on frozen pork from Belgium, imposed after the detection of an ASF outbreak.

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Mexico	Nov-18	Poultry meat	Market access	Authorised 26 Brazilian meat plants to export chicken products into the country.
Multilateral	Nov-18	All	Trade agreement	Signed the Mexico-United States of America-Canada Agreement, updating the 1994 North American Free Trade Agreement (NAFTA). The agreement is subject to ratification by respective governments in the three countries, and will have a significant impact on meat trade.
	Dec-18	All	Trade agreement	Entered into force, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) among Australia, Canada, Japan, Mexico, New Zealand and Singapore, on 30 December 2018, and in Viet Nam on 14 January 2019. The agreement includes tariff reduction clauses and tariff rate quotas to be implemented by each member country on a staggered basis, and covers a wide range of goods, including meat and meat products.
	Dec-18	Bovine meat	Trade agreement	Agreed to allow each other's beef imports to expand bilateral trade on beef products between Japan and Uruguay. Japan imports of beef from Uruguay had been suspended since 2000 due to an outbreak of Foot-and-Mouth-Disease (FMD) there.
Namibia	Jan-19	All	Import ban	Suspended meat imports from South Africa due to an outbreak of FMD.
Oman	Oct-18	Poultry meat	Import ban	Banned imports of poultry and poultry products from Cambodia, Malaysia and Viet Nam following HPAI outbreaks.
Russian Federation	Nov-18	All	Import ban lifted	Lifted the ban on Brazilian pork and beef imports, imposed in December 2017, allowing 9 beef plants and 6 pork plants to export their products.
	Feb-19	Bovine meat	Import ban lifted	Lifted a ban on Colombian beef imports after verification that the country is free from the FMD virus, in accordance with recommendations set out by the World Organization for Animal Health.
	Mar-19	Bovine meat	Import ban	Suspended imports of bone-in beef from all countries that lack official status for BSE.
Saudi Arabia	Jan-19	Poultry meat	Market access	Reduced the number of Brazilian plants with valid export permits eligible to export poultry meat to 25.
South Africa	Mar-19	Bovine meat	Market access	Resumed exports of beef and beef products, which were banned by a number of importing countries after an FMD outbreak in January. Required veterinary health certificates have been issued for beef exports to resume to countries including Egypt, Lesotho, Mozambique and the United Arab Emirates.
Tunisia	Nov-18	Poultry meat	Market access	Allowed its first poultry imports from Ukraine.

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Turkey	Jan-19	Bovine meat	Import ban	Suspended live cattle imports from Ireland, to protect domestic production amid concerns about an oversupply of beef.
Ukraine	Apr-19	Bovine meat	Market access	Joined the list of countries authorized to supply bovine meat to Saudi Arabia.
United Arab Emirates	Feb-19	Poultry meat	Import ban	Suspended poultry imports from Kuwait due to the detection of HPAI virus.
United States of America	Nov-18	Bovine meat	Market access	Lifted ban on fresh beef from Argentina after almost two decades. Argentina will have a duty-free quota of 20 000 tonnes/year at a tariff rate of 26.4 percent for out-of-quota shipments.
	Dec-18	Bovine meat	Market access	Announced that the Government of Morocco has agreed to allow imports of US beef and beef products. Morocco opened its market to US poultry in August 2018, under the terms of the US-Morocco Free Trade Agreement.

* A collection of major meat policy developments starting in January 2011 is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/?groupANDCommodity=Meat>

DAIRY: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2018 TO MID-APRIL 2019*

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
European Union	Jan-19	Dairy products	Tariff rate quota	Adopted a text in the European Parliament, apportioning tariff rate quotas for agricultural products, including dairy products, between the EU27 and the United Kingdom.
	Jan-19	Dairy products	Market access	Lifted import ban on Japanese dairy products, in view of the elimination of most tariffs in Japan on European Union (EU) products under the EU and Japan Economic Partnership Agreement.
India	Dec-18	Dairy products	Import ban extended	Extended a ban on milk, and food preparations with milk or milk solids, as an ingredient from China until laboratories are upgraded at ports for testing the presence of toxic chemical melamine.
	Dec-18	Dairy products	Market access	Extended the compliance date on labelling requirements for frozen desserts, or confections with added vegetable oil/fat or vegetable protein, or both, until 1 July 2019. The objective is to resolve the issue of nomenclature of the products, as defined in the Food Safety and Standards regulation.
Japan	Apr-19	Dairy products	Tariff rate quota	Announced tariff rate quota volumes for dairy products that will be open during Japanese fiscal year 2019 (April-March).
Multilateral	Dec-18	Dairy products	Trade agreement	Entered into force on 30 December 2018, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) among Australia, Canada, Japan, Mexico, New Zealand, Singapore and Viet Nam (with Brunei Darussalam, Chile, Malaysia and Peru to come). The agreement has granted its members market access opportunities for dairy products under tariff rate quotas.
	Feb-19	Dairy products	Trade agreement	Entered into force on 1 February 2019, the EU and Japan's Economic Partnership Agreement (EPA) which will progressively eliminate Japanese custom duties on hard cheeses such as Parmigiano Reggiano, Gouda and Cheddar, currently taxed at nearly 30 percent. The EPA will also establish a duty-free quota for some cheese varieties such as Mozzarella, and recognize and protect European geographical indications on certain dairy products.
Russian Federation	Nov-18	Dairy products	Import ban	Banned, by the Russian Federation's Federal Service for Veterinary and Phytosanitary Surveillance, imports of dairy products produced by a leading producer in Turkey, on the grounds of using harmful substances.
South Africa	Mar-19	Dairy products	Market access	Restored exports of dairy products, which were halted due to an outbreak of highly contagious Foot-and-Mouth-Disease in January.
United Republic of Tanzania, Zanzibar	Oct-18	Dairy products	Import policy	Raised milk import fees under the Animal Disease and Animal Products Movement Control Regulations.
Tunisia	Dec-18	Cheese	Market access	Repealed its earlier ban on import financing for select imported consumer goods that it deemed as 'non-essential', in a move that is likely to affect cheese imports.
	Feb-19	Dairy products	Import policy	Approved, by the People's Assembly, draft law on food and feed safety, which among others, includes provisions for creating a National Authority for Food Safety and a National Agency for Risk Assessment. This is expected to have a significant impact on food and feed product imports, including dairy products.

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Ukraine	Dec-18	Dairy products	Import ban extended	Extended restrictions on imports of products from the Russian Federation until 31 December 2019, including dairy products.
United States of America	Jan-19	Dairy products	Tariff rate quota	Issued its Dairy Import License Circular for 2019, specifying tariff rate quotas allocated for dairy products and countries, under both a first-come first-served and Free Trade Agreements basis.
Zimbabwe	Jan-19	Dairy products	Tariff rate	Suspended duty on selected dairy products, including powdered milk raw materials.

* A collection of major dairy policy developments, starting in January 2012, is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-policy-archive/en/2groupANDcommodity=Milk.%20Dairy%20products>

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NOTES

General

- FAO estimates and forecasts are based on official and unofficial sources.
- Unless otherwise stated, all charts and tables refer to FAO data as source.
- Estimates of world imports and exports may not always match, mainly because shipments and deliveries do not necessarily occur in the same marketing year.
- Tonnes refer to metric tonnes.
- All totals are computed from unrounded data.
- Regional totals may include estimates for countries not listed. The countries shown in the tables were chosen based on their importance of either production or trade in each region. The totals shown for Central America include countries in the Caribbean.
- In Statistical Appendix tables estimates for China also include those for the Taiwan Province, Hong Kong SAR and Macao SAR, unless otherwise stated.
- Up to 2012/13, the European Union includes 27 member states. From 2013/14, the European Union includes 28 member states.
- ‘-’ means nil or negligible.
- Cereals include wheat, rice and coarse grains. Coarse grains include maize, barley, sorghum, millet, rye, oats and NES (not elsewhere specified).

Production

- **Cereals:** Data refer to the calendar year in which the whole harvest or bulk of harvest takes place.

Utilization

- **Cereals:** Data are on individual country's marketing year basis.
- **Sugar:** Figures refer to centrifugal sugar derived from sugarcane or beet, expressed in raw equivalents. Data relate to the October/September season.

Trade

- Trade between **European Union** member states is excluded, unless otherwise stated.
- **Wheat:** Trade data include wheat flour in wheat grain equivalent. The time reference period is July/June, unless otherwise stated.
- **Coarse grains:** The time reference period is July/June, unless otherwise stated.
- **Rice, dairy and meat products:** The time reference period is January/December.
- **Oilseeds, oils and fats and meals:** The time reference period is October/September, unless otherwise stated.

Stocks

- **Cereals:** Data refer to carry-overs at the close of national crop seasons ending in the year shown.

Price indices

- The FAO price indices are calculated using the Laspeyres formula; the weights used are based on the average export value of each commodity for the 2002-2004 period.

COUNTRY CLASSIFICATION

In the presentation of statistical material, countries are subdivided according to geographical location as well as into the following two main economic groupings: “developed

countries” (including the developed market economies and the transition markets) and “developing countries” (including the developing market economies and the Asia centrally planned countries). The designation “Developed” and “Developing” economies is intended for statistical convenience and does not necessarily express a judgement about the stage reached by a particular country or area in the development process.

References are also made to special country groupings: Low-Income Food-Deficit Countries (LIFDCs), Least Developed Countries (LDCs). The LIFDCs include 51 countries that are net importers of basic foodstuffs with a per capita gross national income (GNI) below the “historical” ceiling used by the World Bank to determine eligibility for International Development Aid (IDA) support and for 20-year IBRD terms, applied to countries included in the World Bank's categories I and II. The LDCs group currently includes 47 countries with low income as well as weak human resources and low level of economic diversification. The list is reviewed every three years by the Economic and Social Council of the United Nations.

DISCLAIMER

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

APPENDIX TABLE 1(A): CEREAL STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	1 184.8	1 199.2	1 212.9	207.4	205.1	207.0	59.0	62.0	61.4
Bangladesh	38.7	40.5	41.1	7.8	8.4	8.3	-	-	-
China	552.2	545.2	546.6	34.7	26.4	25.1	1.5	2.7	3.1
India	244.7	261.4	261.7	2.9	0.7	0.6	12.9	13.5	13.9
Indonesia	67.3	72.4	73.7	12.8	11.9	12.1	0.2	0.3	0.3
Iran, Islamic Republic of	17.8	19.1	19.5	12.0	13.4	13.8	0.5	0.1	0.1
Iraq	3.7	3.0	5.5	4.1	5.2	4.3	-	-	-
Japan	8.7	8.5	8.8	23.7	24.5	24.5	0.3	0.3	0.3
Kazakhstan	19.1	19.6	19.6	0.1	0.1	0.1	8.9	9.6	9.5
Korea, Republic of	4.4	4.1	4.1	14.6	14.3	15.2	0.1	0.1	0.1
Myanmar	19.7	21.2	21.3	0.5	0.5	0.5	3.4	3.7	4.0
Pakistan	39.2	38.6	39.7	0.2	0.2	0.2	4.7	5.0	4.4
Philippines	19.6	20.2	20.6	7.5	9.3	9.8	0.1	-	-
Saudi Arabia	0.3	0.8	1.0	17.3	15.8	17.4	-	-	-
Thailand	25.5	26.6	27.3	4.4	3.8	4.0	11.3	9.5	9.6
Turkey	36.3	34.0	35.3	7.1	8.7	8.8	4.8	5.0	4.1
Viet Nam	33.6	33.5	33.3	13.6	15.4	15.6	6.6	7.5	7.5
AFRICA	177.1	191.5	180.5	92.4	89.5	95.5	6.6	6.7	6.2
Algeria	3.6	6.0	4.5	13.3	12.1	12.9	-	-	-
Egypt	21.9	20.5	20.7	21.1	22.5	23.0	0.2	-	-
Ethiopia	25.8	26.6	26.6	1.8	1.8	2.1	1.1	1.2	1.2
Morocco	8.3	10.5	6.4	7.3	6.3	8.2	0.1	0.1	0.1
Nigeria	22.5	24.7	24.1	7.7	7.8	8.1	0.7	0.7	0.7
South Africa	14.3	14.9	13.5	4.3	2.7	2.9	1.4	2.1	1.6
Sudan	6.0	8.3	7.4	2.8	2.8	2.8	0.3	0.4	0.4
CENTRAL AMERICA	43.2	42.5	44.1	33.3	36.7	36.6	2.9	2.1	2.5
Mexico	36.8	36.0	37.3	20.9	24.0	24.0	2.7	1.9	2.3
SOUTH AMERICA	192.1	195.9	214.4	31.5	32.4	33.0	71.2	73.1	81.0
Argentina	65.7	71.2	77.5	0.1	0.1	0.1	37.4	41.0	44.9
Brazil	98.4	97.7	110.4	9.6	9.6	9.6	28.1	26.9	30.9
Chile	3.8	3.4	3.4	3.1	3.4	3.5	0.1	0.1	0.1
Colombia	3.1	3.1	2.8	7.3	7.5	7.7	-	-	-
Peru	4.2	4.4	4.1	5.6	5.8	6.2	0.1	0.1	0.1
Venezuela	1.6	0.9	1.3	3.5	3.5	3.5	-	-	-
NORTH AMERICA	503.0	496.7	508.7	9.5	10.3	8.8	116.5	125.8	119.5
Canada	56.1	58.0	61.8	1.8	2.4	1.9	26.2	30.0	28.7
United States of America	446.8	438.7	446.9	7.6	7.9	6.9	90.4	95.9	90.8
EUROPE	510.2	495.6	524.6	27.7	35.3	30.4	124.3	124.9	122.7
European Union	307.5	293.2	311.4	23.4	30.4	25.7	37.8	29.9	32.2
Russian Federation	116.8	109.5	123.5	0.9	0.8	0.8	41.2	43.3	45.0
Serbia	8.7	10.4	9.2	0.1	0.1	0.1	2.7	2.7	2.1
Ukraine	62.1	69.3	65.4	0.2	0.2	0.2	41.5	47.9	42.4
OCEANIA	41.0	30.1	37.1	1.7	1.8	1.8	26.1	16.4	19.9
Australia	39.9	29.0	36.0	0.2	0.2	0.2	26.1	16.4	19.9
WORLD	2 651.4	2 651.5	2 722.2	403.4	411.1	413.2	406.6	411.1	413.2
Developing countries	1 538.4	1 571.5	1 594.2	326.4	325.3	333.8	128.4	131.1	138.8
Developed countries	1 112.9	1 080.0	1 128.0	77.0	85.7	79.4	278.3	280.0	274.4
LIFDC	448.9	472.3	471.5	71.0	72.9	75.0	23.7	25.3	25.6
LDC	175.6	186.1	184.3	38.7	39.9	41.5	9.2	9.8	9.9

APPENDIX TABLE 1(B): CEREAL STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes))						(..... Kg/year))		
ASIA	1 309.9	1 345.5	1 363.8	548.5	565.4	558.6	158.0	158.5	158.9
Bangladesh	46.0	49.5	50.2	8.0	8.9	8.0	214.1	219.9	222.8
China	553.8	568.4	574.7	405.8	427.8	421.1	154.6	154.8	154.9
India	236.8	243.3	246.7	39.7	47.9	49.6	146.9	147.4	147.6
Indonesia	79.9	85.1	85.8	9.5	10.0	9.8	188.7	188.7	190.3
Iran, Islamic Republic of	31.0	33.3	34.5	8.2	5.1	3.9	202.8	203.7	203.9
Iraq	8.5	8.5	9.3	0.7	0.4	0.9	188.3	187.9	188.5
Japan	32.1	32.6	32.7	6.9	6.8	7.0	93.7	93.2	93.0
Kazakhstan	10.6	10.1	9.9	2.6	2.2	2.5	156.6	156.7	156.5
Korea, Republic of	19.1	18.7	19.1	3.9	2.8	2.9	128.1	126.1	125.2
Myanmar	17.0	17.4	17.8	2.9	3.3	3.4	211.0	212.3	213.6
Pakistan	35.1	36.1	36.6	5.9	3.4	2.2	147.5	147.4	147.8
Philippines	26.9	29.0	30.1	3.9	4.9	5.1	156.8	159.0	161.1
Saudi Arabia	18.2	17.2	17.9	7.0	5.4	5.9	143.6	139.2	138.8
Thailand	21.9	20.5	21.1	10.5	7.7	7.9	117.8	117.4	119.0
Turkey	38.9	39.7	40.2	5.5	3.8	3.2	239.1	238.8	238.4
Viet Nam	39.9	42.1	41.7	5.1	4.7	4.7	177.6	177.3	176.0
AFRICA	259.4	271.7	274.1	56.2	59.8	54.5	148.2	148.5	147.3
Algeria	16.7	17.4	17.6	5.5	6.0	5.8	227.3	227.7	227.5
Egypt	42.6	43.3	43.8	6.8	6.1	6.0	269.2	268.6	267.2
Ethiopia	25.6	27.0	27.6	4.9	5.8	5.7	187.4	192.5	192.9
Morocco	15.2	16.2	15.7	7.0	7.1	5.9	236.0	237.3	237.5
Nigeria	29.5	30.3	31.4	2.8	3.7	3.6	125.6	121.9	121.7
South Africa	16.3	16.4	16.5	3.5	3.9	2.1	163.8	165.1	164.9
Sudan	8.4	9.4	9.5	3.0	3.5	3.1	179.2	177.7	175.2
CENTRAL AMERICA	72.4	77.3	79.1	11.5	12.0	11.5	159.6	162.2	162.4
Mexico	54.1	57.9	59.7	6.2	7.1	6.8	186.2	187.0	187.5
SOUTH AMERICA	150.8	160.5	164.1	39.3	44.8	45.9	118.9	119.9	120.0
Argentina	27.8	32.3	31.9	9.2	11.8	12.6	135.1	135.6	135.2
Brazil	80.7	83.3	86.6	15.6	16.8	17.8	113.1	112.3	112.5
Chile	6.1	6.4	6.8	4.1	5.0	5.0	145.1	146.5	146.3
Colombia	10.0	10.5	10.6	2.1	2.5	2.4	107.8	117.3	118.0
Peru	9.5	10.3	10.6	1.0	1.1	1.0	149.9	156.2	155.4
Venezuela	5.5	4.6	4.8	0.9	0.3	0.3	115.9	109.4	108.7
NORTH AMERICA	388.6	391.7	402.1	97.9	96.6	90.7	110.1	110.0	109.9
Canada	31.7	32.9	33.2	11.0	9.6	11.3	96.2	96.3	96.3
United States of America	356.9	358.8	368.9	86.9	87.0	79.4	111.7	111.6	111.5
EUROPE	412.3	416.8	422.2	70.6	66.7	76.9	133.3	133.5	133.4
European Union	292.8	296.7	301.7	37.3	38.4	41.7	133.8	134.2	134.0
Russian Federation	73.1	73.8	74.7	18.2	15.7	20.3	126.5	126.2	126.2
Serbia	6.5	7.3	6.8	0.9	0.9	1.3	173.8	175.4	173.7
Ukraine	23.0	22.0	21.8	7.8	6.1	7.5	144.1	143.4	144.0
OCEANIA	16.3	17.9	17.1	8.8	7.6	9.1	93.0	93.5	93.4
Australia	13.8	15.3	14.4	8.3	7.1	8.7	102.9	103.4	103.3
WORLD	2 609.8	2 681.5	2 722.4	832.7	852.9	847.2	149.1	149.6	149.7
Developing countries	1 707.9	1 770.8	1 796.1	635.3	662.1	651.7	154.5	155.0	155.0
Developed countries	902.0	910.7	926.2	197.4	190.9	195.5	126.2	126.3	126.2
LIFDC	495.0	515.7	520.9	91.6	101.1	100.5	149.4	150.5	150.3
LDC	203.7	215.9	217.9	41.7	44.2	41.5	154.5	156.0	155.2

APPENDIX TABLE 2(A): WHEAT STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	326.1	326.7	333.7	85.9	85.3	86.3	16.4	17.1	15.3
Bangladesh	1.3	1.1	1.3	5.3	6.2	6.1	-	-	-
China	133.4	131.4	132.0	5.7	4.9	5.4	0.2	0.2	0.1
of which Taiwan Prov.	-	-	-	1.4	1.4	1.4	-	-	-
India	92.4	99.7	99.6	2.6	0.2	0.2	0.6	0.6	0.6
Indonesia	-	-	-	10.2	10.3	10.7	0.1	0.1	0.1
Iran, Islamic Republic of	11.7	13.4	13.4	2.1	0.1	0.1	0.5	0.1	0.1
Iraq	2.9	2.2	4.3	2.8	3.7	2.7	-	-	-
Japan	0.9	0.8	0.9	5.6	5.8	5.8	0.2	0.2	0.2
Kazakhstan	14.5	13.9	14.0	0.1	0.1	0.1	7.8	8.0	8.0
Korea, Republic of	-	-	-	4.3	3.6	4.4	-	-	-
Pakistan	25.8	25.5	26.2	-	-	-	0.8	1.0	0.2
Philippines	-	-	-	5.4	6.0	6.3	0.1	-	-
Saudi Arabia	-	0.5	0.7	3.3	3.0	3.0	-	-	-
Thailand	-	-	-	3.9	3.2	3.5	-	-	-
Turkey	21.6	20.0	21.0	5.0	5.5	5.3	4.6	4.9	4.0
AFRICA	26.5	29.2	26.6	49.1	46.8	49.3	0.9	0.8	0.9
Algeria	2.5	3.9	3.0	8.3	7.0	7.7	-	-	-
Egypt	9.1	8.8	9.2	11.9	12.5	12.6	-	-	-
Ethiopia	4.6	4.6	4.6	1.3	1.3	1.5	-	-	-
Morocco	6.0	7.3	4.9	4.5	3.3	4.7	0.1	0.1	0.1
Nigeria	0.1	0.1	0.1	4.9	5.1	4.8	0.4	0.4	0.4
South Africa	1.6	1.8	1.9	1.8	1.4	1.6	0.1	0.1	0.1
Tunisia	1.0	1.0	1.4	2.1	1.8	1.8	0.1	-	-
CENTRAL AMERICA	3.7	2.9	3.3	9.0	9.7	9.5	1.3	1.1	1.4
Cuba	-	-	-	0.8	0.8	0.8	-	-	-
Mexico	3.7	2.9	3.3	5.0	5.5	5.2	1.2	1.0	1.3
SOUTH AMERICA	25.3	28.7	29.0	14.7	15.6	15.8	13.1	15.0	14.8
Argentina	16.1	19.5	19.8	-	-	-	11.4	13.7	13.6
Brazil	5.5	5.4	5.6	6.7	7.2	7.5	0.6	0.5	0.5
Chile	1.5	1.3	1.4	1.2	1.3	1.3	-	-	-
Colombia	-	-	-	1.9	1.8	1.8	-	-	-
Peru	0.2	0.2	0.2	2.0	2.2	2.2	-	-	-
Venezuela	-	-	-	1.3	1.4	1.4	-	-	-
NORTH AMERICA	85.4	83.1	84.1	3.5	3.8	3.1	45.7	51.4	50.0
Canada	29.9	31.8	33.1	0.1	0.1	0.1	21.0	24.0	23.0
United States of America	55.4	51.3	51.0	3.4	3.8	3.0	24.7	27.4	27.0
EUROPE	260.2	241.8	266.0	8.1	8.5	8.5	78.3	74.7	77.1
European Union	152.3	137.5	149.5	5.7	6.0	6.0	27.7	22.0	23.5
Russian Federation	73.7	72.1	82.0	0.5	0.3	0.3	31.3	35.0	35.0
Ukraine	26.3	24.6	26.5	0.1	0.1	0.1	17.8	16.0	17.0
OCEANIA	25.5	17.7	24.4	0.9	0.9	0.9	17.8	10.6	14.0
Australia	25.1	17.3	23.9	-	-	-	17.8	10.6	14.0
WORLD	752.7	730.2	767.0	171.3	170.7	173.5	173.5	170.7	173.5
Developing countries	352.6	360.6	364.1	143.3	141.4	145.0	22.9	24.9	23.3
Developed countries	400.0	369.6	402.9	28.0	29.3	28.5	150.6	145.8	150.2
LIFDC	116.7	121.0	122.6	38.4	39.0	39.1	1.5	1.5	1.5
LDC	13.7	12.5	13.1	22.2	23.5	23.8	0.1	0.1	0.1

APPENDIX TABLE 2(B): WHEAT STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes) (.....)						(..... Kg/year.....)		
ASIA	382.5	393.2	398.8	154.4	171.5	177.0	65.8	66.2	66.4
Bangladesh	6.1	7.5	7.9	1.9	2.2	1.6	29.6	34.1	35.8
China	122.6	128.3	128.8	95.9	120.2	128.7	64.8	65.0	65.1
of which Taiwan Prov.	1.4	1.4	1.4	0.4	0.4	0.4	45.7	45.6	45.7
India	96.1	97.2	99.2	17.2	20.0	20.0	59.8	59.8	59.9
Indonesia	9.8	10.5	10.4	1.1	0.8	1.0	25.5	25.4	25.5
Iran, Islamic Republic of	14.6	14.6	14.8	5.8	2.2	0.9	166.4	166.4	166.4
Iraq	6.2	6.2	6.5	0.6	0.2	0.7	149.3	148.7	149.0
Japan	6.3	6.3	6.3	1.6	1.7	1.8	40.5	40.5	40.6
Kazakhstan	7.0	6.4	6.4	2.2	1.6	1.2	142.1	142.1	142.0
Korea, Republic of	4.1	3.7	4.3	0.9	1.0	1.1	47.8	47.7	47.6
Pakistan	25.5	26.4	26.6	3.7	1.8	1.0	124.4	124.5	124.6
Philippines	5.3	6.0	6.3	0.8	1.0	1.0	23.2	23.5	23.5
Saudi Arabia	3.5	3.6	3.6	3.1	2.9	2.9	99.2	98.6	98.4
Thailand	3.6	3.3	3.5	1.6	1.7	1.7	16.3	16.3	16.4
Turkey	22.1	22.7	22.9	3.4	1.7	1.1	210.0	210.0	209.7
AFRICA	73.5	75.4	76.2	21.6	18.8	16.9	50.2	49.7	49.4
Algeria	10.6	10.8	10.8	3.8	3.9	3.7	208.8	209.5	209.5
Egypt	21.0	21.6	21.8	4.6	3.7	3.7	185.9	186.2	186.3
Ethiopia	5.8	6.1	6.2	0.9	0.8	0.6	45.5	46.0	45.9
Morocco	9.9	10.5	10.4	5.6	5.5	4.6	205.1	206.1	206.3
Nigeria	4.0	4.1	4.3	0.2	0.2	0.2	20.3	20.0	20.2
South Africa	3.2	3.3	3.4	0.6	0.5	0.5	56.5	56.6	56.8
Tunisia	3.0	2.9	3.1	0.5	0.4	0.5	209.4	209.3	209.6
CENTRAL AMERICA	11.2	11.7	11.8	2.4	2.4	2.3	44.0	45.2	45.3
Cuba	0.8	0.8	0.8	0.1	0.1	0.1	58.1	60.5	61.3
Mexico	7.3	7.5	7.6	1.0	1.1	1.0	48.6	48.9	49.1
SOUTH AMERICA	27.7	28.9	29.5	7.0	7.6	8.5	59.4	60.5	60.4
Argentina	5.7	5.8	5.9	1.7	1.7	2.6	117.5	117.7	117.8
Brazil	11.5	12.0	12.3	1.9	2.0	2.1	53.1	53.6	53.7
Chile	2.5	2.6	2.7	1.1	1.3	1.3	108.8	108.8	108.9
Colombia	1.7	1.8	1.8	0.9	0.9	0.9	32.1	33.4	32.7
Peru	2.2	2.4	2.4	0.3	0.3	0.3	63.9	68.6	68.0
Venezuela	1.3	1.4	1.4	0.1	0.1	0.1	41.5	42.6	42.1
NORTH AMERICA	40.2	38.8	39.3	35.5	35.6	33.5	82.7	82.5	82.3
Canada	9.2	9.0	9.2	6.0	6.0	7.0	81.1	81.2	81.1
United States of America	31.1	29.8	30.1	29.5	29.6	26.5	82.9	82.6	82.5
EUROPE	186.1	188.7	191.5	35.4	27.5	33.4	107.6	107.9	107.8
European Union	127.9	128.8	131.0	17.8	13.5	14.5	109.3	109.8	109.7
Russian Federation	40.2	42.7	43.2	12.6	10.4	14.5	100.1	99.9	99.9
Ukraine	9.6	8.7	8.7	2.9	2.1	2.9	112.0	111.7	112.0
OCEANIA	8.8	10.7	9.7	5.8	4.7	6.3	68.9	68.7	68.8
Australia	7.5	9.3	8.3	5.5	4.4	6.0	82.5	82.4	82.5
WORLD	730.0	747.3	756.9	262.1	268.2	278.0	67.3	67.4	67.3
Developing countries	459.2	474.1	480.9	176.1	192.3	197.0	60.7	60.9	61.0
Developed countries	270.9	273.2	276.0	86.0	75.8	81.0	95.3	95.4	95.4
LIFDC	154.5	158.1	161.2	33.1	33.4	31.8	48.9	49.0	49.0
LDC	35.3	37.1	37.9	10.5	8.5	6.9	30.3	31.0	31.1

APPENDIX TABLE 3(A): COARSE GRAIN STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	404.4	406.3	410.0	100.2	99.0	100.0	4.5	5.7	5.1
China	272.4	267.2	269.9	23.0	16.3	14.8	0.1	0.1	0.1
of which Taiwan Prov.	0.2	0.2	0.2	4.4	5.1	5.1	-	-	-
India	43.3	46.1	44.6	0.3	0.6	0.4	0.8	0.9	0.6
Indonesia	21.4	25.7	26.5	1.3	0.8	0.7	0.2	0.2	0.2
Iran, Islamic Republic of	4.3	3.7	4.1	9.3	11.9	12.2	-	-	-
Japan	0.2	0.2	0.2	17.4	18.0	18.0	-	-	-
Korea, Republic of	0.2	0.2	0.2	9.9	10.2	10.4	-	-	-
Malaysia	0.1	0.1	0.1	3.8	4.0	4.0	-	-	-
Pakistan	6.4	6.0	6.3	0.2	0.2	0.2	-	-	-
Philippines	7.5	7.8	7.9	0.7	0.8	0.8	-	-	-
Saudi Arabia	0.3	0.3	0.3	12.8	11.5	13.1	-	-	-
Thailand	4.9	5.3	5.4	0.2	0.2	0.2	0.4	0.3	0.3
Turkey	14.2	13.4	13.7	1.8	2.9	3.2	0.1	0.1	0.1
Viet Nam	5.2	4.9	5.0	8.5	9.9	10.1	0.1	0.3	0.1
AFRICA	129.4	140.4	133.2	27.1	25.4	26.9	5.1	5.5	5.0
Algeria	1.0	2.0	1.5	4.9	5.0	5.1	-	-	-
Egypt	8.5	8.3	8.4	9.0	9.5	9.7	-	-	-
Ethiopia	21.1	21.9	21.9	-	-	-	1.1	1.2	1.2
Morocco	2.3	3.1	1.4	2.8	3.0	3.5	-	-	-
Nigeria	17.8	19.2	19.2	0.5	0.4	0.4	0.2	0.2	0.2
South Africa	12.6	13.1	11.6	1.6	0.3	0.3	1.3	2.0	1.5
Sudan	5.4	7.6	6.8	0.3	0.2	0.2	0.3	0.4	0.4
Tanzania, United Rep. of	7.0	7.3	7.0	-	-	-	0.3	0.3	0.3
CENTRAL AMERICA	37.7	37.7	38.8	21.8	24.5	24.7	1.5	0.8	1.0
Mexico	32.9	32.8	33.8	15.2	17.8	18.1	1.4	0.8	1.0
SOUTH AMERICA	150.0	150.3	170.0	14.8	14.8	15.1	54.8	54.8	62.5
Argentina	48.6	50.8	56.8	0.1	0.1	0.1	25.6	26.8	30.8
Brazil	84.9	84.1	97.5	2.2	1.6	1.2	26.7	25.7	29.5
Chile	2.1	1.9	2.0	1.7	2.0	2.0	0.1	0.1	0.1
Colombia	1.4	1.3	1.2	5.2	5.5	5.7	-	-	-
Peru	1.8	1.8	1.8	3.3	3.3	3.7	-	-	-
Venezuela	1.3	0.7	1.1	1.8	1.6	1.6	-	-	-
NORTH AMERICA	411.3	406.5	417.6	4.8	5.1	4.4	67.7	71.3	66.2
Canada	26.3	26.2	28.7	1.3	1.9	1.4	5.2	6.0	5.7
United States of America	385.1	380.3	389.0	3.5	3.2	3.0	62.5	65.4	60.4
EUROPE	247.5	251.3	256.1	17.1	24.3	19.5	45.4	49.7	45.2
European Union	153.4	154.0	160.1	15.8	22.6	17.8	9.8	7.6	8.4
Russian Federation	42.4	36.6	40.8	0.2	0.3	0.3	9.8	8.2	9.8
Serbia	6.2	7.4	6.6	0.1	0.1	0.1	1.7	1.6	1.1
Ukraine	35.8	44.6	38.8	0.1	0.1	0.1	23.7	31.9	25.4
OCEANIA	15.1	11.9	12.6	0.3	0.3	0.3	8.2	5.7	5.9
Australia	14.4	11.3	12.0	-	-	-	8.2	5.7	5.9
WORLD	1 395.3	1 404.4	1 438.3	186.1	193.6	190.8	187.1	193.6	190.8
Developing countries	700.1	712.3	731.2	142.8	143.1	145.9	63.5	63.3	70.7
Developed countries	695.2	692.1	707.1	43.3	50.4	45.0	123.6	130.4	120.1
LIFDC	141.9	152.0	147.6	16.7	18.4	19.0	3.9	4.3	3.8
LDC	86.6	94.2	91.5	4.6	5.1	5.5	4.8	5.0	5.1

APPENDIX TABLE 3(B): COARSE GRAIN STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2016-2018 average	2019 <i>estim.</i>	2020 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>(..... million tonnes) (..... Kg/year) (.....)</i>								
ASIA	490.1	509.3	515.7	233.9	224.0	212.3	14.8	14.8	14.5
China	284.3	292.2	297.0	209.2	200.8	188.1	13.2	13.2	13.1
of which Taiwan Prov.	4.6	5.2	5.3	0.3	0.5	0.5	7.0	7.0	6.9
India	43.0	46.0	44.4	2.5	2.2	2.1	18.8	18.8	17.7
Indonesia	23.2	26.6	26.9	1.8	2.0	2.0	29.2	29.1	29.7
Iran, Islamic Republic of	13.3	15.3	16.3	1.8	2.3	2.3	1.3	1.2	1.2
Japan	17.3	18.1	18.2	2.1	2.0	2.0	3.3	3.3	3.3
Korea, Republic of	10.4	10.6	10.6	1.4	0.9	0.9	4.3	4.3	4.3
Malaysia	3.8	4.0	4.1	0.1	0.2	0.2	1.8	2.0	2.0
Pakistan	6.6	6.5	6.7	1.5	0.8	0.5	10.5	10.2	10.5
Philippines	8.2	8.5	8.7	0.8	1.2	1.2	18.7	18.7	18.7
Saudi Arabia	13.3	12.3	12.9	3.5	2.4	2.9	3.0	2.9	2.8
Thailand	4.6	5.2	5.2	0.7	0.6	0.6	2.7	2.7	2.7
Turkey	16.0	16.2	16.5	2.1	2.1	2.1	19.8	19.7	19.4
Viet Nam	13.6	15.0	15.0	1.5	0.6	0.6	7.1	7.4	7.7
AFRICA	149.5	157.4	158.0	29.1	35.9	32.8	72.0	72.2	71.1
Algeria	6.0	6.5	6.6	1.7	2.1	2.1	15.8	15.2	15.0
Egypt	17.6	17.6	18.1	1.6	1.8	1.9	45.1	44.7	43.9
Ethiopia	19.2	20.3	20.7	3.9	4.9	4.9	137.6	140.8	141.1
Morocco	5.2	5.6	5.3	1.3	1.6	1.2	29.8	29.5	29.5
Nigeria	18.3	18.7	19.4	1.6	2.5	2.5	72.0	68.6	68.1
South Africa	12.2	12.2	12.2	2.8	3.2	1.4	91.5	92.4	91.8
Sudan	5.6	6.4	6.4	1.0	2.1	2.3	111.3	107.5	105.0
Tanzania, United Rep. of	6.8	7.1	7.1	1.5	1.3	0.9	86.7	87.5	87.4
CENTRAL AMERICA	57.2	61.4	62.9	8.7	9.0	8.6	97.8	99.0	99.0
Mexico	46.0	49.5	51.1	5.2	5.9	5.7	131.2	131.5	131.9
SOUTH AMERICA	107.9	116.5	119.7	29.9	34.8	35.6	27.6	28.2	28.4
Argentina	21.5	25.9	25.5	7.2	9.9	9.9	7.3	7.3	7.3
Brazil	61.3	63.7	66.7	13.3	14.4	15.4	25.5	25.7	26.0
Chile	3.4	3.5	3.9	3.0	3.7	3.7	25.1	25.4	25.2
Colombia	6.5	6.8	6.9	0.9	1.1	1.1	42.3	49.3	50.7
Peru	4.9	5.5	5.7	0.3	0.4	0.3	20.9	21.7	21.3
Venezuela	3.5	2.6	2.8	0.7	0.1	0.1	54.3	49.9	49.3
NORTH AMERICA	344.0	348.2	357.8	61.0	59.3	55.6	18.0	18.0	18.0
Canada	22.2	23.5	23.6	5.0	3.5	4.3	4.7	4.6	4.6
United States of America	321.8	324.7	334.3	56.1	55.7	51.3	19.6	19.5	19.5
EUROPE	221.7	223.7	226.2	34.4	38.6	42.8	20.5	20.3	20.3
European Union	161.6	164.6	167.3	18.9	24.5	26.7	18.9	18.8	18.8
Russian Federation	32.1	30.4	30.8	5.5	5.2	5.7	21.6	21.2	21.2
Serbia	4.8	5.6	5.1	0.5	0.5	0.9	23.6	24.3	22.1
Ukraine	13.3	13.1	13.0	4.9	4.0	4.6	29.4	28.9	29.1
OCEANIA	6.8	6.5	6.7	2.8	2.6	2.7	8.1	7.9	7.9
Australia	5.9	5.6	5.7	2.7	2.5	2.5	9.7	9.5	9.4
WORLD	1 377.2	1 422.9	1 447.0	399.7	404.2	390.5	28.0	28.3	28.1
Developing countries	765.6	805.0	816.7	294.0	295.1	281.8	29.9	30.3	30.0
Developed countries	611.6	617.9	630.3	105.7	109.1	108.7	19.8	19.7	19.7
LIFDC	153.5	164.7	163.0	25.0	28.4	28.1	36.4	37.2	36.4
LDC	85.7	92.7	92.5	17.1	20.6	19.9	58.1	59.1	58.2

APPENDIX TABLE 4(A): MAIZE STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
ASIA	356.2	357.9	362.7	67.9	76.1	76.5	3.2	3.9	3.5
China	262.7	257.5	260.2	7.9	8.6	8.1	-	-	-
of which Taiwan Prov.	0.2	0.2	0.2	4.3	5.0	5.0	-	-	-
India	25.7	27.8	28.0	0.2	0.4	0.2	0.6	0.7	0.5
Indonesia	21.4	25.7	26.5	1.2	0.6	0.6	0.2	0.2	0.2
Iran, Islamic Republic of	1.2	0.9	1.1	7.4	9.2	9.5	-	-	-
Japan	-	-	-	15.5	16.1	16.0	-	-	-
Korea, Republic of	0.1	0.1	0.1	9.8	10.1	10.2	-	-	-
Malaysia	0.1	0.1	0.1	3.8	4.0	4.0	-	-	-
Pakistan	5.8	5.5	5.7	-	-	-	-	-	-
Philippines	7.5	7.8	7.9	0.6	0.8	0.8	-	-	-
Thailand	4.7	5.2	5.2	0.1	0.2	0.2	0.4	0.3	0.3
Turkey	6.2	5.7	6.0	1.5	2.6	3.0	0.1	0.1	0.1
Viet Nam	5.2	4.9	5.0	8.4	9.8	10.0	0.1	0.3	0.1
AFRICA	77.0	80.7	77.5	22.9	21.5	22.8	3.8	4.1	3.5
Algeria	-	-	-	4.2	4.4	4.5	-	-	-
Egypt	7.6	7.3	7.4	9.0	9.5	9.7	-	-	-
Ethiopia	8.0	8.4	8.4	-	-	-	0.7	0.7	0.7
Kenya	3.4	3.7	3.6	1.1	0.8	0.9	-	-	-
Morocco	0.1	0.1	0.1	2.2	2.6	2.6	-	-	-
Nigeria	10.1	11.0	11.0	0.4	0.4	0.4	0.2	0.2	0.2
South Africa	12.1	12.5	11.0	2.1	0.1	0.1	1.3	2.0	1.5
Tanzania, United Rep. of	5.9	6.1	5.9	-	-	-	0.3	0.3	0.3
CENTRAL AMERICA	31.3	31.4	32.5	21.1	23.8	24.0	1.5	0.8	1.0
Mexico	26.9	26.9	27.9	14.5	17.0	17.4	1.4	0.8	1.0
SOUTH AMERICA	136.8	136.8	156.3	13.4	13.5	13.7	51.3	51.8	60.0
Argentina	41.0	43.5	49.7	-	-	-	22.3	24.0	28.5
Brazil	82.2	80.7	94.0	1.5	1.0	0.6	26.7	25.7	29.5
Chile	1.3	1.1	1.1	1.6	1.9	1.9	-	-	-
Colombia	1.4	1.2	1.2	4.8	5.2	5.4	-	-	-
Peru	1.6	1.6	1.5	3.2	3.2	3.6	-	-	-
Venezuela	1.3	0.7	1.1	1.7	1.6	1.6	-	-	-
NORTH AMERICA	381.0	380.2	389.7	2.6	3.0	2.3	56.8	64.4	59.9
Canada	13.9	13.9	14.7	1.2	1.8	1.3	1.6	1.6	1.8
United States of America	367.1	366.3	375.0	1.4	1.2	1.0	55.1	62.7	58.2
EUROPE	110.3	127.3	120.9	15.7	21.9	17.9	28.1	35.0	29.5
European Union	61.9	69.0	68.5	14.9	21.0	17.0	2.2	2.2	2.5
Russian Federation	13.9	11.4	13.5	0.1	0.1	-	5.3	2.8	4.5
Serbia	5.6	7.0	6.1	-	-	-	1.6	1.5	1.0
Ukraine	25.4	35.8	29.0	0.1	-	0.1	18.6	28.0	21.0
OCEANIA	0.6	0.6	0.5	0.2	0.2	0.2	0.1	0.1	0.1
WORLD	1 093.2	1 114.9	1 140.1	143.6	160.0	157.5	144.7	160.0	157.5
Developing countries	586.5	591.7	615.3	106.6	116.8	118.9	58.5	58.5	66.5
Developed countries	506.7	523.2	524.8	37.0	43.2	38.6	86.2	101.5	91.0
LIFDC	82.1	87.5	86.4	15.0	16.5	17.2	2.5	2.8	2.3
LDC	47.6	50.8	49.8	3.8	4.3	4.7	3.6	3.7	3.7

APPENDIX TABLE 4(B): MAIZE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes))						(..... Kg/year))		
ASIA	410.8	440.6	446.4	221.2	212.0	200.1	9.3	9.4	9.4
China	260.3	275.9	279.4	205.3	196.4	184.6	9.9	9.9	9.9
of which Taiwan Prov.	4.4	5.1	5.2	0.3	0.5	0.5	5.5	5.5	5.5
India	25.1	27.6	27.6	1.4	1.8	1.8	6.3	6.4	6.3
Indonesia	23.0	26.5	26.8	1.8	2.0	2.0	28.8	28.7	29.3
Iran, Islamic Republic of	8.5	9.9	10.6	1.0	1.5	1.5	0.9	0.9	0.9
Japan	15.2	16.0	16.0	1.8	1.7	1.7	0.8	0.8	0.8
Korea, Republic.of	10.1	10.3	10.3	1.4	0.8	0.8	1.9	2.0	1.9
Malaysia	3.8	4.0	4.1	0.1	0.2	0.2	1.8	2.0	2.0
Pakistan	6.0	5.8	6.0	1.5	0.8	0.5	8.2	8.2	8.5
Philippines	8.1	8.4	8.6	0.8	1.2	1.2	18.6	18.6	18.7
Thailand	4.4	5.0	5.0	0.7	0.6	0.6	1.2	1.2	1.2
Turkey	7.7	8.2	8.5	1.0	1.0	1.0	16.1	16.1	15.9
Viet Nam	13.5	14.9	14.9	1.5	0.6	0.6	7.0	7.4	7.7
AFRICA	93.9	98.1	99.7	18.0	21.9	18.9	39.6	39.6	39.5
Algeria	4.2	4.4	4.5	1.3	1.2	1.2	3.4	3.3	3.3
Egypt	16.6	16.6	17.0	1.5	1.7	1.8	42.0	41.8	41.0
Ethiopia	7.2	7.5	7.6	0.7	0.9	0.9	44.7	46.5	46.3
Kenya	4.4	4.5	4.7	0.5	0.4	0.2	81.1	82.0	83.3
Morocco	2.3	2.5	2.8	0.7	1.1	1.1	10.2	10.4	10.2
Nigeria	10.4	10.6	11.2	1.2	2.0	2.0	33.0	31.1	31.1
South Africa	11.5	11.4	11.4	2.5	3.0	1.2	88.8	89.7	89.1
Tanzania, United Rep. of	5.7	5.9	5.9	1.3	1.1	0.8	69.7	69.6	70.8
CENTRAL AMERICA	50.1	54.4	55.9	8.2	8.6	8.2	96.8	98.0	98.0
Mexico	39.3	42.8	44.5	4.9	5.6	5.4	130.8	131.2	131.5
SOUTH AMERICA	96.2	105.5	107.8	27.2	31.9	32.7	25.9	26.6	26.8
Argentina	16.9	22.0	21.2	6.3	9.0	9.0	7.1	7.1	7.1
Brazil	57.8	59.7	62.5	12.8	14.0	15.0	24.1	24.2	24.5
Chile	2.5	2.8	3.0	2.4	2.8	2.8	21.2	21.4	21.2
Colombia	6.1	6.5	6.6	0.9	1.1	1.1	41.3	48.8	50.2
Peru	4.6	5.1	5.4	0.3	0.4	0.3	14.5	15.4	15.8
Venezuela	3.4	2.6	2.7	0.7	-	-	53.8	49.4	48.8
NORTH AMERICA	322.1	326.0	334.9	54.7	53.7	49.0	14.8	14.8	14.8
Canada	13.2	14.5	14.2	2.4	2.0	2.0	3.2	3.2	3.1
United States of America	308.9	311.5	320.7	52.3	51.7	47.0	16.1	16.1	16.1
EUROPE	99.9	109.5	108.7	16.4	22.5	23.1	8.1	8.2	8.1
European Union	75.6	84.3	83.5	9.2	14.5	14.0	9.5	9.5	9.5
Russian Federation	8.5	8.2	8.9	1.2	1.7	1.8	1.4	1.4	1.4
Serbia	4.3	5.1	4.6	0.5	0.4	0.9	21.8	22.5	20.4
Ukraine	7.9	8.0	7.8	3.3	2.4	2.7	11.2	11.3	11.4
OCEANIA	0.7	0.7	0.6	0.1	0.1	0.1	2.3	2.3	2.3
WORLD	1 073.8	1 134.8	1 154.1	345.7	350.8	332.2	17.9	18.1	18.2
Developing countries	620.1	666.9	677.8	269.0	268.3	255.4	19.3	19.5	19.6
Developed countries	453.7	467.9	476.3	76.7	82.5	76.7	11.9	12.0	12.0
LIFDC	93.1	101.7	101.8	14.1	15.3	14.5	17.3	17.7	17.8
LDC	47.2	51.9	51.7	8.3	9.3	8.2	27.8	28.1	28.1

APPENDIX TABLE 5(A): BARLEY STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	20.6	20.6	21.5	24.0	20.1	20.7	1.0	1.5	1.4
China	1.9	1.8	1.8	7.9	6.1	5.1	-	-	-
India	1.6	1.8	2.1	0.3	0.2	0.2	-	-	-
Iran, Islamic Republic of	3.1	2.8	3.0	1.9	2.7	2.7	-	-	-
Iraq	0.4	0.4	0.7	-	-	-	-	-	-
Japan	0.2	0.2	0.2	1.2	1.2	1.3	-	-	-
Kazakhstan	3.1	4.0	3.9	-	-	-	1.0	1.5	1.3
Saudi Arabia	-	-	-	9.1	6.5	8.0	-	-	-
Syrian Arab Republic	0.6	0.4	0.5	0.4	0.6	0.6	-	-	-
Turkey	7.3	7.0	7.0	0.5	0.2	0.2	-	-	-
AFRICA	6.2	8.1	6.0	3.1	2.7	2.9	-	-	-
Algeria	1.0	2.0	1.4	0.7	0.6	0.6	-	-	-
Ethiopia	2.0	2.0	2.0	-	-	-	-	-	-
Libya	0.1	0.1	0.1	1.1	1.0	1.0	-	-	-
Morocco	2.2	2.9	1.3	0.6	0.4	0.8	-	-	-
Tunisia	0.4	0.4	0.5	0.6	0.6	0.4	-	-	-
CENTRAL AMERICA	0.9	1.0	1.0	0.2	-	-	-	-	-
Mexico	0.9	1.0	1.0	0.2	-	-	-	-	-
SOUTH AMERICA	5.1	6.5	5.7	1.1	1.0	1.0	2.8	2.6	2.1
Argentina	4.0	5.1	4.3	-	-	-	2.7	2.5	2.0
NORTH AMERICA	12.4	11.7	13.2	0.3	0.3	0.3	1.7	2.2	2.1
Canada	8.3	8.4	9.7	0.1	0.1	-	1.6	2.1	2.0
United States of America	4.1	3.3	3.5	0.3	0.2	0.2	0.1	0.1	0.1
EUROPE	90.4	83.2	90.7	0.7	0.7	0.7	16.5	13.7	15.0
Belarus	1.5	0.9	1.6	0.1	0.1	0.1	-	-	-
European Union	59.9	56.5	61.0	0.4	0.2	0.2	7.2	5.0	5.5
Russian Federation	18.7	17.0	18.5	0.2	0.2	0.2	4.3	5.0	5.2
Ukraine	8.7	7.3	8.2	-	-	-	4.8	3.6	4.2
OCEANIA	10.9	8.7	9.2	-	-	-	7.0	5.0	5.2
Australia	10.5	8.3	8.8	-	-	-	7.0	5.0	5.2
WORLD	146.5	139.7	147.2	29.4	25.0	25.7	29.1	25.0	25.7
Developing countries	27.4	29.7	27.9	26.7	22.3	22.9	2.9	2.6	2.1
Developed countries	119.1	110.0	119.3	2.7	2.7	2.8	26.2	22.4	23.6
LIFDC	5.4	5.3	5.7	0.8	1.0	0.9	-	-	-
LDC	2.5	2.2	2.3	-	-	-	-	-	-

APPENDIX TABLE 6(A): SORGHUM STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	8.7	9.0	8.8	7.6	2.1	2.1	0.1	0.1	0.1
China	3.0	3.1	3.1	6.9	1.4	1.4	-	-	-
India	4.7	5.0	4.7	-	-	-	0.1	0.1	0.1
Japan	-	-	-	0.6	0.6	0.6	-	-	-
AFRICA	26.8	28.5	28.2	1.0	1.0	1.0	0.9	1.0	1.0
Burkina Faso	1.5	1.9	1.6	-	-	-	-	-	-
Ethiopia	4.9	5.2	5.2	-	-	-	0.4	0.5	0.5
Nigeria	6.2	6.0	6.3	-	-	-	-	-	-
Sudan	4.4	5.0	5.0	0.2	0.2	0.2	0.3	0.3	0.3
CENTRAL AMERICA	5.4	5.1	5.2	0.4	0.5	0.5	-	-	-
Mexico	5.0	4.8	4.9	0.4	0.5	0.5	-	-	-
SOUTH AMERICA	5.8	4.6	5.5	0.1	0.1	0.2	0.6	0.3	0.3
Argentina	2.9	1.6	2.1	-	-	-	0.6	0.3	0.3
Brazil	1.7	2.1	2.3	-	-	-	-	-	-
Venezuela	0.1	-	-	-	-	-	-	-	-
NORTH AMERICA	12.2	9.3	9.0	0.1	-	-	7.1	2.4	2.0
United States of America	12.2	9.3	9.0	0.1	-	-	7.1	2.4	2.0
EUROPE	1.1	1.0	1.0	0.2	0.8	0.3	0.2	0.1	0.1
European Union	0.7	0.8	0.7	0.2	0.8	0.2	-	-	-
OCEANIA	1.7	1.4	1.3	0.1	-	-	0.7	0.5	0.4
Australia	1.7	1.4	1.3	-	-	-	0.7	0.5	0.4
WORLD	61.6	59.1	59.0	9.5	4.5	4.0	9.6	4.5	4.0
Developing countries	46.5	47.1	47.5	8.4	3.0	3.0	1.6	1.5	1.5
Developed countries	15.1	11.9	11.5	1.0	1.5	1.0	8.0	3.0	2.5
LIFDC	24.8	26.8	26.0	0.8	0.8	0.8	0.9	1.1	1.1
LDC	18.9	20.6	20.1	0.7	0.6	0.6	0.8	0.9	0.9

APPENDIX TABLE 7(A): OTHER COARSE GRAIN STATISTICS: MILLET, RYE, OATS AND OTHER GRAINS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	18.9	18.8	17.0	0.7	0.7	0.7	0.1	0.2	0.1
AFRICA	19.4	23.1	21.5	0.1	0.2	0.2	0.4	0.4	0.5
CENTRAL AMERICA	0.1	0.2	0.1	0.1	0.2	0.2	-	-	-
SOUTH AMERICA	2.4	2.4	2.5	0.2	0.2	0.2	0.1	0.1	0.1
NORTH AMERICA	5.7	5.3	5.7	1.8	1.8	1.8	2.1	2.3	2.1
EUROPE	45.7	39.8	43.5	0.5	0.9	0.6	0.7	0.9	0.6
OCEANIA	1.9	1.2	1.6	-	0.1	0.1	0.3	0.1	0.2
WORLD	94.0	90.7	92.0	3.6	4.1	3.6	3.8	4.1	3.6

APPENDIX TABLE 6(B): SORGHUM STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2016-2018 average	2019 <i>estim.</i>	2020 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>(..... million tonnes</i>)						<i>(..... Kg/year</i>)		
ASIA	15.6	10.6	11.0	1.3	1.0	1.0	1.3	1.3	1.2
China	9.1	4.1	4.6	0.8	0.6	0.7	0.5	0.5	0.5
India	4.8	4.8	4.6	0.4	-	-	3.5	3.5	3.3
Japan	0.6	0.6	0.6	0.1	0.1	0.1	-	-	-
AFRICA	27.6	28.7	28.4	3.8	3.5	3.2	18.0	17.7	17.1
Burkina Faso	1.6	1.8	1.6	0.4	0.5	0.5	74.4	84.8	72.8
Ethiopia	4.4	4.7	4.7	0.6	0.8	0.8	32.4	32.9	32.1
Nigeria	6.4	6.0	6.3	0.1	-	-	32.2	28.6	29.2
Sudan	4.7	5.2	5.1	0.7	0.3	0.1	95.3	92.8	88.3
CENTRAL AMERICA	5.8	5.6	5.7	0.3	0.3	0.3	0.7	0.7	0.7
Mexico	5.5	5.3	5.4	0.2	0.2	0.2	-	-	-
SOUTH AMERICA	5.7	4.7	5.4	1.6	1.1	1.1	0.1	0.0	0.0
Argentina	2.4	1.6	1.9	0.5	0.1	0.1	-	-	-
Brazil	1.8	2.1	2.3	0.3	0.2	0.2	-	-	-
Venezuela	0.1	-	0.1	-	-	-	-	-	-
NORTH AMERICA	5.5	6.5	6.5	0.9	1.5	2.0	0.1	0.1	0.1
United States of America	5.5	6.5	6.5	0.9	1.5	2.0	0.1	0.1	0.1
EUROPE	1.2	1.3	1.1	0.3	0.8	0.8	0.2	0.2	0.2
European Union	0.9	1.2	1.0	0.2	0.8	0.8	0.3	0.3	0.3
OCEANIA	0.8	0.9	0.8	0.8	0.8	0.9	0.2	0.2	0.2
Australia	0.7	0.9	0.8	0.8	0.8	0.9	-	-	-
WORLD	62.1	58.4	58.9	8.9	9.0	9.4	3.8	3.8	3.7
Developing countries	53.9	48.9	49.6	6.8	5.7	5.6	4.6	4.6	4.5
Developed countries	8.2	9.6	9.4	2.1	3.3	3.9	0.2	0.2	0.2
LIFDC	25.3	26.8	26.0	3.9	3.5	3.3	8.1	8.3	7.9
LDC	19.2	20.5	20.1	3.4	3.3	3.0	14.9	15.3	14.6

APPENDIX TABLE 7(B): OTHER COARSE GRAIN STATISTICS: MILLET, RYE, OATS AND OTHER GRAINS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2016-2018 average	2019 <i>estim.</i>	2020 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	<i>(..... million tonnes</i>)						<i>(..... Kg/year</i>)		
ASIA	20.0	19.7	17.9	1.9	1.1	0.9	3.5	3.4	3.1
AFRICA	18.5	20.5	20.6	5.5	8.5	9.0	11.8	12.3	12.0
CENTRAL AMERICA	0.3	0.4	0.3	-	-	-	0.3	0.3	0.3
SOUTH AMERICA	2.4	2.3	2.5	0.7	0.9	0.9	1.1	1.1	1.2
NORTH AMERICA	5.5	5.4	5.4	1.7	1.2	1.4	2.6	2.6	2.6
EUROPE	45.5	41.9	42.3	6.8	5.1	6.4	11.1	10.8	10.9
OCEANIA	1.6	1.2	1.6	0.1	0.2	0.3	5.5	5.3	5.3
WORLD	93.7	91.1	90.5	16.6	17.0	18.8	5.3	5.4	5.2

APPENDIX TABLE 8(A): RICE STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>
	<i>million tonnes, milled equivalent</i>								
ASIA	454.4	466.1	469.2	21.4	23.1	20.8	37.1	40.3	39.3
Bangladesh	34.8	36.2	36.7	1.2	1.7	0.4	-	-	-
China	146.4	146.6	144.7	6.6	5.4	5.1	0.7	2.1	2.4
of which Taiwan Prov.	1.2	1.3	1.2	0.1	0.1	0.1	0.1	0.1	-
India	109.0	115.6	117.5	-	-	-	11.3	11.8	12.1
Indonesia	45.9	46.7	47.2	1.0	2.3	0.8	-	-	-
Iran, Islamic Republic of	1.8	1.9	1.9	1.3	1.2	1.4	-	-	-
Iraq	0.1	0.1	0.1	1.0	1.2	1.3	-	-	-
Japan	7.6	7.5	7.7	0.7	0.7	0.7	0.1	0.1	-
Korea DPR	1.5	1.4	1.5	-	-	0.1	-	-	-
Korea, Republic of	4.2	3.9	3.9	0.4	0.4	0.5	-	0.1	-
Malaysia	1.8	1.8	1.8	0.9	1.0	1.0	0.1	-	-
Myanmar	17.2	18.2	18.3	-	-	-	2.0	2.5	2.4
Pakistan	7.0	7.1	7.2	-	-	-	3.9	4.0	4.0
Philippines	12.1	12.4	12.7	1.2	2.4	2.5	-	-	-
Saudi Arabia	-	-	-	1.3	1.2	1.3	-	-	-
Sri Lanka	2.6	2.6	3.1	0.5	0.2	-	-	-	-
Thailand	20.6	21.2	22.0	0.2	0.3	0.4	10.4	11.1	9.2
Viet Nam	28.4	28.6	28.3	0.6	0.6	0.6	6.9	6.9	7.1
AFRICA	21.3	21.9	20.6	15.3	16.7	17.3	0.6	0.7	0.4
Cote D'ivoire	0.5	0.5	0.5	1.5	1.7	1.7	-	-	-
Egypt	4.3	3.4	3.1	0.1	0.2	0.4	0.3	0.1	-
Madagascar	2.4	2.2	2.3	0.4	0.6	0.6	-	-	-
Nigeria	4.6	5.3	4.8	2.4	2.3	2.3	-	-	-
Senegal	0.7	0.8	0.8	1.4	1.4	1.3	-	-	-
South Africa	-	-	-	0.9	1.0	1.0	-	-	-
Tanzania, United Rep. of	1.9	2.0	2.0	0.2	0.2	0.3	0.1	0.2	0.2
CENTRAL AMERICA	1.8	1.9	2.0	2.4	2.4	2.4	0.1	0.1	0.1
Cuba	0.3	0.3	0.3	0.5	0.5	0.5	-	-	-
Mexico	0.2	0.2	0.2	0.7	0.7	0.7	0.1	0.1	-
SOUTH AMERICA	16.7	16.9	15.5	1.8	1.8	2.0	3.1	3.7	3.3
Argentina	1.0	0.9	0.8	-	-	-	0.4	0.4	0.4
Brazil	8.0	8.2	7.2	0.6	0.6	0.8	0.7	1.2	0.7
Peru	2.1	2.4	2.2	0.3	0.3	0.3	0.1	0.1	0.1
Uruguay	1.0	0.9	0.8	-	-	-	0.9	0.8	0.8
NORTH AMERICA	6.3	7.1	6.9	1.1	1.3	1.3	3.4	2.8	3.1
Canada	-	-	-	0.4	0.4	0.4	-	-	-
United States of America	6.3	7.1	6.9	0.8	0.9	0.9	3.4	2.8	3.1
EUROPE	2.5	2.5	2.5	2.4	2.5	2.4	0.5	0.5	0.5
European Union	1.8	1.7	1.7	1.9	1.9	1.9	0.3	0.3	0.3
Russian Federation	0.7	0.7	0.7	0.2	0.2	0.2	0.2	0.1	0.2
OCEANIA	0.4	0.4	0.1	0.5	0.6	0.6	0.2	0.3	0.1
Australia	0.4	0.4	0.1	0.2	0.2	0.2	0.2	0.3	0.1
WORLD	503.4	516.9	516.8	44.9	48.3	46.8	44.9	48.3	46.8
Developing countries	485.8	498.7	498.8	39.4	42.5	40.8	40.7	44.6	43.0
Developed countries	17.7	18.2	17.9	5.6	5.8	5.9	4.2	3.6	3.8
LIFDC	190.2	199.3	201.4	14.9	16.6	15.6	18.6	19.3	19.6
LDC	75.3	79.4	79.6	11.1	12.6	11.3	3.9	4.6	4.6

APPENDIX TABLE 8(B): RICE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>
	<i>(..... million tonnes, milled equivalent</i>						<i>..... Kg/year</i>		
ASIA	434.6	439.7	443.1	159.6	163.1	169.9	77.6	77.3	77.5
Bangladesh	36.0	36.3	37.1	5.8	6.6	6.4	180.3	180.8	181.7
China	146.0	146.7	147.9	95.4	105.4	106.8	76.6	76.7	76.6
of which Taiwan Prov.	1.3	1.3	1.3	0.2	0.2	0.3	48.2	48.1	48.4
India	97.2	98.4	100.1	20.1	21.8	25.7	68.5	68.2	68.7
Indonesia	46.4	47.1	48.0	6.6	6.3	7.2	134.4	133.0	134.3
Iran, Islamic Republic of	3.1	3.2	3.3	0.6	0.6	0.6	34.9	35.6	36.1
Iraq	1.2	1.3	1.3	0.2	0.1	0.1	34.1	33.6	33.5
Japan	8.6	8.3	8.1	3.3	3.0	3.1	50.1	49.8	49.4
Korea DPR	1.6	1.6	1.5	0.2	0.1	0.1	56.2	56.3	55.6
Korea, Republic of	4.5	4.9	4.5	1.7	1.2	0.9	76.3	75.9	74.1
Malaysia	2.7	2.7	2.8	0.4	0.2	0.2	81.0	78.5	79.5
Myanmar	15.2	15.0	15.3	2.8	2.4	3.0	193.7	194.2	194.9
Pakistan	2.9	3.2	3.2	0.6	0.8	0.8	12.6	12.8	12.7
Philippines	13.3	14.2	14.5	2.5	2.0	2.8	115.0	116.2	116.9
Saudi Arabia	1.4	1.3	1.3	0.4	0.2	0.1	42.9	39.0	37.7
Sri Lanka	3.1	2.7	2.8	0.6	0.2	0.2	123.2	122.1	121.8
Thailand	13.8	13.7	12.0	11.8	5.6	5.4	99.1	98.3	98.5
Viet Nam	21.7	22.3	22.3	3.1	3.1	3.0	154.6	153.4	152.8
AFRICA	35.0	37.9	38.9	5.4	6.1	5.1	25.5	26.4	26.6
Cote D'ivoire	1.9	2.2	2.3	0.3	0.5	0.4	77.6	83.7	85.0
Egypt	3.9	4.2	4.1	0.6	0.8	0.6	37.9	38.9	37.7
Madagascar	2.8	2.8	2.8	0.3	0.3	0.2	100.8	98.4	98.1
Nigeria	7.1	7.3	7.5	1.2	1.0	1.0	33.5	33.0	33.3
Senegal	1.9	2.1	2.2	0.4	0.4	0.4	114.4	122.3	123.6
South Africa	0.9	0.9	0.9	0.2	0.1	0.2	15.8	15.8	16.0
Tanzania, United Rep. of	2.0	1.9	2.0	0.4	0.3	0.3	26.8	27.9	28.2
CENTRAL AMERICA	4.0	4.2	4.3	0.5	0.5	0.5	17.8	17.8	18.0
Cuba	0.8	0.8	0.8	0.1	-	-	67.4	66.9	66.9
Mexico	0.8	0.8	0.9	0.1	0.1	0.1	6.4	6.4	6.5
SOUTH AMERICA	15.1	15.4	15.1	2.3	2.3	2.4	32.1	32.0	31.2
Argentina	0.5	0.6	0.6	0.3	0.2	0.2	10.2	10.5	10.6
Brazil	7.9	8.2	7.6	0.5	0.5	0.5	34.8	35.0	33.0
Peru	2.3	2.4	2.5	0.3	0.3	0.4	65.0	65.4	65.9
Uruguay	0.1	0.1	0.1	0.1	-	0.1	10.9	10.9	10.9
NORTH AMERICA	4.4	4.7	4.7	1.5	1.0	1.7	9.3	9.5	9.6
Canada	0.4	0.4	0.4	0.1	-	-	10.5	10.4	10.5
United States of America	4.0	4.3	4.3	1.5	0.9	1.7	9.2	9.4	9.5
EUROPE	4.3	4.6	4.4	0.7	0.7	0.6	5.1	5.3	5.2
European Union	3.2	3.5	3.3	0.5	0.5	0.5	5.4	5.7	5.6
Russian Federation	0.8	0.8	0.8	0.1	0.1	0.1	4.9	4.9	5.0
OCEANIA	0.7	0.7	0.8	0.2	0.3	0.3	15.7	16.5	16.8
Australia	0.3	0.3	0.3	0.2	0.3	0.3	10.4	11.2	11.5
WORLD	498.2	507.3	511.2	170.2	174.0	180.6	53.9	53.9	53.9
Developing countries	478.8	487.5	491.7	164.1	168.7	174.6	64.0	63.7	63.7
Developed countries	19.5	19.8	19.5	6.1	5.3	6.0	11.1	11.2	11.1
LIFDC	184.8	189.4	192.9	33.2	36.4	39.2	64.3	64.1	64.3
LDC	81.5	84.1	86.1	14.1	15.0	15.0	66.3	65.9	65.9

Note: Totals and percentage change computed from unrounded data.

APPENDIX TABLE 9: CEREAL SUPPLY AND UTILIZATION IN SELECTED EXPORTERS (million tonnes)

	Wheat ¹			Coarse Grains ²			Rice (milled basis)		
	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
	UNITED STATES of AMERICA (Jun/May)			UNITED STATES of AMERICA			UNITED STATES of AMERICA (Aug/Jul)		
Opening Stocks	32.1	29.9	29.6	62.2	57.9	55.7	1.5	0.9	1.7
Production	47.4	51.3	51.0	384.8	380.3	389.0	5.7	7.1	6.9
Imports	4.3	3.9	3.0	3.0	3.1	3.1	0.9	0.9	0.9
Total Supply	83.8	85.1	83.6	450.0	441.3	447.8	8.1	8.9	9.5
Domestic use	29.4	29.8	30.1	324.6	324.7	334.3	4.3	4.3	4.6
Exports	24.5	25.7	27.0	67.4	60.8	62.2	2.8	3.0	3.4
Closing stocks	29.9	29.6	26.5	57.9	55.7	51.3	0.9	1.7	1.6
	CANADA (August/July)			CANADA			THAILAND (Aug/July)		
Opening Stocks	6.9	5.9	6.0	5.5	4.6	3.5	8.2	5.6	5.4
Production	30.0	31.8	33.1	26.4	26.2	28.7	22.2	21.2	22.0
Imports	0.1	0.1	0.1	1.8	1.8	1.4	0.2	0.3	0.3
Total Supply	37.0	37.8	39.2	33.7	32.6	33.6	30.6	27.1	27.7
Domestic use	9.2	9.0	9.2	23.3	23.5	23.6	13.7	12.0	12.4
Exports	21.9	22.8	23.0	5.8	5.6	5.7	11.4	9.8	9.7
Closing stocks	5.9	6.0	7.0	4.6	3.5	4.3	5.6	5.4	5.6
	ARGENTINA (Dec./Nov.)			ARGENTINA			INDIA (Oct./Sept.)		
Opening Stocks	1.3	1.6	1.7	5.9	10.6	9.9	19.5	21.8	25.7
Production	18.5	19.5	19.8	56.4	50.8	56.8	112.9	115.6	117.5
Imports	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Total Supply	19.8	21.1	21.5	62.4	61.5	66.8	132.4	137.4	143.2
Domestic use	5.8	5.8	5.9	22.7	25.9	25.5	98.4	100.1	103.1
Exports	12.5	13.5	13.0	29.0	25.7	31.4	12.2	11.6	12.6
Closing stocks	1.6	1.7	2.6	10.6	9.9	9.9	21.8	25.7	27.6
	AUSTRALIA (Oct./Sept.)			AUSTRALIA			PAKISTAN (Sept./Aug.)		
Opening Stocks	6.0	5.8	4.4	3.0	2.9	2.5	0.7	0.8	0.8
Production	21.2	17.3	23.9	11.7	11.3	12.0	7.4	7.1	7.2
Imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Supply	27.2	23.1	28.3	14.7	14.2	14.5	8.1	7.9	8.0
Domestic use	7.6	9.3	8.3	5.6	5.6	5.7	3.2	3.2	3.2
Exports	13.8	9.4	14.0	6.2	6.2	6.2	4.1	4.0	4.1
Closing stocks	5.8	4.4	6.0	2.9	2.5	2.5	0.8	0.8	0.7
	EU (July/June)			EU			VIET NAM (Jan./Dec.)		
Opening Stocks	14.8	21.0	13.5	17.4	20.0	24.5	3.3	3.1	3.0
Production	152.0	137.5	149.5	156.0	154.0	160.1	27.8	28.6	28.3
Imports	5.5	6.0	6.0	18.1	22.6	17.8	0.7	0.6	0.6
Total Supply	172.3	164.5	169.0	191.5	196.6	202.4	31.8	32.3	31.9
Domestic use	128.7	128.8	131.0	164.3	164.6	167.3	22.3	22.3	21.8
Exports	22.6	22.2	23.5	7.1	7.6	8.4	6.3	6.9	7.1
Closing stocks	21.0	13.5	14.5	20.0	24.5	26.7	3.1	3.0	3.0
	TOTAL OF ABOVE			TOTAL OF ABOVE			TOTAL OF ABOVE		
Opening Stocks	61.1	64.2	55.2	94.0	96.0	96.1	33.2	32.2	36.6
Production	269.1	257.4	277.3	635.3	622.6	646.6	176.0	179.6	181.9
Imports	9.9	10.0	9.1	23.0	27.6	22.4	1.8	1.8	1.8
Total Supply	340.1	331.6	341.6	752.3	746.2	765.1	211.0	213.6	220.3
Domestic use	180.7	182.7	184.5	540.5	544.3	556.4	141.9	141.9	145.1
Exports	95.3	93.6	100.5	115.5	105.9	113.9	36.8	35.3	36.9
Closing stocks	64.2	55.2	56.6	96.0	96.1	94.7	32.2	36.6	38.5

¹ Trade data include wheat flour in wheat grain equivalent. For the EU semolina is also included

² **Argentina** (December/November) for rye, barley and oats, (March/February) for maize and sorghum. **Australia** (November/October) for rye, barley and oats, (March/February) for maize and sorghum. **Canada** (August/July), **EU** (July/June), **United States** (June/May) for rye, barley and oats, (September/August) for maize and sorghum

APPENDIX TABLE 10: TOTAL OILCROPS STATISTICS (million tonnes)

	Production ¹			Imports			Exports		
	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>
ASIA	131.1	141.2	142.9	121.5	133.8	128.0	3.6	4.1	3.7
China	57.1	60.8	61.3	92.9	102.9	95.6	1.0	1.0	0.9
of which Taiwan Prov.	0.1	0.1	0.1	2.5	2.7	2.7	-	-	-
India	36.7	40.1	41.6	0.4	0.3	0.2	1.1	1.5	1.2
Indonesia	11.4	12.8	13.3	2.6	2.7	2.9	0.1	0.1	0.1
Iran, Islamic Republic of	0.7	0.9	0.9	2.0	2.4	2.5	0.1	0.1	0.1
Japan	0.3	0.3	0.3	5.9	6.0	6.2	-	-	-
Korea, Republic of	0.2	0.2	0.2	1.6	1.7	1.7	-	-	-
Malaysia	4.9	5.1	5.2	0.8	0.9	1.0	0.1	-	-
Pakistan	4.5	4.5	4.3	2.3	3.7	3.9	-	-	-
Thailand	0.9	1.1	1.2	2.7	2.8	2.8	-	-	-
Turkey	3.2	3.7	3.6	3.1	3.0	2.9	0.1	0.2	0.2
AFRICA	20.3	20.9	21.1	3.6	4.7	5.2	0.8	0.9	0.9
Nigeria	4.7	4.6	4.7	0.1	0.1	0.1	0.1	0.1	0.1
CENTRAL AMERICA	2.0	2.1	2.0	6.7	7.5	8.0	0.2	0.2	0.2
Mexico	1.4	1.4	1.3	5.9	6.8	7.1	-	-	-
SOUTH AMERICA	185.4	185.3	197.5	2.9	6.6	5.7	74.5	87.4	88.8
Argentina	63.3	42.8	61.4	0.8	4.7	3.2	10.0	2.9	10.2
Brazil	105.2	126.8	120.1	0.4	0.3	0.5	56.3	76.5	70.7
Paraguay	9.7	10.2	8.8	-	-	-	5.1	6.2	4.8
Uruguay	3.3	1.7	3.2	-	-	-	2.8	1.7	2.9
NORTH AMERICA	146.0	162.2	163.3	2.4	2.5	2.3	71.5	74.7	69.4
Canada	25.8	30.2	28.8	0.6	0.9	1.0	15.4	16.4	16.5
United States of America	120.2	132.0	134.5	1.7	1.6	1.3	56.1	58.3	52.9
EUROPE	68.7	75.0	79.3	22.0	22.9	25.1	6.4	8.0	9.5
European Union	33.6	35.8	33.5	19.3	20.1	21.7	1.1	0.8	0.8
Russian Federation	14.3	16.6	19.7	2.1	2.2	2.7	0.7	1.2	2.2
Ukraine	18.5	19.8	23.1	-	-	-	4.1	5.2	5.6
OCEANIA	5.1	5.7	3.6	-	-	-	3.0	2.8	1.9
Australia	4.6	5.2	3.1	-	-	-	2.9	2.7	1.8
WORLD	558.5	592.3	609.8	159.2	178.0	174.3	159.9	178.0	174.4
Developing countries	338.9	349.6	363.7	128.8	146.6	140.7	79.2	92.6	93.6
Developed countries	219.6	242.7	246.0	30.3	31.4	33.6	80.7	85.4	80.7
LIFDC	53.9	57.5	58.7	4.2	4.1	4.3	1.9	2.4	2.1
LDC	33.0	33.6	33.7	8.8	11.5	12.4	1.3	1.4	1.4

¹ The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown; for tree crops which are produced throughout the year, calendar year production for the second year shown is used.

APPENDIX TABLE 11: TOTAL OILS AND FATS STATISTICS ¹ (million tonnes)

	Imports			Exports			Utilization		
	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	14/15-16/17 average	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>
ASIA	46.7	48.4	51.9	50.7	52.0	55.1	111.0	121.4	128.1
Bangladesh	2.1	2.5	2.7	-	-	-	2.5	3.0	3.1
China	9.7	10.5	11.9	0.6	0.6	0.6	38.9	42.1	43.0
of which Taiwan Prov.	0.5	0.4	0.5	-	-	-	0.9	1.0	1.0
India	15.1	14.9	15.4	0.2	0.2	0.2	24.4	25.5	26.5
Indonesia	0.1	0.1	0.1	28.3	29.6	32.1	11.3	13.5	16.7
Iran, Islamic Republic of	1.3	1.1	1.3	0.1	-	-	1.9	2.1	2.2
Japan	1.3	1.4	1.4	-	-	-	3.2	3.3	3.4
Korea, Republic of	1.1	1.3	1.3	-	-	-	1.5	1.7	1.7
Malaysia	1.5	1.3	1.7	18.1	17.7	18.6	4.7	5.2	5.7
Pakistan	3.2	3.3	3.4	0.1	0.1	0.1	5.0	5.4	5.5
Philippines	1.1	1.3	1.3	0.8	0.8	0.9	1.9	2.2	2.4
Singapore	0.8	0.8	0.8	0.2	0.2	0.2	0.7	0.7	0.7
Turkey	1.9	1.7	1.8	0.7	0.5	0.5	3.1	3.3	3.3
AFRICA	11.4	11.7	12.2	1.9	1.9	1.9	18.5	19.0	19.7
Algeria	0.9	0.9	1.0	0.1	0.1	0.1	1.0	1.0	1.0
Egypt	2.0	2.2	2.2	0.2	0.2	0.2	2.4	2.7	2.8
Nigeria	1.5	1.3	1.5	0.1	-	0.1	3.3	3.2	3.3
South Africa	0.9	0.9	0.9	0.1	-	-	1.4	1.5	1.5
CENTRAL AMERICA	2.6	2.6	2.6	1.4	1.6	1.7	5.3	5.4	5.6
Mexico	1.5	1.5	1.5	0.1	-	-	3.5	3.6	3.8
SOUTH AMERICA	3.2	3.2	3.3	10.4	9.8	10.3	17.8	18.6	19.9
Argentina	0.1	0.1	-	6.3	5.4	6.3	4.1	4.0	4.3
Brazil	0.6	0.6	0.6	1.8	1.8	1.3	9.0	9.7	10.5
Paraguay	-	-	-	0.7	0.7	0.7	0.1	0.1	0.1
Uruguay	0.1	0.1	0.1	-	-	-	0.1	0.1	0.1
NORTH AMERICA	5.4	5.6	5.9	6.9	7.6	7.3	20.8	22.5	23.1
Canada	0.5	0.4	0.4	3.5	4.1	3.9	1.5	1.5	1.5
United States of America	4.9	5.2	5.5	3.4	3.5	3.4	19.3	21.0	21.5
EUROPE	14.7	15.5	15.7	11.3	12.8	13.9	39.5	40.8	41.0
European Union	11.9	12.6	12.7	3.3	3.1	3.2	32.6	34.1	33.9
Russian Federation	1.4	1.5	1.5	2.5	3.3	3.7	4.6	4.4	4.8
Ukraine	0.3	0.3	0.3	5.0	5.8	6.4	1.0	0.9	0.9
OCEANIA	0.6	0.7	0.8	1.9	1.9	2.0	1.2	1.3	1.4
Australia	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.9	1.0
WORLD	84.6	87.6	92.3	84.5	87.6	92.2	214.1	229.0	238.6
Developing countries	62.7	64.4	68.5	65.0	66.0	69.7	149.5	161.2	170.0
Developed countries	21.9	23.2	23.8	19.4	21.6	22.4	64.6	67.8	68.6
LIFDC	24.7	25.3	26.2	1.6	1.6	1.6	39.3	41.2	42.6
LDC	24.2	26.5	27.4	3.2	3.4	3.4	34.7	37.5	38.6

¹ Includes oils and fats of vegetable, marine and animal origin.

APPENDIX TABLE 12: TOTAL MEALS AND CAKES STATISTICS ¹ (million tonnes)

	Imports			Exports			Utilization		
	14/15-16/17 average	2017/18	2018/19	14/15-16/17 average	2017/18	2018/19	14/15-16/17 average	2017/18	2018/19
		<i>estim.</i>	<i>f'cast</i>		<i>estim.</i>	<i>f'cast</i>		<i>estim.</i>	<i>f'cast</i>
ASIA	36.3	39.0	42.0	13.3	14.4	15.3	161.0	180.6	178.8
China	3.0	4.2	5.5	2.0	1.6	1.4	88.7	101.5	98.4
of which Taiwan Prov.	0.5	0.5	0.4	-	-	-	2.5	2.6	2.6
India	0.4	0.5	0.5	2.0	3.1	3.8	14.7	16.1	16.4
Indonesia	4.3	4.7	4.9	4.4	5.1	5.3	4.9	5.3	5.4
Iran, Islamic Republic of	1.9	1.4	1.9	-	-	-	3.6	3.8	4.1
Japan	2.2	2.3	2.3	-	-	-	6.4	6.5	6.6
Korea, Republic of	3.6	3.5	3.6	0.2	0.1	0.1	4.8	4.7	4.8
Malaysia	1.4	1.7	1.6	2.6	2.5	2.6	2.1	2.6	2.6
Pakistan	0.9	0.3	0.5	0.2	0.1	0.1	4.1	5.1	4.9
Philippines	2.7	2.8	3.1	0.3	0.4	0.4	3.3	3.5	3.7
Saudi Arabia	1.2	1.6	1.8	0.1	0.1	0.1	1.6	2.1	2.5
Thailand	3.2	3.8	3.5	0.2	0.2	0.2	6.0	6.7	6.6
Turkey	2.0	2.4	2.2	0.1	0.1	0.1	5.5	6.3	5.9
Viet Nam	5.4	5.8	6.0	0.3	0.2	0.3	6.9	7.7	7.9
AFRICA	5.7	5.3	5.0	1.1	1.1	1.1	13.6	14.4	14.8
Egypt	1.7	0.9	0.8	-	-	-	3.2	3.6	3.7
South Africa	0.8	0.6	0.7	0.1	0.1	0.1	2.0	1.9	2.0
CENTRAL AMERICA	4.3	4.1	4.0	0.2	0.2	0.2	9.9	10.5	10.6
Mexico	2.4	2.2	2.1	0.1	0.1	0.1	7.3	7.9	7.8
SOUTH AMERICA	5.4	5.5	5.7	51.0	49.4	51.6	30.5	35.7	36.4
Argentina	-	-	-	31.3	27.6	30.0	5.9	7.6	7.8
Bolivia	-	-	-	1.7	1.6	1.7	0.3	0.4	0.4
Brazil	-	-	-	14.3	16.1	15.8	16.7	19.8	19.9
Chile	1.2	1.2	1.2	0.2	0.2	0.2	1.6	1.5	1.6
Paraguay	-	-	-	2.5	2.6	2.5	0.4	0.5	0.5
Peru	1.1	1.3	1.4	0.8	1.0	1.2	1.5	1.8	1.9
Uruguay	0.2	0.2	0.2	-	-	-	0.2	0.2	0.2
Venezuela	1.0	0.7	0.7	-	-	-	1.3	0.9	0.9
NORTH AMERICA	5.1	5.1	5.0	16.7	18.8	18.7	38.4	41.5	41.3
Canada	0.9	1.1	1.1	5.1	5.5	5.5	2.2	3.0	2.6
United States of America	4.1	4.0	3.9	11.6	13.3	13.2	36.2	38.6	38.8
EUROPE	30.3	30.5	31.0	8.2	8.6	9.6	68.9	72.4	73.7
European Union	27.6	28.3	28.7	1.4	1.5	1.3	58.0	61.0	61.3
Russian Federation	0.5	0.2	0.1	2.0	1.9	2.3	6.2	7.0	7.6
Ukraine	-	-	-	4.3	4.7	5.5	1.8	1.8	2.0
OCEANIA	3.4	3.4	3.7	0.3	0.2	0.2	4.2	4.4	4.4
Australia	1.2	0.9	1.4	0.1	0.1	0.1	1.8	1.9	2.1
WORLD	90.6	92.8	96.6	90.8	92.8	96.6	326.4	359.5	359.9
Developing countries	49.6	51.6	54.6	65.7	65.3	68.3	208.7	234.7	234.0
Developed countries	41.0	41.2	42.0	25.0	27.5	28.3	117.7	124.8	126.0
LIFDC	7.8	8.2	8.7	3.0	4.0	4.8	29.2	31.6	32.0
LDC	8.4	7.6	7.3	2.4	2.5	2.8	23.9	26.0	26.2

¹ Expressed in product weight; includes meals and cakes derived from oilcrops as well as fish meal and other meals from animal origin.

APPENDIX TABLE 13: SUGAR STATISTICS

(million tonnes, raw value)

	Production		Imports		Exports		Utilization	
	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>	2017/18 <i>estim.</i>	2018/19 <i>f'cast</i>
ASIA	76.3	75.4	32.0	32.1	14.0	18.1	85.1	87.2
China	10.3	10.7	5.0	5.8	0.1	0.1	16.1	16.3
India	32.4	32.0	1.5	1.0	2.1	3.0	26.5	27.5
Indonesia	2.3	2.4	4.7	4.9	-	-	7.0	7.2
Japan	0.8	0.7	1.4	1.4	-	-	2.1	2.0
Korea, Republic of	-	-	2.0	1.9	0.3	0.3	1.6	1.6
Malaysia	-	-	2.0	2.0	0.2	0.1	1.8	1.9
Pakistan	6.6	6.1	-	-	0.9	1.0	5.7	5.8
Philippines	2.1	2.2	0.2	0.1	0.1	0.1	2.2	2.2
Thailand	14.7	13.8	-	-	7.1	10.0	3.4	3.5
Turkey	2.7	2.7	-	-	0.2	0.3	2.4	2.5
Viet Nam	1.6	1.7	0.2	0.1	0.1	0.1	1.6	1.7
AFRICA	11.4	12.3	12.3	11.9	3.8	3.6	20.5	20.9
Algeria	-	-	2.2	2.1	0.6	0.5	1.5	1.5
Egypt	2.7	2.8	1.1	1.1	0.2	0.2	3.6	3.7
Eswatini	0.7	0.8	-	-	0.7	0.4	0.1	0.1
Ethiopia	0.5	0.7	0.1	0.1	-	0.1	0.6	0.6
Kenya	0.5	0.6	0.6	0.5	-	-	1.1	1.1
Mauritius	0.4	0.3	-	-	0.3	0.3	-	-
Morocco	0.6	0.6	0.9	0.8	0.3	0.2	1.2	1.2
Mozambique	0.5	0.5	-	-	0.2	0.2	0.2	0.3
South Africa	2.0	2.2	0.3	0.2	0.1	0.2	2.1	2.2
Sudan	0.6	0.7	1.7	1.7	0.4	0.4	1.9	2.0
Tanzania, United Rep, of	0.3	0.3	0.4	0.4	-	-	0.7	0.7
Zambia	0.4	0.4	-	-	0.2	0.3	0.2	0.2
CENTRAL AMERICA & THE CARIBBEAN	13.3	13.9	0.4	0.7	5.2	5.8	8.4	8.6
Cuba	1.1	1.5	-	-	0.4	0.7	0.8	0.9
Dominican Republic	0.6	0.6	-	-	0.2	0.2	0.4	0.4
Guatemala	2.7	2.7	-	-	1.9	1.9	0.8	0.9
Mexico	6.0	6.2	-	-	1.3	1.5	4.6	4.6
SOUTH AMERICA	39.1	38.0	1.8	1.4	23.4	20.7	19.3	18.8
Argentina	1.9	1.9	-	-	0.3	0.3	1.6	1.6
Brazil	31.8	30.5	-	-	21.8	19.0	12.0	11.5
Colombia	2.4	2.4	0.1	0.1	0.8	0.8	1.7	1.7
Peru	1.1	1.3	0.4	0.3	0.1	0.1	1.4	1.4
Venezuela	0.3	0.3	0.4	0.4	-	-	0.7	0.7
NORTH AMERICA	7.9	7.6	3.8	3.7	0.2	0.1	11.1	11.3
Canada	7.8	7.5	2.7	2.6	0.1	0.1	9.8	10.1
United States of America	0.1	0.1	1.1	1.1	-	-	1.2	1.2
EUROPE	29.9	26.3	2.6	2.6	4.9	3.5	27.7	27.8
European Union	19.8	17.1	1.7	1.6	3.1	2.2	18.6	18.7
Russian Federation	6.5	5.9	0.2	0.2	0.6	0.3	6.0	6.0
Ukraine	2.1	1.8	-	-	0.6	0.3	1.6	1.6
OCEANIA	5.1	5.2	0.4	0.4	3.9	3.3	1.2	1.5
Australia	4.8	4.9	0.1	0.1	3.7	3.1	0.8	1.2
Fiji	0.2	0.2	-	-	0.2	0.2	-	-
WORLD	183.0	178.7	53.3	52.8	55.4	55.1	173.2	176.1
Developing countries	139.7	139.2	45.1	44.8	46.6	48.3	131.3	133.5
Developed countries	43.3	39.5	8.1	8.0	8.8	6.7	41.9	42.6
LIFDC	39.7	40.0	12.0	11.5	4.3	5.3	42.4	43.9
LDC	4.2	4.7	8.9	8.8	1.4	1.5	11.5	12.0

APPENDIX TABLE 14: TOTAL MEAT STATISTICS¹
(thousand tonnes, carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
ASIA	140 618	137 236	18 015	19 260	4 339	4 664	154 215	151 866
China	86 644	82 348	5 400	6 435	489	455	91 576	88 328
India	7 442	7 646	1	1	1 472	1 604	5 971	6 043
Indonesia	3 333	3 346	218	221	5	5	3 547	3 563
Iran, Islamic Republic of	3 058	3 082	201	206	58	59	3 200	3 228
Japan	4 027	4 081	3 721	3 828	19	21	7 710	7 900
Korea, Republic of	2 519	2 570	1 505	1 488	43	50	3 874	4 025
Malaysia	2 004	2 034	344	354	70	71	2 279	2 317
Pakistan	3 778	3 920	30	29	77	79	3 731	3 871
Philippines	3 604	3 722	629	691	7	7	4 226	4 406
Saudi Arabia	887	939	887	841	68	66	1 706	1 715
Singapore	117	117	376	389	56	55	437	450
Thailand	2 836	2 897	22	24	1 216	1 352	1 650	1 574
Turkey	3 620	3 731	67	52	544	627	3 163	3 157
Viet Nam	5 251	5 267	1 598	1 657	25	15	6 824	6 909
AFRICA	18 824	18 980	3 033	3 093	252	258	21 605	21 814
Algeria	732	735	64	66	1	1	794	799
Angola	300	311	540	520	-	-	840	831
Egypt	2 245	2 290	335	350	8	8	2 571	2 631
Nigeria	1 377	1 377	4	4	-	-	1 381	1 381
South Africa	3 176	3 258	640	659	147	147	3 670	3 770
CENTRAL AMERICA	10 190	10 439	3 618	3 703	742	783	13 066	13 359
Cuba	388	398	347	329	-	-	735	727
Mexico	7 022	7 227	2 276	2 355	480	518	8 818	9 064
SOUTH AMERICA	44 098	45 086	1 278	1 321	8 903	9 556	36 474	36 851
Argentina	5 978	6 024	67	70	754	879	5 290	5 215
Brazil	27 547	28 337	59	53	6 946	7 463	20 659	20 927
Chile	1 518	1 559	685	689	377	408	1 826	1 840
Colombia	2 787	2 891	231	263	26	28	2 993	3 126
Uruguay	642	611	79	92	438	425	283	279
Venezuela	1 164	1 145	10	9	-	-	1 174	1 154
NORTH AMERICA	51 777	52 712	2 959	2 991	9 969	10 275	44 745	45 433
Canada	4 877	4 948	772	819	1 922	2 007	3 719	3 782
United States of America	46 900	47 763	2 176	2 160	8 047	8 268	41 014	41 639
EUROPE	65 075	65 495	2 908	2 999	6 434	6 856	61 548	61 637
Belarus	1 265	1 241	63	61	458	464	871	838
European Union	49 397	49 584	1 311	1 334	5 131	5 468	45 577	45 450
Russian Federation	10 393	10 555	868	925	347	374	10 915	11 107
Ukraine	2 302	2 379	174	182	384	431	2 092	2 130
OCEANIA	6 697	6 563	497	514	3 147	3 000	4 046	4 077
Australia	4 760	4 647	250	264	2 106	2 003	2 905	2 909
New Zealand	1 416	1 395	83	85	1 038	994	460	487
WORLD	337 279	336 510	32 308	33 880	33 787	35 393	335 700	335 037
Developing countries	209 409	207 362	22 282	23 604	14 211	15 233	217 421	215 755
Developed countries	127 870	129 148	10 026	10 276	19 576	20 159	118 279	119 283
LIFDC	25 407	25 628	3 065	3 162	1 683	1 808	26 788	26 982
LDC	13 007	13 021	1 511	1 505	28	28	14 489	14 498

¹ including "other meat"

APPENDIX TABLE 15: BOVINE MEAT STATISTICS (thousand tonnes, carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
ASIA	18 235	18 415	5 962	6 325	1 811	1 953	22 406	22 791
China	6 457	6 554	1 993	2 284	36	34	8 434	8 804
India	2 554	2 580	-	-	1 445	1 578	1 109	1 002
Indonesia	568	570	208	210	-	-	775	780
Iran, Islamic Republic of	490	494	159	162	5	4	644	652
Japan	475	475	869	892	5	6	1 327	1 362
Korea, Republic of	279	285	533	549	4	4	800	833
Malaysia	51	52	203	204	12	13	241	243
Pakistan	1 898	1 919	4	4	66	67	1 836	1 856
Philippines	309	307	175	191	4	4	480	494
AFRICA	6 938	6 961	606	615	99	95	7 445	7 481
Algeria	150	148	61	63	-	-	211	211
Angola	102	104	114	116	-	-	216	220
Egypt	820	825	269	273	3	3	1 086	1 095
South Africa	1 044	1 063	21	20	61	54	1 004	1 029
CENTRAL AMERICA	2 773	2 823	517	535	494	525	2 796	2 832
Mexico	1 983	2 018	260	278	283	312	1 960	1 984
SOUTH AMERICA	16 031	16 268	415	420	3 390	3 678	13 056	13 010
Argentina	3 049	3 031	7	7	524	633	2 533	2 405
Brazil	9 900	10 200	45	41	2 068	2 267	7 877	7 974
Chile	201	202	298	307	12	13	487	496
Colombia	768	775	7	7	24	26	752	756
Uruguay	575	545	22	30	415	401	181	174
Venezuela	394	375	4	4	-	-	398	379
NORTH AMERICA	13 514	13 707	1 613	1 638	2 104	2 176	13 011	13 170
Canada	1 260	1 270	295	315	475	497	1 071	1 095
United States of America	12 254	12 437	1 315	1 320	1 629	1 679	11 937	12 072
EUROPE	10 685	10 584	994	1 013	877	903	10 802	10 695
European Union	8 006	7 899	333	339	464	475	7 875	7 763
Russian Federation	1 664	1 675	491	502	74	77	2 081	2 100
Ukraine	329	320	3	4	50	45	282	278
OCEANIA	2 976	2 858	56	56	2 095	1 977	936	937
Australia	2 306	2 200	16	16	1 517	1 438	805	778
New Zealand	656	644	13	13	575	536	94	121
WORLD	71 152	71 616	10 161	10 602	10 870	11 307	70 452	70 916
Developing countries	43 360	43 849	6 555	6 925	5 790	6 247	44 156	44 530
Developed countries	27 791	27 767	3 607	3 678	5 080	5 060	26 296	26 387
LIFDC	8 636	8 670	118	119	1 661	1 797	8 939	8 850
LDC	4 635	4 636	184	185	4	4	4 816	4 818

APPENDIX TABLE 16: OVINE MEAT STATISTICS (thousand tonnes, carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
ASIA	9 159	9 249	685	675	40	41	9 805	9 883
Bangladesh	230	232	-	-	-	-	230	232
China	4 714	4 796	348	338	1	1	5 061	5 133
India	732	730	-	-	19	18	713	712
Iran, Islamic Republic of	355	353	38	40	-	-	393	393
Pakistan	473	475	-	-	6	7	467	468
Saudi Arabia	121	122	42	41	4	4	159	159
Turkey	400	401	-	-	-	-	401	402
AFRICA	3 059	3 069	25	25	32	32	3 052	3 062
Algeria	292	294	-	-	-	-	292	294
Nigeria	395	397	-	-	-	-	395	397
South Africa	165	165	7	8	-	-	172	172
Sudan	361	359	-	-	6	6	356	354
CENTRAL AMERICA	128	129	18	17	-	-	145	146
Mexico	102	103	8	7	-	-	110	110
SOUTH AMERICA	298	300	8	7	20	21	286	286
Brazil	117	118	8	7	-	-	125	125
NORTH AMERICA	92	93	146	142	4	4	234	232
United States of America	76	77	125	123	4	4	197	196
EUROPE	1 301	1 295	151	148	46	50	1 406	1 392
European Union	950	940	140	138	25	26	1 065	1 052
Russian Federation	227	230	3	3	12	16	218	217
OCEANIA	1 212	1 178	26	27	902	875	336	329
Australia	760	733	-	1	493	471	268	263
New Zealand	451	444	3	3	409	404	45	43
WORLD	15 249	15 312	1 059	1 041	1 044	1 024	15 264	15 330
Developing countries	12 631	12 734	732	720	92	94	13 271	13 360
Developed countries	2 618	2 578	327	321	952	929	1 993	1 970
LIFDC	3 604	3 608	9	9	47	47	3 566	3 570
LDC	2 236	2 243	6	6	22	22	2 220	2 228

APPENDIX TABLE 17: PIGMEAT STATISTICS (thousand tonnes, carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
ASIA	66 564	60 743	4 716	5 258	195	169	70 981	65 857
China	54 969	49 125	1 924	2 417	105	86	56 789	51 456
India	300	295	1	1	-	-	301	296
Indonesia	345	347	4	4	-	-	348	351
Japan	1 294	1 300	1 487	1 529	4	5	2 771	2 825
Korea, Republic of	1 329	1 354	761	709	2	1	1 989	2 086
Malaysia	195	196	33	34	5	5	223	225
Philippines	1 883	1 928	163	181	2	2	2 044	2 107
Thailand	902	900	-	-	25	25	878	876
Viet Nam	3 815	3 758	79	116	25	15	3 869	3 859
AFRICA	1 526	1 539	281	275	28	30	1 780	1 784
Madagascar	66	67	-	-	-	-	66	67
Nigeria	280	279	2	2	-	-	282	281
South Africa	255	263	45	47	24	27	276	283
Uganda	126	125	-	-	-	-	126	125
CENTRAL AMERICA	2 093	2 163	1 281	1 333	205	212	3 169	3 284
Cuba	249	257	22	23	-	-	271	280
Mexico	1 504	1 563	1 006	1 044	186	193	2 324	2 414
SOUTH AMERICA	5 959	6 266	491	520	1 004	1 238	5 446	5 548
Argentina	620	674	52	56	4	7	668	723
Brazil	3 567	3 764	2	2	804	1 014	2 766	2 752
Chile	526	547	235	232	190	210	571	569
Colombia	386	416	128	151	-	-	514	567
Venezuela	163	163	4	4	-	-	167	167
NORTH AMERICA	14 058	14 533	849	852	3 828	4 017	11 091	11 362
Canada	2 110	2 131	263	286	1 284	1 341	1 098	1 086
United States of America	11 948	12 402	582	561	2 544	2 676	9 988	10 271
EUROPE	29 731	29 845	329	385	3 063	3 358	26 998	26 871
Belarus	412	383	24	23	46	43	390	363
European Union	24 150	24 145	16	17	2 916	3 204	21 250	20 958
Russian Federation	3 724	3 843	112	162	65	72	3 772	3 933
Serbia	302	311	52	51	21	22	333	340
Ukraine	651	669	36	41	3	5	684	706
OCEANIA	562	558	305	322	44	41	824	838
Australia	413	409	217	232	42	40	588	600
Papua New Guinea	81	81	8	8	-	-	89	89
WORLD	120 492	115 646	8 253	8 944	8 366	9 065	120 288	115 544
Developing countries	74 937	69 499	5 304	5 878	1 428	1 643	78 715	73 758
Developed countries	45 555	46 147	2 949	3 065	6 939	7 422	41 573	41 785
LIFDC	5 163	5 100	231	268	28	18	5 366	5 350
LDC	2 090	2 104	168	162	-	-	2 257	2 265

APPENDIX TABLE 18: POULTRY MEAT STATISTICS (thousand tonnes, carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
ASIA	44 704	46 873	6 601	6 951	2 270	2 477	49 041	51 352
China	19 020	20 390	1 130	1 389	332	319	19 818	21 460
India	3 707	3 892	-	-	7	7	3 700	3 886
Indonesia	2 290	2 297	-	-	-	-	2 290	2 297
Iran, Islamic Republic of	2 196	2 218	-	-	52	53	2 144	2 165
Japan	2 246	2 293	1 324	1 365	10	10	3 558	3 658
Korea, Republic of	900	920	186	203	37	44	1 049	1 069
Kuwait	58	59	155	160	-	-	213	219
Malaysia	1 753	1 781	72	80	52	53	1 773	1 809
Saudi Arabia	667	718	638	591	40	38	1 265	1 271
Singapore	96	96	172	184	15	15	253	265
Thailand	1 777	1 839	2	2	1 135	1 268	652	578
Turkey	2 229	2 338	6	7	502	582	1 734	1 763
Yemen	147	126	88	90	-	-	235	216
AFRICA	5 861	5 971	2 088	2 144	85	93	7 864	8 022
Angola	40	38	329	315	-	-	369	353
South Africa	1 689	1 745	567	584	54	60	2 201	2 269
CENTRAL AMERICA	5 075	5 205	1 783	1 799	40	43	6 818	6 960
Cuba	34	35	286	268	-	-	320	303
Mexico	3 330	3 440	989	1 013	10	12	4 310	4 442
SOUTH AMERICA	21 603	22 044	364	373	4 423	4 553	17 544	17 864
Argentina	2 122	2 133	7	7	194	206	1 936	1 934
Brazil	13 931	14 224	3	3	4 050	4 158	9 885	10 069
Chile	766	784	152	150	167	176	752	758
Venezuela	600	600	2	1	-	-	602	601
NORTH AMERICA	23 887	24 151	343	350	4 014	4 059	20 192	20 453
Canada	1 491	1 531	193	199	162	169	1 513	1 566
United States of America	22 396	22 620	145	147	3 852	3 891	18 675	18 883
EUROPE	22 165	22 579	1 267	1 286	2 364	2 460	21 068	21 404
European Union	15 248	15 557	723	740	1 644	1 681	14 327	14 617
Russian Federation	4 688	4 717	215	211	195	208	4 708	4 720
Ukraine	1 279	1 347	134	136	331	381	1 081	1 102
OCEANIA	1 515	1 538	105	105	65	66	1 555	1 578
Australia	1 260	1 284	15	15	40	41	1 234	1 257
New Zealand	220	219	-	1	25	24	196	196
WORLD	124 811	128 360	12 551	13 009	13 262	13 752	124 082	127 634
Developing countries	74 403	77 202	9 601	9 991	6 800	7 148	77 212	80 040
Developed countries	50 408	51 158	2 950	3 018	6 462	6 604	46 871	47 594
LIFDC	6 770	7 017	1 869	1 912	11	11	8 628	8 919
LDC	3 256	3 248	1 131	1 130	2	2	4 385	4 376

APPENDIX TABLE 19: MILK AND MILK PRODUCTS STATISTICS (thousand tonnes, milk equivalent)

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>
ASIA	320 334	347 049	359 178	41 369	44 697	45 938	6 470	6 638	6 679
China	32 479	31 592	31 293	12 219	14 615	15 490	45	53	55
India ¹	165 766	186 143	196 009	125	76	70	260	616	709
Indonesia	1 507	1 535	1 538	2 708	2 972	3 000	52	40	41
Iran, Islamic Republic of	6 889	7 610	7 602	410	308	300	665	634	592
Japan	7 351	7 293	7 342	2 030	2 215	2 237	8	10	10
Korea, Republic of	2 108	2 034	2 020	1 133	1 258	1 307	35	36	37
Malaysia	45	46	46	2 216	2 397	2 509	684	631	647
Pakistan	42 944	45 623	46 992	584	586	576	38	38	39
Philippines	20	20	20	2 234	2 582	2 677	143	66	62
Saudi Arabia	2 423	2 472	2 491	3 147	2 762	2 806	1 384	1 536	1 528
Singapore	-	-	-	1 605	1 611	1 652	552	407	377
Thailand	841	405	394	1 547	1 594	1 606	246	282	287
Turkey	19 281	22 791	23 440	165	113	110	742	812	857
AFRICA	47 684	47 739	47 971	10 014	10 146	10 178	1 272	1 219	1 216
Algeria	3 333	3 280	3 336	3 101	3 838	3 764	-	-	-
Egypt	4 969	4 624	4 638	1 458	1 300	1 408	533	553	544
Kenya	4 882	5 122	5 230	120	206	205	8	7	7
South Africa	3 558	3 796	3 832	299	342	335	370	346	350
Sudan	4 444	4 470	4 485	310	321	306	-	-	-
Tunisia	1 410	1 348	1 352	78	122	117	51	60	61
CENTRAL AMERICA	17 490	17 931	18 032	5 769	6 338	6 512	1 012	1 669	1 798
Costa Rica	1 128	1 152	1 154	65	68	69	144	128	129
Mexico	11 822	12 234	12 332	3 661	4 206	4 368	497	1 181	1 315
SOUTH AMERICA	63 387	64 343	64 935	3 567	3 647	3 808	3 878	4 126	4 299
Argentina	10 817	10 527	10 332	25	17	22	1 725	1 979	2 098
Brazil	34 677	35 433	36 177	1 242	1 025	1 129	219	43	45
Colombia	6 793	7 171	7 245	324	337	346	28	33	32
Uruguay	2 077	2 219	2 171	30	30	30	1 368	1 556	1 610
Venezuela	1 978	1 746	1 716	923	934	943	-	-	-
NORTH AMERICA	105 410	108 587	109 749	2 697	2 578	2 557	10 788	12 896	12 498
Canada	9 176	9 940	10 115	644	625	595	751	1 101	1 163
United States of America	96 233	98 646	99 632	2 036	1 935	1 944	10 036	11 793	11 333
EUROPE	222 668	226 524	227 945	6 673	5 875	5 391	25 660	26 355	26 464
Belarus	7 170	7 344	7 348	138	55	49	3 850	3 745	3 740
European Union	163 833	167 256	168 427	1 310	1 052	1 003	19 376	20 476	20 602
Russian Federation	30 924	31 652	32 095	4 346	3 715	3 238	292	252	259
Ukraine	10 428	10 099	9 927	53	95	106	723	776	764
OCEANIA	31 453	31 027	31 143	1 415	1 632	1 722	22 396	21 818	23 115
Australia ²	9 778	9 587	8 954	930	1 134	1 175	3 239	3 058	2 966
New Zealand ³	21 606	21 372	22 120	270	280	330	19 154	18 757	20 146
WORLD	808 427	843 201	858 953	71 504	74 914	76 105	71 476	74 720	76 069
Developing countries	413 945	440 663	453 186	57 586	61 503	63 178	12 144	13 195	13 532
Developed countries	394 482	402 538	405 767	13 918	13 410	12 991	59 332	61 525	62 598
LIFDC	218 173	239 780	250 087	5 994	5 838	5 902	896	1 191	1 283
LDC	33 827	33 139	33 138	3 975	3 998	4 051	205	192	194

¹ For production, the annual dairy cycle starting in April is applied

² For production, the annual dairy cycle starting in July is applied

³ For production, the annual dairy cycle starting in June is applied

Note: Trade values that refer to milk equivalents were derived by applying the following weights: butter (6.60), cheese (4.40), skim/whole milk powder (7.60), skim condensed/evaporated milk (1.90), whole condensed/evaporated milk (2.10), yoghurt (1.0), cream (3.60), casein (7.40), skim milk (0.70), liquid milk (1.0), whey dry (7.6). The conversion factors cited refer to the solids content method. Refer to IDF Bulletin No. 390 (March 2004)

APPENDIX TABLE 20: FISH AND FISHERY PRODUCTS STATISTICS ¹

	Capture fisheries production		Aquaculture fisheries production		Exports			Imports		
	2016	2017	2016	2017	2017	2018	2019	2017	2018	2019
	<i>Million tonnes (live weight equivalent)</i>				<i>USD billion</i>			<i>USD billion</i>		
						<i>estim.</i>	<i>f'cast</i>		<i>estim.</i>	<i>f'cast</i>
ASIA²	48.8	49.2	67.9	71.3	59.2	61.6	59.1	48.6	54.6	57.7
China	16.7	16.3	46.1	47.1	23.1	24.3	22.1	15.9	20.0	23.5
of which: Hong Kong SAR	0.1	0.1	-	-	0.8	0.7	0.7	3.6	3.9	3.7
Taiwan Prov.	0.8	0.7	0.3	0.3	1.9	2.0	1.7	1.4	1.6	1.5
India	5.1	5.4	5.7	6.2	7.2	6.9	6.3	0.1	0.1	0.1
Indonesia	6.5	6.7	4.9	6.2	4.2	4.5	4.2	0.4	0.4	0.4
Japan	3.2	3.2	0.7	0.6	2.0	2.3	2.3	15.0	15.4	15.2
Korea, Republic of	1.4	1.4	0.5	0.5	1.7	1.7	1.8	5.1	5.9	5.7
Philippines	2.0	1.9	0.8	0.8	0.9	0.9	0.9	0.6	0.6	0.4
Thailand	1.5	1.5	0.9	0.9	5.9	6.0	5.8	3.5	3.9	4.0
Viet Nam	3.1	3.3	3.6	3.8	8.5	9.0	9.5	1.7	1.9	2.0
AFRICA	9.3	9.7	2.0	2.1	7.2	7.6	8.1	4.9	5.4	5.6
Egypt	0.3	0.4	1.4	1.5	-	-	-	0.6	0.9	0.9
Morocco	1.4	1.4	-	-	2.2	2.3	2.4	0.2	0.2	0.2
Namibia	0.5	0.5	-	-	0.7	0.7	0.8	-	0.1	0.1
Nigeria	0.7	0.9	0.3	0.3	0.1	0.1	0.1	0.7	0.7	0.7
Senegal	0.5	0.5	-	-	0.4	0.5	0.7	-	0.1	0.1
South Africa	0.6	0.5	-	-	0.6	0.7	0.6	0.4	0.5	0.6
CENTRAL AMERICA	2.1	2.3	0.4	0.4	2.9	3.0	2.8	1.9	1.9	1.9
Mexico	1.5	1.6	0.2	0.2	1.3	1.5	1.5	0.9	0.9	0.9
Panama	0.1	0.1	-	-	0.1	0.1	0.1	0.1	0.1	0.1
SOUTH AMERICA	8.1	8.9	2.3	2.5	16.5	18.1	21.5	2.9	3.0	3.0
Argentina	0.8	0.8	-	-	2.0	2.1	2.1	0.2	0.2	0.1
Brazil	0.7	0.7	0.6	0.6	0.3	0.3	0.3	1.4	1.4	1.3
Chile	1.5	1.9	1.0	1.2	6.0	6.8	7.1	0.4	0.4	0.5
Ecuador	0.7	0.6	0.5	0.5	4.6	4.9	4.9	0.1	0.1	0.2
Peru	3.8	4.2	0.1	0.1	2.8	3.3	6.2	0.3	0.3	0.2
NORTH AMERICA	6.0	6.2	0.6	0.6	12.0	12.0	11.3	24.6	25.6	24.3
Canada	0.9	0.8	0.2	0.2	5.4	5.4	5.4	2.9	3.0	3.3
United States of America	4.9	5.0	0.4	0.4	6.1	6.0	5.4	21.6	22.6	21.0
EUROPE	13.7	14.8	2.9	3.0	54.8	57.6	58.4	60.3	64.2	62.7
European Union ²	5.2	5.6	1.3	1.4	35.5	37.1	37.2	55.8	59.3	57.9
of which extra-EU	-	-	-	-	6.3	6.4	6.5	29.0	31.0	30.4
Iceland	1.1	1.2	-	-	2.0	2.4	2.3	0.1	0.1	0.1
Norway	2.0	2.4	1.3	1.3	11.3	12.0	11.8	1.2	1.3	1.4
Russian Federation	4.8	4.9	0.2	0.2	4.5	4.4	5.4	2.0	2.2	1.8
OCEANIA	1.4	1.4	0.2	0.2	3.2	3.2	3.2	2.0	1.9	1.9
Australia	0.2	0.2	0.1	0.1	1.1	1.1	1.0	1.6	1.6	1.5
New Zealand	0.4	0.4	0.1	0.1	1.2	1.2	1.4	0.2	0.2	0.2
WORLD³	89.4	92.5	76.4	80.1	155.7	163.1	164.5	146.1	157.6	157.8
Excl. intra-EU	-	-	-	-	126.6	132.4	133.7	119.2	129.4	130.3
Developing countries	65.9	67.7	71.9	75.6	84.5	88.8	90.1	42.8	48.9	52.2
Developed countries	23.5	24.8	4.5	4.5	71.2	74.3	74.4	103.2	108.7	105.6
LIFDC	13.4	14.4	8.8	9.5	11.4	11.3	11.1	2.7	2.9	2.9
LDC	9.2	9.7	3.7	4.0	3.7	4.2	4.4	1.1	1.2	1.0

¹ Production and trade data exclude whales, seals, other aquatic mammals and aquatic plants. Trade data include fishmeal and fish oil

² EU 28. Including intra-trade. Cyprus is included in Asia as well as in the European Union

³ For capture fisheries production, the aggregate includes 5 229 tonnes in 2016 from non-identified countries; these data are not included in any other aggregates. Totals may not match due to rounding

APPENDIX TABLE 21: SELECTED INTERNATIONAL PRICES FOR WHEAT AND COARSE GRAINS

Period	Wheat			Maize		Barley		Sorghum
	US No. 2 Hard Red Winter Ord. Prot. ¹	US Soft Red Winter No. 2 ²	Argentina Trigo Pan ³	US No. 2 Yellow ²	Argentina ³	France feed Rouen	Australia feed Southern States	US No. 2 Yellow ²
..... (USD per tonne)								
Annual (July/June)								
2007/08	361	311	322	200	192	146	154	206
2008/09	270	201	234	188	180	266	248	170
2009/10	209	185	224	160	168	270	249	165
2010/11	316	289	311	254	260	297	298	248
2011/12	300	259	264	281	269	243	241	264
2012/13	348	310	336	311	277	205	243	281
2013/14	318	265	335	216	219	174	185	218
2014/15	266	221	246	173	177	159	162	210
2015/16	211	194	208	166	170	193	222	173
2016/17	197	170	190	156	172	225	270	151
2017/18	230	188	203	159	165	174	217	174
2018 – April	240	198	229	175	189	216	237	164
2018 – May	250	211	261	179	192	209	243	173
2018 – June	242	205	268	166	170	199	254	170
2018 – July	235	207	245	157	165	218	258	169
2018 – August	250	215	242	162	168	246	288	171
2018 – September	242	203	234	156	160	239	297	167
2018 – October	240	210	233	160	162	239	305	174
2018 – November	232	210	220	160	161	235	269	178
2018 – December	241	218	228	167	171	238	270	188
2019 – January	238	219	234	166	173	234	266	181
2019 – February	235	217	244	170	170	208	251	180
2019 – March	224	201	231	167	163	199	245	165
2019 – April	216	197	220	162	156	197	250	167

¹ Delivered United States of America f.o.b Gulf; ² Delivered United States fo America Gulf; ³ Up River f.o.b.
Sources: International Grain Council and USDA.

APPENDIX TABLE 22: TOTAL WHEAT AND MAIZE FUTURES PRICES

	July		September		December		March	
	July 2018	July 2017	Sept. 2018	Sept. 2017	Dec. 2018	Dec. 2017	March 2019	March 2018
..... (USD per tonne)								
Wheat								
March 25	173	167	175	173	178	179	183	187
April 1	170	164	172	170	175	177	180	184
April 8	171	180	172	186	175	192	181	200
April 15	169	170	170	176	173	183	179	191
April 22	160	170	162	174	165	181	171	190
April 29	157	188	160	188	163	193	169	201
Maize								
March 25	150	147	153	151	156	153	158	156
April 1	142	152	146	156	149	159	153	162
April 8	142	154	145	157	149	160	153	163
April 15	143	151	146	154	149	157	154	163
April 22	140	149	143	153	146	156	151	159
April 29	139	155	142	158	146	160	150	164

Source: Chicago Mercantile Exchange (CME)

APPENDIX TABLE 23: SELECTED INTERNATIONAL PRICES FOR RICE AND FAO PRICE INDICES

Period	International prices				FAO indices				
	Thai 100% B ¹	Thai broken ²	US long grain ³	Pakistan Basmati ⁴	FAO All Rice Price Index	Indica		Japonica	Aromatic
	.....(USD per tonne).....				..... (2002-2004=100)				
Annual (Jan/Dec)									
2012	588	540	567	1137	231	225	241	235	222
2013	534	483	628	1372	233	219	226	230	268
2014	435	322	571	1324	235	207	201	266	255
2015	395	327	490	849	211	184	184	263	176
2016	407	348	438	795	194	180	187	228	153
2017	415	334	456	1131	206	183	195	232	204
2018	445	365	531	1023	224	201	208	256	216
Monthly									
2018 – April	478	385	543	1053	229	210	219	255	221
2018 – May	477	388	550	1043	228	212	222	249	218
2018 – June	456	378	550	1042	235	209	219	271	219
2018 – July	420	363	546	1040	228	199	208	266	217
2018 – August	427	349	535	1029	224	199	203	258	218
2018 – September	427	352	519	995	222	197	200	259	213
2018 – October	432	358	510	961	216	197	200	247	204
2018 – November	423	356	509	938	215	194	199	244	207
2018 – December	425	365	511	921	216	192	197	249	209
2019 - January	432	377	519	919	223	192	196	269	211
2019 - February	427	379	497	901	221	189	192	266	211
2019 – March	421	374	495	915	222	189	194	267	211
2019 – April	429	374	486	983	222	191	195	264	217

¹ White rice, 100% second grade, f.o.b. Bangkok, indicative traded prices.

² A1 super, f.o.b. Bangkok, indicative traded prices.

³ USA No.2, 4% broken f.o.b.

⁴ Up to May 2011: Basmati ordinary, f.o.b. Karachi; from June 2011 onwards: Super Kernel White Basmati Rice 2%.

Note: The FAO Rice Price Index is based on 16 rice export quotations. 'Quality' is defined by the percentage of broken kernels, with higher (lower) quality referring to rice with less (equal to or more) than 20 percent broken. The sub-index for Aromatic Rice follows movements in prices of Basmati and Fragrant rice.

Sources: FAO for indices. Rice prices: Livericeindex.com, Thai Department of Foreign Trade (DFT) and other public sources.

APPENDIX TABLE 24: SELECTED INTERNATIONAL PRICES FOR OILCROP PRODUCTS AND FAO PRICE INDICES

Period	International prices ¹					FAO indices ⁸		
	Soybeans ²	Soybean oil ³	Palm oil ⁴	Soybean cake ⁵	Rapeseed meal ⁶	Oilseeds	Vegetable oils	Oilcakes/meals
	..... (USD per tonne) .....					..... (2002-2004=100)		
Annual (Oct/Sept)								
2004/05	275	545	419	212	130	104	103	101
2005/06	259	572	451	202	130	100	107	96
2006/07	335	772	684	264	184	129	150	128
2008/09	437	849	682	409	206	157	146	179
2009/10	429	924	806	388	220	162	177	183
2010/11	549	1308	1147	418	279	214	259	200
2011/12	562	1235	1051	461	295	214	232	219
2012/13	563	1099	835	539	345	213	193	255
2013/14	521	949	867	534	324	194	189	253
2014/15	407	777	658	406	270	155	153	194
2015/16	396	773	655	351	232	151	155	168
2016/17	404	806	729	336	225	154	160	171
2017/18	402	820	648	381	258	153	154	182
Monthly								
2017 - October	397	869	721	331	207	151	170	157
2017 - November	401	885	719	333	204	153	172	158
2017 - December	397	863	666	348	219	151	163	165
2018 - January	404	865	679	361	239	153	163	171
2018 - February	416	848	660	400	265	157	158	190
2018 - March	432	830	684	427	294	162	157	203
2018 - April	441	824	663	447	304	164	155	213
2018 - May	432	787	659	443	282	161	151	211
2018 - June	389	783	631	391	264	148	146	187
2018 - July	378	774	591	382	267	145	142	184
2018 - August	379	763	561	365	282	146	138	178
2018 - September	357	755	545	347	277	139	135	169
2018 - October	369	759	529	347	272	142	133	169
2018 - November	372	735	482	340	276	143	125	166
2018 - December	382	720	494	344	273	145	126	166
2019 - January	381	746	534	343	273	146	131	165
2019 - February	380	766	558	330	263	145	134	156
2019 - March	371	730	527	320	248	142	128	155
2019 - April ⁷	369	729	533	318	245	140	129	153

¹ Spot prices for nearest forward shipment

² Soybeans: USA, No.2 yellow, c.i.f. Rotterdam.

³ Soybean oil: Dutch, fob ex-mill.

⁴ Palm oil: Crude, c.i.f. Rotterdam.

⁵ Soybean cake: Pellets, 44/45 percent, Hamburg, f.o.b. ex-mill.

⁶ Rapeseed meal: 34 percent, Hamburg, f.o.b. ex-mill.

⁷ The international prices shown represent averages for the first three weeks of the month.

⁸ The FAO indices are based on the international prices of five selected seeds, ten selected oils and five selected cakes and meals. The indices are calculated using the Laspeyres formula; the weights used are the export values of each commodity for the 2002-2004 period.

Sources: FAO and Oil World.

APPENDIX TABLE 25: INTERNATIONAL RAW SUGAR PRICE AND FAO SUGAR PRICE INDEX

	I.S.A. average of daily prices ¹	FAO Sugar Price Index
	Raw sugar	
Annual (Jan/Dec)	.....(US Cents per lb) .....	.....(2002-2004=100)
2009	18.1	257.3
2010	21.3	302.0
2011	26.0	368.9
2012	21.5	305.7
2013	17.7	251.0
2014	17.0	241.2
2015	13.4	190.7
2016	18.0	256.0
2017	16.0	227.3
2018	12.5	
Monthly		
2017 - June	13.9	197.3
2017 - July	14.6	207.5
2017 - August	14.3	203.9
2017 - September	14.4	204.2
2017 - October	14.3	203.5
2017 - November	15.0	212.7
2017 - December	14.4	204.1
2018 - January	14.1	199.9
2018 - February	13.6	192.4
2018 - March	13.1	185.5
2018 - April	12.0	176.1
2018 - May	12.4	175.3
2018 - June	12.5	177.4
2018 - July	11.7	166.3
2018 - August	11.1	157.3
2018 - September	11.4	161.4
2018 - October	12.5	175.4
2018 - November	12.9	183.1
2018 - December	12.7	179.6
2019 - January	12.8	181.9
2019 - February	13.0	184.2
2019 - March	12.7	180.4
2019 - April	12.8	181.7

¹ International Sugar Agreement (ISA) prices: simple average of the closing quotes for the first three future positions of the New York Intercontinental Exchange (ICE), Sugar Contract no. 11.

Sources: International Sugar Organization (ISO). FAO for the sugar index.

APPENDIX TABLE 26: SELECTED INTERNATIONAL PRICES FOR MILK PRODUCTS AND FAO DAIRY PRICE INDEX

Period	International prices				FAO Dairy Price Index
	Butter ¹	Skim milk powder ²	Whole milk powder ³	Cheddar cheese ⁴	
Annual (Jan/Dec)	..... (USD per tonne) .....				... (2002-2004=100) ...
2008	3 701	3 251	3 891	4 633	223
2009	2 736	2 332	2 556	2 957	150
2010	4 270	3 081	3 514	4 010	207
2011	4 876	3 556	4 018	4 310	230
2012	3 547	3 119	3 358	3 821	194
2013	4 484	4 293	4 745	4 402	243
2014	4 010	3 647	3 868	4 456	224
2015	3 212	2 113	2 509	3 340	160
2016	3 350	1 983	2 457	3 094	154
2017	5 573	2 025	3 179	3 848	202
2018	5 325	1 911	3 087	3 648	193
Monthly					
2018 – April	5 961	1 813	3 301	3 788	204
2018 – May	6 245	1 941	3 289	4 094	215
2018 – June	6 271	2 018	3 290	3 981	213
2018 – July	5 777	1 949	3 130	3 700	199
2018 – August	5 463	1 937	3 102	3 713	196
2018 – September	5 156	2 023	3 048	3 619	191
2018 – October	4 702	1 935	2 910	3 513	182
2018 – November	4 507	1 960	2 834	3 375	176
2018 – December	4 265	1 967	2 814	3 238	170
2019 – January	4 528	2 291	2 922	3 475	182
2019 – February	4 660	2 477	3 134	3 675	192
2019 – March	4 871	2 431	3 271	4 019	204
2019 – April	5 246	2 404	3 326	4 288	215

¹ Butter, 82% butterfat, f.o.b. Oceania and EU; average indicative traded prices

² Skim Milk Powder, 26% butterfat, f.o.b. Oceania and EU, average indicative traded prices

³ Whole Milk Powder, 1.25% butterfat, f.o.b. Oceania and EU, average indicative traded prices

⁴ Cheddar Cheese, 39% max. moisture, f.o.b. Oceania, indicative traded prices

Note: The FAO Dairy Price Index is derived from a trade-weighted average of a selection of representative internationally-traded dairy products

Sources: FAO for indices. Product prices: Mid-point of price ranges reported by Dairy Market News (USDA)

APPENDIX TABLE 27: SELECTED INTERNATIONAL MEAT PRICES

Period	Bovine meat prices			Ovine meat price	Pig meat prices			Poultry meat prices	
	Australia	United States of America	Brazil	New Zealand	United States of America	Brazil	Germany	United States of America	Brazil
Annual (Jan/Dec)	..... (USD per tonne)								
2008	3 024	4 325	3 785	2 975	2 270	3 000	2 364	997	1 896
2009	2 562	3 897	3 118	3 495	2 202	2 223	2 035	989	1 552
2010	3 272	4 378	3 919	3 662	2 454	2 747	1 913	1 032	1 781
2011	3 944	4 516	4 816	5 370	2 648	3 023	2 169	1 147	2 083
2012	4 176	4 913	4 492	4 754	2 676	2 784	2 233	1 228	1 931
2013	4 009	5 535	4 326	4 130	2 717	2 872	2 311	1 229	2 014
2014	5 016	6 678	4 515	4 687	3 183	3 434	2 106	1 206	1 940
2015	4 638	6 201	4 130	3 641	2 576	2 499	1 582	1 003	1 642
2016	4 059	5 569	3 836	3 571	2 424	2 143	1 682	914	1 532
2017	4 378	5 871	4 047	4 486	2 529	2 482	1 871	999	1 653
2018	4 110	6 416	3 931	5 249	2 506	1 965	1 728	971	1 552
Monthly									
2018 – April	4 175	6 557	3 913	5 149	2 543	2 105	1 806	1 063	1 573
2018 – May	4 178	6 503	4 045	5 071	2 492	2 031	1 722	1 065	1 550
2018 – June	4 091	6 354	4 041	5 317	2 491	1 956	1 739	1 002	1 516
2018 – July	4 035	6 241	4 072	5 357	2 488	1 857	1 715	995	1 514
2018 – August	4 013	6 256	3 988	5 463	2 602	1 821	1 805	968	1 551
2018 – September	3 939	6 349	3 871	5 547	2 471	1 751	1 745	932	1 541
2018 – October	3 735	6 563	3 796	5 308	2 417	1 796	1 624	904	1 531
2018 – November	3 875	6 589	3 854	5 412	2 462	1 858	1 596	892	1 575
2018 – December	4 096	6 526	3 697	5 272	2 395	1 986	1 596	851	1 600
2019 – January	4 166	6 318	3 686	4 827	2 367	2 010	1 600	850	1 563
2019 – February	4 373	6 482	3 666	4 798	2 328	1 980	1 629	874	1 595
2019 – March	4 470	6 486	3 631	4 675	2 330	2 052	1 701	876	1 607
2019 – April	4 695	6 490	3 618	4 684	2 352	2 112	1 963	878	1 615

Bovine meat prices:

Australia: Cow 90CL export prices to the United States of America (FAS)

United States of America: Frozen beef, export unit value

Brazil: Frozen beef, export unit value

Ovine meat prices:

New Zealand: Lamb 17.5kg cwt, export price

Pig meat prices:

United States of America: Frozen pigmeat, export unit value

Brazil: Frozen pigmeat, export unit value

Germany: Monthly market price for pig carcass grade E

Poultry meat prices:

United States of America: Broiler cuts, export unit value

Brazil: Export unit value for chicken (f.o.b.)

Prices for the two most recent months may be estimates and subject to revision.

APPENDIX TABLE 28: FAO MEAT PRICE INDICES

Period	Total meat	Bovine meat	Ovine meat	Pig meat	Poultry meat
Annual (Jan/Dec)	..... (2002-2004=100)				
2008	161	158	128	152	184
2009	141	135	151	131	162
2010	158	165	158	138	179
2011	183	191	232	153	206
2012	182	195	205	153	201
2013	184	197	178	157	206
2014	198	231	202	164	200
2015	168	213	157	126	168
2016	156	191	154	123	156
2017	170	204	194	135	169
2018	166	204	227	124	160
Monthly					
2018 – April	170	207	222	128	168
2018 – May	169	208	219	124	166
2018 – June	167	204	230	124	160
2018 – July	165	203	231	122	160
2018 – August	167	201	236	126	160
2018 – September	164	199	239	121	157
2018 – October	160	197	229	117	155
2018 – November	163	201	234	117	157
2018 – December	162	202	228	117	156
2019 – January	160	200	208	117	154
2019 – February	163	205	207	117	157
2019 – March	164	207	202	121	158
2019 – April	169	210	202	130	159

Poultry meat prices:**USA:** Broiler cuts, export unit value**Brazil:** Export unit value for chicken (f.o.b.)

The **FAO Meat Price Indices** consist of 2 poultry meat product quotations (the average weighted by assumed fixed trade weights), 3 bovine meat product quotations (average weighted by assumed fixed trade weights), 3 pig meat product quotations (average weighted by assumed fixed trade weights), 1 ovine meat product quotation (average weighted by assumed fixed trade weights): the four meat group average prices are weighted by world average export trade shares for 2002/2004.

Prices for the two most recent months may be estimates and subject to revision.

APPENDIX TABLE 29: FISH PRICE INDICES

Period	Total	Aquaculture	Capture	White fish	Salmon	Shrimp	Pelagic excl. tuna	Tuna	Other fish
Annual (Jan/Dec)	..... (2002-2004=100)								
2008	136	120	148	151	151	109	148	162	133
2009	126	119	131	132	159	98	140	147	128
2010	137	137	136	138	187	109	144	146	146
2011	154	149	157	151	195	124	173	175	166
2012	144	124	157	145	146	107	207	195	176
2013	148	141	151	134	157	126	215	190	175
2014	157	158	153	142	159	148	210	175	185
2015	142	137	146	141	134	129	216	150	196
2016	146	145	146	141	162	129	207	153	194
2017	154	152	155	143	177	136	226	168	208
2018	159	149	167	154	179	133	229	181	222
Monthly									
2017 - January	151	154	147	138	190	131	228	153	205
2017 - February	149	150	146	133	180	129	227	161	187
2017 - March	150	152	147	136	176	131	242	159	188
2017 - April	150	151	148	138	179	133	241	154	191
2017 - May	151	154	148	140	185	131	202	159	204
2017 - June	154	155	152	147	185	132	198	167	210
2017 - July	156	153	155	148	185	136	213	167	219
2017 - August	157	151	162	146	174	141	230	175	225
2017 - September	157	150	162	146	174	140	254	179	207
2017 - October	156	151	159	144	173	142	237	173	207
2017 - November	159	149	164	144	163	146	213	182	226
2017 - December	160	149	169	150	164	143	222	184	223
2018 - January	162	153	170	152	174	140	243	189	220
2018 - February	160	151	167	153	176	134	274	188	211
2018 - March	165	159	168	153	193	132	299	183	225
2018 - April	163	156	168	157	194	129	229	181	228
2018 - May	158	155	159	151	200	128	193	176	200
2018 - June	158	151	162	152	181	133	193	175	211
2018 - July	155	143	162	152	168	129	190	185	218
2018 - August	155	139	167	149	165	129	217	190	220
2018 - September	160	145	173	158	178	133	230	190	233
2018 - October	157	143	168	154	176	136	231	177	215
2018 - November	157	143	166	157	173	138	235	170	229
2018 - December	160	145	169	162	170	138	217	172	251

Source: Norwegian Seafood Council (NSC).

Note: The FAO Fish Price Index is based on nominal import values expressed in CIF in the three major import markets; Japan, United States of America and EU. Separate indexes exist for products from aquaculture and from capture fisheries. Additional sub-indexes exist for the major commodity groups based on species.

APPENDIX TABLE 30: SELECTED INTERNATIONAL COMMODITY PRICES

	Currency and unit	Effective date	Latest quotation	One month ago	One year ago	Average 2014-2018
Sugar (ISA daily price)	US cents per lb	29-03-19	12.71	12.98	13.07	15.40
Coffee (ICO daily price)	US cents per lb	26-04-19	94.05	96.77	112.56	128.59
Cocoa (ICCO daily price)	US cents per lb	26-04-19	104.44	100.81	119.06	121.55
Tea (FAO Tea Composite Price)	USD per kg	29-03-19	2.40	2.31	3.07	2.75
Cotton (COTLOOK A index)	US cents per lb	29-03-19	83.81	81.15	92.14	80.47
Jute "BTD" (Fob Bangladesh Port)	USD per tonne	29-03-19	870.00	860.00	720.00	723.92

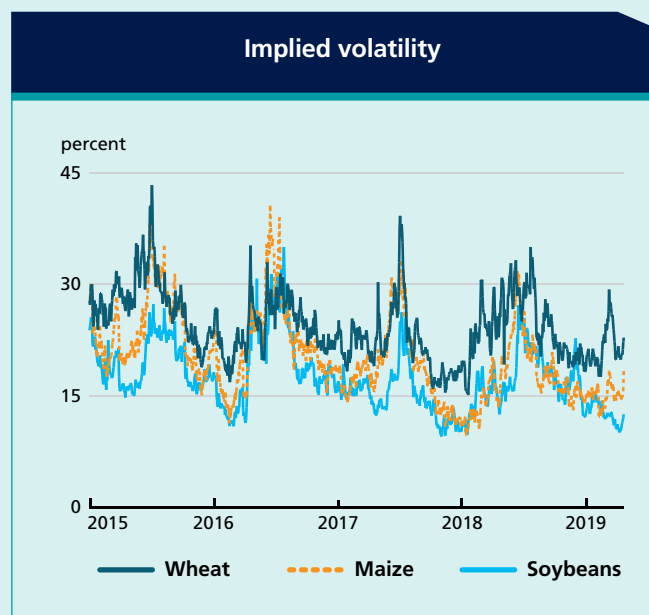
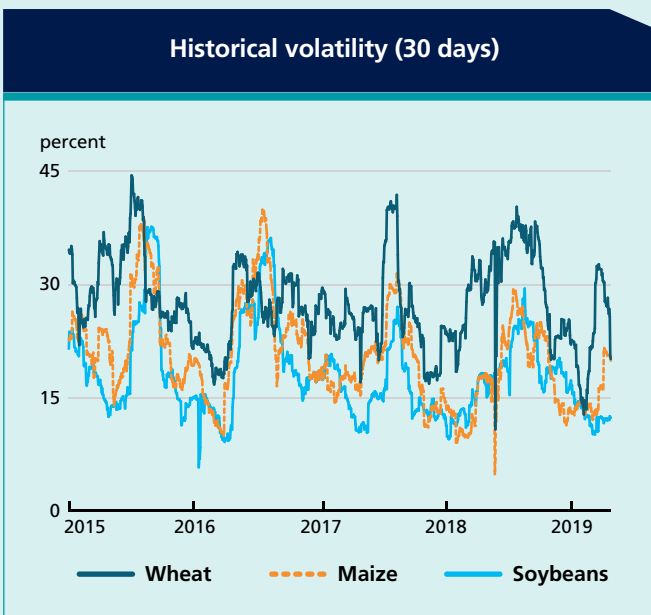
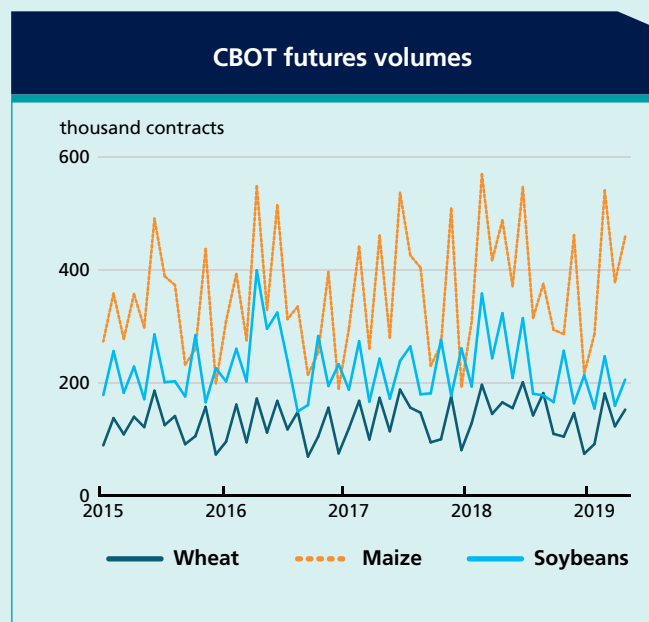
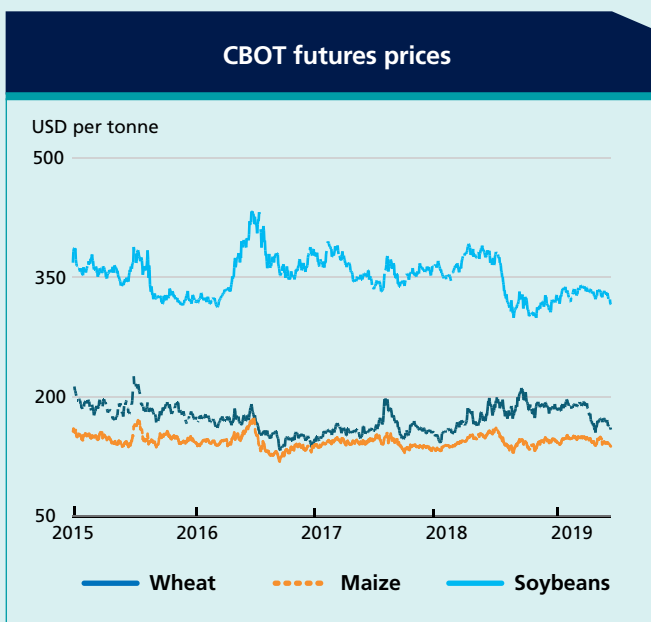
MARKET INDICATORS

Futures markets

Contributed by Ann Berg (International Consultant)

Futures prices for wheat, maize and soybeans trended lower from January through April – descending below 2018 price levels for the same period and, except for wheat, below price levels for the same period in 2017 as well. Ample global supplies, large 2018/19 carry-out projections in the United States of America, and protracted trade tensions between the US and China weighed on the price performance of all three commodities. Improved crop ratings for US winter wheat year-on-year (y/y), and mostly favourable weather at the start of maize and soybean planting, also placed pressure on values. Downward revisions to domestic consumption and exports for wheat

and maize by the United States Department of Agriculture (USDA) further dampened prices for the two cereals. Conversely, a resumption of US soybean purchases by China lent some support to the oilseed price, which rose above the 10-year low touched during September 2018. However, these small price increases were tempered by analysts' and traders' realization that Chinese soybean import demand, which had followed a steep upward trajectory for years, was set to decline for the first time since 2003, as a result of government guidelines to lower protein content in animal feed and the culling of pig herds infected by African Swine Fever. Developments in



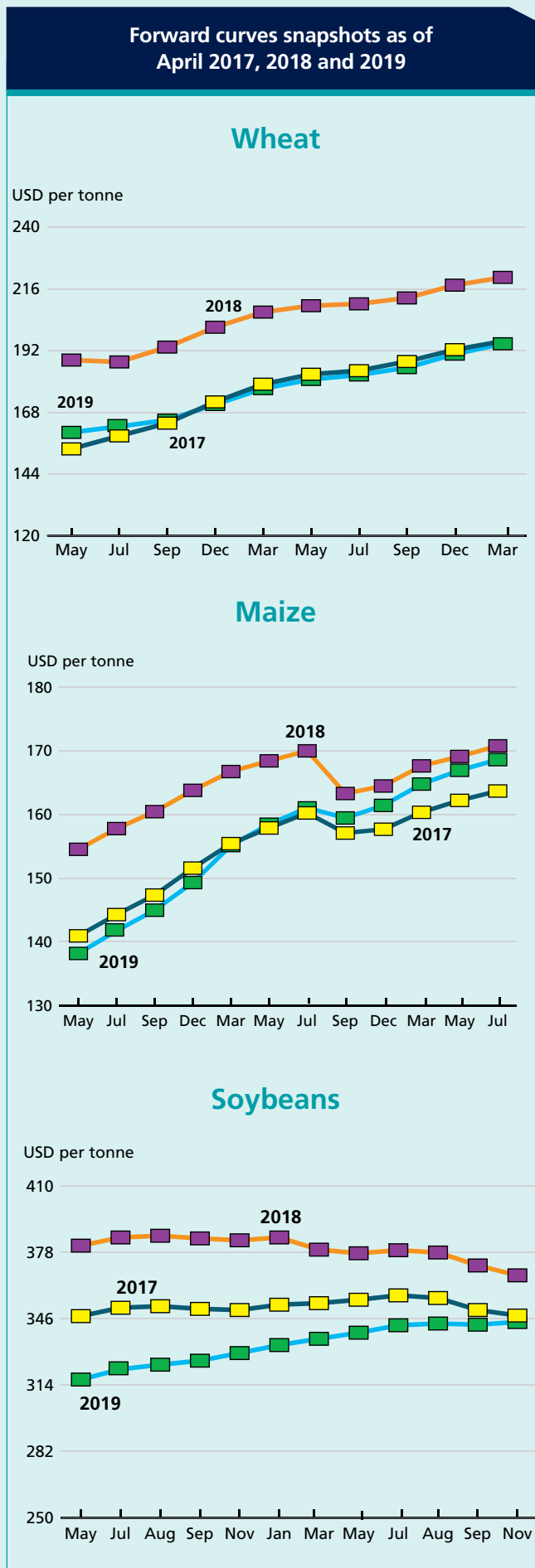
exogenous markets, such as foreign exchange and energy, were mixed with indeterminate effects on agricultural markets. Exhibiting low volatility, the US dollar index edged higher, possibly providing a constraint on values. On the other hand, the 50 percent price rise in West Texas Intermediate crude oil since the start of 2019 – normally supportive of cereal and oilseed prices – failed to curb their decline. The prospect of abundant supplies, unresolved trade issues and stagnating demand weighed on markets overall.

FORWARD CURVES

Forward curves for wheat, maize and soybeans displayed upward sloping (contango) price configurations extending until July 2020, reflecting ample supplies within a low price environment. The soybean curve showed the greatest y/y change, as the supply and demand fundamentals abruptly shifted following the imposition of Chinese tariffs on US exports in June 2018. The y/y soybean curve (between July 2019 and July 2020) exhibited a USD 20 contango as of 1 May 2019, versus a USD 6 inverse (downward sloping) for the same period the previous year. Despite record crush levels and increased exports to other countries, a projected record US 2018/19 carry-overs weighed heavily on the front end of the curve. The maize and wheat curves exhibited nearly identical configurations to 2017 for the same period, when a large projected old crop carry-overs pressured prices and the front end of each curve.

VOLUMES

Trade volumes, which mostly rose steadily y/y between 2013 and 2018, posted lower levels for all three commodities for the first four months of 2019. Soybean volumes showed the greatest y/y decline – probably due to sharply lower US exports and uncertainties caused by ad hoc trade disputes, which often hamper hedging strategies. The decline is nonetheless surprising, given the continued growth of automated trading, now comprising more than 70 percent of the volume for grains and oilseeds, according to the United States of America Commodity Futures Trading Commission. Using algorithmic programmes, automated trading's abilities to detect market anomalies and swiftly execute trades across multiple markets have been credited with burgeoning volumes. Similar to trade volumes, open interest (the number of outstanding contracts at a given point in time for a futures contract) declined from last year's record numbers. Commercial participation, which surged in 2018 as calculated from both open positions and the number of active traders, declined for all three commodities



y/y, but was partially offset by an increase in managed money participation. Options volumes were flat except for soybeans, which posted a decline. It remains to be seen whether the slowdown was temporary, or if it marks the end of a secular growth trend.

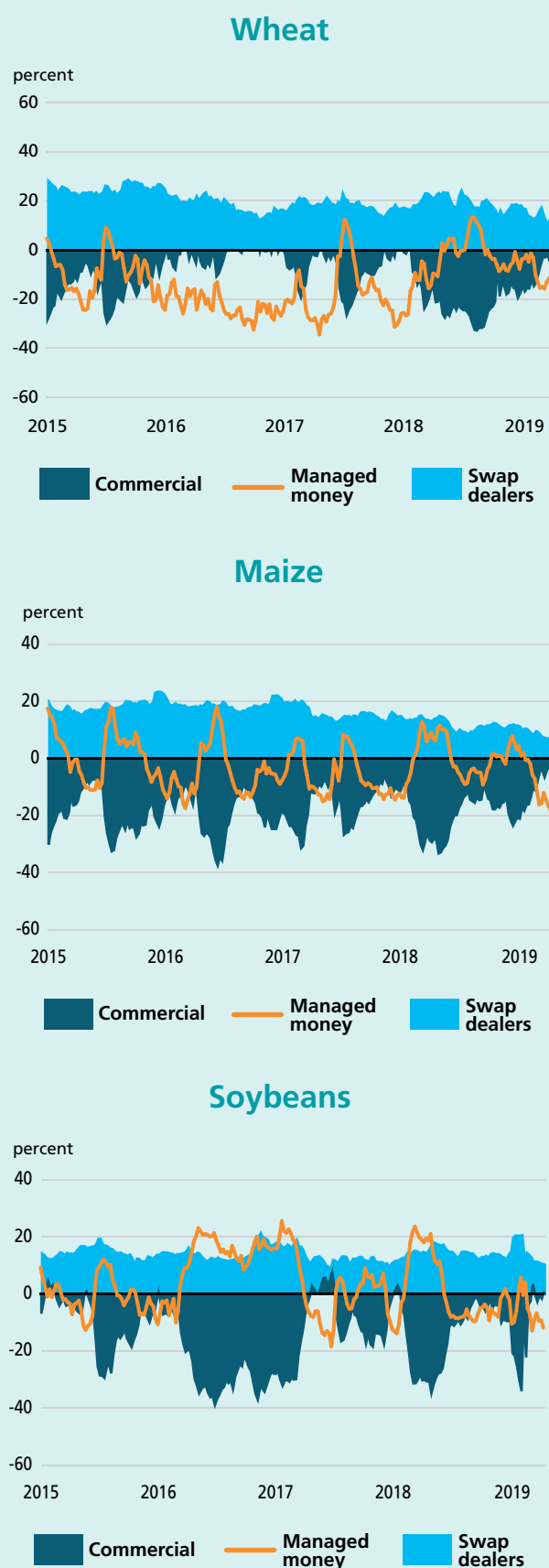
VOLATILITY

Volatility levels for wheat, maize and soybeans followed the seasonal norm of exhibiting relatively low values, with each displaying a slightly different profile. Supply overhang eclipsed the trade uncertainties of 2018, when speculation over the resolution of the Chinese tariff situation raised volatility throughout the summer. Historical volatility (based on 30 days) for wheat ranged between 17 and 29, while maize ranged between 14 and 20, with both exhibiting rising levels into the approach of the spring sowing season. Conversely, historical volatility for soybeans dropped from 14 to 12, reflecting declining trade interest the oilseed. Implied volatility (calculated by the level of option premiums on underlying futures contracts) exhibited little variation within each commodity, with wheat ranging between 20 and 25, maize between 14 to 16, and soybeans between 14 and 11 (all figures based on monthly averages). The most watched commodity volatility measure, the Crude Oil Volatility Index, surged from the mid-20s last year to above the 60 level at the end of 2018 and beginning of 2019, before falling back to the mid-20s, reacting mostly to global political events.

INVESTMENT FLOWS

Managed money resumed its aggressive bearish posturing pursued in years past, establishing large short positions in wheat and soybeans, and a record net short of approximately 43.7 million tonnes in maize. This contrasts with last year, when at the start of the growing season, fund managers held a negligible short in wheat, and moderate to large net long positions in maize and soybeans, respectively. Spread positioning (the equal holding of long and short contracts of two different maturities within one commodity futures contract), which had grown considerably over the past few years, increased again for all three commodities among money managers. Commercial traders, normally holders of moderate to large net short positions throughout the year, reduced their shorts in wheat and maize to negligible levels, while holding an insignificant net long in soybeans. Swaps dealers (providers of index products that track commodity prices) continued to hold the largest percentage of net long positions, and also raised their holdings of spreads.

CBOT net-length as % of open interests
(Jan 2015 - April 2019)



Agricultural commodity hedge funds, as tracked by Barclay Hedge, continued to struggle in a low price environment, showing 0.39 percent negative return for 2018, and 0.09 percent positive return year-to-date 2019. The

Deutsche Bank Agricultural Index Fund, which tracks 10 agricultural futures markets, including wheat, maize and soybeans, sunk to an all-time low at USD 16.20, versus USD 18.21 for the same period in 2018.

Ocean freight rates

Contributed by the International Grains Council (IGC)

www.igc.int

OCEAN FREIGHT MARKET (OCT 2018- APRIL 2019)

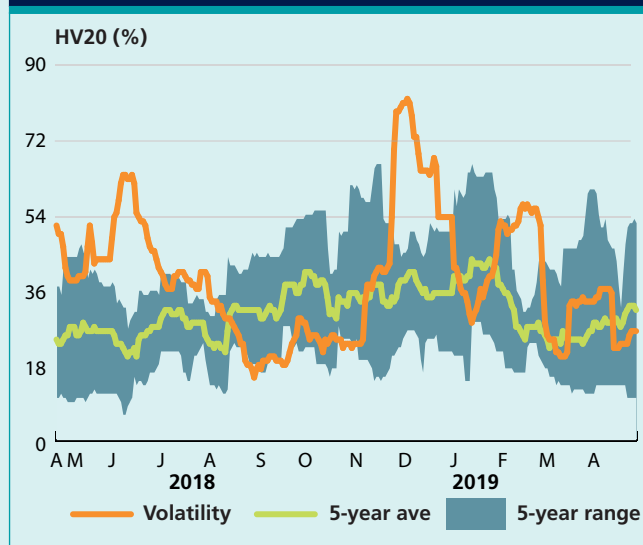
The dry bulk freight market posted sizable losses since late October 2018, mainly attributed to an early-2019 plunge. After a relatively positive end to 2018, values slumped across all vessel segments on disappointing demand and worries about deteriorating prospects for global economic growth. Reflecting this, the Baltic Dry Index (BDI) – a composite benchmark of costs across dry bulk segments – touched its lowest in around two and a half years in mid-February, approaching the all-time low of early-2016.

Summary of dry bulk freight markets

	26 Apr 2019	Changes	
		6 months	y/y
		%	
Baltic Dry Index (BDI)*	889	-41	-35
<i>Sub-indices:</i>			
Capesize	783	-69	-66
Panamax	1 186	-25	-7
Supramax	780	-30	-25
<i>Baltic: Handysize Index (BHSI)**</i>	389	-42	-36

Source: Baltic Exchange, * 4 January 1985 = 1000 ** 23 May 2006 = 1000.
Note: Baltic Handysize sub-Index excluded from the BDI from 1 March 2018.

Volatility in Baltic Dry Index (HV20) 26 April 2018 – 26 April 2019

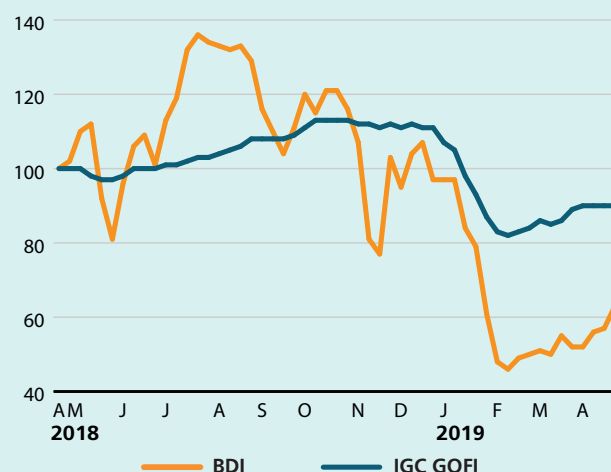


Note: Historical volatility, as measured by the standard deviation (%) of daily quotation movements over a 20-day window (HV20).

Source: Baltic Exchange, IGC

BDI and IGC GOFI 23 April 2018– 23 April 2019

Rebased, 23 Apr 2018 = 100



Note: IGC Grains and Oilseeds Freight Index, constructed based on nominal freight rates on major grains/oilseeds routes using trade-weighted approach.

Source: Baltic Exchange, IGC

Despite a subsequent rebound, the Index was still more than one-third lower year-on-year (y/y), highlighting uncertainty about future trade and tonnage oversupply. Due to steep day-to-day swings in freight rates, the market saw much higher than average volatility levels at times.

The costs of ocean transportation of grains and oilseeds also fell sharply over the period. However, weakness was less pronounced compared to the broader market, as evidenced by movements in the IGC Grains and Oilseeds Freight Index (GOFI), which provides a measure of trade-weighted nominal rates on key routes. After retreating to a 17-month low in mid-February, the Index recovered a portion of its losses, but was still 20% below its late-October level, and down 10% y/y.

Capesize earnings recorded the sharpest decline during the period as the market remained volatile. Ample tonnage availability on major routes, coupled with talk of reduced steel mill margins in China and fresh antipollution restrictions weighed on market sentiment in late-2018. However, occasional support stemmed from upturns on the Brazil-China route. Values fell sharply in the period since, reaching a fresh all-time low in early-April following a series of disruptive market developments. These included an abrupt fall in iron ore output and trade in Brazil following a mining dam accident, as well as fresh coal import restrictions by China and weather-induced iron ore mine closures in Western Australia. Although average sector

earnings edged higher recently, they were still 66% lower than a year ago and still at loss-making levels.

Trends in the **Panamax** segment were similarly two-sided. Before the end of the year, the market drew support from the robust pace of Brazil's late-season soyabean exports, mostly to China, with the nominal freight quotations on that route reaching multi-year highs of US\$38-US\$39/t. Good enquiry levels out of the US Gulf, including for coal and maize, also underpinned, as did renewed hopes for a resolution to the United States of America-China trade dispute. While values slumped in January-February 2019 amid broad-based industry weakness, the sector staged the strongest recovery among the grains and oilseeds carrying segments thereafter, with

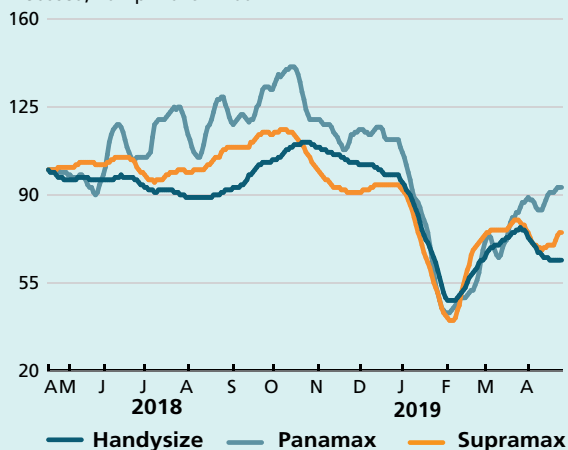
Baltic Capesize Index 26 April 2018 – 26 April 2019

Rebased, 26 Apr 2018 = 100



Grains and oilseeds carrying sectors: Panamax and Supramax sub-Indices and Handysize Index 26 April 2018 – 26 April 2019

Rebased, 26 Apr 2018 = 100



the Baltic Index quoted only a touch lower y/y. The post-slump recovery was driven by brisk demand and signs of tight vessel supply in South America, coupled with buoyant minerals trade out of Indonesia as well as on the South Africa-India route. Nevertheless, flood-related issues at the US Gulf and talk about emerging competition from Capesize carriers in Asia likely pared gains.

The **Supramax** and **Handysize** segments saw generally firm grains and minerals demand in the Atlantic as well as logistical issues at key origins in the fourth quarter of 2018. This contrasted with somewhat erratic demand in the Pacific Basin and rounds of discounting in Europe. The early-2019 downward trend was reversed in mid-February as active grains/oilseeds dispatches out of the US Gulf and South America returned as a driver of growth. This was supplemented by fresh enquiries for scrap shipments from the Baltic to the eastern Mediterranean, coupled with improved rate expectations for some Pacific voyages.

The table below provides a snapshot of developments on key selected grains and oilseeds carrying routes.

Summary of freight rates on selected routes

USD/t	23 Apr 2019	Changes	
		6 months	y/y
		%	
US (Gulf) to:			
China (Dalian)	41	-20	-9
EU (ARAH)	20	-26	-17
Japan	42	-16	-5
Canada (St. Lawrence) to:			
China (Dalian)	46	-13	-6
EU (ARAH)	20	-17	-13
Japan	45	-13	-6
Argentina to:			
Algeria	30	-17	0
Brazil	16	-33	-16
EU (ARAH)	24	-11	4
Brazil to:			
China (Dalian)	34	-13	-3
EU (ARAH)	22	-21	-19
EU (France, Rouen) to:			
Algeria	23	-30	-23
Egypt (Mediterranean)	18	-33	-22
Morocco	18	-28	-18
Black sea to:			
Egypt (Alexandria)	24	-25	4
Morocco	24	-31	-14
Tunisia	24	-37	-15
Australia (East Coast) to:			
China (Dalian)	18	-22	-10
Indonesia	17	-15	-15
Yemen	37	-8	-2

EU (ARAH) refers to Antwerp, Rotterdam, Hamburg

Food import bills

World food import bill in 2019 could fall

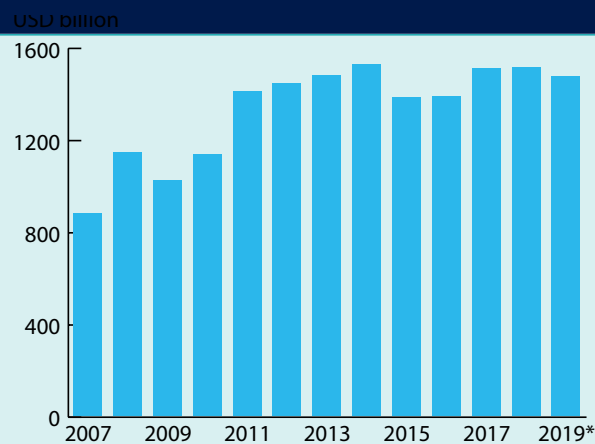
At USD 1.472 trillion, the provisional forecast for the global food import bill in 2019 points to a decline of 2.5 percent from the revised figure for 2018. Nevertheless, at this level, the bill would remain elevated, being just USD 51 billion short of the 2014 record.

The forecast year-on-year decrease in the world food import bill is partly a reflection of a decline in international price quotations for many commodities, and it is more the result of a sizeable fall in freight rates. Lower unit costs of importing food are likely to offset an expansion in global demand for many foodstuffs, implying that in 2019, more food can be purchased nominally for the same or lower cost.

At the commodity level, the product bill that is expected to undergo the largest absolute decrease in 2019 is that for tropical beverages – coffee, tea and cocoa – and spices. The near USD 11 billion year-on-year decline is on account of significantly lower price quotations in 2019 compared to last year, with international tea and coffee prices falling to multi-year lows. Bills of products in the oilseed complex (vegetable oils and oilseeds) are also expected to fall substantially in 2019, by a combined USD 15 billion from last year, as a result of much lower quotations (a 13-year low in the case of international vegetable oil prices) and a slowdown in global demand for oilseeds. Beverages, and fruits and vegetables, could also witness multi-billion dollar falls in 2019, while more moderate declines are foreseen for livestock and fish products. A recovery in sugar quotations, offset by a small contraction in import demand, looks set to leave the world sugar bill virtually unchanged. Similarly, the aggregate cereal bill could match the level of 2018, in spite of a rebound in import demand from last year.

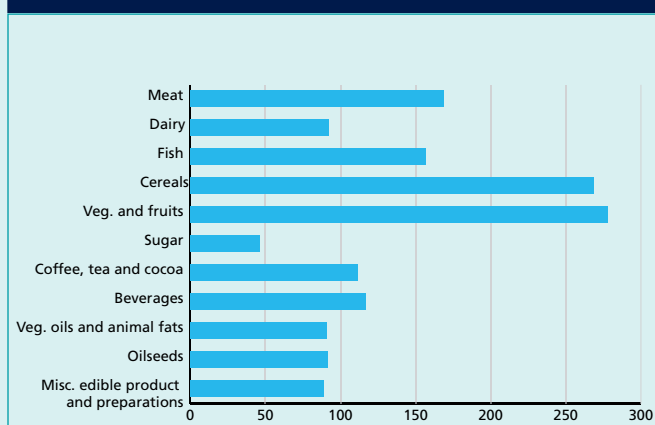
Trends in the food import bills of least-developed countries (LDCs), low-income food-deficit countries (LIFDCs) and those situated in sub-Saharan Africa (SSA) are mixed. In the case of LDCs, their aggregate food import bill appears set to remain virtually unchanged from last year, while a 3-percent fall is anticipated in the bill of LIFDCs and a 4-percent rise is expected for SSA. All three vulnerable country groups are expected to benefit significantly from much lower bills of vegetable oils – commodities that habitually rank second in terms of import dependency. However, poor cereal production prospects for all these countries in 2019 are anticipated to instigate larger import volumes of these staples, and to curb the benefits of widely falling import bills of other products. Indeed, the dependence on imported cereals is expected to spike in 2019, reaching as much as 35 percent of the entire food bill for LDCs and SSA.

World food import bills (2007-2019)

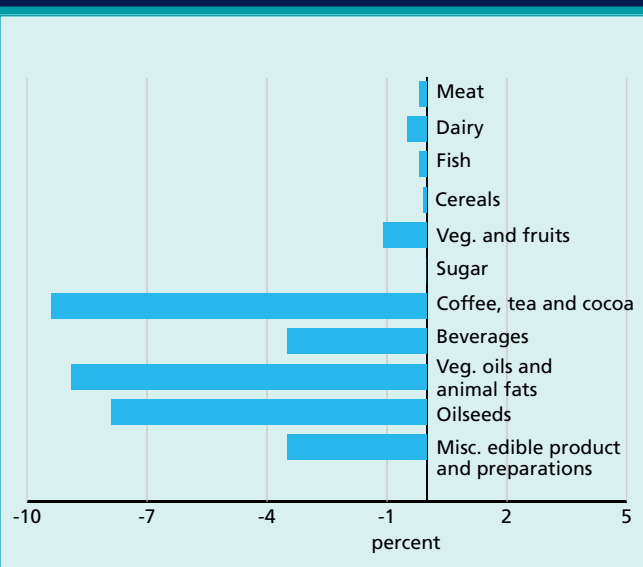


* Forecast. Current US dollars

Global import bill: food commodities 2019 (USD billion)



Forecast changes in global food import bills by type (2019 over 2018)



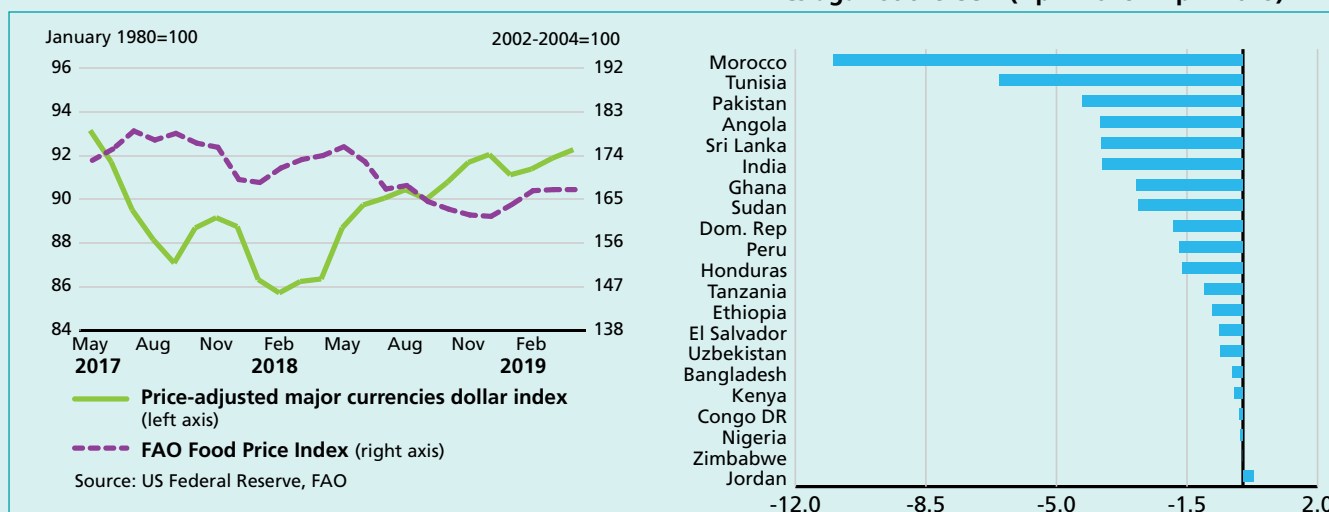
Import bills of total food and major foodstuffs (USD billion)

	World		Developed		Developing		LDC		LIFDC		Sub-Saharan Africa	
	2018	2019 <i>f'cast</i>	2018	2019 <i>f'cast</i>	2018	2019 <i>f'cast</i>	2018	2019 <i>f'cast</i>	2018	2019 <i>f'cast</i>	2018	2019 <i>f'cast</i>
TOTAL FOOD	1 510.1	1 472.4	896.7	877.6	613.4	594.8	41.0	40.6	80.4	78.3	46.9	48.7
Meat	169.0	168.6	103.2	102.3	65.7	66.2	2.6	2.5	2.3	2.3	3.6	3.4
Dairy	92.4	91.9	57.8	57.6	34.6	34.4	1.9	1.9	2.8	2.8	2.1	2.0
Fish	156.8	156.5	108.4	107.3	48.5	49.2	1.2	1.3	3.3	3.2	4.4	4.8
Cereals	268.5	268.2	126.7	129.8	141.8	138.4	13.8	14.2	20.6	21.3	15.1	17.5
Vegetables and fruit	277.9	274.7	194.1	190.9	83.8	83.9	3.8	3.9	10.3	10.4	3.3	3.3
Sugar	46.0	46.0	22.5	22.4	23.5	23.6	3.7	3.7	5.7	5.5	3.8	3.8
Coffee, tea and cocoa	111.2	100.7	80.9	73.3	30.3	27.4	1.6	1.5	4.7	4.3	1.8	1.6
Beverages	116.7	112.6	26.8	26.0	30.8	29.7	1.9	1.8	2.2	2.1	2.7	2.6
Vegetables oils and animal fats	90.8	82.8	40.6	37.1	50.2	45.7	6.6	6.1	21.1	19.4	6.2	5.9
Oilseeds	91.7	84.4	26.8	26.0	64.9	58.4	0.9	0.9	2.7	2.7	0.2	0.2
Miscellaneous edible products and preparations	89.2	86.1	49.8	48.1	39.4	38.0	3.0	2.9	4.5	4.4	3.7	3.6

Exchange rates and food prices

Against the trend - food prices climb with the US dollar (April 2016 - April 2019)

% changes in real terms in the currencies of selected LIFDCs against the USD (April 2018 - April 2019)



Exchange rates and food prices

Having reached a three-and-a-half year low in February 2018, the US dollar has begun to rise relative to major currencies, with the nominal index climbing to a 2-year high of 92 points in April 2019. With the US dollar being the primary currency used for international transactions, a strong (weak) US dollar typically imparts a loss (gain) to the domestic purchasing power of importing countries. For instance, a strong US dollar raises serious concerns for LIFDCs. From April 2018 to April 2019, almost all the major food importing LIFDCs, which purchase more than USD 1 billion worth of food annually, out of USD 78 billion for the

LIFDC as a group, saw their currencies fall against the US dollar in real terms, reversing the gains of generally lower international food prices.

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FAO price indices¹

FAO food price indicators regain momentum

The **FAO Global Food Consumption Price Index**² tracks changes in the cost of a global food basket, as depicted by the latest FAO world food balance sheet (see <http://faostat3.fao.org/download/FB/FBS/E>).

After reaching a three-and-half year high in May 2018, the FAO Global Food Consumption Price Index (GFCPI), along with the FAO Food Price Index (FFPI), followed a declining trend over the remainder of the year, and each had lost more than 10 points by December 2018. However, at the beginning of 2019, both indices began rising, with unabated upward momentum in the FFPI while growth in the GFCPI has recently stalled, bringing about convergence between the two indices: in April 2019 the FFPI reached 170 points and the GFCPI was quoted at 173 points.

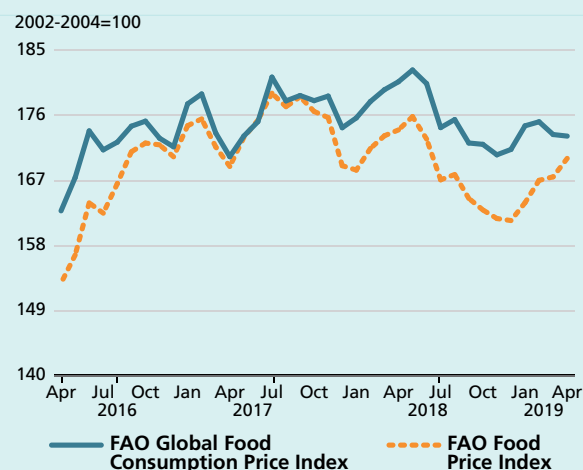
The recent convergence between the two indices can be explained by the relative weights of the components of each index: international prices of cereals that carry the largest weight in the consumption-based GFCPI (59 percent) fell markedly over March and April, while in the trade-based FFPI, quotations of high-valued livestock products that assume the greatest weight (52 percent) have sharply risen in recent months.

The FAO Food Price Index rises to a 10-month high³

The **FAO Food Price Index** (FFPI) rose in April 2019 to around 170 points, 1.5 percent (2.5 points) higher than in April and marking its highest value since June 2018. At this level, the FFPI would still remain 2.3 percent below its level in the corresponding month last year. Except for the sub-index for cereals, all the other sub-indices firmed in April, led by dairy and meat, and to a lesser extent vegetable oils and sugar.

The **FAO Cereal Price Index** averaged 160 points in April, down 2.8 percent (4.7 points) from March and 5 percent below its April 2018 value. The sub-index fell for the fourth consecutive month, pressured by large export availabilities and slowing trade. Among the cereals, wheat prices fell the most in March, influenced by prospects for a strong rebound in the 2019 production, amid large

The FAO Global Food Consumption and Food Price Indices (Apr 2016 - Apr 2019)



exportable supplies. Maize prices were also lower, mostly because of expectations of larger South American crops. By contrast, FAO's rice price index was generally stable in April, amid diverging trends across the various market segments and origins.

The **FAO Vegetable Oil Price Index** averaged 128.7 points in April, up 1.1 points (or 0.9 percent) from the previous month. The rise mainly reflects slight increases in palm and soybean oil values. International palm oil price quotations rebounded somewhat on rising global import demand, combined with inventory drawdowns in major exporting countries. Soybean prices, on the other hand, notched up, underpinned primarily by robust domestic demand in the US stemming from both the biodiesel and food sectors. Firming crude oil values also lent support to international vegetable oil prices.

The **FAO Dairy Price Index** averaged 215 points in April, up 10.7 points (5.2 percent) from March, representing the fourth consecutive month of increase. In April, international price quotations for butter, Whole Milk Powder (WMP) and cheese rose, as global import demand continued to be robust in anticipation of a further tightening in export availabilities from Oceania, with dry weather conditions reinforcing the seasonal milk production

¹ All changes referred to in this section, in absolute or percentage terms, are calculated based on unrounded figures.

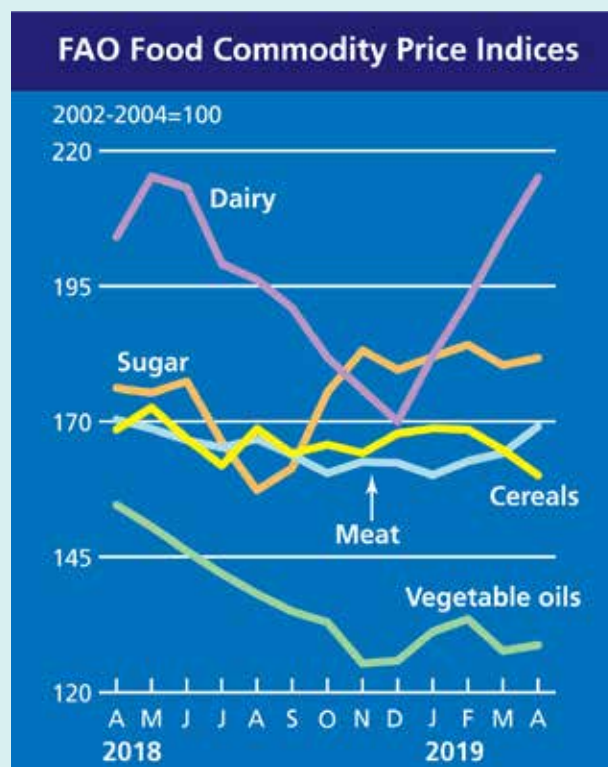
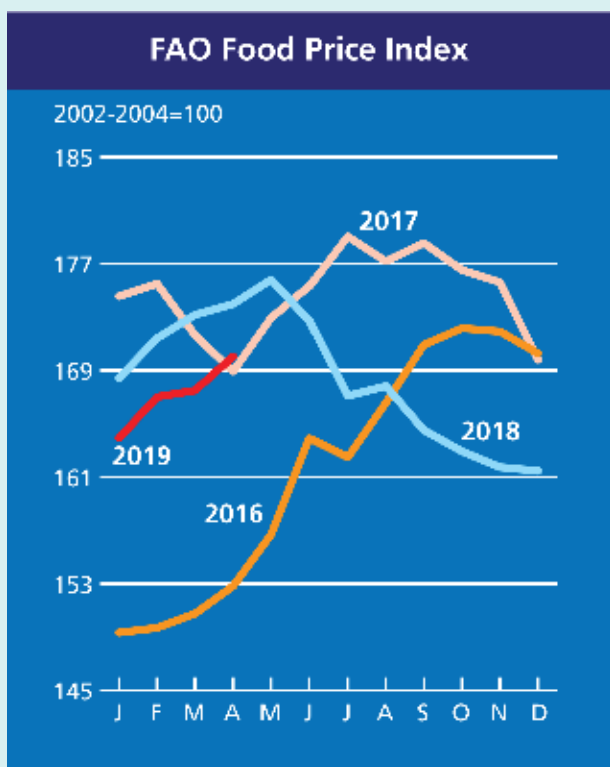
² The FAO Global Food Consumption Price Index is published twice a year in *Food Outlook*.

³ The FAO food price indices are updated on a monthly basis and are available on: <http://www.fao.org/worldfoodsituation>

drop. By contrast, Skim Milk Powder (SMP) prices slipped for a second consecutive month from the February high, underpinned by continued slowdown in demand.

The **FAO Meat Price Index**⁴ averaged just over 169 points in April, up 4.9 points (3.0 percent) from March, with month-on-month price quotation increases registered for pig and bovine meats and, more moderately, for poultry and ovine meats. International price quotations of pig meat rose sharply due to a surge in import demand in Asia, primarily in China, caused by a sharp fall in the country's pig meat production associated with the rapid spread of the African Swine Fever. Bovine, poultry and ovine meat prices all firmed reflecting an overall tightening of global meat markets.

The **FAO Sugar Price Index** averaged 181.7 points in April 2019, up almost 1.4 points (0.8 percent) from March and now 3.2 percent above its April 2018 value. The latest rise in international sugar prices was largely driven by firmer crude oil prices. Stronger energy prices lend support to international sugar prices by affecting Brazilian sugar exports to the world market, as higher energy prices encourage producers to process sugarcane into ethanol for local sale. On the other hand, the continued weakness of the Brazilian Real against the US dollar capped the extent of the increase in international sugar price quotations.



⁴ Unlike for other commodity groups, most prices utilized in the calculation of the FAO Meat Price Index are not available when the FAO Food Price Index is computed and published; therefore, the value of the Meat Price Index for the most recent months is derived from a mixture of projected and observed prices. This can, at times, require significant revisions in the final value of the FAO Meat Price Index which could in turn influence the value of the FAO Food Price Index.

FAO Food Price Index

	Food Price Index ¹	Meat ²	Dairy ³	Cereals ⁴	Vegetable Oils ⁵	Sugar ⁶
2001	94,6	100,1	105,5	86,8	67,2	122,6
2002	89,6	89,9	80,9	93,7	87,4	97,8
2003	97,7	95,9	95,6	99,2	100,6	100,6
2004	112,7	114,2	123,5	107,1	111,9	101,7
2005	118,0	123,7	135,2	101,3	102,7	140,3
2006	127,2	120,9	129,7	118,9	112,7	209,6
2007	161,4	130,8	219,1	163,4	172,0	143,0
2008	201,4	160,7	223,1	232,1	227,1	181,6
2009	160,3	141,3	148,6	170,2	152,8	257,3
2010	188,0	158,3	206,6	179,2	197,4	302,0
2011	229,9	183,3	229,5	240,9	254,5	368,9
2012	213,3	182,0	193,6	236,1	223,9	305,7
2013	209,8	184,1	242,7	219,3	193,0	251,0
2014	201,8	198,3	224,1	191,9	181,1	241,2
2015	164,0	168,1	160,3	162,4	147,0	190,7
2016	161,5	156,2	153,8	146,9	163,8	256,0
2017	174,6	170,1	202,2	151,6	168,8	227,3
2018	168,4	166,3	192,9	165,3	144,0	177,5
2018	April	174,0	170,4	204,1	168,5	176,1
	May	175,8	168,7	215,2	172,6	175,3
	June	172,7	166,5	213,2	166,8	177,4
	July	167,1	165,2	199,1	161,9	166,3
	August	167,8	166,8	196,2	168,7	157,3
	September	164,5	163,8	191,0	164,0	161,4
	October	162,9	160,4	181,8	165,7	175,4
	November	161,8	162,6	175,8	164,1	183,1
	December	161,5	162,4	170,0	167,8	179,6
2019	January	163,9	160,1	182,1	168,7	181,9
	February	167,0	162,7	192,4	168,5	184,1
	March	167,5	164,1	204,3	164,7	180,4
	April	170,1	169,1	215,0	160,1	181,7

1 Food Price Index: Consists of the average of five commodity group price indices mentioned above, weighted with the average export share of each of the groups for 2002-2004. In total 73 price quotations considered by FAO commodity specialists as representing the international prices of the food commodities are included in the overall index. Each sub-index is a weighted average of the prices of the commodities included in the group, with the base period price consisting of the averages for the years 2002-2004.

2 Meat Price Index: Computed from average prices of four types of meat, weighted by world average export trade shares for 2002-2004. Commodities include two poultry products, three bovine meat products, three pig meat products, and one ovine meat product. There are 27 price quotations in total used in the calculation of the index. Where more than one quotation exists for a given meat type, a simple average is used. Prices for the two most recent months may be estimates and subject to revision.

3 Dairy Price Index: Consists of butter, SMP, WMP, and cheese price quotations; the average is weighted by world average export trade shares for 2002-2004.

4 Cereals Price Index: This index is compiled using the International Grains Council (IGC) wheat price index, itself an average of ten different wheat price quotations, 1 maize export quotation and 16 rice quotations. The rice quotations are combined into three groups consisting of Indica, Japonica and Aromatic rice varieties. Within each variety, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the three varieties are combined by weighting them with their assumed (fixed) trade shares. Subsequently, the IGC wheat price index, after converting it to base 2002-2004, the relative prices of maize and the average relative prices calculated for the rice group as a whole are combined by weighting each commodity with its average export trade share for 2002-2004.

5 Vegetable Oils Price Index: Consists of an average of ten different oils weighted with average export trade shares of each oil product for 2002-2004.

6 Sugar Price Index: Index form of the International Sugar Agreement prices with 2002-2004 as base.

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<http://www.fao.org/economic/est/est-commodities/oilcrops/oilcrop-policies/en/>

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