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Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS



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HIGHLIGHTS

“ Food commodity markets tend to exhibit a well-balanced situation at the global level for nearly all the commodities covered in this report, although in some cases prospects at the country or regional level may diverge from this positive outlook. Larger import volumes and rising shipping costs are expected to lift the global food import bill to over USD 1.3 trillion this year, up 10.6 percent from 2016. ”

WHEAT

World wheat production in 2017 is forecast to fall below last year's record level. However, aided by large carryover stocks, global wheat markets should remain adequately supplied in the 2017/18 marketing season, with international prices remaining subdued, especially during the first half of the season.

COARSE GRAINS

With near-record production expected this year, supplies in 2017/18 are forecast to remain ample and competition among major exporters should again prove intense, especially in view of bumper crops in the leading exporters of the Southern Hemisphere.

RICE

Global rice supplies are forecast to remain ample in 2017/18, sustained by an expected small global production expansion. Despite generally good output prospects, reserves held by the major exporters could fall to a decade low, led by Thailand's efforts to liquidate public stockpiles.

OILCROPS

FAO's latest forecasts for the 2016/17 season point towards an easing of the supply and demand balance for oilcrop products. Responding to this positive outlook, international prices recently embarked on a downward trend, with first indications that markets could remain well supplied in 2017/18, further weighing on prices.

MEAT

Growth in meat production, expected for almost all countries, will be offset by a forecast fall in China, resulting in world output stagnating for the third consecutive year. Global meat trade is expected to grow by 2.5 percent, fuelled by demand from China and met by increased shipments from the United States and Brazil, in particular.

DAIRY

World milk production is set to increase in 2017, assisted by a generally favourable weather outlook and improved prices for milk in a number of countries. Global trade in dairy products is projected to record a second year of modest growth, rising by 1 percent.

FISHERIES

Global fish production is expected to grow by 1.1 percent in 2017, driven by aquaculture, which continues to expand at some 4 to 5 percent per year. Supply rebounds for a number of important traded species is likely to dampen some price gains realized in 2016, while political uncertainty in multiple markets is suppressing growth in international seafood trade.

OPPORTUNITIES AND CHALLENGES IN THE BANANA MARKET

Banana is a leading food crop in terms of production value. With some 15 percent of global production exported, its total trade value stood at some USD 8 billion in 2016, making bananas the largest traded fruit crop in value terms. This note discusses a number of important issues that are shaping developments in global banana markets.

EXPLORING THE ROLE OF GLOBAL LIQUIDITY IN COMMODITY PRICE BOOMS AND SLUMPS

Periods of sharply rising and falling commodity prices are not limited to those in agriculture. Yet, the discussion on drivers of high-price episodes in food commodities generally fails to adequately acknowledge regularities in the wider asset landscape. Global liquidity emerges as a factor that might be more influential than commonly perceived.

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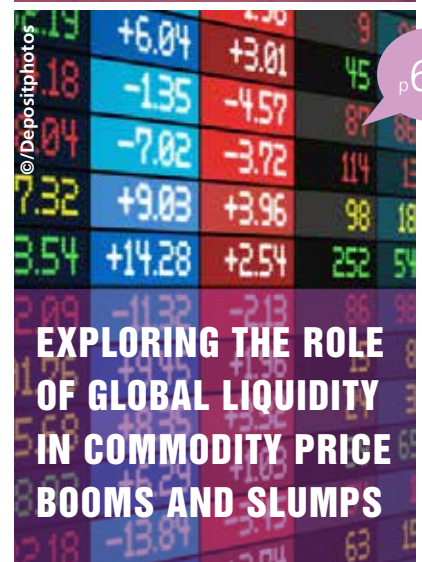
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OPPORTUNITIES AND CHALLENGES IN THE BANANA MARKET

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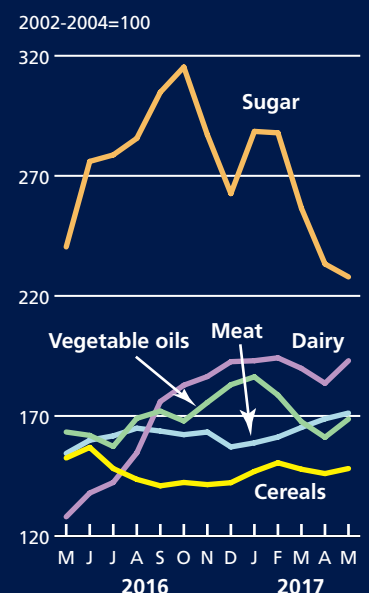


EXPLORING THE ROLE OF GLOBAL LIQUIDITY IN COMMODITY PRICE BOOMS AND SLUMPS

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FAO FOOD COMMODITY PRICE INDICES (May 2016 - May 2017)

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MARKET SUMMARIES

FAO's latest outlook for global cereal supply and demand in 2017/18 remains favourable as demand is projected to fall slightly short of the anticipated production level, allowing global stocks to remain around their record-high opening levels.

FAO currently forecasts world cereal production in 2017 at 2 594 million tonnes, 5 million tonnes lower than the May forecast and down 14.1 million tonnes (0.5 percent) year-on-year. The monthly decrease is mostly the result of deteriorating production prospects for coarse grains and, to a lesser extent, for rice. Compared to 2016, much of the reduction is due to expectations of a 2.2 percent contraction in global wheat output as well as lower barley and sorghum production. These declines would more than offset a 1.4 percent expected expansion in global maize output, driven primarily by strong rebounds in South America and Southern Africa, and a 0.7 percent increase in world rice production.

World cereal utilization in 2017/18 is projected at a record level of 2 584 million tonnes, up 13 million tonnes (0.5 percent) from 2016/17. This forecast stands 11 million tonnes below May expectations, largely reflecting downward adjustments made to historical wheat and maize feed estimates, particularly for China. On an annual basis, total wheat utilization is projected to decline by 0.4 percent from 2016/17, whereas the total uses of coarse grains and rice are expected to grow by 0.8 percent and 1.2 percent, respectively.

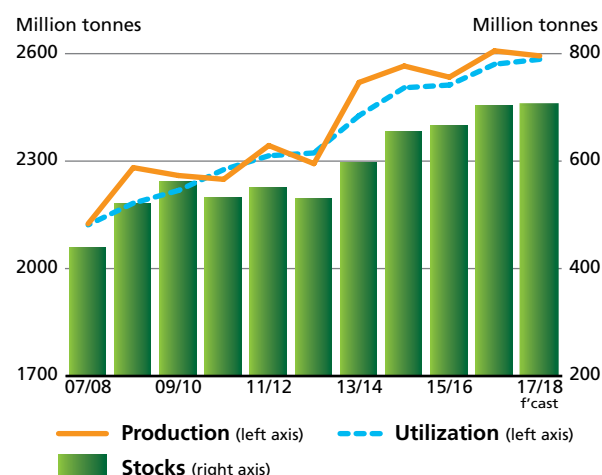
FAO's May forecast of world cereal stocks by the end of seasons in 2018 has been raised by 14 million tonnes and now stands at 703 million tonnes, up marginally from the 2017 record high. Most of the month-to-month upward revision concerns wheat and maize inventories, with China accounting for much of the adjustment. Overall, the anticipated annual increase in global cereal inventories reflects larger than earlier-expected wheat stocks, while carryovers of coarse grains could very well decline and those of rice would most likely remain largely steady.

World trade in cereals in 2017/18 is forecast to decline by around 5 million tonnes (1.2 percent) to 391 million tonnes, marking the first contraction in four years. The reduction is largely the result of expectations of weaker import demand for wheat, maize and sorghum.

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CEREAL PRODUCTION, UTILIZATION AND STOCKS



WORLD CEREAL MARKET AT A GLANCE ¹

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
<i>million tonnes</i>				%
WORLD BALANCE				
Production	2 534.3	2 607.9	2 593.7	-0.5
Trade²	393.3	395.9	391.0	-1.2
Total utilization	2 512.3	2 570.5	2 584.2	0.5
Food	1 089.4	1 105.1	1 114.9	0.9
Feed	886.7	905.8	914.7	1.0
Other uses	536.3	559.5	554.6	-0.9
Ending stocks³	663.6	701.7	702.5	0.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	148.2	148.7	148.3	-0.3
LIFDC ⁴ (kg/yr)	145.9	146.9	146.0	-0.6
<i>World stock-to-use ratio (%)</i>	<i>25.8</i>	<i>27.2</i>	<i>26.3</i>	
<i>Major exporters stock-to-disappearance ratio (%)</i>	<i>15.8</i>	<i>17.5</i>	<i>16.6</i>	
FAO CEREAL PRICE INDEX (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	162	147	148	0.6

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 (defined as production plus opening stocks) and utilization due to differences in individual country marketing years.

⁴ Low-Income Food-Deficit countries.

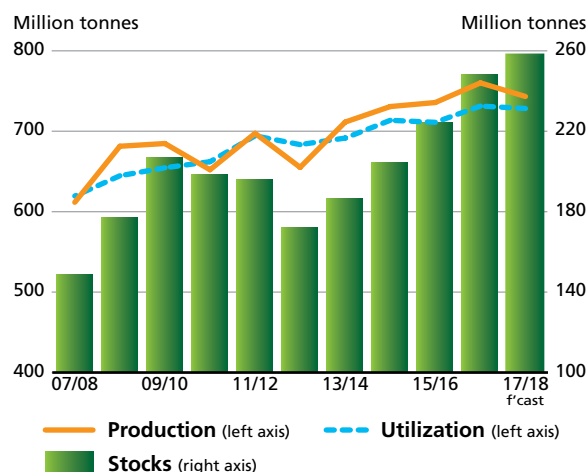
WHEAT

World wheat production in 2017 is forecast to fall from last year's record level. However, aided by large carryover stocks, global wheat markets should remain adequately supplied in the 2017/18 marketing season. FAO's forecast for global wheat production in 2017 stands at 743 million tonnes, 2.2 percent below the record output of 2016. Most of the contraction rests on expected production declines in North America, the Russian Federation and Australia. At the same time, projected recoveries in the EU and North Africa have limited further decreases.

The latest forecast for global wheat trade in 2017/18 (July/June) stands at 171 million tonnes, 1.7 percent (3.0 million tonnes) down from the 2016/17 estimated record. Most of this reflects lower overall imports projected for Asia and Africa. In view of the anticipated contraction in world import demand in 2017/18, competition for market share among those exporters with larger supplies is set to intensify. The EU is expected to become the largest wheat exporter in 2017/18, closely followed by the Russian Federation, which is also projected to increase its wheat shipments in the new season.

Smaller world wheat production and large availability of coarse grains are likely to drive down global wheat utilization in 2017/18. Based on FAO's latest supply-and-demand projections for 2017/18, by the close of 2018 crop seasons, world wheat stocks could rise to an all-time high of 257 million tonnes, up 4 percent (10 million tonnes) from their already high opening levels. However, if China's stocks were to be excluded, the rest-of-the-world inventories at the close of 2018 seasons would stand at nearly 149 million tonnes, which implies a 5 percent decline from their opening levels. Nonetheless, supplies are seen to remain ample in 2017/18, resulting in international prices staying subdued, especially during the first half of the season.

WHEAT PRODUCTION, UTILIZATION AND STOCKS



WORLD WHEAT MARKET AT A GLANCE

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
million tonnes			%	
WORLD BALANCE				
Production	735.7	760.1	743.2	-2.2
Trade ¹	166.7	174.0	171.0	-1.7
Total utilization	711.1	731.3	728.3	-0.4
Food	491.6	496.8	501.0	0.8
Feed	134.5	136.0	133.7	-1.7
Other uses	85.0	98.4	93.7	-4.9
Ending stocks ²	223.8	247.5	257.4	4.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	66.9	66.8	66.7	0.0
LIFDC (kg/yr)	53.0	52.9	52.6	-0.2
<i>World stock-to-use ratio (%)</i>	<i>30.6</i>	<i>34.0</i>	<i>34.2</i>	
<i>Major exporters stock-to-disappearance ratio³ (%)</i>	<i>16.7</i>	<i>20.1</i>	<i>18.5</i>	
FAO WHEAT PRICE INDEX ⁴ (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	144	125	126	-0.4

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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) and utilization due to differences in individual country marketing years.

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

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

COARSE GRAINS

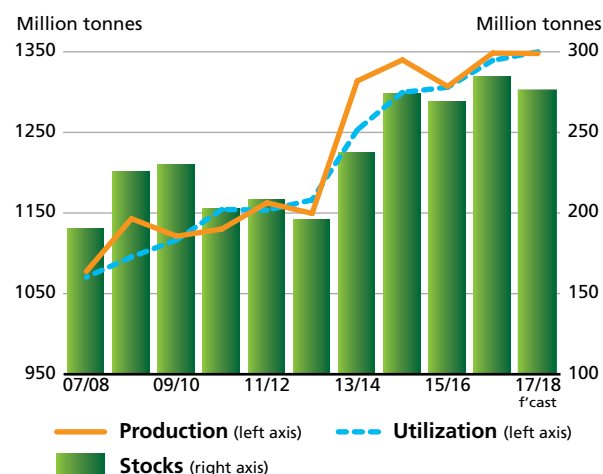
Global supplies of coarse grains in 2017/18 are expected to remain large. FAO's latest forecast for world coarse grains production in 2017 stands at 1 348 million tonnes, a near-record high and almost par with last year's peak. The increase mostly rests on expected rebounds in maize production in South America and southern Africa. The year-on-year gain in maize production is also forecast to counter anticipated decreases in the global barley and sorghum outputs.

World trade in coarse grains in 2017/18 is likely to contract from last season, with maize and sorghum leading the decrease, while trade in barley is expected to increase slightly. The largest declines in maize imports are forecast for southern Africa and South America, while falling sorghum trade would mostly be due to reduced import demand in Asia. By contrast, the small increase in world barley trade would be mostly driven by Asia.

World utilization of coarse grains in 2017/18 is set to reach an all-time high of 1 350 million tonnes, up 0.8 percent, or 11 million tonnes, from the estimated level for 2016/17. Feed and industrial applications are the main drivers behind the projected increase in total utilization of coarse grains. Total feed use of coarse grains is set to increase by 1.5 percent, supported by a rise of at least 2 percent in the feed use of maize in China, as well as increases in the EU and South America.

Global inventories of coarse grains are now expected to reach 275 million tonnes by the close of the crop seasons in 2018. This is nearly 9 million tonnes (3 percent) below their revised opening levels, mainly due to an expected decline in China. In fact, if China were to be excluded from the world total, the aggregate of the rest-of-world stocks would indicate an increase of almost 11 million tonnes. As a sign of generally ample supply prospects in 2017/18, the ratio of major exporters' stock-to-disappearance (defined as domestic consumption plus exports) is seen to rise from 13.7 percent in 2016/17 to 14.3 percent in 2017/18.

COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS



WORLD COARSE GRAIN MARKET AT A GLANCE

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
million tonnes			%	
WORLD BALANCE				
Production	1 307.0	1 348.4	1 347.9	0.0
Trade ¹	185.0	178.2	175.8	-1.3
Total utilization	1 306.0	1 339.3	1 350.0	0.8
Food	201.2	206.6	207.5	0.5
Feed	734.0	751.6	763.1	1.5
Other uses	370.8	381.1	379.3	-0.4
Ending stocks ²	268.1	283.3	274.5	-3.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	27.4	27.8	27.6	-0.7
LIFDC (kg/yr)	37.8	38.8	38.1	-1.8
World stock-to-use ratio (%)	20.0	21.0	19.7	
Major exporters stock-to-disappearance ratio ³ (%)	11.6	13.7	14.3	
FAO COARSE GRAIN PRICE INDEX (2002-2004=100)				
	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	161	151	151	-2.2

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) and utilization due to differences in individual country marketing years.

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

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RICE

Although the 2017 season is still at early stages for important Northern Hemisphere producing countries, current prospects point to world rice production exceeding the 2016 record by a small margin of 0.7 percent, reaching 502.6 million tonnes. Barring major setbacks, strong government assistance to the rice sector is anticipated to translate into additional production expansions in Asia and West Africa. Combined with recoveries in South America and Australia, these should more than compensate for price-driven contractions expected in the United States, Egypt and the EU, and weather-induced shortfalls in eastern and southern Africa.

After falling for two successive years, global rice trade is forecast to expand by 5 percent in 2017, as key importing countries in Asia step-up imports to quell domestic inflationary pressure and replenish reserves. Demand is expected to be less brisk or wane elsewhere in the world, amid weak currencies and good local availabilities. Among exporters, India is set to retain its position as the world's leading supplier of rice in 2017, although sizeable expansions are also anticipated for Thailand and Viet Nam.

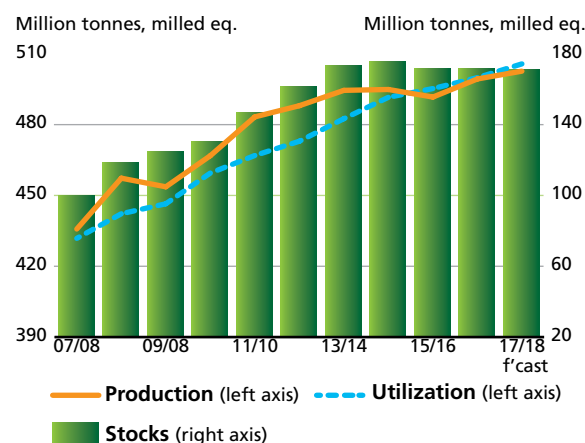
Global rice production is forecast to keep pace with utilization in 2017/18, which should result in world rice reserves remaining close to their opening levels. The relative stability would be sustained by accumulations in rice-importing countries, especially China (Mainland). On the other hand, major rice exporters look headed towards additional drawdowns, led by efforts to liquidate government stockpiles in Thailand.

International rice prices have recovered steadily since January, influenced by currency appreciation in India and Thailand, and reviving import demand. As a result, the FAO All Rice Price Index (2002–2004=100) averaged 202 points in May, up 8 percent from its value at the close of 2016.

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RICE PRODUCTION, UTILIZATION AND STOCKS



WORLD RICE MARKET AT A GLANCE

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
<i>million tonnes, milled equivalent</i>			<i>%</i>	
WORLD BALANCE				
Production	491.7	499.3	502.6	0.7
Trade ¹	41.6	43.6	44.2	1.3
Total utilization	495.3	499.9	505.7	1.2
Food	396.7	401.8	406.5	1.1
Ending stocks ²	171.3	170.9	170.5	-0.2
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	54.0	54.1	54.1	0.0
LIFDC (kg/yr)	55.2	55.2	55.2	0.0
<i>World stock-to-use ratio (%)</i>	<i>34.3</i>	<i>33.8</i>	<i>33.2</i>	
<i>Major exporters stock-to-disappearance ratio³ (%)</i>	<i>19.2</i>	<i>18.6</i>	<i>16.9</i>	
FAO RICE PRICE INDEX (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	211	194	196	-0.4

¹ Calendar year exports (second year shown).

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

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

OILCROPS

FAO's latest forecasts for the 2016/17 season (October/September) point towards an easing of the supply and demand balance for oilseeds and oilcrop products.

Driven by outstanding yield levels, global oilseed production is expected to leap to an all-time high in 2016/17. Much of the anticipated rise will be on account of soybeans, with favourable growing conditions boosting output in almost all key producing countries. Global rapeseed production, by contrast, is expected to post further losses, due to lower plantings and adverse weather. Palm oil production is set to rebound in 2017, as palms in Southeast Asia recover from the protracted effects of dry weather in 2015–2016. On aggregate, the current forecasts translate into a marked expansion in global output of oilcrop products. However, growth in total availabilities – especially of oils/fats – would be less pronounced due to relatively low carry-in stocks.

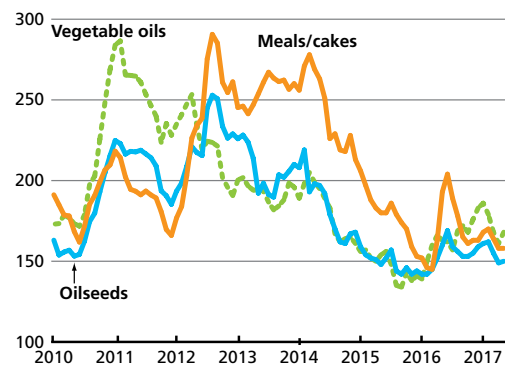
On the demand side, relatively sluggish growth in oils/fats consumption is expected to continue, reflecting limited total supplies and/or modest economic growth in some countries, together with slowing demand from the biodiesel sector worldwide. More robust growth is observed in meal consumption, supported by steady demand from the livestock sector. With production of oilseed products anticipated to exceed utilization, especially in the case of meals/cakes, sizeable replenishments in global stocks are expected, resulting in higher stock-to-use ratios. Responding to the positive supply and demand outlook, international prices of oilseeds and oilseeds products embarked on a downward trend towards the middle of the 2016/17 season.

Highly tentative projections for the 2017/18 season, which starts in October 2017, indicate that global oilseed production could match the current season's record. The forecasts translate into a record output of oils/fats, while meals/cakes output could slip below the current season's all-time high. Taking into account carry-in stocks and assuming a continuation in current utilization trends, the supply and demand balance for oils/fats could ease further, while markets for meals/cakes should remain well supplied – thus providing scope for oilseed and oilseed product prices to stabilize at their current relatively low levels in the coming months.

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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

	2014/15	2015/16	2016/17 <i>f'cast</i>	Change: 2016/17 over 2015/16
million tonnes			%	
TOTAL OILCROPS				
Production	548.8	534.6	581.6	8.8
OILS AND FATS				
Production	210.9	205.6	220.6	7.3
Supply	247.2	244.4	254.7	4.2
Utilization	205.5	211.5	216.9	2.6
Trade	114.5	115.3	121.6	5.4
Global stock-to-use ratio (%)	18.9	16.1	16.5	
Major exporters stock-to-disappearance ratio (%)	10.9	9.7	10.4	
MEALS AND CAKES				
Production	141.2	137.8	151.8	10.2
Supply	162.8	163.9	176.6	7.8
Utilization	133.4	139.0	146.1	5.1
Trade	86.7	90.4	95.7	5.8
Global stock-to-use ratio (%)	19.5	17.8	19.5	
Major exporters stock-to-disappearance ratio (%)	11.1	10.8	12.9	
FAO PRICE INDICES (Jan/Dec) (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
Oilseeds	149	154	155	5.0
Meals/cakes	179	169	163	2.2
Vegetable oils	147	164	172	10.7

NOTE: Refer to footnote 1 on page 34 and to table 1 on page 37 for explanations regarding definitions and coverage.

MEAT AND MEAT PRODUCTS

World total meat production is anticipated to stagnate for a second year in a row in 2017, rising by a meagre 0.3 percent to 322 million tonnes. Output is expected to grow in almost all countries, particularly in the United States, Brazil, India and Argentina. However, a downturn in output in China should continue to weigh on the overall trend. Excluding China, aggregate meat production of the rest of the world is expected to rise by 1.9 percent year-on-year. By category, bovine meat is forecast to register the largest growth in production, with marginal increases for poultry and ovine meat, and a slight fall for pigmeat.

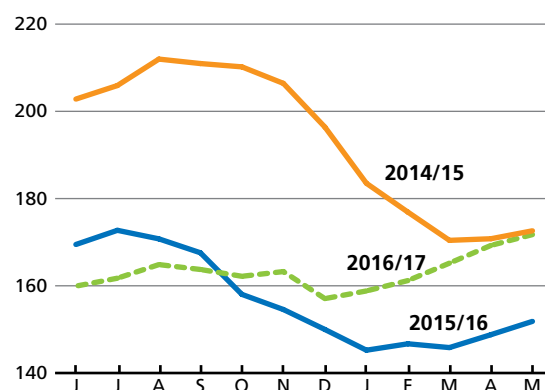
Global trade in meat is forecast to register a second year of expansion in 2017, increasing by 2.5 percent to 32 million tonnes. Trade in pigmeat is set to rise by 4.1 percent, poultry meat by 2.9 percent and bovine meat by 0.8 percent, compared with last year, while ovine meat trade may see a 2 percent contraction. Increased meat imports are expected, particularly in China, but also in Mexico, Chile, the Republic of Korea, Japan, the Philippines, the United Arab Emirates, Viet Nam, Iraq and Singapore. By contrast, growth in domestic production may result in reduced purchases by the United States and the Russian Federation, with Egypt, Angola and Saudi Arabia also anticipated to buy less. The expansion in world exports is projected to be led by the United States and Brazil, followed by Canada, Thailand and Argentina, with sales also rising for the EU, Mexico, Ukraine, Chile and Belarus. Meanwhile, exports by Australia, China, New Zealand and India are likely to decline.

The FAO Meat Price Index averaged 171.7 points in May, up 2.5 points, or 1.5 percent, from April, continuing a trend of modest increases evident since the start of the year. From January to May, the Index rose by almost 8 percent, with quotations for ovine and pigmeat recording the largest growth, followed by poultry and bovine meat. Strong domestic and export demand stimulated pigmeat prices, particularly in the EU, while limited supplies bolstered ovine meat quotations. Poultry and bovine meat markets remained well-balanced. Overall, the May 2017 Meat Price Index was up 11 percent compared with May 2016.

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



WORLD MEAT MARKET AT A GLANCE

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
<i>million tonnes</i>			<i>%</i>	
WORLD BALANCE				
Production	320.5	321.0	322.0	0.3
Bovine meat	67.6	68.3	69.6	1.9
Poultry meat	116.9	117.2	117.7	0.4
Pigmeat	116.1	115.6	114.7	-0.8
Ovine meat	14.4	14.4	14.5	0.6
Trade	29.9	31.2	32.0	2.5
Bovine meat	9.2	8.9	9.0	0.8
Poultry meat	12.2	12.8	13.2	2.9
Pigmeat	7.2	8.3	8.6	4.1
Ovine meat	1.0	0.9	0.9	-2.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	43.5	43.1	42.7	-0.9
<i>Trade - share of prod. (%)</i>	9.3	9.7	9.9	2.1
FAO MEAT PRICE INDEX (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	168	156	165	11.4

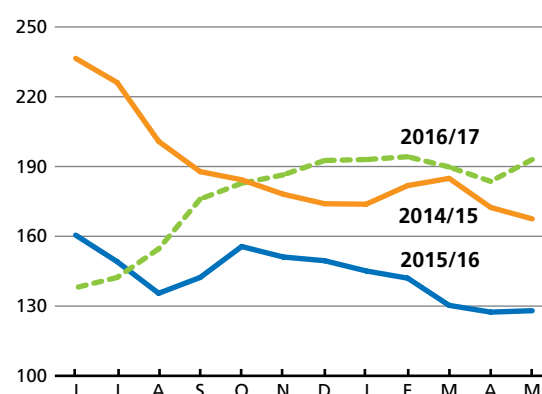
MILK AND MILK PRODUCTS

World milk production is forecast to grow by 1.4 percent to 831 million tonnes in 2017, with output set to expand in Asia and the Americas, stagnate in Europe and Africa, and decline in Oceania. During the first part of 2017 (January to May), prices remained generally stable overall, as recovery of milk deliveries in the EU and continued growth in output in the United States lessened supply concerns.

Global trade in dairy products is projected to register a second year of modest growth in 2017, rising by 1 percent to 71.8 million tonnes of milk equivalent. Continued recovery in imports by China, following the substantial drop sustained in 2015, is forecast to be the main engine for growth. Purchases by the Russian Federation, Mexico, Australia, the Philippines, Thailand, Yemen and the Republic of Korea, among others, are also projected to increase. Conversely, a fall in imports is anticipated for Brazil, Saudi Arabia, Malaysia, Viet Nam and Nigeria, while shipments to Indonesia, the United Arab Emirates, the United States and Japan are expected to remain virtually unchanged. Within the overall international market for dairy products, trade flows in skim milk powder (SMP), cheese and butter are anticipated to expand, while those of whole milk powder (WMP) could wane.

The EU, the United States, Argentina and Canada are the main exporting countries expected to see increased sales, while New Zealand, Australia and Switzerland are forecast to experience a retrenchment in shipments. Sustained milk output in the EU and a rise in production in the United States are anticipated to be the most dynamic factors affecting the international market in 2017. In Oceania, reduced milk supplies are forecast to constrain its exports, while in Belarus, the level of shipments is expected to remain unchanged, due to limited growth in import demand by the Russian Federation combined with greater competition from other sources of supply.

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



WORLD DAIRY MARKET AT A GLANCE

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
			<i>million tonnes. milk equiv.</i>	%
WORLD BALANCE				
Total milk production	812.1	819.3	830.5	1.4
Total trade	70.0	71.1	71.8	1.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	110.5	110.2	111.4	1.1
Trade - share of prod. (%)	8.6	8.7	8.6	-0.3
FAO DAIRY PRICE INDEX (2002-2004=100)				
	2015	2016	2017	Change: Jan-May 2017 over Jan-May 2016 %
	160	154	191	41.7

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FISH AND FISHERY PRODUCTS

Global fish production is expected to grow by 1.1 percent in 2017, approximately in line with the long-term trend. Stagnating capture fisheries production continues to contrast with an aquaculture sector that is growing consistently at some 4 to 5 percent per year. The contrast between the lack of growth in traded volumes over the last three years and the steady increase in total production, points to strong growth in the domestic market demand of major seafood producing countries, particularly in the developing world.

The impact on supply of El Niño, disease and an algal bloom in Chile saw prices climb for various species in 2016, with the FAO fish price index rising 10 points over the year. In the longer term, the upward price trend is being driven by strong growth in global demand for fish and fishery products that is outpacing supply. Much of this growth can be attributed to income growth in many developing regions, but robust demand is also evident in the large developed markets of the United States and the EU.

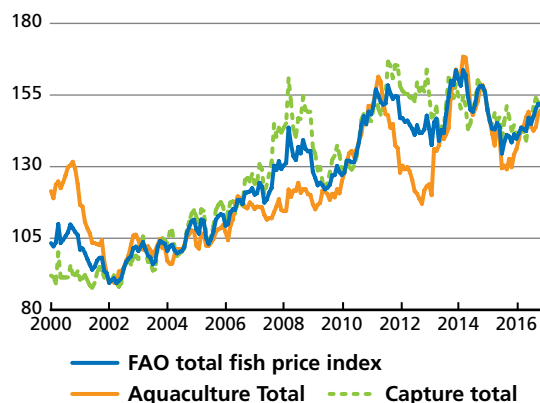
In 2017, the forecast for production increases for a number of species is likely to exert downward pressure on seafood prices across multiple markets and commodity categories. On the demand side, seafood trade in two of the world's largest markets – the UK and the United States – could be negatively impacted by the UK's impending exit from the EU and the policy decisions of the current US administration. More broadly, early indications in 2017 suggest that political uncertainty in multiple world regions is suppressing growth in international seafood trade, with the total annual value of seafood trade expected to decline by 1 percent in US dollar terms.

Until 2030, the agendas and policies of the UN's member countries will continue to be shaped by the 17 Sustainable Development Goals (SDGs). SDG Goal 14 – "Life Below Water" – is concerned directly with the health and productivity of the world's oceans, seas and marine resources.

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FAO FISH PRICE INDEX (2002-2004 = 100)



Source: Norwegian Seafood Council

WORLD FISH MARKET AT A GLANCE

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
			<i>million tonnes</i>	%
WORLD BALANCE				
Production	169.2	170.3	172.2	1.1
Capture fisheries	92.6	90.8	91.2	0.4
Aquaculture	76.6	79.5	82.5	3.8
Trade value <i>(exports USD billion)</i>	133.0	142.7	141.0	-1.1
Trade volume (live weight)	59.4	60.4	60.2	-0.3
Total utilization	169.2	170.3	172.2	1.1
Food	148.8	150.9	152.5	1.1
Feed	15.1	14.3	14.7	2.8
Other uses	5.2	5.1	5.0	-2.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
Food fish (kg/yr)	20.3	20.4	20.4	0.1
From capture fisheries (kg/year)	9.9	9.6	9.6	-0.8
From aquaculture (kg/year)	10.5	10.7	11.0	2.6
FAO FISH PRICE INDEX (2002-2004=100)	2015	2016	2017 <i>Jan-Feb</i>	Change: Jan-Feb 2017 over Jan-Feb 2016 %
	142	146	150	6.3

Source: FAO Fish Price Index: Norwegian Seafood Council (NSC)
Totals may not match due to rounding.

MARKET ASSESSMENTS

WHEAT

Major Wheat Exporters and Importers



PRICES

International wheat prices to stay subdued

International wheat prices started the year with a much firmer tone after several months of continuous declines. Concerns about unfavourable weather conditions in the United States and the EU, as well as the anticipated fall in winter wheat planted area in the United States pushed wheat prices up to a seven-month high in January. However, with the overall global supplies remaining ample and harvests in Argentina and Australia beating expectations,

wheat prices resumed their downward trend. While increased buying interest, currency movements and logistical issues occasionally underpinned export values in recent weeks, large supplies coupled with improved prospects for 2017 harvests prevented wheat prices from rising significantly. In May, the benchmark **US wheat, No.2 Hard Red Winter, f.o.b. Gulf** averaged USD 200 per tonne, down marginally from May 2016 and the **International Grains Council (IGC) Wheat Index**, a trade-weighted price measure of ten major export quotations, averaged 161 points, some 2 percent below the same time last year.

Figure 1. IGC Wheat Price Index

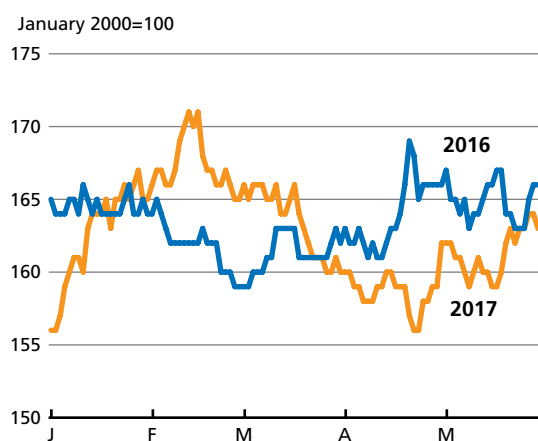
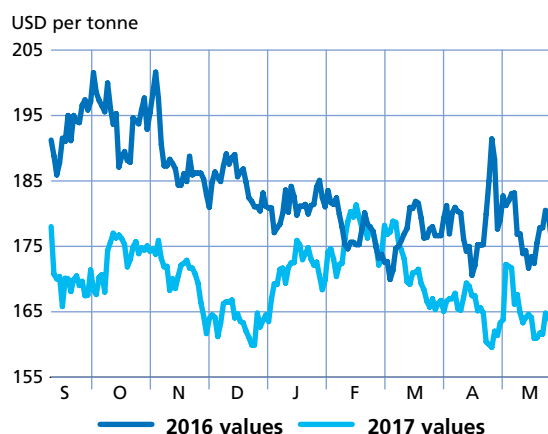


Figure 2. CBOT wheat futures for September



The tendency for wheat prices to remain subdued is more evident in the futures market with the **Chicago soft red winter (SRW) wheat**, the most liquid wheat futures contract, generally pointing to a downward path. Good supply prospects continued to weigh on wheat futures, despite a short-lived price surge observed in late April. The late-season freeze and snowstorm that hit the midwest states in the United States, including Kansas, a leading wheat producer, pushed the SRW futures for July contract up sharply in early May, but wheat values have since receded to below their pre-storm levels. For the month of May, the December futures averaged USD 169 per tonne, down almost 5 percent from the start of the year and 6 percent below the corresponding period last year. More detailed analysis of the futures markets can be found in the Market Indicators section of this report.

PRODUCTION

Wheat production in 2017 falling below last year's but still large

FAO's latest forecast for global 2017 wheat production stands at 743 million tonnes, 2.2 percent (17 million tonnes) below the record output of 2016. Most of the contraction rests on expected production declines in North America, the Russian Federation and Australia. Recoveries in the EU and North Africa, however, limit the expected decrease of the world level.

Aggregate production in *North America* is anticipated to fall from the bumper level of 2016. In the **United States**, production in 2017 is forecast to drop by 21 percent to 49.5 million tonnes. The decline is mainly reflective of sharply reduced plantings for the winter wheat crop, while a return to near-average yields from last year's bumper levels also weigh down on prospects, with recent beneficial rains partly offsetting the impact of earlier dryness. In addition, early prospects for the minor spring and durum wheat harvests point to lower outputs, due to reduced plantings and an expected return to average yields. In **Canada**, wheat production is also anticipated to decrease, mostly reflecting a return to normal yields from the highs of 2016. The area planted is forecast to contract marginally, as lower durum plantings more than offset a small increase in the spring wheat area. The country's 2017 output is forecast at 29.5 million tonnes, down nearly 7 percent from 2016's above-average level.

In *Europe*, the aggregate wheat output is projected to rise moderately in 2017. The increase would mainly result from an anticipated upturn in the **EU's** output, forecast at 152 million tonnes, 7.5 million tonnes (5.2 percent) higher on an annual basis. Although dryness in recent months

Table 1. World wheat market at a glance

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
million tonnes			%	
WORLD BALANCE				
Production	735.7	760.1	743.2	-2.2
Trade ¹	166.7	174.0	171.0	-1.7
Total utilization	711.1	731.3	728.3	-0.4
Food	491.6	496.8	501.0	0.8
Feed	134.5	136.0	133.7	-1.7
Other uses	85.0	98.4	93.7	-4.9
Ending stocks ²	223.8	247.5	257.4	4.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	66.9	66.8	66.7	0.0
LIFDC (kg/yr)	53.0	52.9	52.6	-0.2
World stock-to-use ratio (%)	30.6	34.0	34.2	
Major exporters stock-to-disappearance ratio ³ (%)	16.7	20.1	18.5	
FAO WHEAT PRICE INDEX ⁴ (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	144	125	126	-0.4

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) and utilization due to differences in individual country marketing years.

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

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

Table 2. Wheat production: leading producers*

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
	<i>million tonnes</i>			<i>%</i>
EU	160.5	144.5	152.0	5.2
China (Mainland)	130.2	128.9	129.2	0.3
India	86.5	92.3	97.4	5.6
Russia Fed	61.8	73.3	69.0	-5.9
USA	56.1	62.9	49.5	-21.2
Canada	27.6	31.7	28.6	-9.9
Australia	24.2	35.1	24.0	-31.7
Ukraine	26.5	26.1	25.0	-4.0
Pakistan	25.1	25.5	25.1	-1.5
Turkey	22.6	20.6	21.0	1.9
Argentina	11.3	18.4	18.9	2.8
Kazakhstan	13.7	15.0	13.5	-9.9
Iran	11.5	13.5	13.5	0.0
Egypt	9.0	9.0	8.8	-2.2
Other countries	69.0	63.4	67.6	6.6
World	735.7	760.1	743.2	-2.2

* Countries listed according to their position in global production (average 2015-2017)

has dampened yield expectations in western areas, a year-on-year increase in the overall yield level is still forecast and is mostly driving this year's projected growth. In the **Russian Federation**, although 2017 production is forecast at a well above average level of 69 million tonnes, a return to average yields and a moderate reduction in the spring-wheat area are expected to result in a 5.9 percent decrease from the record output of 2016. In **Ukraine**, production is forecast to drop 4 percent in 2017, mostly due to a year-on-year cut in the area sown.

In *Asia*, the 2017 wheat harvest is underway, and prospects indicate a small production gain. The bulk of the growth pertains to **India**, where record plantings, prompted by an increase in the Government's procurement price and generally beneficial weather raised production expectations to 97.4 million tonnes, up 5.6 percent from the previous year. In **China**, the world's largest wheat grower, production is forecast to remain virtually unchanged at an above-average level of 129.2 million tonnes. In **Pakistan**, production prospects are positive and the wheat output is expected to reach an above-average level. However, dry conditions during the planting period have curbed wheat sowings in rainfed producing areas and this is expected to instigate a slight year-on-year production decline in 2017. Sowing of the main spring wheat crop in **Kazakhstan** is complete and is expected to be harvested from August. Provisional forecasts point to a 10 percent drop in production, although at 13.5 million tonnes, it would still surpass the average registered over the last 5 years.

In the *Near East*, with the harvest period approaching, the 2017 wheat production in **Turkey** is forecast to rise by 1.9 percent to 21 million tonnes, while output in the **Islamic Republic of Iran** is put at 13.5 million tonnes, a comparable level to the previous year. On-going conflicts continue to constrain agricultural production in **Afghanistan**, **Iraq** and **Syria**. As a result, wheat output levels in all three countries are expected to remain below average.

In *North Africa*, where the harvest is underway, aggregate production is expected to rebound sharply from the drought-reduced level of 2016. The bulk of the increase stems from improved prospects in **Morocco**, where production is forecast at 7 million tonnes, more than double the sharply curtailed harvest in 2016. This year's upturn mostly results from favourable and wetter weather conditions, despite some recent dryness. In **Algeria** and **Tunisia**, 2017 wheat outputs are also expected to rise, owing to beneficial weather that raised yields compared with the previous year.

In **Australia**, with the 2017 wheat crop to be harvested from August, the current outlook points to a likely steep

decrease (down 32 percent) from the bumper level of 2016, mainly due to an expected return to average yields from last year's record highs. In *South America*, plantings commenced in May and will be finalized by September. High wheat prices in **Argentina**, partly attributed to a depreciated currency, are expected to sustain a planted area comparable with the high level of 2016, maintaining the expectations of an above-average wheat output, provisionally forecast at 18.9 million tonnes. By contrast, in **Brazil**, ample supplies are expected to instigate a cut in sowings and result in a decrease in production to below-average levels. In *Central America and the Caribbean*, production in **Mexico**, the main producer, is likely to remain close to last year's high level.

TRADE

World trade is likely to contract, falling below the 2016/17 record volume

FAO's latest forecast for global wheat trade (including wheat flour in wheat equivalent) in 2017/18 (July/June) stands at 171 million tonnes, up nearly 1 million tonnes from the previous forecast made in May and down 1.7 percent (3.0 million tonnes) from the estimated record level for 2016/17. The upward revision since May mainly concerns the **EU**, **Turkey** and **Viet Nam**, while most of the anticipated contraction in world trade from 2016/17 reflects lower overall imports projected for Asia and Africa.

In *Asia*, aggregate imports in 2017/18 are forecast at 86.2 million tonnes, down almost 1 percent from 2016/17. The largest year-on-year decline among the Asian countries is expected in **India**, where wheat purchases from international markets slowed considerably after the imposition of a 10 percent import tax in March. With the recent slide in domestic prices and an anticipated bumper crop, India's wheat imports are expected to fall from a 10-year high of 5 million tonnes in 2016/17 to 3 million tonnes in 2017/18. Wheat purchases by **Thailand** are also forecast to decrease, dropping 800 000 tonnes from 2016/17 to 3 million tonnes in 2017/18. This decline takes into account the new policy that restricts imports of feed wheat in order to boost maize utilization and, in turn, support domestic maize growers. In January 2017, the Thai Government imposed import permits for any feed wheat purchases from abroad, a measure that is likely to cut feed imports to around 1.7 million tonnes from over 2 million tonnes in 2016/17. Smaller feed wheat imports are also projected for the **Republic of Korea**, due to the large availability of cheaper maize in world markets. Its total wheat imports for 2017/18 are currently forecast at 4.2 million tonnes, of which nearly 1.8 million tonnes for feed use. This is down

nearly 10 percent from the estimated imports for 2016/17. By contrast, imports by many other Asian countries are seen to remain steady or even increase, largely because of strong domestic demand for high quality wheat-based products as well as for feed wheat.

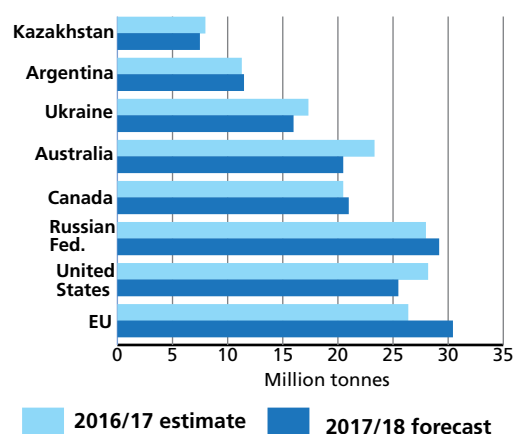
In *Africa*, total wheat imports in 2017/18 are likely to stand at 49 million tonnes, down 3.1 percent from the 2016/17 estimated level. The projected decrease is largely driven by reduced import demand by **Morocco** where, following this year's strong rebound in domestic production that is expected to reach a record high level, imports are forecast to fall by as much as 28 percent (1.5 million tonnes) to 4 million tonnes. In anticipation of a strong production recovery, Morocco increased milling wheat import duty from 30 percent to 135 percent in late April, effective until the end of the current year. However, imports by **Egypt**, the world's largest wheat importer, are expected to remain close to the 2016/17 levels of around 12 million tonnes. Earlier in the year, Egypt extended the increased limit for moisture content in imported wheat from 13 to 13.5 percent and, in May, it raised the required level of protein content by 0.5 percent. While these modifications could affect the locations from where wheat is sourced, they are unlikely to lower the overall import level. Similarly, underlying the strategic importance of wheat to Egypt, the country's wheat imports seem to have remained immune to the soaring cost of purchases from international markets following the sharp devaluation of the Egyptian pound when Egypt's Central Bank adopted a floating exchange rate regime for the pound in November 2016. Imports by **Algeria**, Africa's second largest wheat importer, are expected to remain at the high level of around 8.3 million tonnes, down marginally from the estimated 2016/17 record, reflecting an expected small increase in this year's domestic production. However, imports by **Nigeria**, the third largest importer, could increase by 100 000 tonnes, to 4.6 million tonnes. In spite of more restrictive access to foreign exchange and the Government's new Agricultural Promotion Policy, which aims to halve Nigeria's wheat imports by 2018, import demand is expected to stay strong as domestic production remains small given the limited size of land suitable for wheat production.

In *Latin America and the Caribbean*, total imports in 2017/18 are forecast to decline slightly from 2016/17 and stand at 22.8 million tonnes. In spite of an expected decline in domestic production, imports by **Brazil**, the region's largest wheat importer, could decrease by nearly 9 percent to 6.2 million tonnes on weaker currency and large carryovers. However, wheat purchases by **Mexico**, the second largest wheat importer in the region, are

forecast at 5 million tonnes, unchanged from 2016/17 due to continued strong demand for both high quality milling wheat and wheat with lower protein content. Elsewhere, imports in *Europe* in 2017/18 are forecast to reach 8.3 million tonnes, nearly unchanged from 2016/17, with the **EU** accounting for the biggest share, at 5.3 million tonnes. In spite of a likely rebound in total wheat production in the EU, imports are expected to remain unchanged from 2016/17 due to strong demand for durum wheat.

Turning to export prospects for 2017/18, lower production in several exporting countries is expected to lead to smaller wheat shipments in some cases. Exports from the **United States** are likely to decline by 9.7 percent, from a 3-year high of 27.7 million tonnes in 2016/17, due to an expected significant fall in production. In **Australia**, a likely drop in production to more normal levels is also expected to result in lower exports, currently projected to decrease by at least 12 percent from the near record level of 23 million tonnes estimated for 2016/17. Shipments from **Ukraine** and **Kazakhstan** are also foreseen to decline, down 8 percent and 6.7 percent respectively. However, most other exporters could see their markets expand in 2017/18. The biggest year-on-year increase is forecast for the **EU**, where, due to a strong anticipated recovery in production, exports could increase by as much as 15.6 percent (4 million tonnes) to reach almost 30 million tonnes. At this level, the EU would become the world's largest wheat exporter, closely followed by the **Russian Federation**, which is projected to increase its wheat shipments in 2017/18 by 4.4 percent (1.2 million tonnes) to nearly 28.7 million tonnes. Exports from **Argentina** and **Canada** are also likely to increase,

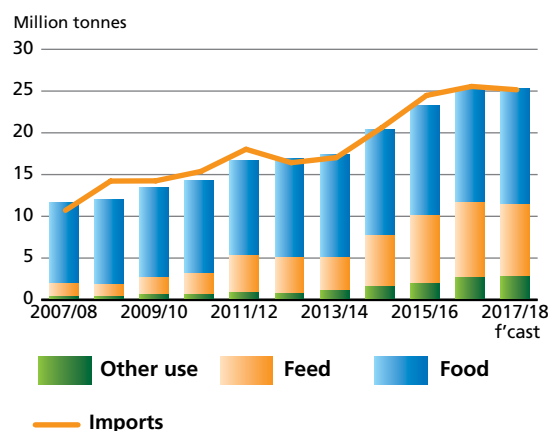
Figure 3. Major wheat exporters



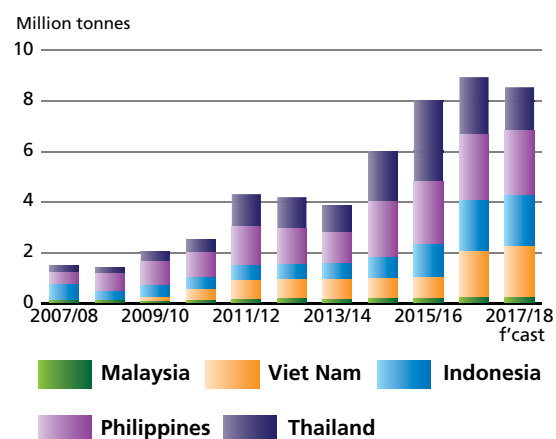
Box: Southeast Asia* wheat: 2007/08 - 2017/18

- Southeast Asian countries depend heavily on wheat imports to meet their domestic consumption.
 - Wheat imports have more than doubled in the past decade, with an annual consumption growth of 4.7 percent, due to expanding population, strong economic growth and declining prices.
 - Demand for high quality milling wheat has grown fastest with diets shifting to higher consumption of wheat products, such as noodles and pastries.
 - Feed and residual use in the region has also grown significantly, doubling, on rapidly rising demand from the livestock, poultry, and aquaculture sectors.
- Viet Nam's feed wheat imports increased significantly due to strong demand from the aquaculture industry.
 - Thailand is forecast to cut its imports of feed-wheat in 2017/18 because of import restrictions aiming at encouraging domestic maize production.
 - The Philippines and Indonesia's strong demand for high-quality milling wheat and low-quality feed wheat to continue.
 - Malaysia doubled its feed wheat imports since 2007/08. However, weak currency has made imports more expensive since last year.
- Southeast Asia is the largest market for Australian wheat exports; with an average intake of around 7 million tonnes per year and that is mostly destined for the noodle industry.
 - Indonesia alone imports more than 3 million tonnes a year from Australia.
 - However, competition for market share with other exporters has intensified; namely with Argentina, Canada, the EU, Ukraine and the United States.
 - Ukraine wheat exports to Southeast Asia surged from 1.2 million tonnes in 2014/15 to 5 million tonnes in 2015/16.
 - Since 2005/06, wheat exports from the United States to Southeast Asia increased by more than 68 percent, while those from Canada rose by almost 48 percent.
 - Wheat Imported from Canada and the US are mostly used for making bread.

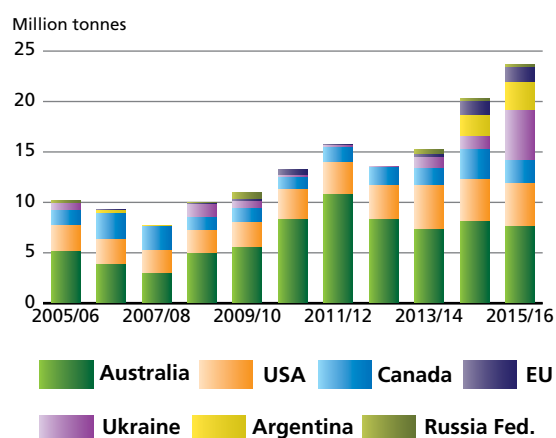
Wheat consumption vs wheat imports



Feed wheat imports by countries



Leading wheat exporters to Southeast Asia



* As per UN definition, Southeastern Asian countries are Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste and Viet Nam.

albeit less significantly than other major exporters. Nonetheless, in view of the anticipated contraction in world import demand in 2017/18, competition for market share among the exporters with larger supplies is set to intensify, with outside market developments, such as exchange rate fluctuations playing an ever increasing determining role in trade flows.

UTILIZATION

Wheat utilization in 2017/18 set to decline slightly

Smaller world wheat production and large availability of coarse grains are likely to drive down global wheat utilization in 2017/18, although the reduction primarily concerns the non-food use of wheat. Total wheat utilization in 2017/18 is projected at just over 728 million tonnes, some 0.4 percent, or 3 million tonnes, below the estimated level for 2016/17 and nearly 2 percent below the 10-year average. Global **feed** use of wheat is forecast at close to 134 million tonnes, down 1.7 percent, or 2.4 million tonnes, from 2016/17. This decrease reflects the expected large supplies of maize in the coming season. This represents the third consecutive year of decrease. The biggest declines are expected in the EU, North America and a number of countries in Asia, particularly Thailand.

World **food** consumption of wheat is forecast at 501 million tonnes in 2017/18. Food consumption accounts for almost 69 percent of total use of wheat. At the current forecast level, wheat food consumption would be 0.8 percent higher than in 2016/17. This would result in per capita consumption reaching 66.7 kg, marginally below the 66.8 kg estimated for 2016/17. In Asia, total food

consumption of wheat is set to rise by 1 percent and lift the region's average per capita level to 65.3 kg. However, all other regions are likely to experience some declines in per capita terms, albeit slight, with Africa at 49.6 kg, down 1 percent from 2016/17.

STOCKS

Higher inventories in China to push up world stocks to a record level

Based on FAO's latest supply-and-demand projections for 2017/18, by the close of crop seasons in 2018, world wheat stocks are expected to approach an all-time high level of 257 million tonnes, up as much as 4 percent, or 10 million tonnes, from their already high opening level. The forecast has been raised by nearly 10 million tonnes since May, when FAO published its first supply-and-demand forecasts for the new season.

At the current forecast levels, the **world wheat stocks-to-use ratio** in 2017/18 would stand at 34.2 percent, up marginally from 2016/17 and well above the historic low of 23.2 percent registered in 2007/08. However, the **ratio of major wheat exporters' closing stocks to their total disappearance** (defined as domestic utilization plus exports), which is a more accurate measure of supply availabilities in global markets, is set to decrease to 18.5 percent, down from 20.1 percent in 2016/17 but still above the 5-year average.

The sharp increase from the May forecast for world stocks ending in 2018 reflects the significant revisions to the historical supply-and-demand elements of **China's** wheat balance. The revisions resulted in an upward adjustment of some 10 million tonnes to China's ending stocks to 108 million tonnes, as much as 17 million tonnes, or 19 percent, higher than their opening levels and enough to cover 15 months of domestic food consumption. Forecasts for end-season stocks have also been lifted for a number of other countries, in particular **Kazakhstan** and **Ukraine**, although those revisions are not of the same magnitude as the revision for **China**. By contrast, the new season inventories in the **United States** are heading for a sharper decline than earlier anticipated, down 5 million tonnes from the May forecast and now 6.7 million tonnes, or 21 percent, below their opening levels, at almost 25 million tonnes, which would still be above the 5-year average.

If **China's** stocks were to be excluded from the world total, the remaining (rest-of-the-world) inventories by the close of seasons in 2018 would stand at nearly 149 million tonnes, which implies a 5 percent decline from their opening levels. The projected decline is mostly led

Figure 4. Wheat feed use

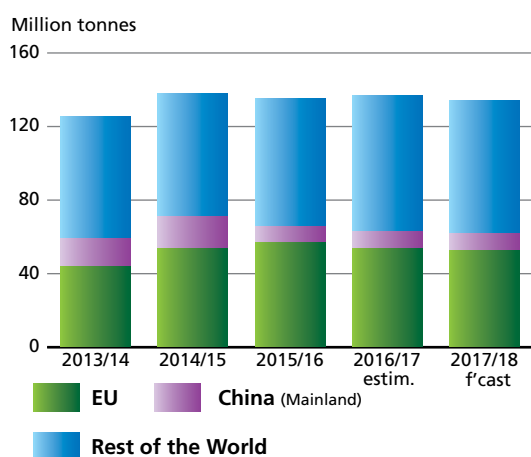
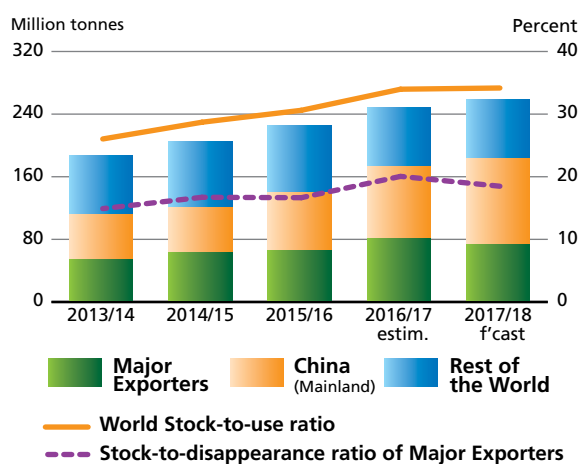


Figure 5. Wheat stocks and ratios

by a decrease in the **United States** and **Australia** and, to a lesser extent, **Brazil**, **Egypt** and **Pakistan**, which more than offset likely increases in several countries, namely **Argentina**, **Bangladesh**, **India**, **Morocco**, the **Russian Federation** and **Turkey**.

COARSE GRAINS*

Major Coarse Grain Exporters and Importers



PRICES

Lower export prices compared to last year

Large supplies and strong export competition continued to put downward pressure on maize export prices. Following a short-lived increase in the early months of 2017, international maize prices fell in March and have moved generally sideways, largely on account of the favourable crop outlook in South America. The anticipation of a

significant decline in production in the United States, the world's largest grower and exporter of maize, combined with a strong demand for ethanol, provided support to the US-origin export prices. However, developments in currency markets, in particular the recent depreciation of Brazil's Real, which has boosted the country's maize export prospects, weighed significantly on international prices. In May, the benchmark **US maize prices (yellow, No. 2, f.o.b.)** averaged nearly USD 158 per tonne, down

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

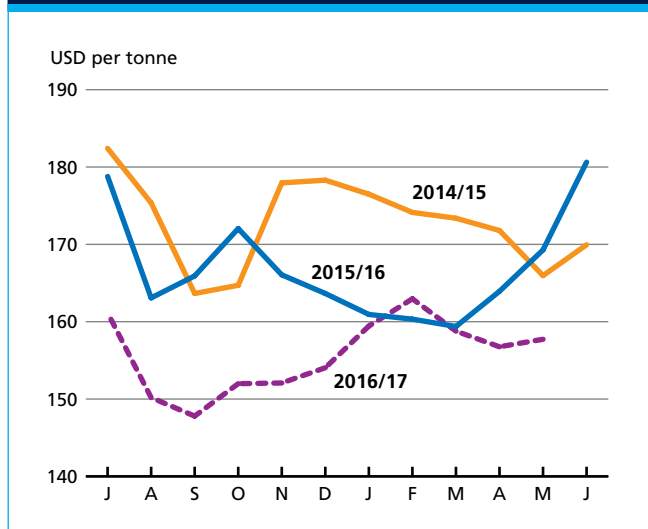
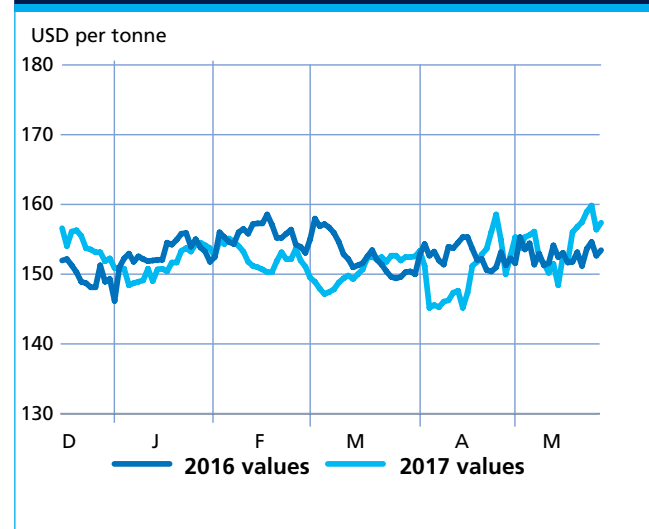


Figure 2. CBOT maize December futures



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

6 percent from May 2016. The year-on-year price declines of **Argentina- (up River, f.o.b.)** and **Brazil- (Paranagua)** origin maize were even steeper, closer to 15 percent. International prices of barley and sorghum also remained generally below last year's levels, pressured by sizable export supplies. By late May, **feed barley** prices stood at least 2 percent below levels during the corresponding period of last year, while **sorghum quotations** were down 7 percent.

In spite of the projected decline in global inventories of coarse grains (maize in particular), ample exportable supplies kept futures under pressure. The **CBOT maize futures** for delivery in December 2017, which is the benchmark delivery month for the new crop, averaged USD 151 per tonne in May, down nearly 3 percent from the previous year's level. Despite support from the March USDA Planting Intentions report, which pointed to the possibility of much lower plantings in the United States this year, large supplies in South America, especially Brazil, prolonged the price weakness. More detailed analysis of the futures markets can be found in the Market Indicators section of this report.

PRODUCTION

Global production set to remain virtually unchanged

FAO's latest forecast for world coarse grains production in 2017 stands at 1 348 million tonnes, virtually unchanged from the near record level in 2016. This mostly reflects expected growth in global maize production, largely relating to production rebounds in South America and southern Africa, which are foreseen to counter declines

in the global barley output, mostly relating to **Australia**, and world sorghum production, mainly due to reduced prospects in the **United States**.

World maize production in 2017 is now forecast at 1 054 million tonnes, still 1.4 percent, or 14.6 million tonnes, higher than last year's output. The year-on-year increase is mainly reflective of expected bumper outputs in South America and southern Africa.

In the **United States**, the world's largest maize producer, the area planted is estimated to contract from last year's level, partly as a result of farmers shifting to soybean cultivation on expectation of better returns. Assuming a return to normal yields from 2016's record highs, production is expected to fall by 7.1 percent to around 357 million tonnes, although this would still be above average. In **Canada**, a recent upward revision, resting on larger than previously anticipated sown area, reversed earlier subdued prospects and production is now expected at a record high of 14.5 million tonnes, 10 percent up on a yearly basis.

In *Europe*, buoyed by beneficial weather, planting of the **EU's** 2017 maize crop started promptly, and the sown area is expected to be higher than 2016. With yields also projected to rise, early indications point to a production increase of nearly 6.6 percent, to 65 million tonnes. By contrast, following its record high production in 2016, the **Russian Federation's** output this year is expected to fall by 5.1 percent to 14.5 million tonnes, mostly resting on a return to average yields. **Ukraine's** output is also forecast to drop by 4.8 percent to 26.7 million tonnes, also due to lower yields.

In *Asia*, maize production in **China** in 2017 is forecast at just over 212 million tonnes, 3.3 percent down from the

Figure 3. Coarse grain production and area

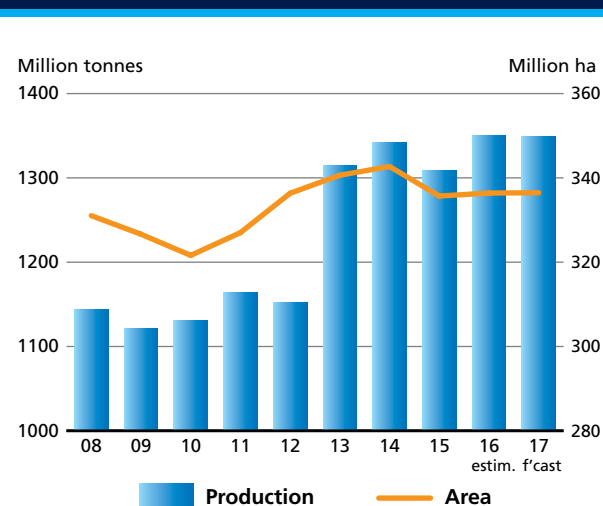


Figure 4. Major maize producers

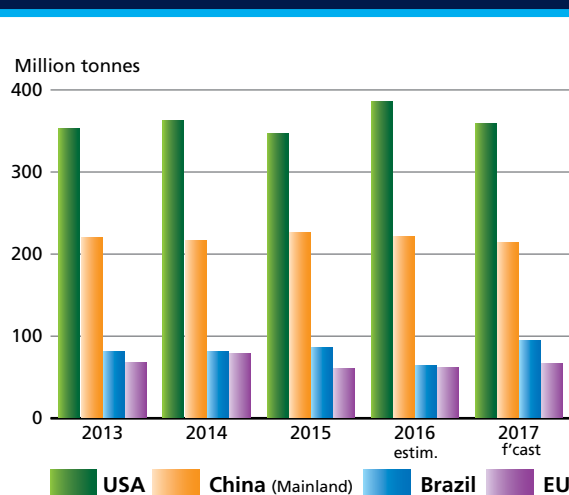


Table 1. World coarse grain market at a glance

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
<i>million tonnes</i>			<i>%</i>	
WORLD BALANCE				
Production	1 307.0	1 348.4	1 347.9	0.0
Trade ¹	185.0	178.2	175.8	-1.3
Total utilization	1 306.0	1 339.3	1 350.0	0.8
Food	201.2	206.6	207.5	0.5
Feed	734.0	751.6	763.1	1.5
Other uses	370.8	381.1	379.3	-0.4
Ending stocks ²	268.1	283.3	274.5	-3.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	27.4	27.8	27.6	-0.7
LIFDC (kg/yr)	37.8	38.8	38.1	-1.8
World stock-to-use ratio (%)	20.0	21.0	19.7	
Major exporters stock-to-disappearance ratio ³ (%)	11.6	13.7	14.3	
FAO COARSE GRAIN PRICE INDEX (2002-2004=100)	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	161	151	151	-2.2

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) and utilization due to differences in individual country marketing years.

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

Table 2. Coarse grain production: leading producers*

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
	<i>million tonnes</i>			<i>%</i>
United States	367.3	402.9	370.7	-8.0
China (Mainland)	234.0	230.3	223.4	-3.0
European Union	151.6	153.2	157.2	2.6
Brazil	88.2	65.8	96.4	46.6
Argentina	42.5	47.0	52.7	12.0
India	38.7	44.1	44.3	0.5
Russian Federation	39.5	43.4	41.2	-5.1
Ukraine	33.4	39.4	36.2	-8.1
Mexico	30.8	33.5	33.9	1.2
Canada	25.7	25.8	26.0	0.7
Indonesia	19.6	19.7	21.0	6.6
Ethiopia	18.8	19.0	19.1	0.4
Nigeria	16.8	19.4	17.7	-8.7
Turkey	15.1	13.8	13.7	-0.7
Australia	12.9	18.1	11.6	-35.6
Other countries	172.2	173.1	182.8	5.6
World	1307.0	1348.4	1347.9	0.0

* Countries listed according to their position in global production (average 2015-2017)

previous year's above average level. The annual contraction is mostly reflective of policy changes, including the removal of the Government's minimum procurement price for maize, which instigated a small contraction in plantings. In **India**, with the main maize crop to be harvested from August, production is expected to remain virtually unchanged from last year at 26 million tonnes. Elsewhere in Asia, maize production in 2017 is expected to remain close to the 2016 levels.

In the Southern Hemisphere, harvesting of the 2017 maize crop is underway. In *South America*, **Brazil** is foreseen to harvest a record crop of 93.5 million tonnes, 48 percent higher than the drought-reduced production of 2016. The sharp upturn reflects better yields for both the first and second season crops and an expansion in the area planted. Similarly, maize production in **Argentina** is forecast to reach a record 46.5 million tonnes, about 17 percent up on a yearly basis. High prices and good weather drove an expansion in the sown area, while beneficial rains are expected to contribute to an increase in yields. In **Paraguay**, lower maize plantings in the first season are behind the anticipated decrease in production, with the country's 2017 output forecast at 4 million tonnes, down 22 percent from the previous year.

Following the steep decline in the 2016 production due to severe dry conditions, **South Africa's** 2017 maize output is forecast to rebound sharply to a record high of 16.4 million tonnes, nearly double the level of the previous year. The expected increase reflects favourable weather that is forecast to significantly boost yields, while an anticipated increase in the area harvested should also raise production levels. Production in **Malawi**, **Zambia** and **Zimbabwe** also benefited from the favourable weather conditions, with output foreseen to increase in all three countries, particularly in Zambia which is expected to harvest a record crop.

The global forecast for barley production in 2017 stands at around 142.3 million tonnes, 4.2 percent, or 6.3 million tonnes, down from the high level of 2016. Most of the decrease rests on reduced production prospects in **Australia**, **Ukraine** and, to a lesser extent, **Canada** and the **United States**, mainly reflective of price-induced cuts to the sown areas. These forecast declines are anticipated to more than offset an anticipated strong rebound in **Morocco's** production, where beneficial weather improved yield prospects.

World sorghum production in 2017 is forecast to drop to 59 million tonnes, i.e. a 7.1 percent, or 4.5 million tonne, year-on-year decrease. Prospects this year are mainly weighed down by an expected 31 percent, or 3.8 million tonne, decrease in the United States' output,

due to lower prices curtailing the sown area with respect to the previous year. Only minor year-on-year gains are expected in Asia and South America.

TRADE

Global trade to contract for the second consecutive season

After an almost 7 percent decline in 2016/17, the latest FAO forecast points to a 1.3 contraction in world trade of coarse grains in 2017/18 (July/June), to nearly 176 million tonnes. The year-on-year decline would be mostly accounted for by maize and sorghum, while trade in barley is set to increase. For other coarse grains, including oats, rye and millet, world trade is likely to remain similar to 2016/17.

Global trade in maize in 2017/18 is expected to register a decrease of around 1 percent, or 1.5 million tonnes, to close to 137 million tonnes. The biggest declines in maize imports are forecast for southern Africa and South America, more than offsetting a projected increase for Asia. In *Africa*, following a strong domestic production recovery, imports by **South Africa**, normally a major maize exporter, could fall by 2.4 million tonnes. Imports by **Malawi** and **Zambia** are anticipated to drop too, due to strong production recovery in both countries. In Zambia, the Government lifted the suspension of maize exports in April, following an improvement in the country's domestic supply situation. In *South America*, the biggest decline, 2.2 million tonnes, is expected in **Brazil**, a major maize exporter that had to resort to relatively large imports in 2016/17 because of a tightening supply following a sharp fall in production and significant exports earlier in the season. In *Asia*, maize imports are seen to increase by 3.6 percent to 66.8 million tonnes for the region as a whole, as growing feed demand should support higher imports by several countries. However, total imports by **China** (Mainland), where this year's production is forecast to be smaller, are likely to remain unchanged at around 1.5 million tonnes given large domestic supplies.

World barley trade (excluding malt) in 2017/18 is set to reach 27 million tonnes, up 2.7 percent from 2016/17. Asia remains the largest market for barley with the forecast for **Saudi Arabia**, the world's largest importer, standing at a record 11 million tonnes, up 500 000 tonnes from 2016/17. Barley imports by **China** (Mainland) are also projected to rise to around 5 million tonnes, an increase of 1 million tonnes, which is still well below the import levels registered in 2014/15 and 2015/16.

By contrast, barley imports in *Africa* could see a small decline in 2017/18, largely on account of domestic production recovery in **Morocco** and **Tunisia**.

Global trade in sorghum is forecast at around 7 million tonnes in 2017/18, down almost 18 percent (1.5 million tonnes) from 2016/17, with almost all of the anticipated decrease due to *Asia's* imports dropping from 6.2 million tonnes in 2016/17 to 4.8 million tonnes in 2017/18. **China** (Mainland), the world's largest importer since 2013/14, is expected to cut its imports by 1.2 million tonnes, down to 3.9 million tonnes, due to large supplies of alternative animal feed in the domestic market. Imports by **Japan** and **Mexico**, the other two major importers of sorghum, are likely to decrease only slightly in 2017/18.

Given the expectation of a slight decrease in world import demand in 2017/18 against very large export supplies of coarse grains, in particular maize in *South America*, not all exporters will be able to maintain or expand their market share. Indeed, for a number of exporting countries, prospects for sharp declines in sales are more likely. Among them, shipments from the **United States**, the world's largest exporter, are forecast to fall the most in 2017/18, by as much as 11 million tonnes (17.6 percent), as the country's production this year is also set to fall sharply. Declines in exports are also anticipated for **Argentina**, **Australia** and **Ukraine**, more than offsetting expected increases in sales by **Brazil**, **Canada**, the **Republic of South Africa**, the **EU** and the **Russian Federation**. Exports from Brazil in 2017/18 are likely to increase the most among exporters, by as much as 9 million tonnes or 61 percent, not only because of this year's bumper crop but also due to improved export competitiveness the country could expect should its currency remain weak.

UTILIZATION

Global utilization of coarse grains continues to expand

World utilization of coarse grains in 2017/18 is set to reach an all-time high of 1 350 million tonnes, up 0.8 percent, or 11 million tonnes, from the 2016/17 estimated level. Feed and industrial uses are the main drivers behind the projected increase in total utilization of coarse grains. Global **food use** of coarse grains in 2017/18 is pegged at 208 million tonnes, up 0.5 percent from 2016/17. Africa accounts for the bulk of the food use of coarse grains, forecast at around 90 million tonnes in 2017/18, followed by Asia, at 63 million tonnes.

Total **feed use** of coarse grains in 2017/18 is forecast at 763 million tonnes, up 1.5 percent from the estimated level for 2016/17. China's (Mainland) feed use of coarse grains is likely to resume its upward trend, rising by 1.5 percent in 2017/18 to 152 million tonnes. Large domestic maize

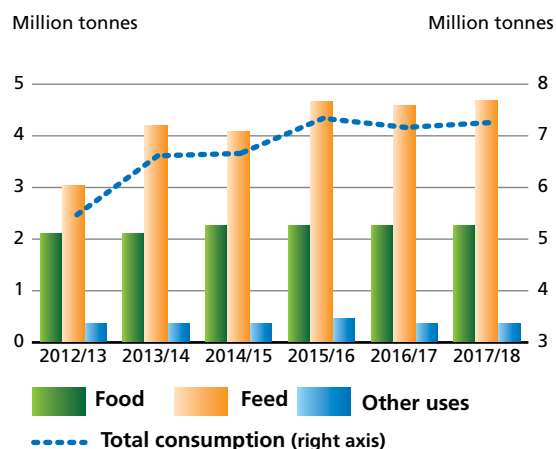
Box: Barley in North Africa*

High food consumption and growing feed demand

North Africa is the region with the highest per capita intake of barley for direct food consumption, estimated at nearly 12 kg per year. This level of consumption stands well above those of two other major barley consuming regions, namely: sub-Saharan Africa, at just over 8 kg; and East Africa, at around 5 kg.

Imports of barley by North Africa have expanded considerably since 2012/13, as local production has not kept pace with the growing consumption requirements – not just for food but also for feeding animals. North Africa barley imports have increased steadily over the past decade, particularly since 2012/13, with strong demand especially in Libya, Morocco and Algeria. The region's total barley imports represent over 10 percent of the world total.

Feed use has been the main driver behind the rapid rise in the region's demand for barley, representing over 56 percent of the commodity's total use. North Africa's feed use of barley is forecast to reach 4.7 million tonnes in 2017/18, up 55 percent from 2012/13. In Algeria and Libya, the increase has been as much as 70 percent since 2012/13.



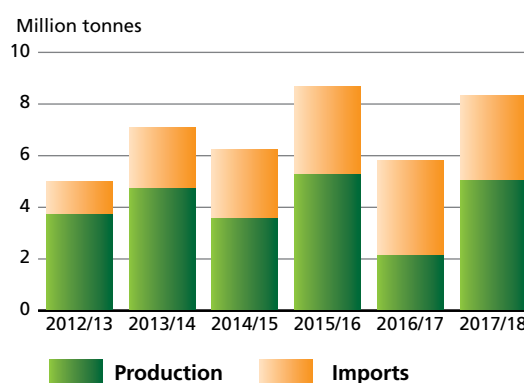
Barley imports (July-June)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
	Thousand tonnes										
World	15 424	18 150	16 674	15 641	20 221	19 282	21 910	28 899	29 901	26 350	27 105
North Africa	1 497	1 061	1 533	867	1 232	1 748	2 323	2 653	3 382	3 630	3 280
Algeria	50	390	30	70	674	333	529	886	860	900	800
Egypt	12	16	32	28	60	37	42	80	30	30	30
Libya	49	177	410	472	153	179	720	750	900	1 000	1 000
Morocco	350	350	195	142	611	120	387	437	822	1 100	900
Tunisia	600	600	200	520	250	550	645	500	770	600	550

Volatile production and high imports

Barley production in North Africa is volatile, as the crop is mostly rainfed and, hence, extremely vulnerable to weather conditions in a region renowned for its frequent droughts. In 2017, total barley production in North Africa is set to reach 5.0 million tonnes, up sharply from the drought-stricken level of 2016, but still below the overall consumption requirements. With a projected demand of around 7 million tonnes in 2017/18, the region's deficit can only be met through imports, forecast to reach 3.3 million tonnes in 2017/18, down 7 percent from 2016/17 because of the anticipated recovery in domestic production, especially in Morocco.

Overall, the region's dependence on barley imports currently represents 39 percent of its total requirements and continues to increase. However, it is well below the region's 71 percent import dependency rate for maize and 58 percent for wheat.



* Algeria, Egypt, Libya, Morocco and Tunisia

Table 3. Maize use for ethanol (excluding non-fuel) in the United States

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17 (estim.)	2017/18 (f'cast)
Thousand tonnes									
Maize production	332 550	316 166	313 956	273 188	351 270	361 101	345 504	384 774	357 265
Ethanol use	116 616	127 538	127 005	117 886	130 155	132 085	132 695	138 435	139 706
Yearly change (%)	25%	9.4%	-0.4%	-7.2%	10.4%	1.5%	0.5%	4.3%	0.9%
As % of production	35%	40.3%	40.5%	43.2%	37.1%	36.6%	38.4%	36.0%	39.1%

Source: WASDE-USDA 10 May 2017

supplies and declining prices are seen to boost feed use of maize in China to 143 million tonnes, 2 percent higher than in 2016/17. Also in the EU, feed use of coarse grains is likely to experience a significant increase, rising by 5 percent to reach 123 million tonnes, of which the feed use of maize is set to rise to 57 million tonnes, up 6.5 percent from 2016/17. Other significant year-on-year increases are likely in Argentina and Brazil, where this year's bumper maize crops could lead to much higher feed consumption of maize in both countries. An increase in feed use is also forecast for Mexico, supported by higher domestic maize production. By contrast, feed use of coarse grains in the United States is expected to decline by 3 percent to 142 million tonnes, as a result of the anticipated sharp cut in domestic maize production this year.

Global **industrial use** of coarse grains could expand by just over 1 percent in 2017/18, reaching 325 million tonnes. Industrial use of maize is set to reach 282 million tonnes, accounting for almost 87 percent of the total industrial utilization of coarse grains. The latest official forecast by the United States Department of Agriculture (USDA, May 2017)

sets the country's use of maize to produce ethanol for fuel at 140 million tonnes in 2017/18. This would represent a 0.9 percent increase over the 2016/17 estimated level. The anticipated rise is based on expectations of higher domestic demand for ethanol and also stronger exports. The world use of coarse grains (mostly maize) for the production of starch is foreseen to grow significantly, rising by 1.5 percent from 2016/17 to reach 111 million tonnes in 2017/18. The increase is expected to be around 2 percent in China according to the projections by the International Grains Council (IGC). Subsidies to the sector to lower the size of maize inventories could boost the production of maize-based starch in China to nearly 50 million tonnes, a new record and well above the 29 million tonnes forecast for the United States, the world's second largest starch producer.

STOCKS

Stocks to decline but stay large

Based on the latest forecasts for production in 2017 and utilization in 2017/18, global inventories of coarse grains by the close of the crop seasons in 2018 are expected to reach 275 million tonnes, 4 million tonnes higher than the forecast made in May but still nearly 9 million tonnes, or 3 percent, below their revised opening levels. The increase since May is due to upward revisions to the forecasts for end-season maize inventories in **Argentina, Brazil, Canada** and **China**, more than offsetting downward revisions in the **United States'** inventories. Overall, global maize closing inventories are now projected to stand at 220 million tonnes, down 8.4 million tonnes, or 3.6 percent, from their opening levels. As for other major coarse grains, end-season barley and sorghum inventory levels are likely to remain stable, at nearly 31 million tonnes for barley and 9 million tonnes for sorghum.

Regionally, Asia is where most of the world's coarse grains are stored, with cumulative stocks of 112.5 million tonnes expected by the end of crop seasons in 2018. In China, despite a sharp anticipated 19 percent reduction (19.4 million tonnes), overall inventories

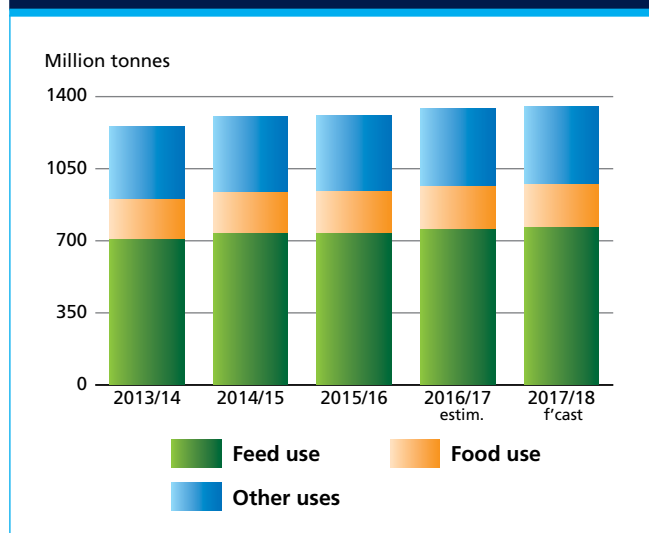
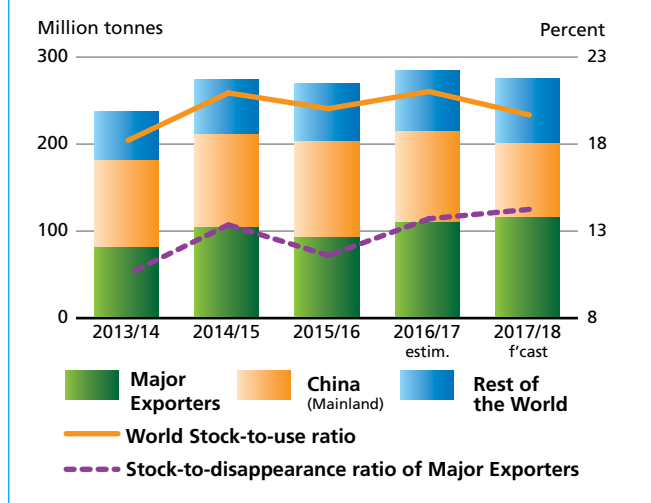
Figure 5. Coarse grain utilization

Figure 6. Coarse grain stocks and ratios



of coarse grains would still remain large, at around 84 million tonnes, representing 75 percent of all stocks in Asia and 31 percent of the global inventory. Maize, at just under 80 million tonnes, accounts for most of China's coarse grain inventories. Following the March 2016 decision by the Government to end the price support policy

for all commodities other than wheat and rice, the maize floor price in **China** has been eliminated – a leading factor behind the reduced maize plantings this season and a sharp stock drawdown.

Based on current forecasts, the **world stock-to-use ratio** for coarse grains could fall to a 4-year low of 19.7 percent, compared with 21 percent in 2016/17. In spite of the projected reduction, this ratio would still remain well above the low of 15.4 percent registered in 2003/04. Furthermore, if China were to be excluded from the world total, not only would the rest-of-world total stocks point to an increase, but also the stocks-to-use ratio would increase slightly, from 16.3 percent by the end of this year to 16.7 percent by the end of 2018. As yet another sign of generally ample supply prospects in 2017/18, the ratio of **major exporters' stock-to-disappearance** (defined as domestic consumption plus exports) is likely to rise from 13.7 percent in 2016/17 to 14.3 percent in 2017/18. This reflects expectation of much higher inventory levels in **Argentina, Canada, Brazil** and the **EU**, more than offsetting a drawdown in the **United States**. The single largest increase is expected in **Brazil**, where this year's bumper maize harvest could lead to a two-fold rise in the country's maize inventories, to 11.5 million tonnes.

RICE

Major Rice Exporters and Importers



PRICES

Buoyed by reviving demand and currency movements, international rice prices make a U-turn

International rice prices declined steadily during the second half of 2016; but all the decreases, which were associated with subdued trading activity and harvest pressure, have since been reversed. In May, the FAO All Rice Price Index (2002–2004=100) averaged 202 points, up 8 percent from December and 2 percent above its

value in May 2016. Aromatica prices made the largest contribution to this increase, with their index surging 35 percent since December, in response to strong interest from Near Eastern buyers and tight basmati availabilities. Quotations of the most widely traded Indica rice proved more stable during the first quarter of 2017, but have since gathered speed amid seasonal tightness and prospects of a return of important buyers to the market, in particular Bangladesh and the Philippines. Only Japonica prices remained unaffected by the upward trend, mirroring lukewarm demand and prospects of a rebound

Figure 1. FAO rice price indices

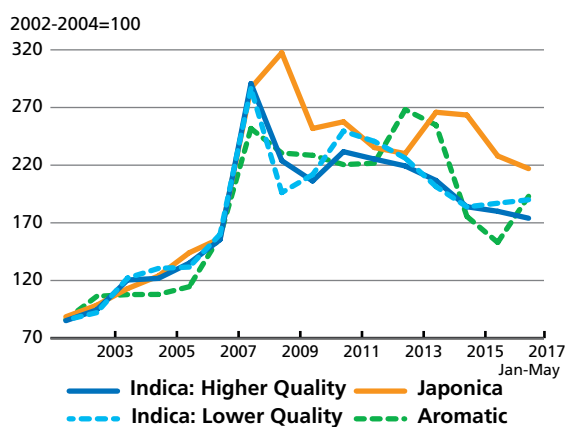
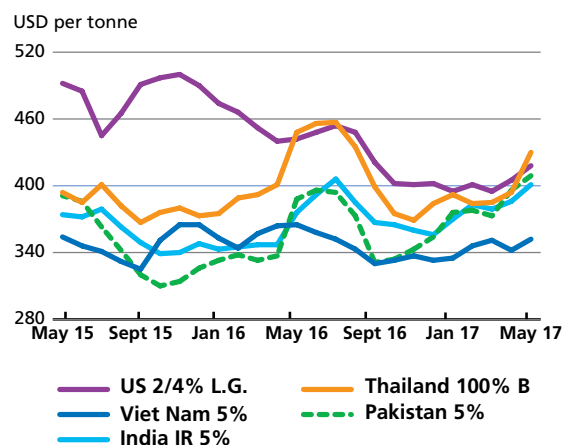


Figure 2. Export prices for higher-quality Indica rice in selected countries



in Australian output. Price gains spread across most rice origins, with the exception of South American suppliers, where quotations were affected by progressing harvests. In Thailand, **benchmark 100% B white rice** rose by 12 percent to reach USD 430 per tonne, influenced by an accelerated pace of sales, a strengthening of the Baht and developments in India. In the latter, Indica prices rose in tandem with the appreciation of the Rupee, adding to the upward pressure exerted by the fast pace of government procurement.

PRODUCTION

Poor price prospects and weather setbacks to slow production growth in 2017

The 2017 season is at early stages in the Northern Hemisphere, where producers are about to begin planting their first crops or are already in the process of doing so. Along and south of the Equator, main crops have already been collected, with a few countries now engaged in offseason plantings. FAO's global production forecast for 2017 now stands at 502.6 million tonnes, 1.1 million tonnes below the May forecast and representing a mere 0.7 percent, or 3.3 million tonne, expansion from the 2016 record. The relatively passive growth outlook mirrors prospects of less attractive returns for farmers, which could entail a slowdown in the rate of area expansions. In addition, various important Asian and African producers have already encountered weather setbacks, while climatic uncertainties linger. Indeed, climate-forecasting agencies continue to point to a 46 percent chance of the weather anomaly emerging in the critical Northern Hemisphere summer months. As the

phenomenon tends to be associated with repressed rainfall over parts of Asia, its potential development, in terms of timing and intensity, will need to be closely watched.

Assuming normal growing conditions for the remainder of the season, Asia is anticipated to gather 454.4 million tonnes in 2017, up 0.6 percent from the 2016 record. Much of the region's expected growth would be accounted for by India and Indonesia, where public assistance to the sector remains staunch. In **India**, gains would come – especially if monsoon rains remain within normal bounds as predicted by official forecasts – being further stimulated by steady increases in minimum support prices and government schemes targeting productivity improvements. In **Indonesia**, the 2017 main crop, which has already been gathered, benefitted from ample supplies of water for irrigation, replenished by abundant rains. Indonesian authorities also continue to promote area expansions, alongside investments to enhance irrigation infrastructure. Combined, these factors are expected to translate into a 2-percent expansion in the country's rice production to 46.6 million tonnes.

In **China (Mainland)**, a 0.4 percent production upturn to 142.3 million tonnes is expected to be yield-driven and come notwithstanding this year's lower government procurement prices. The decision to cut procurement prices comes as the Government places greater focus on promoting quality improvements and environmental sustainability, as opposed to volume gains. Still, it left the status of rice as a safe production choice untouched, since state acquisitions from the local market will continue at set prices. Prospects are also positive for the **Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, the Philippines, Thailand and Turkey**, but less so for **Bangladesh** and

Figure 3. Global paddy production and area

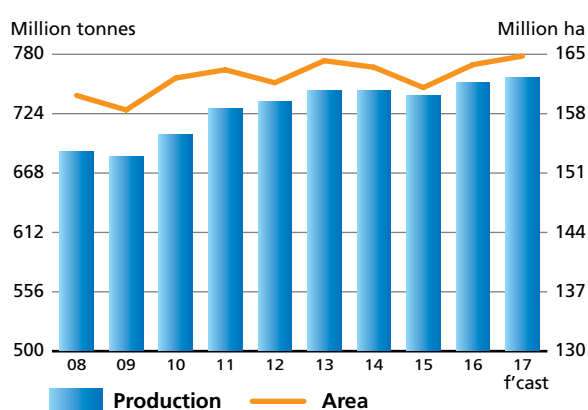


Figure 4. Paddy production in Asia

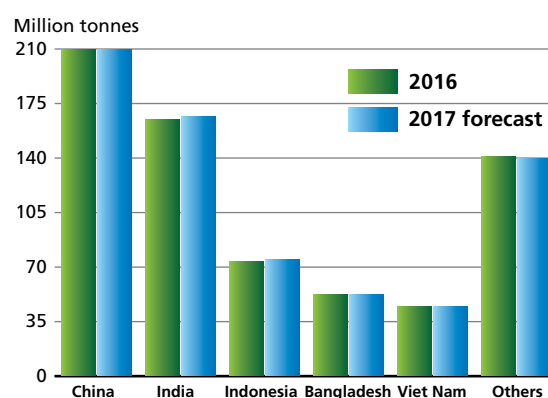


Table 1. World rice market at a glance

	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	Change: 2017/18 over 2016/17
<i>million tonnes, milled equivalent</i>			<i>%</i>	
WORLD BALANCE				
Production	491.7	499.3	502.6	0.7
Trade ¹	41.6	43.6	44.2	1.3
Total utilization	495.3	499.9	505.7	1.2
Food	396.7	401.8	406.5	1.1
Ending stocks ²	171.3	170.9	170.5	-0.2
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	54.0	54.1	54.1	0.0
LIFDC (kg/yr)	55.2	55.2	55.2	0.0
World stock-to-use ratio (%)	34.3	33.8	33.2	
Major exporters stock-to-disappearance ratio ³ (%)	19.2	18.6	16.9	
FAO RICE PRICE INDEX (2002-2004=100)				
	2015	2016	2017 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	211	194	196	-0.4

¹ Calendar year exports (second year shown).

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

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

Table 2. Rice Production: leading producers *

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
	<i>million tonnes, milled equivalent</i>			<i>%</i>
China (Mainland)	142.6	141.7	142.3	0.4
India	104.4	109.2	110.4	1.1
Indonesia	45.8	45.6	46.6	2.1
Bangladesh	35.0	34.7	34.8	0.3
Viet Nam	29.4	28.3	28.6	0.9
Thailand	18.9	21.6	22.0	2.1
Myanmar	16.5	16.8	17.0	0.9
Philippines	11.4	12.1	12.1	0.2
Brazil	8.5	7.2	8.1	12.8
Japan	7.6	7.7	7.7	0.1
Pakistan	6.8	6.6	6.8	3.0
United States	6.1	7.1	6.4	-10.3
Cambodia	5.6	6.0	5.8	-2.5
Egypt	4.1	4.3	4.2	-2.4
Korea, Rep. of	4.3	4.2	4.1	-3.1
World	491.7	499.3	502.6	0.7

* Countries listed according to their position in global production (average 2015-2017).

Viet Nam, which could see production only partially recover from 2016 reduced levels on account of excess rains or flash floods. Instead, **Cambodia** and the **Republic of Korea** are predicted to incur output shortfalls. Yet, the largest annual contraction is likely to concern **Sri Lanka**, where insufficient water for irrigation, following prolonged dryness in 2016, is forecast to lower production by 38 percent to a 13-year low of 1.9 million tonnes.

African countries are forecast to harvest a total of 20.0 million tonnes, 0.5 percent below the 2016 record, but still an above-average crop. At country level, the outlook points to a decline in **Egypt**, amid expectations that the surge in cotton prices would encourage a substitution of rice for cotton. Shortfalls are also envisaged to concern **Madagascar** and the **United Republic of Tanzania** due to rainfall shortages. In Madagascar, these were exacerbated by the March strike of cyclone Enawo, and in Tanzania by relatively weak local prices following the bumper harvest of 2016. By contrast, more conducive weather conditions should assist **Malawi, Mozambique, Uganda** and **Zambia** recover output declines incurred in the previous season due to poor rains. Early prospects are also positive for various West African countries, including **Ghana, Guinea, Senegal, Sierra Leone** and, especially, **Nigeria**, often mirroring support provided by governments running self-sufficiency programmes. For instance, in Nigeria, the Presidential Initiative on Fertilizers seeks to enhance fertilizer production and lower prices of the input, adding to the planting incentives provided by high local prices and public assistance under other schemes, including the Anchor Borrowers' Programme. In Ghana, authorities target raising rice production by 49 percent under the recently launched Planting for Food and Jobs campaign, with steps also underway in Mali to expand irrigation coverage.

Rice production in *Latin America and the Caribbean* is forecast to reach 18.7 million tonnes in 2017, up 5 percent from the 2016 *El Niño* reduced harvest. Most South American producers have already collected their 2017 main crops, with positive results. Although area under rice declined for the fourth successive season, as margins continued to be constrained by high production costs, beneficial weather boosted yields and sustained expansions in **Guyana, Paraguay, Uruguay** and, especially, **Brazil**. These gains would more than compensate for price-driven contractions in **Bolivia** and **Colombia** and for shortfalls in **Peru** caused by floods and in **Chile** by insufficient water for irrigation. Meanwhile, the season is still at early stages in Central America and the Caribbean where, barring major setbacks, **Cuba, Haiti, Mexico**, and **Panama** could gather more than in 2016.

Elsewhere in the world, the production outlook points to a decline in the **EU** to 1.8 million tonnes, amid expectations that weak Japonica prices would depress plantings. The latest USDA forecast also points to a 10 percent output contraction in the **United States** to 6.4 million tonnes, as farmers react to price falls by substituting paddy with soybeans. The reduction in the US output could be larger still, should flood damages to newly planted crops in southern states prove as extensive as the initial assessments indicated. Conversely, ample water allocations and lower irrigation costs encouraged a near three-fold rise in plantings in **Australia**. As a result, officials estimate that the 2017 harvest exceeded the 2016 dismal outcome by 410 000 tonnes, reaching a four-year high of 580 000 tonnes.

TRADE

An import revival in Asia to sustain a 5 percent global trade recovery in 2017

Following a 400 000-tonne upward adjustment since May, international trade in rice in 2017 is forecast to reach 43.6 million tonnes. At this level, global rice exchanges would stand 4.8 percent above the 2016 depressed outcome, while still falling 1.8 million tonnes below the 2014 record level. *Asia* is anticipated to account for nearly all of the forecast growth, importing a total of 21.3 million tonnes, up 11 percent year-on-year. The expansion is expected to be facilitated by the removal of import duties in various countries in the region or the re-engagement of governments in imports in an attempt to keep domestic quotations under control or refurbish reserves. This is particularly the case of **Bangladesh**, the **Philippines** and **Sri Lanka**, which are expected to be behind much of the region's import revival. Nonetheless, **China (Mainland)**, **Iraq**, the **Islamic Republic of Iran**, **Malaysia** and **Saudi Arabia** are all forecast to purchase more in 2017, outweighing expected reductions in **Nepal**, the **Lao People's Democratic Republic**, **Viet Nam** and, especially, **Indonesia**.

In *Africa*, weak local currencies along with bumper harvests could limit import growth to 1.1 percent in 2017 to a total of 14.3 million tonnes. To a large extent, the restrained pace of expansion reflects prospects of a third year of subdued demand from **Nigeria**. Nigeria is one of the globe's leading rice destinations, but a strong import recovery in the country is likely to be prevented by prohibitive import duties, the lingering weakness of the Naira and continued restrictions on rice traders' access to foreign exchange. In the region, while **Cameroon**, **Madagascar** and **Senegal** may all raise their purchases,

Figure 5. Rice imports by region

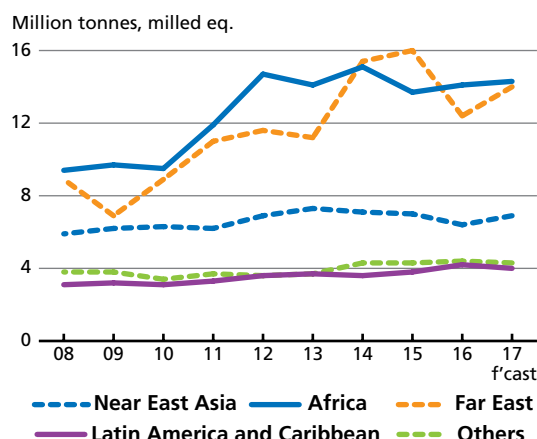


Figure 6. Rice exports by the major exporters

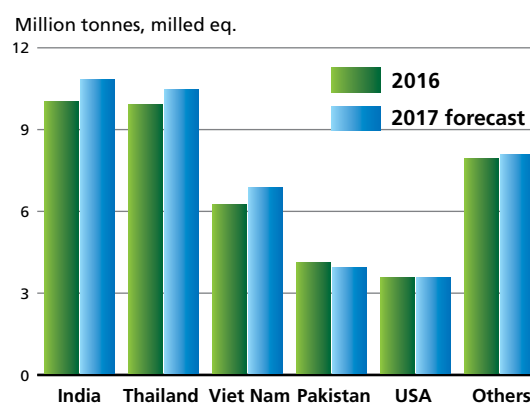
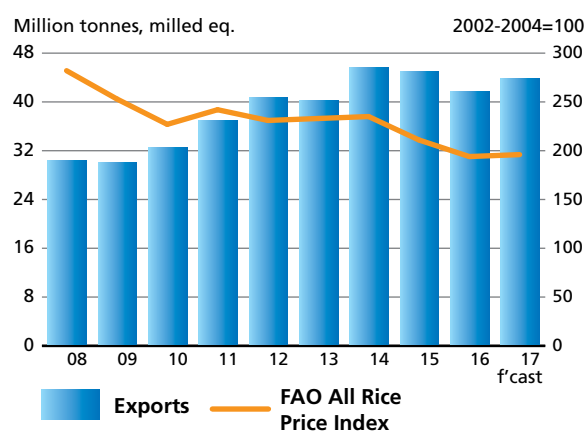


Figure 7. World rice trade and FAO all rice price index*



* January-May average for 2017

these gains are likely to be partly offset by lower imports by **Guinea, Ghana** and the **United Republic of Tanzania**.

After reaching an all-time high in 2016, imports by *Latin America and the Caribbean* are poised to retreat by 5 percent in 2017 to 4.0 million tonnes. A drop in **Colombia** is expected to make the largest contribution to this reduction, although production increases are also anticipated to result in lower purchases by **Cuba, Honduras** and **Panama**. By contrast, domestic output shortfalls may compel **Bolivia, Peru** and **Venezuela** to purchase more, while attractive prices in world markets keep imports by **Brazil** and **Mexico** at above average levels. In *the other regions*, deliveries to the **Russian Federation** are forecast to remain steady year-to-year, while imports by the **EU** and the **United States** decline, owing to ample supplies.

On the supply side, exports by **India** are predicted to stage an 8-percent year-on-year recovery to 10.8 million tonnes. Although India has consistently stood out as an affordable origin since fully returning to the rice trade arena in 2011, the country's competitive edge has been narrowed this year by a stronger Rupee, while large quantities have also been absorbed by the government under its local procurement programme. This development has enhanced buyer interest in alternate origins, boosting export prospects for **Viet Nam** and **Thailand**, in particular. FAO anticipates Thai shipments will reach 10.5 million tonnes in 2017, with the 6-percent expansion underpinned by an output recovery and the liquidation of government stockpiles. **China (Mainland), Myanmar, Uruguay** and **Paraguay** are also set to export more rice in 2017, while deliveries by the **United States** hold steady, amid heightened competition with Australia in the Japonica segment and with South American suppliers in the long-grain market. Instead, production shortfalls may lower deliveries by **Guyana** and **Pakistan**, with **Egypt** and **Cambodia** also predicted to ship less than in 2016.

Although still subject to much uncertainty, early prospects for rice trade in 2018 point to global deliveries expanding by a modest 1.3 percent to 44.2 million tonnes. Underlying the timid pace of growth are expectations of smaller purchases by buyers in the Far East, which could contrast with continued import growth in the Near East and Africa. On the supply side, ample exportable availabilities are predicted to boost shipments by Pakistan and Viet Nam, possibly also aiding Thailand in regaining its position as the world's leading supplier of rice after a six-year hiatus. On the other hand, growing domestic consumption requirements may lower exports by India somewhat, while those of the United States fall in the aftermath of an output shortfall.

UTILIZATION

Rising food intake to sustain a 1.2 percent increase in world rice utilization

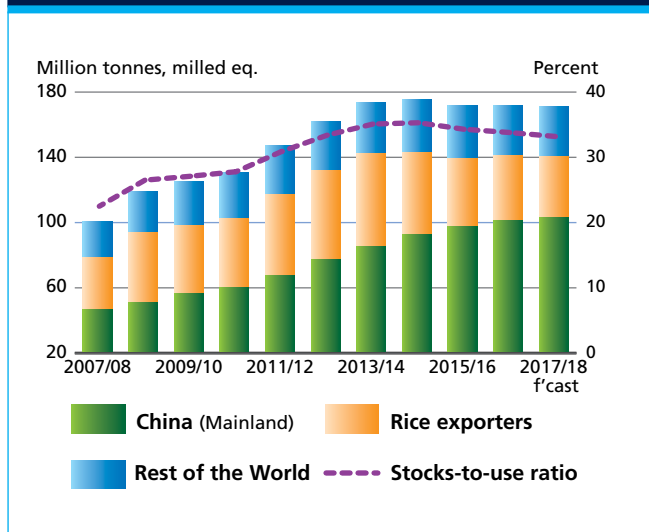
World rice utilization is forecast to grow by 1.2 percent in 2017/18 to a total of 505.7 million tonnes. A 4.6 million tonne expansion in food use to 406.5 million tonnes is forecast to drive the overall increase, keeping global per capita consumption steady at 54.1 kg per person. Population growth in Asia and shifting dietary patterns in Africa in favour of rice are expected to remain key drivers of food intake during the season, adding to gains in Latin America and the Caribbean and Oceania, aided by improved crop harvests, and in Europe by imports. By contrast, feed use, which normally accounts for 4 percent of the world rice total use, is predicted to fall by 2 percent to 17.7 million tonnes. The reduction would primarily mirror cuts in Bangladesh, due to supply tightness, and in China (Mainland), owing to greater availabilities of cheaper feedstuffs. Along with a slight drop in the Republic of Korea, these reductions would more than offset an increase in Thailand, where large quantities are being offloaded from government granaries to the feed and industrial sectors. All other end-uses of rice, including post-harvest losses, are forecast to total 81.6 million tonnes, up 1.9 percent year-on-year.

STOCKS

Global rice inventories seen broadly steady, while major exporters' stocks fall to a decade-low

Although still rather preliminary, current prospects point to global rice production keeping pace with utilization in 2017/18. As a result, world rice reserves at the close of 2017/18 marketing years are forecast to fall by a marginal 0.2 percent to 170.5 million tonnes. This volume would be sufficient to cover nearly four months of projected world use, keeping the world stock-to-use ratio at a comfortable 33.2 percent in 2017/18, comparable to the 33.8 percent estimated for 2016/17. The relative abundance mirrors prospects of rice importing countries, as a group, raising reserves by 1.5 percent to 133.5 million tonnes. Nearly all of this refurbishment would be owed to **China (Mainland)**, where a production recovery, coupled with large imports and government acquisitions from the domestic market, could lead to another season of accumulations. Still, much is likely to depend on government decisions in China concerning the disposal of state inventories. To date, public efforts to market produce through auctions have met only limited success, due to

Figure 8. Global closing stocks and stocks-to-use ratio

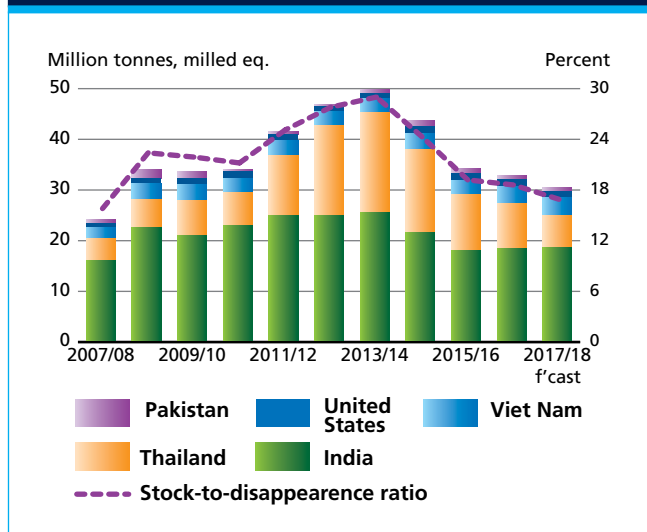


ample availability of more competitively priced foreign supplies. Among other importers, larger domestic crops are expected to permit **Indonesia**, **Nepal** and the **Philippines** to reconstitute reserves, whereas production shortfalls could compel **Madagascar**, **Sri Lanka** and the **United Republic of Tanzania** to draw on their inventories.

Contrary to trends of traditional rice buyers, rice exporters are poised to see their reserves fall for the fourth successive season to 37.0 million tonnes, down 6 percent year-on-year. All of the predicted decline would concentrate in the five major rice exporters,¹ particularly **Thailand**, where authorities remain intent on liquidating

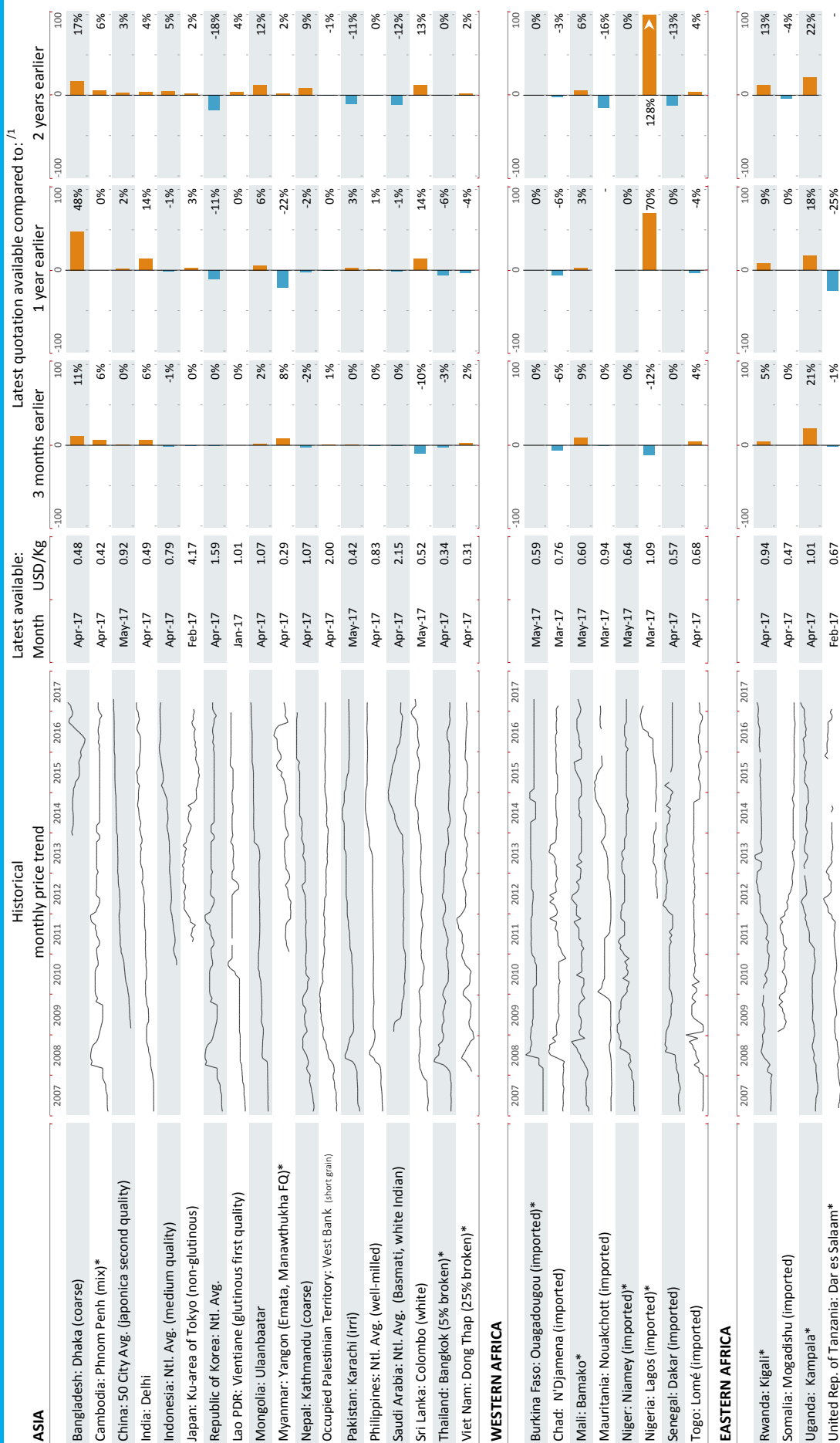
¹ India, Pakistan, Thailand, the United States and Viet Nam.

Figure 9. Stocks held by the five major rice exporters and stock-to-disappearance ratio



the roughly 5.0 million tonnes left in government granaries by December 2017. Rice reserves are also expected to decrease in the **United States**, due to a production fall, more than outweighing predicted accumulations in **India**, **Pakistan** and **Viet Nam**. Based on these tendencies, the group is forecast to see its aggregate rice reserves fall by 7.6 percent year-on-year to a decade low of 30.2 million tonnes. As a result, their stocks-to-disappearance ratio would decline from an estimated 18.6 percent in 2016/17 to 16.9 percent in 2017/18. Among other suppliers of rice, output recoveries are behind expectations of **Australia** and **Brazil** rebuilding reserves, whereas **Uruguay** and **Paraguay** could see carryovers fall, following a fast pace of exports.

Table 3. Monthly retail prices of rice in selected markets

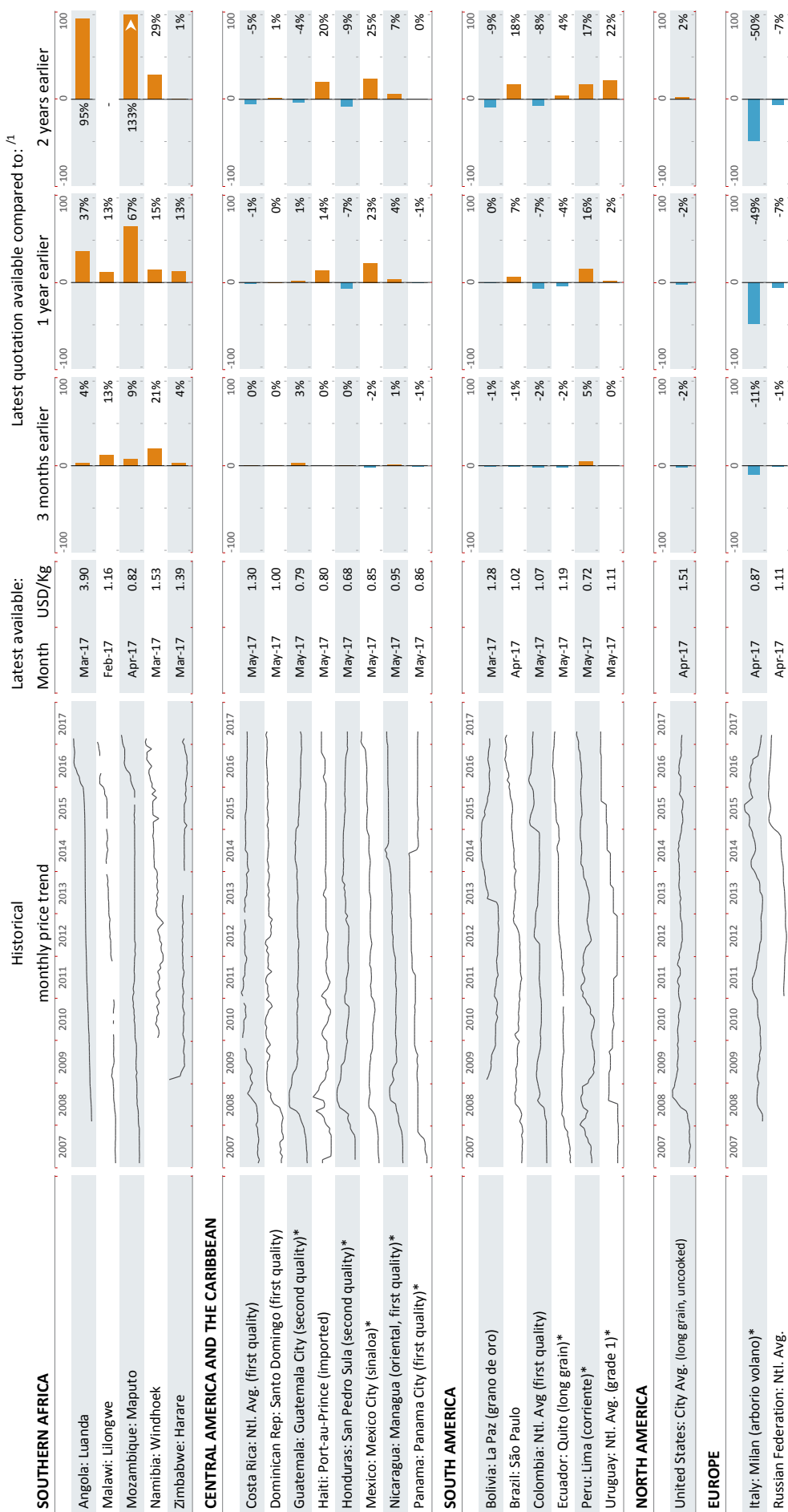


^{/1} Quotations in the month specified in the third column were compared to their levels in the preceding three, twelve and twenty-four months. Price comparisons were made in nominal local currency units.

* Wholesale prices.

Sources: FAO/GIEWS GIEWS Food Price Data and Analysis Tool; Korea Agricultural Marketing Information Service (KAMIS); Japan Ministry of Agriculture, Forestry and Fisheries; U.S. Bureau of Labor Statistics (BLS); Associazione Industrie Risiere Italiane (AIRI). Please note that prices shown are comparable over time, but not across countries, as they may refer to different stages of the marketing chain (e.g. retail versus wholesale prices), different rice types (e.g. aromatic versus non-aromatic) or different qualities of rice (e.g. fully broken versus 5% broken).

Table 3. Monthly retail prices of rice in selected markets (Cont'd)



^{/1} Quotations in the month specified in the third column were compared to their levels in the preceding three, twelve and twenty-four months. Price comparisons were made in nominal local currency units.

* Wholesale prices.

Sources: FAO/GIEWS Food Price Data and Analysis Tool; Korea Agricultural Marketing Information Service (KAMIS); Japan Ministry of Agriculture, Forestry and Fisheries; U.S. Bureau of Labor Statistics (BLS); Associazione Industrie Risiere Italiane (AIRI). Please note that prices shown are comparable over time, but not across countries, as they may refer to different stages of the marketing chain (e.g. retail versus wholesale prices), different rice types (e.g. aromatic versus non-aromatic) or different qualities of rice (e.g. fully broken versus 5% broken).

OILCROPS, OILS AND MEALS ¹

Major Oilseed Exporters and Importers



PRICES ²

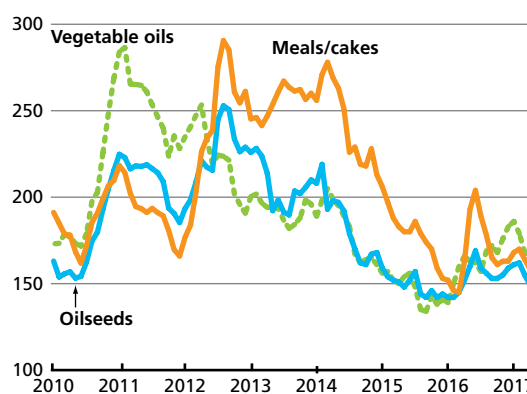
Prices for oilseeds and derived products under downward pressure

After temporarily strengthening during the initial months of the 2016/17 (October/September) season, international quotations for oilseeds and derived products embarked on a downward trend towards February 2017, responding to an increasingly positive supply and demand outlook. By the end of April 2017, all three FAO price indices (tracking international oilseed, oilmeal and vegetable oil prices) had posted marked drops.

With regard to oilseeds, the drop in FAO's monthly price index towards February 2017 primarily reflects a sharp fall in international soybean values. The price decline was triggered by much improved prospects for South America's

2016/17 soybean harvest and indications that sowings for the United States' 2017/18 soybean crop could surge to unprecedented levels, which both pointed to increasingly abundant levels of global supply. At the same time, rapeseed quotations also started easing on account of larger than anticipated old-crop supplies and indications that global production would recover in 2017/18. As for meals/cakes, the recent slide in FAO's oilmeal price index mainly reflects two developments: i) the fact that global soybean crushing was predominantly oriented towards

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 one 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 Appendix table 23.

Figure 2. FAO monthly price index for oilseeds (2002-2004=100)

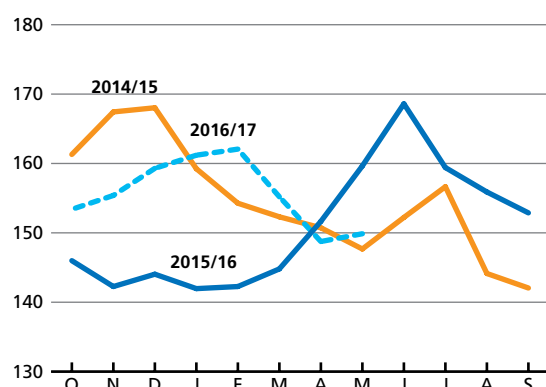


Figure 3. FAO monthly price index for oilmeals/cakes (2002-2004=100)

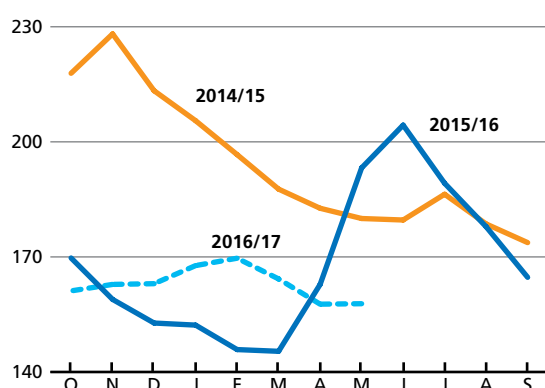


Figure 4. FAO monthly price index for vegetable oils (2002-2004=100)

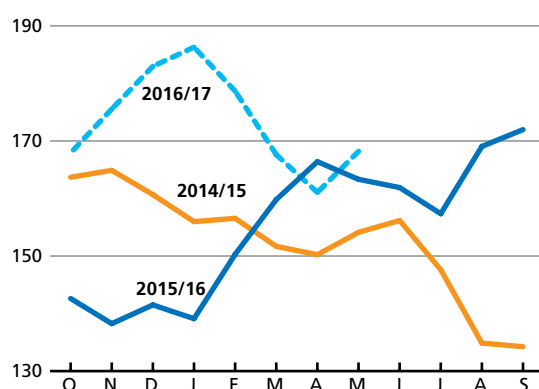
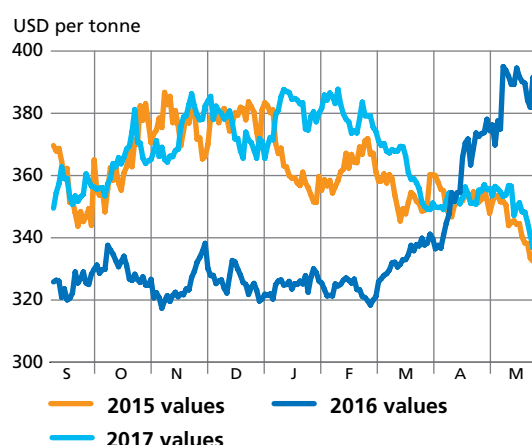


Figure 5. CBOT soybean futures for September



oil production (to compensate for poor output of other vegetable oils), which inevitably led to a surplus in soy meal stocks; and ii) rising competition from attractively priced feed grains. As regards *oils/fats*, the sharp drop in FAO's price index for vegetable oils from February onward was prompted by the concurrence of: i) firm gains in palm oil output, which eased the former tightness in global supplies; ii) an acceleration in global soybean crushing; iii) a deceleration in global import demand; and iv) slower vegetable oil uptake by biodiesel producers.

The much improved and possibly excessive supplies in 2016/17, along with first indications of a possible repeat of bumper oil and meal outputs in 2017/18, suggests that prices in the oilcrop complex could ease further over the coming months. The recent contraction in the Chicago Board of Trade (CBOT) futures prices for soybeans points into the same direction, showing that, from mid-April 2017 onward, contracts traded below last year's corresponding values.

OILSEEDS

Record 2016/17 production confirmed

After last season's contraction, global oilseed production is expected to leap to an all-time high in 2016/17, owing primarily to outstanding yield levels. Much of the anticipated rise would be on account of soybean, followed, at some distance, by sunflowerseed, groundnut, cottonseed and palmkernel. Rapeseed production, by contrast, is bound to drop for the third consecutive year.

Global *soybean* production is forecast to climb by a whopping 35 million tonnes, driven almost entirely by yield improvements. In the Northern Hemisphere, production has expanded in all key producing countries, led by the

United States, which, at over 117 million tonnes, is set to remain the world's top producer. Owing to near-ideal growing conditions, US average yields climbed to 3.5 tonnes per hectare. Record or near-record yields have also driven production gains in **Canada**, **India**, the **EU** and the **CIS**. In **China**, by contrast, higher production has been achieved through an expansion in plantings, as soybean growers enjoyed increased support payments relative to producers of competing crops, notably maize. In South America, production is anticipated to more than recover from last season's drop, probably climbing to an all-time record. The rise will be led by **Brazil**, with output pegged at 113 million tonnes, as exceptionally favourable growing conditions boosted yields. However, in **Argentina**, output could plateau at last year's level due to lower plantings and because excessive rainfalls towards the end of the growing season may leave up to 1 million ha unharvested.

World rapeseed production could slide to a four-year low. Production has dropped in the **EU** and **China**, fuelled by, respectively, adverse weather and lower plantings. In **Canada**, where record yields have offset a contraction in area, production remained virtually unchanged. By contrast, output in **Australia** and **India** received a boost from high yields, which, in India's case, was helped by a rebound in plantings.

Underpinned by records in both sowings and yields, global sunflowerseed output is heading towards an all-time high. Production has expanded in the major producing countries, with **Ukraine** and the **Russian Federation** taking the lead. While in the **EU** beneficial weather conditions facilitated a recovery in output, in **Argentina** the effects of adverse weather should be offset by larger sowings.

Table 1. World production of major oilcrops

	2014/15	2015/16	2016/17 f'cast	Change 2016/17 over 2015/16
	million tonnes			%
Soybeans	319.8	314.6	349.8	11.2
Rapeseed	71.1	70.1	69.6	-0.7
Cottonseed	45.3	37.6	39.9	6.0
Groundnuts (unshelled)	38.1	37.9	41.4	9.3
Sunflower seed	41.7	43.0	48.0	11.4
Palm kernels	15.4	14.6	16.1	10.1
Copra	5.8	5.4	5.8	8.2
Total	536.9	523.0	570.3	9.0

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.

Global groundnut output is also pegged to achieve a record-high, following a strong rebound in plantings combined with yield improvements. In the world's two leading producers, **China** and **India**, crops benefitted from both larger plantings and good weather, offsetting losses in the **United States**, where output dropped on reduced sowings as well as hot and dry weather. As to cottonseed, considerable production gains are reported from the **United States**, **Brazil**, **Pakistan** and **Australia**, although output is likely to remain flat in the two leading producers, **China** and **India**. Global palmkernel and copra outputs are expected to recover from last season's multi-year lows, with improvements concentrated in Southeast Asia.

OILS AND FATS ³

Global oils/fats production to resume growing in 2016/17

The above crop estimates translate into a 7 percent expansion in global oils/fats production in 2016/17. Palm oil and soyoil are expected to expand the most, followed by sunflower, palmkernel and groundnut oils – while rapeseed oil could see a third consecutive contraction and olive oil could be subject to a cyclical setback. Palm oil production, which posted losses in 2016 due to *El Niño*, is set to rebound in 2017 as palms in **Indonesia** and **Malaysia** recover from the protracted effects of dry weather in 2015–2016. The recovery is expected to be more pronounced in Indonesia, with domestic output climbing to a new record, while in Malaysia production might merely return to the level of two years ago.

Global oils/fats supplies, which comprise 2016/17 production and 2015/16 ending stocks, are forecast to post a 4 percent year-on-year gain, with reduced carry-in inventories limiting growth. Domestic availabilities are envisaged to expand in several major producing countries, in particular **Brazil**, **Indonesia**, the **United States** and **Malaysia**, but also in **India**, the **Russian Federation**, **Australia** and **Ukraine**. On the other hand, sizeable contractions are expected in the world's two leading oils/fats importers – the **EU**, where domestic availabilities are forecast to drop to multi-year lows on subdued production and lower carry-in stocks, and **China** because of reduced opening stocks. Modest supply contractions are also expected in **Argentina** and **Canada**, underpinned by low carry-in stocks.

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

Table 2. World oilcrop and product market at a glance

	2014/15	2015/16	2016/17 f'cast	Change: 2016/17 over 2015/16
million tonnes			%	
TOTAL OILCROPS				
Production	548.8	534.6	581.6	8.8
OILS AND FATS ¹				
Production	210.9	205.6	220.6	7.3
Supply ²	247.2	244.4	254.7	4.2
Utilization ³	205.5	211.5	216.9	2.6
Trade ⁴	114.5	115.3	121.6	5.4
Global stock-to-use ratio (%)	18.9	16.1	16.5	
Major exporters stock-to-disappearance ratio (%) ⁵	10.9	9.7	10.4	
MEALS AND CAKES ⁶				
Production	141.2	137.8	151.8	10.2
Supply ²	162.8	163.9	176.6	7.8
Utilization ³	133.4	139.0	146.1	5.1
Trade ⁴	86.7	90.4	95.7	5.8
Global stock-to-use ratio (%)	19.5	17.8	19.5	
Major exporters stock-to-disappearance ratio (%) ⁷	11.1	10.8	12.9	
FAO PRICE INDICES (Oct/Sept) (2002-2004=100)				
	2014/15	2015/16	2016/17 (Oct-May)	Change: Oct-May 2017 over Oct-May 2016 %
Oilseeds	155	151	156	6.2
Oilmeals/cakes	194	168	163	1.8
Vegetable oils	153	155	174	15.6

Note: Refer to footnote 1 on page 34 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.

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, the United States and Uruguay.

Growth in oils/fats consumption to remain subdued in 2016/17

Global consumption of oils/fats is expected to post – for the second year in succession – a relatively modest year-on-year increase of 2.5 to 3 percent. Limited supplies and protracted slow economic growth in a number of countries continue to contain global demand expansion. With regard to individual oils, soy and palm oils are set to lead consumption growth. Soy oil uptake is expected to expand the most, supported by record supplies and price discounts relative to other vegetable oils. Palm oil consumption is

envisaged to expand at below-average rates, reflecting subdued supply growth and smaller than usual price discounts. Sizeable growth is also expected for sunflower and groundnut oils, given pronounced production gains in the respective seeds. Conversely, the consumption of rapeseed oil, the world's third most consumed oil, could remain flat due to the persistent supply tightness.

In general, population and income growth remain the key drivers behind the growing demand for oils/fats for traditional food and non-food uses. Demand by the biodiesel industry is expected to play a more limited role compared with past years, hence contributing to weaker overall growth. In 2017, increases in mandatory consumption targets and blending rates for biodiesel are expected to be less pronounced and will concern only a few countries, notably the **United States**, **Brazil** and, possibly, **Malaysia**. Moreover, in a number of countries, support measures for biodiesel producers are being reviewed, while in others, barriers to trade in biodiesel remain in place or are under consideration – raising uncertainty among market players. Furthermore, persistently high price premiums of vegetable oils relative to mineral oil continue to erode the profitability of discretionary blending of diesel with vegetable oil-based biodiesel.

Developing nations in Asia continue to drive growth in oils/fats consumption, with sustained economic growth prevailing in the region as a whole. Consumption gains are led by **India**, which enjoys steady economic growth and rising domestic oils/fats supplies. As a result, India, as well as other Asian countries, could see further improvements in per caput consumption. In **Malaysia** and **Indonesia**, where total uptake suffered a setback last year, consumption is seen expanding as higher domestic availabilities trigger fresh demand for industrial uses. In **China**, by contrast, consumption expansion could be tempered – for the second consecutive year – by weaker economic growth. Elsewhere, bumper supplies are envisaged to support higher usage in **Brazil** and the **United States**. In other developed countries, growth rates should linger around 1 percent, except in the **EU** and **Canada**, where lower domestic availabilities could result in contractions.

Global inventories of oils/fats to expand moderately

Unlike last season, when a shortfall of global production relative to demand led to a contraction in inventories, in 2016/17, a production surplus should permit a rebuilding of stocks. Year-on-year, ending stocks (including the oil contained in stored oilseeds) are forecast to rise by about 5 percent to 35.8 million tonnes. Commodity-wise, sizeable replenishments in palm and soy oil stocks are expected to

Figure 6. Global production and utilization of oils/fats

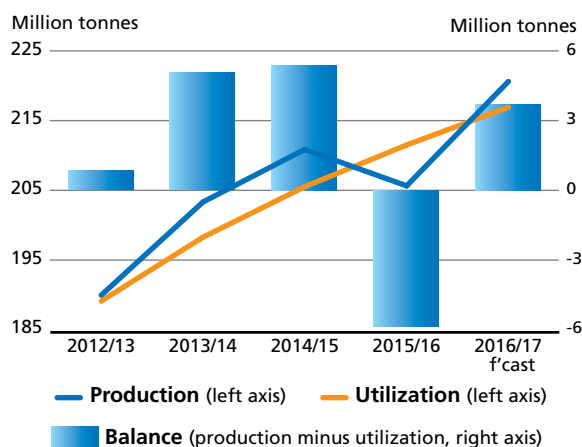
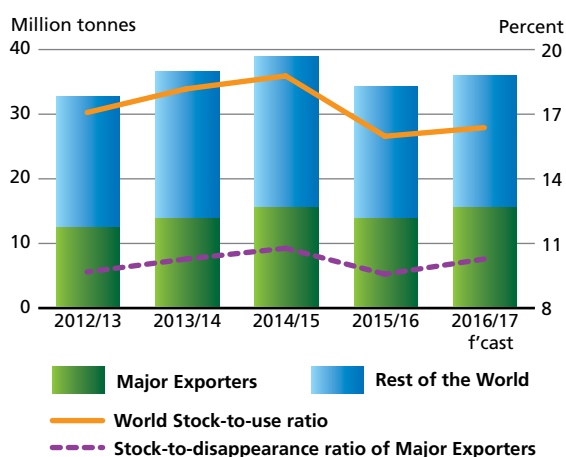


Figure 7. World stocks and ratios of oils/fats (including the oil contained in seeds stored)



offset further drops in rapeseed oil reserves. Yet, global palm oil stocks are envisaged to recover only partially from last year's decline.

At country level, increased domestic production should facilitate stock accumulations in the **United States, Brazil, Malaysia** and **India**, which, together, could more than outweigh drawdowns anticipated elsewhere. In **China, Canada, Argentina**, the **EU** and **CIS** countries, lower or flat domestic output is expected to trigger stock releases to help meet domestic demand or support exports.

The above forecasts would permit a modest improvement in the global stock-to-use ratio for oils/fats in 2016/17 to a level 16.5 percent. This, together with a more pronounced gain in the stock-to-disappearance ratio

for the major exporting countries⁴, points to downward pressure on international oils/fats prices.

Growth in global oils/fats trade to resume

In 2016/17, growth in world trade of oils/fats (including the oil contained in traded oilseeds) is expected to resume, posting a 5 to 6 percent increase to 121.6 million tonnes – as opposed to last year, when a slide in palm oil shipments drove year-on-year export growth below 1 percent.

The expansion in trade will be led by palm, soy, sunflower and rape oils. However, in the case of palm oil, the world's most widely traded oil, global transactions may only partially recover from last year's decline, considering that i) the oil's relatively high price is weighing on import demand, and ii) production gains in **Malaysia** and **Indonesia** are also used to replenish stocks and satisfy local demand. Conversely, global transactions in soy, rape and sunflower oils could hit new records, aided by abundant supplies and lower than usual price premiums relative to palm oil.

Import growth should again concentrate in developing countries, notably in Asia. While in **China**, a drop in domestic supplies has already prompted higher imports, **India's** purchases may grow only slightly given this season's bumper crops. Sustained import growth is envisaged elsewhere in Asia as well as in Africa. In the **EU** and other developed countries, only modest rises are expected, reflecting lacklustre consumption growth.

Regarding exports, gains in domestic oils/fats output are expected to bolster sales by **Indonesia, Brazil**,

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

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

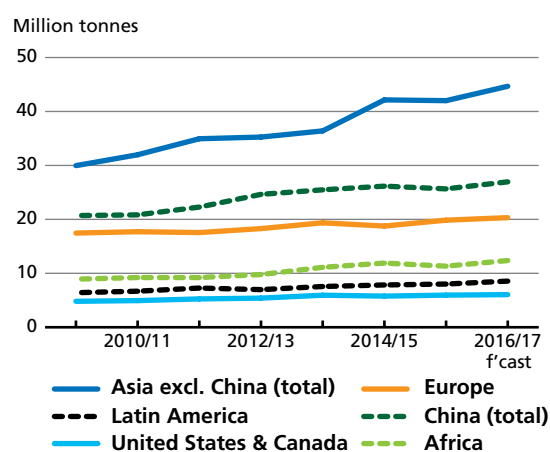
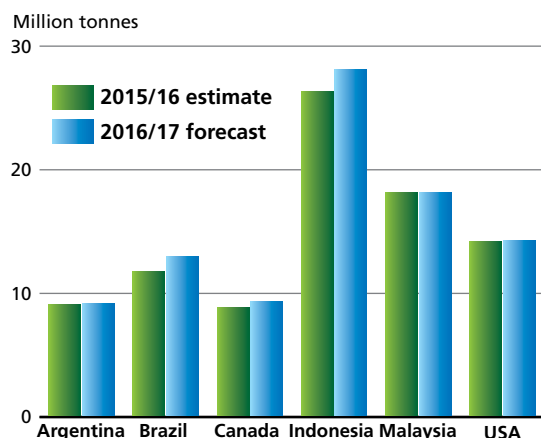


Figure 9. Oil/fat exports by major exporters (including the oil contained in seed exports)



Ukraine, the **Russian Federation** and **Australia**, whereas higher deliveries in **Canada** would mainly rest on stock drawdowns. Shipments by **Malaysia** and **Argentina** could remain flat, reflecting, respectively, increased local requirements (including the need to replenish stocks), and stagnating domestic production. Sales by the **United States** are forecast to remain close to last year's all-time high.

MEALS AND CAKES ⁵

Global supplies up in 2016/17, aided by large opening stocks

Based on current crop forecasts, global meal/cake production would more than recover from last season's setback. The anticipated 10 percent rise would rest strongly on higher soybean meal output. While significant gains are also envisaged for sunflower, groundnut, palmkernel and fish meals, production of rapeseed meal is forecast to contract further.

Global oilmeal supplies, which also include 2015/16 carry-over stocks, are seen expanding by 8 percent. Underpinned by bumper harvests, extraordinary gains are expected in **Brazil**, **India** and the **United States**, as well as in some smaller producers, including **Uruguay**, **Paraguay**, **Australia** and **CIS** countries. By contrast, domestic availabilities should shrink in **China** and the **EU**, reflecting, respectively, reduced carry-in stocks and lower crop outturns.

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 also included.

World meal consumption to expand further in 2016/17

Global meal/cake consumption is forecast to hit a new record in 2016/17, with a slight acceleration in annual growth compared to last season. Consumption continues to be supported by expanding demand from the livestock sector. However, similar to last season, the availability of bumper feed grain and DDGS (distiller's dried grains with solubles) supplies will continue to weigh on meal consumption growth. Much of the anticipated expansion would come from soybean meal, given record-high availabilities. On the contrary, consumption of rape- and cottonseed-meal should contract on lower availabilities.

Developing countries in Asia remain the main engine of overall consumption growth, and the largest year-on-year rise is expected in **China**, the world's leading meal consuming country. Interestingly, although China's total meat production may contract in 2017, the uptake of meals by the country's pig and poultry sectors is forecast to expand further, given the on-going shift from small-scale backyard production to industrial-scale compound feed-based rearing methods. In addition, quality issues with the country's feed grain supplies could provide separate support to meal demand. Elsewhere in Asia, consumption is expected to expand at average or above-average rates, including in **India**, **Pakistan**, the **Philippines**, **Thailand**, **Turkey** and **Viet Nam**. Higher consumption is also envisaged in **Brazil** and **Argentina**, spurred by record high domestic availabilities, whereas, in the **United States** and the **EU**, demand growth should be constrained by burgeoning feed grain supplies.

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

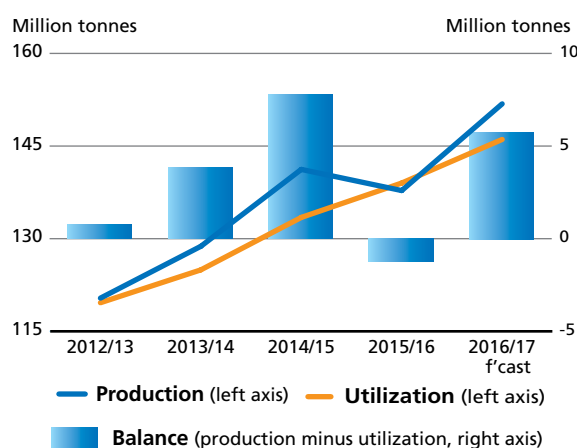
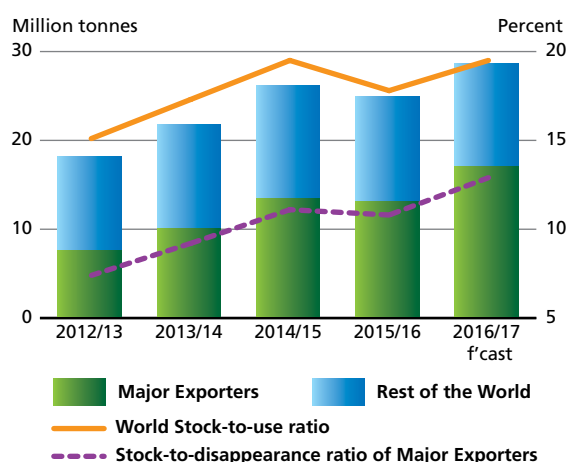


Figure 11. World stocks and ratios of meals/cakes (in protein equivalent and including the meal contained in seeds stored)



Global inventories possibly hitting new record

In 2016/17, meal output is expected to outstrip consumption – the reverse of last year, when global production fell short of demand. If confirmed, the portended production surplus should prompt a surge in global end-of-season inventories. In particular, reserves of the world's leading protein meal, soymeal, are forecast to swell to unprecedented levels. Estimated at 56 million tonnes (including the meal contained in stored soybeans), soymeal carry-over stocks would exceed the level recorded in recent years by a considerable margin. Reserves of all other meals, including fishmeal, are also set to rise – with the exception of rapeseed meal, whose stocks could contract further.

Stock replenishments will be concentrated in the **United States** and **Brazil**, where bumper crops are set to boost domestic reserves. In both countries, carry-over inventories could almost double compared with last year, marking multi-year highs. Those increases should by far offset the reductions expected in **Argentina** and the **EU**, where stock drawdowns are required to cover for reduced domestic supplies.

Based on the above forecasts, marked improvements are expected in both the global stock-to-use ratio and the stock-to-disappearance ratio for the major exporters⁶, thus providing scope for international oilmeal prices to weaken.

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

Global meal trade to expand further

International trade in meals/cakes – including the meal contained in traded oilseeds – is estimated to post an about-average 6 percent increase in 2016/17. Thanks to large supplies and competitive prices, soybean meal is expected to lead the expansion, aided by rape, sunflower and fish meals.

With regard to imports, Asian countries continue to dominate the market – with **China** alone accounting for one-third of global imports. To satisfy fast growing domestic demand and given stalling domestic supplies, China's meal imports (mostly in the form of whole soybeans) are forecast to expand by around 8 percent. Robust import growth is also anticipated in other parts of Asia, where livestock industries tend to increasingly rely on imported meals. Elsewhere,

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

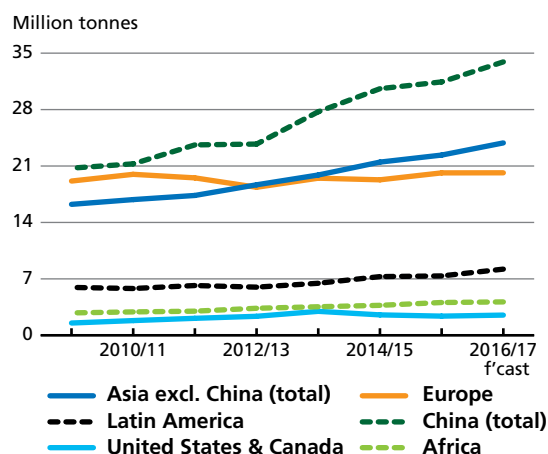
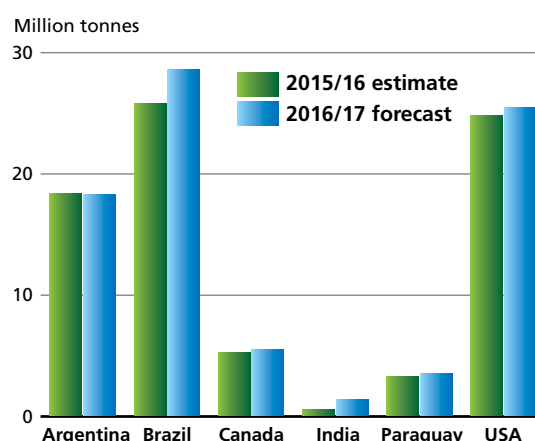


Figure 13. Meal/cake exports by major exporters (in protein equivalent and including the meal contained in seed exports)



purchases are envisaged to bounce up in **Argentina** (a net exporter of meals), as the Government simplified the procedures for importing soybeans destined for subsequent exportation in the form of meal and oil. As for developed countries, purchases by the **EU**, the world's second largest buyer after China, could stall in 2016/17, owing to the availability of large feedgrain supplies.

Export growth is expected to concentrate in South America, although sizeable increases are also likely in the United States, India and CIS countries. Bolstered by bumper soybean harvests, shipments by the world's top exporter, **Brazil**, could swell to 63.3 million tonnes (including the meal contained in soybean sales). Domestic supplies would support even larger shipments, but a relatively strong Real vis-à-vis the US dollar has affected the competitiveness of Brazil's exports. Also sales by the **United States**, the second largest exporter, are set to expand further, spurred by a record soybean harvest. Deliveries by the world's third largest supplier, **Argentina**, could stabilize around last year's record level, given the portended plateauing in domestic soy production. Elsewhere, domestic supply gains should support a rebound in shipments from **India**, **Ukraine** and the **Russian Federation**, while, in **Canada**, higher sales would depend on the release of old-crop inventories.

2017/18 PRODUCTION OUTLOOK

With the 2016/17 season still ongoing, it is too early to draw firm forecasts for world oilseeds supply and demand in 2017/18. Currently available information is limited to planting intentions in some Northern Hemisphere countries, where preparations for the next crop year have started.

While the current season's relatively ample supply-and-demand balance would suggest that there may be limited scope for increased oilcrop plantings in 2017/18, farmers' planting decisions will be strongly influenced by the price relationships between oilcrops and competing arable crops, notably coarse grains and wheat. Considering that the currently prevailing price structure tends to favour oilseeds over rival crops, a further expansion in global oilcrop sowings seems possible. However, such area expansions would not necessarily lead to corresponding rises in output because, based on the assumption of normal weather conditions, crop yields should revert to historic trend levels – as opposed to the peaks recorded in 2016/17.

With regard to individual crops, 2017/18 could see a recovery in global rapeseed production as well as further gains in groundnut, cotton, oil palm and coconut products. However, these gains could be offset by a drop in world soybean and sunflowerseed output. Global soybean production could trail behind the current season's all-time

record. The effect of additional area expansion in key producing countries – triggered primarily by a favourable soybean-maize price relationship – may well be outweighed by a retreat of average yields to trend values, a scenario that is particularly expected to apply to the **United States**, **Brazil** and **Paraguay**. Meanwhile, in **Argentina** and **India**, production could remain almost unchanged as area and yield effects might offset each other. Only in **Canada** and **China** production might expand on increased plantings, while yields could remain close to last year's average levels. Global sunflowerseed production may shrink from the current season's extraordinary result. Year-on-year changes are primarily expected in **Ukraine**, where contractions in both area and yields could drive down production, and the **EU**, where yield improvements, together with small gains in area, could facilitate a rebound in output. Global rapeseed output is expected to recover after three consecutive drops, possibly climbing to an all-time record. Sizeable production improvements are envisaged for **Canada** and **Ukraine**, underpinned by area gains, as well in the **EU**, owing to more favourable weather conditions. By contrast, **China's** rapeseed output could shrink further as farmers keep reducing plantings in response to cuts in public support, while **Australia's** output could decline as yields revert to trend levels. For both groundnut and cottonseed, it is predicted that potential output gains would concentrate in **China**, **India** and the **United States**. Normal weather conditions could also facilitate fresh production gains in coconut and, more importantly, oil palm products, with year-on-year gains in **Indonesia** and **Malaysia** projected at 5 to 6 percent.

Based on the above highly tentative forecasts, the world's aggregate 2017/18 oilcrop production would basically match the current seasons' record level. The new-season crop forecasts would translate into a record output of oils/fats (thanks mainly to palm and rapeseed oil), while global oilmeal production would fall slightly from the current season's peak. Assuming a continuation of current utilization trends, in 2017/18, global oil output would exceed demand for the second year in succession, possibly facilitating fresh replenishments in stocks and further improvement in fundamentals. By contrast, oilmeal production would fall short of global demand, requiring releases in inventories, in particular of high meal-yielding soybeans. However, thanks to record-high carry-over stocks of soybean and soymeal, the portended production deficit should not result in tighter oilseeds and product balances. Accordingly, the current outlook provides scope for international oilseed, oil and meal prices to stabilize at their current relatively low level during the coming months – barring unexpected supply shocks.

MEAT AND MEAT PRODUCTS

Major Meat Exporters and Importers



MEAT

The **FAO Meat Price Index** averaged 171.7 points in May, up 2.5 points, or 1.5 percent, from April, continuing a trend of modest increases evident since the start of the year. From January to May, the Index rose by almost 8 percent, with quotations for ovine and pigmeat recording the largest growth over the period, followed by poultry and bovine meat. Strong domestic and export demand stimulated pigmeat prices, particularly in the EU, while limited supplies bolstered ovine meat quotations. Poultry and bovine meat markets remained well-balanced. Overall, the May 2017 Meat Price Index was up 11 percent compared with May 2016.

Production stagnant, trade growth continues

World total meat production is anticipated to stagnate for a second year in a row in 2017, rising by a meagre 0.3 percent to 322 million tonnes. Output is expected to grow in almost all countries, particularly in the United States, Brazil, India and Argentina. However, a downturn in output in China should continue to weigh on the overall trend. Excluding China, aggregate meat production of the rest of the world would rise by 1.9 percent. By category, the largest growth in production is forecast for bovine meat, with marginal increases for poultry and ovine meat, and a slight fall for pigmeat.

Global trade in meat is forecast to register a second year of expansion in 2017, increasing by 2.5 percent

Figure 1. Modest recovery in international prices (2002-2004=100)

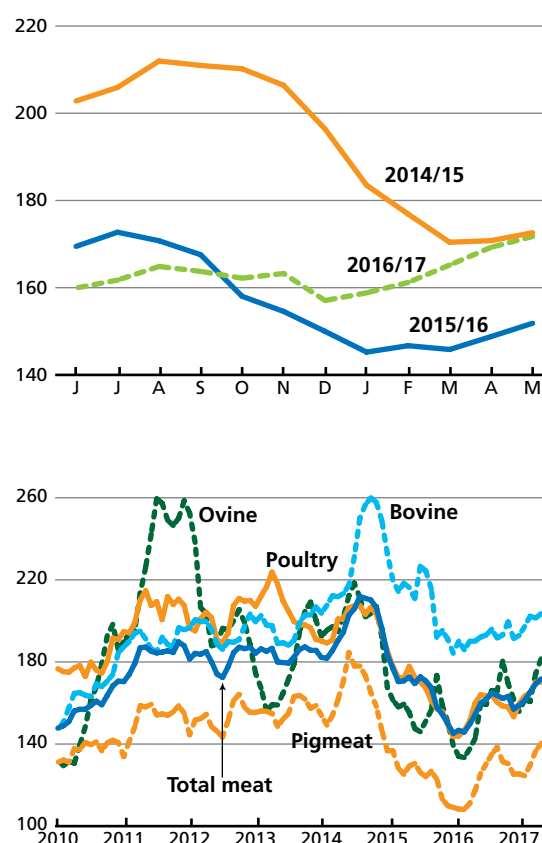


Table 1. World meat market at a glance

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
<i>million tonnes</i>			<i>%</i>	
WORLD BALANCE				
Production	320.5	321.0	322.0	0.3
Bovine meat	67.6	68.3	69.6	1.9
Poultry meat	116.9	117.2	117.7	0.4
Pigmeat	116.1	115.6	114.7	-0.8
Ovine meat	14.4	14.4	14.5	0.6
Trade	29.9	31.2	32.0	2.5
Bovine meat	9.2	8.9	9.0	0.8
Poultry meat	12.2	12.8	13.2	2.9
Pigmeat	7.2	8.3	8.6	4.1
Ovine meat	1.0	0.9	0.9	-2.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	43.5	43.1	42.7	-0.9
<i>Trade - share of prod. (%)</i>	9.3	9.7	9.9	2.1
FAO MEAT PRICE INDEX (2002-2004=100)				
	2014	2015	2016 <i>Jan-May</i>	Change: Jan-May 2017 over Jan-May 2016 %
	168	156	165	11.4

to 32 million tonnes. Trade in pigmeat is set to rise by 4.1 percent, poultry meat by 2.9 percent and bovine meat by 0.8 percent, compared with last year, while ovine meat trade may decrease by 2 percent. Increased meat imports are expected, particularly in China, but also in Mexico, Chile, the Republic of Korea, Japan, the Philippines, the United Arab Emirates, Viet Nam, Iraq and Singapore. By contrast, growth in domestic production may result in reduced purchases by the United States and the Russian Federation, with Egypt, Angola and Saudi Arabia also anticipated to buy less. The expansion in world exports is projected to be led by the United States and Brazil, followed by Canada, Thailand and Argentina, with sales also rising for the EU, Mexico, Ukraine, Chile and Belarus. Meanwhile, exports by Australia, China, New Zealand and India are likely to decline.

BOVINE MEAT

Production: growth in the Americas

Bovine meat production in 2017 is forecast to grow by 1.9 percent from last year, to 69.6 million tonnes, a second year of increase after the stagnation that prevailed from 2013 through 2015. Substantial output increases are anticipated in the **United States** and **Brazil**, with

production also expected to rise in **Argentina**, **China** and the **EU**. Meanwhile, output could fall in **Australia**, **New Zealand** and the **Russian Federation**.

In *Latin America and the Caribbean*, recovery in production is anticipated following extreme weather conditions stemming from *El Niño*, which brought exceptionally dry conditions to some parts of the region in 2015 and 2016, while others experienced excessive rainfall and flooding. Weather conditions were generally more favourable in 2017 and, as a consequence, overall output is expected to rise by almost 2 percent. In **Brazil**, a favourable international market encouraged producers to expand herds, even though domestic demand remained subdued. Production is predicted to rise by 2.3 percent, due to a rise in slaughter rates and to improved pastures and falling feed prices that led to increased finished weights. In **Argentina**, a 4.2 percent rise in output to 2.8 million tonnes is predicted as a four-year period of herd expansion comes to an end, with offtake of cattle increasing, pasture conditions improving following extensive flooding in 2016, and feed prices dropping. Production in **Uruguay** is also projected to increase, due to increased offtake as herd rebuilding ends. In neighbouring **Paraguay**, herd expansion is projected to result in unchanged production. Bovine meat production in **Mexico** is expected to be slightly up on last year, as heavier carcass weights should more than offset a decline in cattle slaughtered.

In *Asia*, subdued international demand for buffalo meat is forecast to slow the growth of bovine meat production in **India**. However, there remains latent potential to raise offtake, owing to dairy herd expansion providing a pool of older dairy buffaloes for potential slaughter. In **China**, bovine meat production is anticipated to rise a further 1.4 percent from last year to 7.1 million tonnes. Stable domestic prices have attracted investment into cattle farming, while low returns from milk production are predicted to encourage further liquidation of the dairy herd. Elsewhere, output is forecast to rise in the **Republic of Korea**, as weaker domestic prices could lead farmers to advance cattle slaughter. Output in **Japan** is anticipated to be little changed, due to heavier slaughter weights compensating for a decline in cattle offtake. In *Africa*, poor pasture conditions persist in large parts of **Kenya**, **Somalia**, **Ethiopia** and **Tanzania** – due to inadequate precipitation during the October to December 2016 rainy season – and are forecast to impinge on production. Meanwhile, bovine meat output in southern Africa may rise in a number of countries, including **Malawi**, **South Africa** and **Zambia**, as abundant seasonal rains have led to improvements in pastures, animal condition and feed supplies, alleviating some of the effects of the previous chronic drought.

In *North America*, bovine meat production in the **United States** is forecast to reach a 9-year high of 12.1 million tonnes, an increase of 5.1 percent, because of increased slaughter and heavier carcass weights. In **Canada**, little growth in cattle numbers is anticipated, after substantial growth last year indicated the possible beginning of a phase of herd rebuilding. A decrease in carcass weights could constrain production growth in 2017, which is forecast to remain at slightly above 1.2 million tonnes.

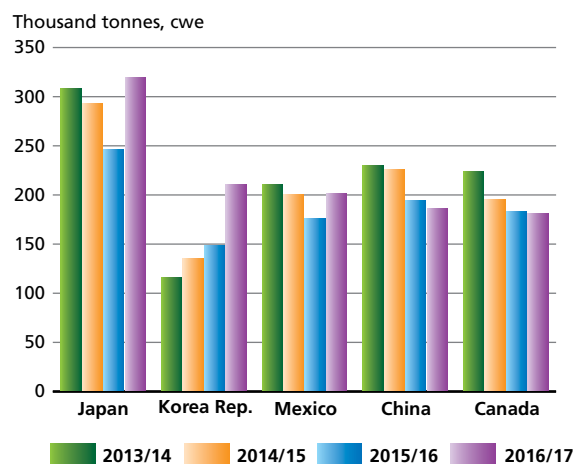
Australia is set to enter a phase of herd rebuilding in 2017, which, in spite of heavier carcass weights, is predicted to result in bovine meat output falling by 3 percent, to 2 million tonnes. Likewise, in **New Zealand**, slaughter numbers are expected to fall and bovine meat production may drop by 4.5 percent to 588 000 tonnes. Additionally, improved milk pay-outs have halted the process of exacerbated culling of the dairy herd which occurred in the previous two years, prompted by depressed international prices for dairy products.

In the **Russian Federation**, 2017 bovine meat output may drop by almost 2 percent to 1.6 million tonnes, as a result of poor profitability discouraging investment and leading to herd reduction. Production could rise 1.2 percent in the **European Union**, where continued restructuring in the dairy industry is generating an increase in cattle for slaughter.

Trade: modest increase foreseen

After two years of decline, world trade in bovine meat in 2017 is anticipated to increase, growing by a modest 0.8 percent to 9.0 million tonnes. Expanded sales are forecast to be concentrated in the *Americas*, notably the **United States**, **Argentina**, **Canada**, **Brazil** and **Mexico**, while shipments by the **EU** and **South Africa** could also rise. Impetus from these countries is projected to more than compensate for diminished sales by **Australia**, **New Zealand** and **India**. Robust growth in trade is anticipated for the United States, which could see shipments increase by 6.5 percent to 1.3 million tonnes, underpinned by a combination of a rise in domestic production, augmenting export supply, and reduced competition from *Oceania* in its traditional overseas markets, including the Republic of Korea and Japan. **Brazil** is also forecast to increase its exports, based on an expected increase in production and limited growth in domestic demand. Deliveries by **Australia** and **New Zealand** are forecast to fall for a second year, both dropping around 5 percent from 2016 levels, concomitant on herd retention reducing offtake. **India's** bovine meat exports are expected to remain around 1.6 million tonnes in 2017.

Figure 2. Bovine meat exports: US major markets (April-March)



Among bovine meat importers, the surge in purchases by **China** is expected to remain the main motor driving demand. Elsewhere in Asia, expansion in imports is projected for **Japan**, the **Republic of Korea** and the **Islamic Republic of Iran**, while purchases by **Chile**, **Mexico** and the **EU** could also grow. A second year of markedly reduced imports by the **United States**, combined with decreases by **Egypt**, **Viet Nam**, **Canada** and the **Russian Federation**, would somewhat counterbalance the generally positive trade outlook. In China, imports in 2017 could reach 1 575 000 tonnes, a rise of over 12 percent, pursuant to a 16 percent increase in 2016. Most of the increase in China's imports is forecast to be met by supplies from *South America*, especially **Brazil**, but also **Argentina** and **Uruguay**. Countries from this region are reaping the benefits of bilateral animal health protocols, vastly improving access to China's market, and from reduced competition from *Australia*. Meanwhile, 2017 purchases by the United States are forecast to fall a significant 11 percent to 1 080 000 tonnes, subsequent to a 13 percent drop in 2016, all owing to a continuous rise in domestic output and a considerable reduction in export availability from *Oceania*, its principal source of external supply.

PIGMEAT

Production: decline continues

World production of pigmeat is forecast to decline slightly in 2017, dropping by 0.8 percent to 114.7 million tonnes, marking a third year of reduced output. **China**, the predominant producer, accounting for almost half of the world total, continues to exert an overwhelming influence on

the outlook. The enforcement of environmental regulations has caused farms within highly urbanized regions of China to either close or relocate. Consequently, the country's pigmeat production is projected to fall by 3.9 percent to 49.8 million tonnes. This would constitute the third annual drop in output, representing an overall decline of 10 percent since 2014. The ongoing restructuring of the pigmeat industry in China will provide the foundation for future expansion through enhanced efficiency and greater economies of scale. Staying in Asia, production growth is forecast for **Viet Nam**, the **Philippines** and the **Republic of Korea**, while in **Japan** output is projected to remain stable.

Elsewhere, a third year of growth is foreseen for the **United States**, where production could rise by 4.6 percent to 11.8 million tonnes. Output in **Mexico** is also forecast to expand and could rise by almost 3 percent to 1.4 million. International demand is projected to boost production in **Brazil** and **Canada**. In the **Russian Federation**, continued growth in pigmeat production is anticipated. As the country moves closer to fully meeting domestic demand, output could expand by almost 5 percent to 3.6 million tonnes, based on growth in large-scale production and improved feed efficiency. Despite favourable domestic and international demand, production in the **European Union** is likely to be essentially unchanged, at 23.3 million tonnes, owing to a decline in breeding sow numbers limiting the supply of piglets. Meanwhile, output in **Ukraine** may drop because excess production in 2016 caused prices to fall and reduced profitability.

Trade: vibrant

Trade in pigmeat is set to record a further year of growth in 2017, increasing by as much as 4.1 percent to an historical

high of 8.6 million tonnes. A third year of exceptional imports by **China** is projected to be the main engine of growth in pigmeat trade. The country, which replaced Japan as the principal international market for pigmeat in 2015, could see its purchases increase by 12 percent, attendant on reduced domestic production. Increased imports are also anticipated for **Japan**, **Mexico**, the **Republic of Korea** and the **Philippines**, while those of the **Russian Federation**, the **United States**, **Angola** and **Viet Nam** are forecast to fall.

Buoyant world import demand is forecast to stimulate exports by the **United States**, **Brazil** and **Canada**, while supply limitations could mean that shipments by the **EU** would be similar to last year. Sales by the United States are projected to increase by 8.4 percent, to 2.5 million tonnes, centred on rising trade with China and Mexico, among others. Brazil is anticipated to see its exports increase by 10 percent, stemming from greater trade with Asia, especially China, but also with neighbouring Chile, Argentina and Uruguay. For Canada, a swell in sales to China is predicted to more than compensate for reduced shipments to the United States, leading to an overall 3.6 percent increase in the country's pigmeat exports. In Canada, the recent industry-wide elimination of the use in feed rations of *ractomine*, a beta-agonist compound that promotes leanness and which is banned in many countries, has opened up additional opportunities for trade, including exports to China where pigmeat imports are required to be certified as ractomine-free. In 2015 and 2016, the EU experienced a phenomenal escalation in sales to China, which surged by over 80 percent annually. However, a lack of production growth in the EU would curtail its potential to provide additional supplies in 2017, and exports are

Figure 3. Favourable price/feed relationship for pig and poultry meat producers

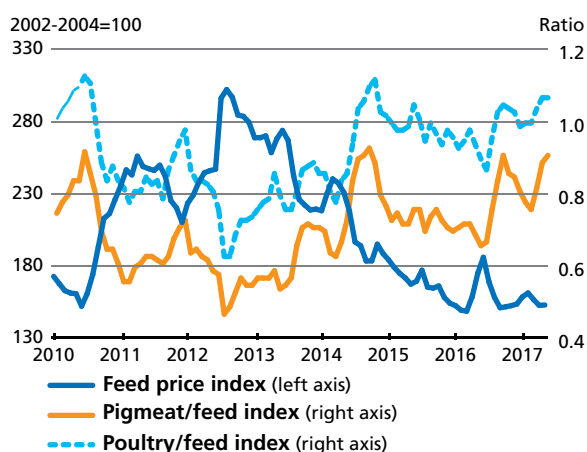
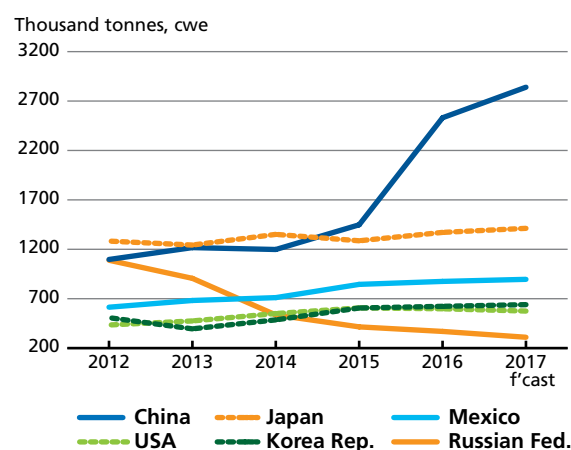


Figure 4. Pigmeat: Major importers



predicted to remain unchanged at 3.1 million tonnes. Nevertheless, the EU would remain the main world exporter of pigmeat, followed, in order of magnitude, by the United States, Canada and Brazil.

POULTRY MEAT

Production: limited expansion

Limited growth is projected for poultry meat production in 2017, with global output forecast to increase by a mere 0.4 percent to 117.7 million tonnes. Outbreaks of *Highly Pathogenic Avian Influenza* (HPAI) in 2016/17, combined with reduced producer returns in several countries, are expected to dampen growth. Nevertheless, the modest increase at the world level obscures the fact that, excluding China, output elsewhere is forecast to expand by 2 percent. Substantial increases in output are anticipated in **Brazil** and the **United States**, but also in **India**, **Thailand** and the **EU**, along with most other countries. In general, rising consumer demand, in part due to price differential between poultry and other types of meat, provides

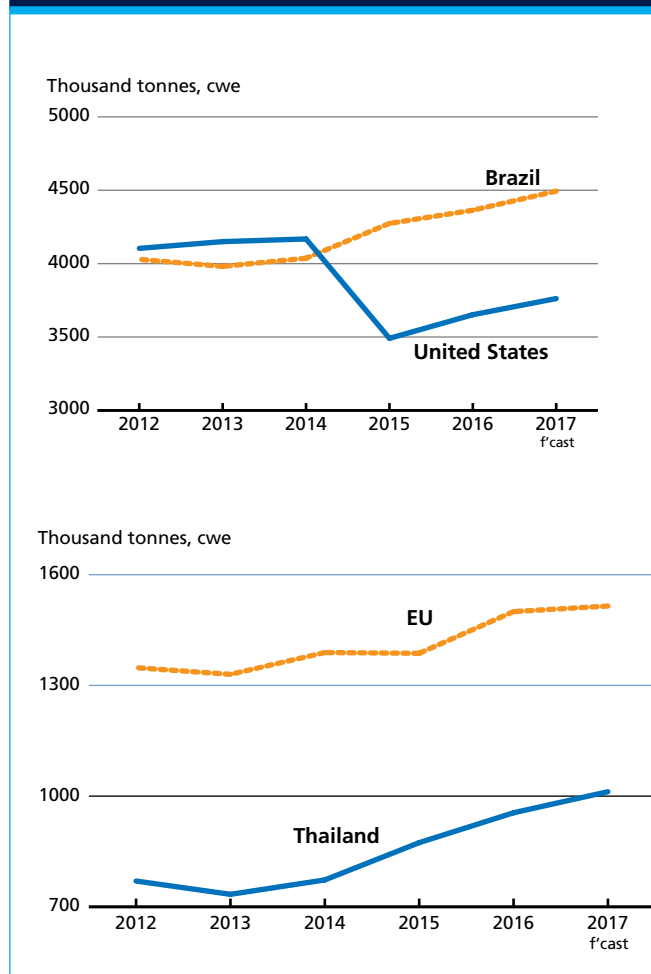
the basis for increased output. A notable exception is **China**, where output is forecast drop substantially for the second consecutive year and could fall by 10 percent to 15.5 million tonnes, to hit its lowest level since 2007. The difficulties of the poultry industry in China stem from HPAI, which has limited both the production and marketing of autochthonous poultry breeds, suppressed consumer demand and – due to import restrictions of breeding stock from countries not accepted by China as being HPAI-free – impinged on commercial broiler production. Elsewhere, production of poultry meat in the **Russian Federation** is foreseen to be little changed, with industry expansion restrained by a combination of stagnant domestic demand, reduced profitability and limited export possibilities owing to HPAI outbreaks.

Trade: continued growth

Trade in poultry meat in 2017 is forecast to grow by 2.9 percent to 13.2 million tonnes. Reduced domestic production is anticipated to generate further import growth in **China**, where purchases could rise by 4.9 percent to 1.7 million tonnes, accounting for almost 40 percent of the projected expansion in world trade. Affordability and rising domestic consumption are important factors in anticipated growth in other markets, including **Viet Nam**, **Mexico** and **Chile**. The same factors should stimulate increased imports in the **United Arab Emirates**, the **Philippines**, **Iraq**, the **Republic of Korea** and **Singapore**. In **Japan**, utilization of accumulated stocks is expected to lead to poultry meat imports falling, while in **South Africa**, HPAI-related import prohibitions may result in a decline in purchases. Imports by the **Russian Federation** are also forecast to drop, as national production is almost fully able to satisfy domestic demand and the continuation of its country-specific trade embargo limits sources of external supplies. Reduced imports are also projected for **Saudi Arabia** and **Angola**.

Brazil is forecast to be the major beneficiary of rising international demand for poultry meat, with its exports forecast to expand by 3 percent to 4.5 million tonnes. Brazil's HPAI-free status provides it with access to markets denied to its main competitors, the United States and the EU, especially China. Sales by Brazil to China are expected to experience a second buoyant year, with exports to Iraq, South Africa, Mexico and the Republic of Korea also likely to rise. Despite a confirmed case of HPAI in the **United States** in March – meaning that animal-health-related trade restrictions could limit access to some markets – shipments in 2017 are projected to expand by 3 percent to 3.8 million tonnes, based on rising domestic production and general international acceptance of state-level, rather than countrywide, HPAI-related import

Figure 5. Poultry meat exports: Brazil reconfirms lead



prohibitions. Exports by the **European Union** are projected to be little changed, up 1 percent from 2016, due to firm domestic demand, a limited rise in output and HPAI-related trade restrictions. In **Thailand**, where export growth in the previous three years averaged 9.2 percent per year, a further year of expansion is foreseen, with sales expected to rise by 6 percent to exceed 1 million tonnes for the first time. Thailand's main markets are Japan and the EU, which together account for two-thirds of the country's poultry meat exports. Products shipped consist of deboned chicken parts, mainly cooked and prepared to the specific requirements of the client. Exports by **Ukraine, Argentina, Turkey, Canada** and **Chile** could also increase. Meanwhile, shipments by **China** are forecast to fall by 6.4 percent to 381 000 tonnes, owing to production constraints limiting availability.

OVINE MEAT

Production: continued modest growth

Production of ovine meat has grown little in the last few years, a trend likely to continue in 2017, with output forecast to increase by 0.6 percent to 14.5 million tonnes.

Developing countries account for over 80 percent of the total, with the largest producers in this grouping being **China, India, Pakistan** and **Nigeria**. China has recorded steady growth in output in recent years, based on herd expansion and productivity gains. In the **European Union**, output is projected to record a small increase in 2017. Meanwhile, in *Oceania*, lower output is foreseen in **Australia** where herd rebuilding has reduced the number of lambs slaughtered, while in **New Zealand** a decline in the herd size is projected to result in a fall in output.

Trade: contraction continues

World trade in ovine meat is forecast to contract by 2 percent in 2017, to 902 000 tonnes, principally reflecting reduced shipments by **Australia** and **New Zealand**. Australia is projected to record a 2.8 percent drop in exports, while New Zealand could experience a decline of almost 2 percent. Limited world export availabilities, and increased domestic production, are forecast to result in imports by **China** remaining unchanged, while those of the EU could decline. Imports by the **United States**, the **United Arab Emirates, Malaysia** and **Canada** are forecast to be up slightly, in line with a modest increase in demand.

MILK AND MILK PRODUCTS

Major Dairy Exporters and Importers



PRICES

International prices largely stable during first-half of 2017

International dairy prices surged 50 percent during the second half of 2016, stemming from a declining trend in monthly milk output in the EU and uncertainty over whether or not 2016/17 production in Oceania would be sufficient to meet anticipated demand. Between January and May 2017, prices remained generally stable overall, as recovery of milk deliveries in the EU and continued growth in output in the United States lessened supply concerns.

The **FAO Dairy Price Index** averaged 193 points in May, up 9.5 points (5.1 percent) from April, almost compensating for the falls recorded in the previous two months and returning its level at the start of 2017. Compared to a year earlier, the May index averaged 65 points, or 51 percent, higher, with all commodities rising – butter by 96 percent to USD 5 205 per tonne, whole milk powder (WMP) by 55 percent to USD 3 188 per tonne, cheese by 40 percent to USD 3 619 per tonne, and skimmed milk powder (SMP) by 15 percent to USD 2 004 per tonne. In the case of butter, firm domestic demand in Europe and North America provided additional support to prices, while ample intervention stocks in the EU muted price growth for SMP.

Figure 1. Butter surges as SMP remains subdued

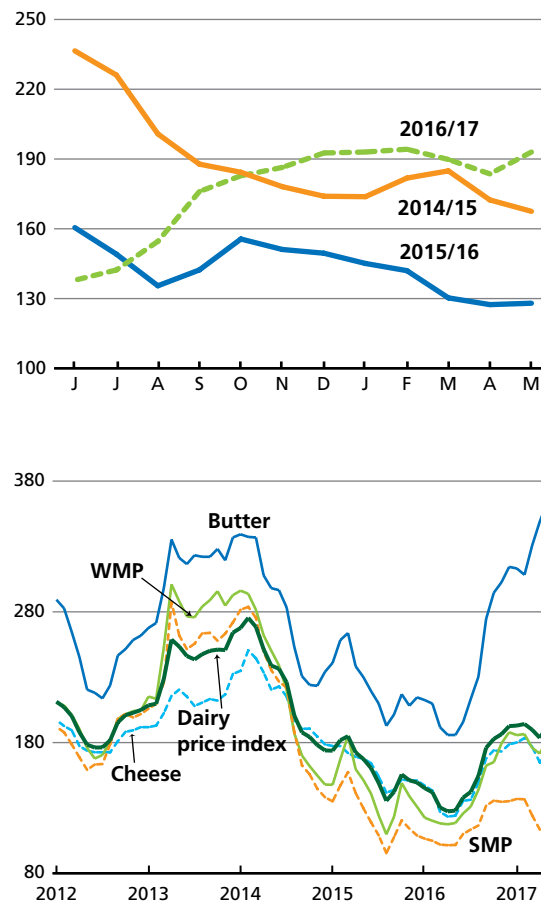


Table 1. World dairy market at a glance

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
			<i>million tonnes, milk equiv.</i>	%
WORLD BALANCE				
Total milk production	812.1	819.3	830.5	1.4
Total trade	70.0	71.1	71.8	1.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	110.5	110.2	111.4	1.1
<i>Trade - share of prod. (%)</i>	8.6	8.7	8.6	-0.3
FAO DAIRY PRICE INDEX (2002-2004=100)	2015	2016	2017	Change: Jan-May 2017 over Jan-May 2016 %
	160	154	191	41.7

PRODUCTION

Asia to provide most growth

World milk production is forecast to grow by 1.4 percent in 2017 to 831 million tonnes. Output is set to expand in *Asia* and the *Americas*, stagnate in *Europe* and *Africa*, and decline in *Oceania*.

Most of the global increase would originate in *Asia*, principally **India**, where production is forecast to expand by 3.9 percent, or 6.3 million tonnes, to 166.6 million tonnes. Rising incomes and urbanization are fuelling demand in the country, although the small size and limited productivity of individual dairy operations and urban encroachment constitute challenges to the industry. Increased output is also anticipated in **Pakistan**, **Turkey**, the **Islamic Republic of Iran** and **Saudi Arabia**. In **China**, output is anticipated to record a second year of decline, as low domestic prices and competition from imported milk powder have weighed on profitability and led to a reduction in the national dairy herd. In **Japan** and the **Republic of Korea**, stable to lower milk production is anticipated due to the effects of herd reduction.

In *Africa*, poor pasture conditions persist in large parts of **Kenya**, **Somalia**, **Ethiopia** and **Tanzania**, following inadequate precipitation during the October-to-December 2016 rainy season, and are expected to impinge on milk production. Meanwhile, milk output in southern Africa may rise in a number of countries, including **Malawi**, **South Africa** and **Zambia**, as abundant seasonal rains have led to improvements in animal and pasture condition and alleviated some of the effects of the prolonged drought that had afflicted the subregion.

In *South America*, recovery in milk production is forecast following *El Niño*-associated extreme weather conditions, which caused overall milk production to fall by over 4 percent in the region in 2016. Milk producers in **Brazil** endured severe drought in 2015/16, which caused output to fall by 4 percent in 2016. The resultant shortage of milk triggered increased milk prices which should serve as an incentive to producers to raise output in 2017. From January to May 2017, weather conditions have been generally favourable in the main dairying areas of the central and northeastern part of the country. Consequently, Brazil's milk production is expected to recover in 2017 and could reach 34.5 million tonnes. **Argentina** and **Uruguay** both saw milk output fall by over 10 percent in 2016, mainly as a result of excessive rainfall and resultant flooding. Despite some continued heavy rainfall, the situation so far this year has not been as extreme as last year, raising hope of pastures returning to normal conditions for the coming 2017/18 season and output expanding. Improved international prices for milk products will also provide an incentive for augmented investment in the industry and greater use of supplementary feed in both countries. In **Mexico**, continued modest growth in output is foreseen – based on herd rebuilding and improvements in genetics and technology.

In *North America*, output in the **United States** is forecast to rise by 2 percent to 98.3 million tonnes, continuing the expansion witnessed in recent years. Milk deliveries in **Canada** are set to grow by almost 4 percent to 9.4 million tonnes, as quota limits for milk destined for processing were raised due to increased domestic use of butterfat.

In *Europe*, **EU** milk production is projected to increase by 0.4 percent to reach 164.2 million tonnes. Improved

Figure 2. EU intervention and export prices

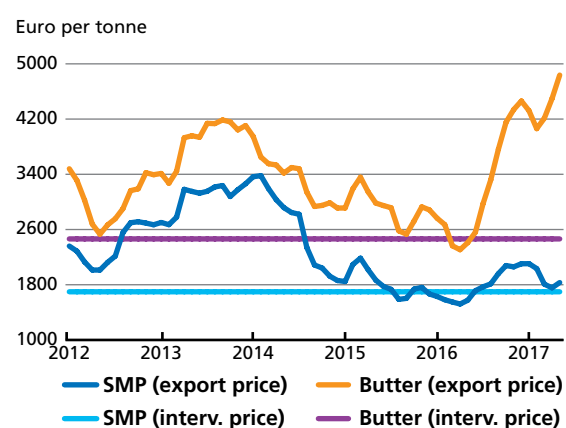


Figure 3. Dairy products/feed price ratio positive

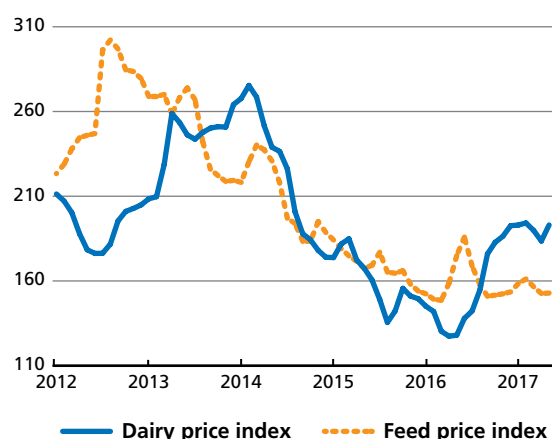


Table 2. Trade in dairy products: Principal exporting countries

	Average 2013-15	2016 prelim.	2017 f'cast	Change 2017 over 2016
	thousand tonnes (product weight)			%
WHOLE MILK POWDER				
World	2 539	2 532	2 518	-0.5
New Zealand	1 365	1 343	1 330	-1.0
European Union*	385	380	365	-4.1
Uruguay	76	127	130	2.4
Argentina	155	110	112	2.3
SKIM MILK POWDER				
World	2 082	2 162	2 221	2.7
European Union*	581	574	672	17.0
United States	556	567	602	6.2
New Zealand	395	444	407	-8.3
Australia	161	164	134	-18.1
BUTTER				
World	947	968	986	1.9
New Zealand	490	503	506	0.7
European Union*	151	212	233	10.1
Belarus	74	84	82	-2.4
Australia	42	31	34	9.1
United States	65	29	22	-23.9
CHEESE				
World	2 376	2 479	2 532	2.1
European Union*	742	800	825	3.1
New Zealand	294	355	340	-4.2
United States	336	290	295	1.8
Belarus	161	204	218	6.7
Australia	162	167	171	2.1
Saudi Arabia	118	130	133	2.3

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

domestic and international prices of milk and milk products are anticipated to stimulate an increase in yields, which should more than compensate for an expected 1.6 percent decline in the dairy herd. Average EU milk prices for the first quarter of 2017 were one third higher than their lowest point in mid-2016. To a large degree, milk output in the EU is still adapting to the 2015 removal of production quotas and the resulting intensification of exposure to international market forces. In the first part of 2016, a large rise in production and limited external demand caused milk prices in EU member countries to drop substantially, forcing many producers to cut output during the second part of the year. In general, this was done by farmers retaining capital investments in terms of animals and equipment and opting instead to constrain production via reduced feeding of concentrates and delayed calving. Milk production in the **Russian Federation** is predicted to fall by 0.5 percent this year. The dairy herd is expected to continue its decline and may fall by 3 percent, although this would be largely compensated by productivity gains, as the movement towards increased large-scale production and reduced smallholder participation continues. In neighbouring **Belarus**, milk production may finish the year only slightly higher than in 2016, as lack of progression in sales to the Russian Federation has removed a major stimulant for expansion.

In **Oceania**, **New Zealand's** 2016/17 milk production is forecast to fall for the second consecutive year, dropping by 1 percent to 21.4 million tonnes. The dairy sector in New Zealand continues to feel the effects of the adjustments brought about by falling international milk product prices in 2015 and 2016, which caused farmers to increase culling rates and reduce supplementary feeding. Despite an increase in international dairy product prices, producers are expected to be cautious about investing in expanding output and to concentrate on debt repayment. In this context, New Zealand's 2017/18 season's output is posited as unchanged. In **Australia**, milk production in 2016/17 is set to plummet by 8 percent to 9.1 million tonnes, its lowest level in 21 years. This exceptional situation has stemmed from the industry having to cope with low international prices in 2015 and 2016, an unforeseen sharp and downwards revision in processor payments, and excessive rainfall in the main milk producing areas. Assuming normal weather conditions, milk production is anticipated to recover somewhat in 2017/18, assisted by growth in domestic demand and improved international prices for milk products.

TRADE

Second year of modest growth

Global trade in dairy products is projected to record a second year of modest growth in 2017, rising by 1 percent to 71.8 million tonnes of milk equivalent. Continued recovery in imports by **China**, following a substantial drop in 2015, is forecast to be the main engine for growth. Purchases by the **Russian Federation**, **Mexico**, **Australia**, the **Philippines**, **Thailand**, **Yemen** and the **Republic of Korea**, amongst others, are also projected to increase. Conversely, a drop in imports is anticipated for **Brazil**, **Saudi Arabia**, **Malaysia**, **Viet Nam** and **Nigeria**, while shipments to **Indonesia**, the **United Arab Emirates**, the **United States** and **Japan** are expected to be little changed. Within the overall international market for dairy products, trade flows in SMP, cheese and butter are anticipated to expand, while those of WMP could wane.

The **EU**, the **United States**, **Argentina** and **Canada** are the main exporting countries expected to see their sales rise, while **New Zealand**, **Australia** and **Switzerland** are forecast to export less. Sustained milk output in the EU and production growth in the United States are anticipated to be the most dynamic factors affecting the international market in 2017. In Oceania, reduced milk supplies will constrain exports, while in **Belarus**, external sales are expected to stagnate due to limited growth in import demand by the Russian Federation combined with a rise in competition from other sources of supply.

Whole milk powder – continued decline

World trade in WMP is projected to fall slightly in 2017, by 0.5 percent to 2.5 million tonnes, which would represent

a third year of decline. **Brazil**, which saw imports more than double in 2016, is predicted to reduce its purchases as domestic milk production recovers. Elsewhere, a second year of curtailed imports is forecast for **Saudi Arabia**, **Nigeria**, **Oman**, **Cuba**, **Algeria**, **Bangladesh** and the **United Arab Emirates**. Conversely, import demand by **China** is projected to recover somewhat for a second year, rising by 55 000 tonnes to 592 000 tonnes, although still remaining substantially below the 2014 peak, which reached 786 000 tonnes. **Colombia**, **Sri Lanka**, **Egypt** and the **Russian Federation** may also raise their levels of imports. The two main exporting countries, **New Zealand** and the **EU**, could place less emphasis on WMP production in 2017. The resulting shortfall may be partly filled by other countries including **Uruguay**, the **United States**, **Australia** and **Argentina**.

Skim milk powder – recovery in 2017

After dropping by 2.4 percent in 2016, trade in SMP is predicted to recover in 2017, gaining 2.7 percent to reach 2.2 million tonnes. This would mean a return to the consistent growth that had characterised this product for the preceding eight years. However, an overarching element of uncertainty that could influence the outlook is the **EU's** large intervention stocks of SMP, in excess of 400 000 tonnes as of March, equivalent to 20 percent of world trade. The European Commission sought to dispose of part of the stocks through a series of tenders that were held between December and May. However, as of May, only 40 tonnes had been disposed of because the tenders offer did not meet the minimum price required. Looking ahead, there could be a further complication, because the longer intervention stocks remain in storage and unsold,

Figure 4. WMP: Major exporters

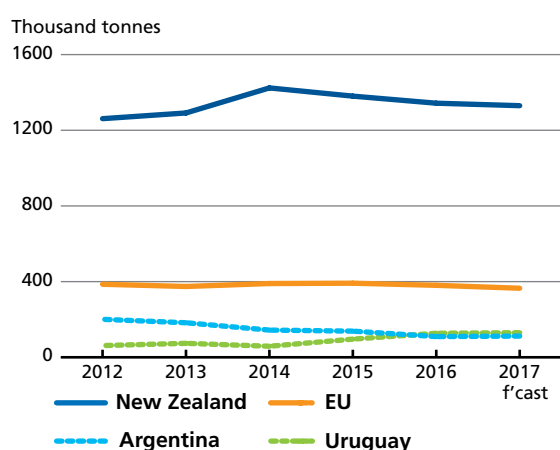
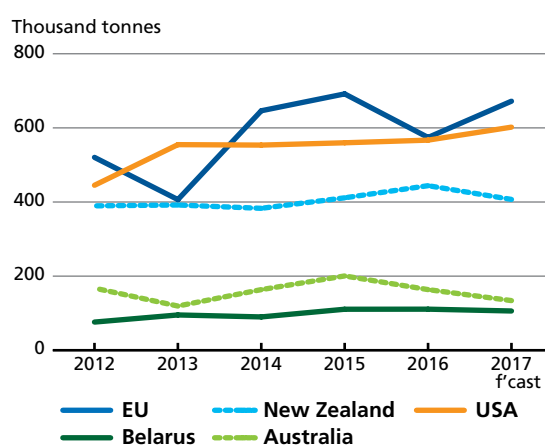


Figure 5. SMP: Major exporters

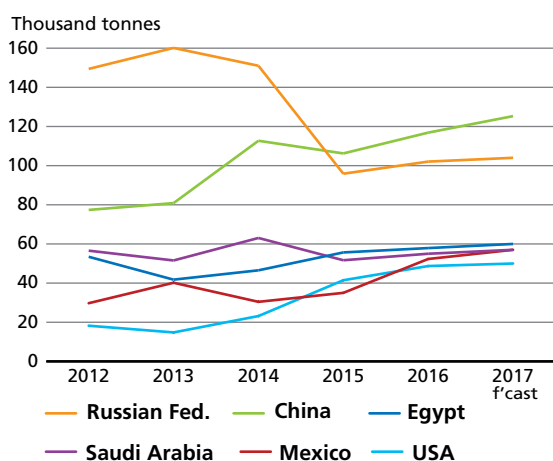


the less attractive they may become to potential purchasers due to reduced post-sale storage life. In this context, after experiencing a 17 percent drop in exports in 2016 due to SMP being channelled into intervention, the EU may see trade recover in 2017, with sales tentatively forecast to exceed 670 000 tonnes – including some sales from intervention stocks. Elsewhere, increased milk output and strong demand for butter fat in the **United States** has augmented surplus supplies of SMP, which could see exports rise by 6 percent to 600 000 tonnes. Meanwhile, as a result of constricted milk supplies, **Australia** and **New Zealand** could see manufacture and sale of SMP fall. Firm demand for SMP by the processing industry in the principal markets is expected to lead to rising imports by a number of countries including **China**, **Mexico**, the **Philippines**, **Yemen**, **Algeria** and **Thailand**, while those of **Malaysia**, **Saudi Arabia**, **Singapore**, **Japan** and **Viet Nam** may be reduced somewhat.

Butter – solid demand

Trade in butter is forecast to record a second year of growth in 2017, rising by 1.9 percent to 986 000 tonnes. As a reflection of strong international demand and limited supplies, international quotations for butter have risen substantially; for example, year-on-year for May, they rose 96 percent compared with an average of 37 percent for the other dairy commodities covered by the FAO Index. The main sources of augmented purchases are projected to be **China**, **Mexico** and **Australia**, with imports by **Egypt**, **Saudi Arabia**, the **Philippines** and the **Russian Federation** also predicted to grow. Meanwhile, greater production in the **United States** and **Canada** could limit demand for external supplies of butter.

Figure 6. Butter: Major importers



Elsewhere, other major importing countries are expected to maintain levels of purchases similar to 2016.

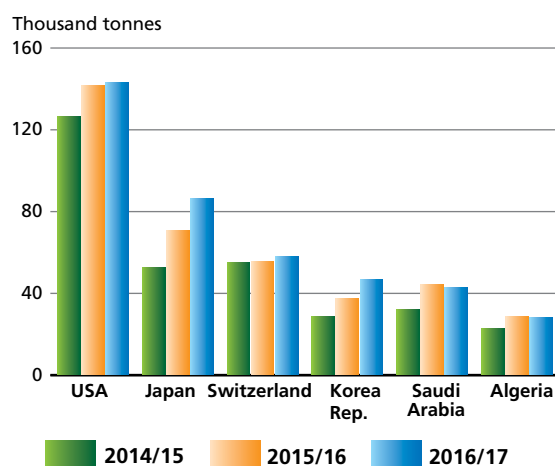
For the third consecutive year, the **EU** is projected to supply most of the rise in international demand and could witness sales up by 10 percent and total shipments exceeding 230 000 tonnes. Since 2013, EU butter exports have almost doubled, with particularly strong growth seen in China, the United States, Saudi Arabia and Egypt. In the case of **New Zealand**, the main exporter in the world, shipments of butter are likely to remain slightly above 500 000 tonnes, the same level as the previous three years. New Zealand's sale of butter to the Russian Federation almost tripled in 2016, reaching 21 000 tonnes, which may limit export opportunities for **Belarus**. Exports by the **United States** are expected to fall back due to firm domestic demand and associated strong internal prices reducing opportunities for trade.

Cheese – sustained growth

Trade in cheese is forecast to increase by 2.1 percent to a record 2.5million tonnes. Growth in imports is anticipated in all major markets, in particular **China**, the **Russian Federation**, the **Republic of Korea** and **Australia**, but also **Japan**, **Saudi Arabia**, **Mexico**, the **United Arab Emirates** and the **United States**.

The **EU** and **Belarus** are projected to provide much of the additional supply. Exports by the **EU** could rise by 3 percent to an historic high of 825 000 tonnes, the second annual increase since the Russian Federation embargo was imposed in 2014. As the Russian Federation was previously its largest market for cheese, accounting for around a third of exports, the EU has reoriented its exports, focusing on a range of countries including Japan, the United States,

Figure 7. Cheese exports: EU major markets (April-March)

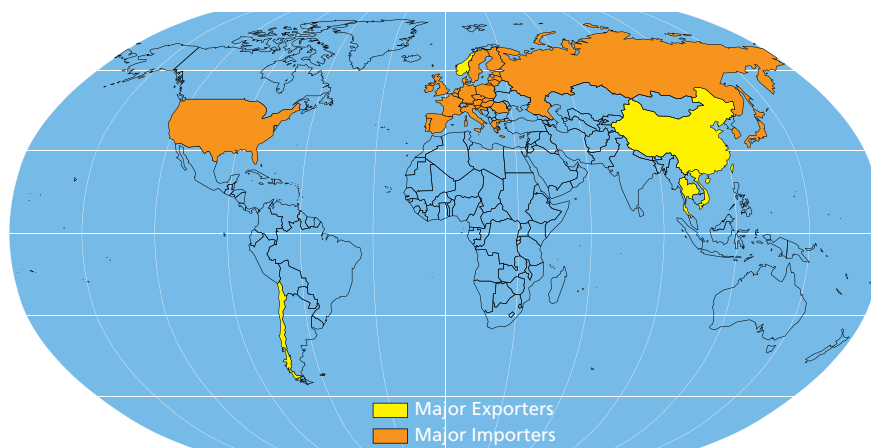


the Republic of Korea, Saudi Arabia, Mexico and Egypt. Meanwhile, following the embargo, Belarus experienced considerable expansion in its sales to the Russian Federation. Continuation of this trend may see overall cheese exports by Belarus rising by a further 7 percent in 2017, to reach 218 000 tonnes. Exports by **Argentina**, the **United States**, **Turkey**, **Australia** and **Saudi Arabia**

could also increase. Stocks of cheese in the United States have grown steadily over the past two years and represent a potential source of export supply; however, domestic prices have generally remained above those prevailing internationally, limiting overseas sales. Cheese exports from **New Zealand** may decline in 2017, perhaps falling by 4 percent to 340 000 tonnes.

FISH AND FISHERY PRODUCTS

Major Exporters and Importers of Fish and Fishery Products



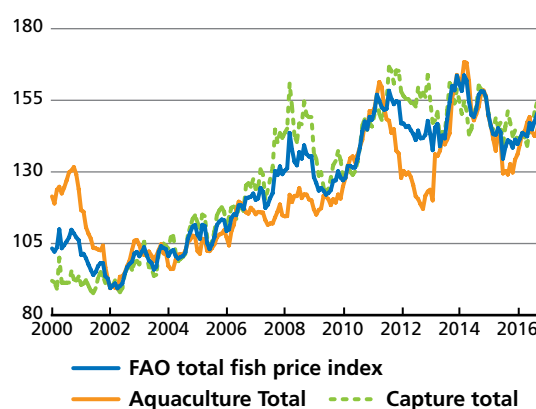
GLOBAL FISH ECONOMY

Global fish production is expected to grow by 1.1 percent in 2017, approximately in line with the long-term trend. Supply development continues to be characterized by the stagnating capture fisheries production that contrasts with the rapidly expanding aquaculture sector. Aquaculture, which is expected to account for approximately 48 percent of the estimated 172.2 million tonnes of fish produced in 2017, is growing consistently, with supply increasing at some 4 to 5 percent a year and, in consequence, the proportion of farmed fish in human diets is continuing to increase. Further, the contrast between the lack of growth in traded volumes over the last three years and the steady increase in total production, points to strong growth in domestic market demand of the major seafood producing countries, particularly in the developing world.

The impact of El Niño, disease and an algal bloom on supply in Chile led to prices climbing for various species in 2016, including cod, herring, mackerel, octopus, squid, scallops, mussels and farmed shrimp. As a result, the FAO fish price index rose 10 points over the year, and export revenues were significantly boosted for a number of major producing countries, particularly Norway. In the longer term, the upward price trend is being driven by strong growth in global demand for fish and fishery products that is outpacing supply. Much of the demand growth can be attributed to income growth in many developing

regions, but robust demand has also been evident in the large developed markets of the United States and the EU. Meanwhile, demand in the Russian Federation and Brazil, once among the fastest growing major seafood markets in the world, has been weak in recent years due to economic difficulties. In China, growth is continuing at a somewhat slower rate, but a large and expanding urban middle class can be expected to compete with US, EU and Japanese consumers in terms of purchasing more expensive species such as salmon, shrimp and wild whitefish in the near future.

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



Source: Norwegian Seafood Council

Table 1. World fish market at a glance

	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	Change: 2017 over 2016
			<i>million tonnes</i>	%
WORLD BALANCE				
Production	169.2	170.3	172.2	1.1
Capture fisheries	92.6	90.8	91.2	0.4
Aquaculture	76.6	79.5	82.5	3.8
Trade value (exports USD billion)	133.0	142.7	141.0	-1.1
Trade volume (live weight)	59.4	60.4	60.2	-0.3
Total utilization	169.2	170.3	172.2	1.1
Food	148.8	150.9	152.5	1.1
Feed	15.1	14.3	14.7	2.8
Other uses	5.2	5.1	5.0	-2.0
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
Food fish (kg/yr)	20.3	20.4	20.4	0.1
From capture fisheries (kg/year)	9.9	9.6	9.6	-0.8
From aquaculture (kg/year)	10.5	10.7	11.0	2.6
FAO FISH PRICE INDEX (2002-2004=100)	2015	2016	2017 <i>Jan-Feb</i>	Change: Jan-Feb 2017 over Jan-Feb 2016 %
	142	146	150	6.3

Source: FAO Fish Price Index: Norwegian Seafood Council (NSC)
Totals may not match due to rounding.

Although supply shock risks will remain present in 2017, the end of El Niño and production increases forecast for a number of species are likely to exert some downward pressure on seafood prices across multiple markets and commodity categories. On the demand side, seafood trade in two of the world's largest markets – the UK and United States – could be negatively impacted by the UK's impending exit from the EU and the potentially protectionist trade policy decisions of the current US administration. More broadly, early indications in 2017 suggest that political uncertainty in multiple world regions is suppressing growth in international seafood trade, with expanding production increasingly absorbed by domestic markets. Overall, the total value of seafood trade is expected to decline by 1 percent in US dollar terms in 2017.

Until 2030, the agendas and policies of the UN's member countries will be shaped by the 17 Sustainable Development Goals (SDG), of which SDG Goal 14 – "Life Below Water" – is the most pertinent for those concerned with the health and productivity of the world's oceans, seas and marine resources. SDG 14 sets 10 specific targets for member countries, including minimizing and addressing the impacts of ocean acidification (Target

14.3), ending overfishing and destructive fishing practices (Target 14.4), conserving coastal and marine areas (Target 14.5), and providing resource and market access to small-scale artisanal fishers (Target 14.B). The upcoming Oceans Conference, to be held in New York in June this year, presents an important opportunity for member governments and other stakeholders to develop solutions and partnerships for the effective implementation of SDG 14 over the coming years.

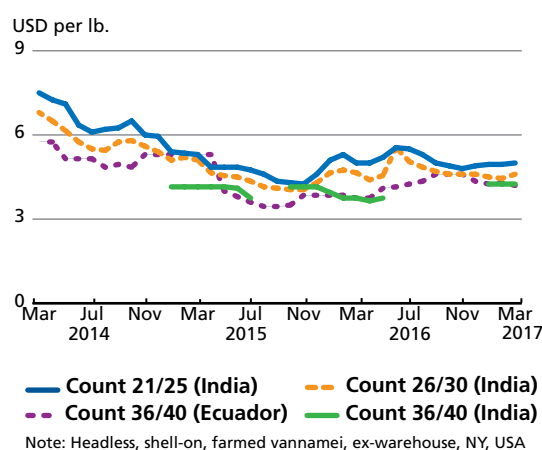
SHRIMP

The shrimp farming season in Asia started in late April this year. It is still too early to accurately forecast the overall production level for 2017; nevertheless, export volumes are likely to increase with the seasonal harvests in May and when shrimp prices drop. However, in Indonesia, production has been lower than last year, due to disease problems and poor weather. In Latin America, supplies from Ecuador remained strong during early 2017, as Ecuadorian exporters increased sales to the major markets of Viet Nam

Table 2. Japan imports of shrimp (by product)

	2012	2013	2014	2015	2016
	<i>(thousand tonnes)</i>				
Frozen, raw	200.5	187.3	162.3	153.1	163.0
Cooked, frozen	24.5	24.2	20.1	19.5	19.6
Prepared/preserved	50.3	45.7	36.8	37.5	38.8
Sushi (with rice)	2.4	2.2	2.0	2.4	2.8
Total*	280.4	262.1	223.4	213.7	223.5

Source: Japan Customs/INFOFISH
Notes: *including others

Figure 2. Ex-warehouse prices of shrimp in New York, USA*

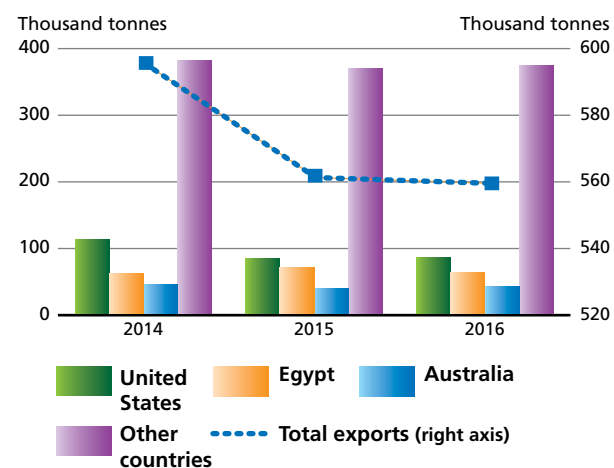
Source: INFOFISH Trade News

and the EU. The EU's zero import tariff on Ecuadorian shrimp is expected to continue driving European buyer demand. Latin American production as a whole will be seasonally low from April onwards. In the United States, total shrimp imports were marginally lower in the first two months of 2017, although Indian origin imports were significantly higher – with Indian shrimp exporters reporting good interest from US importers. In Japan, import demand is expected to remain slow until shrimp prices soften with increased seasonal supplies in the second half of 2017. Apart from the traditional large developed markets, China and Viet Nam remain attractive markets for Asian and Latin American shrimp exporters.

TUNA

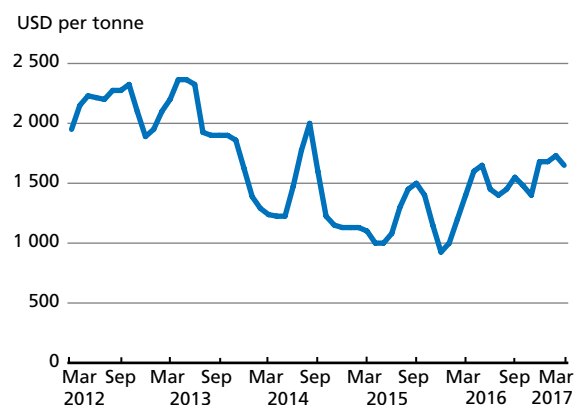
Demand for non-canned fresh or frozen tuna was positive in the United States during March and April, with the next high consumption season expected in the summer months of June to August. Demand for raw frozen loins and steaks, which have longer storage periods than fresh tuna, is also contributing to this positive trade trend. US canned tuna imports, mostly coming from Thailand, were up in the first two months of 2017, suggesting US demand may be recovering after a lull in 2016. Prices paid by Thai canned tuna packers for frozen skipjack eased during the first half of 2017, partly due to moderate-to-good catches in the eastern and western Pacific, but are likely to firm after the fish aggregating device (FAD) closure season begins in July. Ecuador canners paid higher raw material prices to those in the Bangkok market, largely due to strong import demand for zero-duty cooked loins from Spanish canneries. Ecuador's preferential tariff status in the EU

Figure 3. Thailand canned tuna exports



Source: Thai Customs

Figure 4. Prices of frozen skipjack tuna for canning in Thailand*



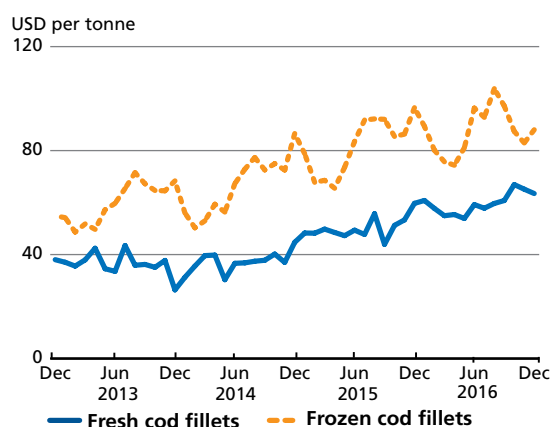
Note: 4 lb/pc & up, CFR Bangkok, origin: Western Pacific
Source: INFOFISH Trade News

market is expected to generate increased buyer interest for Ecuadorian canned tuna throughout 2017. Consumer demand for sashimi tuna in Japan was boosted following the spring festivals during April and May, but sashimi consumption tends to be low during the hot summer months.

GROUND FISH

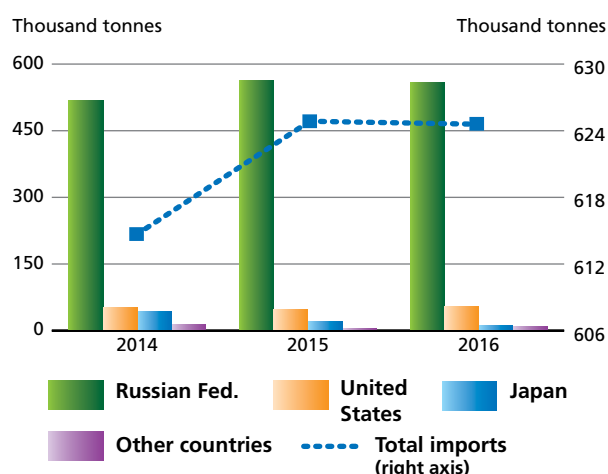
Whitefish supplies increased by some 2.3 percent in 2016, with hake and Alaska pollock accounting for the largest increases. In 2017, whitefish supplies are again expected to increase by about 2.3 percent, although farmed whitefish, such as pangasius and tilapia, will most likely account for all of that growth. Specifically, production of farmed whitefish is expected to grow by 4.5 percent, to 11.3 million tonnes, while supplies of wild-caught groundfish are expected to decline by 0.7 percent to 7.3 million tonnes. Landings of both Atlantic cod and haddock are forecast to fall in 2017, to about 1.26 million tonnes and 376 000 tonnes respectively, while the total allowable catch (TAC) for Alaska pollock for 2017 between the United States and Russian Federation fleets should remain approximately flat at 2.1 million tonnes. Despite decreased landings, cod prices are expected to fall, due to a return of the Icelandic fleet following a prolonged strike. Prices for Alaska pollock are also forecast to decline, due to leftover 2016 stocks. On the global market side, demand in China will be an important focus of the industry going forward, as Chinese consumers are increasingly exerting their influence on the global whitefish market.

Figure 5. Export prices of cod in Norway*



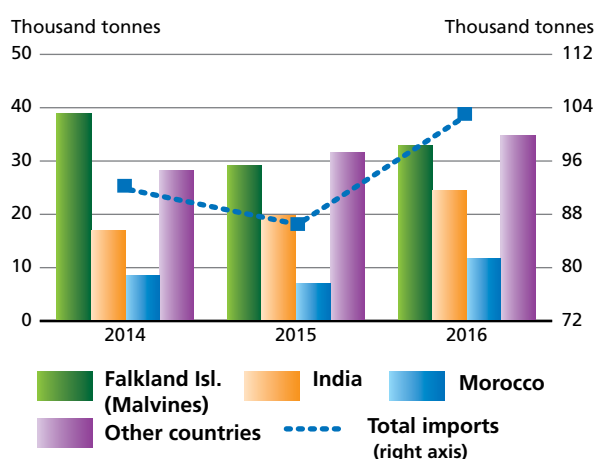
Source: Norwegian Seafood Council

Figure 6. China Alaska pollock imports



Source: China Customs

Figure 7. Spain imports of squid



Source: Agencia Tributaria

CEPHALOPODS

Global octopus landings seem to be on an upward trend at the moment. In 2015, landings increased by 6.7 percent, a trend that continued into 2016. However, the increase in supply does not appear to have affected prices, which are strong and rising. US demand for octopus is growing and, according to reports, “millennials” are driving this trend, with octopus proving extremely popular in trendy tapas restaurants and poke bars. Demand growth in Europe, which prefers larger sizes, is also reported to be positive. Meanwhile, Argentine squid catches during the last three quarters of 2016 were at their lowest level in 20 years, falling to 57 500 tonnes, which was 55 percent lower than the same period in 2015, while Falkland Island (Malvinas) catches were even lower. Catches improved during the first weeks of the 2017 season, but at this early stage, the overall outlook for squid remains uncertain.

PANGASIU

In 2016, China overtook Thailand to become the largest market for Vietnamese pangasius in Asia. China imported roughly 33 500 tonnes of pangasius during the year, doubling its imports of 2015. Thailand imported 24 800 tonnes in 2016, followed by Singapore with 17 600 tonnes. Japan and India also continue to show strong demand. Since the start of its Tet Lunar New Year holiday in late January, Viet Nam’s pangasius export prices have increased due to short supplies and good demand as buying interest grows in China. In the EU, demand is likely to remain weak in 2017.

TILAPIA

Asian and Latin American markets continue to absorb much of their own domestic tilapia production, as it remains an affordable protein source. Meanwhile, African countries imported 83 000 tonnes of whole frozen and breaded tilapia

Table 3. US imports of fresh and frozen catfish fillets (by origin)

	2012	2013	2014	2015	2016
<i>(thousand tonnes)</i>					
Viet Nam	103.1	111.2	100.6	108.8	131.4
China	3.4	6.6	7.5	5.1	5.3
Thailand	0.1	0.0	0.0	0.0	0.0
Others	0.7	0.6	0.2	0.1	0.0
Total	107.2	118.5	108.2	113.9	136.7

Source: Source: U.S. Department of Commerce, Bureau of Census

in 2016. US imports dropped in 2016, largely due to the significant decline in supplies of Chinese frozen tilapia fillets. While EU markets remained depressed, imports of premium quality tilapia have increased, although this product is unlikely to ever develop into a significant market as it will remain fulfilling a small market niche. For 2017 and beyond, African markets are clearly poised for further growth, while demand is expected to remain firm in Asia and Latin America. In general, prices are not likely to see much increase, especially when production levels start increasing in China.

SEABASS AND SEABREAM

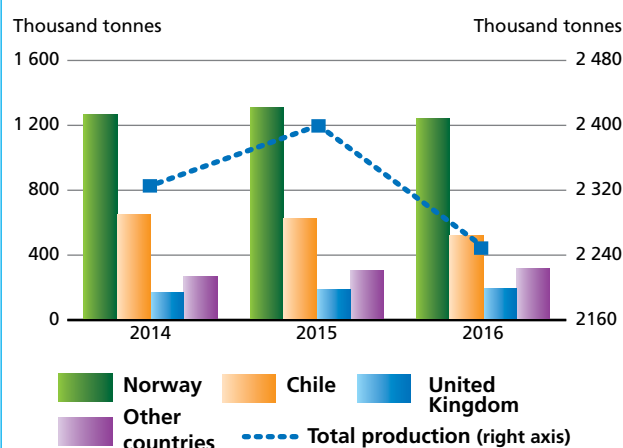
The major challenge facing the bass and bream sector is the higher harvest volumes expected in Greece, Turkey and Spain – the largest producing countries – over the next two years. Although the still fragile Greek industry is particularly at risk, the Mediterranean industry as a whole will need to exert a coordinated effort to cut production costs, develop a more varied product range for the modern consumer and diversify its export markets if it is to maintain remunerative price levels. Another important factor in future development of the sector is how total supply growth will be split between the currently oversupplied bream market and the relatively stable bass market. For the remainder of 2017, prices can be expected to begin their seasonal decline in the second half of the year following early summer peaks.

SALMON

After sharp supply contractions resulted in record-breaking prices and export revenues in 2016, particularly for top

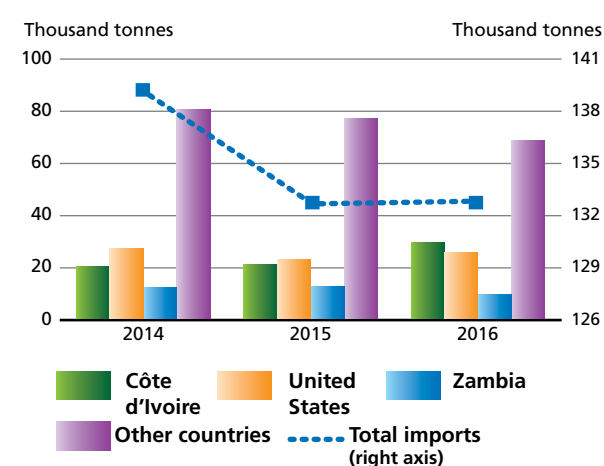
producer Norway, the global supply of farmed Atlantic salmon is expected to return to a 5 to 6 percent growth in 2017. In Europe, the bulk of this extra volume is expected to hit the markets in the autumn, which is likely to push prices down. Currently, however, prices in both the US and European markets are still hovering around last year's levels and, despite a softening of forward prices, the outlook remains relatively strong in the medium term. There is now widespread acceptance of the firmness of the new price plateau. It is supported by rapid growth of global demand and a number of physical and regulatory constraints on supply growth, which have created significant motivation for all stakeholders to seek ways of maximizing their share of the large revenues being generated on relatively little raw material. Secondary producing countries, such as the

Figure 9. Top 3 producers of Atlantic salmon



Source: FAO (until 2015), Estimate (2016)

Figure 8. China exports of whole frozen tilapia



Source: China Customs

Table 4. Chilean exports of salmon (by product and destination)

	2012	2013	2014	2015*	2016*
	(thousand tonnes)				
Fresh					
United States	71.9	82.5	95.2	101.2	97.8
Brazil	50.5	59.4	73.3	80.6	67.8
China	0.0	0.7	3.4	6.7	13.5
Others	7.4	9.4	11.6	12.6	11.9
Subtotal	129.9	152.1	183.6	201.1	191.0
Frozen					
Russian Fed.	5.6	31.1	50.3	56.6	45.9
United States	20.2	28.3	32.1	31.2	32.0
Others	72.2	107.7	123.7	118.6	112.3
Subtotal	212.4	260.2	303.8	319.4	273.3
Total	342.3	412.3	487.4	520.5	464.3

Source: Chilean Customs

Table 5. Norwegian exports of small pelagics (by product and destination)

	2012	2013	2014	2015*	2016*
	<i>(thousand tonnes)</i>				
Japan	48.2	53.0	73.7	60.5	63.0
China	48.0	52.3	80.8	49.0	51.3
Republic of Korea	13.1	16.9	35.3	27.7	38.8
Others	153.9	121.1	196.5	207.1	149.7
Subtotal	263.2	243.2	386.4	344.4	302.7
Ukraine	58.3	33.8	35.2	25.2	34.8
Lithuania	26.1	35.8	25.9	15.9	15.7
Egypt	15.3	10.9	3.4	12.5	12.1
Others	105.4	121.5	73.1	43.8	38.5
Subtotal	205.1	202.0	137.5	97.5	101.2
Total	468.3	445.2	523.9	441.9	404.0

Source: Statistics Norway

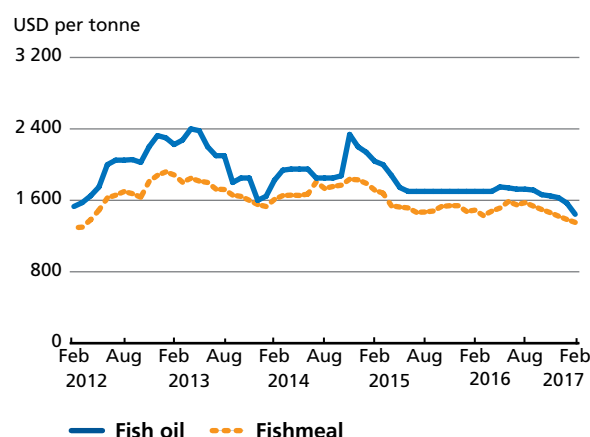
Russian Federation, Canada, Ireland, Iceland and Australia, have all invested in developing new aquaculture production sites, while the large-scale viability of land-based farming is seemingly only a matter of time. For wild salmon, after a short supply in 2016, a bounce back in Alaskan production levels is forecast for 2017, particularly for pink salmon.

SMALL PELAGICS

Global landings of small pelagics are expected to be 7 percent higher in 2017 than in 2016. The major reason for this growth is expected higher landings of anchoveta in South America, of which only a small proportion is utilized for human consumption. El Niño, which affected the South American anchoveta fishery negatively for the past three years, is now over, and reports say stocks are recovering quickly. Atlantic mackerel and Atlantic herring catches are also expected to increase, although not to the same extent, with the combined increase for herring and mackerel landings in 2017 estimated to be about 4 percent more than in 2016. Early reports of a positive start to the herring fishery led to downward price pressure in the beginning of 2017, while mackerel prices are expected to remain stable. Beyond supply developments, currency exchange rate trends are also likely to play a significant role in price formation for small pelagic species.

FISHMEAL AND FISH OIL

The second fishing season, which started in November 2016 in the central-north region of Peru, ended with 98 percent of the quota filled. This development was somewhat

Figure 10. Prices fish oil and fishmeal: Europe

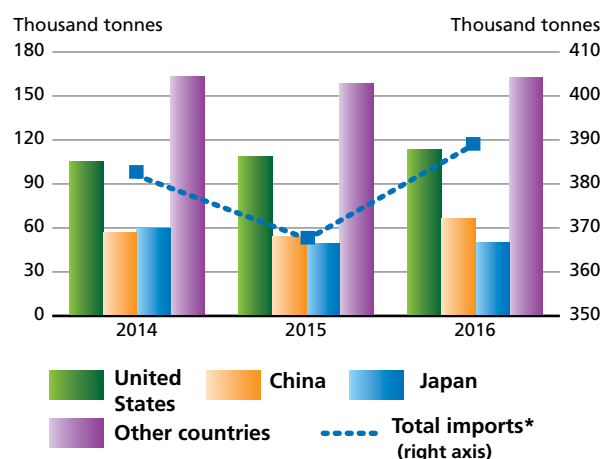
Source: Oil World

unexpected, as many in the industry were preparing for a significant shortfall. On 17 January 2017, the Government of Peru initiated the season for the southern area with a TAC of 515 000 tonnes, a 35 percent increase from 2016. On 20 April 2017, the first anchoveta fishing season in the center-north area (the most important fishing area) was approved with a TAC of 2.8 million tonnes, reflecting a year-on-year increase of 55.6 percent. With El Niño now over and the highest quota set for the center-north region since 2012, coupled with strong anchovy landings in Chile and Scandinavia as well as the upcoming menhaden season in the United States, prices are likely to come under downward pressure in 2017. However, in the longer term, with continually growing demand and a relatively fixed supply, prices are expected to climb.

CRAB

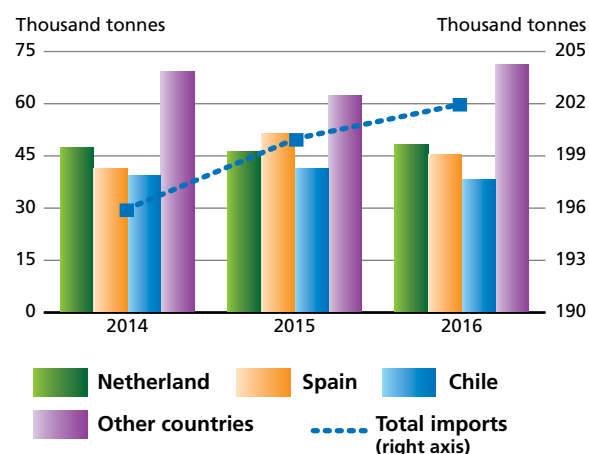
Supplies of snow crab from Canada are expected to increase by about 17.5 percent in 2017. While the 2017 quota for the Newfoundland and Labrador snow crab fishery has been slashed by 22 percent to 21 800 tonnes, the quota for the Gulf of St. Lawrence has been doubled to 43 800 tonnes. With increased supplies in 2017 and into 2018, snow crab prices are expected to recede from their current high levels. For red king crab, landings are expected to increase in 2017, as quotas in the Barents Sea and the Pacific have been increased. Supplies in the United States are also expected to inch upward, while those in Japan have been on a sliding trend since 2014. The current high price levels for king crab and snow crab raises the possibility of South American red crab becoming somewhat of an alternative.

Figure 11. Top 3 global importers of crab



Source: GTIS, *estimates

Figure 12. EU imports of mussels



Source: Eurostat

BIVALVES

Over 14 million tonnes of bivalves – mussels, scallops, oysters and clams – are produced by aquaculture every year. However, most of this volume is consumed within the producing countries, particularly in the case of the top world producer, China, which produces over 80 percent of the world's bivalves. World trade of bivalves contracted in 2016 – in Peru, the impact of El Niño resulted in declining scallop exports and, in China, red tide events curtailed mussel production. By contrast, the outlook for 2017 is positive, with demand for bivalves seen expanding in all consuming countries. In addition, the image of bivalves as environmentally-friendly species and their well-known health benefits are creating an overall positive market atmosphere. Consumers also trust the sanitary security of the product and the overall value chain transparency. Due to rising demand, prices are likely to increase in 2017, despite larger volumes available in both domestic and export markets.

LOBSTER

North American lobster supplies are expected to decline in 2017. Poor weather off of Nova Scotia and New England kept lobster fishers ashore for long periods in December 2016 and led to a shortage of lobster, pushing prices up significantly. Overall, after continuous growth since 2007, global lobster production registered a 6 percent decline in 2016, and it is expected to fall further this year. In terms of products, strong demand for lobster meat has pushed up prices recently and widened the gap between prices of lobster tails and those of meat, with the latter rising significantly and the former remaining flat.

SPECIAL FEATURES

OPPORTUNITIES AND CHALLENGES IN THE BANANA MARKET

Contributed by:

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Banana is a leading food crop in terms of production value¹. With some 15 percent of global production exported, its total trade value stood at some USD 8 billion in 2016, making bananas the largest traded fruit crop in value terms. This note discusses a number of important issues that are shaping developments in global banana markets.

Banana trade - Preferential tariff reductions in the European Union in 2017

International trade in bananas is conditioned by varying import regimes. In some of the major importing countries, such as the United States, imports of bananas are tariff free, while the EU maintains a detailed tariff system, which includes a Most Favoured Nations (MFN) component and a number of bilateral trade agreements that ensure preferential access to the EU market for partner countries (see Box). Given that the EU is the largest importing bloc – with a total banana import volume of 5.4 million tonnes in 2016 – its tariff reform could potentially have large effects on the flow and patterns of international trade in banana.

According to the European Commission, the principal motivation of the EU's banana import regime is to strike a fair balance between the interests of developing countries that rely heavily on banana exports and the interests of EU banana producers.² African, Caribbean and Pacific (ACP) banana suppliers have been granted duty- and quota-free access to the EU since 1993, first within a quantitative limit and, since 2008, without any quantitative restriction. Other suppliers pay either the MFN tariff of 122 EUR/tonne or the preferential tariffs of 96 or 97 EUR/tonne, as per the relevant bilateral trade agreements.

Box: Banana tariff schedules of the European Union

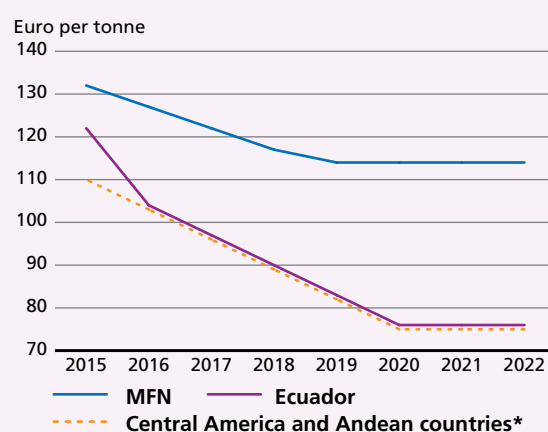
Market access to the European Union is regulated by the terms and conditions of the Geneva Agreement on Trade in Bananas, which foresees a gradual reduction of the MFN tariff in eight steps, from the rate of EUR176/tonne prevailing until 2009 to EUR114/tonne in 2019 at the latest. As of 1 January 2017, the MFN tariff was reduced to EUR122/tonne.

Most exporters in the South and Central American region have concluded bilateral trade agreements with the EU that ensure preferential access at tariff rates below the MFN tariff. As a result, bananas imported from Central America (except for Belize), Colombia and Peru are subject to a reduced tariff rate under the Central America Agreement and the EU-Andean agreements. This tariff was set at 96 EUR/tonne on 1 January 2017, and will be gradually reduced to 75 EUR/tonne by 2020.

Ecuador, the largest exporter to the EU and previously the only major supplier paying the MFN rate, entered the EU-Andean agreements on 1 January 2017. Under this agreement, banana imports from Ecuador will be subject to a reduced tariff of 97 EUR/tonne in 2017, which is 1 EUR/tonne more than the country's major competitors, Costa Rica and Colombia. This preferential tariff is set to be gradually reduced to 76 EUR/tonne by 2020, while continuously maintaining the 1 EUR/tonne difference to the rate paid by other Andean and Central American suppliers.

ACP banana suppliers benefit from duty- and quota-free access to the European Union market under the Economic Partnership Agreement (EPA), which came into effect on 1 January 2008.¹

EU banana tariffs



Notes: *except Ecuador

¹ For the purpose of this study, the term banana refers to banana excluding plantains, except when otherwise specified.

² European Commission, Directorate-General for Agriculture and Rural Development, Information note on Bananas other than Plantains, September 2013.

¹ All current banana suppliers in the ACP have concluded negotiations on either a full or interim EPA: Belize, Cameroon, Côte d'Ivoire, Dominica, Dominican Republic, Ghana, Grenada, Jamaica, Saint Lucia, Saint Vincent and the Grenadines and Suriname.

Exports from the three largest ACP banana suppliers – Dominican Republic, Côte d'Ivoire and Cameroon – have substantially expanded since the introduction of duty- and quota-free access to the European market in 2008. All three exporters invested in improved infrastructure, expansion in harvested area and productivity increases.³ Overall, ACP supplies accounted for approximately one-fifth of total import volumes into the EU in 2015/16, but their share has been falling.

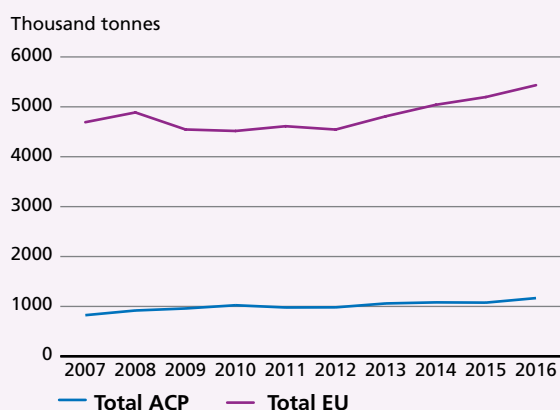
The scheduled tariff reductions, particularly the reduction applied to imports from Ecuador, are cause for concern with respect to preference erosion among ACP suppliers. The core issue is that the competitive pricing strategies of the large-scale Central and South American exporters, who benefit from more favourable agro-ecological conditions and who have established efficient networks along the banana value chain, make it difficult for most ACP suppliers to compete. For instance, at an average unit value of 0.77EUR/kg, prices of bananas imported into the EU from ACP suppliers were 28 percent higher than prices of Dollar zone bananas in 2016.^{4 5}

A lack of both economies of scale and efficient transport networks, as well as a higher exposure to natural disasters, result in lower yields and higher production costs in most

ACP producers. In particular, the smaller ACP producers – St Lucia, Dominica and Saint Vincent and the Grenadines – face an imminent threat from preference erosion and have already started to diversify away from the production of conventional banana.

The reductions in the EU's tariff schedules are also causing concern among European banana producers, who fear that increasing levels of price competition, particularly from Ecuador, may affect their sales in the EU markets. At an average unit value of 0.71EUR/kg in 2016, the price of bananas produced in the EU ranged some 18 percent above the average unit value of bananas imported from the Dollar zone, including Ecuador.⁶ To alleviate concerns by EU producers, the EC has adopted a safeguard clause that limits Ecuador's preferential access to a certain annual threshold. In 2017, this threshold is set at 1 801 788 tonnes, significantly above Ecuador's 2016 exports to the EU of 1.3 million tonnes.

EU banana imports



Source: European Commission

³ Investments were additionally supported through the Banana Accompanying Measures (BAM) support package, which was launched by the European Commission in 2013 to be received by those ACP countries, which exported more than 10 000 tonnes of banana per year on average over the previous decade.

⁴ Data from the European Commission, March 2017

⁵ Countries included in the Dollar zone are Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Nicaragua, Panama, Peru and El Salvador

Banana production in the EU

	2012	2013	2014	2015	2016
	(thousand tonnes)				
France:	251.7	230.5	266.8	263.0	248.5
Guadeloupe	66.9	71.5	73.6	63.8	68.6
Martinique	184.8	159.0	193.2	199.2	179.9
Spain	371.0	361.0	364.4	381.8	417.2
Greece	2.2	2.2	2.2	1.8	1.7
Cyprus	5.7	5.1	4.0	4.4	4.4
Portugal	17.7	15.8	18.6	18.6	21.2
Production	648.5	614.6	656.0	669.7	693.0

Export data for the first four months of 2017 show that Ecuador increased shipments to the EU for this period by 22 percent compared with the same period in 2016, while sales to the United States, previously the second largest recipient of Ecuadorian bananas behind the Russian Federation, dropped by nearly one half. Ecuador's EU shipments were mainly destined to the Mediterranean countries, namely Italy, France, Spain and Portugal.

Organic bananas – an expanding niche market

Organic banana production has expanded in response to growing consumer demand in developed markets, particularly the US, the UK and Germany. This has benefitted newer exporters focusing on organic banana production, such as Peru.

Given the fact that organic banana continues to be a relatively niche market, data on trade volumes and prices are difficult to obtain. Rough estimates

⁶ Data from the European Commission, March 2017

indicate that organic banana exports amounted to some 800 000 tonnes in 2016. The largest producers of organic bananas for export are the Dominican Republic and Peru, which together account for about 85 percent of total trade volume. Colombia, one of the largest exporters of standard Cavendish bananas, operates a small but growing production of organic bananas in the La Guajira region, from which it exported some 62 000 tonnes in 2016. Ghana commenced large-scale production of organic bananas in 2014, and now exports some 50 000 to 60 000 tonnes of the produce each year, primarily to the EU. Mexico, a supplier of standard Cavendish bananas to the US but currently only a small producer of organic bananas, has announced plans to increase production of organic bananas for export. According to trade sources, the country currently exports more than 80 percent of its organic banana production, most importantly to Europe, the US and New Zealand. Suppliers also envision export expansion into Japan and Korea, where organic bananas are still a novelty product but forecast to experience fast growth in demand in the medium-term future.

Overall, there seems to be ample growth potential for trade in organic bananas, particularly in light of growing demand in the US, the EU and Japan. However, in absolute terms, global organic banana production is expected to remain a small niche in the medium term. A lack of economies of scale, combined with the continuous price pressure at retail level in the US and core European markets, make it difficult for organic growers to compete with large-scale Cavendish production.

A comparison of price data from Germany shows that organic bananas fetch a significantly higher unit price at the retail level, enabling market players to receive higher

returns. However, the major part of the price premium is absorbed by players in the importing countries, and often the retail sector itself, while producing countries receive only marginally higher prices.

Banana plant diseases – a threat to markets

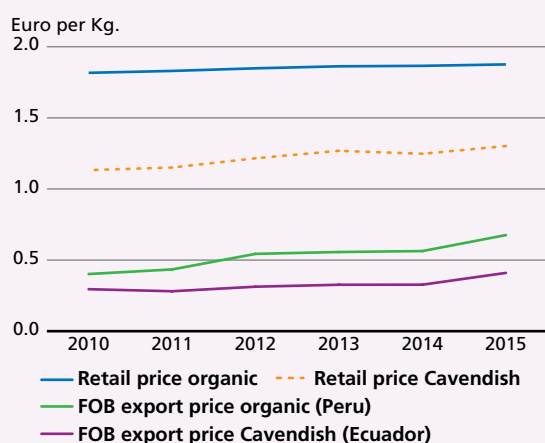
A number of banana diseases are affecting banana production around the globe, threatening the livelihoods of local populations and especially income opportunities for smallholder banana farmers. Among those, the *Fusarium Wilt Tropical Race 4 (TR4)* disease that has been affecting plantations in Asia since 1992/93 continues to be of most serious concern. TR4 is a new strain of the *Fusarium* fungus, a soil pathogen that attacks the roots of the plant and spreads through its vascular system into the leaves. The disease was discovered in 1992/93 in Malaysia and spread quickly to Taiwan and China, where it now occurs in all production areas. Production in Australia's Northern Territory, Indonesia, Malaysia and the Philippines has also been severely affected by TR4. In 2013, TR4 was furthermore discovered on a farm in northern Mozambique, as well as in Oman and Jordan, and in 2015, it was found in Lebanon and Pakistan.

Precise and complete documentation of the damage caused by TR4 is often not available. Most recent estimates indicate that the disease has affected some 15 700 ha of banana plantations in the Davao region in the Philippines⁷, more than 570 000 plants (out of a total of more than 2.5m plants) on more than 300 ha in Mozambique⁸, and around 70 percent of plantations in China's Guangdong and Hainan provinces⁹.

Besides jeopardizing harvests and, thereby, income opportunities, TR4 also raises the price of production because of the high costs of preventative measures and treatments of affected plantations. Of direct and particular concern is the impact of banana diseases on global trade, particularly if importing countries react with import restrictions, tightened SPS measures or additional controls. Australia, for example, has a complete import ban for bananas and other fresh fruit and vegetables in place to protect domestic production from diseases.

Annual economic losses caused by TR4 have been estimated at USD 121 million in Indonesia,

Germany organic and Cavendish banana prices



Source: Peru, Ecuador and Germany Ministries' of Agriculture

⁷ The Southern Mindanao Agriculture, Aquatic and Natural Resources Research and Development Consortium, as quoted by Freshplaza, 10 March 2016

⁸ Altus Viljoen, Stellenbosch University

⁹ Chen, X., T. Dong, Y. Huang, and G. Yi, *Socio-Economic Impact of Fusarium Wilt on Cavendish Banana in China*, 2013, as cited by Aquino *et al.*, 2013

USD 253 million in Taiwan and USD 14 million in Malaysia.¹⁰ Losses incurred in Mozambique since the discovery of TR4 were reported to have amounted to over USD 7.5 million by September 2015.¹¹ Banana growers in Tanzania are on high alert, as the disease threatens to cross the border and affect domestic production. As a preventative measure, Tanzania introduced a ban on banana imports from Mozambique in 2016.

¹⁰ Aquino, Albert P., Genny G. Bandoles, and Virma Anne A. Lim, R&D and Policy Directions for Effective Control of *Fusarium Wilt* Disease of Cavendish Banana in the Asia-Pacific Region, December 2013, retrieved 15 May 2017

¹¹ CGIAR, as cited by All Africa, 28 April 2017. <http://allafrica.com/stories/201704280258.html>

With regards to food security in developing countries, the impact of TR4 has so far been limited because the disease is primarily affecting those varieties that are produced for trade in the international market rather than local consumption. Production of non-traded varieties, which accounts for around 85 percent of total global production, has been less threatened by TR4, because production methods differ from those used in the large-scale commercial banana industry, where the disease spread can be relatively faster. Nevertheless, these varieties are also under threat, and improving plant resistance against banana diseases remains an important research area, especially given the discovery of TR4 in Mozambique. This has sparked concern that the disease may soon affect production in East and Southern Africa, where bananas represent a lifeline for food security.

EXPLORING THE ROLE OF GLOBAL LIQUIDITY IN COMMODITY PRICE BOOMS AND SLUMPS

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Periods of sharply rising and falling commodity prices are not limited to those in agriculture, as most asset prices also partake in booms and busts. This observation naturally warrants an investigation into the determinants common to a broad sample of (agricultural and non-agricultural) commodities. Much of the literature to do with food and agriculture offers a plethora of explanations for high-price episodes, with particular emphasis directed towards the events of the last decade. But many of the arguments do not acknowledge regularities in the wider asset landscape, and hence fall short in providing a unifying framework with which to understand the drivers of commodity price booms and slumps. The existing literature, nevertheless, can be grouped as follows:¹

- *Fundamentals still matter*: rising demand in industrializing economies in the wake of supply constraints, in which a coincidence of idiosyncratic shocks across commodities exacerbates the rise in prices (weather problems, trade policy shocks, geopolitical issues).²
- *Financialization*: financial innovation in commodity markets leading to large inflows of investment funds.³
- *Monetary easing*: the lowering of effective interest rates by the US Federal Reserve both depresses the US dollar and incentivizes inventory build-ups (or defers extraction of mineral commodities and fossil fuels).⁴

From this overall debate, a fourth explanation for commodity price booms and busts emerges that ties in elements of the “fundamentals thesis” with international

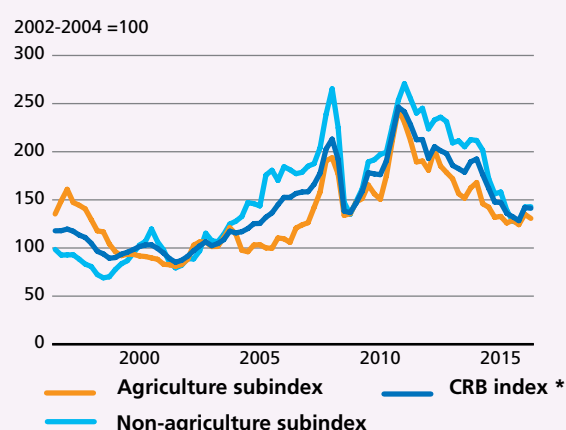
¹ Erceg *et al.* (2009).

² For example, von Braun (2008).

³ For example, Flassbeck *et al.* (2011).

⁴ Frankel (2008) was one of the first proponents of this thesis.

Figure 1. Common movements in commodities



Source: Thomson Reuters, own calculations.

* The CRB index is composed of 17 commodity quotations – crude oil, heating oil, natural gas, wheat, maize, soybeans, soy oil, sugar, cocoa, coffee, cotton, live cattle, lean hogs, platinum, copper, silver and gold – each entering with equal weight. We construct the agriculture subindex based on the quotations for wheat, maize, soybeans, soy oil, sugar, cocoa, coffee and cotton, the non-agriculture subindex based on the remaining components.

transmission mechanisms of monetary policy. Drawing from developments in macroeconomic theory, the US Federal Reserve remains at the centre of the argument, in which neither changes in the money supply nor the interest rate have direct effects on commodity prices; rather, it is how Fed policies and overall monetary stance influence global liquidity and the subsequent impacts to the real economy, i.e. demand and supply.

Given the nature of this hypothesis, we take a broad range of commodities to analyse in relation to global liquidity, not just those in the domain of food and agriculture (softs), but also metals and energy. The commodities that we investigate are those listed in the CRB index depicted in Figure 1. While both statistical and anecdotal evidence confirms the transmission of global liquidity to commodity prices, particularly for agricultural commodities, we do not explicitly model the transmission mechanism. Rather, our objective is to undertake a first step towards a fuller understanding of the processes and posit testable hypotheses for further research.

WHAT IS GLOBAL LIQUIDITY?

In our context, global liquidity captures overall financing conditions, by indicating the willingness and ability of the private sector to provide cross-border funding. Such funding is also in the form of capital flows. What drives flows are opportunities for higher returns. In particular, if

the return on capital – or the interest rate – is low in one country relative to another, then there is incentive to move capital to the higher-yielding country, often termed “search for yield”.

When money flows from one country into another, there are macroeconomic consequences. Taking the receiving country as an example, its currency would appreciate against the currency of the inflow, making exports less competitive and imports cheaper. But this will only materialize if the receiving economy has a freely floating exchange rate. If the recipient country manages its exchange rate against the receiving currency to sustain its exports, it will be required to expand its monetary base to accommodate the inflow. A rise in credit supply typically accompanies this. This would lead to higher (aggregate) demand in the country and higher prices, including those for commodities. When demand is sourced from international markets, then international quotations for those products would also be under pressure. If returns on investment or lending rise higher than the overall price level, then this could instigate yet more inflows, perpetuating a boom in asset prices.

An important factor that governs and perpetuates flows is the perception of risk. If financial institutions deem that there are low prevailing risks, then they will be prepared to provide more and more financing. Likewise, if risks are deemed too high, then they will restrict credit supply or apply a high premium to the borrower. In extreme cases, lenders and investors become “over-leveraged”, in which the value of their debt (measured over maturity) becomes too high measured against their assets. This might be triggered by an unexpected downturn in economic conditions, or simply a decision by the central bank to increase the interest rate in response to inflationary expectations. In turn, the cost of servicing debt will rise, thereby increasing debt value. In this situation, to lower their exposure, institutions will seek to “de-leverage” by selling assets causing their prices to fall and limiting credit supply. The so-called “credit crunch” ensues. Inflows will likely come to an abrupt halt. With falling asset prices, entities will be increasingly over-leveraged, forcing further retrenchment, perpetuating the downward spiral – or slump – in prices.

A graphical representation of international monetary policy transmission is presented in Figure 2, while a more formal exposition is presented in Box 1. The degree of ease of financing conditions can be very informative in measuring the aforementioned vulnerabilities. Indicators of global liquidity do just that.

IS THERE ANY ACTUAL EVIDENCE OF INTERNATIONAL MONETARY TRANSMISSION?

To put theory into practice, certain stylized facts of the global economy first need to be underlined:

1. the rising trend in the depth and breadth of financial integration, manifest in the size, speed and ease by which bank lending or capital may flow around the world;
2. the dominance of the US dollar in funding the global economy via US dollar denominated capital flows or debt;
3. the prevalence of US dollar assets in world balance sheets;
4. the dominance of the US dollar in the pricing of assets in international markets;
5. the phenomenon of “fear of floating” in emerging market economies, in which they do not allow their currencies to truly float against the US dollar; and
6. high trade openness in emerging market economies.

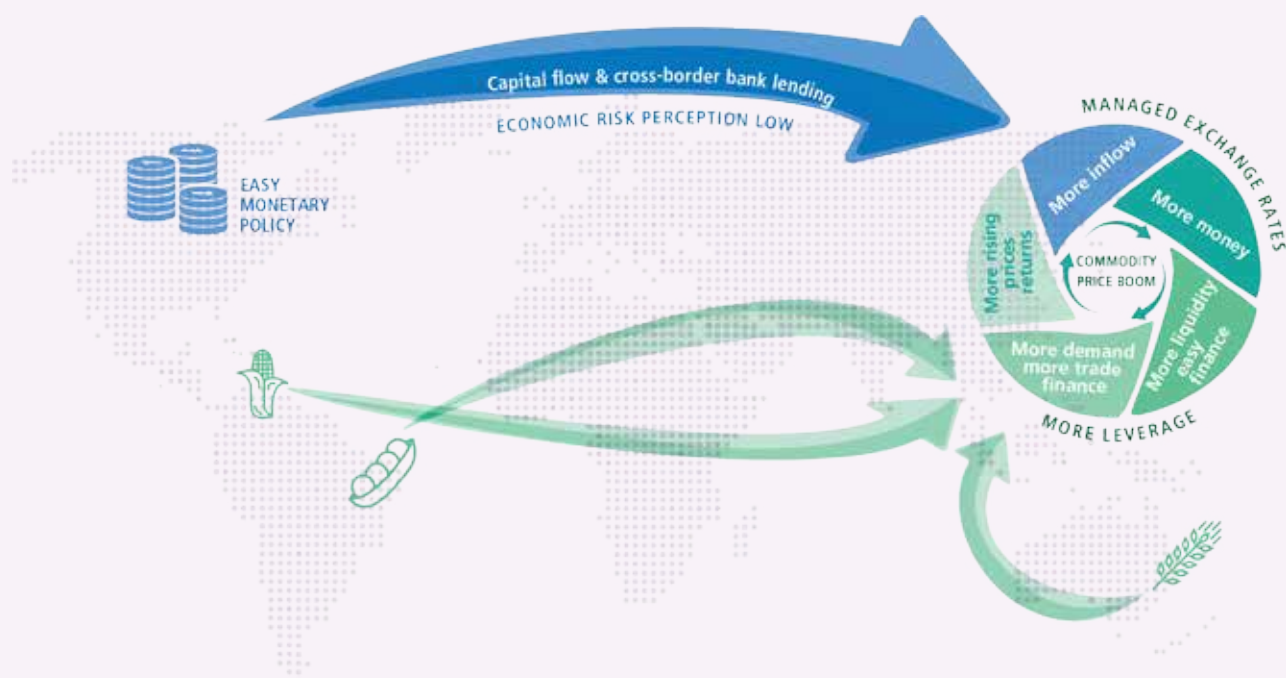
In today’s global economy, international liquidity is dominated by private institutions and is created through cross-border (and credit-yielding) operations by a range of financial institutions.⁵ As alluded to already, capital flows are an important source and global transmitter of monetary policy. Emerging market economies have been at the receiving end of large flows, where commodity transactions in international markets have been important to their overall domestic economic growth. As a percentage of GDP, net capital flows are depicted in Figure 3, which also contrasts these flows against significant monetary policy events in the US. When the policy rate has fallen to near zero or effective zero, the Federal Reserve has sought other unconventional means to influence its monetary stance, mainly through periods of “quantitative easing”.⁶ The figure also depicts a “shadow fed funds rate”, which in basic terms, is the path that the federal funds rate would undertake if negative rates were possible. Note the inverse relationship, albeit moderate, between capital flows and the funds rate, which can be explained by “search for yield” behaviour among interest rate differentials. But flows might also be in the form of investment, triggered by returns on other assets.

⁵ Landau (2011).

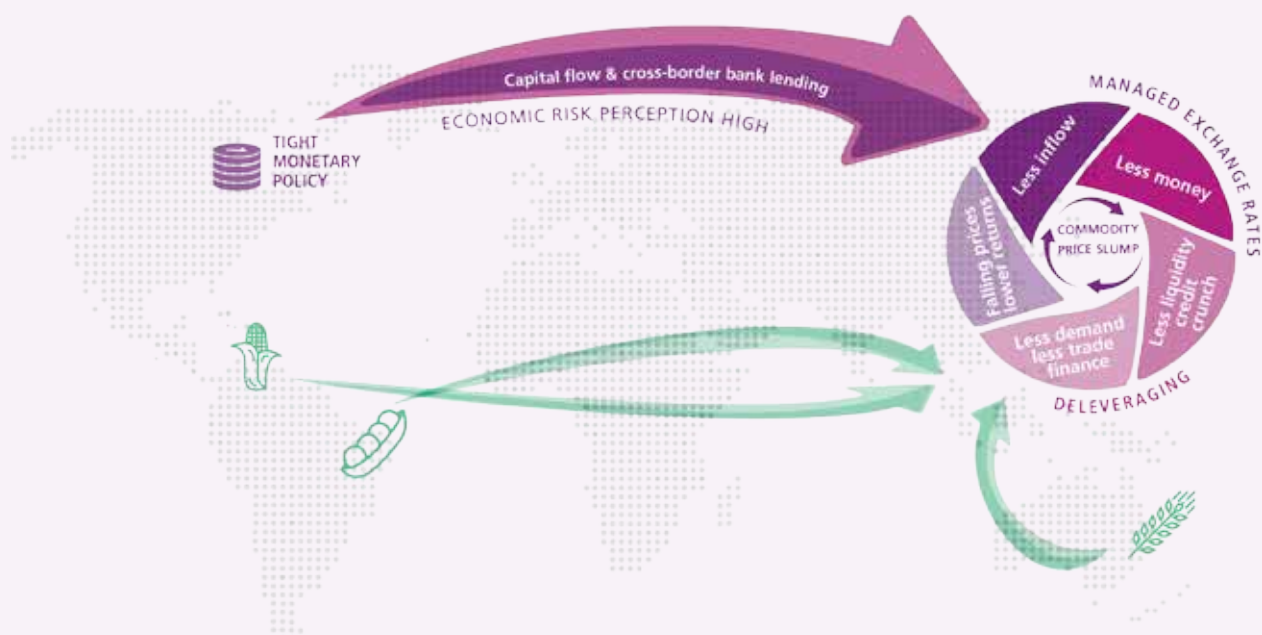
⁶ The central bank typically purchases securities from private banks to create liquidity in capital markets, which increases the money supply.

Figure 2. Putting it all together: global liquidity in action

a) Commodity price boom



b) Commodity price slump



Box 1. International transmission of monetary policy

The traditional model of monetary transmission features perfect capital mobility and frictionless financial markets, and places emphasis on exchange rates as the primary channel for monetary transmission. In the case of a central bank easing monetary policy (increasing money supply through lowering policy rates), domestic demand rises along with demand for imports. However, higher import demand is offset as a consequence of lower effective interest rates, as domestic capital flows out bringing about a fall in demand for the currency and hence exchange rate depreciation. Domestically produced goods will become cheaper than imported goods resulting in lower import demand, i.e. “expenditure switching”. Assuming freely floating exchange rates, exporting countries can adjust interest rates suited to their own macroeconomic conditions. But once the assumptions underpinning the standard model no longer hold, the country is effectively adopting the foreign currency’s monetary policy stance. Macroeconomic theory posits two mechanisms that explain transmission and which are important for global liquidity: risk taking and credit.

The “**risk-taking channel**”: to illustrate, when a country’s monetary policy stance is “easy”, typified by short- and long-term interest rates being low, “search for yield” behaviour is often induced across currency areas, with investors looking to profit from interest rate differentials. High differentials trigger capital inflows or “hot money”. To circumvent the negative impacts of international capital surges (currency appreciation and the concomitant loss of

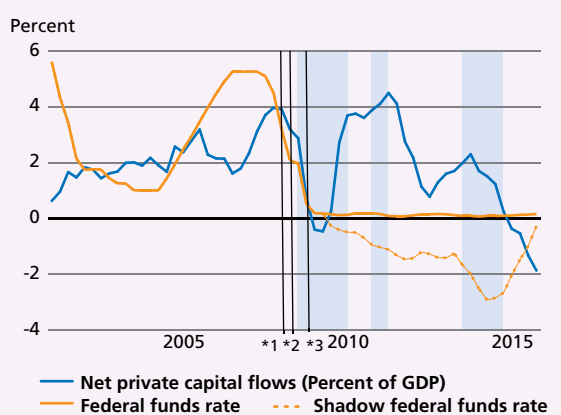
export competitiveness), monetary authorities in recipient economies are required to accommodate the inward foreign exchange by creating additional money to absorb those inflows. The resultant increase in the monetary and credit base of the country will likely be transferred to the real economy via higher demand for assets. Overly optimistic risk perceptions can lead to excessive easing of lending standards and prompt rapid growth in domestic credit supply, with elevated risk tolerance resulting in asset mispricing.¹

The “**credit channel**”: the former chairman of the US Federal Reserve, Ben Bernanke, uses the example of monetary policy tightening to illustrate the credit channel, in which a rise in the central bank rate reduces the net worth and liquidity of borrowers. This increases the effective cost of credit by more than the change in the market interest rate. Simply put, lending institutions may impose a premium (an “external finance premium” as referred to by Bernanke) on borrowing rates, which increases disproportionality more than the borrowing rate itself. At the international level, with many financial intermediaries drawing on short-term credit and issuing floating-rate debt in the same currency, monetary policy in that particular currency area has an immediate cash flow effect: it changes the net worth of economic agents worldwide and their ability to leverage, i.e. the use of debt to finance assets.²

¹ Landau (2011)

² An entity with significantly more debt than equity or net worth is deemed to be “highly leveraged”.

Figure 3. The recent monetary timeline in the US



In terms of sheer size, according to the Institute of International Finance, between 2003 and 2007, net private capital flows to emerging markets increased from USD 280 billion to more than USD 1 200 billion before falling in 2008 and 2009 by almost 50 percent. Capital inflows in emerging markets resurfaced again in 2010, reaching almost USD 910 billion. Both periods were characterised by soaring prices of assets as well as of commodities, during which demand was fuelled in an environment of abundant liquidity, underpinned by strong credit growth and low-risk perception.

CAN CREDIT “CRUNCH” TRADE?

With international markets being prominent in satisfying demand, alterations to liquidity arising from monetary transmission can have pronounced impacts, not only in demand *per se*, but also in the financing of transactions. In 2009, after the onset of the global financial crisis, a senior official at the European Central Bank remarked:⁷

“According to some estimates, around 90% of world trade was partially or totally supported by financial instruments, which in the past years had also experienced a rapid process of innovation. The crisis of confidence which burst after the failure of Lehman brothers, stopped financial flows, especially those between agents located in different countries which are less acquainted with each other and base their transactions on market-based liquid and sophisticated credit instruments, which are however also riskier. The reflow of capital towards the major financial centres and the de-leveraging process, which started in the second half of September 2008, has induced banks to reduce their non-core activities. Export credit, which consists in financing not only the export company but also the foreign importer which buys from the exporter, entails higher risks than domestic activities. Credit lines with foreign counterparties, which require a greater use of capital, tend to be reduced, especially for small and medium size enterprises and towards emerging markets.”

The role of credit in financing global commodity trade, especially Trade Finance⁸ and Structured Commodity Financing⁹, deserves particular attention given the pervasive use of such instruments in international commodity transactions. The influence of liquidity-channelling mechanisms under Structured Commodity Finance in Brazil (a large producer of commodities) and China (a large consumer of commodities) are empirical examples.¹⁰ More generally, such are the volumes delivered and purchased on the international marketplace by both countries (respectively) that they can potentially influence quotations.

⁷ Kaminska (2010).

⁸ Trade Finance typically involves a letter of credit, which is a document from a financial institution guaranteeing payment to an exporter from an importer. Letters of credit are very important in financing international trade, owing to distance, different laws and unfamiliarity between parties to the trade.

⁹ Structured Commodity Finance refers to the financing of cross-border commodity flows, involving different (complex) methods of finance for producers and traders of goods and commodities, including: (i) pre-export finance, using export contracts as collateral; (ii) working capital credit facilities that are secured by current assets; (iii) revolving credit facilities; and (iv) warehouse financing (Global Trade Review, 2017).

¹⁰ Chandrasekran (2014).

The effects of credit expansion and contraction are explored.¹¹

- Under expansionary monetary policy, Structured Commodity Finance incentivized entities in China to import more commodities, owing to the fact that structured lending was offered at interest rates well below market rates,¹² which led to inventories being built beyond optimal levels. In this setting, lending institutions became over-collateralised and were increasingly incentivised to lend more, further extending their balance sheets, i.e. “risk-taking”.
- In Brazil, producers were granted favourable credit access by institutions using as collateral the commodities that were produced and exported. Again, under loosened monetary policy, producers were able to lock-in greater gross margins and the lending institutions were able to take on collateral that was seemingly undervalued. This incentivised the lender to lend more and the borrower to borrow more, as return on capital for both sides increased with increasing commodity prices.
- When commodity prices seemingly rose above their long-run trend values, banks and other financial intermediaries were made vulnerable through having overextended their balance sheets owing to risk over-optimism. But once credit supply began to retrench, financing institutions deleveraged by forcing sales of inventories, often “fire sales” at below equilibrium prices, in order to generate cash flow. Such selling put downward pressure on commodity prices, and perpetuated a spiral of falling quotations.

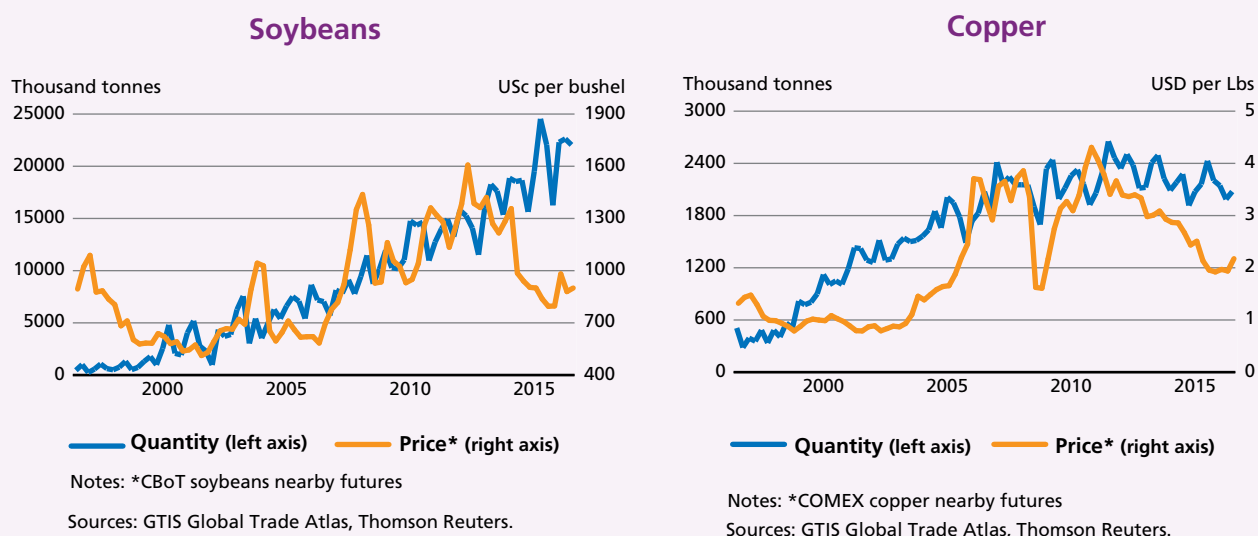
Using soybeans and copper as examples, Figure 4 shows that during the period prior to the 2008 financial crisis, China sustained imports despite rising international quotations.¹³ Since then, however, import volumes have become more responsive to prices. This might be indicative of a “cheap money” – or a high-liquidity – scenario against a return to tighter or more normal credit supply conditions.

¹¹ Chandrasekran (2014).

¹² Clark (2014) confirms the heavy discounting of Structured Commodity Finance rates vis-à-vis domestic rates in China.

¹³ No information is available on the pricing and timing of import orders, which might have been made well before the price realizations in the Figure 4. However, the sustained growth in imports during 2006–2008 appears independent of price movements, which is in support of high liquidity being an important factor.

Figure 4. Quarterly imports of soybeans and copper by China and world prices



WHAT DOES THE STATISTICAL ANALYSIS TELL US?

In choosing an appropriate indicator to measure global liquidity for statistical analysis, we use the Bank for International Settlements (BIS) data on *banks' international claims as percentage of GDP*¹⁴ (see Figure 5) – an indicator which the BIS characterizes as a “broad measure of leverage at a macroeconomic level.” The BIS draws special attention to international credit, pointing out that “although the international component is often small relative to total credit, swings in this component can amplify domestic trends and are highly correlated with booms and busts in global financial conditions.”¹⁵ It emphasizes the value of this international perspective for measuring global liquidity, bringing forward the example of the recent financial crises, where bank credit overall continued to grow, while international credit evaporated.¹⁶

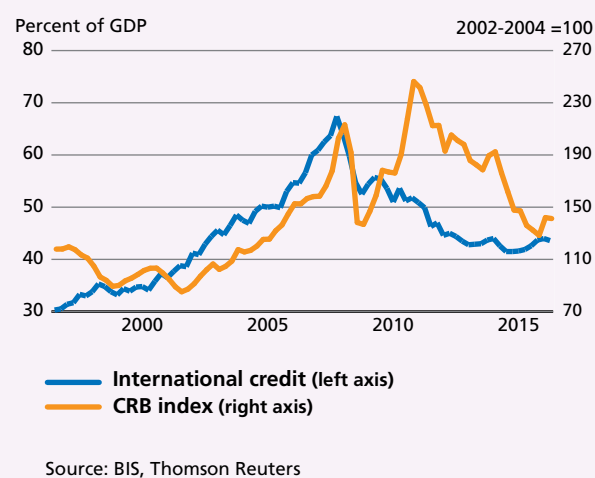
¹⁴ The BIS assembles a host of global liquidity indicators, all of which concentrate on credit – banks' international claims, including as percent of GDP, banks' total claims on the private non-financial sector, and total credit by currency of denomination. In our chosen indicator, banks' international claims comprise banks' cross-border claims as well as local claims in foreign currencies on both the bank and the non-bank sector (nonfinancial corporations, general government, households and non-bank financial institutions). Global GDP data are from the IMF's World Economic Outlook.

¹⁵ BIS (2017).

¹⁶ Domanski (2011).

A shortcoming of our indicator is that it does not cover non-bank financing. With respect to commodity trade funding, “in the past decade, some commodity trading firms have also arranged non-traditional short-term financings that could be characterized as ‘shadow bank’ transactions. [...] These non-bank financing vehicles may become increasingly important because broader financial trends may constrain the availability of, and raise the cost of, traditional sources of transactional financing.”¹⁷

Figure 5. Global liquidity and commodity prices



¹⁷ Pirrong (2014).

However, being a relatively new phenomenon, we do not expect “shadow” transactions to influence our analysis using historical data.

For commodity prices, we examine the CRB Index. Since its creation by the Commodity Research Bureau in 1957, the CRB Index has undergone various revisions. We analyse the version provided by Thomson Reuters as the Equal Weight Commodity Index (also known as the “old CRB Index”). Referring back to Figure 1, 17 commodity quotations – crude oil, heating oil, natural gas, wheat, maize, soybeans, soy oil, sugar, cocoa, coffee, cotton, live cattle, lean hogs, platinum, copper, silver and gold – enter with equal weight. This amounts to an index composition of 47 percent crops, 12 percent livestock, 18 percent energy, and 23 percent metals. In addition to the index itself, we analyse the nearby futures prices of the quotations individually and propose an agriculture subindex, constructed by rescaling and averaging the nearby future prices for wheat, maize, soybean, soy oil, sugar, cocoa, coffee and cotton.

Data are quarterly and cover the past 20 years (1996 Q4 until 2016 Q3), deflated by the standard GDPD and transformed into natural logarithms. The period investigated is a compromise between the need for a sufficient number of observations to conduct robust analysis and the possibility of parameters being subject to structural change by covering too long a time period, which again could undermine inference. The framework employed to examine global liquidity and commodity prices is presented in Box 2.

Our results confirm the existence of a long-run equilibrium relationship (co-integration) between the CRB index and our variable capturing ease-of-financing at a global level, international credit relative to GDP. We estimate that a 1 percent increase in global liquidity – or leverage – is associated with a 1.56 percent increase in the CRB index. Notably, while a rise in credit has a contemporaneous and positive effect on the CRB index, the estimate for the effect of the third quarter lag is negative, hinting at a delayed impact of easier financing conditions on the supply side. Our analysis also supports the existence of such a relationship in the case of the CRB index’ agricultural subindex, although evidence is less compelling than for the CRB index itself. Examining the relationship between individual quotations and the credit-to-GDP ratio, our findings are mixed. Futures prices for numerous commodities appear cointegrated when allowing for a 10 percent instead of a 5 percent chance of mistakenly rejecting the (null) hypothesis of non-existence of a levels relationship. In view of the small sample size of less than 80 observations, high uncertainty of the results might be inevitable for individual commodities. Idiosyncratic shocks make it more difficult to extract a levels relationship when concentrating on single quotations (than on an index, where these average out). Interestingly, for the staple crops that are heavily traded in international markets, we estimate that a 1 percent surge in leverage is associated with roughly the same percentage increase in their futures prices as in the CRB index as a whole: 1.52 percent for maize; 1.77 percent for soybeans; and 1.6 percent for wheat.

Box 2. Empirical approach

We assess the existence of a relationship in levels (or cointegration) between commodity prices and ease-of-financing in the framework of an autoregressive distributed lag (ARDL) model. Having confirmed that the data series are integrated of order at most one (using ADF and KPSS tests), this involves estimating an ARDL model in error correction form,

$$\Delta y_t = \alpha(y_{t-1} + \pi x_{t-1}) + c_0 + c_1 t + \sum_{p=1}^P \beta_p \Delta y_{t-p} + \sum_{q=0}^Q \gamma_q \Delta x_{t-q} + \varepsilon_t$$

for adequately chosen P and Q (according to BIC, but large enough to eliminate serial correlation in the residuals) and, if the information criterion suggests, $c_0=c_1=0$; and conducting a bounds test for the existence of a level relationship between y_t and x_t *. Specifically, this means testing the hypotheses $H_0: \alpha = \rho = 0$, where $\rho = \pi\alpha$, and $H_0: \alpha = 0$. Working with logarithmized data allows us to interpret the estimates as follows – if the test rejects the hypotheses: a 1 percent increase in global liquidity is associated with a π percent increase in commodity prices.

* Pesaran *et al.* (2001)

WHAT DO THE RESULTS MEAN FOR POLICY-MAKING?

There is no escaping the fact that in today's world, lending is imperative to the functioning of economies by its role in financing market activity. Expansionary monetary policy can lead to an easing of financing conditions, triggering surges in global liquidity, characterized by strong credit growth, upward pressure on asset prices and higher risk-taking than normal by investors. Rent-seeking behaviour, in which capital flows to higher yielding assets in economies that do not freely float their exchange rate can generate further liquidity, thereby magnifying vulnerabilities and asset price pressure. Such liquidity-surging periods may reverse suddenly, owing to macroeconomic stress and a policy response that changes monetary stance. In this case, credit supply rapidly retrenches and financing market activity no longer becomes "easy" in which institutions seek to deleverage – colloquially known as a "credit crunch". On a systemic level, it is this collective leveraging and deleveraging of entities in the financial sector that can lead to booms and busts in asset markets.¹⁸

Our research attempted to uncover the phenomenon by presenting plausible, empirically tested mechanisms that can also explain what can trigger momentum and what can trigger collapse in asset prices. We find that global liquidity – the ease of financing cross border flows – may have an important role in explaining high-price events and the low-price events that tend to follow across commodity markets, not least in agriculture. Our results also confirm the anecdotal evidence reported in China. But it must be stressed that our measure of liquidity is at the global level, as well as its influence on prices, thus similar evidence can also be expected in other emerging market economies, and indeed in other countries where commodity transactions are important. Building and testing a theoretical model that captures the full transmission of monetary policy, incorporating behavioural effects at the country level and impacts at the global level would be an important next step.

At this preliminary stage, the policy recommendations that are borne out of research into the wider issue of global financial stability are also valid here. These fall into two categories: those that deal with liquidity surges and the associated build-up of risks; and those that improve the ability to inject liquidity in times of shortage, thus mitigating lending disruptions.¹⁹ When it comes to addressing vulnerabilities, strengthened banking supervision

via a mixture of global capital and liquidity regulations is often suggested, while for addressing international liquidity constraints, the International Monetary Fund is deemed to have an important role.

Ultimately, however, strengthened monitoring mechanisms are important, entailing more transparency and better data on credit supply and leverage: "one can imagine a system where every credit provider has to disclose the amount of its loans and the identity of the borrower ... and borrowers would have to disclose their leverage. In this way there would develop a transparent credit market with emerging lending rates, depending on the riskiness of the creditor and the borrower".²⁰

In the absence of an ideal system that offers full disclosure and transparency, policy-makers who rely on international markets for food and other key commodities are required to be on the watch for a build-up of vulnerabilities in the global economy. This would necessarily involve understanding monetary stance in the US, monitoring capital flows to commodity-dependent economies and tracking closely global liquidity indicators.

REFERENCES

- Aymanns, C. & Farmer, J. D.** 2015. The dynamics of the leverage cycle. *Journal of Economic Dynamics and Control*, 50:155-179.
- BIS.** 2017. BIS global liquidity indicators: methodology. Available online at http://www.bis.org/statistics/gli/gli_methodology.pdf. Accessed 7 April 2017.
- Chandrasekaran, P.** 2014. Is structured commodity finance a hidden bubble? Available online at <http://www.thehindubusinessline.com/markets/commodities/is-structured-commodity-finance-a-hidden-bubble/article5839856.ece>. Accessed 8 May 2017.
- Clark, J. J.** 2014. Trade finance: developments and issues. Report submitted by a Study Group established by the CGFS, Committee on the Global Financial System, Basel.
- Clark, J., Converse, N., Coulibaly, B. & Kamin, S.** 2016. Emerging market capital flows and U.S. monetary policy. International Finance Discussion Paper Note, Board of Governors of the Federal Reserve System, Washington, DC.

¹⁸ Aymanns et al. (2015).

¹⁹ ECB (2011).

²⁰ Poledna et al. (2014).

- Domanski, D., Fender, I. & McGuire, P.** 2011. Assessing global liquidity. *BIS Quarterly Review*, December 2011. Bank for International Settlements, Basel.
- ECB.** 2011. Global liquidity: measurement and financial stability implications. *Financial Stability Review*, December 2011:140-148. European Central Bank, Frankfurt.
- Erceg, C. J., Guerrieri, L. & Kamin, S. B.** 2009. Did easy money in the dollar bloc fuel the global commodity boom? International Finance Discussion Paper 979, Board of Governors of the Federal Reserve System, Washington, DC.
- Flassbeck, H., Bicchetti, D., Mayer, J. & Rietzler, K.** 2011. Price formation in financialized commodity markets: the role of information. Study prepared by the secretariat of the United Nations Conference on Trade and Development, United Nations, New York and Geneva.
- Frankel, J. A.** 2008. The effect of monetary policy on real commodity prices. In Campbell, J., editor, *Asset Prices and Monetary Policy*. University of Chicago Press.
- Global Trade Review.** 2017. Structured trade and commodity finance. Available online at <http://www.gtreview.com/structured-trade-and-commodity-finance>. Accessed 22 May 2017.
- Kaminska, I.** 2010. Contingent liabilities, letter of credit edition. Available online at <https://ftalphaville.ft.com/2010/12/10/432381/contingent-liabilities-letter-of-credit-edition>. Accessed 8 May 2017.
- Pesaran, M. H., Shin, Y. & Smith, R. J.** 2001. Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3):289-326.
- Pirrong, C.** 2014. The economics of commodity trading firms. Whitepaper, Trafigura.
- Poledna, S., Thurner, S., Farmer, J. D. & Geanakoplos, J.** 2014. Leverage-induced systemic risk under Basle II and other credit risk policies. *Journal of Banking & Finance*, 42:199-212.
- von Braun, J.** 2008. Rising food prices: what should be done? IFPRI Policy Brief, International Food Policy Research Institute, Washington, DC.

MARKET POLICY DEVELOPMENTS

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Algeria	Grains	Dec-16	Value added tax	Increased the value-added tax (VAT) rates on concerned goods, including barley, oats, maize, sorghum, malt, starch, gluten, pasta and couscous from 7 to 9 percent. Moreover, it increased the VAT for feed products from 17 percent to 19 percent. The new rates are effective from January 2017. Wheat remains VAT exempt.
	Feed grains	Apr-17	Import licenses	Awarded licenses until 15 April 2017 to import feed grains, including barley and maize meal, due to import restrictions that caused shortages on the local market. No details have been given for the quantities allowed to be imported.
Argentina	Maize	Nov-16	GMO policy	Announced the release of new varieties of insect-resistant genetically treated maize through Resolution 96-E/2016.
	Wheat	Jan-17	Export tariff	Established export rebates on many agro-industrial products to improve their competitiveness and to offset high production taxes. The export rebate for wheat flour increased from 0 percent to 3 percent for bulk or in bags, and to 4 percent for 1 kg bags.
	Wheat	Jan-17	Export policy	Eliminated Resolution 67 of July, which obliged exporters to import wheat if supplies in the domestic market were short. The measure aims at promoting a more transparent domestic market.
	Wheat	Sep-16	Procurement price	Increased the procurement price of high quality wheat from AZN 270 (USD 165) per tonne to AZN 280 (USD 171) per tonne.
Azerbaijan	Wheat	Dec-16	Import tariff	Extended VAT exemption for import and sale of wheat, and production and sale of wheat flour and bread. Exemption period starts from 2017 and extends for 3 years.
	Wheat	Feb-17	Bilateral agreement	Ministry of Food signed a government-to-government agreement with the Russian Federation to import 200 000 tonnes of wheat. The shipment is expected to arrive by March 2017.
Bangladesh	Wheat	Apr-17	Government procurement	Set to procure 100 000 tonnes of wheat at BDT 28 per kg (USD 34.2 per tonne) from 18 April 2017 to 30 June 2017 in order to sustain agricultural production and farmers' incomes.
Bolivia	Grains	Feb-17	Government market intervention	Allotted USD 700 000 to fumigate approximately 33 000 ha of maize, sorghum and other crop fields to control locust invasion.
	Maize	Oct-16	GMO policy	Approved imports of three genetically modified US maize varieties for animal feed production.
	Maize	Oct-16	Import tariff	Extended the duty exemption on maize shipments up to 1 million tonnes from non-Mercosur countries (set in April 2016 for a period of six months) until 31 December 2016.
Brazil	Wheat	Nov-16	Government market intervention	Authorized the national supply company (CONAB) to hold wheat auctions in the event of a price fall below BRL 644.17 (USD 205.48) per tonne, in order to ensure farmers' revenue.
	Wheat	Nov-16	Government market intervention	Announced that financial support of around BRL 150 million (USD 43.8 million) will be provided to help local wheat farmers sell up to 1.7 million tonnes of wheat to the local food industry, through the Premium for Product Outflow Programme (PEP) and the Equalization Premium Paid to the Producer (PEPRO). This financial programme is a response to depressed prices and market activity due to the record domestic crop.
	Maize	Jan-17	Infrastructure support	Established the Brazil-China Cooperation Fund for Increasing Productive Capacity for USD 20 million. The fund will finance infrastructure projects, with a view to improving the link between soybean and maize cropping area and ports.
	Wheat and maize	Jan-17	Production support	Increased the subsidized credit line available to farmers to prepare for the 2017–2018 crop to BRL 12 billion (USD 3.72 million) from the 2016–2017 credit line of BRL 10 billion (USD 3.08 million). This crop financing, which also covers wheat and maize, will give producers access to reduced-interest loans in order to purchase seeds, fertilizers and pesticides.
	Wheat	Feb-17	Production support	Launched a financial support programme for wheat producers in the Southern Region, who had incurred debt from the 2016/17 wheat crop. The loan repayment is due within six months at an interest rate set at 8.75 percent per annum, similar to the rural credit scheme.
	Maize	Mar-17	Government market intervention	Concluded a freight contract to remove 33 700 tonnes of maize from its public stocks in Mato Grosso to be used in the Over-the-Counter Sales Programme for the benefit of meat producers, as of April 2017.
	Maize	Apr-17	Stocks release	Authorized the sale of up to 250 000 tonnes of maize from public stocks to meet meat producers' demand.
	Wheat	Apr-17	Procurement price	Reduced the minimum price for wheat for 2017/18 by 3.6 percent.
	Maize	Apr-17	Producer subsidies	Approved to grant BRL 500 million (USD 159 million) for maize producers' subsidies.
	Maize	Apr-17	Government procurement	Announced the purchase of up to 1 million tonnes of maize produced in the growing State of Mato Grosso, through an auction of option contracts, which will last until 15 September. The price has been set at BRL 17.87 per 60 kg bag (USD 95.5 per tonne).
	Wheat	Apr-17	Procurement price	Announced a reduction of 3.6 percent in the minimum price of all wheat types for the 2017/18 season. Prices dropped from BRL 21.24 per 60 kg bag (USD 112.2 per tonne) in 2016/17 season to BRL 20.48 per 60 kg bag (USD 108.1 per tonne).

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
China	Maize	Sep-16	Export quota	Issued export permits to state-owned companies to sell up to 2 million tonnes of maize.
	Wheat and maize	Oct-16	Import quota	Announced the 2017 low-tariff rate import quotas for wheat, maize and rice. The quotas for wheat, set at 9.6 million tonnes, and for maize, set at 7.2 million tonnes, remain at the same volumes as the past few years.
	Maize	Oct-16	Procurement price	Set the maize procurement price for the autumn 2016 crop in the Inner Mongolian Autonomous Region at: CNY 0.65 per kg (USD 96.59 per tonne) for the Hulunbeier area; CNY 0.68 per kg (USD 101.05 per tonne) in the Tongliao and Chinfeng areas, CNY 0.7 per kg (USD 104.03 per tonne) in the Xilin Gol area and at CNY 0.71 per kg (USD 105.51 per tonne) in the west area.
	Maize	Oct-16	Government procurement	Suspended auctions of maize from state reserves until May 2017, due to the replacement of the state stockpiling scheme with subsidies to maize processors, which was announced earlier in 2016.
	Wheat	Oct-16	Procurement price	Announced the 2017 minimum support price for wheat at CNY 2 360 (USD 349) per tonne, maintaining the level of the past three years.
	Wheat	Oct-16	Import quota	Established an import quota system which only allows 10 percent of the allocated import quota to private buyers, with the rest allocated to the state-owned companies. The wheat import quota for 2017 has been set at around 9.64 million tonnes, unchanged from 2016.
	Maize	Oct-16	Credit guarantee	Set up a credit guarantee fund for purchasing maize from state-owned companies in Heilongjiang province.
	Maize	Oct-16	Processor subsidies	Provided subsidies to large maize processors of the Jilin, Liaoning and Heilongjiang provinces in order to boost domestic consumption. The subsidies were set at CNY 200 (USD 29.50) per tonne.
	Grains	Nov-16	Government market intervention	Announced, through its 13th five-year plan, that more than 95 percent of open-air grains storage will be eliminated by 2020. This also targets zero growth in the use of fertilizers and pesticides by 2020.
	Maize	Dec-16	GMO policy	Prohibited the cultivation, processing and selling of genetically modified crops, including maize, in Heilongjiang Province for five years, as of 27 May 2017.
	Maize	Dec-16	Government market intervention	Announced plans to cut a further 667 000 ha of maize plantations in the North and Southwest regions in 2017, while encouraging farmers to switch production towards animal feed crops.
	Maize	Dec-16	Transport measures	Lowered highway toll fees for trucks carrying maize in Heilongjiang province from 20 December 2016 to 30 April 2017.
	Maize	Jan-17	Licensing requirements	Suspended trial licenses for 11 research institutes that violated rules for testing genetically modified crops, including maize and rice.
	Grains	Jan-17	Production support	Announced an agreement signed between the state-owned fertilizer trading company, Sinochem, and China Grain Reserves Corporation (Sinograin) on 10 January 2017, to collaborate on strategic stockpiling, rotation of grain reserves and the provision of modern agricultural services.
	Grains	Jan-17	Import duty	Increased anti-dumping duties on US distillers dried grains (DDGs) from 33.8 percent to a level ranging between 42.2 and 53.7 percent. Countervailing duties were set between 11.2 and 12 percent, up from 10 and 10.7 percent.
	Wheat and maize	Feb-17	Production support	Unveiled 2017 No. 1 Document, which focuses on supply-side reform to boost China's agricultural productivity, raise producer incomes and promote rural economic growth. It states that the area of staple grains (rice and wheat) will remain stable in the foreseeable future, while maize area planted will continue to decrease in regions not ideally suited for maize production.
	Grains	Feb-17	Producer subsidies	Ministry of Land and Resources reported that the central government plans to spend around USD 248 billion to promote land consolidation and urbanization, in order to achieve its goals of higher yields and grain self-sufficiency.
Ecuador	Wheat	Dec-16	Import tariff	Extended the application of the current zero percent ad valorem exemption and suspended the application of the Andean Price Band (variable levy) until 31 December 2021.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Egypt	Wheat and maize	Dec-16	Government market intervention	Announced that the General Organization for Export and Import Control (GOEIC) will conduct wheat inspections at shipping and arrival ports, replacing government inspectors. The GOEIC, part of the Trade Ministry, is responsible for testing imported and exported products to ensure they meet quality standards. It will oversee inspection of maize and soybean imports, in addition to wheat.
	Wheat	Nov-16	Procurement price	Set wheat procurement price for 2017 harvest at EGP 300 (USD 15.87) per tonne, 7 percent higher than in the past years in local currency terms and slightly above the current level in the international market.
	Wheat	Jan-17	Government procurement	Announced that the local wheat crop will be bought at international prices in the coming season, after its decision in November to buy local wheat at a set price of 300 EGP (USD 15.87) per tonne.
	Wheat	Jan-17	Government market intervention	Streamlined the import procedures applicable to grains. Notably, the GOEIC will be responsible for safety inspections upon the arrival of all grain shipments, and will coordinate with the quarantine authorities as appropriate. Accredited companies will be responsible for pre-shipment inspection.
	Wheat	Jan-17	Government market intervention	Announced an end to the practice of allowing wheat storage in open air silos, and appointed an inspection company to guarantee that the quantities stored are not overstated.
	Wheat	Mar-17	Government procurement	Stated that receipt of local wheat for the 2017 season will begin in mid-April and extend three months, until 15 July. The receipt of wheat will be limited to the official silos and barns of the subsidiaries of the Ministry of Supply.
	Wheat	Mar-17	Government market intervention	Minimized the use of private sector silos in this year's wheat harvest, in order to curb fraud in local procurement. This measure is part of reforms aimed at ending fraud adopted earlier this year.
	Wheat	Mar-17	Import policy	Extended the increased limit for moisture in imported wheat until at least November 2017. The limit was increased from 13 to 13.5 percent in February 2017.
	Wheat	Mar-17	Government support	Allocated EGP 16 billion (USD 910.16 million) to the General Authority for Supply Commodities (GASC) in order to buy 4 million tonnes of local wheat.
	Wheat	Mar-17	Government procurement	Set price for procurement from farmers, ranging from EGP 555 per ardeb (USD 20.27 per tonne) to EGP 575 per ardeb (USD 21 per tonne). Local wheat would be procured between 15 April and 15 July, and supplies bought would only be stored in public facilities.
	Wheat	May-17	Import requirements	Raised the required level of protein content in wheat purchases by 0.5 percent for most origins.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
European Union	Maize	Sep-16	GMO policy	Authorized the import of 11 varieties of genetically modified maize produced by Syngenta Crop Protection, for food and feed use. The permit will be valid for ten years.
	Grains	Oct-16	Trade policy	Approved the expansion of the tariff rate quotas (TRQs) allocated to a number of agricultural products from Ukraine. In the grains sector, the European Parliament and the Council of Europe approved the opening of annual duty free TRQs of 100 000 tonnes of wheat, 650 000 tonnes of maize and 650 000 tonnes of barley. This is in addition to the pre-existing duty free TRQs of 950 000 tonnes of wheat, 400 000 tonnes of maize and 250 000 tonnes of barley.
	Wheat	Feb-17	Bilateral agreement	As part of the Economic Partnership Agreement between the European Union and the Southern African Development Community (SADC), duty-free tariff quota access was granted for 300 000 tonnes of European wheat into members of the Southern African Customs Union (SACU). Tariff quota imports, which started on 1 February and will run until 30 November 2017, are being channelled through designated South African and Namibian ports of entry.
India	Wheat	Nov-16	Stocks release	Announced the release of 1 million tonnes of wheat from its strategic reserves in the open market, in order to abate domestic prices.
	Wheat and barley	Nov-16	Government procurement	Raised wheat and barley procurement price for rabi crops of 2016-17 season, in order to boost output. This includes increasing wheat price from INR 15 250 (USD 225) to INR 16 250 (USD 239.76) per tonne (up by 6.6 percent y/y) and barley from INR 1 225 to INR 1 325 per quintal (USD 180.7 and 195.5 per tonne) (up by 8.2 percent y/y).
	Wheat	Dec-16	Import duty	Removed the 10 percent import duty on wheat, enacted immediately for an unspecified period, in order to deal with high domestic prices.
	Wheat	Dec-16	Import policy	Stated that government agencies will not import wheat in the near term, as private players ramped up overseas purchases following a rally in local prices.
	Wheat	Feb-17	Government procurement	Increased the wheat procurement target for 2017-18 rabi marketing season – from 22.96 million tonnes to 33 million tonnes, almost 10 percent higher, with targets to buy more wheat from Punjab, Haryana, Madhya Pradesh and Uttar Pradesh States.
	Wheat	Feb-17	Import policy	Announced that after 31 March 2017, the fumigation policy currently applied on French, Russian and Ukrainian wheat shipments at Indian ports will be modified. Starting from 1 April 2017, the plant quarantine authority will only accept cargoes fumigated with methyl bromide in the country of origin.
	Wheat	Mar-17	Import duty	Reintroduced a 10 percent import duty on wheat for an unspecified period, after a gap of nearly four months, which allowed big purchases from overseas.
Indonesia	Wheat	Mar-17	Import policy	Agreed to establish a transition period to resolve the issue of treating imported wheat with methyl bromide from the Russian Federation. The period ends 30 June 2017.
	Wheat	Jan-17	Food safety	Formally approved the EU (France) food safety system for grains, fruits and vegetables. This measure authorizes France to use its own testing systems under the food safety law adopted by Indonesia last year. Furthermore, it clears the way for a resumption of imports, including wheat.
	Maize	Feb-17	Government procurement	State grains agency Bulog announced plans to allocate IDR 37 trillion (USD 2.7 billions) for the procurement of domestic commodities, including rice, maize and soybeans.
	Maize	Mar-17	Producer subsidies	Announced the provision of maize seeds and greater quantities of subsidized fertilizers to producers who agree to plant maize. Under this programme, 1 million ha could be allocated to maize by the end of 2017.
Iran	Wheat	Jan-17	Export policy	Announced the intention to export new crop wheat, including milling wheat, durum and other by-products placed for sale on Iran's Mercantile Exchange (IME).
Iraq	Wheat	May-17	Government procurement	Authorized the Ministry of Trade to purchase wheat directly, to guarantee food security. The Ministry will be able to deal with national grain boards recognized by their respective countries and the International Grain Board.
Japan	Wheat	Oct-16	Import policy	Halted, temporarily, the simultaneous buy and sell (SBS) auctions used for wheat imports, in order to review the system and improve its transparency.
	Wheat and barley	Dec-16	Import policy	Resumed SBS auctions for wheat, barley and rice.
	Maize	Dec-16	Government market intervention	Approved a proposal by the Ministry of Agriculture, Forestry and Fisheries (MAFF) proposal to permit soybean meal, coconut oil meal, rapeseed meal, cottonseed oil meal, soybean hull, soy pulp (okara) and alfalfa meal to be mixed with duty-free feed maize for the production of mixed feed.
	Maize	Feb-17	Stocks release	Approved the utilization of 330 000 tonnes of maize from emergency stockpiles to meet the domestic demand for feed. Feed shortages were due to delayed grain shipments caused by heavy storms in the US, which is Japan's main maize supplier.
	Wheat	Mar-17	Procurement price	Raised prices of imported wheat sold to the private sector by 4.6 percentage, effective from 1 April 2017. This increase is the first in two years and the weighted average price of five imported wheat brands will go up to JPY 50 690 (USD 444.8) per tonne from the current JPY 48 470 (USD 425.3).

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Kazakhstan	Wheat and barley	Nov-16	Procurement price	Increased procurement prices from state-owned company for wheat and barley, by 21 percent and 42 percent, respectively.
	Wheat	Nov-16	Government market intervention	Approved a buy-back right for farmers selling their wheat to the national body of the Food Contract Corporation (FCC) in case of an increase in market price. Through this measure, farmers have an option to buy-back their wheat from the FCC, if a price increase occurred during the first quarter of 2017. Requests can be submitted until 15 February 2018.
	Grains	Feb-17	Government procurement	Launched the forward procurement campaign for 2017 crops, including wheat, maize, millet, rye and soybeans, among others. Under the campaign, the FCC, the national body managing the state grain reserves, authorizes forward procurement purchases from farmers at set prices to support spring season planting activities starting in May 2017. Conditions to access the advance payments include guarantees from producers' credit institutions, and a 5 percent commission on the advance amount and delivery of the crop by 1 December 2017 at the latest.
	Wheat	Apr-17	Bilateral agreement	Agreed to fortify at least 50 percent of its wheat flour exports to Afghanistan with vitamins and minerals. The request from Afghanistan comes from its need to combat various health problems among its population.
Kenya	Maize	Oct-16	Procurement price	Increased the purchase price of a 90 kg bag of maize to KES 3 000 (USD 329 per tonne) from KES 2 300 (USD 252 per tonne).
	Maize	Jan-17	Export ban	Temporarily banned maize export, in order to respond to the emergency food shortage, due in part to regional drought.
	Maize	Feb-17	Import quota	Allowed millers to import 5 million 90 kg bags of non-GM yellow maize for production of animal feed over the next three to four months, in order to cushion consumer prices of white maize following a drought. Yellow maize has not been imported since 2011.
	Maize	Mar-17	Import duty	Removed import duties on maize and exempted bread and maize flour from VAT for the next four months.
	Maize	Apr-17	Licensing requirements	Licensed wheat companies from Ukraine to export 363 000 tonnes of yellow maize on a duty-free basis until 30 August.
	Maize	May-17	Subsidies support	Approved the subsidies programme for maize importers in order to help lower the cost of maize flour, which increased due to a regional drought. The price of a 90 kg bag of maize will be KES 2 300 (USD 247.8), a decrease from the previous KES 4 000 (USD 387.3) in 2016.
Malawi	Maize	May-17	Export ban	Lifted maize export ban following a larger-than-expected 2017 maize harvest.
Mexico	Wheat	Jan-17	Food safety	Notified the WTO of its introduction of new Sanitary and Phytosanitary Measures (SPS) requirements for wheat imported from Argentina.
Mongolia	Wheat	Feb-17	Production support	Agreed to provide financial incentives to wheat farmers selling their wheat to national flour milling companies or for state reserve, in order to boost wheat production. The financial incentive will be MNT 55 000 (USD 531.3) per tonne for first-class wheat, and MNT 50 000 (USD 483) per tonne for second- to fourth-quality wheat.
	Wheat	Apr-17	Import duty	Increased milling wheat import duty from 30 percent to 135 percent, effective from publication in the official bulletin until 31 December 2017.
	Wheat	May-17	Production support	Introduced measures to support local wheat output. These measures include a flat rate subsidy of MAD 10 per 100 kg (USD 10.7 per tonne) of soft wheat to millers who opt for local wheat instead of imports and a storage premium of MAD 2 per 100 kg (USD 2.01 per tonne) per night to storage agencies. The measures go into effect for wheat locally harvested between 15 May and 15 October.
Morocco	Wheat	May-17	Procurement price	Set a reference price for standard quality wheat at MAD 280 per 100 kg (USD 281.9 per tonne).

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Nigeria	Wheat	Nov-16	Import ban	Announced the stoppage of wheat imports from the Russian Federation in order to save foreign currency reserves.
	Wheat and maize	Nov-16	Government support	Introduced a number of structural and transparency measures to strengthen further the implementation of the Growth Enhancement Scheme, under which rice, wheat, maize and groundnut farmers are eligible for support. The new policies include increasing government participation in the redemption of claims, introducing fertilizer stock tracking, and the adoption of a single commodity value chain based on comparative advantage.
	Wheat	Dec-16	Import quota	Revealed its intention to halve wheat import – starting from January 2017, through its new Agricultural Promotion Policy (APP), which aims at a 50 percent cut in wheat imports by 2018.
		Mar-17	Production support	Approved NGN 50 million (USD 163 677) interest-free loan in favour of wheat farmers in Kano State. The loan was approved by the Kano State governor.
	Maize	Mar-17	Production support	Started training 500 farmers on maize and cassava value chain in Nasarawa State. The training would teach farmers to use maize in producing diverse edibles for human consumption.
Pakistan	Wheat	Dec-16	Procurement price	Approved a wheat procurement price of PKR 1 300 per 40 kg (USD 310.2 per tonne) for the next fiscal year.
	Wheat	Mar-17	Government procurement	Announced the purchase of 7.05 million tonnes of wheat for PKR 225 billion (USD 2 146.5 million).
	Wheat	Apr-17	Government procurement	Announced the plan to purchase from farmers 1.64 million wheat bags during 2017 at PKR 1 300 per 40 kg bag (USD 310.2 per tonne) – the price set in December 2016.
Philippines	Maize	Dec-16	Producer subsidies	Allotted around PHP 3 million (USD 60 533.9) worth of maize seeds and fertilizers to maize farmers in Vizcaya province, which produce less than 4 tonnes of maize crops per hectare, in order to boost maize production in the province.
	Maize	Mar-17	Marketing measures	Introduced the country's first credit card facility for maize farmers.
Russian Fed.	Wheat	Mar-17	Procurement price	Set grain intervention prices for the 2017/18 marketing season. Prices for third-class wheat were reduced by 5.5 percent to RUB 10 300 (USD 183.09), fourth-class wheat by 13.5 percent to RUB 9 000 (USD 155.70) per tonne, fifth-class wheat by 13.6 percent to 7 600 (USD 131.48) per tonne.
	Wheat	May-17	Procurement price	Published new prices for 2017 intervention purchases. Approved for the first time prices for wheat Class 1 and 2, set at RUB 12 500 (USD 216) per tonne and RUB 11 500 (USD 199) per tonne, respectively.
	Maize	Jan-17	Procurement price	Revised upwards the minimum farmgate price for maize to RWF 200 per kg (USD 244 per tonne), from RWF 160 (USD 212.8 per tonne) set a year ago. This measure aims to curb illegal maize trade and allow the market to absorb the maize expected to be produced in the upcoming season.
Rwanda	Wheat	Jan-17	Production support	Released 10 new wheat varieties that are bakers' choice in both national and international markets. The Rwanda Agriculture Board (RAB) has developed the new varieties, released in the Burera District. Researchers confirmed the adaptability of the varieties to the country's agro-ecology.
	Wheat	Mar-17	Production support	Announced to allocate more land for wheat production in order to be less dependent on wheat imports for domestic demand. The government is targeting to put 95 000 hectares under wheat farming by 2019, in order to boost local production of the crop.
Saudi Arabia	Barley	Sep-16	Government market intervention	The Saudi General Grains Organisation (SAGO) is taking over the regulation of barley imports from the Ministry of Finance. The change will be effective from October 2016.
South Africa	Wheat and barley	Sep-16	Tax policy	Approved the introduction and promulgation of statutory levies (VAT excluded) for wheat and barley, both set at ZAR 25 per tonne (USD 1.77 per tonne). The levies are on locally produced winter cereals only to be collected and administered by the SA Cultivar and Technology Agency (SACTA) over a period of two years, ending in 2017/18 (Oct-Sept).
	Maize	Dec-16	Import policy	Announced the removal of import restrictions on some biotech maize products. These products, which were previously ineligible for import, include several grown by US maize producers.
	Wheat	Mar-17	Import tariff	Announced a 25 percent reduction of the wheat import tariff – from ZAR 1 591 (USD 118.52) to ZAR 1 190.19 (USD 91.59) per tonne.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Syria	Wheat and barley	Dec-16	Procurement price	Increased the procurement price for wheat and barley for the next season, with wheat increasing to SYP 125 per kg (USD 580 per tonne) from SYP 100 per kg (USD 470 per tonne) and barley increasing to SYP 100 per kg (USD 470 per tonne) from SYP 75 per kg (USD 352.5 per tonne). The measure aims to provide an incentive to boost domestic production.
	Wheat	Apr-17	Government procurement	Allocated SYP 70 billion (USD 326.6 million) for marketing this year's wheat crop.
	Wheat	May-17	Procurement price	Raised the wheat procurement price to SYP 140 per kg (USD 650 per tonne) from previous SYP 125 per kg (USD 580 per tonne) in order to offset higher production costs due to the conflict which continues in grain-producing areas.
Tanzania	Grains	Sep-16	Export ban	Lifted its ban on grain exports after rains improved yield prospects. This measure will ease the grain shortage in East African countries, which have suffered from the worst drought of the past three decades.
	Maize	Sep-16	Procurement price	Set the price for domestic maize at THB 8 per kg (USD 229 per tonne).
Thailand	Maize	Nov-16	Production subsidies	Approved a THB 8 billion (USD 162.68 million) credit line through the Bank for Agriculture and Agricultural Cooperative (BAAC) to encourage rice farmers in irrigated areas to shift to maize production from November 2016 to June 2017. Participating farmers receive a loan of THB 4 000 per rai (USD 508 per hectare) and a 3 percent interest rate subsidy.
	Wheat	Jan-17	Import policy	Restricted feed wheat imports (HS 1001.99.90) under new regulations that require import permits for the import of feed wheat.
	Wheat and maize	Jan-17	Import policy	Stated that feed makers importing wheat will be subject to a 3 to 1 domestic maize absorption requirement. This means that, in order to import a tonne of feed wheat, a mill would have to use 3 tonnes of domestic maize.
Turkey	Grains	Nov-16	Production subsidies	Launched the National Agriculture Project, a subsidy programme for 19 strategic crops determined by the government including wheat, maize, rye and oats. Effective as of January 2017, the programme aims to diversify agricultural production, improve productivity and reduce water-intensive crops in structurally disadvantaged areas. Subsidies are to be paid in two instalments per year.
	Grains	Mar-17	Import duty	Suspended duty-free wheat, maize and other products imported from the Russian Federation by not including it in the list of countries that can deliver commodities free of duties effective from 15 March 2017 and imposing a 130 percent ad valorem duty on imports of these commodities.
	Wheat	May-17	Import policy	Lifted restrictions on Russian wheat imports.
Ukraine	Maize	May-17	Import policy	Authorized the Turkish Grain Board (TMO) to import 500 000 tonnes of maize duty-free until 31 December 2017.
	Wheat and barley	Sep-16	Export quota	Agreed to limit 2016/17 (Jul/Jun) wheat exports to 16.5 million tonnes, with milling wheat accounting for 60 percent of the total. The ceiling for barley exports was put at 5.6 million tonnes.
United States	Grains	Oct-16	Production support	Announced safety-net payments of more than USD 7 billion, due to low commodity prices during the 2015 crop year. Eligibility for such payments is limited to farmers who enrolled under the Agriculture Risk Coverage or the Price Loss Coverage Programmes for base acres of maize, soybeans, wheat, rice, barley, grain sorghum, lentils, oats, peanuts, dry peas and canola.
Uzbekistan	Wheat	Apr-17	Import tax	Reduced the import tax on wheat flour from 11 percent to 5 percent.
Venezuela	Wheat and maize	Oct-16	Import tariff	Eliminated – for one year – import tariffs and VAT on 94 agricultural products of which there is a shortage in the country, including wheat and maize, raw materials and live animals.
	Maize	Dec-16	Procurement price	Set new prices for sugar cane, maize flour, white and yellow maize, and coffee. The price of pre-cooked maize flour was raised 263.3 percent at VEF 639 per kg (USD 64 059.8 per tonne), while yellow and white maize prices were set at VEF 200 per kg (USD 20 050 per tonne).
	Wheat	Mar-17	Government market intervention	Enforced a rule that 90 percent of wheat must be destined to loaves rather than more expensive pastries and cakes. This measure aims to combat shortages and long lines for basic products that have characterized Venezuela's economic crisis for the last three years.
Yemen	Maize	Mar-17	Government market intervention	Approved USD 130 million for the National Plan of Planting starting on 15 April. This measure aims in strengthening the country's agricultural sector in order to produce more rice and yellow and white maize.
	Wheat	Dec-16	Government market intervention	Announced the Central Bank has stopped providing guarantees for wheat importers. This, in effect, did not allow large traders to set new contracts for wheat, as local banks cannot transfer dollars for the value of any wheat cargoes.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Zambia	Maize	Oct-16	Export permit	Revoked all maize export permits except for humanitarian purposes. The measure aims to ensure that the country has sufficient domestic supplies to meet national needs and halt illegal exports.
	Maize	Jan-17	Government procurement	Paid ZMW 74 349 245 (USD 7 52 6374) to all farmers in North-Western Province who sold their maize to the Food Reserve Agency (FRA) in the 2016 crop marketing season.
	Maize	Apr-17	Export policy	Lifted suspension on maize exports this year, allowing monitored shipments, as the country expects to have a surplus of this crop.
	Maize	Nov-16	Production support	Launched a special voluntary programme for contract maize farming – the USD 500 million Command Agriculture programme. It targets farmers with potential to produce over 5 tonnes of maize per hectare, providing support with tillage and production inputs on a cost recovery basis. The aim of the programme is to produce 2 million tonnes of maize on 400 000 ha, in order to increase national food security.
Zimbabwe	Wheat	Dec-16	License requirements	Removed wheat flour from the Open General Import Licence (Statutory Instrument 64) and amended bilateral rules of origin on flour in order to grant preferential treatment to flour milled from wheat grown in the country of export. These measures took effect 1 January 2017.
	Grains	Feb-2017	Value added tax	Published Statutory Instrument 20 of 2017, through which the Value Added Tax General Amendment Regulations 2017 (Number 42) removed specified supplies from zero-rating and exemption to the standard VAT rate, increasing the VAT to 15 percent. The measure, effective as of 1 February 2017, effects several basic foodstuffs, including cereals.
	Wheat	Feb-2017	Production support	Launched Super Agriculture, an agricultural programme that provides support to put idle land countrywide under crops, establishing dryers, mills and silos. The government had secured funding for the winter wheat crop covering over 50 000 ha of idle land.
	Grains	Feb-2017	Value added tax	Suspended Statutory Instrument 20, introduced in early February of 2017, which had reinstated a 15 percent VAT on basic foods, including which maize groats and cereal-based drinks. It was repealed due to concerns regarding food price increases and higher inflation.
	Maize	Mar-17	Government procurement	Budgeted USD 140 million to buy 800 000 tonnes of maize from domestic farmers to replenish its strategic reserve, as the country is recovering from drought and battled a pest that threatened its maize crop.
	Maize	Apr-17	Procurement price	Set the maize procurement price at USD 390 per tonne, among the highest prices in the world, in order to provide incentives to farmers to grow maize instead of tobacco.

* A collection of major grain policy developments starting in July 2010 is available at: <http://www.fao.org/economic/est/est-commodity-policy-archive/en7groupANDcommodity=grains>

RICE: MAJOR POLICY DEVELOPMENTS MID-SEPTEMBER 2016 TO MID-MAY 2017*

COUNTRY	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Algeria	Dec-16	Tax policy	Raised value added taxes (VAT) on imported rice and other products from 7 percent to 9 percent, effective 1 January 2017.
Argentina	Dec-16	Export promotion	Approved new export rebates for numerous agricultural products, effective from 1 January 2017. In the case of husked rice, these would range between 1 and 3 percent, whereas rates for milled rice rebates were set at 2.5 to 3 percent.
Australia	Dec-16	Export and marketing arrangements	Renewed the single-desk arrangement for rice. The measure extends the Rice Marketing Board's sole and exclusive right to export rice grown in New South Wales until 30 June 2022.
Bangladesh	Nov-16	Government procurement	Announced that it would purchase 300 000 tonnes of rice from the 2016 Aman harvest. The procurement drive will run between 1 December 2016 and 15 March 2017, offering BDT 33 per kg (USD 426 per tonne) purchased, up 6 percent from prices offered the previous year.
	Feb-17	Production support	Renewed incentives for Aus rice cultivation during the 2017 season. According to the decision, BDT 319 million (USD 4.0 million) would be allocated to provide rice farmers with seeds and fertilizers, and to assist in covering irrigation costs for the Aus crop.
	Apr-17	Government procurement	Announced that it would purchase 700 000 tonnes of paddy and 800 000 tonnes of white and parboiled rice from the 2017 Boro harvest, between 2 May and 31 August 2017. Prices under the procurement drive were set at BDT 24 per kg of paddy (USD 284 per tonne), BDT 34 per kg of parboiled rice (USD 402 per tonne) and BDT 33 per kg of white rice (USD 391 per tonne).
	May-17	Import tender	Opened two international tenders to source a total of 100 000 tonnes of rice, after announcing that it would import up to 600 000 tonnes of rice in order to refurbish state stockpiles and meet public distribution needs.
	Mar-17	Government procurement, purchasing prices	Agreed to pay USD 68 per 200 kg fanega (USD 340 per tonne) of paddy purchased from the local market, under a procurement drive that will have the state enterprise EMAPA purchase 100 000 tonnes of paddy from the 2017 harvest.
Bolivia	Jan-17	Stock release	Sold 7 100 tonnes of paddy from government reserves through an auction held on 19 January 2017.
Cambodia	Oct-16	Export promotion	Reduced container loading fees charged on milled rice exports to USD 16 for 40-foot containers and to USD 10 for smaller ones. The measure seeks to boost the sector's competitiveness and will be effective from 1 November 2016 to 31 December 2018.
	Jan-17	Export promotion	Announced that it would remove a USD 6.25 per shipment inspection fee on rice exports, in order to enhance the competitiveness of Cambodian rice abroad.
Cameroon	Dec-16	Tax policy	Removed the 19.25 percent VAT levied on numerous products, including paddy, husked, semi/wholly milled and broken rice. The measure went into effect on 1 January 2017.
China (Mainland)	Feb-17	Support prices	Lowered government procurement prices for paddy for the 2017 season. According to the decision, procurement prices for late/intermediate Indica paddy would be reduced by 1 percent to CNY 136 per 50 kg (USD 395 per tonne), by 3 percent in the case of Japonica paddy to CNY 150 per 50 kg (USD 435 per tonne), and by 2 percent for early Indica paddy to CNY 130 per 50 kg (USD 377 per tonne).
	Oct 16 to May 17	Stock release	Sold 96 890 tonnes of paddy from state reserves, out of a total of 12.8 million tonnes offered through 29 auctions held since October 2016.
Dominican Republic	Dec-16	Import quota	Decided that duty-free imports of husked and milled rice as part of the 2017 tariff rate quota set out by the Dominican Republic–Central America Free Trade Agreement (DR-CAFTA) would be permitted from 1 January to 31 March 2017 or from 1 December to 31 December 2017.
Ecuador	Oct-16	Production support, support prices	Announced that the National Storage Unit (Unidad Nacional de Almacenamiento) would purchase milled rice in addition to paddy, in order to sustain local quotations. The drive would offer USD 34 per 100 pounds (USD 750 per tonne) of Grade 1 rice and USD 33.5 for 100 pounds (USD 739 per tonne) of Grade 2 rice.
Egypt	Oct-16	Cultivation limits	Decided that a maximum of 704 500 feddans (296 000 ha) could be cultivated with rice during the 2017 season, down from the 1.08 million feddan (452 000 ha) area limit previously applicable. The measure is geared at preserving water resources, with rice cultivation further restricted to the Beheira, Damietta, Daqahliya, Kafr El-Sheikh, Port Said and Sharqiya governorates.

COUNTRY	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Egypt	Nov-16	Government procurement	Announced that it would raise the government's paddy purchasing price to EGP 3 000 (USD 167) per tonne, up from EGP 2 300–2 400 (USD 128–134) per tonne announced in August 2016.
	Mar-17	Government procurement	Agreed to pay EGP 6.3 per kg (USD 347 per tonne) of rice purchased from private processors, in order to supply it at a subsidized rate of EGP 6.5 per kg (USD 358 per tonne) through government outlets. As part of the agreement reached with processors, millers would supply a minimum of 200 tonnes per month to the government for four months.
Indonesia	Feb-17	Food subsidies	Launched the Bantuan Pangan Non Tunai (BPNT), a sub-component of the Rice for the Prosperous (Rastra) programme, formerly known as Raskin. The scheme will provide 1.29 million beneficiary households in 44 cities with a monthly cash outlay of IDR 110 000 (USD 8.3) to purchase up to 10 kg of rice and 2 kg of sugar in selected stores. Up to 10 million households would be targeted under the scheme in 2018, with the range of products offered in state outlets at subsidized prices also to be expanded.
	Oct-16	Production support	Raised guaranteed purchase prices for 2017/2018 by 11 percent for Khazar rice to IDR 39 072 per kg (USD 1 205 per tonne), by 12 percent for Sepidrood rice to IDR 35 431 per kg (USD 1 093 per tonne) and by 10 percent for Nemat and Neda varieties to IDR 28 875 per kg (USD 891 per tonne).
Iran	Jan-17	Import tariff	Lowered import tariffs on milled and husked rice. Effective 22 January 2017, milled rice imports would accrue a duty of 26 percent, reduced from its previous rate of 40 percent. Husked rice would accrue a 5 percent import duty, reduced from 32 percent. The IRR 5 000 per kg (USD 154 per tonne) surcharge applied to both classes of rice was also rescinded.
Iraq	May-17	Import regulation	Authorized the Ministry of Trade to purchase rice and wheat through direct contracts.
Malaysia	Oct-16	Budgetary allocations/ Production support	Announced that MYR 1.3 billion (USD 291 million) would be allocated to continue subsidies on fertilizers, seeds and prices for rice producers, as part of its 2017 budgetary allocations. A similar amount would additionally go to boost food production through infrastructural improvements, such as the expansion of irrigation and drainage infrastructure, farm roads and paddy estates, and to enhance marketing of produce.
Mexico	Mar-17	Import quota	Opened a 150 000 tonne import quota for paddy, husked, milled or broken rice from any origin. Volumes purchased under the quota would be free of duties imposed on imports from countries not party to a free-trade agreement with Mexico (20 percent in the case of husked, milled and broken rice, and 9 percent in the case of paddy). Import certificates would be issued starting 2 March 2017, for a maximum of 10 000 tonnes, and would be valid for 60 calendar days from the date of issue, or until 31 December 2017.
Nepal	Nov-16	Support prices	Re-established minimum support prices for paddy, which had been discontinued in 1997/1998. These were set at NPR 22 300 (USD 207 per tonne) in the case of common paddy, and at NPR 20 700 (USD 192 per tonne) in the case of Mota Dhan varieties.
Nigeria	Dec-16	Import tariff	Released the 2016 Fiscal Policy Measures, which set a 50 percent levy on all imports of semi/wholly milled and broken rice, and on imports of husked rice by traders not possessing milling facilities or operating backward integration programmes. These classes previously attracted an import levy of 60 percent. Imports of husked rice by millers and/or traders operating backward integration programmes will continue to attract a 20 percent levy. An additional 10 percent import duty will also remain applicable to all imports of husked, semi/wholly milled and broken rice.
	Apr-17	Import restrictions	Barred imports of rice through established tree trade zones (FTZ) to ensure adherence to the ban on rice through land-borders.
Pakistan	Nov-16	Futures trade	Approved the listing of Super Basmati paddy rice futures contracts in the Pakistan Mercantile Exchange.
Philippines	Oct-16	Production support	Approved a fund of PHP 2.3 billion (USD 46 million) to enable the National Irrigation Administration to cover operational costs, while abolishing the 2–3 cavans (100–150 kg) per ha fee (in cash equivalent) charged on users of irrigation as of 2017.
	Jan-17	Import agreement	Renewed an agreement on rice trade with Viet Nam. According to press reports, under the accord, the Philippines would retain the option to import 1.5 million tonnes of rice per year from Viet Nam on a government-to-government basis, until 31 December 2018.
			Approved the Philippine Development Plan 2017–2022. According to the document, the government would target to improve productivity in agriculture, forestry and fisheries, and increase economic opportunities for smallholders. Specific measures would include a color-coded agricultural map identifying the comparative advantage in production of the various regions, construction and rehabilitation of small-scale irrigation systems, enhancing access to agricultural machinery, equipment and extension services, and promotion of crop diversification. Steps to increase smallholder's access to markets and credit would also be taken, alongside capacity building, research and development, while agricultural insurance is promoted. In the case of rice, farm mechanization would be encouraged in order to reduce production costs, with a focus on Ilocos Region, Central Luzon and MIMAROPA. The document also called for the replacement of quantitative restrictions on rice imports with tariffs, with proceeds accrued from import duties to be used to provide assistance to the rice sector.
	Feb-17	Sector policy framework	

COUNTRY	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Philippines	Feb-17	Import quota	Announced that the deadline for import arrivals under the 2016 Minimum Access Volume (MAV) would remain 28 February 2017, except for rice originating in Pakistan or India, which would be permitted to arrive in the country until 31 March 2017. A subsequent resolution by the National Food Authority Council (NFAC) extended the deadline for 2016 MAV arrivals from any origin to 31 March 2017.
	May-17	Import quota	Decided that MAV commitments on rice will remain at 805 200 tonnes and continue to accrue a 35 percent in-quota tariff, until 30 June 2020 or until rice tariffication provisions are made in Republic Act No. 8178, whichever is earlier. Thereafter, the in-quota tariff rate will be set at 40 percent.
	Dec-16	Stock release	Announced that it would destine 520 000 tonnes of husked rice from government reserves to feed use in 2017. The volumes would be released at a price of KRW 208 per kg (USD 186 per tonne).
Republic of Korea	Feb-17	Production adjustment programme	Announced that it aimed to reduce area planted to paddy by 35 000 ha in 2017 and by another 33 000 ha in 2018. The measure seeks to balance rice production with domestic needs by 2019 and would come in addition to increased food aid deliveries and efforts to encourage greater industrial uses of rice.
	Mar-17	Import ban	Suspended all imports of whole-grain rice in order to facilitate the placement of local produce held in private stockpiles. According to press reports, the measure would be effective from 3 March 2017 until further notice.
Senegal	Nov-16	Food subsidies	Announced that 5 kg of rice would be distributed to beneficiaries of the Samurdhi programme, as part of its 2017 budgetary allocations. The measure would come in addition to an expanded network of Lak Sathosa outlets in order to enhance vulnerable groups' access to rice and other foodstuffs at affordable prices.
Sri Lanka	Jan 17 to Mar 17	Import tariff	Decided that a Special Commodity Levy (SCL) of LKR 15 per kg (USD 99 per tonne) would be imposed on imported rice. The levy would replace all previously applicable charges on rice imports, including a tariff of LKR 50 per kg (USD 332 per tonne), a 15 percent Value Added Tax (VAT), a 7.5 percent Port and Airport Development Levy (PAL) and 2 percent Nation Building Tax (NBT). The levy was successively lowered to LKR 5 per kg (USD 33 per tonne) and made effective until 30 May 2017.
	Feb-17	Consumer prices	Set the maximum retail price of Samba rice (excluding Keeri Samba and Suduru Samba) at LKR 80 per kg (USD 530 per tonne), of raw rice at LKR 70 per kg (USD 464 per tonne) and of Nadu rice at LKR 72 per kg (USD 477 per tonne). The price ceilings would be effective from 8 February 2017.
	Feb-17	Consumer prices	Issued orders clarifying that the maximum retail prices announced on 8 February 2017 would apply to imported rice. For local produce, price ceilings were set at LKR 90 per kg (USD 597 per tonne) in the case of Samba (excluding Keeri Samba and Suduru Samba), LKR 80 per kg (USD 530 per tonne) for Nadu rice and at LKR 78 per kg (USD 517 per tonne) for raw rice, effective 17 February 2017.
	Feb-17	Consumer prices	
Thailand	Nov-16	Production support	Set pledging prices under the 2016 on-farm mortgaging programme at THB 13 000 (USD 365) per tonne for Hom Mali and glutinous paddy. The price would be inclusive of THB 2 000 (USD 56) outlay for harvesting and handling costs and THB 1 500 (USD 42) as compensation for storage costs. The scheme is to run from 1 November 2016 until 28 February 2017, targeting coverage of 2.0 million tonnes of glutinous and fragrant paddy. Farmers not participating in the programme would still be eligible to receive the TBH 2 000 (USD 56) assistance for harvesting and quality improvements.
	Nov-16	Production support	Decided to extend the on-farm mortgaging programme for 2016 main crops to white and Pathum Thani fragrant paddy, allocating THB 18 billion (USD 506 million) for the purpose. Participating farmers will receive THB 10 500 (USD 295) per tonne of white paddy pledged and THB 11 300 (USD 317) per tonne of Pathum Thani fragrant paddy. The mortgaging prices include storage, harvesting and quality improvement incentives. Up to 1 million tonnes of Pathum Thani fragrant and white paddy are anticipated to be mortgaged under the scheme.

COUNTRY	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Thailand	Nov-16	Production adjustment programme	Approved a budget of THB 8 billion (USD 225 million) to extend credit and input assistance to rice farmers who agree to cultivate other crops during the 2016 secondary crop cycle. The scheme aims to convert 2.2 million rai (350 000 ha) of off-season paddies to alternate crops, mostly maize.
	Feb 17 to May 17	Stock release	Sold 3.0 million tonnes of rice from government reserves between February and March 2017. An additional 1.0 million tonnes of rice for industrial use were offered through an April tender, while a separate 1.8 million tonnes of food-quality rice were scheduled for auction on 24 May 2017.
	Apr-17	Production support	Approved a budget of THB 26 billion (USD 745 million) to implement three programmes between 2017 and 2021 geared at improving the quality and quantity of rice produced. Under the schemes, high-quality jasmine rice seeds would be provided to 60 000 rice-farming households at a subsidized price of THB 10 per kg (USD 288 per tonne) for up to 5 rai (0.8 ha), with a subsidy of THB 9 000 per rai (USD 1 619 per ha) for up to 15 rai (2.4 ha) also provided to promote organic farming over three years. Joint land management will be encouraged in order to reduce production costs and increase productivity, with seeds, agricultural machinery and organic fertilizers also provided.
	Jan-17	Tax policy	Announced that it would exempt paddy for sowing and husked rice (except for luxury rice) VAT in an effort to promote domestic consumption and lower living costs. In addition, VAT taxes on rice flour, agricultural machinery and the rental/repair of agricultural machinery would be lowered from 18 percent to 10 percent. The measures would be effective from 1 January 2017.
Togo			Raised government purchasing prices for Osmancik varieties (with a milling yield of 60 percent) by 6 percent to TRY 1 675 (USD 490) per tonne.
Turkey	Oct-16	Government procurement	Reinstated the 75 percent (or USD 345 per tonne) import duty on paddy and husked rice, applicable under the Common External Tariff of the East African Community, effective 1 January 2017. A March decision restored the duty remission on husked rice until 31 July 2017 in order to lower domestic quotations, with processors committing to keep retail prices at a maximum of UGX 3 000 (USD 0.8) per kg.
Uruguay	Nov-16	Production support	Renewed a trust fund to assist rice producers with debts and productive activities, through a USD 60 million allocation. The fund will be financed through a 3 percent tax on rice exports, applicable from 1 March 2017.
Venezuela	Oct-16	Import tariff	Exempted 94 basic necessities from customs duties, including paddy seed, non-parboiled paddy, and polished/glazed milled rice. The measure will be effective for one year, starting from 27 October 2016.
Viet Nam	Jan-17	Export requirements	Repealed Decision No. 6139 / QD-BCT of 2013. Among other stipulations, the document had capped the number of rice exporters at 150, while requiring that traders maintain a minimum export turnover of 10 000 tonnes per year, in order to qualify for export certificates.
	Oct-16	Minimum export prices	Set minimum export prices for 25 percent broken rice at USD 320 per tonne, effective 14 October 2016.
	Oct-16	Import quota	Renewed a bilateral trade agreement with Cambodia, under which up to 300 000 tonnes of Cambodian rice may be imported free of duties per year.
Zimbabwe	Jan 17 to Feb-17	Tax policy	Imposed a 15 percent VAT on imported paddy, husked rice, milled rice and other products, effective 1 February 2017. The measure was successively repealed, with effect from 16 February 2017.

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

OILCROPS: MAJOR POLICY DEVELOPMENTS MID-SEPTEMBER 2016 TO MID-MAY 2017*

COUNTRY/INSTITUTION	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Algeria	Soymeal	Apr-17	Tax policy	Raised value-added tax (VAT) on selected grain and feed products – including imported soybean meal.
Argentina	Soybean, soyoil, soymeal	Oct-16	Export policy	Postponed the planned reduction in export taxes for soybean, soyoil and soymeal to 2018–2019. Meanwhile, starting March 2017, soy growers in the country's 10 northern provinces will be provided with an export tax refund equivalent to 5 percent of the free-on-board soybean price.
	Olive oil, sunflower oil	Jan-17	Export policy	Modified export rebates for a wide range of value-added agricultural products, including olive and sunflower oil, with a view to support regional rural economies and strengthen their export competitiveness.
	Soybean	Jan-17	Transportation policy	Awarded contracts to lay train tracks in the northern provinces of Jujuy and Salta, in a bid to stimulate production and marketing of soybeans and other products in one of the country's poorest regions.
Bolivia	Soybean	Mar-17	Agricultural policy	Introduced support payments for soybean producers in the country's disadvantaged northern regions.
	Soybean	Mar-17	Export policy	Expanded the country's annual soybean export quota to 400 000 tonnes, to promote foreign sales while ensuring that domestic consumption needs are met.
	Agricultural crops	Jan-17	Agricultural policy	Launched a pre-crop financing scheme for the 2017/18 season, allowing medium-sized producers to purchase agricultural inputs at a preferential interest rate.
Burkina Faso	Soybean	Feb-17	Sector development	Launched a project to develop the domestic soybean sector focusing on: i) raising productivity and yields in the field, ii) strengthening producer organizations, iii) consolidating the processing sector, iv) creating a national soybean association and v) establishing a sector development fund.
Canada/ European Union	Rapeseed oil	Oct-16	Trade agreements	Signed bilateral Comprehensive Economic and Trade Agreement (CETA), opening the way for the accord's provisional application and for formal ratifications by national parliaments. Under the accord, tariffs on Canadian rapeseed oil entering the EU will be eliminated.
Canada	Oilseeds, grains	Nov-16	Transportation policy	Proposed to replace temporary measures to ensure efficient rail movement of grains and oilseeds to the country's export hubs with permanent solutions.
	Saturated fat	Nov-16	Health policy	Proposed changes to front-of-package labelling for foods high in nutrients that are of a public health concern, including saturated fat.
	Edible oils	Apr-17	Food standards and safety	Proposed to ban the use of partially hydrogenated oils in foods by summer 2018, to achieve the public health objective of reducing consumers' intake of harmful trans fat.
	Glyphosate	Apr-17	Health policy	Determined that glyphosate – a herbicide widely used in the cultivation of oilseeds, other arable crops and fruits – is neither genotoxic nor likely to pose a human cancer risk, and that dietary exposure associated with use of the herbicide is not expected to pose a risk of concern to human health.
Canada/India	Rapeseed oil	Apr-17	Export policy	Facilitated the signing of several Memoranda of Understanding between Canadian rapeseed oil exporters and Indian importers/retailers.
China/Canada	Rapeseed	Oct-16	Import policy	Signed a bilateral Memorandum of Understanding to facilitate smooth importation of Canadian rapeseed into China, while preventing the spread of blackleg disease from Canada into China.
China	Soybean	Oct-16	Public procurement/state reserves	Suspended government auctions of soybean from state reserves (after having sold a total of 1.57 million tonnes), in order to facilitate marketing of the new 2016/17 crop.
	Edible meals	Dec-16	Food standards and safety	Confirmed that revised standards for edible meals derived from oilseeds and other crops are due to come into force on 23 June 2017.
	GM soybean	Dec-16	GMO policy	Prohibited, as of 1 May 2017, the cultivation, processing and selling of GM soybeans, rice and maize in Heilongjiang, China's main grain producing province.
	Distiller's dried grains with solubles (DDGS)	Feb-17	Import policy	Extended anti-dumping and anti-subsidy duties on the importation of distiller's dried grains with solubles (DDGS) from the United States until January 2022.

COUNTRY/INSTITUTION	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
China	Soybean	Feb-17	GMO policy	Granted import approval for a new GM soybean variety characterized by tolerance to both glyphosate and isoxaflutole-based herbicides.
	Rapeseed oil	Mar-17	Public procurement/state reserves	Ended government auctions of rapeseed oil from state reserves for the 2016/17 season, after having sold a total of 2.08 million tonnes of the product.
	Agricultural crops	Apr-17	Agricultural policy	Announced plans to introduce new agricultural insurance programmes to compensate farmers for crop losses resulting from natural disasters. Coverage would be offered to family farms, large-scale growers and farmers' cooperatives.
	Arable crops	Apr-17	Agricultural policy	Issued guidelines concerning the redistribution of available arable land, as part of the country's national food security strategy. In order to ensure the effective distribution of agricultural goods across the country, during the next three years, 60 million ha would be allocated to rice, wheat and maize, and 19 million ha to soybeans, rapeseed, cotton, sugar and rubber.
	Soybean, maize	Apr-17	Agricultural policy	Confirmed plans to modify the country's crop structure, gradually expanding soybean production as well as maize production for silage, while reducing maize production for grain.
	Soymeal	Apr-17	Financial instruments	Approved the launch of soymeal options contracts by a private commodity exchange, in order to help the process of price discovery and to provide agricultural companies with flexible risk management tools.
	Agricultural goods	May-17	Tax policy	Announced a reduction in the value-added tax on agricultural goods – effective 1 July 2017 – as part of ongoing reforms to simplify the country's tax structure and stimulate economic growth. The measure will apply to oilseeds and oilseed products, whether locally produced or imported.
	Soybean	May-17	Agricultural policy	Announced the continuation of subsidy payments for soybean producers during 2017/18, in a bid to encourage farmers to make further reductions to maize plantings.
	Soybean meal	Jan-17	Import policy	Extended tariff and duty exemptions for soybean meal imports from all origins until 31 December 2019.
	Biodiesel	Sep-16	Trade dispute	Received notification from the EU's General Court that the anti-dumping duties imposed on biodiesel imports from Argentina and Indonesia infringed on basic regulations and should be annulled.
European Union	Biodiesel	Oct-16	Trade dispute	Received notification from the WTO that its Appellate Body had: i) upheld an earlier ruling regarding the anti-dumping duties the EU imposed on biodiesel imports from Argentina, and ii) recommended bringing the EU's disputed trade measure into conformity with WTO rules.
	Biodiesel	Dec-16	Trade dispute	Initiated an investigation of its anti-dumping duties on biodiesel imported from Argentina and Indonesia, with a view to achieving full compliance with WTO rules.
	Fatty alcohols	Dec-16	Trade dispute	Received a mixed ruling from the WTO dispute settlement body, regarding the EU's anti-dumping measures against imports of certain fatty alcohols from Indonesia. The panel recommended that the EU bring its measures into conformity with WTO rules.
	Rapeseed	Dec-16	GMO policy	Extended by 3 years the phasing-out period for traces of three obsolete GM rapeseed varieties.
	Olive tree	Feb-17	Disease control	Launched a multidisciplinary research programme aimed at improving the prevention, early detection and control of the xylella fastidiosa disease.
	Herbicide	Mar-17	Pesticide regulation	Proposed to convert a temporary moratorium on bee-harming neonicotinoid-based pesticides (which are widely used on oilseeds and other crops) into a permanent ban.
	Olive oil	Apr-17	Food standards and safety	Adopted new, more stringent regulations on food safety and inspection in order to tackle fraudulent practices in the food industry across the EU, including the olive oil sector.
	Palm oil	Apr-17	Environmental policy	Received a resolution from the European Parliament calling for a single certification scheme for palm oil entering the EU market, to ensure that the oil is produced in an environmentally sustainable way. The resolution also proposed to phase out, by 2022, the use of vegetable oils related to deforestation as biodiesel feedstock.
	Herbicide	May-17	Pesticide regulation	Issued a proposal, based on the latest scientific research, to extend the approval of glyphosate-based herbicides for ten years, until the end of 2028.

COUNTRY/INSTITUTION	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Fiji	Coconut	Oct-16	Relief measures	Set aside funds for the rehabilitation of the country's coconut industry following the damage inflicted by cyclone Winston and raised domestic producer prices for copra.
	Edible oils, oilseeds	Oct-16	Market regulation	Extended, until September 2017, federal provisions limiting the amount of edible oil and oilseed stocks that private traders are allowed to hold.
	Palm oil, edible oils	Oct-16	Import policy	Lowered import duties on crude palm oil and refined edible oils by 5 percent, bringing them to 7.5 percent and 15 percent, respectively.
	Groundnut	Dec-16	Agricultural policy	Announced that insurance claims by farmers in the state of Andhra Pradesh, whose groundnut crop had been damaged by adverse weather during the 2016 Kharif season, would be covered by the government.
India	Oil palm	Dec-16	Sector development	Launched a package of support measures in the state of Arunachal Pradesh to encourage oil palm cultivation.
	Oilcrops	Dec-16	Agricultural policy	Raised minimum support prices for Rabi oilcrops by 10 percent, in a bid to stimulate domestic oilcrop production.
	Fats and oils	Jan-17	Food standards and safety	Proposed new standards for shea butter and borneo tallow/illipe butter and issued tables detailing the fatty acid composition for all vegetable oils.
	Fats and oils	Jan-17	Food standards and safety	Amended standards on oils and fats – effective 1 July 2017 – including the use of vegetable fats and oils in refining processes.
	Agricultural crops	Feb-17	Agricultural policy	Approved a two-month interest waiver for farmers who took short-term crop loans from cooperative banks, to minimize the impact of the country's earlier demonetization measures on the farm sector.
	Copra	Feb-17	Public procurement	Initiated procurement of copra in the state of Karnataka, in a bid to protect growers from falling commodity prices.
	Trans fat, saturated fat	Feb-17	Health policies	Set 27 February 2017 as the enforcement date for i) mandatory declaration of trans fat and saturated fat content on food product labels, and ii) a 5 percent limit for trans fatty acid content in fats, oils and fat emulsions. Eventually, the compliance date was postponed to 30 June 2017 to allow manufacturers to utilize the existing stock of their packaging material.
	Coconut palm	Apr-17	Sector development	Allocated funds to the states of Kerala, Karnataka, Tamil Nadu and Andhra Pradesh, in support of projects focusing on i) coconut processing and product diversification, ii) market promotion and iii) research.
	Copra	Apr-17	Agricultural policy	Raised minimum support price for copra by 9 percent, in order to ensure remunerative prices for farmers and stimulate investment in coconut.
	Edible oils	Apr-17	Food standards and safety	Initiated the collection and testing of edible oil/ghee samples in the State of Punjab, with a view to ban all sub-standard and adulterated oil products from local markets.
	Edible oils	Apr-17	Export policy	Lifted a ban on bulk exports of selected edible oils – notably groundnut, sesame and soybean oil – in order to boost shipments of premium vegetable oils.
	Oil palm	Apr-17	Agricultural policy	Approved government-funded measures to increase the country's oil palm area, with the ultimate objectives of boosting domestic production of vegetable oils and reducing import requirements.
Indonesia	Sunflower seed	Apr-17	Import policy	Announced a temporary cut in the import duty on sunflower seed, with a view to support the domestic processing industry.
	Mustard seed	May-17	GMO policy	Granted technical clearance for commercial use of genetically modified mustard seed, clearing the way for final ministerial authorization.
	Palm oil	Oct-16 - May-17	Export policy	Left in place a sliding export tax regime for palm oil which protects the interests of domestic producers and consumers.
	Soybean	Oct-16	Market regulation	Revised the farm-gate and retail prices for basic food items, including soybean, in order to protect farmers against sharp price drops while shielding consumers from price increases.
Indonesia/Malaysia	Palm oil	Dec-16	Bilateral cooperation	Agreed to join forces – under the auspices of the Council of Palm Oil Producing Countries – to address perceived barriers in global palm oil trade.

COUNTRY/INSTITUTION	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Indonesia	Coconut	Feb-17	Sector development	Allocated public funds to improve domestic coconut production, so as to meet processors' growing demand for raw materials.
	Soybean	Feb-17	Public procurement	Announced plans to allocate funds for the procurement of domestic commodities, including soybeans, in an effort to stabilize prices.
	Biodiesel	Apr-17	Biofuel policy	Explored ways to lower subsidies paid to individual petrol companies for blending biodiesel, with a view to spread available public funds across a larger volume.
	Oil palm, maize	Apr-17	Agricultural policy	Released plans to encourage independent oil palm farmers to introduce maize intercropping in their plantations – a measure meant to improve land use efficiency, raise productivity and increase farmers' incomes.
	Palm oil	Apr-17	Environmental policy	Renewed efforts to launch a nationwide, binding certification scheme for sustainably produced palm oil, and issued a national sustainability standard for palm oil.
International Olive Oil Council	Oil palm	May-17	Sector development	Announced plans to allocate public funds to an oil palm replanting programme aimed at increasing productivity levels in independently run palm oil businesses.
	Olive oil	Jan-17	Multilateral cooperation	Launched the sixth international agreement on olive oil and table olives. The new agreement, which dates from 1 January 2017, pays particular attention to the involvement of importing countries in the Council's work.
	Oilmeals	Dec-16	Feed standards	Proposed to permit mixing selected oilmeals with feed maize in the production of compound feed. Currently, maize may only be mixed with animal protein such as fishmeal.
Japan	Arable crops	Feb-17	Agricultural policy	Presented a programme for the development of the country's agro-industrial complex in 2017–2021, including provisions of incentives to reduce wheat cultivation in favour of coarse grains and oilseeds.
Kazakhstan/China	Soybean	Apr-17	Bilateral cooperation	Signed a protocol on phytosanitary requirements to facilitate the exportation of Kazakh soybeans to China.
Kenya	Coconut palm	Apr-17	Sector development	Announced distribution of quality coconut seedlings to farmers in the country's coastal region, with the goal of boosting production and strengthening the coconut value chain.
Malaysia	Palm oil	Oct-16 - May-17	Export policy	Left in place a sliding export tax regime for palm oil that protects the interests of domestic producers and consumers.
	Palm oil	Feb-17	Environmental policy	Renewed efforts to launch a binding national standard for sustainably produced palm oil, and announced a timeline for the standard's mandatory, nationwide application.
	Palm oil	Apr-17	Export policy	Explored the possibility of aligning the country's variable export tax regime with that of Indonesia, aiming to move towards a harmonized, mutually beneficial export policy.
Malaysia/India	Palm oil	Apr-17	Export promotion	Signed a Memorandum of Understanding with India, aimed at helping raise the presence of Malaysian palm oil in the Indian market.
Mexico	Oilcrops	Feb-17	Agricultural policy	Retained programmes to encourage domestic oilseed production but announced reductions in the amount of subsidies provided to individual farmers in 2017.
Myanmar	Edible oils	Apr-17	Food standards and safety	Considered taking action against illegal vegetable oil imports and fraudulent sales of cooking oils on the domestic market.
Nigeria	Biodiesel	Apr-17	Biofuel policy	Announced that it is working on a national biofuel policy and incentives programme that will spell out production and price targets, and define a regulatory framework for domestic biofuels utilization.
Pacific Community	Coconut	Oct-16	Sector development	Launched a regional initiative aimed at improving the competitiveness of small coconut producers in the Pacific region.
Pakistan	Rapeseed	Apr-17	Sector development	Launched a project in the country's Khyber Pakhtunkhwa Province to enhance productivity in rapeseed cultivation.
Peru	Biodiesel	Oct-16	Import policy	Announced the replacement of provisional anti-dumping duties on biodiesel imports from Argentina with permanent ones, so as to shield domestic biodiesel production from allegedly unfair competition.

COUNTRY/INSTITUTION	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Rwanda	Biodiesel	Apr-17	Biofuel policy	Abandoned a biodiesel project launched in 2013, due to insufficient availability of the key feedstock (jatropha oil) and high costs of production.
Sri Lanka	Vegetable oils	Oct-16	Import policy	Raised the special commodity levy on imported vegetable oils, in order to protect domestic oilseed producers and oil processors.
	Coconut oil	Apr-17	Import policy	Approved importation of coconut oil and decided to lower the special commodity levy charged on imported vegetables oils, in a bid to curb domestic retail prices.
Thailand	Coconut palm	Apr-17	Sector development	Instructed state agencies to develop action plans for boosting national coconut production, so as to address domestic supply shortages and halt imports of coconut products.
Turkey	Safflower oil, sunflower oil	Sep-16	Import policy	Raised import duties on safflower and sunflower oil – to prevent low import prices from hurting domestic producers and crushers.
	Soybean, sunflower, safflower, rapeseed	Feb-17	Agricultural policy	Launched a new agricultural subsidy programme, in a bid to diversify the country's agricultural production, raise productivity levels and reduce the cultivation of water-intensive crops in structurally disadvantaged areas. Crops eligible for support include soybean, sunflower, safflower and rapeseed.
	Sunflower oil/meal	Apr-17	Import policy	Temporarily suspended the Russian Federation from the list of tax-free origins for selected agricultural products, which includes sunflower oil and meal.
	Soybean	Dec-16	GMO policy	Introduced border controls to check the country's agricultural exports for GMO content, particularly to prevent illegally grown GM soybeans from jeopardizing the country's status as a GM-free supplier.
Ukraine	Biodiesel	Oct-16	Biofuel policy	Ruled that biodiesel blending mandates applied in the state of Minnesota are not in conflict with the federal Renewable Fuel Standard (RFS), and that the RFS therefore does not pre-empt Minnesota's mandates.
United States	Camelina sativa	Feb-17	Biofuel policy	Allocated public funds to a research project on camelina sativa, as part of national efforts to promote research on new bio-based feedstock for biodiesel.
	Rapeseed	Apr-17	Sector development	Made available funding for fundamental and applied research to help develop new rapeseed varieties, expand the crop's growing region and launch new commercial rapeseed-based products.
	Biodiesel	May-17	Biofuel policy	Extended the Renewable Fuels Infrastructure programme in the state of Iowa. The programme is designed to encourage fuel retailers to offer biofuel at the pump.
	Biodiesel	May-17	Import policy	Launched an investigation into US imports of vegetable oil-based biodiesel from Argentina and Indonesia, to probe alleged dumping and unfair subsidization.
	Biodiesel	May-17	Import policy	

* A detailed description of major policy developments from January 2011 onward is available at <http://www.fao.org/economic/est/test-commodities/commodity-policy-archive/en/?groupANDcommodity=Oilseeds,%20oilis%20and%20meals>

MEAT: MAJOR POLICY DEVELOPMENTS MID-SEPTEMBER 2016 TO MID-MAY 2017*

COUNTRY	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Argentina	All	Dec-16	State Market intervention	Modified export rebates for a wide range of high value and value-added agricultural products, including meat products, to promote diversified agro-industrial development and strengthen export competitiveness. New export rebate rates for meat products vary from 2.5 percent to 6 percent.
Azerbaijan	All	Sep-16	Import policy	Announced a revision of customs duties on a number of agricultural products, including meat and edible meat offal, which will be under an import duty of USD 1 per kg. The new tariffs came into effect on November 2, 2016, and will remain in place for two years.
Belarus	Poultry meat	Dec-16	Import restrictions	Restricted shipments of poultry from administrative regions of the Russian Federation affected by HPAI.
Brazil	All	Mar-17	Limited market access	Faced market access limitations in about 20 of its meat exporting destinations, including its largest meat importers – China, Chile, Egypt, the EU, Japan and Mexico – which had introduced full or partial meat import bans or restrictions. This follows an investigation by Brazil's federal police on some meat packers' use of meat unsuitable for human consumption. Key importing countries have now lifted their bans.
China	All	Jan-17	Food safety standards	Introduced new technical requirements for importing breeding animals, semen and embryos for pigs and cattle, and breeding chickens, effective from 1 January 2017.
	All	Feb-17	Food safety standards	Issued its 13th Five-Year Plan on Food Safety, which calls for aligning Chinese standards with international standards, and launching a food safety risk alert system and a food importer/exporter monitoring mechanism.
	Bovine meat	Apr-17	Import ban lifted	Signed a formal protocol with Ireland on inspection, quarantine and veterinary health requirements for Irish frozen beef to be exported to China. With the conclusion of the formalities, Ireland could restart exporting beef to China – exports which had been banned following a bovine spongiform encephalopathy (BSE) outbreak in Europe in 2000.
Egypt	All	May-17	Free Trade Agreement	Negotiated an agreement with the United States to ease restrictions on access to each other's markets for agricultural products, financial services and energy. Under the deal, China agreed to resume beef imports from the US, and the US agreed to open its market to cooked poultry from China.
	Poultry meat	Nov-16	Tariff rate quota	Suspended the 30 percent tariff on imported frozen poultry for the period from November 10, 2016 to May 31, 2017.
European Union	All	Feb-17	Free Trade Agreement	Signed the Comprehensive Economic and Trade Agreement (CETA) with Canada that covers nearly all Canada-EU trade, including trade in livestock and livestock products. The European Parliament voted in favour of CETA on 15 February 2017. The agreement will come into full force only when all EU member states ratify it.
Kazakhstan	Bovine meat	Jan-17	Tariff rate quota	Released the first stage of 2017 tariff quota volumes for bovine meat and poultry importation, originated and imported from countries with which the Eurasian Economic Union country-members have no free-trade agreements or exceptions and the distribution of 2017 tariff quota volumes among historical suppliers.
	Poultry meat	Jan-17	Import restrictions	Restricted shipments of poultry from administrative regions of the Russian Federation affected by HPAI
Mexico	Poultry meat	Nov-16	State Market Intervention	Announced that compensatory import duties on poultry products will end by the close of 2017. These compensatory import duties were imposed in 2012 to prevent anti-dumping, but never applied.
	Poultry meat	Mar-17	Import ban	Announced restrictive trade measures applied to United States live poultry and poultry products intended to be exported to Mexico from Lincoln County, Tennessee, following an outbreak of highly pathogenic avian influenza (HPAI) there in March 2017.

COUNTRY	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Mexico	Bovine meat	Mar-17	Tariff rate quota	Established specific provisions governing the unilateral TRQs that were published on June 8, 2016. The new TRQs will allow 200 000 mt of bovine meat imports.
New Zealand	All	Feb-17	Market access	Signed the Meat Arrangement – an agreement with the Iranian Veterinary Organisation (IVO) – to resume chilled and frozen ovine and bovine meat exports to Iran.
Russian Federation	Poultry meat	Dec-16	Import ban	Imposed bans or restrictions on poultry imports from several countries including Germany, France, the Netherlands, the United Kingdom, Sweden and Poland, in addition to the restrictions already in place on the United States.
	Bovine meat	Feb-17	Import ban	Banned imports of New Zealand bovine meat and by-products, in response to detections of listeria bacteria and the beta-agonist growth promotant, ractopamine, in shipments from one particular meat plant in 2016.
	Poultry meat	Apr-17	Import ban	Banned import of live birds, hatching eggs and chicks from Viet Nam due to the presence of HPAL.
South Africa	Poultry meat	Dec-17	State Market Intervention	Imposed a provisional "safeguard duty" of 13.9 percent on frozen bone-in-chicken from the EU. This follows anti-dumping tariffs ranging from 3.86 percent to 73.33 percent on import of certain types of poultry meat from Germany, the Netherlands and the United Kingdom.
Turkey	All	Apr-17	Production support	Authorized the subsidy programme for young farmers to continue in 2017, under which the government is to provide support to the livestock sector including cattle, sheep, goat and poultry. The programme budget is estimated at USD 132 million and will benefit over 10 000 young farmers between the ages of 18 and 40.
United Arab Emirates	Poultry meat	Mar-17	Import ban	Banned imports of all types of live domestic, wild and ornamental birds, as well as chicks, eggs and bird remains from Lincoln County, Tennessee, United States, that have not been heat-treated, following an outbreak of HPAL in March.
United States	Bovine meat	Jan-17	Import ban lifted	Lifted the ban on imports of bovine meat from France. The ban had been imposed following an outbreak of BSE in the 1990s.

* 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/2groupANDcommodity=Meat>

DAIRY: MAJOR POLICY DEVELOPMENTS MID-SEPTEMBER 2016 TO MID-MAY 2017*

COUNTRY	PRODUCT	DATE	POLICY CATEGORY/INSTRUMENT	DESCRIPTION
Argentina	Dairy products	Dec-16	Export promotion	Announced modification of export rebates for a wide range of high value and value-added agricultural products – including milk, cream, butter, whey, yogurt and cheese – to promote diversified agro-industrial development and strengthen export competitiveness. New export rebate rates for dairy products vary from 2.5 percent to 5 percent.
China	Dairy products	Feb-17	Food safety standards	Issued its 13th Five-Year Plan on Food Safety, which revises the Administrative Rules for Quality and Safety of Dairy Products. The new plan includes aligning Chinese standards with international standards, and launching a food safety risk alert system and a food importer/exporter monitoring mechanism.
European Union	Dairy products	Sep-16	State market intervention	Extended the skim milk powder (SMP) intervention stock until 31 December 2016, and opened a 2017 scheme that will be valid until 30 September 2017. The European Commission began to offer the SMP intervention stock for sale from December 2016. The Private Storage Aid (PSA) scheme was renewed for 2017.
	Dairy products	Oct-16	Free trade agreement	Signed the Comprehensive Economic and Trade Agreement (CETA) with Canada on 30 October 2016, which covers nearly all Canada-EU trade, including trade in dairy products. The European Parliament voted in favour of CETA on 15 February 2017. The agreement will come into full force only when all EU member states ratify it.
India	Dairy products	Sep-16	Import ban extended	Extended the ban on Chinese milk and dairy products until June 23, 2017, or until further notice.
Indonesia	Dairy products	Oct-16	Market access	Approved 97 US dairy plants for export to Indonesia, an increase from 90 approved in October 2015.
Japan	Dairy products	Apr-17	Production support	Announced a JPY 150 million (roughly USD 1.4 million) programme to subsidize the import of replacement dairy cattle through 2019, targeting eligible dairy farmers to provide assistance in the face of rising prices of replacement heifers.
Rwanda	Dairy products	Mar-17	Production support	Launched a six-year dairy development project worth USD 65.1 million aimed at addressing challenges to diversification of dairy products, contributing to Rwanda's dairy value addition and product diversification opportunities, and increasing local dairy supply and exports.
Turkey	Dairy products	Mar-17	Food safety standards	Broadened the variety of dairy cattle genetics that can be imported into the country. The new list includes the top 200 proven and genomic bulls.

* A collection of major dairy policy developments starting in January 2012 is available at: <http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/2group/ANDcommodity=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.
- 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.

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 52 countries that are net importers of basic foodstuffs with per caput income below the level used by the World Bank to determine eligibility for International Development Aid (IDA) assistance. The LDCs group currently includes 48 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		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
(..... million tonnes) (.....)									
ASIA	1 118.2	1 134.6	1 134.5	194.2	200.6	201.6	58.5	56.5	55.4
Bangladesh	38.5	39.0	39.1	4.8	6.6	6.4	0.1	-	-
China	497.6	502.1	496.2	34.7	27.8	27.6	0.8	0.9	1.0
India	239.1	245.5	252.1	0.4	5.1	3.1	16.2	12.4	12.0
Indonesia	64.0	65.3	67.6	12.6	11.0	11.1	0.2	0.2	0.2
Iran, Islamic Republic of	16.3	19.0	19.2	13.6	11.9	13.0	-	0.1	0.2
Iraq	4.7	4.1	4.0	4.4	4.4	4.5	-	-	-
Japan	8.9	8.7	8.7	23.8	24.2	24.4	0.3	0.2	0.2
Kazakhstan	17.3	19.8	17.4	0.5	0.2	0.2	7.7	8.5	7.8
Korea, Republic of	4.5	4.4	4.3	14.6	15.2	15.3	0.1	0.1	0.1
Myanmar	18.7	18.9	19.1	0.3	0.4	0.4	2.0	2.1	2.0
Pakistan	37.5	38.0	38.1	0.6	0.3	0.3	4.6	4.8	4.7
Philippines	19.3	20.2	19.9	6.6	7.4	7.9	-	-	-
Saudi Arabia	0.7	0.4	0.4	17.5	19.2	20.5	-	-	-
Thailand	26.7	26.4	26.8	3.8	4.2	3.4	10.8	11.1	11.3
Turkey	35.9	34.9	35.2	6.6	7.1	7.6	3.9	4.9	3.6
Viet Nam	34.3	33.6	33.8	8.7	14.5	14.5	7.7	7.2	7.8
AFRICA	169.9	163.6	180.3	86.1	94.0	90.3	9.2	8.1	9.8
Algeria	4.1	3.3	3.9	12.9	13.6	13.8	-	-	-
Egypt	22.0	21.2	21.0	19.5	20.6	21.1	0.4	0.3	0.2
Ethiopia	22.7	23.4	23.4	1.4	1.6	1.6	2.4	1.9	2.0
Morocco	9.5	3.5	10.1	6.9	9.1	7.5	0.2	0.1	0.2
Nigeria	20.6	22.4	20.9	7.3	7.2	7.7	0.7	0.7	0.7
South Africa	14.9	10.6	18.7	3.8	5.3	2.9	1.8	1.5	2.8
Sudan	4.7	7.9	6.7	3.0	2.8	2.8	0.5	0.6	0.7
CENTRAL AMERICA	40.0	42.8	43.5	29.1	32.6	33.1	2.1	2.4	2.3
Mexico	34.8	37.6	38.0	17.7	21.4	22.0	1.9	2.2	2.2
SOUTH AMERICA	180.8	174.3	209.5	29.3	32.2	29.2	60.6	63.7	70.4
Argentina	53.7	66.3	72.5	0.1	0.1	0.1	25.3	40.4	38.7
Brazil	98.9	79.7	110.0	8.2	11.3	8.6	28.4	16.4	25.5
Chile	3.5	3.6	3.1	2.6	2.9	2.8	0.1	0.2	0.2
Colombia	2.7	3.5	3.5	7.2	7.3	7.3	0.1	0.2	0.2
Peru	4.2	4.1	4.2	4.9	5.2	5.2	0.1	-	-
Venezuela	3.0	2.5	2.6	4.3	3.6	3.6	-	-	-
NORTH AMERICA	490.7	530.4	482.1	9.8	10.1	9.3	109.6	119.3	106.5
Canada	57.1	57.6	55.5	2.0	2.2	1.5	27.7	24.7	25.8
United States of America	433.7	472.9	426.6	7.9	7.8	7.8	81.8	94.7	80.7
EUROPE	501.8	507.8	506.8	24.5	24.6	25.9	114.7	114.2	119.0
European Union	316.8	299.5	311.0	20.3	19.8	21.0	45.0	34.1	40.7
Russian Federation	98.3	117.5	110.9	0.9	1.4	1.4	30.3	36.1	38.5
Serbia	9.2	8.3	8.2	0.1	0.1	0.1	2.8	2.8	2.8
Ukraine	62.2	65.5	61.3	0.2	0.2	0.2	35.6	40.2	36.1
OCEANIA	38.5	54.3	37.1	1.7	1.7	1.7	23.9	31.6	27.5
Australia	37.6	53.4	36.2	0.2	0.2	0.2	23.9	31.6	27.5
WORLD	2 539.8	2 607.9	2 593.7	374.7	395.9	391.0	378.5	395.9	391.0
Developing countries	1 451.4	1 459.4	1 507.0	299.3	319.1	316.0	119.7	119.7	126.3
Developed countries	1 088.4	1 148.5	1 086.8	75.4	76.7	75.0	258.8	276.2	264.7
LIFDC	461.0	473.5	479.8	56.2	64.5	62.5	27.8	23.7	23.4
LDC	167.0	173.2	174.8	33.1	36.4	35.7	9.5	9.1	9.6

APPENDIX TABLE 1(B): CEREAL STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	13/14-15/16 average	2016/17 estim.	2017/18 f'cast	2014-2016 average	2017 estim.	2018 f'cast	13/14-15/16 average	2016/17 estim.	2017/18 f'cast
	(..... million tonnes)						(..... Kg/year)		
ASIA	1 233.4	1 275.9	1 283.2	410.2	428.5	427.8	157.2	157.4	157.5
Bangladesh	42.8	45.2	45.0	8.5	8.8	9.7	208.6	211.3	209.5
China	510.8	516.2	523.5	258.9	296.5	296.6	150.0	149.9	149.9
India	226.4	243.6	241.2	46.2	35.0	36.2	148.0	148.2	148.4
Indonesia	76.6	78.1	78.0	10.1	8.6	9.7	188.9	189.5	189.4
Iran, Islamic Republic of	28.7	30.3	32.1	5.4	5.4	5.3	202.8	202.1	202.9
Iraq	9.2	9.1	9.4	2.2	1.1	0.2	194.3	189.1	189.6
Japan	32.8	32.8	32.7	5.3	4.9	4.9	103.2	102.3	101.8
Kazakhstan	10.4	10.6	10.0	2.8	4.0	3.8	158.4	158.1	158.2
Korea, Republic of	18.9	19.5	19.5	4.0	4.6	4.9	129.6	127.4	125.5
Myanmar	17.2	17.3	17.4	2.8	2.5	2.5	209.6	209.9	209.5
Pakistan	33.1	33.9	34.5	5.4	4.8	3.8	147.8	148.6	148.9
Philippines	25.8	26.9	27.6	3.5	4.0	4.2	159.0	159.0	163.0
Saudi Arabia	17.3	20.3	20.8	6.9	6.6	6.6	146.5	149.3	145.9
Thailand	22.2	21.8	21.7	16.9	10.6	8.1	120.2	122.0	124.5
Turkey	38.4	39.1	38.7	5.3	3.2	3.5	238.3	238.1	237.8
Viet Nam	34.5	40.6	41.1	4.7	6.1	6.2	176.6	180.6	181.5
AFRICA	242.5	254.5	257.6	42.4	40.6	42.9	147.9	148.6	146.5
Algeria	16.0	17.3	17.7	4.7	5.0	5.0	231.7	231.0	230.3
Egypt	40.7	41.9	43.0	6.4	6.1	5.0	274.9	274.0	273.7
Ethiopia	21.4	22.9	23.2	2.4	2.9	2.8	170.3	171.8	171.8
Morocco	14.4	15.3	15.5	6.5	6.1	7.9	256.0	256.7	257.1
Nigeria	27.5	28.9	27.5	1.6	1.2	1.2	120.3	123.8	116.1
South Africa	16.2	16.3	16.8	2.9	2.2	3.9	168.0	167.7	167.7
Sudan	7.5	8.5	8.3	1.3	2.4	2.4	168.3	172.9	168.3
CENTRAL AMERICA	66.1	69.7	73.4	8.6	12.6	12.8	154.7	156.2	156.0
Mexico	50.2	53.3	56.7	3.8	7.2	7.6	184.6	186.1	185.4
SOUTH AMERICA	141.6	147.0	153.4	33.3	34.2	43.1	118.5	117.6	117.7
Argentina	24.3	28.6	29.7	7.7	8.9	11.7	134.6	134.8	134.5
Brazil	77.1	77.8	82.8	12.4	7.7	14.0	112.3	110.2	110.0
Chile	5.5	5.7	5.7	3.2	4.2	4.2	143.5	144.5	145.1
Colombia	10.0	10.6	10.8	0.9	1.7	1.5	99.2	102.9	103.8
Peru	8.4	8.9	9.0	1.7	2.5	2.3	149.4	150.4	150.8
Venezuela	7.3	6.2	6.2	1.2	0.5	0.5	132.1	125.4	125.3
NORTH AMERICA	375.6	397.2	392.7	77.3	107.9	95.3	109.2	109.6	108.9
Canada	29.1	30.2	29.0	11.8	12.5	12.7	96.5	97.7	93.5
United States of America	346.5	367.0	363.7	65.5	95.4	82.6	110.6	111.0	110.6
EUROPE	406.6	408.9	407.3	58.2	65.2	71.3	135.0	134.0	133.7
European Union	288.1	288.4	288.4	36.3	32.7	35.4	136.0	135.2	134.9
Russian Federation	68.8	74.0	73.1	7.4	15.2	15.8	126.6	125.4	125.1
Serbia	6.5	5.7	5.5	0.8	0.6	0.6	162.2	163.6	164.2
Ukraine	26.6	24.1	23.8	8.3	7.8	9.4	146.2	143.8	143.0
OCEANIA	15.7	17.3	16.6	6.8	12.8	9.4	91.0	91.0	90.9
Australia	13.4	14.9	14.2	6.3	12.3	8.8	99.0	99.5	99.5
WORLD	2 481.5	2 570.5	2 584.2	636.8	701.7	702.5	148.4	148.7	148.3
Developing countries	1 599.5	1 662.1	1 683.2	476.8	496.5	505.3	153.3	153.6	153.3
Developed countries	882.1	908.4	901.0	160.0	205.2	197.2	127.9	127.5	127.1
LIFDC	490.1	518.9	516.9	89.6	77.2	77.8	146.4	146.9	146.0
LDC	189.7	199.4	201.1	34.6	34.8	34.9	152.8	153.2	152.2

APPENDIX TABLE 2(A): WHEAT STATISTICS

	Production			Imports			Exports		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
(..... million tonnes) (.....)									
ASIA	317.1	322.2	326.1	78.6	87.0	86.2	16.8	16.5	14.8
Bangladesh	1.3	1.4	1.4	3.6	5.4	5.5	-	-	-
China	126.1	128.8	129.2	5.8	5.8	5.5	0.3	0.2	0.3
of which Taiwan Prov.	-	-	-	1.3	1.5	1.5	-	-	-
India	91.9	92.3	97.4	0.3	5.0	3.0	2.6	0.4	0.5
Indonesia	-	-	-	8.2	9.1	9.5	0.1	0.1	0.1
Iran, Islamic Republic of	10.5	13.5	13.5	5.0	1.3	2.0	-	0.1	0.2
Iraq	3.3	3.0	2.8	3.1	3.0	3.1	-	-	-
Japan	0.9	0.8	0.8	5.7	5.8	6.0	0.2	0.2	0.2
Kazakhstan	13.5	15.0	13.5	0.4	0.1	0.1	7.1	7.5	7.0
Korea, Republic of	-	-	-	4.1	4.7	4.2	-	-	-
Pakistan	25.1	25.5	25.1	0.6	-	-	0.6	0.9	0.7
Philippines	-	-	-	4.5	5.5	5.5	-	-	-
Saudi Arabia	0.6	-	-	3.4	3.7	3.9	-	-	-
Thailand	-	-	-	3.3	3.8	3.0	-	-	-
Turkey	21.2	20.6	21.0	4.7	4.8	5.3	3.7	4.8	3.5
AFRICA	27.4	22.6	27.7	47.6	50.7	49.1	1.2	1.0	1.1
Algeria	2.8	2.2	2.5	7.9	8.4	8.3	-	-	-
Egypt	9.3	9.0	8.8	11.2	11.8	12.0	-	-	-
Ethiopia	4.1	4.2	4.2	1.0	1.4	1.3	-	-	-
Morocco	6.7	2.7	7.0	4.2	5.6	4.0	0.2	0.1	0.2
Nigeria	0.1	0.1	0.1	4.5	4.5	4.6	0.4	0.4	0.4
South Africa	1.7	1.9	1.8	2.0	1.8	1.8	0.3	0.2	0.2
Tunisia	1.1	0.9	1.7	1.9	2.1	1.9	-	0.1	0.1
CENTRAL AMERICA	3.6	3.9	3.9	8.7	9.0	9.0	1.3	1.3	1.3
Cuba	-	-	-	0.8	0.8	0.8	-	-	-
Mexico	3.6	3.9	3.9	4.7	5.0	5.0	1.2	1.2	1.2
SOUTH AMERICA	21.6	29.2	28.3	13.6	14.6	13.8	7.1	13.1	12.9
Argentina	11.5	18.4	18.9	-	-	-	4.6	10.8	11.0
Brazil	5.8	6.7	5.5	6.2	6.8	6.2	1.4	0.7	0.8
Chile	1.5	1.7	1.4	0.8	1.0	1.0	-	-	-
Colombia	-	-	-	1.8	2.0	2.0	-	0.1	0.1
Peru	0.2	0.2	0.2	1.9	1.9	1.9	-	-	-
Venezuela	-	-	-	1.6	1.6	1.6	-	-	-
NORTH AMERICA	88.0	94.6	79.0	3.6	3.5	3.6	48.3	47.7	45.5
Canada	31.5	31.7	29.5	0.2	0.3	0.3	23.0	20.0	20.5
United States of America	56.4	62.9	49.5	3.3	3.2	3.3	25.3	27.7	25.0
EUROPE	243.7	252.1	253.9	7.7	8.4	8.3	68.8	71.5	75.3
European Union	153.7	144.5	152.0	5.3	5.4	5.3	32.7	25.9	30.0
Russian Federation	57.9	73.3	69.0	0.5	1.0	1.0	22.0	27.5	28.7
Ukraine	24.3	26.1	25.0	-	-	-	12.8	16.8	15.5
OCEANIA	24.7	35.4	24.3	0.9	0.9	0.9	16.9	22.8	20.0
Australia	24.4	35.1	24.0	-	-	-	16.9	22.8	20.0
WORLD	725.9	760.1	743.2	160.7	174.0	171.0	160.5	174.0	171.0
Developing countries	340.9	347.9	357.6	131.6	145.4	142.1	18.0	23.2	21.9
Developed countries	385.0	412.2	385.6	29.0	28.6	28.9	142.5	150.8	149.1
LIFDC	141.9	140.9	146.2	34.1	40.9	39.6	4.6	2.6	2.5
LDC	13.8	13.3	13.4	19.7	22.5	22.4	0.1	0.1	0.1

APPENDIX TABLE 2(B): WHEAT STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	13/14-15/16 average	2016/17 estim.	2017/18 f'cast	2014-2016 average	2017 estim.	2018 f'cast	13/14-15/16 average	2016/17 estim.	2017/18 f'cast
	(..... million tonnes)						(..... Kg/year.....)		
ASIA	369.3	384.0	380.0	116.7	137.8	154.5	64.8	65.2	65.3
Bangladesh	4.6	6.1	6.0	1.0	2.2	3.1	23.6	25.9	24.1
China	124.2	117.1	116.8	62.1	91.5	108.9	63.4	63.2	63.1
of which Taiwan Prov.	1.3	1.5	1.5	0.4	0.4	0.4	45.5	45.7	45.7
India	90.2	103.0	98.9	21.3	13.5	14.0	59.4	59.7	59.8
Indonesia	7.9	9.5	9.7	1.0	1.0	0.9	24.7	25.3	25.6
Iran, Islamic Republic of	14.8	15.2	15.4	3.1	3.5	3.4	167.0	167.4	168.0
Iraq	6.4	6.6	6.8	1.8	0.9	-	151.7	151.8	151.3
Japan	6.6	6.4	6.4	0.7	0.5	0.5	42.4	42.6	42.8
Kazakhstan	7.3	7.1	6.8	2.4	2.9	2.7	144.1	143.2	143.1
Korea, Republic of	4.1	4.6	4.4	0.7	0.9	1.0	47.8	48.1	48.1
Pakistan	24.7	24.9	25.3	3.0	2.7	1.8	125.6	125.7	125.8
Philippines	4.5	5.3	5.3	0.6	0.8	1.0	23.2	23.5	23.6
Saudi Arabia	3.5	3.7	3.8	2.8	2.8	2.8	100.8	103.7	100.3
Thailand	3.1	3.4	3.0	0.9	1.7	1.7	16.1	16.5	18.7
Turkey	22.2	22.4	22.5	2.9	1.3	1.6	209.1	209.1	208.9
AFRICA	70.5	73.9	75.0	18.4	18.9	18.9	50.7	50.0	49.5
Algeria	10.0	10.7	10.8	2.9	3.5	3.5	209.8	209.9	209.4
Egypt	20.3	21.4	21.7	4.1	3.7	2.8	189.6	190.6	190.1
Ethiopia	5.1	5.6	5.7	0.6	0.8	0.7	42.0	43.2	43.3
Morocco	9.4	9.8	9.9	4.9	4.8	5.7	203.4	203.9	204.3
Nigeria	4.0	4.0	4.1	0.2	0.2	0.2	20.4	19.1	19.1
South Africa	3.3	3.4	3.4	0.6	0.8	0.8	57.8	58.7	58.2
Tunisia	3.0	3.1	3.2	0.6	0.4	0.8	211.0	211.0	211.0
CENTRAL AMERICA	10.7	11.3	11.6	1.9	2.1	2.3	43.9	44.3	44.2
Cuba	0.8	0.8	0.8	0.1	0.1	0.1	55.6	56.2	56.6
Mexico	7.0	7.4	7.6	0.7	0.8	0.9	47.9	48.2	48.0
SOUTH AMERICA	26.3	26.6	27.0	8.1	9.1	10.1	58.8	58.3	58.3
Argentina	5.7	5.8	5.9	2.6	2.3	3.8	117.5	117.5	117.5
Brazil	11.0	11.2	11.3	1.6	2.2	1.8	51.6	51.3	51.1
Chile	2.2	2.2	2.3	1.0	1.4	1.5	107.8	107.8	108.1
Colombia	1.5	1.6	1.6	0.4	1.0	0.8	28.4	29.2	29.4
Peru	2.0	2.0	2.0	0.6	0.6	0.6	60.3	60.4	60.5
Venezuela	1.7	1.6	1.6	0.4	0.1	0.1	53.9	48.6	48.6
NORTH AMERICA	41.1	42.0	41.1	28.6	38.8	32.0	82.1	82.3	81.6
Canada	8.5	9.2	8.7	7.6	7.3	7.1	80.6	81.3	77.1
United States of America	32.5	32.8	32.4	21.1	31.6	24.9	82.2	82.4	82.1
EUROPE	179.4	184.7	185.3	25.9	31.8	33.1	108.7	107.9	107.7
European Union	123.2	126.4	127.0	14.6	14.8	15.0	111.0	110.5	110.3
Russian Federation	36.4	40.4	40.4	4.6	10.8	11.6	99.8	98.6	98.4
Ukraine	11.6	9.6	9.5	3.6	2.4	2.5	112.1	109.6	108.8
OCEANIA	8.0	8.6	8.4	4.9	8.8	6.4	67.4	66.9	66.7
Australia	6.9	7.5	7.2	4.5	8.4	6.1	79.3	79.4	79.5
WORLD	705.4	731.3	728.3	204.6	247.5	257.4	67.0	66.8	66.7
Developing countries	440.8	459.9	457.8	137.5	159.5	177.7	60.1	60.1	60.0
Developed countries	264.6	271.4	270.6	67.0	87.9	79.7	96.0	95.7	95.4
LIFDC	169.2	185.4	181.5	37.0	29.2	29.1	52.9	52.9	52.6
LDC	32.2	35.2	35.0	7.7	9.0	9.4	29.2	29.4	29.0

APPENDIX TABLE 3(A): COARSE GRAIN STATISTICS

	Production			Imports			Exports		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
(..... million tonnes) (.....)									
ASIA	354.2	360.9	354.0	93.9	92.3	94.4	5.5	4.4	4.3
China	229.1	230.4	223.5	22.3	15.6	15.6	0.1	0.1	0.1
of which Taiwan Prov.	0.1	0.1	0.1	4.4	4.7	4.9	-	-	-
India	41.7	44.0	44.3	0.2	0.1	0.1	2.7	1.2	1.0
Indonesia	19.0	19.7	21.0	3.2	1.1	1.1	0.2	0.1	0.1
Iran, Islamic Republic of	4.3	3.9	4.0	7.2	9.3	9.7	-	-	-
Japan	0.2	0.2	0.2	17.4	17.8	17.6	-	-	-
Korea, D.P.R.	2.6	2.5	2.6	0.2	0.2	0.2	-	-	-
Korea, Republic of	0.2	0.2	0.2	10.1	10.0	10.6	-	-	-
Malaysia	0.1	0.1	0.1	3.7	3.8	3.9	-	-	-
Pakistan	5.6	5.9	6.1	0.2	0.3	0.3	-	-	-
Philippines	7.3	8.1	7.8	0.6	0.4	0.6	-	-	-
Saudi Arabia	0.3	0.4	0.4	12.7	14.2	15.2	-	-	-
Thailand	4.9	4.8	4.8	0.2	0.2	0.2	0.6	0.6	0.6
Turkey	14.2	13.8	13.7	1.6	2.0	2.0	0.2	0.1	0.1
Viet Nam	5.2	5.2	5.2	5.7	9.1	9.1	0.2	0.1	0.1
AFRICA	124.0	120.9	132.6	24.1	29.0	25.9	7.5	6.6	8.2
Algeria	1.3	1.1	1.4	5.0	5.0	5.4	-	-	-
Egypt	8.6	7.8	8.0	8.2	8.8	9.1	-	-	-
Ethiopia	18.5	19.0	19.1	0.2	-	-	2.4	1.9	2.0
Morocco	2.8	0.8	3.0	2.7	3.5	3.5	-	-	-
Nigeria	17.7	19.4	17.7	0.2	0.2	0.3	0.2	0.2	0.2
South Africa	13.2	8.7	16.9	1.0	2.6	0.2	1.6	1.3	2.5
Sudan	4.3	7.4	6.3	0.4	0.2	0.2	0.5	0.6	0.7
Tanzania, United Rep. of	7.2	6.5	6.0	-	-	-	0.6	0.4	0.1
CENTRAL AMERICA	34.6	37.2	37.7	18.2	21.4	21.7	0.7	1.0	1.0
Mexico	31.1	33.5	33.9	12.4	15.7	16.3	0.7	1.0	1.0
SOUTH AMERICA	142.3	129.0	164.3	14.0	16.0	13.7	50.4	47.4	54.4
Argentina	41.1	47.0	52.7	0.1	0.1	0.1	20.2	29.1	27.2
Brazil	84.9	65.8	96.4	1.4	3.8	1.7	26.7	15.0	24.1
Chile	2.0	1.8	1.6	1.7	1.7	1.6	0.1	0.2	0.2
Colombia	1.4	1.7	1.7	5.2	5.2	5.2	0.1	0.1	0.1
Peru	1.9	1.8	1.9	2.7	3.0	3.0	-	-	-
Venezuela	2.3	2.0	2.1	2.3	1.6	1.6	-	-	-
NORTH AMERICA	396.3	428.7	396.7	5.1	5.4	4.5	57.9	68.1	57.5
Canada	25.5	25.8	26.0	1.3	1.6	0.8	4.7	4.7	5.3
United States of America	370.8	402.9	370.7	3.8	3.9	3.7	53.2	63.4	52.2
EUROPE	255.6	253.1	250.4	14.5	14.0	15.2	45.5	42.3	43.2
European Union	161.3	153.2	157.2	13.3	12.7	13.9	12.0	8.0	10.5
Russian Federation	39.7	43.4	41.2	0.1	0.2	0.2	8.2	8.5	9.6
Serbia	6.7	5.9	5.7	-	-	-	1.9	2.0	2.0
Ukraine	37.9	39.4	36.2	0.1	0.1	0.1	22.8	23.3	20.6
OCEANIA	13.2	18.6	12.2	0.3	0.3	0.3	6.7	8.4	7.2
Australia	12.7	18.1	11.6	-	-	-	6.7	8.4	7.2
WORLD	1 320.2	1 348.4	1 347.9	170.1	178.2	175.8	174.1	178.2	175.8
Developing countries	634.7	630.4	664.6	129.3	135.8	135.6	61.9	57.2	64.7
Developed countries	685.5	718.1	683.3	40.8	42.4	40.3	112.2	121.0	111.2
LIFDC	152.2	160.4	159.9	6.8	8.3	7.2	8.2	6.2	6.2
LDC	79.6	84.2	85.7	3.5	4.2	3.4	6.2	5.9	6.5

APPENDIX TABLE 3(B): COARSE GRAIN STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	13/14-15/16 average	2016/17 estim.	2017/18 f'cast	2014-2016 average	2017 estim.	2018 f'cast	13/14-15/16 average	2016/17 estim.	2017/18 f'cast
	(..... million tonnes))						(..... Kg/year))		
ASIA	435.2	454.9	461.5	130.6	129.9	112.5	14.1	14.1	14.1
China	245.0	253.6	259.0	104.7	103.9	84.5	9.5	9.5	9.4
of which Taiwan Prov.	4.5	4.7	4.9	0.3	0.2	0.3	6.9	7.1	7.0
India	39.5	42.0	42.4	3.2	3.0	3.6	19.6	19.5	19.5
Indonesia	22.6	21.8	21.1	2.6	1.0	1.9	29.3	29.1	28.8
Iran, Islamic Republic of	10.9	12.2	13.8	1.6	1.5	1.4	1.3	1.3	1.3
Japan	17.7	17.9	18.0	1.0	1.1	1.1	10.0	10.0	10.0
Korea, D.P.R.	2.7	2.6	2.6	0.2	0.3	0.4	83.2	84.4	84.4
Korea, Republic of	10.3	10.1	10.5	1.9	2.1	2.4	4.3	4.4	4.4
Malaysia	3.7	3.8	3.9	0.1	0.1	0.1	1.6	1.6	1.7
Pakistan	5.6	6.1	6.4	1.5	1.4	1.2	10.6	11.1	11.1
Philippines	8.0	8.0	8.5	0.4	0.8	0.7	18.5	19.0	22.7
Saudi Arabia	12.5	15.3	15.6	3.9	3.6	3.6	3.1	3.0	2.9
Thailand	4.4	4.7	4.3	0.5	0.3	0.3	2.7	2.7	2.6
Turkey	15.5	16.0	15.4	2.2	1.9	1.9	19.9	19.7	19.7
Viet Nam	10.6	14.0	14.2	1.0	1.7	1.7	5.9	6.4	6.7
AFRICA	139.6	146.7	147.7	18.7	16.7	19.2	72.7	73.9	72.1
Algeria	6.0	6.5	6.8	1.6	1.5	1.5	18.9	18.3	18.0
Egypt	16.5	16.6	17.2	1.6	1.6	1.4	46.5	45.5	45.1
Ethiopia	16.0	16.9	17.1	1.8	2.1	2.1	125.4	125.1	124.9
Morocco	5.0	5.4	5.6	1.5	1.2	2.2	51.7	51.8	51.9
Nigeria	17.7	19.4	17.7	0.5	0.4	0.4	71.4	78.2	70.2
South Africa	12.0	12.0	12.6	2.1	1.3	3.0	93.2	93.1	94.2
Sudan	4.7	6.0	5.8	0.7	1.2	1.2	99.6	112.1	108.5
Tanzania, United Rep. of	6.4	6.4	6.3	1.4	1.3	0.9	88.1	87.3	86.7
CENTRAL AMERICA	51.5	54.3	57.7	6.2	9.9	10.0	93.5	94.3	94.1
Mexico	42.5	45.1	48.3	3.1	6.3	6.7	130.5	131.6	131.1
SOUTH AMERICA	99.9	105.0	111.0	23.2	23.0	30.9	26.9	27.2	27.1
Argentina	18.0	22.2	23.3	4.9	6.4	7.8	7.2	7.0	7.0
Brazil	57.9	58.9	63.6	10.1	5.2	11.7	24.7	25.0	24.8
Chile	3.1	3.2	3.2	2.2	2.7	2.7	24.2	24.5	24.7
Colombia	7.0	7.3	7.3	0.3	0.3	0.2	40.4	40.9	40.9
Peru	4.2	4.5	4.6	0.8	1.5	1.3	24.4	24.8	24.8
Venezuela	4.5	3.7	3.7	0.7	0.3	0.3	51.0	50.3	50.3
NORTH AMERICA	330.2	350.6	347.1	47.4	67.4	62.1	17.8	17.8	17.8
Canada	20.2	20.6	19.8	4.2	5.2	5.6	4.7	4.7	4.6
United States of America	310.0	330.0	327.3	43.1	62.3	56.5	19.3	19.3	19.3
EUROPE	222.8	219.8	217.5	31.5	32.5	37.3	21.1	20.9	20.7
European Union	161.7	158.7	158.1	21.2	17.2	19.8	19.4	19.2	19.0
Russian Federation	31.7	32.8	31.9	2.7	4.3	4.1	22.0	21.9	21.9
Serbia	4.7	3.9	3.8	0.5	0.5	0.5	22.3	22.9	23.0
Ukraine	14.8	14.5	14.1	4.6	5.4	6.9	31.2	31.3	31.3
OCEANIA	7.0	8.0	7.5	1.7	3.8	2.7	8.2	8.2	8.1
Australia	6.2	7.1	6.7	1.6	3.7	2.6	9.6	9.6	9.5
WORLD	1 286.3	1 339.3	1 350.1	259.3	283.3	274.5	27.4	27.8	27.6
Developing countries	688.3	722.1	739.3	172.6	172.2	163.0	28.9	29.5	29.2
Developed countries	598.1	617.3	610.9	86.7	111.1	111.6	20.7	20.6	20.5
LIFDC	151.8	160.5	159.9	17.6	17.7	18.2	38.0	38.8	38.1
LDC	77.4	81.9	82.9	11.2	11.1	10.8	57.1	57.6	57.3

APPENDIX TABLE 4(A): MAIZE STATISTICS

	Production			Imports			Exports		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
(..... million tonnes) (.....)									
ASIA	306.4	310.9	304.4	62.7	64.5	66.8	4.3	3.0	3.1
China	219.6	219.6	212.3	8.3	6.1	6.3	0.1	-	-
of which Taiwan Prov.	-	-	-	4.2	4.5	4.7	-	-	-
India	23.7	26.1	26.0	0.2	0.1	0.1	2.1	0.7	0.6
Indonesia	19.0	19.7	21.0	3.1	1.0	1.0	0.2	0.1	0.1
Iran, Islamic Republic of	1.6	0.9	0.9	5.8	8.0	8.5	-	-	-
Japan	-	-	-	14.9	15.4	15.4	-	-	-
Korea, D.P.R.	2.4	2.4	2.4	0.2	0.2	0.2	-	-	-
Korea, Republic of	0.1	0.1	0.1	10.0	9.9	10.5	-	-	-
Malaysia	0.1	0.1	0.1	3.7	3.8	3.9	-	-	-
Pakistan	4.9	5.3	5.5	-	-	-	-	-	-
Philippines	7.3	8.1	7.8	0.6	0.4	0.6	-	-	-
Thailand	4.7	4.6	4.6	0.1	0.1	0.2	0.6	0.6	0.6
Turkey	6.1	6.4	6.0	1.3	1.3	1.5	0.2	0.1	0.1
Viet Nam	5.2	5.2	5.2	5.7	9.0	9.0	0.2	0.1	0.1
AFRICA	74.3	68.0	77.9	20.1	24.2	21.6	4.7	3.7	5.1
Algeria	-	-	-	4.2	4.1	4.6	-	-	-
Egypt	7.7	7.0	7.1	8.1	8.7	9.0	-	-	-
Ethiopia	7.0	7.2	7.2	-	-	-	0.8	0.6	0.6
Kenya	3.5	2.9	3.3	0.8	1.0	1.0	-	-	-
Morocco	0.1	0.2	0.2	2.1	2.4	2.5	-	-	-
Nigeria	10.3	10.8	9.7	0.2	0.2	0.3	0.2	0.2	0.2
South Africa	12.7	8.2	16.4	0.9	2.5	0.1	1.5	1.3	2.5
Tanzania, United Rep. of	6.0	5.3	4.9	-	-	-	0.6	0.4	0.1
CENTRAL AMERICA	26.9	30.9	31.4	17.4	19.9	20.4	0.7	1.0	1.0
Mexico	23.8	27.6	28.0	11.5	14.3	15.0	0.7	1.0	1.0
SOUTH AMERICA	128.8	117.2	153.1	12.2	14.3	11.9	46.8	44.1	52.1
Argentina	33.0	39.8	46.5	-	-	-	16.9	26.0	25.0
Brazil	81.9	63.4	93.5	0.8	3.2	1.0	26.7	15.0	24.1
Chile	1.3	1.1	1.0	1.4	1.6	1.4	0.1	0.1	0.1
Colombia	1.4	1.6	1.7	4.7	4.6	4.6	0.1	0.1	0.1
Peru	1.7	1.5	1.6	2.6	2.9	2.9	-	-	-
Venezuela	2.2	1.9	2.0	2.3	1.6	1.6	-	-	-
NORTH AMERICA	365.7	398.0	371.8	2.4	2.8	2.0	46.8	58.4	49.0
Canada	13.1	13.2	14.5	1.2	1.4	0.7	1.3	1.2	1.7
United States of America	352.6	384.8	357.3	1.3	1.4	1.2	45.4	57.2	47.3
EUROPE	117.1	113.7	114.7	13.3	12.5	14.0	28.0	28.0	26.5
European Union	67.7	61.0	65.0	12.5	11.7	13.1	2.9	2.4	2.2
Russian Federation	12.0	15.3	14.5	0.1	-	0.1	3.9	5.0	5.4
Serbia	6.3	5.5	5.3	-	-	-	1.9	2.0	2.0
Ukraine	27.6	28.1	26.7	0.1	0.1	0.1	18.8	18.2	16.5
OCEANIA	0.7	0.6	0.6	0.2	0.2	0.2	0.1	0.1	0.1
WORLD	1 019.7	1 039.3	1 054.0	128.2	138.3	136.8	131.3	138.3	136.8
Developing countries	521.5	516.4	548.4	94.8	103.5	103.7	54.9	50.5	58.7
Developed countries	498.2	522.9	505.6	33.5	34.8	33.1	76.4	87.8	78.1
LIFDC	87.0	89.3	90.0	5.1	6.6	5.5	4.9	2.9	2.6
LDC	44.0	44.0	46.1	2.7	3.6	2.9	3.6	3.1	3.5

APPENDIX TABLE 4(B): MAIZE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	2014-2016 average	2017 <i>estim.</i>	2018 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
	<i>(..... million tonnes)</i>						<i>(..... Kg/year)</i>		
ASIA	357.6	377.2	385.3	117.0	115.5	97.5	8.6	8.6	8.6
China	221.6	232.2	238.2	101.5	99.7	80.0	6.2	6.1	6.1
of which Taiwan Prov.	4.4	4.5	4.7	0.3	0.2	0.2	5.4	5.6	5.6
India	21.6	24.5	24.5	1.9	2.6	3.1	7.0	7.2	7.1
Indonesia	22.5	21.8	21.0	2.6	1.0	1.9	28.9	28.8	28.5
Iran, Islamic Republic of	6.8	7.6	9.4	0.9	0.8	0.8	1.0	0.9	0.9
Japan	14.8	15.4	15.4	0.6	0.8	0.8	7.5	7.5	7.5
Korea, D.P.R.	2.6	2.5	2.5	0.2	0.3	0.4	80.0	81.9	81.9
Korea, Republic of	10.1	9.9	10.3	1.8	2.1	2.3	1.9	2.0	2.0
Malaysia	3.7	3.8	3.9	0.1	0.1	0.1	1.6	1.6	1.7
Pakistan	4.9	5.3	5.6	1.5	1.4	1.2	8.0	8.1	8.2
Philippines	7.9	7.9	8.4	0.4	0.8	0.7	18.5	18.9	22.6
Thailand	4.2	4.5	4.2	0.5	0.3	0.3	1.3	1.2	1.2
Turkey	7.0	7.7	7.2	1.0	0.9	0.9	16.1	16.1	16.1
Viet Nam	10.5	13.9	14.1	1.0	1.7	1.7	5.8	6.4	6.7
AFRICA	88.7	91.7	92.6	12.5	10.0	11.5	40.4	41.1	39.8
Algeria	3.8	4.3	4.6	1.1	1.2	1.2	3.6	3.5	3.4
Egypt	15.6	15.7	16.3	1.5	1.5	1.3	43.2	42.3	42.0
Ethiopia	6.2	6.6	6.6	0.4	0.5	0.5	42.5	42.7	42.6
Kenya	4.2	4.2	4.4	0.3	0.2	0.3	82.8	82.7	82.3
Morocco	2.2	2.4	2.6	0.7	0.8	0.8	10.3	10.1	10.6
Nigeria	10.4	10.8	9.8	0.4	0.3	0.3	34.5	39.1	32.6
South Africa	11.3	11.4	12.0	1.8	1.0	2.7	89.2	89.1	90.2
Tanzania, United Rep. of	5.2	5.2	5.1	1.1	1.1	0.8	68.4	68.2	68.2
CENTRAL AMERICA	42.9	46.7	50.2	5.7	9.5	9.6	92.0	92.7	92.5
Mexico	34.2	37.9	41.2	2.7	6.0	6.4	129.3	130.2	129.8
SOUTH AMERICA	88.7	93.4	99.8	19.6	19.1	27.0	25.4	25.6	25.6
Argentina	13.6	17.1	19.0	3.5	5.0	6.5	7.0	6.8	6.8
Brazil	54.3	55.7	60.0	9.7	5.0	11.5	23.7	23.9	23.7
Chile	2.4	2.5	2.5	1.7	2.1	2.0	20.7	21.0	21.0
Colombia	6.0	6.2	6.2	0.3	0.2	0.2	39.0	39.5	39.5
Peru	3.8	4.1	4.2	0.8	1.5	1.3	18.1	18.9	19.0
Venezuela	4.4	3.6	3.6	0.7	0.2	0.2	50.5	49.8	49.8
NORTH AMERICA	310.6	328.4	328.0	41.6	60.5	56.8	14.7	14.7	14.8
Canada	12.7	12.9	12.4	1.7	2.2	3.2	3.2	3.2	3.1
United States of America	297.9	315.5	315.6	39.8	58.3	53.6	16.0	16.0	16.1
EUROPE	101.1	97.5	98.3	15.6	13.6	17.4	8.4	8.4	8.2
European Union	76.7	72.5	73.9	9.8	6.0	8.0	9.9	9.9	9.6
Russian Federation	8.1	9.5	9.2	0.6	0.9	0.9	1.3	1.4	1.4
Serbia	4.3	3.5	3.3	0.5	0.5	0.5	20.7	21.2	21.3
Ukraine	8.5	8.5	8.5	3.6	4.3	6.1	11.1	11.5	11.5
OCEANIA	0.7	0.7	0.7	0.1	0.1	0.1	2.4	2.3	2.3
WORLD	990.2	1 035.6	1 054.9	212.0	228.2	219.8	17.2	17.6	17.4
Developing countries	548.0	578.7	596.9	151.0	150.4	140.2	18.4	18.8	18.6
Developed countries	442.1	457.0	458.0	61.0	77.8	79.6	12.5	12.6	12.5
LIFDC	87.4	92.4	92.0	10.9	10.5	11.0	18.5	19.2	18.6
LDC	43.3	45.1	45.6	7.1	5.6	5.4	28.1	28.2	28.2

APPENDIX TABLE 5(A): BARLEY STATISTICS

	Production			Imports			Exports		
	2013-2015 average	2016	2017	13/14-15/16 average	2016/17	2017/18	13/14-15/16 average	2016/17	2017/18
		<i>estim.</i>	<i>f'cast</i>		<i>estim.</i>	<i>f'cast</i>		<i>estim.</i>	<i>f'cast</i>
<i>(..... million tonnes)</i>									
ASIA	20.6	21.2	21.2	21.9	20.5	21.7	1.0	1.2	0.9
China	1.8	2.1	2.3	6.6	4.1	5.1	-	-	-
India	1.7	1.4	1.8	-	-	-	0.4	0.4	0.3
Iran, Islamic Republic of	2.7	3.0	3.1	1.5	1.3	1.2	-	-	-
Iraq	0.9	0.8	0.8	-	-	-	-	-	-
Japan	0.2	0.2	0.2	1.2	1.1	1.1	-	-	-
Kazakhstan	2.5	3.2	2.6	-	-	-	0.5	0.8	0.6
Saudi Arabia	-	-	-	9.5	10.5	11.0	-	-	-
Syrian Arab Republic	0.8	0.9	0.9	0.4	0.4	0.4	-	-	-
Turkey	7.4	6.7	7.0	0.5	0.7	0.5	-	-	-
AFRICA	6.9	4.6	7.5	2.9	3.7	3.3	-	-	-
Algeria	1.2	1.0	1.3	0.8	0.9	0.8	-	-	-
Ethiopia	1.9	1.9	1.9	-	-	-	-	-	-
Libya	0.1	0.1	0.1	0.8	1.0	1.0	-	-	-
Morocco	2.6	0.6	2.8	0.5	1.1	0.9	-	-	-
Tunisia	0.5	0.3	0.7	0.6	0.6	0.6	-	-	-
CENTRAL AMERICA	0.8	0.8	0.8	0.1	0.2	0.2	-	-	-
Mexico	0.8	0.8	0.8	0.1	0.2	0.2	-	-	-
SOUTH AMERICA	5.0	4.4	4.0	1.0	0.9	1.0	2.4	2.6	1.6
Argentina	4.2	3.3	3.0	-	-	-	2.3	2.5	1.5
NORTH AMERICA	13.0	13.1	11.1	0.5	0.4	0.4	1.7	1.7	1.8
Canada	8.5	8.8	7.6	0.1	0.1	-	1.4	1.5	1.7
United States of America	4.5	4.3	3.5	0.5	0.3	0.4	0.3	0.1	0.1
EUROPE	89.7	90.9	89.0	0.4	0.7	0.5	16.6	13.7	16.2
Belarus	1.8	1.8	1.8	-	-	-	-	-	-
European Union	60.3	60.0	60.5	0.2	0.4	0.2	8.7	5.2	8.0
Russian Federation	17.8	18.0	17.5	0.1	0.1	0.1	4.0	3.4	4.1
Ukraine	8.3	9.5	7.8	-	-	-	3.8	5.0	4.0
OCEANIA	9.1	13.7	8.8	-	-	-	5.6	7.3	6.6
Australia	8.8	13.4	8.5	-	-	-	5.6	7.3	6.6
WORLD	145.1	148.6	142.3	26.9	26.4	27.1	27.2	26.4	27.1
Developing countries	28.6	25.1	28.5	24.1	23.5	24.4	2.9	3.0	1.9
Developed countries	116.6	123.6	113.8	2.8	2.8	2.7	24.4	23.4	25.2
LIFDC	5.8	5.8	6.1	0.6	0.7	0.7	0.4	0.4	0.3
LDC	2.5	2.4	2.5	-	-	-	-	-	-

APPENDIX TABLE 5(B): BARLEY STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	13/14-15/16 average	2016/17 estim.	2017/18 f'cast	2014-2016 average	2017 estim.	2018 f'cast	13/14-15/16 average	2016/17 estim.	2017/18 f'cast
	(..... million tonnes)						(..... Kg/year)		
ASIA	40.3	42.9	42.1	10.3	11.6	12.0	0.6	0.6	0.6
China	8.1	8.3	7.8	1.9	2.5	2.6	0.1	0.1	0.1
India	1.3	1.1	1.4	-	-	-	0.9	0.7	0.9
Iran, Islamic Republic of	4.0	4.5	4.4	0.6	0.7	0.6	0.3	0.3	0.3
Iraq	0.9	0.8	0.8	-	-	-	3.7	3.5	3.4
Japan	1.4	1.4	1.4	0.2	0.2	0.2	2.4	2.4	2.4
Kazakhstan	2.0	2.1	1.9	0.3	0.7	0.8	1.2	1.1	1.1
Saudi Arabia	9.0	11.2	11.0	3.6	3.3	3.3	0.9	0.9	0.9
Syrian Arab Republic	1.3	1.3	1.3	0.5	0.5	0.5	14.8	15.1	14.8
Turkey	7.7	7.6	7.5	1.2	0.9	0.9	1.1	1.0	1.0
AFRICA	9.4	9.7	9.9	2.1	1.4	2.3	3.3	3.3	3.2
Algeria	2.0	2.0	2.1	0.5	0.2	0.2	15.3	14.9	14.6
Ethiopia	1.9	1.9	1.9	0.1	0.1	-	16.3	16.2	16.1
Libya	0.9	1.1	1.1	-	-	-	13.2	13.1	13.0
Morocco	2.7	2.9	2.9	0.9	0.5	1.3	41.3	41.6	41.1
Tunisia	1.1	1.0	1.2	0.4	0.3	0.4	8.1	7.9	7.8
CENTRAL AMERICA	0.9	0.9	0.9	0.1	0.1	0.1	-	-	-
Mexico	0.9	0.9	0.9	0.1	0.1	0.1	-	-	-
SOUTH AMERICA	3.5	3.6	3.4	0.8	0.7	0.6	0.5	0.5	0.5
Argentina	1.7	1.7	1.6	0.7	0.6	0.5	-	-	-
NORTH AMERICA	10.7	11.0	10.3	3.4	4.1	3.3	0.5	0.5	0.5
Canada	6.2	6.4	6.2	1.5	2.0	1.6	0.3	0.3	0.3
United States of America	4.5	4.6	4.1	1.9	2.1	1.7	0.5	0.5	0.5
EUROPE	73.0	76.0	73.8	9.8	11.2	10.8	1.0	1.0	1.0
Belarus	1.7	1.6	1.6	0.4	0.9	1.1	-	-	-
European Union	51.4	54.2	52.7	7.7	8.0	8.0	0.8	0.7	0.7
Russian Federation	13.8	14.2	13.9	0.9	1.5	1.1	1.2	1.2	1.2
Ukraine	4.6	4.4	4.0	0.6	0.5	0.3	3.2	2.8	2.8
OCEANIA	3.8	4.4	4.1	0.8	2.6	1.9	0.2	0.2	0.1
Australia	3.4	4.0	3.7	0.8	2.5	1.8	0.3	0.2	0.2
WORLD	141.6	148.4	144.5	27.4	31.7	30.9	1.1	1.0	1.1
Developing countries	48.4	51.2	50.6	11.1	10.2	10.9	1.1	1.0	1.1
Developed countries	93.2	97.2	93.8	16.3	21.5	20.0	1.0	0.9	0.9
LIFDC	6.0	6.0	6.3	1.0	1.1	1.2	1.2	1.2	1.3
LDC	2.5	2.5	2.5	0.2	0.2	0.2	1.9	1.8	1.8

APPENDIX TABLE 6(A): SORGHUM STATISTICS

	Production			Imports			Exports		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
(..... million tonnes) (.....)									
ASIA	8.8	9.3	9.7	8.4	6.2	4.9	0.1	-	-
China	2.9	3.8	4.0	7.3	5.2	4.0	-	-	-
India	5.0	4.7	5.0	-	-	-	0.1	-	-
Japan	-	-	-	1.0	0.8	0.7	-	-	-
AFRICA	25.1	28.4	27.9	1.0	1.0	0.9	1.0	0.9	1.2
Burkina Faso	1.7	1.7	1.7	-	-	-	0.2	-	-
Ethiopia	4.1	4.4	4.4	0.1	-	-	0.4	0.3	0.3
Nigeria	5.9	6.9	6.5	-	-	-	-	-	-
Sudan	3.6	5.9	5.4	0.3	0.2	0.1	0.5	0.4	0.6
CENTRAL AMERICA	6.8	5.4	5.4	0.6	0.8	0.7	-	-	-
Mexico	6.5	5.0	5.0	0.6	0.8	0.7	-	-	-
SOUTH AMERICA	6.6	5.0	5.2	0.4	0.4	0.4	1.1	0.6	0.6
Argentina	3.4	3.0	2.5	-	-	-	1.0	0.6	0.6
Brazil	2.2	1.2	1.9	-	-	-	-	-	-
Venezuela	0.1	0.1	0.1	-	-	-	-	-	-
NORTH AMERICA	12.1	12.2	8.4	0.1	0.1	-	7.4	6.0	4.7
United States of America	12.1	12.2	8.4	0.1	-	-	7.4	6.0	4.7
EUROPE	1.2	1.2	1.1	0.1	0.2	0.2	0.1	0.1	0.1
European Union	0.6	0.6	0.7	0.1	0.2	0.2	-	-	-
OCEANIA	1.9	2.0	1.2	0.1	-	-	1.0	1.0	0.5
Australia	1.9	2.0	1.2	-	-	-	1.0	1.0	0.5
WORLD	62.4	63.5	59.0	10.5	8.6	7.1	10.6	8.6	7.1
Developing countries	47.1	48.0	48.2	9.2	7.4	6.0	2.1	1.6	1.8
Developed countries	15.3	15.5	10.8	1.3	1.2	1.1	8.5	7.1	5.3
LIFDC	29.8	32.9	32.6	1.0	0.8	0.8	1.0	0.9	1.2
LDC	17.1	19.7	19.5	0.7	0.6	0.5	0.9	0.8	1.1

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

	Production			Imports			Exports		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	13/14-15/16 average	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
(..... million tonnes) (.....)									
ASIA	18.5	19.5	18.7	1.0	1.1	1.0	0.1	0.2	0.3
AFRICA	17.6	19.9	19.3	0.1	0.1	0.1	1.8	2.0	1.9
CENTRAL AMERICA	0.1	0.1	0.1	0.1	0.5	0.4	-	-	-
SOUTH AMERICA	1.8	2.4	2.0	0.4	0.4	0.4	0.1	0.1	0.1
NORTH AMERICA	5.5	5.4	5.4	2.1	2.1	2.1	2.1	2.0	2.0
EUROPE	47.6	47.3	45.6	0.6	0.6	0.5	0.7	0.5	0.4
OCEANIA	1.5	2.3	1.6	-	0.1	0.1	-	-	-
WORLD	93.0	97.0	92.6	4.5	4.9	4.8	5.0	4.9	4.8

APPENDIX TABLE 6(B): SORGHUM STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	13/14-15/16 average	2016/17 estim.	2017/18 f'cast	2014-2016 average	2017 estim.	2018 f'cast	13/14-15/16 average	2016/17 estim.	2017/18 f'cast
	(..... million tonnes))						(..... Kg/year))		
ASIA	17.6	14.3	14.4	1.3	1.7	1.9	1.4	1.3	1.3
China	10.3	8.0	7.9	0.8	1.3	1.5	0.5	0.5	0.5
India	5.0	4.7	5.0	-	-	-	3.7	3.4	3.6
Japan	1.1	0.7	0.7	0.2	0.1	0.1	-	-	-
AFRICA	25.6	27.8	27.6	2.0	2.5	2.5	18.0	18.0	17.8
Burkina Faso	1.6	1.7	1.7	0.1	-	-	77.7	77.3	75.1
Ethiopia	3.7	4.0	4.0	0.4	0.6	0.6	29.2	29.0	29.2
Nigeria	5.9	6.9	6.5	-	-	-	30.8	30.5	30.5
Sudan	4.0	4.9	4.9	0.5	0.8	0.9	84.9	94.3	90.6
CENTRAL AMERICA	7.2	6.0	6.0	0.3	0.3	0.3	0.8	0.8	0.8
Mexico	6.8	5.7	5.6	0.2	0.2	0.2	-	-	-
SOUTH AMERICA	5.8	5.5	5.6	2.4	2.6	2.6	0.1	0.1	0.1
Argentina	2.0	2.4	2.0	0.6	0.8	0.8	-	-	-
Brazil	2.2	1.4	1.9	0.4	0.1	0.1	-	-	-
Venezuela	0.1	0.1	0.1	-	-	-	-	-	-
NORTH AMERICA	4.3	6.2	3.9	0.8	1.2	0.6	-	0.0	0.0
United States of America	4.3	6.2	3.9	0.8	1.2	0.6	-	-	-
EUROPE	1.1	1.3	1.2	0.4	0.4	0.5	0.3	0.2	0.2
European Union	0.8	0.8	0.9	0.2	0.2	0.2	0.4	0.3	0.3
OCEANIA	1.0	1.0	0.9	0.6	0.6	0.5	0.2	0.2	0.2
Australia	0.9	1.0	0.8	0.6	0.6	0.4	-	-	-
WORLD	62.6	62.1	59.7	7.7	9.3	9.0	3.7	3.7	3.8
Developing countries	54.8	52.6	52.8	5.8	7.0	7.3	4.6	4.6	4.6
Developed countries	7.8	9.5	6.9	1.9	2.4	1.7	0.3	0.2	0.2
LIFDC	30.2	31.9	32.1	2.0	2.6	2.7	9.4	9.3	9.4
LDC	17.3	18.6	18.9	1.7	2.4	2.5	14.6	14.8	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		
	13/14-15/16 average	2016/17 estim.	2017/18 f'cast	2014-2016 average	2017 estim.	2018 f'cast	13/14-15/16 average	2016/17 estim.	2017/18 f'cast
	(..... million tonnes))						(..... Kg/year))		
ASIA	19.8	20.5	19.7	2.0	1.1	1.1	3.6	3.6	3.6
AFRICA	16.0	17.5	17.6	2.1	2.8	2.9	11.0	11.5	11.3
CENTRAL AMERICA	0.5	0.7	0.6	-	-	-	1.5	1.6	1.6
SOUTH AMERICA	2.0	2.5	2.2	0.5	0.6	0.7	0.9	1.0	0.9
NORTH AMERICA	4.7	5.0	4.9	1.6	1.6	1.4	2.6	2.6	2.5
EUROPE	47.6	45.0	44.2	5.7	7.3	8.6	11.4	11.3	11.3
OCEANIA	1.5	1.9	1.8	0.2	0.5	0.2	5.4	5.5	5.5
WORLD	92.0	93.2	91.0	12.2	14.1	14.8	5.3	5.5	5.3

APPENDIX TABLE 8(A): RICE STATISTICS

	Production			Imports			Exports		
	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>	2013-2015 average	2016 <i>estim.</i>	2017 <i>f'cast</i>
(..... million tonnes, milled equivalent.....)									
ASIA	446.8	451.5	454.4	21.8	19.2	21.3	36.2	33.6	35.7
Bangladesh	34.5	34.7	34.8	0.8	0.1	0.8	-	-	-
China	142.4	142.9	143.5	6.6	6.3	6.4	0.4	0.5	0.6
of which Taiwan Prov.	1.2	1.2	1.2	0.1	0.1	0.1	0.1	0.1	-
India	105.5	109.2	110.4	-	-	-	10.9	10.0	10.8
Indonesia	45.0	45.6	46.6	1.2	1.3	0.8	-	-	-
Iran, Islamic Republic of	1.5	1.6	1.7	1.3	1.2	1.3	-	-	-
Iraq	0.2	0.1	0.2	1.0	0.9	1.1	-	-	-
Japan	7.8	7.7	7.7	0.7	0.7	0.7	0.1	-	-
Korea DPR	1.6	1.7	1.7	0.1	-	-	-	-	-
Korea, Republic of	4.2	4.2	4.1	0.4	0.3	0.5	-	-	-
Malaysia	1.9	1.9	2.0	1.0	0.8	1.0	0.1	-	-
Myanmar	16.8	16.8	17.0	-	-	-	1.6	1.3	1.4
Pakistan	6.9	6.6	6.8	-	-	-	4.0	4.1	3.9
Philippines	12.0	12.1	12.1	1.5	0.7	1.5	-	-	-
Saudi Arabia	-	-	-	1.4	1.2	1.3	-	-	-
Sri Lanka	2.9	3.0	1.9	0.5	-	0.6	-	-	-
Thailand	21.8	21.6	22.0	0.2	0.2	0.2	10.2	9.9	10.5
Viet Nam	29.1	28.3	28.6	0.5	0.6	0.5	7.5	6.2	6.9
AFRICA	18.5	20.1	20.0	14.3	14.1	14.3	0.6	0.6	0.5
Cote D'Ivoire	0.5	0.5	0.5	1.3	1.4	1.4	-	-	-
Egypt	4.2	4.3	4.2	0.1	0.1	-	0.4	0.3	0.3
Madagascar	2.5	2.6	2.3	0.3	0.2	0.4	-	-	-
Nigeria	2.8	3.0	3.2	2.6	2.2	2.5	-	-	-
Senegal	0.4	0.7	0.7	1.3	1.1	1.2	-	-	-
South Africa	-	-	-	0.8	0.8	0.8	-	-	-
Tanzania, United Rep. of	1.7	2.2	2.0	0.2	0.2	0.1	0.1	0.1	0.1
CENTRAL AMERICA	1.8	1.8	1.8	2.2	2.4	2.3	0.1	-	0.1
Cuba	0.4	0.3	0.3	0.5	0.6	0.5	-	-	-
Mexico	0.2	0.2	0.2	0.7	0.7	0.7	-	-	-
SOUTH AMERICA	16.9	16.1	16.9	1.6	1.8	1.7	3.1	3.2	3.2
Argentina	1.1	1.0	0.9	-	-	-	0.4	0.5	0.5
Brazil	8.2	7.2	8.1	0.5	0.7	0.7	0.8	0.6	0.7
Peru	2.1	2.1	2.1	0.2	0.3	0.3	0.1	0.1	-
Uruguay	1.0	0.9	1.0	-	-	-	0.8	0.9	0.9
NORTH AMERICA	6.4	7.1	6.4	1.2	1.2	1.2	3.3	3.5	3.6
Canada	-	-	-	0.4	0.5	0.4	-	-	-
United States of America	6.4	7.1	6.4	0.8	0.8	0.8	3.3	3.5	3.6
EUROPE	2.5	2.6	2.6	2.3	2.3	2.3	0.5	0.5	0.4
European Union	1.8	1.8	1.8	1.7	1.8	1.8	0.3	0.3	0.3
Russian Federation	0.7	0.7	0.7	0.2	0.2	0.2	0.2	0.2	0.2
OCEANIA	0.6	0.2	0.6	0.5	0.5	0.5	0.3	0.2	0.3
Australia	0.6	0.2	0.6	0.2	0.2	0.2	0.3	0.2	0.3
WORLD	493.7	499.3	502.6	44.0	41.6	43.6	44.0	41.6	43.6
Developing countries	475.8	481.1	484.8	38.3	35.9	37.9	39.8	37.4	39.3
Developed countries	17.9	18.2	17.9	5.7	5.7	5.7	4.2	4.3	4.4
LIFDC	166.9	172.2	173.8	15.3	14.3	15.3	15.1	14.4	14.9
LDC	73.6	75.7	75.7	10.0	9.1	9.7	3.1	3.0	3.1

APPENDIX TABLE 8(B): RICE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	12/13-14/15 average	2015/16 estim.	2016/17 f'cast	2013-2015 average	2016 estim.	2017 f'cast	12/13-14/15 average	2015/16 estim.	2016/17 f'cast
	(..... million tonnes, milled equivalent) (..... Kg/year) (.....)								
ASIA	428.8	434.3	436.9	162.8	160.6	160.8	78.2	78.1	78.1
Bangladesh	35.2	35.8	35.7	7.2	7.3	6.4	180.2	180.8	180.5
China	141.5	145.4	145.4	92.1	98.0	101.2	77.1	77.2	77.2
of which Taiwan Prov.	1.3	1.2	1.3	0.2	0.2	0.2	48.2	48.2	48.4
India	96.8	97.5	98.6	21.7	18.1	18.5	68.9	68.8	69.0
Indonesia	46.1	46.8	46.7	6.6	6.6	6.7	134.9	135.0	135.1
Iran, Islamic Republic of	3.0	3.0	3.0	0.7	0.7	0.4	34.6	34.5	33.5
Iraq	1.3	1.2	1.2	0.3	0.1	0.1	37.0	33.2	32.0
Japan	8.5	8.5	8.5	3.5	3.4	3.3	50.8	50.3	49.7
Korea DPR	1.7	1.5	1.7	0.2	0.1	0.1	58.1	53.6	57.0
Korea, Republic of	4.5	4.5	4.8	1.4	1.6	1.5	77.4	76.0	74.9
Malaysia	2.8	2.9	2.9	0.3	0.5	0.4	83.6	84.0	84.3
Myanmar	15.5	15.2	15.4	2.6	2.4	2.4	193.9	193.6	193.4
Pakistan	2.7	2.7	2.8	0.8	0.8	0.8	11.6	11.7	11.8
Philippines	13.3	12.7	13.6	2.4	2.7	2.4	117.2	116.3	116.6
Saudi Arabia	1.3	1.4	1.4	0.3	0.5	0.3	42.5	42.5	42.6
Sri Lanka	3.0	3.2	3.2	0.5	0.7	0.6	123.6	126.1	125.9
Thailand	14.6	14.6	13.8	15.5	10.7	8.6	101.4	102.3	102.7
Viet Nam	21.4	21.8	22.1	2.9	2.8	3.4	156.1	155.7	157.2
AFRICA	32.4	32.9	33.9	5.3	5.1	5.0	24.5	24.5	24.7
Cote D'Ivoire	1.8	1.9	1.9	0.3	0.4	0.4	75.4	77.3	77.6
Egypt	3.9	3.8	3.9	0.6	0.6	0.8	38.7	38.4	37.9
Madagascar	2.9	2.9	2.8	0.3	0.3	0.2	100.6	100.0	100.2
Nigeria	5.7	5.5	5.6	0.8	0.7	0.5	28.6	27.0	26.5
Senegal	1.7	1.8	1.8	0.3	0.3	0.3	106.2	107.6	108.5
South Africa	1.0	0.9	0.9	0.2	0.2	0.1	17.0	16.1	15.9
Tanzania, United Rep. of	1.7	2.0	2.2	0.4	0.5	0.5	26.6	28.4	30.4
CENTRAL AMERICA	3.9	3.9	4.0	0.5	0.5	0.5	17.4	17.4	17.6
Cuba	0.8	0.8	0.8	0.1	-	0.1	67.2	67.9	68.2
Mexico	0.8	0.8	0.8	0.1	-	0.1	6.2	6.1	6.3
SOUTH AMERICA	15.4	15.2	15.3	2.0	2.5	2.1	32.7	31.9	32.1
Argentina	0.5	0.5	0.5	0.2	0.4	0.3	9.9	10.2	10.3
Brazil	8.2	7.8	7.8	0.7	0.7	0.3	35.9	33.9	33.9
Peru	2.2	2.3	2.4	0.4	0.4	0.4	64.7	64.9	65.3
Uruguay	0.1	0.1	0.1	0.2	0.2	0.1	7.9	8.2	8.5
NORTH AMERICA	4.4	4.0	4.6	1.4	1.6	1.6	9.3	9.2	9.6
Canada	0.4	0.4	0.4	0.1	0.1	-	11.3	11.7	11.7
United States of America	4.0	3.6	4.2	1.4	1.5	1.5	9.1	8.9	9.3
EUROPE	4.3	4.4	4.4	0.7	0.8	0.8	5.2	5.2	5.2
European Union	3.2	3.3	3.3	0.5	0.5	0.6	5.5	5.5	5.5
Russian Federation	0.7	0.8	0.8	0.1	0.1	0.1	4.9	4.9	4.9
OCEANIA	0.7	0.7	0.7	0.2	0.3	0.2	15.5	15.5	15.8
Australia	0.3	0.3	0.3	0.2	0.2	0.1	10.0	10.1	10.4
WORLD	489.8	495.3	499.9	172.9	171.3	170.9	54.2	54.0	54.1
Developing countries	470.4	476.2	480.1	166.7	165.0	164.8	64.4	64.1	64.1
Developed countries	19.4	19.0	19.8	6.3	6.3	6.2	11.2	11.1	11.2
LIFDC	169.1	170.4	173.0	34.9	31.2	30.4	55.4	55.2	55.2
LDC	80.1	80.9	82.3	15.7	15.6	14.8	66.6	66.4	66.2

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)		
	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>	2015/16	2016/17 <i>estim.</i>	2017/18 <i>f'cast</i>
UNITED STATES (June/May)				UNITED STATES			UNITED STATES (Aug/July)		
Opening Stocks	20.5	26.6	31.6	46.9	48.1	62.3	1.6	1.5	1.5
Production	56.1	62.9	49.5	367.3	402.9	370.7	6.1	7.1	6.4
Imports	3.1	3.1	3.4	4.0	3.8	3.7	0.8	0.7	0.8
Total Supply	79.7	92.6	84.5	418.2	454.8	436.7	8.5	9.3	8.7
Domestic use	32.0	32.8	32.4	313.0	330.0	327.3	3.6	4.2	4.0
Exports	21.1	28.2	27.2	57.2	62.5	53.0	3.4	3.6	3.5
Closing stocks	26.6	31.6	24.9	48.1	62.3	56.5	1.5	1.5	1.2
CANADA (August/July)				CANADA			THAILAND (Aug/July)		
Opening Stocks	7.1	5.2	7.3	3.3	4.7	5.2	16.2	10.7	8.6
Production	27.6	31.7	29.5	25.7	25.8	26.0	18.9	21.6	22.0
Imports	0.1	0.1	0.1	1.5	1.2	0.6	0.2	0.2	0.2
Total Supply	34.8	37.0	36.9	30.5	31.7	31.8	35.3	32.5	30.8
Domestic use	7.9	9.2	8.7	19.7	20.6	19.8	14.6	13.8	14.4
Exports	21.7	20.5	21.1	6.2	6.0	6.3	10.0	10.2	10.4
Closing stocks	5.2	7.3	7.1	4.7	5.2	5.6	10.7	8.6	6.1
ARGENTINA (Dec./Nov.)				ARGENTINA			INDIA (Oct./Sept.)		
Opening Stocks	4.9	1.0	2.3	5.3	5.5	6.4	21.5	18.1	18.5
Production	11.3	18.4	18.9	42.5	47.0	52.7	104.4	109.2	110.4
Imports	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Total Supply	16.2	19.4	21.2	47.9	52.6	59.2	125.9	127.3	128.9
Domestic use	5.7	5.8	5.9	19.8	22.2	23.3	97.5	98.6	99.8
Exports	9.5	11.3	11.5	22.4	24.0	28.0	10.3	10.2	10.4
Closing stocks	1.0	2.3	3.8	5.5	6.4	7.8	18.1	18.5	18.6
AUSTRALIA (Oct./Sept.)				AUSTRALIA			PAKISTAN (Sept./Aug.)		
Opening Stocks	4.3	5.3	8.4	1.9	1.1	3.7	1.0	0.8	0.8
Production	24.2	35.1	24.0	12.9	18.1	11.6	6.8	6.6	6.8
Imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Supply	28.5	40.4	32.4	14.8	19.2	15.3	7.8	7.4	7.6
Domestic use	7.1	7.5	7.2	6.2	7.1	6.7	2.7	2.8	2.9
Exports	16.1	24.6	19.2	7.5	8.3	6.1	4.3	3.9	4.0
Closing stocks	5.3	8.4	6.1	1.1	3.7	2.6	0.8	0.8	0.8
EU (July/June)				EU			VIET NAM (Jan./Dec.)		
Opening Stocks	14.2	17.5	14.8	25.3	18.4	17.2	3.2	2.8	3.4
Production	160.5	144.5	152.0	151.6	153.2	157.2	29.4	28.3	28.6
Imports	6.6	5.4	5.3	14.4	12.4	13.9	0.5	0.6	0.4
Total Supply	181.3	167.4	172.1	191.3	184.0	188.3	33.1	31.7	32.4
Domestic use	130.2	126.4	127.0	159.7	158.7	158.1	21.8	22.1	22.1
Exports	33.6	26.1	30.2	13.2	8.0	10.5	8.4	6.2	6.8
Closing stocks	17.5	14.8	15.0	18.4	17.2	19.8	2.8	3.4	3.4
TOTAL OF ABOVE				TOTAL OF ABOVE			TOTAL OF ABOVE		
Opening Stocks	51.0	55.6	64.4	82.7	77.8	94.8	43.5	33.9	32.8
Production	279.7	292.6	273.9	600.0	647.0	618.2	165.6	172.8	174.2
Imports	9.8	8.6	8.8	20.0	17.5	18.3	1.5	1.5	1.4
Total Supply	340.5	356.8	347.1	702.7	742.3	731.3	210.6	208.2	208.4
Domestic use	182.9	181.7	181.2	518.4	538.6	535.2	140.2	141.5	143.2
Exports	102.0	110.7	109.2	106.5	108.8	103.9	36.4	34.1	35.1
Closing stocks	55.6	64.4	56.9	77.8	94.8	92.3	33.9	32.8	30.1

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		
	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>
ASIA	134.5	123.5	135.1	100.3	119.6	129.2	3.0	3.4	3.5
China	60.2	56.9	58.7	76.9	91.3	98.1	1.1	1.3	0.8
of which Taiwan Prov.	0.1	0.1	0.1	2.4	2.5	2.6	-	-	-
India	36.9	31.3	39.1	0.3	0.3	0.2	0.8	0.8	1.3
Indonesia	11.0	10.8	11.6	2.3	2.5	2.9	0.1	0.1	0.1
Iran, Islamic Republic of	0.7	0.7	0.7	0.9	1.8	2.3	0.1	0.1	0.1
Japan	0.3	0.3	0.3	5.7	6.0	6.1	-	-	-
Korea, Republic of	0.2	0.2	0.1	1.5	1.6	1.7	-	-	-
Malaysia	5.0	4.3	5.0	0.7	0.8	0.9	-	0.1	0.1
Pakistan	5.3	4.0	4.4	1.4	2.3	3.1	-	-	-
Thailand	0.7	1.0	1.1	2.2	2.6	2.8	-	-	-
Turkey	3.1	3.1	3.2	2.7	3.2	3.0	0.1	0.1	0.1
AFRICA	17.4	18.3	18.3	3.8	3.5	4.1	0.7	0.7	0.7
Nigeria	5.1	5.0	5.0	-	-	-	0.1	0.1	0.1
CENTRAL AMERICA	1.7	1.8	2.0	6.3	6.5	6.9	0.2	0.2	0.2
Mexico	1.2	1.3	1.5	5.6	5.7	6.1	-	-	-
SOUTH AMERICA	167.0	177.4	196.5	1.9	2.7	4.0	65.0	74.3	82.0
Argentina	59.1	62.2	62.4	0.1	0.4	1.6	9.8	11.8	11.2
Brazil	91.4	98.5	116.0	0.4	0.4	0.4	46.6	54.0	61.3
Paraguay	8.9	9.8	10.6	-	-	-	4.9	5.4	6.2
Uruguay	3.5	2.7	3.5	-	-	-	3.2	2.6	2.9
NORTH AMERICA	126.6	142.6	153.9	3.1	2.1	2.5	58.0	70.7	73.2
Canada	23.2	26.2	26.0	0.6	0.6	0.6	13.1	15.3	16.0
United States of America	103.4	116.5	127.9	2.5	1.4	1.9	44.9	55.3	57.2
EUROPE	62.2	66.6	69.6	20.2	22.9	23.2	5.7	5.8	6.7
European Union	32.0	32.7	31.8	17.9	20.0	20.5	1.1	0.9	1.1
Russian Federation	12.6	13.8	15.5	1.7	2.1	2.0	0.4	0.6	0.8
Ukraine	15.2	17.9	20.1	-	-	-	3.7	3.7	4.2
OCEANIA	5.5	4.4	6.2	-	-	-	3.4	2.2	3.7
Australia	5.1	4.0	5.7	-	-	-	3.3	2.1	3.6
WORLD	515.0	534.6	581.6	135.6	157.3	169.9	136.0	157.3	169.9
Developing countries	320.8	321.1	352.1	106.5	126.3	138.1	68.9	78.7	86.4
Developed countries	194.2	213.5	229.5	29.1	31.0	31.8	67.1	78.6	83.5
LIFDC	55.7	50.4	57.8	1.7	2.4	2.6	1.5	1.6	2.1
LDC	10.7	11.0	10.9	0.8	1.3	1.7	0.4	0.5	0.5

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		
	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>
ASIA	44.0	45.1	47.4	49.6	48.4	50.3	101.4	109.5	113.3
Bangladesh	1.8	2.0	2.2	-	-	-	2.1	2.4	2.6
China	11.4	9.4	9.6	0.5	0.7	0.6	36.9	38.4	38.8
of which Taiwan Prov.	0.4	0.5	0.5	-	-	-	0.9	0.9	1.0
India	12.3	15.2	15.4	0.4	0.2	0.2	21.6	24.2	24.9
Indonesia	0.1	0.1	0.2	25.5	26.2	28.0	10.0	11.6	12.0
Iran, Islamic Republic of	1.6	1.0	1.3	0.2	0.1	0.2	2.0	1.7	1.9
Japan	1.3	1.3	1.3	-	-	-	3.1	3.2	3.3
Korea, Republic of	1.0	1.1	1.2	-	-	-	1.4	1.5	1.6
Malaysia	1.5	1.3	1.5	19.2	18.0	18.0	4.4	4.4	5.0
Pakistan	2.8	3.0	3.2	0.1	0.2	0.1	4.4	4.8	5.1
Philippines	0.7	1.0	1.1	0.9	0.7	0.8	1.6	1.8	2.0
Singapore	0.8	0.8	0.8	0.2	0.1	0.1	0.7	0.7	0.7
Turkey	1.8	1.9	2.0	0.7	0.7	0.6	2.9	3.2	3.3
AFRICA	10.2	10.6	11.5	1.8	1.8	1.7	16.2	17.3	18.1
Algeria	0.8	0.8	1.0	0.1	0.1	0.1	0.9	1.0	1.1
Egypt	2.0	2.0	2.2	0.3	0.3	0.2	2.2	2.4	2.6
Nigeria	1.5	1.4	1.7	0.2	0.1	0.1	3.2	3.4	3.6
South Africa	0.8	0.9	0.8	0.1	0.1	-	1.3	1.5	1.5
CENTRAL AMERICA	2.5	2.6	2.8	1.0	1.4	1.4	5.0	5.1	5.6
Mexico	1.4	1.5	1.6	0.1	0.1	-	3.3	3.4	3.7
SOUTH AMERICA	3.1	3.3	3.4	9.0	10.9	11.1	17.0	17.7	18.3
Argentina	0.1	0.1	0.1	5.3	6.6	6.8	3.9	4.1	4.0
Brazil	0.6	0.7	0.7	1.7	1.9	1.8	8.4	8.8	9.3
Paraguay	-	-	-	0.6	0.7	0.7	0.1	0.1	0.1
Uruguay	0.1	0.1	0.1	-	-	-	0.1	0.1	0.2
NORTH AMERICA	4.9	5.4	5.4	6.6	7.0	7.2	19.7	21.0	21.2
Canada	0.5	0.5	0.5	3.2	3.6	3.8	1.4	1.6	1.6
United States of America	4.4	4.9	4.9	3.4	3.5	3.4	18.4	19.4	19.6
EUROPE	14.0	14.4	14.7	9.8	10.8	12.3	37.2	39.7	39.2
European Union	11.5	11.8	12.0	3.3	3.3	3.3	30.7	32.6	32.2
Russian Federation	1.2	1.4	1.3	2.0	2.3	2.7	4.3	4.7	4.7
Ukraine	0.3	0.3	0.3	3.9	4.8	5.8	1.0	1.0	0.9
OCEANIA	0.6	0.7	0.7	1.8	1.9	1.9	1.2	1.2	1.2
Australia	0.5	0.5	0.5	0.7	0.7	0.7	0.8	0.8	0.9
WORLD	79.3	82.2	85.9	79.6	82.3	85.9	197.6	211.5	216.9
Developing countries	58.5	60.5	64.0	62.1	63.1	65.2	136.5	146.5	152.1
Developed countries	20.7	21.8	22.0	17.5	19.1	20.8	61.1	65.0	64.8
LIFDC	21.3	24.6	25.7	2.5	2.4	2.4	36.3	39.9	41.2
LDC	6.4	7.1	7.6	0.5	0.7	0.7	9.4	10.2	10.6

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		
	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>	12/13-14/15 average	2015/16 <i>estim.</i>	2016/17 <i>f'cast</i>
ASIA	34.2	35.6	37.6	15.5	12.7	14.0	144.1	160.4	170.8
China	2.7	2.9	3.4	2.1	2.4	1.9	78.9	88.4	94.5
of which Taiwan Prov.	0.6	0.5	0.5	-	-	-	2.5	2.5	2.5
India	0.2	0.3	0.3	4.2	0.9	2.6	12.3	13.5	14.5
Indonesia	4.0	4.4	4.5	4.1	4.4	4.5	6.0	6.6	6.8
Iran, Islamic Republic of	2.5	1.5	2.0	0.1	-	0.1	3.2	3.5	3.9
Japan	2.4	2.2	2.3	-	-	-	6.4	6.5	6.5
Korea, Republic of	3.9	3.9	3.8	0.2	0.2	0.2	4.9	5.1	5.1
Malaysia	1.4	1.3	1.4	2.6	2.4	2.6	2.0	2.0	2.1
Pakistan	0.8	0.7	0.7	0.2	0.3	0.3	3.6	3.5	4.3
Philippines	2.3	2.8	2.8	0.6	0.4	0.4	2.7	3.2	3.5
Saudi Arabia	0.9	1.0	1.1	-	-	-	1.2	1.4	1.6
Thailand	3.4	3.1	3.1	0.2	0.2	0.2	5.6	6.0	6.2
Turkey	1.8	2.0	2.1	0.1	0.2	0.1	4.7	5.5	5.6
Viet Nam	4.2	5.5	5.7	0.2	0.3	0.3	5.2	6.9	7.3
AFRICA	5.3	6.7	6.4	0.9	1.0	0.9	12.3	14.0	14.3
Egypt	1.1	2.4	1.7	-	-	-	2.7	3.4	3.1
South Africa	1.1	0.9	1.0	0.1	0.1	0.1	2.1	2.2	2.4
CENTRAL AMERICA	3.6	4.5	4.7	0.2	0.2	0.2	8.6	9.9	10.3
Mexico	1.9	2.7	2.7	0.1	0.1	0.1	6.3	7.2	7.7
SOUTH AMERICA	5.4	5.4	5.8	46.1	52.3	53.1	27.1	29.2	32.4
Argentina	-	-	-	27.2	31.8	32.1	3.6	4.6	5.7
Bolivia	-	-	-	1.6	1.9	1.9	0.2	0.2	0.2
Brazil	-	-	-	13.9	14.6	15.0	16.2	16.7	18.2
Chile	1.2	1.2	1.3	0.2	0.2	0.2	1.6	1.6	1.8
Paraguay	-	-	-	2.2	2.7	2.8	0.5	0.4	0.6
Peru	0.9	1.1	1.2	0.8	0.7	1.0	1.2	1.5	1.6
Uruguay	0.2	0.2	0.2	-	-	-	0.2	0.2	0.2
Venezuela	1.3	0.9	1.0	-	-	-	1.4	1.3	1.3
NORTH AMERICA	4.9	5.1	5.2	15.7	16.6	16.6	35.6	38.8	39.2
Canada	1.0	0.9	0.9	4.5	5.3	5.4	2.2	2.3	2.3
United States of America	3.9	4.2	4.3	11.3	11.4	11.3	33.4	36.6	36.9
EUROPE	30.0	30.7	30.9	7.5	7.9	8.8	64.8	69.5	70.5
European Union	27.3	28.1	28.2	1.3	1.3	1.3	55.7	58.8	59.3
Russian Federation	0.6	0.5	0.5	2.2	2.0	2.2	5.0	6.1	6.4
Ukraine	-	-	-	3.6	4.3	4.9	1.4	1.8	1.8
OCEANIA	2.9	3.1	3.2	0.3	0.3	0.3	3.6	4.0	4.0
Australia	1.0	1.1	1.2	0.1	0.1	0.1	1.6	1.9	1.9
WORLD	86.2	91.0	93.9	86.3	91.1	93.9	296.1	325.8	341.5
Developing countries	46.0	50.0	52.2	62.9	66.3	68.3	185.8	207.0	221.3
Developed countries	40.1	41.0	41.6	23.4	24.8	25.6	110.3	118.7	120.2
LIFDC	2.2	2.6	2.8	5.1	1.8	3.5	19.8	21.9	23.1
LDC	0.8	0.9	0.9	0.4	0.4	0.4	4.2	4.7	5.0

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

	Production		Imports		Exports		Utilization	
	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>
ASIA	133 291	130 648	17 218	17 942	4 200	4 203	146 338	144 390
China	81 930	78 317	5 776	6 335	557	516	87 159	84 146
India	6 987	7 206	1	1	1 665	1 636	5 323	5 572
Indonesia	3 471	3 494	92	92	5	5	3 559	3 581
Iran, Islamic Republic of	2 667	2 699	122	129	85	83	2 703	2 745
Japan	3 999	3 988	3 292	3 329	15	16	7 276	7 336
Korea, Republic of	2 467	2 501	1 239	1 286	40	41	3 688	3 745
Malaysia	1 877	1 904	338	343	65	70	2 150	2 177
Pakistan	3 252	3 285	33	34	71	71	3 215	3 249
Philippines	3 493	3 612	516	552	11	11	3 998	4 153
Saudi Arabia	884	916	1 096	1 078	103	103	1 878	1 891
Singapore	114	116	365	380	35	36	445	460
Thailand	3 188	3 300	21	19	1 020	1 077	2 193	2 226
Turkey	3 452	3 548	9	8	343	355	3 111	3 176
Viet Nam	4 895	5 043	1 550	1 571	32	32	6 414	6 582
AFRICA	17 837	18 055	2 718	2 654	275	287	20 281	20 422
Algeria	752	761	86	88	1	1	836	848
Angola	289	297	368	350	-	-	657	647
Egypt	2 417	2 445	357	316	9	8	2 766	2 753
Nigeria	1 446	1 449	3	3	1	1	1 449	1 452
South Africa	3 259	3 381	626	624	168	180	3 718	3 825
CENTRAL AMERICA	9 415	9 609	3 228	3 325	555	587	12 088	12 347
Cuba	326	331	288	297	-	-	615	628
Mexico	6 626	6 795	2 063	2 130	325	349	8 364	8 575
SOUTH AMERICA	42 215	43 428	1 103	1 165	8 469	8 780	34 849	35 812
Argentina	5 352	5 567	46	36	454	503	4 944	5 101
Brazil	26 356	27 230	70	71	6 896	7 129	19 530	20 173
Chile	1 477	1 506	495	544	335	356	1 637	1 694
Colombia	2 634	2 695	158	172	14	15	2 777	2 852
Uruguay	657	673	55	59	395	399	317	333
Venezuela	1 540	1 522	161	160	-	-	1 701	1 682
NORTH AMERICA	49 308	51 047	2 826	2 672	9 000	9 452	43 156	44 312
Canada	4 657	4 812	735	738	1 838	1 910	3 553	3 637
United States of America	44 650	46 234	2 079	1 923	7 162	7 542	39 592	40 663
EUROPE	62 654	62 987	2 917	2 829	5 875	5 935	59 690	59 881
Belarus	1 167	1 177	47	58	307	327	907	907
European Union	47 709	47 849	1 337	1 344	5 002	5 026	44 044	44 167
Russian Federation	9 621	9 779	1 073	980	215	208	10 474	10 551
Ukraine	2 396	2 408	94	87	272	296	2 218	2 198
OCEANIA	6 310	6 246	482	489	2 814	2 709	3 987	4 033
Australia	4 423	4 396	246	250	1 852	1 782	2 825	2 871
New Zealand	1 378	1 341	76	78	958	924	496	495
WORLD	321 029	322 020	30 491	31 076	31 187	31 954	320 389	321 197
Developing countries	199 268	198 261	21 134	21 918	13 487	13 845	206 944	206 302
Developed countries	121 761	123 759	9 357	9 158	17 701	18 109	113 445	114 895
LIFDCs	23 530	23 815	1 303	1 299	1 903	1 879	22 930	23 235
LDCs	10 536	10 617	1 320	1 308	24	24	11 832	11 901

¹ including "other meat"

APPENDIX TABLE 14: BOVINE MEAT STATISTICS
(thousand tonnes, carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>
ASIA	18 322	18 542	4 784	4 989	1 880	1 850	21 212	21 679
China	7 015	7 116	1 404	1 575	33	30	8 356	8 671
India	2 642	2 647	-	-	1 638	1 610	1 004	1 037
Indonesia	510	508	75	75	-	-	585	583
Iran, Islamic Republic of	195	205	115	122	4	5	306	322
Japan	465	460	706	745	3	3	1 191	1 215
Korea, Republic of	277	285	451	465	7	7	721	743
Malaysia	31	32	202	198	10	9	224	221
Pakistan	1 759	1 789	4	4	33	33	1 730	1 760
Philippines	310	313	154	157	3	3	461	467
AFRICA	6 300	6 376	661	626	113	123	6 847	6 879
Algeria	137	139	79	81	-	-	216	220
Angola	111	113	71	70	-	-	182	183
Egypt	923	930	340	300	6	6	1 257	1 224
South Africa	952	1 000	26	28	55	65	922	963
CENTRAL AMERICA	2 568	2 607	390	408	343	362	2 615	2 652
Mexico	1 880	1 910	206	217	165	178	1 921	1 949
SOUTH AMERICA	15 291	15 671	420	434	2 614	2 666	13 097	13 439
Argentina	2 650	2 760	-	-	234	262	2 416	2 499
Brazil	9 284	9 500	58	60	1 617	1 630	7 725	7 930
Chile	215	220	277	295	10	12	482	503
Colombia	786	814	4	4	13	14	777	804
Uruguay	550	564	6	6	375	380	181	190
Venezuela	522	524	54	50	-	-	576	574
NORTH AMERICA	12 632	13 246	1 480	1 333	1 595	1 686	12 532	12 909
Canada	1 130	1 160	259	250	394	408	985	1 004
United States of America	11 502	12 086	1 218	1 080	1 200	1 278	11 544	11 902
EUROPE	10 424	10 473	837	841	496	511	10 764	10 804
European Union	7 703	7 796	326	335	297	312	7 732	7 819
Russian Federation	1 605	1 574	427	420	42	42	1 990	1 952
Ukraine	385	375	2	2	24	22	364	356
OCEANIA	2 753	2 658	54	54	1 882	1 797	938	917
Australia	2 117	2 050	15	15	1 344	1 286	802	781
New Zealand	616	588	12	12	535	507	92	93
WORLD	68 289	69 573	8 625	8 684	8 923	8 994	68 006	69 279
Developing countries	42 035	42 756	5 576	5 739	4 950	5 001	42 625	43 479
Developed countries	26 254	26 817	3 049	2 946	3 973	3 994	25 381	25 801
LIFDCs	9 818	9 854	111	109	1 802	1 779	8 126	8 184
LDCs	3 531	3 549	134	133	4	4	3 662	3 678

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

	Production		Imports		Exports		Utilization	
	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>
ASIA	8 533	8 594	543	541	43	42	9 033	9 092
Bangladesh	216	217	-	-	-	-	216	217
China	4 372	4 413	245	245	1	1	4 616	4 657
India	728	725	-	-	21	21	707	704
Iran, Islamic Republic of	295	297	3	4	-	-	298	301
Pakistan	477	478	-	-	13	13	464	465
Saudi Arabia	133	133	45	42	2	2	176	173
Turkey	382	384	1	1	-	-	383	385
AFRICA	2 887	2 904	31	31	36	37	2 882	2 898
Algeria	313	316	4	4	-	-	317	320
Nigeria	387	388	-	-	-	-	387	388
South Africa	213	215	9	8	1	1	221	222
Sudan	365	363	-	-	6	6	360	358
CENTRAL AMERICA	123	122	20	19	-	-	143	142
Mexico	94	93	10	9	-	-	104	102
SOUTH AMERICA	311	315	6	6	15	15	303	306
Brazil	118	119	6	6	-	-	124	125
NORTH AMERICA	97	98	124	127	3	4	217	222
United States of America	76	77	104	106	3	4	177	179
EUROPE	1 286	1 306	173	166	24	24	1 435	1 447
European Union	914	930	161	155	16	17	1 059	1 068
Russian Federation	224	225	3	2	-	-	227	227
OCEANIA	1 143	1 125	27	27	798	779	373	372
Australia	655	646	-	-	428	416	227	231
New Zealand	488	478	3	3	370	363	121	118
WORLD	14 381	14 464	924	917	920	902	14 385	14 480
Developing countries	11 854	11 935	604	601	94	94	12 364	12 442
Developed countries	2 527	2 529	320	316	825	807	2 021	2 038
LIFDCs	4 181	4 197	27	27	62	62	4 145	4 162
LDCs	1 624	1 635	5	5	18	18	1 611	1 622

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

	Production		Imports		Exports		Utilization	
	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>
ASIA	63 626	61 840	4 967	5 345	191	178	68 465	67 008
China	51 844	49 822	2 530	2 840	102	90	54 312	52 571
India	357	357	1	1	-	-	357	358
Indonesia	782	783	6	6	-	-	788	789
Japan	1 279	1 270	1 371	1 412	3	3	2 644	2 681
Korea, D.P.R.	101	100	3	3	-	-	104	103
Korea, Republic of	1 266	1 305	623	640	2	2	1 914	1 942
Malaysia	218	220	30	31	5	6	242	246
Philippines	1 866	1 950	115	130	3	3	1 978	2 077
Thailand	940	945	2	2	28	27	915	920
Viet Nam	3 665	3 768	56	50	31	31	3 689	3 787
AFRICA	1 375	1 391	267	256	27	29	1 615	1 618
Madagascar	58	58	-	-	-	-	58	59
Nigeria	256	257	1	1	-	-	257	258
South Africa	246	250	31	27	23	26	254	251
Uganda	118	118	1	1	-	-	118	118
CENTRAL AMERICA	1 906	1 954	1 099	1 127	172	182	2 833	2 899
Cuba	202	205	22	24	-	-	224	229
Mexico	1 376	1 420	875	896	150	160	2 101	2 156
SOUTH AMERICA	5 917	6 081	273	281	1 058	1 156	5 133	5 206
Argentina	519	555	35	29	2	2	552	582
Brazil	3 700	3 815	2	2	890	980	2 812	2 837
Chile	508	510	75	80	163	170	420	420
Colombia	349	360	66	67	-	-	415	427
Venezuela	170	160	33	35	-	-	203	195
NORTH AMERICA	13 443	14 028	845	826	3 552	3 790	10 742	11 059
Canada	2 124	2 184	243	247	1 264	1 310	1 124	1 121
United States of America	11 319	11 844	598	575	2 287	2 480	9 614	9 934
EUROPE	28 775	28 864	501	440	3 233	3 237	26 043	26 067
Belarus	398	412	9	9	41	52	366	369
European Union	23 398	23 328	13	13	3 107	3 100	20 305	20 241
Russian Federation	3 403	3 556	369	310	49	50	3 724	3 816
Serbia	314	310	28	29	17	15	325	324
Ukraine	776	766	4	4	4	3	777	767
OCEANIA	523	531	295	299	35	36	777	800
Australia	385	395	212	215	34	34	558	581
Papua New Guinea	72	71	8	8	-	-	80	79
WORLD	115 565	114 688	8 246	8 575	8 268	8 607	115 607	114 657
Developing countries	71 640	70 089	5 257	5 620	1 445	1 542	75 519	74 166
Developed countries	43 926	44 599	2 989	2 955	6 823	7 066	40 088	40 491
LIFDCs	1 604	1 610	149	152	3	3	1 750	1 759
LDCs	1 837	1 855	160	152	1	1	1 996	2 006

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

	Production		Imports		Exports		Utilization	
	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>	2016 <i>estim.</i>	2017 <i>f'cast</i>
ASIA	40 855	39 716	6 873	7 017	2 062	2 109	45 645	44 629
China	17 214	15 483	1 591	1 670	406	381	18 399	16 773
India	3 111	3 329	-	-	4	3	3 107	3 325
Indonesia	2 071	2 096	4	4	-	-	2 074	2 099
Iran, Islamic Republic of	2 160	2 180	-	-	78	75	2 082	2 105
Japan	2 242	2 245	1 179	1 135	9	9	3 392	3 391
Korea, Republic of	913	900	144	160	31	32	1 021	1 028
Kuwait	50	51	129	136	-	-	179	187
Malaysia	1 625	1 650	73	80	50	55	1 648	1 675
Saudi Arabia	638	666	903	885	70	70	1 471	1 481
Singapore	96	98	176	188	13	14	258	272
Thailand	2 056	2 161	3	2	955	1 012	1 108	1 135
Turkey	1 885	1 939	-	-	327	340	1 558	1 599
Yemen	144	138	78	83	-	-	222	221
AFRICA	5 834	5 943	1 727	1 707	90	90	7 470	7 560
Angola	35	36	218	208	-	-	253	244
South Africa	1 825	1 893	560	561	81	82	2 304	2 372
CENTRAL AMERICA	4 697	4 806	1 701	1 751	38	40	6 360	6 517
Cuba	36	36	242	247	-	-	278	283
Mexico	3 173	3 269	959	994	8	10	4 124	4 253
SOUTH AMERICA	20 488	21 153	402	442	4 715	4 877	16 174	16 718
Argentina	1 984	2 051	11	7	187	207	1 808	1 851
Brazil	13 223	13 765	3	3	4 364	4 494	8 862	9 274
Chile	728	749	143	169	153	165	718	753
Venezuela	840	830	74	75	-	-	914	905
NORTH AMERICA	22 910	23 448	368	377	3 832	3 954	19 449	19 905
Canada	1 382	1 447	213	220	179	192	1 404	1 470
United States of America	21 527	22 001	151	153	3 652	3 762	18 041	18 431
EUROPE	20 975	21 151	1 240	1 216	2 037	2 079	20 172	20 288
European Union	14 651	14 753	737	740	1 500	1 515	13 888	13 978
Russian Federation	4 299	4 334	226	200	124	115	4 396	4 419
Ukraine	1 190	1 222	85	79	244	271	1 032	1 030
OCEANIA	1 459	1 500	102	105	57	57	1 504	1 548
Australia	1 244	1 283	18	19	34	33	1 229	1 269
New Zealand	187	189	1	1	23	24	165	166
WORLD	117 217	117 717	12 412	12 616	12 831	13 205	116 775	117 166
Developing countries	69 659	69 401	9 606	9 869	6 896	7 107	72 368	72 147
Developed countries	47 558	48 316	2 805	2 747	5 935	6 098	44 406	45 019
LIFDCs	6 223	6 450	988	983	31	30	7 179	7 402
LDCs	2 861	2 895	994	991	2	2	3 853	3 884

APPENDIX TABLE 18: MILK AND MILK PRODUCTS STATISTICS (thousand tonnes, milk equivalent)

	Production			Imports			Exports		
	2013-2015	2016	2017	2013-2015	2016	2017	2013-2015	2016	2017
	average	estim.	f'cast	average	estim.	f'cast	average	estim.	f'cast
ASIA	315 778	335 136	342 235	39 412	40 521	41 169	6 725	7 016	7 039
China	41 974	40 926	40 076	12 066	12 019	12 727	83	62	59
India ¹	145 678	160 377	166 632	90	133	132	706	275	270
Indonesia	1 265	1 230	1 250	2 573	2 533	2 525	98	96	96
Iran, Islamic Republic of	6 344	6 440	6 530	490	427	429	478	543	565
Japan	7 407	7 420	7 400	1 845	1 909	1 917	6	8	8
Korea, Republic of	2 159	2 126	2 083	907	1 000	1 059	21	22	24
Malaysia	84	86	87	2 061	2 169	2 071	612	697	665
Pakistan	50 233	53 000	54 000	482	645	683	71	58	56
Philippines	20	20	20	1 650	2 505	2 628	119	211	234
Saudi Arabia	2 359	2 410	2 440	2 925	3 159	3 043	1 393	1 443	1 455
Singapore	-	-	-	1 791	1 622	1 598	629	573	583
Thailand	1 071	1 080	1 100	1 500	1 541	1 623	198	253	263
Turkey	18 719	19 900	20 180	211	161	134	541	930	962
AFRICA	46 610	46 737	46 819	10 194	10 096	10 115	1 144	1 008	999
Algeria	4 206	4 612	4 730	2 771	2 587	2 616	3	2	2
Egypt	5 580	5 630	5 660	1 674	1 613	1 651	473	363	357
Kenya	4 882	4 830	4 800	60	71	69	14	9	10
South Africa	3 299	3 180	3 250	237	258	251	337	342	333
Sudan	7 616	7 540	7 450	230	274	270	-	-	-
Tunisia	1 222	1 235	1 260	89	86	88	47	44	48
CENTRAL AMERICA	16 937	17 276	17 488	5 002	5 743	5 827	703	883	925
Costa Rica	1 081	1 120	1 130	55	67	68	162	160	170
Mexico	11 321	11 757	11 933	3 048	3 692	3 827	186	327	347
SOUTH AMERICA	64 574	61 391	63 394	3 179	3 637	3 500	4 457	4 035	4 160
Argentina	11 466	10 096	10 500	41	22	23	2 236	1 817	1 899
Brazil	34 659	33 021	34 507	854	1 659	1 508	293	180	192
Colombia	6 848	7 000	7 100	181	429	464	39	3	14
Uruguay	2 222	1 956	1 843	24	30	32	1 286	1 468	1 474
Venezuela	2 008	2 100	2 120	1 210	491	483	-	-	-
NORTH AMERICA	101 680	105 444	107 790	2 389	2 812	2 763	10 603	10 603	10 993
Canada	8 551	9 100	9 450	661	663	615	530	613	658
United States of America	93 127	96 343	98 339	1 713	2 132	2 131	10 071	9 989	10 333
EUROPE	217 467	221 833	222 317	7 399	6 654	6 803	23 261	24 814	25 578
Belarus	6 827	7 200	7 275	172	225	210	3 634	3 930	3 945
European Union	158 867	163 552	164 200	1 426	1 306	1 274	17 347	18 508	19 332
Russian Federation	30 527	30 350	30 195	4 850	4 223	4 394	247	302	289
Ukraine	11 069	10 407	10 251	144	49	47	663	646	641
OCEANIA	30 655	31 483	30 479	1 117	1 362	1 462	21 922	22 711	22 085
Australia ²	9 688	9 844	9 056	720	889	1 013	3 274	3 344	3 170
New Zealand ³	20 897	21 568	21 352	201	281	255	18 645	19 364	18 911
WORLD	793 700	819 300	830 522	68 693	70 826	71 640	68 815	71 070	71 779
Developing countries	410 561	426 258	435 403	55 100	57 208	57 828	12 610	12 505	12 693
Developed countries	383 139	393 042	395 119	13 593	13 618	13 812	56 205	58 565	59 086
LIFDC	246 566	264 769	272 038	5 963	6 616	6 645	1 376	926	935
LDC	33 448	33 782	33 727	4 009	4 261	4 311	174	137	140

¹ Dairy years starting April of the year stated (production only)

² Dairy years ending June of the year stated (production only)

³ Dairy years ending May of the year stated (production only)

Note: Trade figures refer to the milk equivalent trade in the following products: butter (6.60), cheese (4.40), milk powder (7.60), milk whole dry (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 19: FISH AND FISHERY PRODUCTS STATISTICS ¹

	Capture fisheries production		Aquaculture fisheries production		Exports			Imports		
	2014	2015	2014	2015	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>	2015	2016 <i>estim.</i>	2017 <i>f'cast</i>
	<i>Million tonnes (live weight equivalent)</i>				<i>USD billion</i>			<i>USD billion</i>		
ASIA²	50.5	50.7	65.5	68.4	51.7	54.9	52.6	41.7	44.1	43.7
China	18.3	18.7	45.8	47.9	22.2	23.1	20.4	13.4	14.0	14.3
of which: Hong Kong SAR	0.2	0.1	-	-	0.8	1.4	1.2	3.6	3.8	3.1
Taiwan Prov.	1.1	1.0	0.3	0.3	1.6	1.6	1.8	1.2	1.3	1.2
India	5.0	4.8	4.9	5.2	4.9	5.5	6.2	0.1	0.1	0.1
Indonesia	6.4	6.5	4.3	4.3	3.6	3.9	4.0	0.3	0.4	0.4
Japan	3.6	3.5	0.6	0.7	1.9	2.1	1.7	13.5	14.1	13.3
Korea, Republic of	1.7	1.6	0.5	0.5	1.5	1.7	1.6	4.3	4.6	4.6
Philippines	2.2	2.2	0.8	0.8	0.8	0.7	0.9	0.4	0.4	0.6
Thailand	1.7	1.7	0.9	0.9	5.6	5.8	5.6	2.5	3.1	3.1
Viet Nam	2.7	2.8	3.3	3.4	6.8	7.4	7.3	1.3	1.3	1.3
AFRICA	8.6	8.8	1.7	1.8	5.9	6.2	5.8	5.3	5.4	5.5
Egypt	0.3	0.3	1.1	1.2	-	-	-	0.8	0.7	0.7
Morocco	1.4	1.4	-	-	2.0	2.1	1.8	0.2	0.2	0.1
Namibia	0.4	0.5	-	-	0.7	0.8	0.8	-	-	-
Nigeria	0.8	0.7	0.3	0.3	0.1	0.1	0.1	1.2	1.2	1.2
Senegal	0.5	0.4	-	-	0.4	0.3	0.4	-	-	-
South Africa	0.6	0.6	-	-	0.5	0.6	0.5	0.3	0.4	0.4
CENTRAL AMERICA	2.2	2.1	0.4	0.4	2.5	2.5	2.6	1.7	1.7	2.0
Mexico	1.5	1.5	0.2	0.2	1.0	1.0	1.2	0.8	0.8	1.1
Panama	0.2	0.1	-	-	0.2	0.2	0.2	0.1	0.1	0.1
SOUTH AMERICA	8.6	9.3	2.4	2.3	13.1	13.8	15.5	3.0	2.8	3.0
Argentina	0.8	0.8	-	-	1.5	1.7	1.8	0.2	0.2	0.2
Brazil	0.8	0.7	0.6	0.6	0.2	0.2	0.3	1.2	1.2	1.4
Chile	2.2	1.8	1.2	1.0	4.8	5.1	5.5	0.4	0.3	0.4
Ecuador	0.7	0.6	0.4	0.4	3.7	3.9	4.5	0.1	0.1	0.1
Peru	3.6	4.8	0.1	0.1	2.4	2.2	2.8	0.2	0.2	0.2
NORTH AMERICA	6.1	6.2	0.6	0.6	11.0	11.7	10.3	22.5	23.4	23.1
Canada	0.9	0.9	0.1	0.2	4.7	5.1	4.8	2.7	2.8	2.7
United States of America	5.0	5.0	0.4	0.4	5.9	6.2	5.0	19.8	20.5	20.4
EUROPE	13.7	14.1	2.9	3.0	46.0	50.7	51.7	51.9	57.0	56.2
European Union ²	5.4	5.3	1.3	1.3	29.8	32.8	32.1	47.2	52.2	50.9
of which extra-EU	-	-	-	-	5.4	5.7	5.6	25.0	27.2	27.0
Iceland	1.1	1.3	-	-	2.1	2.0	1.7	0.2	0.1	0.1
Norway	2.3	2.3	1.3	1.4	9.2	10.8	12.5	1.2	1.2	1.2
Russian Federation	4.3	4.5	0.2	0.2	3.7	3.8	4.0	1.6	1.6	2.1
OCEANIA	1.3	1.4	0.2	0.2	2.9	3.1	2.7	1.8	1.9	1.8
Australia	0.2	0.2	0.1	0.1	1.1	1.0	0.9	1.4	1.5	1.4
New Zealand	0.4	0.4	0.1	0.1	1.1	1.2	0.9	0.2	0.2	0.2
WORLD³	91.1	92.6	73.7	76.6	133.0	142.7	141.0	127.9	136.3	135.3
Excl. intra-EU	-	-	-	-	108.6	115.6	114.6	105.7	111.3	111.4
Developing countries	66.6	67.8	69.3	72.0	71.7	75.7	75.4	37.5	39.2	39.9
Developed countries	24.5	24.7	4.4	4.6	61.3	67.0	65.6	90.4	97.1	95.4
LIFDCs	12.3	12.2	7.6	8.1	8.0	8.8	9.6	3.2	3.4	3.4
LDCs	8.6	8.7	3.4	3.5	2.6	2.7	2.9	1.1	1.2	1.2
NFIDCs	16.4	17.8	5.0	5.1	9.8	9.9	10.5	4.4	4.4	4.3

¹ Production and trade data exclude whales, seals, other aquatic mammals and aquatic plants. Trade data include fish meal 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 3 782 tonnes in 2014 and 38 732 tonnes in 2015 from non-identified countries; these data are not included in any other aggregates

APPENDIX TABLE 20: 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/tonne)								
Annual (July/June)								
2006/07	212	176	188	150	145	185	185	155
2007/08	361	311	322	200	192	319	300	206
2008/09	270	201	234	188	180	178	179	170
2009/10	209	185	224	160	168	146	154	165
2010/11	316	289	311	254	260	266	248	248
2011/12	300	259	264	281	269	270	249	264
2012/13	348	310	336	311	277	297	298	281
2013/14	318	265	335	216	219	243	241	218
2014/15	266	221	246	173	177	205	242	210
2015/16	211	194	208	166	170	174	185	174
2016 – May	193	189	202	169	187	166	176	153
2016 – June	198	186	210	180	197	162	183	170
2016 – July	188	168	210	161	179	154	169	147
2016 – August	188	157	215	150	177	157	147	140
2016 – September	188	158	201	148	171	154	141	141
2016 – October	193	164	184	152	174	155	153	146
2016 – November	191	167	176	152	178	159	154	143
2016 – December	187	162	168	154	181	150	155	154
2017 – January	201	173	177	159	183	147	161	155
2017 – February	210	180	186	163	179	157	165	157
2017 – March	198	176	191	159	164	162	163	150
2017 – April	191	173	189	157	165	161	160	150
2017 – May	200	175	189	158	161	166	167	158

¹ Delivered United States f.o.b Gulf;

² Delivered United States Gulf;

³ Up River f.o.b.

Sources: International Grain Council and USDA.

APPENDIX TABLE 21: TOTAL WHEAT AND MAIZE FUTURES PRICES

	July		September		December		March	
	July 2017	July 2016	Sept. 2017	Sept. 2016	Dec. 2017	Dec. 2016	March 2018	March 2017
..... (USD/tonne)								
Wheat								
April 25	157	176	162	179	171	185	178	191
May 2	167	179	172	183	180	190	186	196
May 9	158	168	163	172	171	178	177	185
May 16	156	174	161	178	169	183	175	189
May 23	158	170	163	174	171	180	178	187
May 30	158	171	163	175	171	181	178	188
Maize								
April 25	146	150	149	150	153	153	157	156
May 2	147	154	150	154	154	156	157	159
May 9	144	145	147	146	152	148	155	152
May 16	145	155	148	156	152	157	156	161
May 23	145	157	148	157	153	159	156	161
May 30	144	159	148	160	152	161	156	163

Source: Chicago Board of Trade (CBOT)

APPENDIX TABLE 22: SELECTED INTERNATIONAL PRICES FOR RICE AND PRICE INDICES

Period	International prices				FAO indices				
	Thai 100% B ¹	Thai broken ²	US long grain ³	Pakistan Basmati ⁴	Total	Indica Higher quality	Lower quality	Japonica	Aromatic
Annual (Jan/Dec)(USD per tonne) (2002-2004=100)				
2010	518	386	510	881	227	206	212	252	229
2011	565	464	577	1060	242	232	250	258	220
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
Monthly									
2016 – May	448	355	442	750	199	191	195	230	151
2016 – June	456	356	448	825	198	191	198	223	159
2016 – July	457	362	454	907	200	193	199	222	166
2016 – August	435	367	448	863	195	186	192	221	161
2016 – September	399	358	421	836	190	174	184	223	156
2016 – October	375	349	402	825	186	168	182	217	154
2016 – November	369	333	401	823	185	167	181	218	149
2016 – December	384	331	402	874	187	170	182	218	156
2017 – January	392	336	395	969	190	173	186	217	169
2017 – February	384	339	401	1 029	194	173	189	216	187
2017 – March	385	340	395	1 078	195	171	189	216	193
2017 – April	394	332	405	1 204	198	174	191	216	208
2017 – May	430	322	418	1 214	202	181	193	218	210

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

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

³ US 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 23: SELECTED INTERNATIONAL PRICES FOR OILCROP PRODUCTS

Period	International prices ¹					FAO indices ⁷		
	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
2007/08	549	1325	1050	445	296	216	246	214
2008/09	422	826	627	385	196	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
Monthly								
2015 - October	377	743	581	351	255	146	143	170
2015 - November	367	726	561	328	232	142	138	159
2015 - December	372	757	568	317	215	144	141	153
2016 - January	368	722	564	316	217	142	139	152
2016 - February	370	762	639	303	203	142	150	146
2016 - March	379	761	694	301	219	145	160	145
2016 - April	398	797	723	339	242	152	166	163
2016 - May	425	790	708	406	261	160	163	193
2016 - June	455	797	679	430	259	169	162	204
2016 - July	429	790	652	400	234	159	157	189
2016 - August	414	812	736	375	228	156	169	178
2016 - September	403	825	755	344	219	153	172	165
2016 - October	404	853	712	340	214	153	168	161
2016 - November	409	875	755	343	218	155	176	163
2016 - December	420	902	783	344	211	159	183	163
2017 - January	425	879	806	355	216	161	186	168
2017 - February	428	838	779	357	241	162	179	170
2017 - March	408	809	735	346	238	155	168	164
2017 - April	389	788	693	331	240	149	161	158
2017 - May	392	827	732	329	239	150	169	157

¹ Spot prices for nearest forward shipment

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

³ Soybean oil: Dutch, fob ex-mill.

⁴ Palm oil: Crude, c.i.f. Northwest Europe.

⁵ Soybean cake: Pellets, 44/45 percent, Argentina, c.i.f. Rotterdam.

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

⁷ 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 24: SELECTED INTERNATIONAL PRICES FOR MILK PRODUCTS AND 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) ...
2007	3 337	4 336	4 354	4 055	220
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
Monthly					
2016 - May	2 657	1 735	2 064	2 588	128
2016 - June	2 799	1 879	2 192	2 825	138
2016 - July	3 051	1 937	2 284	2 844	142
2016 - August	3 296	1 990	2 506	3 119	155
2016 - September	3 926	2 248	2 831	3 504	176
2016 - October	4 213	2 314	2 874	3 631	183
2016 - November	4 328	2 299	3 125	3 613	186
2016 - December	4 497	2 307	3 273	3 725	193
2017 - January	4 479	2 337	3 234	3 756	193
2017 - February	4 409	2 332	3 249	3 825	194
2017 - March	4 730	2 121	3 063	3 688	190
2017 - April	4 994	1 935	2 990	3 438	184
2017 - May	5 205	2 004	3 188	3 619	193

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 25: SELECTED INTERNATIONAL MEAT PRICES

Period	Bovine meat prices			Ovine meat price	Pig meat prices			Poultry meat prices	
	Australia	United States	Brazil	New Zealand	United States	Brazil	Germany	United States	Brazil
Annual (Jan/Dec)	<i>(USD per tonne)</i>								
2007	2 544	4 023	2 367	2 498	2 117	2 200	1 907	935	1 443
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
Monthly									
2016 - May	4 187	5 360	3 769	3 307	2 253	2 071	1 644	984	1 533
2016 - June	4 175	5 541	3 772	3 700	2 398	2 131	1 792	998	1 581
2016 - July	4 378	5 356	3 754	3 690	2 511	2 148	1 868	940	1 628
2016 - August	4 224	5 525	3 991	3 846	2 659	2 218	1 903	930	1 646
2016 - September	4 064	5 424	3 968	3 842	2 636	2 450	1 943	891	1 628
2016 - October	3 977	5 602	4 027	4 178	2 551	2 509	1 758	902	1 588
2016 - November	4 108	5 799	4 144	3 925	2 515	2 630	1 707	903	1 580
2016 - December	3 886	5 745	3 889	3 750	2 495	2 284	1 680	855	1 553
2017 - January	4 098	5 613	3 855	3 611	2 507	2 295	1 675	871	1 635
2017 - February	4 315	5 592	3 920	3 740	2 445	2 330	1 667	880	1 683
2017 - March	4 425	5 791	3 972	3 723	2 465	2 528	1 746	910	1 683
2017 - April	4 430	5 658	4 013	4 035	2 432	2 722	1 901	994	1 679
2017 - May	4 528	5 680	4 030	4 203	2 440	2 785	1 987	998	1 675

Bovine meat prices:**Australia:** Cow 90CL export prices to the USA (FAS)**USA:** 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:****USA:** Frozen pigmeat, export unit value**Brazil:** Frozen pigmeat, export unit value**Germany:** Monthly market price for pig carcass grade E**Poultry meat prices:****USA:** 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 26: SELECTED INTERNATIONAL MEAT PRICES AND FAO MEAT PRICE INDICES

Period	Total meat	Bovine meat	Ovine meat	Pig meat	Poultry meat
Annual (Jan/Dec)	<i>(2002-2004=100)</i>				
2007	131	126	108	125	151
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
Monthly					
2016 - May	154	190	143	117	160
2016 - June	160	192	160	126	164
2016 - July	162	193	159	130	163
2016 - August	165	196	166	135	164
2016 - September	164	192	166	138	160
2016 - October	162	193	180	131	158
2016 - November	163	200	169	130	158
2016 - December	157	191	162	125	153
2017 - January	159	193	156	125	160
2017 - February	161	197	161	125	163
2017 - March	165	202	161	130	165
2017 - April	169	201	174	137	170
2017 - May	172	204	181	140	170

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 27: FISH PRICE INDICES

Period	Total	Aquaculture	Capture	White fish	Salmon	Shrimp	Pelagic excl. tuna	Tuna	Other fish
Annual (Jan/Dec) (2002-2004=100)									
2006	117	114	119	128	144	100	124	118	120
2007	124	115	132	139	147	102	130	135	126
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
Monthly									
2015 - January	150	149	151	143	143	139	244	159	198
2015 - February	146	146	146	139	139	132	241	153	208
2015 - March	143	141	145	139	135	128	234	150	196
2015 - April	143	137	149	141	133	125	240	150	208
2015 - May	145	145	146	141	135	132	232	148	208
2015 - June	144	140	147	142	137	129	207	152	202
2015 - July	135	129	139	142	132	115	194	145	195
2015 - August	139	130	146	144	132	123	216	146	194
2015 - September	141	129	151	143	129	128	218	161	179
2015 - October	141	133	147	143	129	133	218	146	188
2015 - November	138	130	142	138	129	134	176	143	182
2015 - December	141	134	144	141	139	131	173	144	197
2016 - January	140	136	141	137	141	126	189	142	193
2016 - February	142	140	142	140	144	123	201	150	191
2016 - March	144	144	143	140	151	124	204	148	188
2016 - April	143	144	142	143	157	122	209	146	183
2016 - May	142	147	139	144	162	117	169	150	192
2016 - June	147	149	145	145	170	125	201	150	197
2016 - July	145	144	145	142	172	125	232	152	194
2016 - August	147	143	151	142	162	129	228	166	197
2016 - September	150	144	154	140	160	134	215	174	196
2016 - October	152	149	152	139	170	141	228	155	200
2016 - November	151	149	148	139	173	143	204	150	194
2016 - December	151	152	146	137	182	138	197	149	201

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, USA 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 28: SELECTED INTERNATIONAL COMMODITY PRICES

	Currency and unit	Effective date	Latest quotation	One month ago	One year ago	Average 2012-2016
Sugar (ISA daily price)	US cents per lb	31-05-17	15.24	16.16	17.01	17.50
Coffee (ICO daily price)	US cents per lb	02-06-17	122.63	126.52	127.05	136.62
Cocoa (ICCO daily price)	US cents per lb	01-06-17	92.98	84.16	141.64	126.27
Tea (FAO Tea Composite Price)	USD per kg	31-05-17	3.38	3.23	2.46	2.71
Cotton (COTLOOK A index)	US cents per lb	02-06-17	87.70	88.45	70.28	81.65
Jute "BTD"	USD per tonne	31-05-17	670.00	690.00	880.00	653.75
(Fob Bangladesh Port)						

MARKET INDICATORS

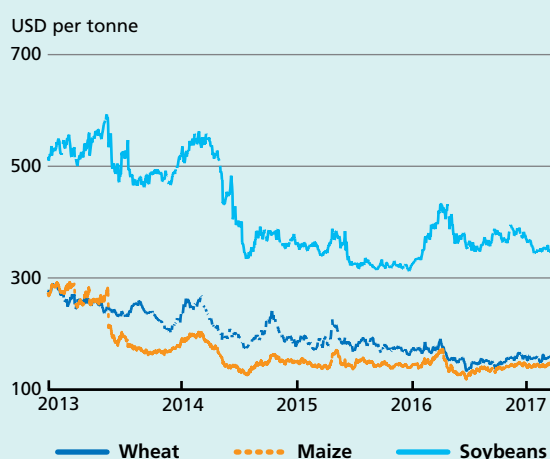
Futures markets

Contributed by Ann Berg (International Consultant)

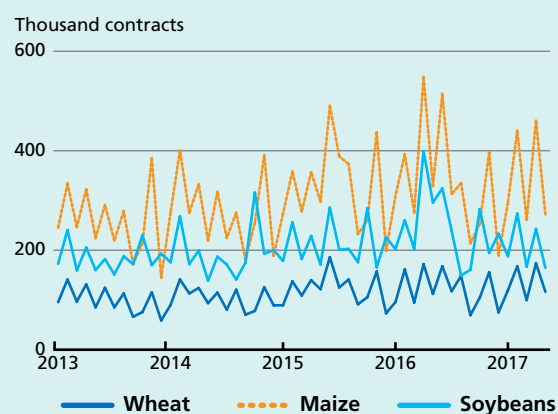
Futures prices for wheat, maize and soybeans traded in a narrow range for the past six months as current and projected global supply levels appeared to be adequate to meet demand. Wheat prices, after declining to multi-year lows during the second half of 2016, rebounded slightly on reports of falling US production for the 2017/18 season. Similarly, maize futures prices rose marginally over last year's lows on projections of 2017/18 global stocks drawdown. Although both wheat and maize were trading above the multi-year lows reached in 2016, prices remained low relative to past years' performance for the same time period, when

prices usually exhibit a weather premium. Soybean prices, on average, remained higher than the previous two years for the same period, but exhibited a mostly continuous decline over the past six months, based on bumper South American production. Record volumes of US wheat, maize and soybean exports since the start of the calendar year seemed to garner little reaction in price movement. Additionally, exogenous market factors – such as softer USD and crude oil prices together with record high US equity prices – appeared to have only a modest impact on agricultural prices.

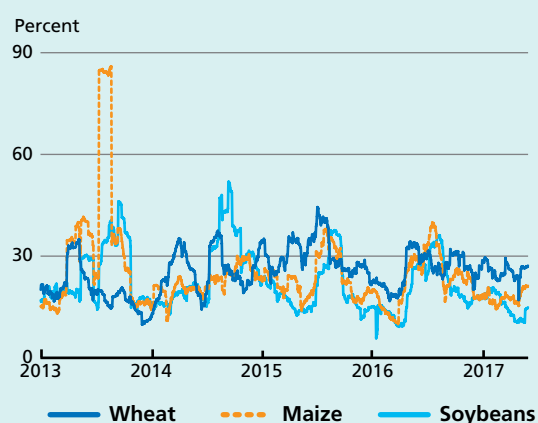
CME futures prices



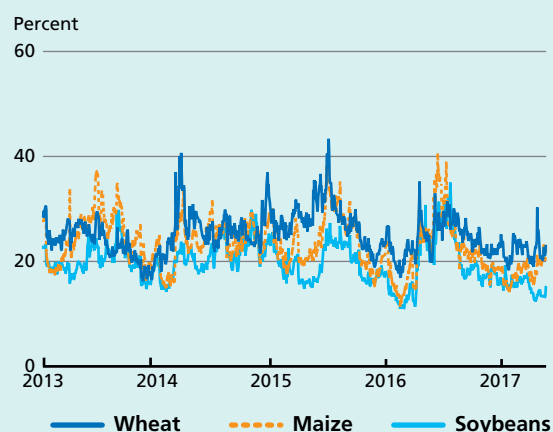
CME futures volumes



Historical volatility (30 days)



Implied volatility



FORWARD CURVES

Forward curves for wheat, maize and soybeans displayed fairly typical price configurations for this time of the year – ahead of the winter wheat harvest and the maize and soybean growing season. Wheat, as usual, showed the greatest contango (upward sloping curve) between the July and the December 2017 contracts (USD 13), followed by maize (USD 7), the latter often being inverted as old crop maize supplies dwindle. The forward curve for soybeans, however, was flat to downward sloping with the July to November 2017 spread displaying USD 4 inversion (backwardation), despite record production being reported in South America. Given the volatile nature of the July/November spread, such as in 2016 when the July contract gained USD 10 over the November contract in a matter of days, traders may be hesitant to place short sales in the July contract. Deliveries against the March and May contracts for all three commodities, however, have confirmed the relatively cheap cash bases in the domestic markets, which have normally been predictive of continued contango markets.

VOLUMES

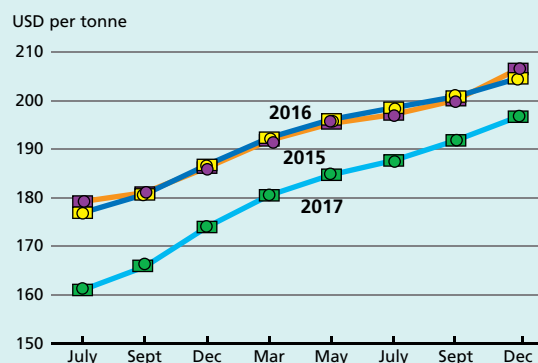
Trade volumes for wheat, maize and soybeans remained robust, although not on track to attain a third consecutive record year. Similar to the previous two years, these volumes have occurred within a context of relatively low volatility and lackluster prices, factors that typically result in low volumes. Possibly, increasing levels of automated trading (estimated by the Commodity Futures Trading Commission in 2014 at 48 percent for agricultural futures markets) were responsible for the heightened volumes. Open interest was mixed: wheat and maize attained multi-year record high levels during some weeks of February and March, topping 500 000 and 1 500 000 contracts, respectively. Soybean open interest was in a relatively high range – between 600 000 and 800 000 contracts – but fell short of the record level of 885 635 achieved in May 2016.

VOLATILITY

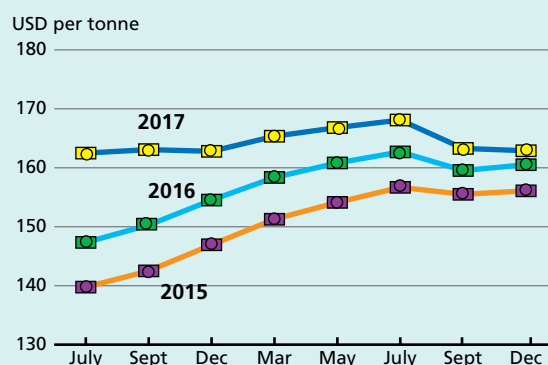
Volatility levels for wheat, maize and soybeans were fairly low relative to past years. Historical volatility (based on 30 days) for maize and soybeans, which had reached 37 and 33 respectively during June 2016, declined to less than 20 for both commodities. In wheat, historical volatility, which reached 33 in 2016, has been in the mid-20s since the start of the year. Implied volatility (calculated by the level of option premiums on underlying futures contracts)

Forward curves snapshots as of end May 2017

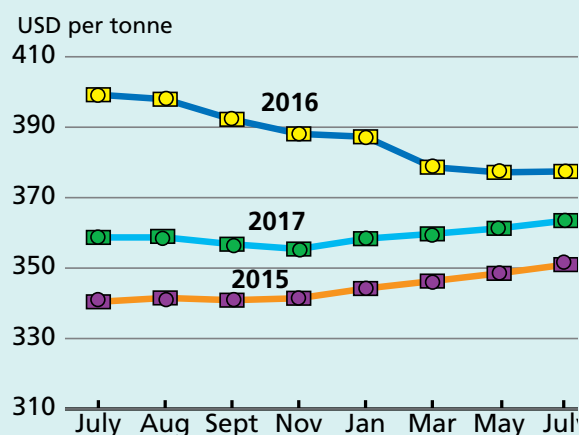
Wheat



Maize



Soybeans



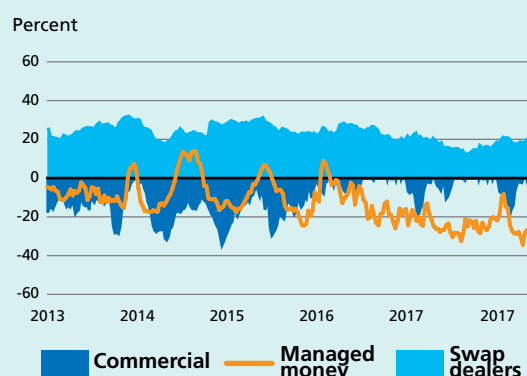
for maize and soybeans was unchanged to slightly lower, with levels mostly in the teens. Implied volatility for wheat was mostly unchanged in the mid-twenties. Overall volatility levels seemed inured to adverse political developments and remained largely unreactive to trade protectionist threats.

INVESTMENT FLOWS

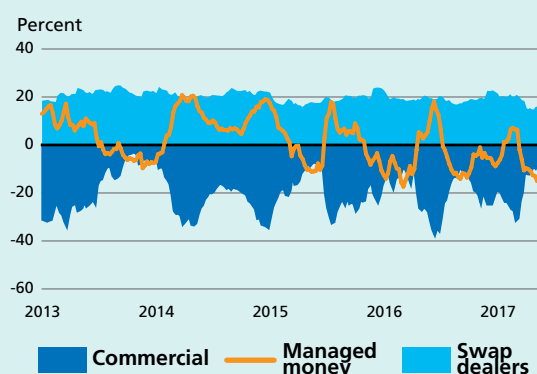
Managed money and commercial traders made sharp turns in their position strategies in wheat, maize and soybeans during the past several months, even as market “shocks” to supply or demand failed to materialize. Uncharacteristically, managed money turned decidedly bearish at the start of the spring planting season, amassing the largest net short on record in the three commodities – equivalent to 50 million tonnes. Commercials, for the most part, stayed on the short side of the market, but greatly reduced these positions as they absorbed the wave of selling from managed money. According to the hedge fund tracker Barclay Hedge, managed money involved with agricultural trading attained a marginally profitable year-to-date (YTD) performance of 0.27 percent versus a near 2.0 percent loss for 2016. The mediocre performance, especially when compared with the volatile 2008 and 2011 markets, may in part be attributable to the level of efficiency introduced by algorithmic programmes over the past 10 years. Anecdotally, commodity traders lament declining margins and arbitrage possibilities, resulting from instantaneous information dissemination. Industry sources report that investment banks suffered their worst first quarter commodity trading performance in over a decade. Swap dealers, considered “passive” entities – which typically base returns to investors on market performance – maintained their long positions throughout the January to May period. The largest agricultural index fund, DBA, which has assets of USD 711 million, showed a modest 1 percent increase YTD after dropping to an 11-year share price bottom of USD 19 during 2016.

CME net-length as % of open interests (Jan 2013 - May 2017)

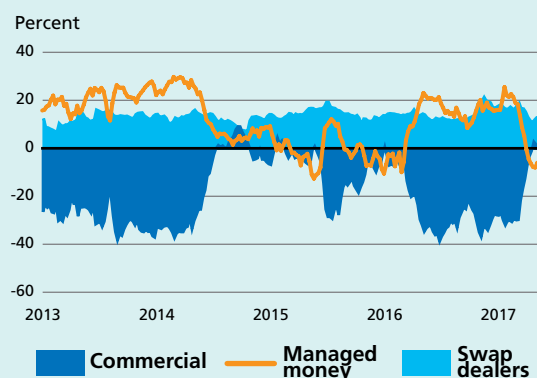
Wheat



Maize



Soybeans



Ocean freight rates

Contributed by the International Grains Council (IGC)

www.igc.int

OCEAN FREIGHT MARKET (MAY 2016 - MAY 2017)

The dry bulk freight complex posted marginal net losses in the past six months, although the period was highly volatile at times, especially for the largest carrying vessels. Trends across sectors were mixed, as weaker Capesize and Panamax markets contrasted with strength in the Supramax and Handysize segments, which are mostly associated with the movement of grains and oilseeds.

After solid gains across all constituent sectors in November, the Baltic Dry Index (BDI), a composite measure of activity on benchmark routes, dropped to a near six-

month low in mid-February, weighed by reduced activity on many leading routes. However, values subsequently advanced, the BDI reaching its highest in 28 months by late-March, on improved demand for commodity shipments. Despite recent pressure, the Index was still around three-quarters higher than a year earlier.

The **Capesize** sector was highly volatile in the past six months. Following steep gains in November on an uptick in traded volumes in the Atlantic and Pacific Basins, the Baltic sub-Index slumped by 80% through to mid-February. Weakness was linked to renewed concerns about prospects for global economic growth and trade, while being amplified by a seasonal slowdown in business volumes due to the Lunar New Year celebrations.

Following a rebound to its highest in more than two years by the end of March, linked to brisker activity at major origins, including Australia, Brazil and China, values subsequently eased. Compared to a year earlier, rates were up by 138%.

Activity in the **Panamax** market was sometimes two-sided, with spillover from the bigger Capesize sector often a feature. With surplus tonnage availability and limited scrappage an underlying bearish influence, average rates posted marginal declines, albeit they were still up by nearly 70% y/y.

The market surged in November on tightening vessel supply and solid demand for grains and oilseeds dispatches,

Summary of dry bulk freight markets

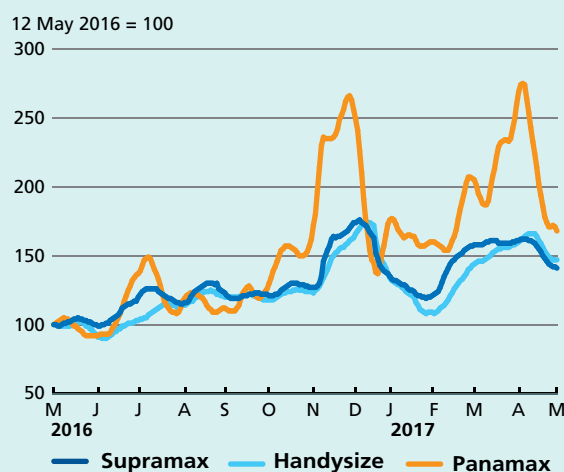
	12 May 2017	Changes	
		6 months	y/y
		%	
Baltic Dry Index (BDI)*	1 014	-3	75
<i>Sub-indices:</i>			
Panamax	992	-2	68
Supramax	784	11	41
Handysize	509	19	47
Capesize	1 725	-25	138

Source: Baltic Exchange, * 4 January 1985 = 1000

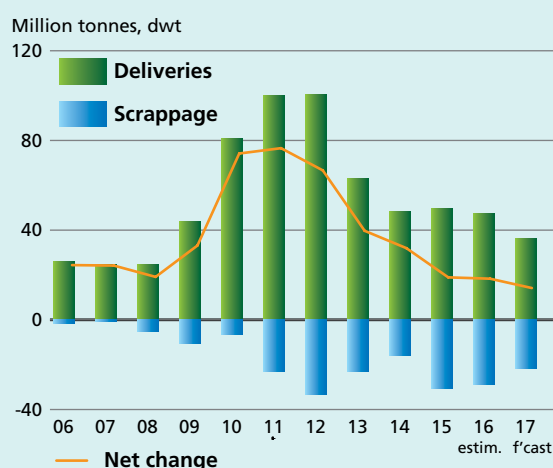
Baltic Capesize sub-Index (12 May 2016 - 12 May 2017)



Baltic Exchange sub-Indices – Grains and oilseeds carrying sectors (12 May 2016 - 12 May 2017)



Dry bulk freight markets: Deliveries vs. scrappage 2006-2017 *



* Source: Bulk Shipping Analysis; refers to vessels above 10 000t dead weight, including Handysize, Supramax, Panamax, Capesize and larger carriers.

particularly on routes from the US Gulf and South America, including to the key Asian markets of China and Japan. An uptick in activity was also evident in the Pacific region. After reaching close to a three-year high in early-December, rates fell sharply through to mid-January in holiday-affected trade, remaining somewhat volatile thereafter. Good enquiries for shipments to Asia, particularly for new crop soyabeans from Brazil, coupled with robust inter-Atlantic values and occasional demand for raw materials from South Africa, contributed to gains during March and April. However, subdued activity at the US Gulf and at southern hemisphere origins pressured more recently.

Highlighting strong demand for soyabean imports, a nominal rate for a trip from Brazil to China firmed by more than one-half, to US\$27/t, slightly below its mid-April peak. In contrast, quotations for shipments from the US Gulf to that destination rose only modestly, to US\$37/t.

In contrast to larger vessels, **Supramax** and **Handysize** segments strengthened markedly in the past six months, with tight tonnage availability at key origins a supportive factor. While these sectors eased in late-2016 and the initial stages of 2017 on broad-based weakness in global shipping markets, declines were capped by some underpinning from enquiries for dispatches of fertilisers and grains from Europe. Additionally, demand for shipments of new crop supplies from South America buoyed sentiment during the early part of 2017. As with other markets, rates retreated more recently on increasing tonnage capacity in Europe and the Atlantic. In the period since mid-November, respective Baltic sub-Indices were up by 11% and 19%.

Summary of freight rates on selected routes

USD/t	12 May 2017	Changes	
		6 months	y/y
US (Gulf) to:			
		%	
EU (ARAH)	24	9	85
China (Dalian)	37	6	42
Japan	36	6	44
Mexico	24	20	71
Canada (St. Lawrence) to:			
EU (ARAH)	25	56	127
China (Dalian)	44	19	38
Japan	42	20	35
Argentina to:			
EU (ARAH)	18	20	38
Mexico	24	14	26
Brazil to:			
EU (ARAH)	25	14	25
China (Dalian)	27	56	77
EU (France, Rouen) to:			
Algeria	28	47	56
Egypt (Mediterranean)	29	38	45
Morocco	32	39	45
Black sea to:			
Egypt (Alexandria)	19	0	58
Tunisia	22	0	47
Australia (East Coast) to:			
China (Dalian)	13	0	44
Yemen	33	6	22

EU (ARAH) refers to Antwerp, Rotterdam, Hamburg

Supply-side developments

Owing to a heavy expansion of the world fleet and limited scrappage, the dry bulk freight market has been faced with excess capacity over much of the past decade. The resulting supply and demand imbalance has ensured that, despite growth in trade, rates are substantially below past peaks.

Looking ahead, prospects for the delivery of new bulk carriers are clouded by considerable uncertainty, with slippage and cancellations – due to depressed market rates and financing difficulties – increasingly likely. Nevertheless, according to industry estimates, 36m t of deadweight tonnage (dwt) is expected to be added to the existing fleet in 2017. Although this is about one-quarter lower than in the previous year, scrappage is expected to be relatively small, resulting in further growth of tonnage availability.

The table provides a snapshot of developments on major grains and oilseeds trade routes, and highlights changes in rates on six months earlier and one year ago.

Food import bills

World food import bill in 2017 set to rise

At USD 1.318 trillion, the provisional forecast for the cost of importing food globally in 2017 points to a 10.6 percent, or USD 127 billion, increase from 2016. The increase is in part a reflection of rising freight costs and higher volumes.

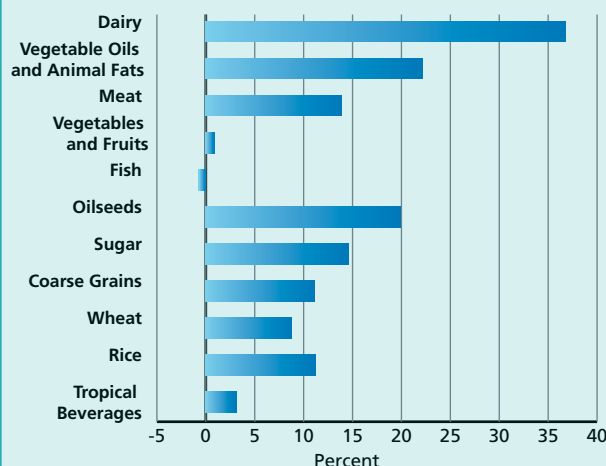
Rising and volatile freight rates were a prominent feature in 2016 and continue to be so in 2017. For instance, as indicated by the Baltic Dry Index, average shipping charges in the first five months of 2017 were twice as high as in the corresponding period of last year. Moreover, month-to-month changes in freights during the period January to May 2017 have been pronounced, with falls followed by very sharp increases. Taking wheat originating from the US Gulf ports as an example, importers in most destinations are now required to pay, on average, USD 12 per tonne or roughly 5 percent more than they did last year.

Turning to expected developments at the product level, the import bills anticipated to undergo the largest absolute increase in 2017 are those for livestock products and for products in the oilseed complex. Leading the way, the forecast rise in dairy bills amounts to some USD 26 billion, on the back of record global demand and considerably higher quotations. The world dairy bill could approach USD 100 billion by year end. Stronger international demand in 2017 for vegetable oils could give rise to a record global bill of USD 116 billion. The combination of higher volumes and higher benchmark prices is also behind much larger bills for meat and sugar.

As for cereals, despite subdued international demand forecast for the current season, unit import costs are set to firm, largely due to the strength in freight charges. Consequently, the world cereal bill could rise by 9 percent to USD 153 billion in 2017. The only product category for which global import costs are expected to fall in 2017 is fish – lower forecast trade volumes should drive down expenditures on this food group.

Even more so, the global tendency for higher import costs in 2017 concerns many of the economically vulnerable nations. The food import bills of least-developed countries (LDCs), low-income food deficit countries (LIFDCs) and those geographically situated in sub-Saharan Africa (SSA) are forecast to rise by more than the global average, with the overall increase amounting to 13 percent in the case of the LDCs, the most vulnerable country group.

Forecast changes in global food import bills by type (2017 over 2016)



For most economically disadvantaged countries, higher import volumes of products in the oilseed complex, as well as of sugar, are expected to curb the savings predicted to be made from lower import bills of other food commodities, especially maize. The US dollar – from which the cost of importing is typically met – has stabilized to a stronger position than last year. This relative strength of the US dollar is accentuating higher expenditures on imported foodstuffs and putting burden on often scarce foreign exchange reserves.

Contact:

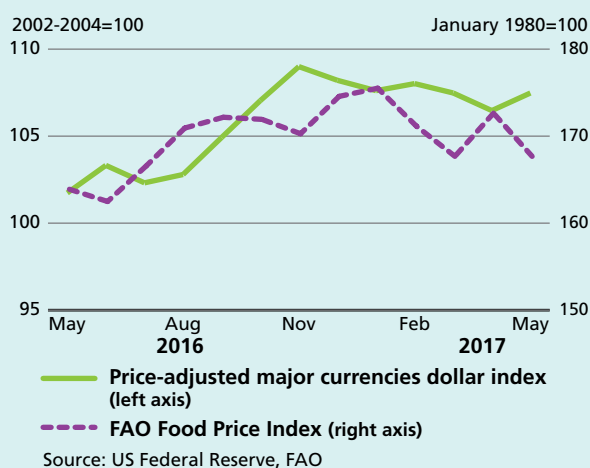
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Import bills of total food and major foodstuffs (USD billion)

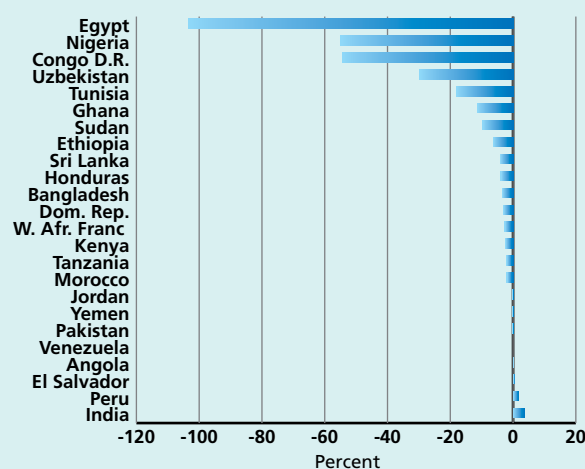
	World		Developed		Developing		LDC		LIFDC		Sub-Saharan Africa	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
TOTAL FOOD	1 191	1 318	706	772	485	546	34	39	80	90	37	41
Vegetables and Fruits	246	248	173	176	72	72	4	4	13	13	3	4
Cereals	144	158	63	69	82	89	10	11	18	19	11	11
Fish	131	130	93	93	37	37	1	1	4	4	4	4
Meat	131	149	85	96	47	53	2	3	3	3	3	3
Dairy	71	97	44	60	27	37	2	2	3	5	2	2
Vegetable Oils and Animal Fats	95	116	43	52	52	64	6	8	19	24	5	6
Oilseeds	80	96	25	30	55	67	0	1	1	1	0	0
Sugar	58	66	30	34	28	32	4	5	7	8	4	4
Tropical beverages	94	97	71	73	23	24	1	1	3	4	1	1

Exchange rates and food prices

USD and food price inverse relationship generally held (May 2016 - May 2017)



% changes in the currencies of major importing LIFDCs against the USD (May 2016 - May 2017)



Having reached a 15-year high at the end of 2016, the US dollar has since fallen relative to major currencies, with the inflation-adjusted index reaching 106 points in May 2017. Nevertheless, the US dollar remains historically strong, rendering the cost of importing food expensive – as most commodity prices are US dollar-denominated. This is particularly the case for numerous major food importing LIFDCs that import more than USD 1 billion worth of food annually and, from May 2016 to May 2017, incurred sharp currency falls against the US dollar. Many of them, especially those situated in Africa, have experienced percentage depreciation exceeding double-digit levels.

FAO price indices¹

FAO food price indicators diverge²

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

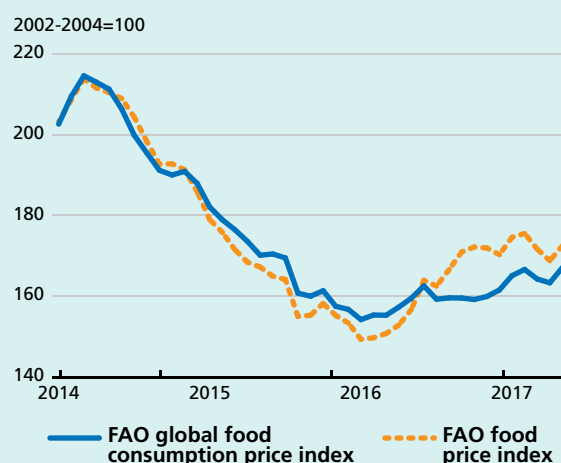
After falling to a multi-year low at the beginning of last year, the index began to climb, reaching a 24 month high of 167 points in May 2017. It has also departed considerably from the trade-weighted FAO Food Price Index (FPI), with the gap widening by up as much as 13 points in recent months. This is because international prices of foodstuffs that carry a large weight in trade (particularly meat and dairy products) have moved up considerably compared to subdued quotations of lower trade-weighted food commodities (notably grains and sugar).

The FAO Food Price Index rebounds in May³

The **FAO Food Price Index** averaged 172.4 points in May 2017, up 3.7 points (2.2 percent) from April and nearly 16 points (10 percent) higher than its May 2016 level. The rebound in the value of the Index followed three months of consecutive declines. With the exception of sugar, all other commodity indices used in the calculation of the FFPI increased in May.

The **FAO Cereal Price Index** averaged 148.1 points in May, up 2 points (1.4 percent) from April, but still 4.4 points (2.9 percent) below its value of May 2016. Weather developments and stronger trade activity underpinned wheat export prices, while strong demand for higher quality Indica rice drove up international rice prices for the sixth-successive month. Large global availabilities prevented strong gains in maize export prices.

The FAO global food consumption and food price indices
(June 2014 - May 2017)



The **FAO Vegetable Oil Price Index** averaged 168.7 points in May, posting a month-on-month increase of 7.6 points (or 4.7 percent) – after three months of consecutive declines. The May reversal in trend mainly reflects rising palm and soy oil prices. While palm oil quotations firmed on rising global import demand, which kept world inventories low, soy oil prices rose on expectations of continued robust consumption, in particular in the United States. In both markets, unusually strong demand outweighed the price-depressing effect of anticipated improvements in global supplies.

The **FAO Dairy Price Index** averaged 193 points in May, up 9.5 points (5.1 percent) from April and as much as 51 percent from May 2016. In spite of the latest increase, the index is still 30 percent below its peak reached in February 2014. Quotations of all the dairy products that compose the index rose in May. In the case of butter, firm domestic demand in Europe and North America provided support to prices, while ample intervention stocks in the EU limited the increase in skim milk powder prices.

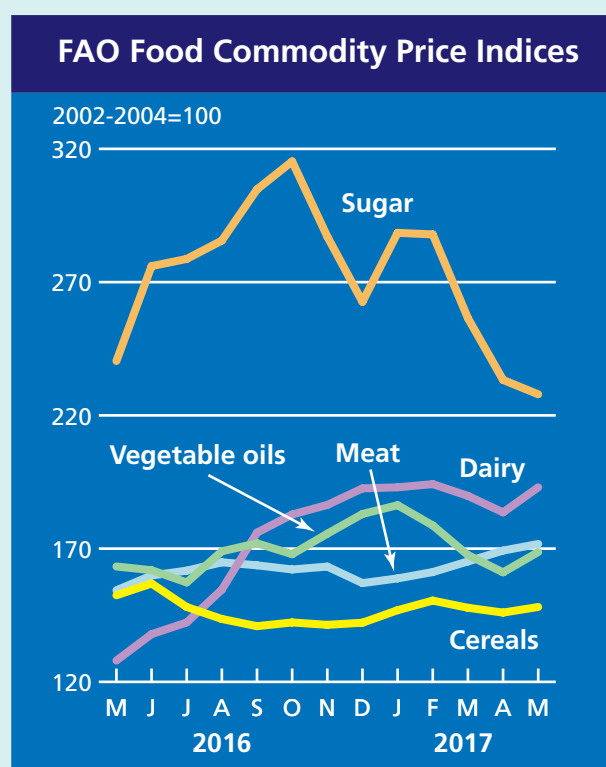
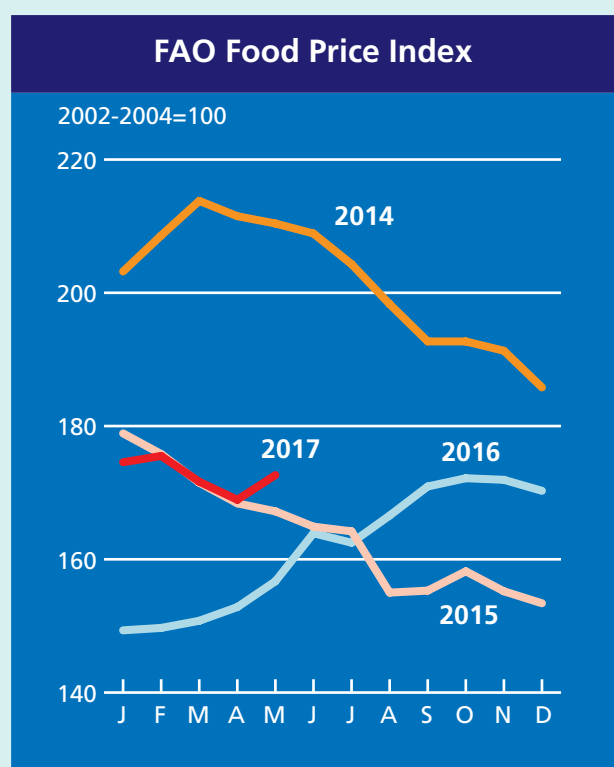
¹ All changes referred to in this section, in absolute or percentage terms, are calculated based on unrounded figures.

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>

The **FAO Meat Price Index**⁴ averaged 171.2 points in May, up 2.4 points (1.4 percent) from April, continuing the trend of modest price increases observed since the beginning of the year. Quotations for pig, bovine and ovine meat all rose, while those for poultry meat were stable. Pig meat prices increased on firm demand, while bovine meat prices gained ground amid limited export availabilities from Oceania. Meanwhile, ovine meat prices rose for the third consecutive month, bolstered by constrained export supply.

The **FAO Sugar Price Index** averaged 227.9 points in May, down 5.4 points (2.3 percent) from April and marking a 13-month low. Sugar prices were heavily affected by higher-than-expected sugar output in Brazil's centre-south region, combined with the sudden slide in the Brazilian Real, which discouraged crush for ethanol in the domestic market in favour of relatively more lucrative sugar exports. Expectations of larger exports from Pakistan and China's decision to impose high duties on imports beyond its WTO tariff-rate quota (TRQ) commitment exerted additional downward pressure on international sugar prices.



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
2000		91.1	96.5	95.3	85.8	69.5	116.1
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
2016	May	156.7	154.4	128.0	152.5	163.3	240.4
	June	163.9	159.9	137.9	156.9	161.9	276.0
	July	162.5	161.7	142.3	148.1	157.3	278.7
	August	166.6	164.9	154.6	143.6	169.0	285.6
	September	170.9	163.7	176.0	140.9	172.0	304.8
	October	172.2	162.2	182.8	142.3	167.9	315.3
	November	171.9	163.3	186.4	141.4	175.6	287.1
	December	170.3	157.1	192.6	142.2	183.0	262.6
	January	174.6	158.8	193.0	146.9	186.3	288.5
	February	175.5	161.2	194.2	150.5	178.7	287.9
2017	March	171.6	165.2	189.8	147.8	167.6	256.5
	April	168.9	169.3	183.6	146.0	161.1	233.3
	May	172.6	171.7	193.0	148.1	168.7	227.9

1 Food Price Index: Consists of the average of 5 commodity group price indices mentioned above, weighted with the average export shares 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 price relatives 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 10 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 10 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.

New releases

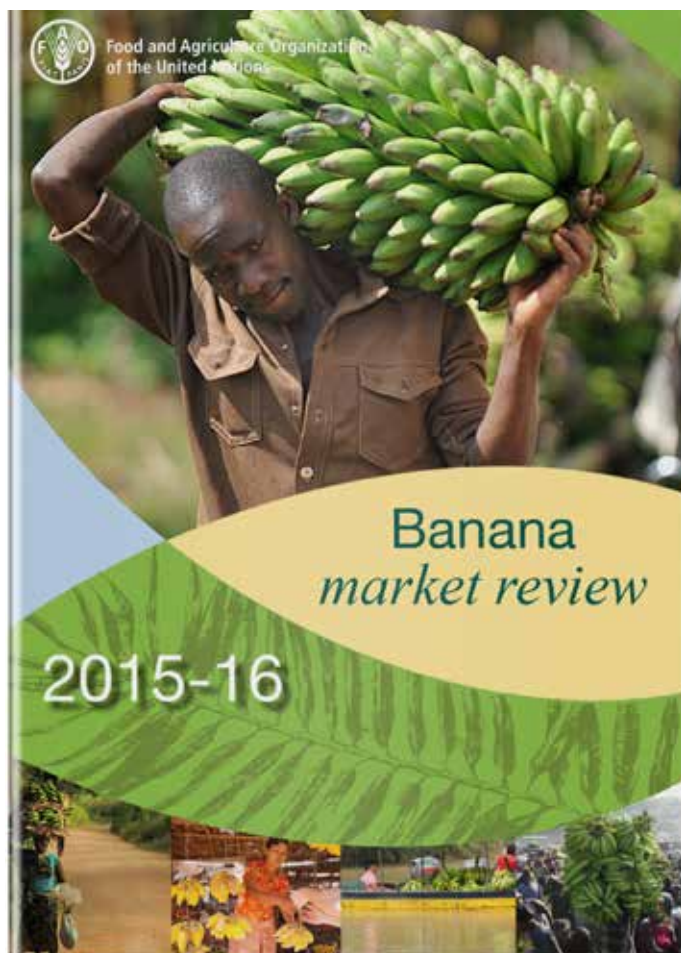
This compendium offers an overview of salient policy changes and related private sector measures concerning global and national markets for oilseed, oils/fats and meals in a particular year – in this case 2016.

The compendium reproduces, in tabular form, all the policy and industry news items published throughout 2016 in FAO's "Oilcrops Monthly Price and Policy Update" (MPPU). The main purpose is to facilitate the work of policy makers, market experts, analysts and other stakeholders by providing a short, concise overview of policy developments relevant to the oilcrops industry at the global, regional and national level.

Drawing on a variety of sources, the accounts provided concentrate on key facts, refraining from in-depth analytical impact assessments. Although every care has been taken to cover the most salient and relevant developments, the list of items presented is not exhaustive.

The report is available at:

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

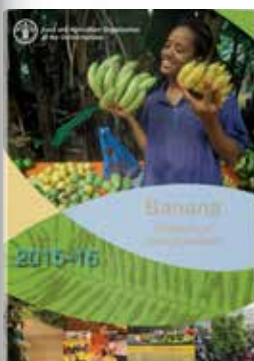


The Banana Market Review is issued on an annual basis to the Sub-Group on Bananas of the Intergovernmental Group on Bananas and Tropical Fruits. It is prepared by the Team on Responsible Investment and Tropical Fruits, Trade and Markets Division, FAO, Rome, which provides research and analyses on agricultural investments in developing countries, and economic data and analyses on tropical fruits. Regular publications include market reviews, outlook appraisals and projections for bananas and tropical fruits. The team also provides assistance to developing countries in designing and implementing national policies regarding responsible investment in agriculture.

The report and complementary statistical bulletin are available at the FAO commodity website on bananas:

The report is available at:

<http://www.fao.org/economic/est/est-commodities/bananas/en/>



Food Outlook is published by the Trade and Markets Division of FAO under Global Information and Early Warning System (GIEWS). It is a biannual publication focusing on developments affecting global food and feed markets. Each report provides comprehensive assessments and short term forecasts for production, utilization, trade, stocks and prices on a commodity by commodity basis and includes feature articles on topical issues. Food Outlook maintains a close synergy with another major GIEWS publication, Crop Prospects and Food Situation, especially with regard to the coverage of cereals. Food Outlook is available in English. The summary section is also available in Arabic, Chinese, French, Russian and Spanish.

Food Outlook and other GIEWS reports are available on the internet as part of the FAO world wide web (<http://www.fao.org/>) at the following URL address: <http://www.fao.org/giews/>. Other relevant studies on markets and global food situation can be found at <http://www.fao.org/worldfoodsituation>.

This report is based on information available up to late May 2017. The next Food Outlook report will be published in October/November 2017.

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