Food and Agriculture Organization of the United Nations

# Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS

November 2018

# ACKNOWLEDGEMENTS

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# Contents



## In this report

The outlook for global supplies of agricultural commodities in the 2018/19 marketing season remains broadly in line with earlier expectations. While the weather had some impact on crop prospects, the overall production at global level did not change significantly from the forecasts published in the July issue of Food Outlook. Beyond weather-induced revisions, the latest FAO revisions take into consideration the mounting uncertainties regarding trade policies, as well as the changes in exchange rates and rising energy prices.

Since June 2018, the FAO Food Price Index has remained on a declining trend. This weakness in part reflects the escalation of trade disputes, which particularly dampened US soybean prices. In addition, wide-ranging decelerations in demand growth, coupled with generally adequate, if not abundant, supply levels, resulted in a much softer tone in international price quotations of most food commodities. As a consequence, FAO's latest forecast of the world food import bill for 2018 has been revised down by USD 5 billion since July. Nevertheless, it would still represent a 3 percent increase from 2017.

This edition of Food Outlook includes less detailed market assessments of the commodities regularly covered by the report, but it provides a more in-depth analysis of developments in cassava markets. Furthermore, the report includes short articles on recent trends in the markets of coffee and tropical fruits. The section on Market Indicators continues to provide the latest assessments on futures markets, freight rates, food import bills, exchange rates and food prices.

# MARKETS AT A GLANCE

# WHEAT

The global wheat supply and demand balance is forecast to tighten in 2018/19, as evidenced by firmer international prices compared to the previous season. The forecast for global wheat production in 2018 has been revised downwards in recent months, and is now pegged at 727.9 million tonnes, 4.3 percent decline from the 2017 record level. The EU, the Russian Federation, China and Australia account for much of the year-on-year contraction. They are also behind the recent lowering in the global production outlook, while prospects improved in North and South America.

Total wheat utilization is expected to increase only marginally in 2018/19, with the global growth in wheat feed use affected by lower intakes in the Russian Federation and Ukraine, mostly due to reduced domestic supplies and less attractive prices. However, global wheat use for food consumption is seen increasing by 1.0 percent, which should result in a relatively stable average per caput level.

With world production forecast to fall below overall utilization, global wheat inventories in 2019 are anticipated to register a 4.5 percent decline from their record high opening level. The drawdown is expected to be concentrated among the major exporters, in particular the Russian Federation, the EU and the US, more than offsetting significant buildups expected in China and, to a lesser extent, in India. Consequently, the ratio of major wheat exporters' closing stocks to their total disappearance (defined as domestic utilization plus exports) – a measure of global market availabilities – is set to fall to a five-year low of 16.3 percent.

Contrary to earlier predictions, world wheat trade is now forecast to contract in 2018/19 (July/June), albeit from the record levels achieved in the past two seasons. Among importers, Algeria, India and South Africa are anticipated to curb their wheat purchases in the wake of larger domestic harvests. As for exports, shipments from the Russian Federation are set to contract, reflecting a fall in domestic production. Similarly, wheat exports from Australia, the EU and Ukraine are anticipated to decline, which would more than counter a notable rebound of foreign sales by the United States, as well as bigger shipments from Argentina and Canada.

**For additional analyses and updates, see:**

FAO Cereal Supply and Demand Brief at
http://www.fao.org/worldfoodsituation
Crop Prospects and Food Situation at
http://www.fao.org/giews/reports/crop-prospects
AMIS Market Monitor at
http://www.amis-outlook.org/amis-monitoring

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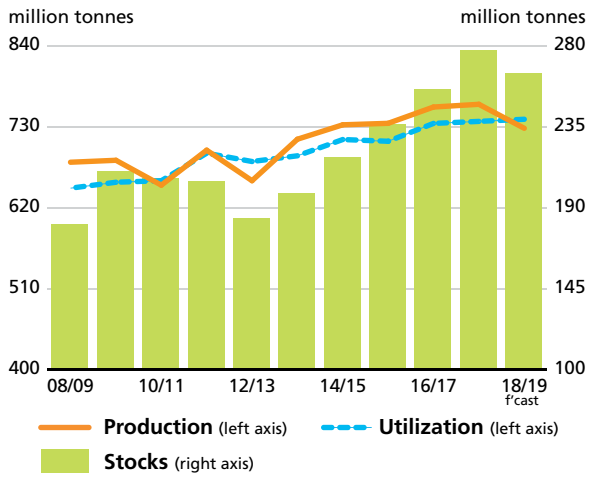
## WHEAT PRODUCTION, UTILIZATION AND STOCKS




## WORLD WHEAT MARKET AT A GLANCE

| | 2016/17 | 2017/18 estim. | 2018/19 f'cast July | 2018/19 f'cast Nov | Change: 2018/19 over 2017/18 |
|---|---|---|---|---|---|
| | million tonnes | | | | % |
| **WORLD BALANCE** | | | | | |
| **Production** | **756.7** | **760.4** | **736.1** | **727.9** | **-4.3** |
| **Trade**[1] | **176.6** | **176.6** | **175.0** | **173.2** | **-1.9** |
| **Total utilization** | **734.5** | **737.2** | **741.1** | **740.1** | **0.4** |
| Food | 498.4 | 504.8 | 508.9 | 509.7 | 1.0 |
| Feed | 142.6 | 140.6 | 143.6 | 141.3 | 0.5 |
| Other uses | 93.4 | 91.8 | 88.5 | 89.0 | -3.0 |
| **Ending stocks**[2] | 255.1 | 276.8 | 264.2 | 264.4 | -4.5 |
| **SUPPLY AND DEMAND INDICATORS** | | | | | |
| **Per caput food consumption:** | | | | | |
| World (kg/yr) | 66.8 | 66.9 | 66.7 | 66.8 | -0.1 |
| LIFDC (kg/yr) | 53.1 | 53.2 | 52.6 | 53.0 | -0.4 |
| *World stocks-to-use ratio (%)* | *34.6* | *37.4* | *34.9* | *35.0* | |
| *Major exporters stocks-to-disappearance ratio*[3] *(%)* | *20.2* | *21.1* | *16.8* | *16.3* | |

| **FAO WHEAT PRICE INDEX**[4] **(2002-2004=100)** | **2016** | **2017** | **2018** Jan-Oct | **Change*** **%** |
|---|---|---|---|---|
| | 125 | 133 | 147 | 10.7 |

[1] Trade refers to exports based on a common July/June marketing season.
[2] May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.
[3] Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States.
[4] Derived from the International Grains Council (IGC) wheat index.
* Jan-Oct 2018 over Jan-Oct 2017, in percent

# COARSE GRAINS

Although the global market of coarse grains, as a whole, is set to tighten considerably in 2018/19, the overall supply prospects remain adequate, thanks to record high stocks carried over from the previous season.

Coarse grain production in 2018 is forecast to drop 2.2 percent from last year, driven predominantly by weather-reduced maize outputs in a number of countries and a contraction in the world barley production to a six-year low. However, compared with earlier expectations, the production outlooks for the various coarse grains have improved considerably, as favorable weather in Asia and the United States pushed up yields.

Despite lower availabilities, global utilization of coarse grains is expected to peak in 2018/19, rising faster than earlier anticipated – by 2.2 percent year-on-year. Robust demand for feed and industrial use in China and the United States are foreseen to push up world maize utilization to a new high. Tightening supplies of barley, sorghum and feed wheat have also contributed to the anticipated rapid expansion in maize use.

Total inventories of coarse grains are forecast to fall in 2018/19, marking the first decline since 2012/13. Maize would account for the bulk of the contraction, much of which is seen to be concentrated in major exporting countries and also in China, consistent with the country's maize destocking policy. Given the expected fall in world inventories and the increase in total utilization, the world coarse grains stocks-to-use ratio as well as the major exporters' stocks-to-disappearance (defined as domestic consumption plus exports) ratio should drop to five-year lows of 22.3 percent and 12.5 percent, respectively.

World trade in coarse grains in 2018/19 (July/June) is still forecast to remain close to the 2017/18 record level, underpinned by an anticipated rise in maize trade, offsetting a decline in sorghum. While on the supply side larger maize exports from the United States, Argentina and Ukraine would more than compensate for falling sales by Brazil and the Russian Federation, on the demand side the EU is expected to remain the largest destination for maize in 2018/19. This season's tightening global supplies and strong import demand have pushed up international prices of the major coarse grains above their levels in the corresponding period last year.

**For additional analyses and updates, see:**

FAO Cereal Supply and Demand Brief at
http://www.fao.org/worldfoodsituation
Crop Prospects and Food Situation at
http://www.fao.org/giews/reports/crop-prospects
AMIS Market Monitor at
http://www.amis-outlook.org/amis-monitoring

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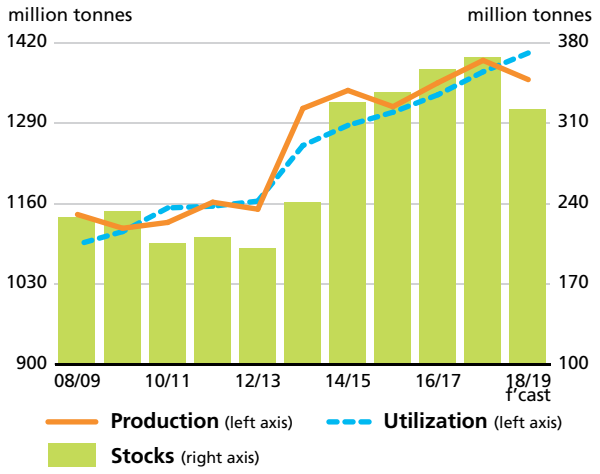
## COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS




## WORLD COARSE GRAIN MARKET AT A GLANCE

| | 2016/17 | 2017/18 estim. | 2018/19 f'cast July | 2018/19 f'cast Nov | Change: 2018/19 over 2017/18 |
|---|---|---|---|---|---|
| | million tonnes | | | | % |
| **WORLD BALANCE** | | | | | |
| **Production** | **1 355.3** | **1 391.3** | **1 338.7** | **1 360.3** | **-2.2** |
| **Trade**[1] | **180.7** | **195.8** | **189.6** | **195.3** | **-0.2** |
| **Total utilization** | **1 339.0** | **1 372.9** | **1 390.8** | **1 403.3** | **2.2** |
| Food | 205.0 | 209.0 | 210.1 | 212.6 | 1.7 |
| Feed | 756.1 | 767.6 | 782.3 | 788.0 | 2.7 |
| Other uses | 377.9 | 396.3 | 398.4 | 402.7 | 1.6 |
| **Ending stocks**[2] | 356.0 | 366.1 | 311.0 | 321.0 | -12.3 |
| **SUPPLY AND DEMAND INDICATORS** | | | | | |
| **Per caput food consumption:** | | | | | |
| World (kg/yr) | 27.5 | 27.7 | 27.5 | 27.9 | 0.7 |
| LIFDC (kg/yr) | 38.4 | 38.7 | 37.9 | 38.8 | 0.3 |
| *World stocks-to-use ratio (%)* | *25.9* | *26.1* | *21.7* | *22.3* | |
| *Major exporters stocks-to-disappearance ratio*[3] *(%)* | *14.1* | *15.1* | *11.3* | *12.5* | |

| **FAO COARSE GRAIN PRICE INDEX (2002-2004=100)** | **2016** | **2017** | **2018** *Jan-Oct* | **Change* %** |
|---|---|---|---|---|
| | 151 | 146 | 156 | 5.9 |

[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 opening stocks) and utilization due to differences in indivdual countries' marketing years
[3] Major exporters include Argentina, Australia, Brazil, Canada, EU, Russian Fed., Ukraine and the United States.
***** Jan-Oct 2018 over Jan-Oct 2017, in percent

# RICE

World rice production is forecast to expand by 1.3 percent in 2018 to reach a new record high. India is predicted to spearhead this growth, due to generally adequate monsoon rains and higher minimum support prices. Sizeable expansions are also expected in Bangladesh, Madagascar, Sri Lanka, the United States, Tanzania and Viet Nam. By contrast, policy-driven output contractions are anticipated in China and Egypt, while falling returns are expected to depress production across much of Europe, Latin America and the Caribbean, and Oceania.

World rice utilization is forecast to increase by 1.1 percent in 2018/19, sustained by an expected rise in rice use for food consumption, while feed and industrial uses could decline. Global stocks are forecast to grow by 2.6 percent by the close of 2018/19 marketing seasons, more than was previously anticipated. Among the major exporters, principally India and the US are likely to end their seasons with larger inventories. Among importers, carryovers could rise mostly in China and to a lesser extent in Indonesia and the Philippines. These tendencies would lift the global stock-to-use ratio to 34.2 percent, its highest level in 17 years, and the major exporters' stock-to-disappearance ratio to 19.3 percent, reversing its multi-year decline.

Under the current forecasts, international trade in rice is predicted to decline by 1.3 percent in 2019 to a level that would still be the third highest on record. The contraction mainly reflects expectations of reduced purchases by some of the largest importers, namely China, Indonesia and Bangladesh. By contrast, imports by African countries are predicted to rebound, while Brazil, the Islamic Republic of Iran and the Philippines are also likely to buy more. Reduced foreign sales by Thailand and Pakistan are behind the anticipated contraction in world exports, while increased availabilities could boost deliveries from India, Myanmar, and Viet Nam.

A 19-month upward trend in international rice prices was interrupted in July 2018, reflecting a lapse in Asian and African import demand, as well as currency depreciations (against the US dollar) in some leading exporting countries. Nonetheless, prices over January-October 2018 still averaged 11.0 percent higher than in the 2017 corresponding period.

**For additional analyses and updates, see:**

FAO Rice Market Monitor at
http://www.fao.org/economic/RMM/
AMIS Market Monitor at
http://www.amis-outlook.org/amis-monitoring
Cereal Supply and Demand Brief at
http://www.fao.org/worldfoodsituation/csdb/
Crop Prospects and Food Situation at
http://www.fao.org/giews/reports/crop-prospects

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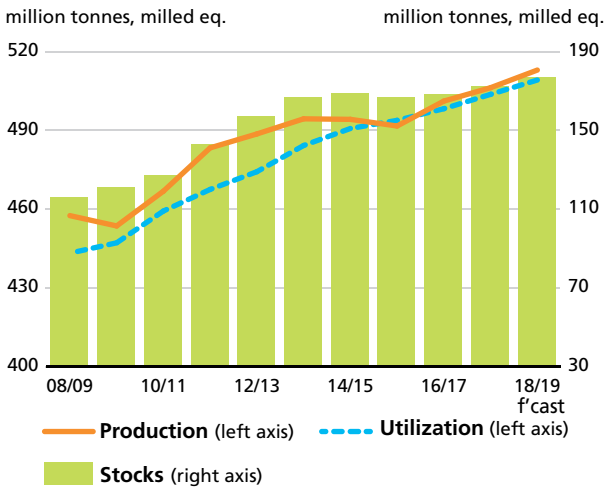
## RICE PRODUCTION, UTILIZATION AND STOCKS




## WORLD RICE MARKET AT A GLANCE

| | 2016/17 | 2017/18 estim. | 2018/19 f'cast July | 2018/19 f'cast Nov | Change: 2018/19 over 2017/18 |
|---|---|---|---|---|---|
| | million tonnes | | | | % |
| **WORLD BALANCE** | | | | | |
| **Production** | **501.2** | **506.3** | **511.4** | **513.0** | **1.3** |
| **Trade**[1] | **48.1** | **48.0** | **47.5** | **47.3** | **-1.3** |
| **Total utilization** | **498.3** | **503.7** | **509.5** | **509.2** | **1.1** |
| Food | 400.1 | 405.8 | 411.8 | 411.8 | 1.5 |
| **Ending stocks**[2] | **168.0** | **172.0** | **173.7** | **176.6** | **2.6** |
| **SUPPLY AND DEMAND INDICATORS** | | | | | |
| **Per caput food consumption:** | | | | | |
| World (kg/yr) | 53.6 | 53.8 | 54.0 | 54.0 | 0.4 |
| LIFDC (kg/yr) | 55.2 | 55.2 | 55.5 | 55.6 | 0.7 |
| *World stocks-to-use ratio (%)* | *33.3* | *33.8* | *33.6* | *34.2* | |
| *Major exporters stocks-to-disappearance ratio*[3] *(%)* | *18.8* | *18.0* | *17.8* | *19.3* | |

| **FAO RICE PRICE INDEX (2002-2004=100)** | **2016** | **2017** | **2018** Jan-Oct | **Change*** % |
|---|---|---|---|---|
| | 194 | 206 | 226 | 11.0 |

[1] Calendar year exports (second year shown).
[2] May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.
[3] Major exporters include India, Pakistan, Thailand, the United States and Viet Nam.
* Jan-Oct 2018 over Jan-Oct 2017, in percent

# OILCROPS

As the 2018/19 season gradually unfolds, preliminary forecasts of ample crops across the oilseed complex point to a comfortable world supply and demand situation for oilseeds and their by-products.

After stagnating in 2017/18, global oilseed production is forecast to climb to a new record this season, led by an anticipated rebound in soybean and, to a lesser extent, sunflower seed, which would more than compensate for reductions in other oilcrops. Soybean production is expected to increase vigorously, mostly driven by a recovery of production in Argentina and further yield improvements in the United States, as well as by area expansions in Brazil, China and India. Among the other main oilcrops, global palm oil production is forecast to continue growing at a moderate rate, whereas global rapeseed production could contract, impaired by unfavourable weather conditions in the EU and Australia.

In 2018/19, growth in world meals/cakes utilization is forecast to slow down, tied to subdued feed demand in China, whereas growth in oils/fats consumption will most likely be supported by continuing economic growth in major consuming regions and sustained demand from the biodiesel sector. Based on FAO's current buoyant production forecasts, the output of oilcrop products is anticipated to exceed global consumption of oils and meals in 2018/19. As a result, world inventories at the close of the seasons are forecast to rise, particularly in the soybean complex, with major exporters' stock-to-disappearance ratios possibly reaching historical highs.

International trade in vegetable oils in 2018/19 is expected to recover from last season's passive performance. Trade in oilseeds and oilmeals is also forecast to expand, but at a slower pace, mainly reflecting uncertainties about the US-China trade relations and related slowdowns in import demand. These uncertainties, together with currently positive global production outlooks, have kept international soybean prices under strong downward pressure in recent months. International prices of oils and meals also remained on a falling trend.

In the coming months, factors affecting soybean crop prospects in South America and palm oil production in Southeast Asia will play a key role in determining price movements in the oilseed complex. Developments regarding the US-China trade relations will also be critical.

**For additional analyses and updates, see:**

Oilcrops Monthly Price and Policy Update at
http://www.fao.org/economic/est/publications/oilcrops-publications/monthly-price-and-policy-update/
AMIS Market Monitor at
http://www.amis-outlook.org/amis-monitoring

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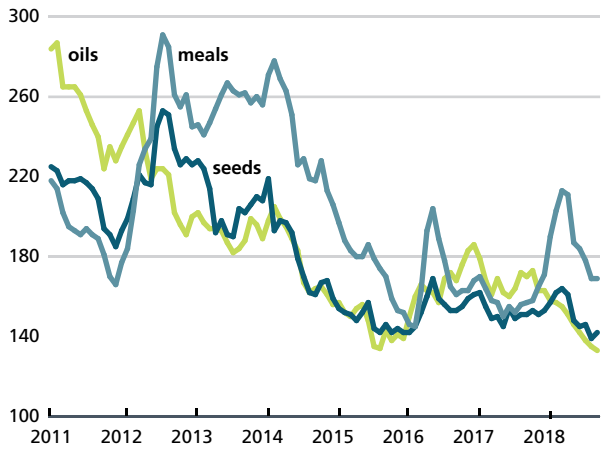
## FAO MONTHLY INTERNATIONAL PRICE INDICES FOR OILSEEDS, VEGETABLE OILS AND MEALS/CAKES (2002-2004=100)




## WORLD OILCROP AND PRODUCT MARKET AT A GLANCE

| | 2016/17 | 2017/18 *estim.* | 2018/19 *f'cast* | Change: 2018/19 over 2017/18 |
|---|---|---|---|---|
| | *million tonnes* | | | *%* |
| **TOTAL OILCROPS** | | | | |
| Production | 586.7 | 589 | 616.1 | 4.6 |
| **OILS AND FATS** | | | | |
| Production | 226.3 | 231.4 | 237.9 | 2.8 |
| Supply | 260.8 | 267.5 | 275.2 | 2.9 |
| Utilization | 222.8 | 228.5 | 235.2 | 2.9 |
| Trade | 124.0 | 124.6 | 129.0 | 3.6 |
| *Global stocks-to-use ratio (%)* | *16.2* | *16.3* | *16.5* | |
| *Major exporters stocks-to-disappearance ratio (%)* | *10.3* | *11.1* | *12.3* | |
| **MEALS AND CAKES** | | | | |
| Production | 152.3 | 151.2 | 160.7 | 6.3 |
| Supply | 177.3 | 178.9 | 186.4 | 4.2 |
| Utilization | 145.0 | 151.6 | 154.7 | 2.0 |
| Trade | 96.2 | 99.2 | 101.4 | 2.3 |
| *Global stocks-to-use ratio (%)* | *18.4* | *16.9* | *19.0* | |
| *Major exporters stocks-to-disappearance ratio (%)* | *11.8* | *10.4* | *13.8* | |
| **FAO PRICE INDICES (2002-2004=100)** | **2016** | **2017** | **2018** *Jan-Oct* | **Change: Jan-Oct 2018 over Jan-Oct 2017 %** |
| Oilseeds | 154 | 152 | 152 | -0.6 |
| Meals/cakes | 169 | 159 | 187 | 18.1 |
| Vegetable oils | 164 | 169 | 148 | -12.6 |

Note: For explanations on definitions and coverage kindly refer to previous issues of Food Outlook.

# SUGAR

Based on early indications, FAO expects world sugar production to grow modestly in 2018/19 (October/September) and surpass consumption, resulting in a smaller surplus compared to last year's all-time high. Anticipated decreases in sugar output in the EU, Thailand and Pakistan are predicted to be offset by expansions in India, Brazil and China, with India possibly becoming the world's largest sugar producer together with Brazil.

World sugar consumption is set to increase in 2018/19, in line with its long-term trend, sustained by growth in several developing countries amid expectations of falling domestic sugar prices and rising incomes. Sugar consumption growth is expected to be particularly marked in Africa, Asia, the Middle East and Central America and the Caribbean.

Driven by low international prices, global sugar imports are forecast to expand in 2018/19, on the back of foreseen larger purchases by traditional importing countries, in particular China, which is predicted to regain its status as the top international sugar buyer. The implementation of export incentives in some major sugar exporting countries is anticipated to boost global trade. Shipments are anticipated to rise in Thailand and India, the second and fourth largest sugar exporters, but to fall in the EU. On the other hand, exports will likely remain stable in Brazil, the world's leading sugar supplier.

World sugar prices had been declining steadily since the beginning of 2018 up to September, before rebounding modestly in October on the back of concerns over Brazil's production prospects. The 2018 price slide was mainly in response to ample world sugar availabilities, following a robust expansion in the area planted to sugar crops in the last two years. Policy measures to limit imports or boost exports, as well as the weakening of the Brazilian real and the Indian rupee against the US dollar, have further amplified the fall in international sugar quotations. On the other hand, a continuing firming of international crude oil prices would indirectly support sugar price quotations, by increasing the quantities of sugar crops used for the production of ethanol instead of sugar.

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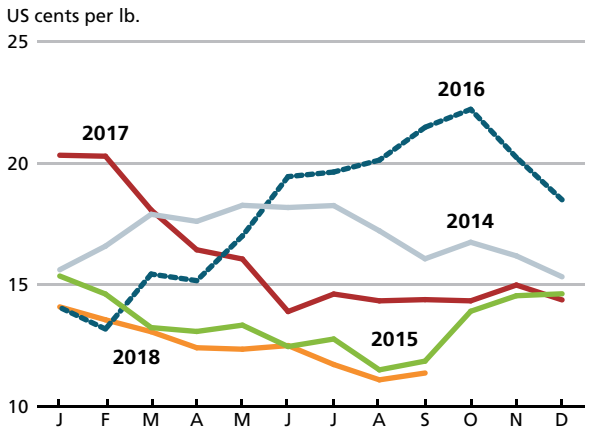
## INTERNATIONAL SUGAR PRICES




Source: Prices refer to the Sugar No. 11 contract traded at the New York Intercontinental Exchange (ICE)

## WORLD SUGAR MARKET AT A GLANCE

| | 2016/17 | 2017/18 *estim.* | 2018/19 *f'cast* | Change: 2018/19 over 2017/18 |
|---|---|---|---|---|
| | *million tonnes* | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **168.9** | **184.4** | **185.2** | **0.42** |
| **Trade** | **57.9** | **55.5** | **57.9** | **4.30** |
| **Total utilization** | **166.8** | **171.1** | **175.3** | **2.43** |
| **Ending stocks** | **91.3** | **104.3** | **113.8** | **9.10** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 22.4 | 23.0 | 23.3 | 1 .33 |
| LIFDC (kg/yr) | 15.9 | 15.8 | 16.2 | 2.25 |
| **World stocks-to-use ratio (%)** | **54.8** | **60.9** | **64.9** | **6.51** |

| ISA DAILY PRICE AVERAGE (US cents/lb) | 2017 | 2018 *Jan-Sept* | Change: Jan/Sept 2018 over Jan/Sept 2017 % |
|---|---|---|---|
| | 16.01 | 12.46 | -24.46 |

# MEAT AND MEAT PRODUCTS

Global meat output is forecast to reach 335 million tonnes (in carcass weight equivalent) in 2018, about 1 million tonnes less than anticipated in July, but still 1.5 percent up from 2017, registering the fastest growth since 2014. The regained momentum rests on expectations of a strong recovery in China and sizeable increases in the United States and the EU. As for the slight downward revision to the global production outlook since July, this is mainly due to China, where rising feed costs and diseases have negatively affected pig and poultry meat prospects. Forecasts were also lowered in the United States, on less upbeat expectations for bovine and pigmeat outputs reflecting below expected slaughter amid a slower pace of marketing, and in Brazil, where the loss of external markets overturned earlier expectations for increased poultry production. On the other hand, meat production forecasts were raised for the EU and Australia, where dry and warm weather propelled feed costs, fostering an increase in animal slaughter. Notwithstanding the recent downscaling, pigmeat is still anticipated to make the largest contribution to the expansion in world meat output this year, followed by poultry, bovine and ovine meat.

World meat exports in 2018 are forecast to hit a new record of 33.6 million tonnes, up 2.6 percent from 2017, and some 300 000 tonnes more than anticipated in July. Export growth this year is foreseen to originate in the United States, Australia, Argentina, Thailand and the EU, outstripping expected declines in India, Brazil and South Africa. On the demand side, meat imports in 2018 are seen rising in China, Japan, Mexico and the Republic of Korea, while they may fall in the Russian Federation, Saudi Arabia, Egypt and Singapore.

The FAO Meat Price Index reached 161.6 points in October, down 6.6 percent from its level in the corresponding month last year. At this level, the index is 23.8 percent below its peak reached in August 2014. Compared with January this year, the overall meat price index weakened, mainly reflecting the availability of ample export supplies, especially of bovine and pigmeat, from main producing countries. Import restrictions associated with new cases of African swine fever also weighed on pigmeat prices. Poultry meat prices fluctuated moderately over the period, but declined in more recent months underpinned by market sluggishness. By contrast, ovine meat prices increased, sustained by strong import demand from Asia and the Middle Eastern countries, amid Oceania's limited export supplies.

**For additional analyses and updates, see:**

Meat Market Review at:
http://www.fao.org/3/CA2129EN/ca2129en.pdf

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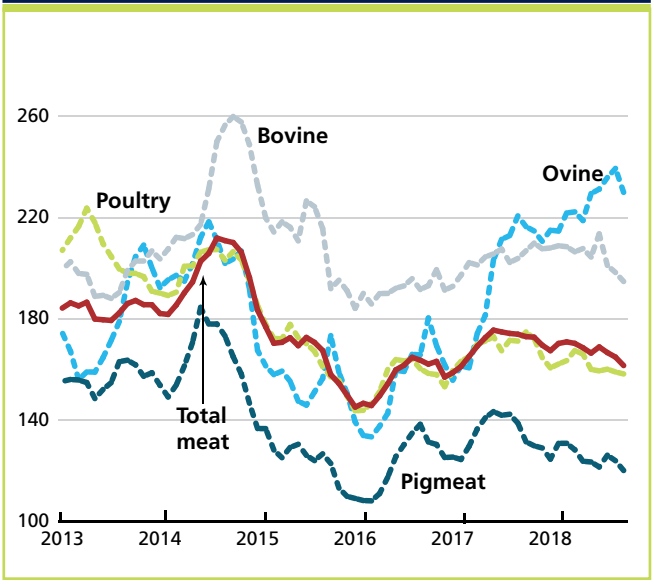
## FAO INTERNATIONAL MEAT PRICE INDEX (2002-2004 = 100)




## WORLD MEAT MARKET AT A GLANCE

| | 2016 | 2017 estim. | 2018 f'cast July | 2018 f'cast Nov | Change: 2018 over 2017 |
|---|---|---|---|---|---|
| | million tonnes (carcass weight equivalent) | | | | % |
| **WORLD BALANCE** | | | | | |
| **Production** | **326.8** | **330.0** | **336.2** | **335.0** | **1.5** |
| Bovine meat | 69.7 | 70.9 | 72.1 | 72.2 | 2.0 |
| Poultry meat | 119.0 | 119.9 | 122.5 | 121.6 | 1.4 |
| Pigmeat | 117.8 | 118.8 | 121.1 | 120.6 | 1.6 |
| Ovine meat | 14.7 | 14.8 | 14.9 | 15.0 | 0.8 |
| **Trade** | **31.9** | **32.8** | **33.3** | **33.6** | **2.6** |
| Bovine meat | 9.7 | 10.2 | 10.6 | 10.7 | 5.0 |
| Poultry meat | 12.8 | 13.1 | 13.3 | 13.3 | 1.3 |
| Pigmeat | 8.3 | 8.2 | 8.1 | 8.3 | 1.4 |
| Ovine meat | 0.9 | 1.0 | 1.0 | 1.0 | 5.5 |
| **SUPPLY AND DEMAND INDICATORS** | | | | | |
| **Per caput food consumption:** | | | | | |
| World (kg/year) | 43.7 | 43.5 | 43.9 | 43.7 | 0.4 |
| *Trade - share of prod. (%)* | 9.8 | 9.9 | 9.9 | 10.0 | 1.0 |

| FAO MEAT PRICE INDEX (2002-2004=100) | 2016 | 2017 | 2018 Jan-Oct | Change* % |
|---|---|---|---|---|
| | 156 | 170 | 168 | -1.3 |

* Jan-Oct 2018 over Jan-Oct 2017, in percent

# MILK AND MILK PRODUCTS

Global milk production is forecast to increase to nearly 827 million tonnes in 2018, up 2.0 percent from last year, with the largest gains foreseen in Asia, followed by Europe, the Americas, and also improved prospects for recovery in Africa and Oceania. While the new forecasts are broadly in line with those made in the July edition of Food Outlook, some previously unforeseen events have altered production expectations. Milk output growth dimmed somewhat in the EU due to exceptionally dry and warm weather during the summer months, and in the United States, due to higher than normal dairy cow culling, induced by reduced profit margins. Brazil's output prospects were negatively affected by the disruptions to the sector caused by a truck drivers' strike that began in May. By contrast, milk output in Asia is set to expand more rapidly than foreseen in July, with more buoyant results expected in China and Turkey, reinforced by stable-to-larger dairy herds and rising farmgate prices.

Global trade in dairy products is anticipated to reach 74.5 million tonnes, up 2.5 percent year-on-year, confirming the previously projected rate of growth, underpinned by increases for all the main products: butter, cheese, Skim Milk Powder (SMP) and Whole Milk Powder (WMP). Much of the expected 2018 expansion in global exports is now foreseen to originate in the United States, Mexico, New Zealand, Argentina, Uruguay and Australia. As for the EU, the world's leading dairy supplier, export prospects have been downscaled and sales will likely fall somewhat below last year's level, in line with the lowered 2018 production outlook. Mexico, Algeria and Viet Nam look set to account for much of the anticipated increase in world dairy imports in 2018, while purchases by the Russian Federation and Brazil are forecast to record sharper contractions than foreseen in July.

International dairy prices strengthened in the first five months of this year, reaching a peak in May. Since then, dairy prices have weakened, with the sharpest falls registered for butter, cheese and WMP, reflecting an easing of the tight conditions that had characterized those markets. Average SMP prices, however, remained stable reflecting generally well-balanced supply and demand conditions.

**For additional analyses and updates, see:**

Dairy Market Review at:
http://www.fao.org/3/CA1866EN/ca1866en.pdf

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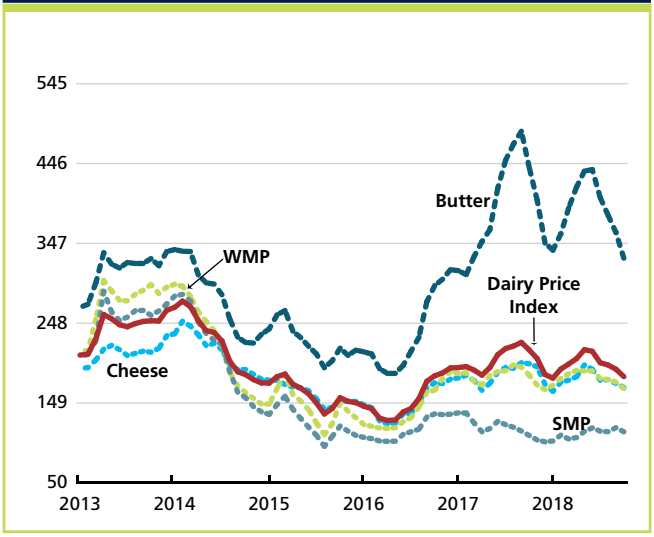
## FAO INTERNATIONAL DAIRY PRICE INDEX (2002-2004 = 100)




## WORLD DAIRY MARKET AT A GLANCE

| | 2016 | 2017 estim. | 2018 f'cast July | 2018 f'cast Nov | Change: 2018 over 2017 |
|---|---|---|---|---|---|
| | million tonnes, milk equiv. | | | | % |
| **WORLD BALANCE** | | | | | |
| **Total milk production** | **799.6** | **810.9** | **828.5** | **826.9** | **2.0** |
| **Total trade** | **71.1** | **72.8** | **73.5** | **74.5** | **2.5** |
| **SUPPLY AND DEMAND INDICATORS** | | | | | |
| **Per caput food consumption:** | | | | | |
| World (kg/year) | 107.4 | 107.4 | 108.5 | 108.3 | 0.9 |
| *Trade - share of prod. (%)* | *8.9* | *9.0* | *8.9* | *9.0* | *0.5* |

| FAO DAIRY PRICE INDEX (2002-2004=100) | 2016 | 2017 | 2018 Jan-Oct | Change* % |
|---|---|---|---|---|
| | 154 | 202 | 197 | -3.4 |

* Jan-Oct 2018 over Jan-Oct 2017, in percent

# FISH AND FISHERY PRODUCTS

In 2018, global fish production is expected to rise by some 2.1 percent overall. Supply is tight for many key wild fish stocks, but a continuation of the 4 to 5 percent annual increase in aquaculture production means the sector is now close to becoming the major source of fish for all purposes. Aquaculture expansion and strengthening demand in developing economies is driving an annual 1 percent increase in per capita consumption of fish, accompanied by a simultaneous rise in the proportion of production used for direct human consumption.

International seafood trade is set to expand by some 7.5 percent in USD terms in 2018, the combined result of a weaker US currency, record high prices for some species, and generally favourable economic conditions in key markets. Escalation of the United States-China 'trade war' has seen tariffs applied to multiple seafood items in both countries and, given their considerable combined importance, this is a development with significant consequences for the wider seafood market. For individual species, the impact will largely depend on the relative diversity of producers and markets, with trade contraction likely wherever alternative options are limited.

On the supply side, reduced quotas and generally lower catches are expected in 2019 for multiple wild stocks, including cod, Alaska pollock, octopus, squid, mackerel and herring. The outlook for the second anchoveta fishing season beginning in late 2018 remains good, but a possible El Niño event may negatively affect the outlook for 2019. Meanwhile, production growth is seen slowing in the medium term for some important farmed species, including salmon, tilapia and pangasius. For shrimp, however, plentiful harvests worldwide are pushing up traded volumes and keeping prices down.

In the short term, end-of-year demand will kickstart upward trends in prices for many species. For 2019, an expected tighter supply for a number of species should keep prices for most fish and fishery products at high levels, with the notable exception of shrimp. However, deteriorating economic conditions in some key markets and the introduction of tariff barriers in the United States and China may slow the current rate of expansion in international seafood trade, particularly if the Chinese yuan weakens significantly.

**For additional analyses and updates, see:**

The GLOBEFISH market reports at
http://www.fao.org/in-action/globefish/market-reports

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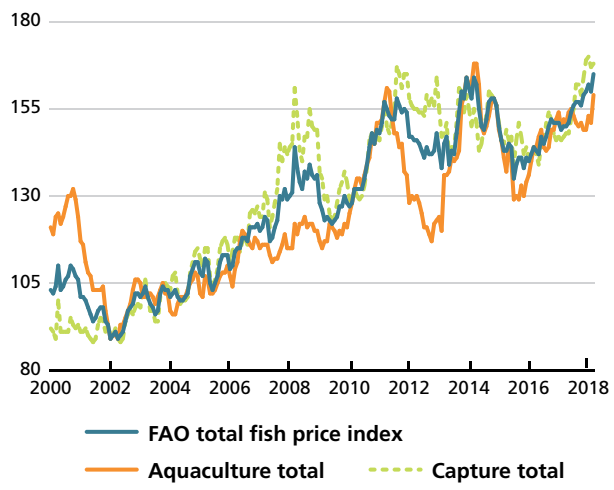
## FAO FISH PRICE INDEX (2002-2004 = 100)




Source of the raw data: Norwegian Seafood Council (NSC)

## WORLD FISH MARKET AT A GLANCE

| | 2016 | 2017 estim. | 2018 f'cast July | 2018 f'cast Oct | Change: 2018 over 2017 |
|---|---|---|---|---|---|
| | million tonnes (live weight) | | | | % |
| **WORLD BALANCE** | | | | | |
| **Production** | **170.9** | **175.1** | **178.7** | **178.8** | **2.1** |
| Capture fisheries | 90.9 | 91.5 | 91.7 | 91.8 | 0.3 |
| Aquaculture | 80.0 | 83.6 | 87.0 | 87.0 | 4.0 |
| **Trade value (exports USD billion)** | **142.5** | **153.2** | **165.8** | **164.7** | **7.5** |
| **Trade volume (live weight)** | **59.5** | **60.5** | **60.8** | **60.8** | **0.5** |
| **Total utilization** | **170.9** | **175.1** | **178.7** | **178.8** | **2.1** |
| Food | 151.2 | 154.5 | 157.6 | 157.9 | 2.2 |
| Feed | 14.6 | 15.6 | 15.8 | 15.8 | 1.4 |
| Other uses | 5.1 | 5.1 | 5.2 | 5.1 | 0.0 |
| **SUPPLY AND DEMAND INDICATORS** | | | | | |
| **Per caput food consumption:** | | | | | |
| Food fish (kg/yr) | 20.3 | 20.5 | 20.7 | 20.7 | 1.1 |
| From capture fisheries (kg/year) | 9.5 | 9.4 | 9.3 | 9.3 | -1.0 |
| From aquaculture (kg/year) | 10.7 | 11.1 | 11.4 | 11.4 | 2.9 |

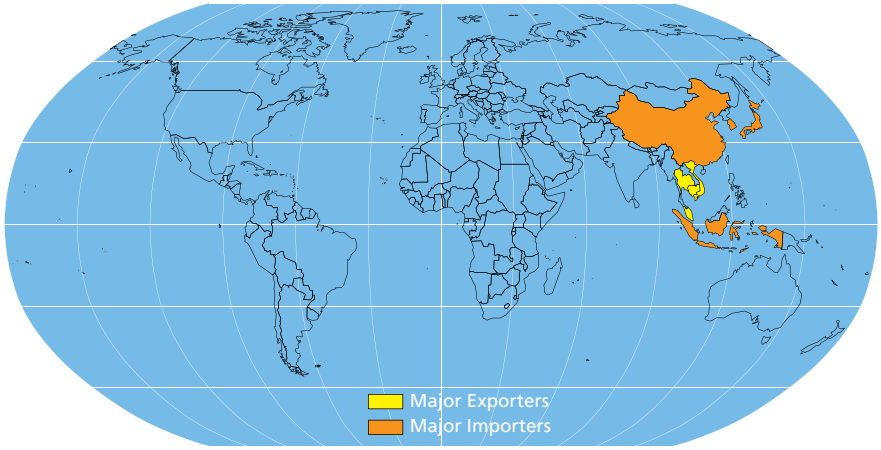
| **FAO FISH PRICE INDEX (2002-2004=100)** | **2016** | **2017** | **2018** *Jan-July* | **Change* %** |
|---|---|---|---|---|
| | 146 | 154 | 160 | 5.6 |

Source of the raw data for the FAO Fish Price Index: Norwegian Seafood Council (NSC)
* Jan-July 2018 over Jan-July 2017, in percent

# COMMODITY FOCUS

# CASSAVA MARKET DEVELOPMENTS AND OUTLOOK

**Major Cassava Exporters and Importers**



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## OUTLOOK

### Increasing uncertainty prevails in non-food markets

Growth prospects for world cassava sectors appear delimited along the geographical lines that characterize the role of cassava in the agricultural economy. For instance, as cassava is principally a food crop in Africa, the sector is providing a strong stimulus for rural development, poverty alleviation, economic growth and ultimately, food security. There is also wider recognition of cassava as a choice crop in the context of climate change adaptation strategies, particularly in eastern and southern African countries that regularly endure sustained periods of drought. These considerations are providing cassava sectors on the continent with a somewhat assured long-term footing, and are, by and large, behind an annual average production growth rate, which except for 2017 and 2018, has outpaced population growth for the past decade and beyond. The current year anomaly is again on account of policy in Nigeria, which incentivizes the expansion of other crops, resulting in sluggish growth in cassava cultivation.

Uncertainty dominates cassava sectors in Asia (see Box), as they are strongly susceptible to developments in China, the principal destination for internationally traded cassava products. In fact, almost all cassava sectors in Southeast Asia have been geared to meet China's traditional high import demand, expanding in tandem with trade growth. However, notwithstanding highly competitive industrial and feed procurement, the immediate future for cassava appears bleak on account of China's ongoing policy to auction government stockpiled maize – cassava's chief rival [1] – to meet internal demand. While the auction programme cannot continue indefinitely, ongoing productivity gains could lead to additional stockpiling. Against this, targeted area cuts and a shift to income support in China's maize sector should assist in lowering the country's large maize surpluses, prompting inflows of maize substitutes including cassava. But the time period for such large-scale adjustment to conclude is indeterminate.

The potential for cassava to compete in markets beyond China is also uncertain, given that international maize prices are currently hovering at relatively low levels. While cassava root prices in Southeast Asia have firmed in 2018, the outlook for next year and beyond will greatly depend on whether producers would be willing to accept the continued risks of dwindling demand in China. Already some indication is provided by way of a recent official

[1] Cassava chips/pellets have proven to be an effective energy substitute for cereals in pig and poultry diets (see http://www.fao.org/docrep/007/j1255e/j1255e0a.htm), while cassava starch is the preferred starch in applications that use native starch, and paper and textile industries that use modified starches (see http://www.fao.org/docrep/007/y5287e/y5287e08.htm).

**Table 1. World cassava market at a glance**

| | 2016 | 2017 estim. | 2018 f'cast | Change: 2018 over 2017 |
|---|---|---|---|---|
| | million tonnes fresh root equiv. | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **276.5** | **275.7** | **277.1** | **0.5** |
| **Trade** | **43.5** | **43.6** | **27.7** | **-36.4** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 20.0 | 19.9 | 19.8 | **-0.6** |
| Developing (kg/yr) | 24.3 | 23.7 | 23.5 | **-0.7** |
| LIFDC (kg/yr) | 66.7 | 66.4 | 66.1 | **-0.5** |
| Sub-Saharan Africa | 87.4 | 86.2 | 85.7 | **-0.5** |
| Trade share of production (%) | 15.7 | 15.8 | 10.0 | **-36.7** |

| **CASSAVA PRICES * (USD/tonne)** | **2016** | **2017** | **2018 Jan-Oct** | **Change: Jan-Oct 2018 over Jan-Oct 2017 %** |
|---|---|---|---|---|
| Chips to China (f.o.b.Bangkok) | 176.8 | 170.8 | 233.0 | 40.9 |
| Starch (f.o.b. Bangkok) | 350.9 | 341.5 | 501.2 | 52.6 |
| Thai domestic root prices (20-25% starch content) | 49.8 | 52.1 | 86.7 | 76.9 |

Source: Thai Tapioca Trade Association (TTTA), FAO

survey of planting intentions in Thailand, which shows optimism in the form of a prospective 5 percent increase in cassava area in 2019.

## PRICES

### International quotations of cassava and cassava products recover strongly in 2018

The rally in international quotations of cassava products that began in the last quarter of 2017 continued into the first six months of 2018, but has since lost momentum. Virtually all international trade flows of cassava take place within the boundaries of East and Southeast Asia, in which f.o.b prices of Thai products, by virtue of the country being the leading exporter, represent the benchmarks.

Thai chip prices (f.o.b. Bangkok) were being quoted at around USD 233 per tonne in October 2018, some 25 percent higher than in the corresponding month of last year, and 49 percent more than in May 2017, when they had plummeted to an eight-year low. Thai flour and starch prices (Super High Grade, f.o.b. Bangkok) were being quoted at around USD 507 per tonne, 44 percent higher than in October 2017. Quotations have exhibited considerable volatility throughout 2018, beginning the year at USD 433, climbing to USD 550 in May, and then falling

**Figure 1. International cassava and Thai domestic prices (Nov 2015 - Oct 2018)**

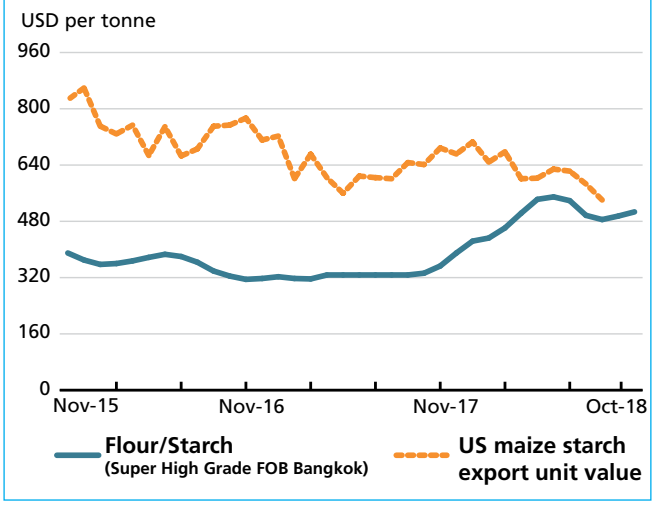



**Figure 2. China maize and Thai cassava chips prices (Nov 2015 - Oct 2018)**

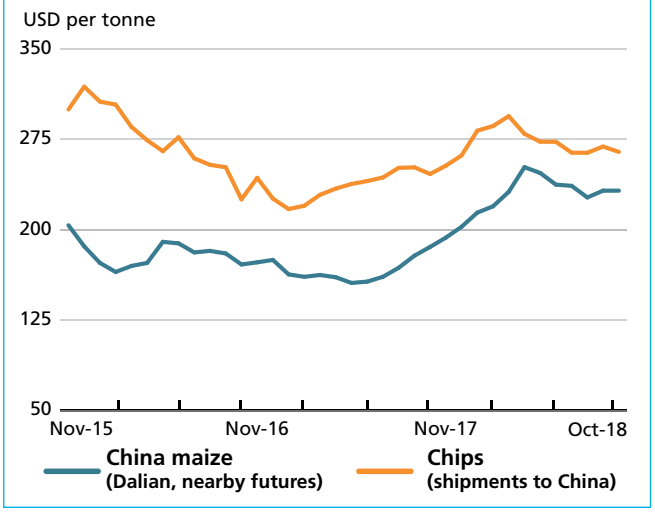
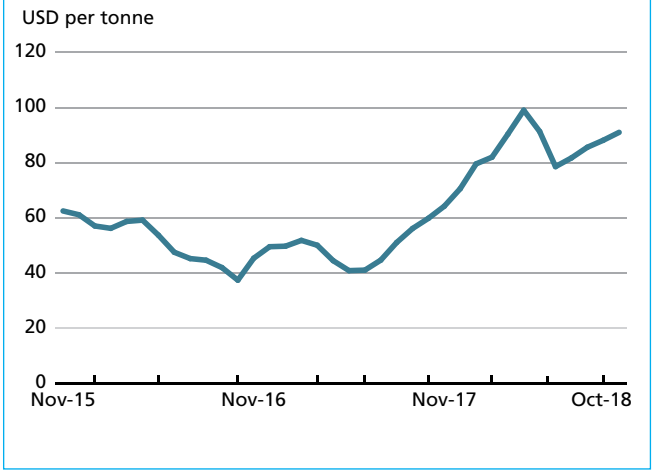


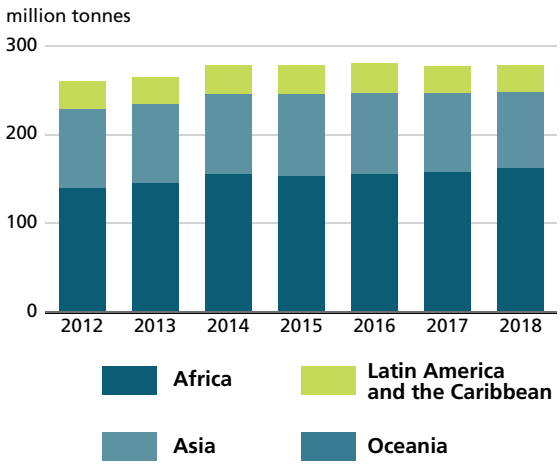

**Figure 3. Thai root producer prices (Oct. 2012 - Oct. 2018)**



to the October level of USD 507 per tonne.

Benchmark quotations for both cassava chips and cassava flour and starch have historically enjoyed a substantial discount over their substitute counterparts, maize and maize starch, respectively. However, owing to domestic developments in Thailand and policy developments in China, the gap between maize and cassava product prices has narrowed significantly over the course of 2018. In Thailand, prices of roots have been on the march since mid-2017, peaking at a seven-year high of USD 99 per tonne in April 2018, reflecting lower domestic availabilities from which cassava chips and flour are manufactured. Meanwhile in China, measures to lower its accumulated stockpiles of maize through state auctions have significantly dampened domestic maize prices, hindering demand for cassava.

**Figure 4. World cassava production**




## PRODUCTION

### Global cassava production marginally up in 2018

At 277 million tonnes (fresh root equivalent) world cassava production is expected to rise by half a percent in 2018. Hitherto, cassava held the status of one of the fastest expanding staple crops at global level, registering two decades of uninterrupted growth well above 3 percent per annum, but a combination of policy changes and depressed root prices in the major producing countries, especially in Southeast Asia, was behind lower plantings and consequently subdued harvest prospects for 2018.

Forecasting cassava production is difficult, due to the widespread lack of data on harvest expectations and negligible information on planting intentions. Even in countries where the crop is known to play a critical role in food security and rural development, or where its trade carries importance, little effort is made to survey the crop on a regular basis, as is done for other staple crops. This holds especially true in sub-Saharan Africa (SSA), the world's largest cassava growing region. Nevertheless, with rising demand for the staple and with enhancing food security and the rural economy high on the region's agenda, cassava production in SSA could reach a record of 161 million tonnes in 2018, around 3.3 million tonnes, or 2 per cent more than the level of 2017.

The crop is the subject of a number of expansion programmes in the region, as commercializing cassava and domestically producing staple crops – in order to limit imports – remains a key objective of many West African governments. In **Nigeria**, the regional production leader, the Anchor Borrower's Programme (ABP), launched by the country's central bank, currently provides preferential loans to smallholder farmers who supply their product to the processing sector. While cassava is one of the many commodities listed in the programme, last year the implementation of ABP made rice more lucrative to cultivate, and led farmers to shift from cassava growing. In early 2018, however, the central bank announced the Commercial Agricultural Credit Scheme (CACS) to further deepen access to credit for farmers, targeting those engaged in cultivating cassava. As a result, Nigeria's cassava crop could rebound by a moderate 2 percent from last year, to 56 million tonnes in 2018.

Supported by favourable growing conditions and an enabling environment for investment, cassava production in **Ghana**, the region's second largest producer, could rise by 2 percent to a record 19.4 million tonnes in 2018. Current year prospects also remain positive in other important West African producing countries, especially **Côte d'Ivoire**, **Cameroon** and **Sierra Leone**, where, as a result of good weather and support, either all-time high or near-high harvests are anticipated. An exception is Benin, where pest and disease outbreaks could lower production by 9 percent from 2017 levels.

Cassava's tolerance to erratic weather conditions spares production from considerable contraction – compared with other crops – putting cassava expansion high on the agendas of many governments in eastern and southern African countries. In the **United Republic of Tanzania**, good weather and increased investment could see cassava production rebound in 2018. Favourable growing conditions, including less disease incidence, are also reported in **Angola**, **Burundi**, **Madagascar**, **Mozambique**, **Rwanda** and **Uganda**, where production levels are expected to rise above 2017 levels.

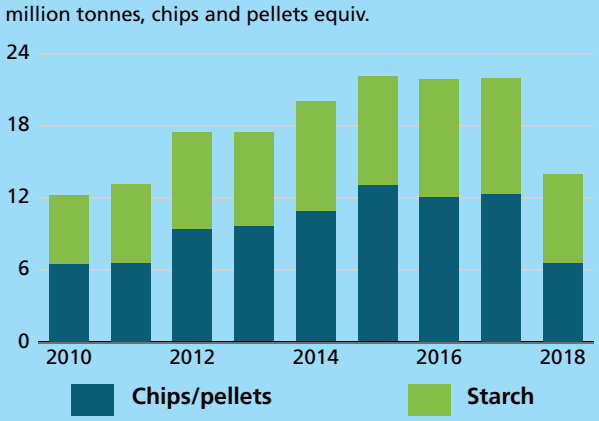
In central Africa, despite the ongoing conflict in the

## Box: Cassava at the crossroads?

Global trade flows in cassava are virtually confined to Southeast Asia and East Asia, where the commodity in the form of processed products, chips, pellets, flour and starch competes fiercely with domestic and other imported substitutes. China is the principal destination for internationally traded cassava products, typically accounting for approximately 80 percent of world trade, using them for animal feed, ethanol, food processing and industry.

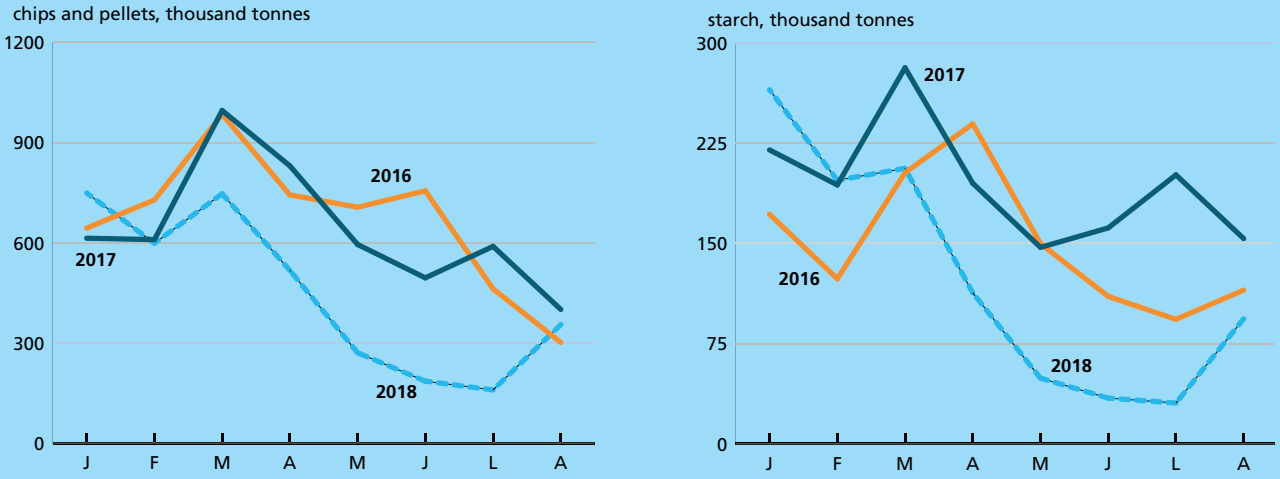
Many countries in the region, including several Least Developed Countries (LDCs), have invested heavily in cultivating cassava, gearing their sectors towards satisfying regional demand in the lucrative Chinese market. However, demand for cassava in China is almost entirely shaped by domestic policies for grains, especially maize, which constitutes cassava's chief rival. Changes in policy and public intervention, often unannounced, especially in the country's large stockpiles of maize, are having a profound influence on cassava trade, which is currently expected to fall to a seven-year low in 2018.

**Figure 1. World cassava trade**




Trade in chips and pellets is expected to account for the brunt of the contraction in 2018. Figure 2 shows the extent of the slump in demand from China, where cumulative imports of chips and pellets from January to August were down 30 percent from 2017 levels, while cumulative flour/starch imports were down 36 percent.

**Figure 2. China's montly imports of cassava**




### How China's maize sector and policy interventions influence demand for cassava and other substitutes

Over the period 2010-2015, maize production in China increased at an average of 5 percent per annum, due mainly to very generous minimum support price (MSP) regimes. High MSP levels were largely responsible for raising domestic maize prices well above international benchmark quotations, instigating substantial inflows of maize, cassava and other maize substitutes to meet robust domestic demand.

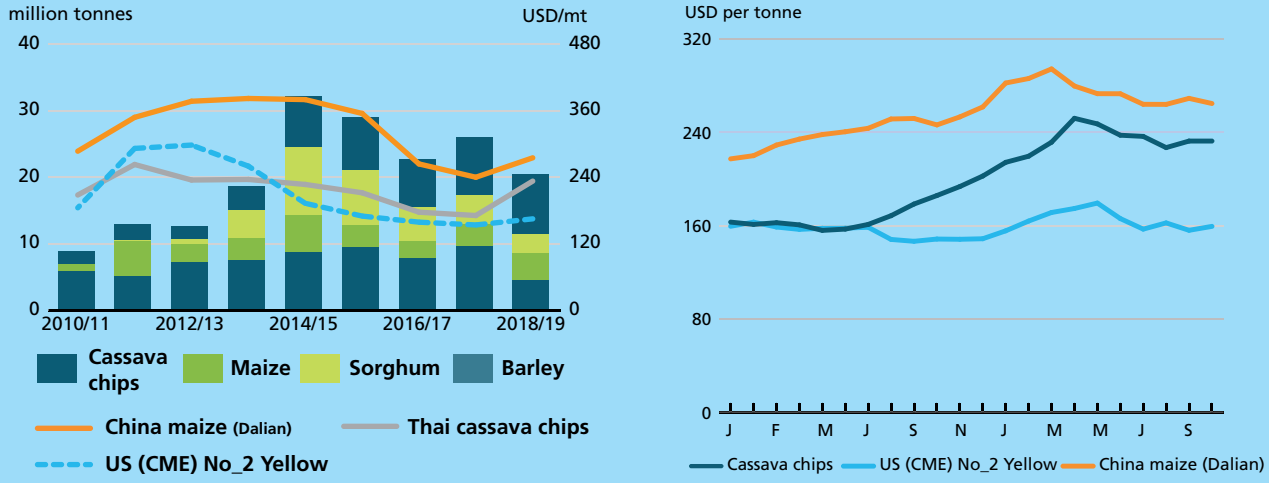
Table 1 and Figure 3 show how trade, policies and prices have evolved between 2010 and 2018. Over the MSP period, imports of both maize and substitutes climbed to all-time highs. Imported sorghum is a case in point, rising from a negligible 4 000 tonnes in 2010 to a record 10 million tonnes in 2014/15. Similarly, China's regional purchases of cassava chips had almost doubled by 2015/16

**Table 1. Maize and maize substitutes: policy, prices and imports (2010-2018) influence demand for cassava and other substitutes**

| | China's MSP for maize | China's area subsidy for maize | China maize (Dalian) | US (CME) No 2 Yellow | Thai cassava chips | Cassava chips | Maize | Sorghum | Barley |
|---|---|---|---|---|---|---|---|---|---|
| | *USD/mt* | *USD/ha* | *USD/mt* | | | *Imports (000 mt)* | | | |
| **2010/11** | 218 | - | 287 | 185 | 208 | 5 763 | 979 | 4 | 2 013 |
| **2011/12** | 272 | - | 348 | 292 | 263 | 5 026 | 5 230 | 84 | 2 454 |
| **2012/13** | 341 | - | 377 | 298 | 235 | 7 138 | 2 702 | 630 | 2 004 |
| **2013/14** | 365 | - | 382 | 260 | 236 | 7 388 | 3 277 | 4 160 | 3 613 |
| **2014/15** | 362 | - | 380 | 193 | 227 | 8 651 | 5 516 | 10 162 | 7 699 |
| **2015/16** | 317 | - | 355 | 170 | 212 | 10 533 | 3 174 | 8 284 | 8 050 |
| **2016/17** | - | 347 | 264 | 159 | 177 | 8 725 | 2 463 | 5 209 | 7 191 |
| **2017/18** | - | 296 | 240 | 154 | 171 | 8 923 | 3 300 | 4 300 | 8 780 |
| **2018/19** | - | 229 | 275 | 165 | 233 | 4 350 | 4 000 | 3 000 | 9 000 |

* Quotations are the average over Jan-Oct. Import volumes are estimated on the basis of the pace in trade as well as policy

**Figure 3. Maize and maize substitutes: policy, prices and imports (2010-2018) influence demand for cassava and other substitutes-a visual synthesis**




However, under China's 13th Five Year Plan (FYP) launched in 2016, maize was no longer targeted for self-sufficiency under the primary objective of improving food security. The Government proposed reducing maize production and increasing soybean production through adjustments in area under cultivation, entailing a 4.67 million hectare (ha), or 12.4 percent reduction in maize plantings. This was to be achieved by steadily reducing maize area subsidies. In 2018, these had been lowered by more than one-third since the inception of the 13th FYP, the 2018/19 maize area had already receded by close to 5 percent from 2016/17 levels. Despite success in cutting the area under maize cultivation, prospective declines in production appear to have been easily accommodated by rapid growth in productivity, with yields reaching a historic high in 2018/19. Favourable weather was responsible for a large part of increased yields, but so too were the Agricultural Modernization Guidelines of the 13th FYP, which, ***inter alia***, called

for improved irrigation systems and better seeds. Production in the 2018/19 season is forecast to fractionally rise from 2017, just 3.5 percent lower than the level of the final year of the MSP regime, in 2015/16. High production levels of maize, but also high domestic prices relative to international levels, have kept stock levels well above the normal requirements.

### Decomposing changes in maize production[1]

A decomposition of changes in production between the longer period 2010-2018 and the two different support regimes, MSP – 2010-2015 and area payments 2016-2018 – is shown in the table below. Over 2010-2018, China's maize output rose by more than 22 percent, with yield growth mostly responsible for the production increase. Looking at the two support regimes, the price support period 2010-2015 saw maize production increase by 27 percent. On this occasion, area expansion was by far the most influential factor in the output increase. However, during 2016-2018, maize production fell by 1 percent. The negative sign on the yield coefficient should not be interpreted as being responsible for the output contraction, but shows that yield growth had an important role in offsetting the effects of reduced plantings.

| | Production change | Area | Yield | Interaction |
|---|---|---|---|---|
| **2010-2018** | 22.2% | 34.7% | 60.6% | 4.7% |
| **2010-2015** | 26.7% | 64.7% | 30.0% | 5.2% |
| **2016-2018** | -1.4% | 345.9% | -258.3% | 12.4% |

For any given season, supplies of a commodity are not just determined by its production and trade, but also by carryover stocks. Production outcomes can be gauged through surveys and/or remote sensing, while trade flows are recorded at customs. On the other hand, carryover stocks are unobserved and, at best, may be derived from a supply-utilization account or balance sheet for the commodity. Assuming that all elements of the balance are known, including levels of utilization, carryover stocks can be measured as the residual to the balance sheet. However, the reality is that many elements are unknown, and the residual will, by implication, accumulate the measurement errors of all the unknowns. This 'reality' is highly relevant when compiling balance sheets for China's cereal commodities, including maize, and is reflected in the divergent estimates published by different sources.

Taking the most recent year, the joint FAO-AMIS (Agricultural Market Information System) database puts China's maize stocks-to-use ratio in the region of 50 percent. This ratio, if accurate, would be on the high side, lending to the sentiment of possible inventory overhang and hence fueling uncertainty. While stock estimates across sources may differ significantly, the direction of stock changes does not, and shows consistency with the Government's policy of auctioning maize reserves.

### Irreversible effects?

Several more years of 'adjustment' in China's maize sector are foreseen. The immediate threat to exports of cassava to China concerns the size of the country's maize stockpiles and the continuing policy of auctioning off large quantities, thus displacing demand for maize substitutes. As China moves to a precision agriculture paradigm, continued yield growth that could offset targeted area cuts constitutes yet another area of concern for cassava imports.

[1] The change in production between two time periods can be decomposed into effects attributed to area change, effects attributed to yield changes, and the combination or interaction of these two factors:

$$\Delta Q = A1Y1 - A0Y0 = A0(Y1-Y0) + Y0(A1-A0) + (Y1-Y0)(A1-A0)$$
$$= \text{Area effect} + \text{yield effect} + \text{interaction effect}$$

Where Q is the quantity of maize produced, A and Y represent area (ha) and yield (kg/mt), respectively, and the subscripts 0 and 1 correspond to the beginning and end period of comparison, respectively.

Of the few countries that supply cassava to China, three are severely economically disadvantaged, holding LDC status – Viet Nam, Cambodia and the Lao People's Democratic Republic. Figure 4 shows the rapid expansion of cassava cultivation in the three LDCs, and cassava area evolution in Thailand, as well as China. For example, Cambodia had a negligible cassava sector as recently as 2005, but by 2016 the country's cassava area had reached close to 400,000 ha. Similarly, in just seven years, the cassava area in the Lao People's Democratic Republic had increased from an insignificant level to almost 100 000 ha in 2016. Meanwhile, in Viet Nam, the area under cassava increased almost threefold between 2000 and 2016, to a level of 600 000 ha.

The rapid rise in cassava area has almost entirely been driven by the prospect of supplying lucrative markets in China. The expansion in land used for cassava cultivation has often entailed wide-scale deforestation, encroaching on primary forests. Consequently, the near 1.1 million ha expansion of cassava area in the three LDCs has more than likely come at a considerable environmental cost, notwithstanding the loss of biodiversity.

These factors aside, the prospect of a negative income impact on small-scale farmers who dominate cassava cultivation in these LDCs is a major concern. With an average holding of 4 ha, more than 250 000 farmers are estimated to be engaged in cassava cultivation. By virtue of their LDC status, these farmers have little or no recourse to safeguard mechanisms such as safety nets. While the likelihood of establishing markets in the short term beyond the monopsony of China remains bleak, a quick shift to other remunerative crops to maintain their livelihoods could be the only alternative for cassava farmers, albeit not an easy one.

**Figure 4. Cassava area expansion in Southeast Asia**

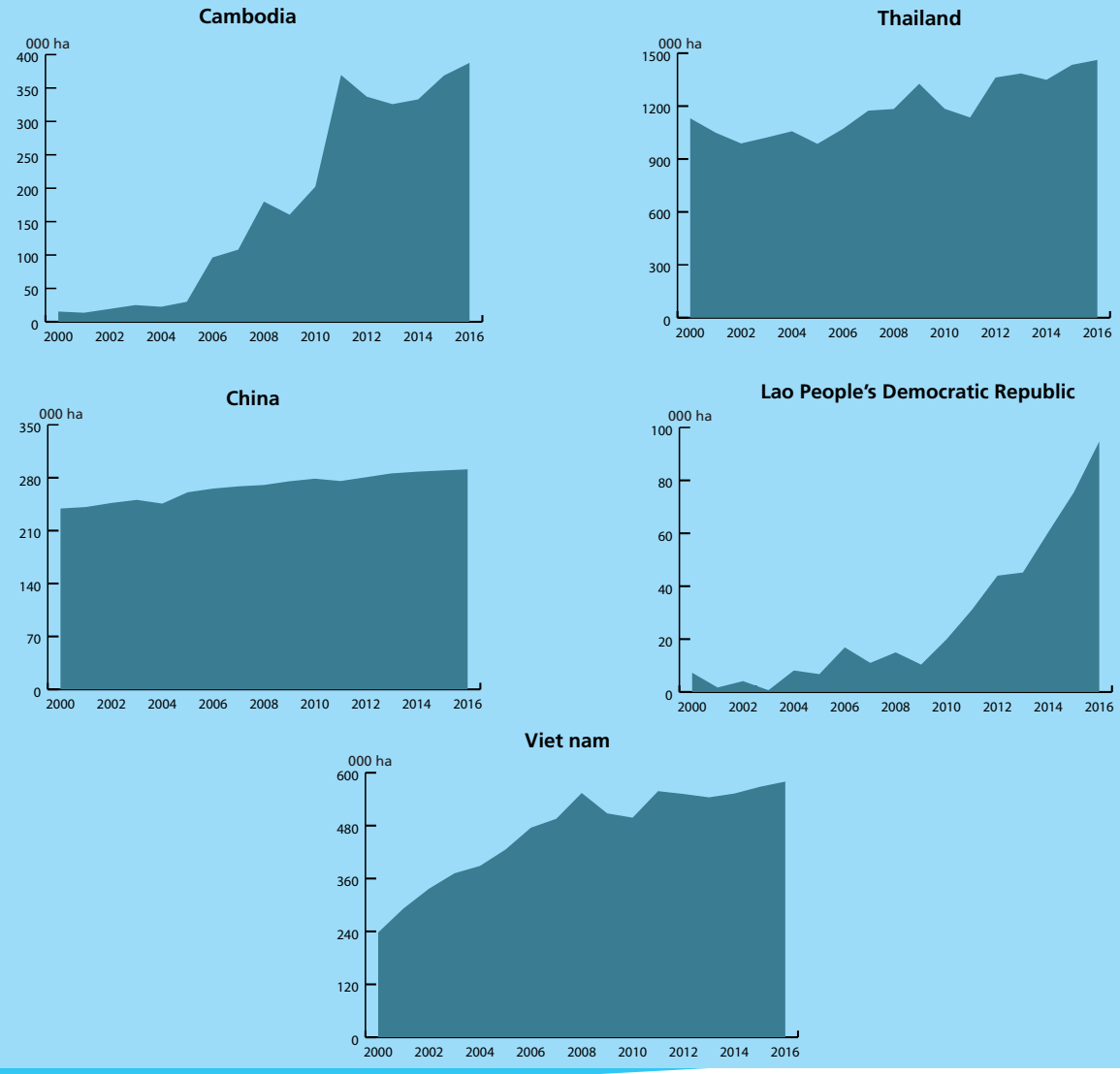


**Table 2. World cassava production**

| | 2015 | 2016 | 2017 estim. | 2018 f'cast |
|---|---|---|---|---|
| | | (000 tonnes) | | % |
| **World** | **277 072** | **276 510** | **275 655** | **277 070** |
| **Africa** | **152 822** | **155 607** | **157 453** | **160 730** |
| Nigeria | 57 643 | 57 855 | 55 069 | 56 000 |
| Congo, Democratic Republic of | 15 300 | 15 200 | 14 950 | 15 200 |
| Ghana | 17 213 | 17 798 | 19 138 | 19 441 |
| Angola | 7 727 | 7 788 | 7 740 | 7 724 |
| Mozambique | 8 103 | 9 100 | 10 920 | 12 198 |
| Tanzania, United Republic of | 5 886 | 5 575 | 5 300 | 5 400 |
| Uganda | 2 898 | 2 885 | 2 950 | 2 980 |
| Malawi | 4 997 | 5 089 | 5 100 | 5 030 |
| Benin | 3 421 | 4 096 | 4 079 | 3 725 |
| Cameroon | 5 000 | 5 170 | 5 346 | 5 400 |
| Rwanda | 3 000 | 3 179 | 3 427 | 3 701 |
| Madagascar | 2 677 | 2 629 | 2 523 | 2 650 |
| Côte d'Ivoire | 5 087 | 4 548 | 5 367 | 5 370 |
| Other Africa | 13 870 | 14 693 | 15 545 | 15 911 |
| **Latin America** | **32 309** | **30 279** | **29 915** | **30 593** |
| Brazil | 23 060 | 21 080 | 20 610 | 20 940 |
| Paraguay | 3 000 | 3 167 | 3 167 | 3 250 |
| Colombia | 2 092 | 2 117 | 2 125 | 2 250 |
| Other Latin America | 4 157 | 3 915 | 4 013 | 4 153 |
| **Asia** | **91 689** | **90 383** | **88 051** | **85 511** |
| Thailand | 32 358 | 31 161 | 30 495 | 27 240 |
| Indonesia | 21 801 | 20 261 | 19 046 | 21 000 |
| Viet Nam | 10 740 | 10 925 | 11 263 | 10 500 |
| India | 4 373 | 4 344 | 4 171 | 4 073 |
| China, mainland | 4 500 | 4 548 | 4 550 | 4 560 |
| Cambodia | 11 944 | 13 222 | 13 387 | 13 000 |
| Philippines | 2 711 | 2 733 | 2 792 | 2 652 |
| Other Asia | 3 261 | 3 190 | 2 348 | 2 486 |
| **Oceania** | **252** | **241** | **236** | **236** |

**Democratic Republic of the Congo**, the subregion's largest producer, cassava output is expected to rise marginally from the previous year, but at 15.2 million tonnes, this would be some 10 percent below the record of 2014.

In Asia, industrial demand for cassava in the ethanol, starch and animal feed sectors, and their lucrative export markets, especially China, have underpinned strong expansion of the crop in the past decade, particularly in Southeast Asia. However, in 2017 cassava production fell throughout the continent, and is forecast to contract further in 2018 by a similar margin of around 3 percent. Much of the contraction is due to a reduction in plantings of 10 percent from the previous year in **Thailand**, Asia's largest producer, following very low root prices at the beginning of the season and a lack of foreseen demand in China. Consequently, Thailand's cassava production in 2018 is expected to reach a multi-year low of 27 million tonnes. For similar reasons, a cessation of output growth in **Viet Nam** and **Cambodia**, the region's other prominent cassava exporters, is also expected in 2018. Cassava output in **China** is forecast to rise fractionally to around 4.6 million tonnes in 2018, on account of good weather. The likelihood of pronounced growth is minimal, as the country habitually sources its cassava needs in processed form (mainly dry chips and starch/flour) from neighbouring exporters, where it has engaged in efforts to secure long-term supplies.

By contrast, in **Indonesia** and the **Philippines**, cassava is more important for food security than for industry. Dietary diversification programmes in the two countries have targeted cassava as a substitute for rice, which both countries import heavily. In Indonesia, remunerative root prices at the start of the season spurred plantings to a new record at the expense of maize. The country is expected to harvest around 21 million tonnes of cassava in 2018 – 10 percent more than last year, but some 3 million tonnes short of the levels registered at the beginning of the decade. In the Philippines, based on the pace of the harvest for the first six months of the year, cassava output is expected to reach 2.7 million tonnes in 2018, some 5 percent down from the level of 2017, due to unattractive root prices and disruptive weather.

In South Asia, cassava plays a role in food security in **India**, particularly in the major growing states of Kerala (consumption of fresh roots) and Tamil Nadu (starch for food manufacturing). Combined, the two states account for 98 percent of national output. With total production of around 4.1 million tonnes, officials foresee cassava output marginally down from last year, and producing less than half the record crop that was harvested in 2014. Cassava output is generally on a downward trajectory in India, as farmers are opting to cultivate more remunerative crops, such as rubber, black pepper and coffee.

The cassava production outlook for Latin America and the Caribbean points to a recovery in 2018. Positive outcomes are foreseen in the region's largest producing countries, including **Brazil**, the dominant producer, where adverse weather conditions were not sufficient to offset greater plantings spurred by higher root prices. **Peru**, **Paraguay** and **Columbia** also have buoyant cassava harvest prospects, as a result of expansion in areas under cultivation, following more remunerative producer prices. Policy measures to promote greater commercialization are likely to be supportive to outcomes in the latter two countries. The positive outlook for South America overshadows poor prospects in many cassava-producing countries in Central America and the Caribbean,

**Table 3. World exports of cassava (product weight of chips and pellets)**

| | 2014 | 2015 | 2016 | 2017 | 2018* |
|---|---|---|---|---|---|
| | *000 tonnes* | | | | |
| **Total** | **19 948** | **22 061** | **21 765** | **21 805** | **13 874** |
| **Flour and Starch** | **9 068** | **9 040** | **9 749** | **9 576** | **7 354** |
| Thailand | 7 919 | 7 657 | 8 446 | 8 290 | 6 400 |
| Viet Nam | 788 | 1 011 | 1 055 | 1 048 | 800 |
| Cambodia | 29 | 56 | 64 | 146 | 80 |
| Others | 333 | 316 | 183 | 93 | 74 |
| **Chips and Pellets** | **10 880** | **13 021** | **12 016** | **12 229** | **6 520** |
| Thailand | 6 927 | 7 458 | 6 411 | 6 661 | 3 900 |
| Viet Nam | 2 995 | 3 607 | 3 241 | 3 200 | 1 200 |
| Cambodia | 808 | 1 805 | 2 182 | 2 230 | 1 300 |
| Others | 150 | 150 | 181 | 137 | 120 |

*Forecast

**Table 4. World imports of cassava (product weight of chips and pellets)**

| | 2014 | 2015 | 2016 | 2017 | 2018* |
|---|---|---|---|---|---|
| | *000 tonnes* | | | | |
| **Total** | **17 380** | **21 444** | **21 260** | **22 081** | **13 550** |
| **Flour and Starch** | **7 554** | **8 497** | **9 375** | **9 577** | **7 030** |
| Japan | 916 | 851 | 884 | 980 | 900 |
| China | 3 813 | 4 205 | 4 922 | 5 535 | 4 000 |
| Indonesia | 888 | 1 256 | 1 339 | 752 | 730 |
| Malaysia | 525 | 586 | 580 | 622 | 600 |
| Others | 1 412 | 1 600 | 1 650 | 1 688 | 800 |
| **Chips and Pellets** | **9 826** | **12 947** | **11 885** | **12 504** | **6 520** |
| China | 8 651 | 10 533 | 8 725 | 8 923 | 4 350 |
| Thailand | 650 | 1 704 | 2 537 | 2 890 | 1 800 |
| South Korea | 517 | 310 | 323 | 262 | 220 |
| Others | 9 | 400 | 300 | 429 | 150 |

*Forecast

where drought has afflicted yields.

## TRADE

### International cassava trade in 2018 set to fall to a seven-year low

At just under 14 million tonnes (chip and pellet weight equivalent), the volume of world trade in cassava in 2018 is expected to fall by 36 percent from last year, and to a level not seen since 2011. At the turn of the last decade, cassava trade had been expanding at an average rate of 7 percent a year, reflecting buoyant demand in China's energy, feed and industrial sectors, which was mainly met by Thailand and to a lesser extent, Viet Nam and Cambodia. The importance of China and Thailand in shaping international trade is noteworthy, with China typically accounting for more than two-thirds of world imports, and Thailand for as much as 80 percent of world exports.

Of the two principally traded products (chips/pellets and flour/starch), flows of chips/pellets are set for the biggest decline, falling by 47 percent from 2017, while cassava/starch transactions are expected to fall by 23 percent from last year's level. Not since the decimation of Thailand's cassava crop by the pink hibiscus mealy bug in 2010 and 2011 has total cassava trade fallen so low. On this occasion, however, policy is culpable. China continues to lower its excessive stockpiles of maize, through periodic auctions managed by the state grain reserves body. The sell-off of 80 million tonnes of maize so far in 2018 has led to a slump in demand for maize substitutes, notably cassava chips/pellets, to the extent that China is likely to reduce its purchases by 51 percent from last year, to a level of 4.35 million tonnes in 2018. Purchases by the other notable buyer of this cassava product – Thailand – also look set to fall, by more than 1 million tonnes from 2017. Chip/pellet inflows into Thailand are from the bordering countries of Viet Nam and Cambodia, and are expected to be re-exported to China.

As for cassava flour/starch, the hike in benchmark quotations of this product has accorded maize starch improved competitiveness, lowering international demand for its cassava counterpart. Among the major buyers of cassava flour/starch, China is predicted to import 4 million tonnes in 2018, a year-on-year decline of 28 percent, while imports by Japan, Indonesia and Malaysia are expected to fall slightly.

Reflecting the state of import demand, shipments of cassava products by the three major exporters, Thailand, Viet Nam and Cambodia, are considerably down in 2018. Concerning chips/pellets, Thailand's deliveries are expected to decrease by 41 percent to 3.9 million tonnes. In percentage terms, Viet Nam is anticipated to experience the largest year-on-year decline – 63 percent to 1.2 million tonnes. A sizeable decrease in Cambodia's sales is also foreseen – 42 percent to 1.3 million tonnes. As for flour/starch shipments, annual falls of 23 percent are forecast for Thailand and 24 percent for Viet Nam, to volumes of 6.4 million tonnes and 0.8 million tonnes, respectively.

Prospects for an international cassava market expanding beyond Asia remain largely elusive, with no sign of re-emerging demand for substantial cassava volumes in Europe (which once imported pellets in large quantities for its feed sectors), or of significant exports from the major producing regions of Africa or Latin America and the Caribbean. This is in spite of Ghana and Nigeria having been granted a duty

free quota to export 4 million tonnes of cassava chips to China on an annual basis.

## UTILIZATION

### Lower availabilities drive cassava utilization down in 2018

Cassava is utilized in a multitude of ways. Food constitutes the major end use of the crop, but local and regional markets for animal feed, industrial use and energy feature prominently. Importantly, the geography of cassava determines the form of utilization, and consequently the stimuli determining demand. However, assessing the levels of uptake by different markets is virtually impossible, since little concerted effort is made at country level to assess utilization. On the other hand, due to the highly perishable nature of cassava roots once harvested, they are utilized almost entirely within the crop year, making market assessments somewhat easier.

Cassava is mainly used as a **foodstuff.** As a staple, the root crop has little importance in the global diet (typically around 20 kg per capita per year in fresh root equivalent), due to its perishability and bulkiness, which precludes its widespread trade. However, cassava has major dietary significance in the tropical areas where it is grown. This is particularly evident in sub-Saharan Africa, where cassava is an important dietary staple in root, but also in processed form. Indeed, fermented and non-fermented granulated and flour-based cassava products have become established forms of consuming the staple in the region, and many countries have launched value-addition initiatives in the cassava food chain, promoting the rural economy and helping to meet dietary needs.

In a similar vein, measures to promote added-value cassava at the expense of imported staples are also active. Nigeria, for example, continues to encourage the processing of cassava into flour as a substitute for wheat in bread, in an effort to help the country curb its high dependency on imported wheat. The policy objective to halve wheat imports by 2018 requires the mandatory blending of wheat flour with cassava flour. While the policy should act as a growth stimulus for Nigeria's cassava production and processing sectors, domestic cassava prices are reported to have increased significantly on the back of scarcity of the raw material, and the country's wheat imports are still expected to reach a record in 2018. Pressure in Ghana for policy-makers to introduce a mandatory 10 percent cassava-wheat flour blending ratio is gathering momentum, and is deemed feasible, given the low quantities of wheat that the country currently imports.

Since non-food markets for cassava are of little significance in sub-Saharan Africa, production levels effectively translate into levels of food availability in the region. As a result, per capita food availability is estimated at approximately 86 kg in fresh root equivalent in 2018, down 0.5 percent from last year. The prospective fall in per capita food availability in 2018 stems from robust population growth exceeding production growth in the subregion.

Cassava also features prominently in diets in Latin America and the Caribbean, especially in Brazil, where the blending of cassava flour with wheat flour is mandatory. Likewise, in South Asia (India) and Southeast Asia (Indonesia and the Philippines), cassava is widely consumed as food. However, since feed markets for cassava are also well established in these regions, it is difficult to assess precise changes in utilization for direct human consumption.

The extent of demand for cassava as a raw material in the energy sector, particularly in East and Southeast Asia, is uncertain. Generally, rising gasoline prices in Southeast Asia has placed ethanol at a competitive advantage, in spite of mandatory blending. In Thailand for example, where cassava is a common energy feedstock, E85 (85 percent fuel ethanol and 15 percent gasoline) competed very favourably with regular gasoline in 2018. However, production shortages of the raw material may suggest that other feedstocks, especially those derived from sugar cane, could be utilized more than cassava. On the other hand, lack of international demand for cassava could imply that the feedstock is diverted onto the Thai domestic market, thus negating any potential shortfall.

In China, the Implementation Plan Regarding the Expansion of Ethanol Production and Promotion for Transportation Fuel, launched in September 2017, targets nationwide use of E10 (10 percent fuel ethanol and 90 percent gasoline) in transport fuel by 2020 (utilizing 10 million metric tons of ethanol), citing the "imperative to reduce excessive maize stocks and reduce air pollution". While the Plan also outlined an acceleration in the construction of cassava-based fuel ethanol facilities, it is unlikely that cassava-ethanol utilization will increase in 2018, given that China typically sources much of its cassava for ethanol production from the regional market, and inflows are expected to be substantially down during this year.

Based on analysis in countries that have established markets for cassava feedstuffs, the global use of cassava as an animal **feed** in the form of chips and pellets could see a small rise in 2018, particularly in the larger producing countries of Latin America that are not expected to undergo a contraction in production. The lack of import demand for cassava chips and pellets in China points to a contraction in cassava feed use, suggesting that Thailand and Viet Nam could divert international supplies hitherto destined for China, to their own feed sectors.

# DEPRESSED INTERNATIONAL COFFEE PRICES: INSIGHTS INTO THE NATURE OF THE PRICE DECLINE

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## INTRODUCTION

Coffee is the most widely traded tropical product, with an estimated 25 million smallholder producers globally accounting for 80 percent of world production. A characteristic of the coffee market is the fact that production originates in developing countries, particularly the least developed countries. For many of these countries, coffee accounts for a sizeable share of export earnings and can contribute to the achievement of the Sustainable Development Goals (SDGs) by generating income, creating rural employment and alleviating poverty. Coffee export earnings can also be used to purchase food commodities from the international markets.

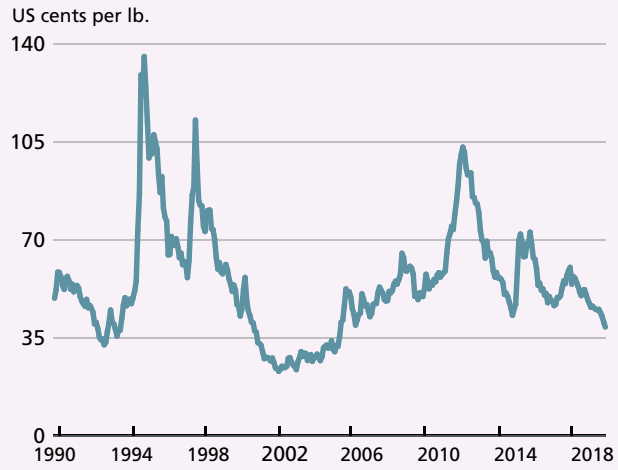
However, current depressed international coffee prices have rekindled memories of the coffee crisis of 2000-2004, which saw coffee price quotations hitting all-time lows. This time, although prices have not yet reached the levels that prevailed during the early 2000s, the protracted nature of the price decline is raising concerns among stakeholders. Apart from short-lived spikes in 2014 and 2016, nominal coffee prices have trended steadily downward since their peak of April 2011 (Figure 1). So far in 2018, world coffee prices, as measured by the International Coffee Organization (ICO) composite price index, are down about 14 percent from last year and have lost close to half their value since 2011. At this rate, they will likely end the year hovering around the lowest annual average since 2007. In real terms, prices are less than 45 percent of their 2011 level, and for many producers, they are lower than production costs. Clearly, the substantial drop in international coffee prices threatens the livelihood of millions of smallholder producers and risks reversing any gains made in living standards. This note examines the nature, origins and implications of the precipitous fall in world coffee prices, highlighting possible policy actions.

## THE NATURE OF THE PRICE DECLINE

A number of reasons have been offered to explain the steady decline in world coffee prices. These include the rapid expansion of production capacity in the main producing countries, slow growth of global consumption especially in developed countries, technological advances in coffee processing, excess market power by the major coffee roasters, lack of diversification alternatives for smallholder producers, and the depreciation of the Brazilian real against the US dollar.

The fact is that weak coffee prices are largely the result of supply generally exceeding demand (Figure 2). In 2018, world coffee production is estimated to reach a record level of 170 million bags, driven by bumper crops in Brazil and Viet Nam, respectively the largest and second largest coffee producers in the world. As a result, world inventories are expected to stand at an all-time high. Over the past 10 years, world coffee production has consistently exceeded consumption by an average of 6 million bags, as global coffee intake has expanded at the lower rate of 2 percent per year – insufficient to keep pace with production growth. These frequent production surpluses have exerted significant downward pressure on world prices, further exacerbated by the inherent economic and physical characteristics of the coffee market. The demand for coffee is inelastic, implying that substantial changes in consumption can be expected only when there is a considerable change in prices. Similarly, supply is also inelastic due to the perennial nature of the crop (with supply elasticity estimated at 0.25). Investing in coffee production requires a long-term commitment, as coffee bears fruits only after 3 to 5 years and achieves economic viability a few years later. Short-term strategies for coping with low prices can include taking less care of the trees and reducing harvesting, but these actions create new

**Figure 1. World coffee prices in real terms, ICO composite price**




Source: International Coffee Organization (ICO)

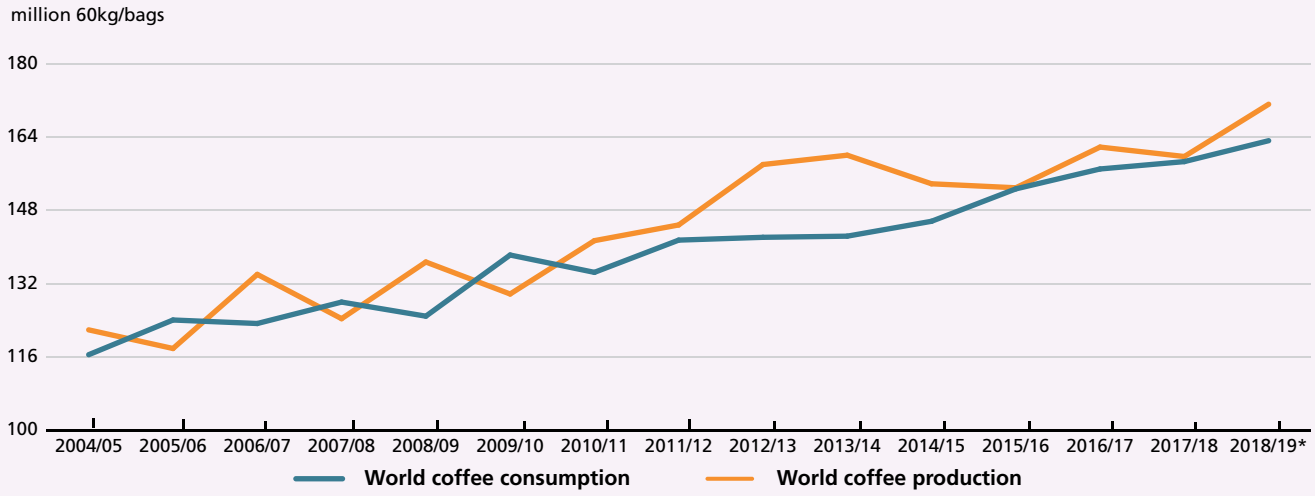
challenges by increasing unemployment and encouraging migration out of rural areas. In some instances, supply response to falling international prices is muted by policies in the producing countries, where governments provide large subsidies for input use or set up minimum prices for coffee beans. Frequent currency devaluation also distorts price signals in domestic markets. Therefore, the inelastic nature of demand and supply means that declines in coffee prices tend to be sharp and persistent.

The impact of falling prices on producing countries hinges on their degree of dependency on coffee exports. While many countries have reduced export dependency over the years (e.g. Brazil from about 60 percent in the 1960s to 7 percent in 2016), others continue to rely on coffee export earnings for socio-economic development. For example, export earnings from coffee account for 68 percent of agricultural exports in Burundi, 41.5 percent in Honduras, 39 percent in Uganda, 36 percent Colombia, 34 percent in Rwanda and 29 percent in Ethiopia. High dependency means that the impact of persistently low prices can have wide-ranging and lasting impacts on rural communities, through significant multiplier effects on employment, income and the various upstream and downstream sectors associated with the coffee value chain. For smallholders, falling revenues often lead to coping strategies that involve cutting expenditure on education, health, and ultimately the number of meals per day and the quality of food consumed. During the last coffee crisis, Colombia documented an increase in the incidence of malnutrition, where the number of households reportedly living below the poverty line grew from 54 percent to 61 percent between 1997 and 2000.

In an effort to alleviate the effects of the current crisis, several countries have taken measures targeting the coffee subsector. For example, Colombia has set up a fund of up to USD 34 million to help coffee farmers deal with the declining prices, while Kenya is implementing a series of legislative actions, including a USD 15 million subsidy programme, to support the affected farmers. Perhaps the most emblematic action so far is a letter by coffee growers from more than 30 countries addressed in October 2018 to chief executives in the coffee industry, asking for a coordinated action to mitigate the impact of depressed coffee prices.

Diminishing export earnings also have broad-based macroeconomic consequences, which often translate into a

**Figure 2. World coffee production and consumption**




* Production and consumption for 2018-2019 are preliminary forecasts

Source: FAS/USDA

reduction in governments' income tax receipts and foreign currency earnings. For many poor food-importing countries, foreign currency earnings help to sustain current account deficits without having to raise debt to unsustainable levels. Research in this area shows that the linkages between fiscal position and commodity export earnings remain quite strong in several contexts, particularly in Africa. Between 2014 and 2016, coffee export earnings fell by 30 percent in Ethiopia and 25 percent in Burundi, while they were down by 24 percent and 10 percent in Uganda and Honduras, respectively. The impact of the price falls on smallholder producers depends on the extent and speed of international price transmission to domestic markets. As is the case in other contexts, the transmission is asymmetric, in the sense that declines in international prices transmit to farmers at a higher magnitude and a much faster speed than they transmit to final consumers. This is generally attributed to a smaller share of growers in the final retail price, due to a number of factors that include relatively higher costs of processing, transport and services, long value chains, technological progress, and a high degree of market concentration among roasters and coffee retailers[1]. This means that demand does not generally respond to declines in international coffee prices, because price declines are only partially – if at all – transmitted to the retail level. With inherently inelastic demand for coffee, coupled with price rigidity at the retail level, supply shocks can have drastic effects on coffee prices.

## DECOMPOSING VARIATIONS IN INTERNATIONAL COFFEE PRICES

As discussed in the previous section, the economic and physical nature of the coffee market, characterized by inelastic supply and demand, renders prices subject to extreme volatility. To assess the role of market fundamentals in influencing price fluctuations, we use a structural vector autoregression (SVAR) model to estimate the effects of four main factors on world coffee price fluctuations. These factors, identified based on economic theory, are: 1) global economic activity to capture changes in global demand for commodities; 2) crude oil prices as a proxy for speculative activity; 3) the spread between distant and nearby futures coffee prices to reflect the effect of precautionary demand (based on the competitive storage model); and 4) nearby futures coffee prices to capture changes in stocks. The selected set of variables helps to identify shocks specific to the coffee market (i.e. precautionary demand for coffee and changes in stocks) from those related to external factors (i.e. global economic activity and market speculation). The reason behind the use of crude oil prices as proxy for speculative activity relies on research findings which show that co-movement between crude oil and agricultural commodity prices has increased, reflecting financial speculation through index trading[2]. On the other hand, the identification of shocks through precautionary demand for coffee is carried out using the spread between distant and nearby futures contracts. This follows the competitive storage model, which specifies that when the futures price is greater than the spot price net of storage costs, precautionary demand for inventory should rise.

In addition to the above factors, the estimated model includes deterministic variables that account for periods of frost affecting coffee producing regions in Brazil, the world's largest coffee producer, and technological improvements over the sample period[3]. We then use the model to trace the effect of a shock to a variable on the price of coffee. Results show that the portion of observed changes in coffee prices associated with speculation activity is relatively small across the sample period. Likewise, the impact of changes in global demand for commodities on coffee prices is found to be relatively limited and fails to explain the observed price spikes. On the other hand, the analysis suggests that the bulk of price movements is caused by shocks specific to the coffee market itself. Both coffee-market-specific variables, namely precautionary demand and changes in stocks, have marked effects on price fluctuations. In particular, changes in stocks display the largest variability and effects on price movements. For example, between 2011 and 2013, the portion of coffee prices responding to changes in stocks displays substantial variability, driven by significant negative shocks on the back of large production availabilities. A similar situation is observed for the period from 1998 to 2004, when coffee prices touched historical lows. For the period January-July 2018, the results indicate that both components linked with changes in stock levels and precautionary demand are responsible for price variations, reflecting the prevalence of a large global production surplus. Precautionary demand is influenced negatively, as low prices incentivize coffee stockholders to dispose of their holdings on the market. Occasionally, as was the case between 2002 and 2008, the component tracking changes in economic activity can have a relatively stronger influence on coffee prices, in

[1] Lewin, B., Giovannucci, D., Varangis, P., 2004. Coffee Markets: New Paradigms in Global Supply and Demand (SSRN Scholarly Paper No. ID 996111). Social Science Research Network, Rochester, NY.

[2] See Tang, K., and W. Xiong. 2012. Index Investment and the Financialization of Commodities. Financial Analysts Journal 68:54-74.

[3] The analysis covers the sample period from September 1998 to July 2018.

comparison with its overall effect over the entire period. Likewise, the effect of crude oil prices is limited, though its influence on coffee quotations is greater during 2007-2008. This may suggest some feedback effects from the financial sector. Overall, however, the empirical evidence seems to indicate a well-functioning market structure, to the extent that coffee price variations reflect, for the most part, market fundamentals of supply and demand conditions.

## WHAT CAN BE DONE TO ADDRESS RECURRENT IMBALANCES IN THE COFFEE MARKET?

Results from decomposing coffee price shocks illustrate that recurrent large production surpluses weigh negatively on prices. This, coupled with a long-term decline in real coffee prices due to technological improvements, means that smallholder producers have to face a tightening price-cost squeeze, which threatens their livelihood and food security. Clearly, the greatest impact on coffee prices would come from actions aimed at controlling production and/or stimulating demand. Over the years, the coffee industry has tried both strategies.

In 2000, in the midst of a coffee crisis, the Association of Coffee Producing Countries (ACPC) promoted a coffee export-retention scheme, where 20 percent of coffee exports would be withheld from the market. In the end, only a few countries actually retained any coffee, and the agreement fell apart. In a sense, this reflects the challenge of implementing producers-only agreements, as these require strong commitments and policing free-riders – those supplying outside the agreement. Other producers-only schemes, such as those covering cocoa and sugar, also fell short of creating and maintaining a price floor. These supply retention agreements were part of the International Commodity Agreements (ICAs) with 'economic clauses' that were designed in the 1970s in response to depressed tropical commodity prices, but were generally unsuccessful in meeting their original intent.

On the demand side, several generic promotional campaigns were launched by the industry to boost consumption, particularly among the youth. These initiatives often highlighted the potential health benefits of coffee intake. Plans were also implemented to raise product quality by removing coffee exports failing to meet specified minimum standards. Although these strategies achieved some limited success, they suffered from poor commitments due to the necessity of ensuring long-term financing and reconciling sometimes diverging interests among exporters.

Tackling the current state of low coffee prices will require some sort of coordinated international action. Yet, what is needed is not market intervention, but rather market cooperation – mostly cooperation among exporters, with the involvement of importers, to ensure that the global coffee market expands reasonably and protects the livelihood of millions of smallholder producers. Market cooperation means, for example, sharing the most accurate and reliable market intelligence, including information on the short- and medium-term outlook, as well as on production expansion plans. It also means developing and implementing global coordinated promotional activities that have the commitment of exporters and importers. Finally, creating value added coffee products at the origin could also alleviate exposure to volatile raw coffee prices. This hinges, however, on the willingness of the major importing countries to reduce tariffs on processed coffee products, which remain relatively constraining in many cases.

# DEVELOPMENTS IN BANANAS AND MAJOR TROPICAL FRUITS

This feature represents a follow-up to the analysis on recent market developments in bananas and major tropical fruits published in the June and November 2017 editions of Food Outlook, respectively.[1]

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## AMPLE SUPPLIES BOOST TRADE NOTABLY AND WEIGH ON PRICES

On the back of expanding supplies, global export volumes of bananas and tropical fruits rose by 18 percent on average during the first six months of 2018, compared to the same period in 2017. World shipments of bananas, pineapples and avocados each posted a double-digit growth rate from last year, while mango exports expanded by 7 percent. Exports of papayas, disrupted by heavy rains in Mexico – the largest global supplier – contracted by 18 percent compared to 2017. Growth in supplies of all the commodities, except papaya, was generally on account of favourable weather and growing conditions in the key producing regions, as well as increases in harvested areas.

The ample supplies of bananas, pineapples and avocados for export have resulted in significant price drops in 2018 in the key import markets of the European Union and the United States. The early start of warm weather conditions in Europe resulted in strong competition from temperate fruits produced in the EU, and significantly deterred import demand for bananas and tropical fruits from March/April 2018 onwards. Similarly, growth in demand for bananas and major tropical fruits in the US has been slower than the fast growth in supplies.

If the export supply conditions observed in the first half of 2018 continue, global aggregate shipments of bananas and the four major tropical fruits combined could reach close to 30 million tonnes by the end of the year. The demand for exotic fruits, such as baby pineapples and mangoes, typically increases sharply in the pre-Christmas season in both the US and the EU, giving prospects for a halt to the price declines.

Estimates indicate that global production of bananas and major tropical fruits combined could reach 235 million tonnes in 2018, which would represent a 2-percent increase from the previous year. Typically, about 10 to 15 percent of the global production of bananas and major tropical fruits are traded, with the remainder of production consumed domestically.

**World exports: Bananas and major tropical fruits**

| | Jan-Jun 2017 *(tonnes)* | Jan-Jun 2018 *(tonnes)* | *2018 f'cast (tonnes)* | Percentage change (2) over (1) |
|---|---|---|---|---|
| | (1) | (2) | (Jan-Dec) | |
| Banana | 9 109 576 | 10 960 388 | 21 738 995 | +20 |
| Avocado | 1 013 559 | 1 233 998 | 1 983 876 | +22 |
| Mango | 980 707 | 1 048 966 | 1 865 619 | +7 |
| Pineapple | 1 542 979 | 1 803 520 | 3 352 227 | +17 |
| Papaya | 204 092 | 166 583 | 285 259 | -18 |
| **Total** | **12 850 913** | **15 213 456** | **29 192 619** | +18 |

## BANANAS

Global exports of bananas reached close to 11 million tonnes during the period January-June 2018, a 20 percent increase over 2017, pointing to a forecast of 21.7 million tonnes for the whole of 2018. The predicted expansion is primarily on account of strong supplies from Latin America. In Europe, the unexpected warm weather conditions in the first quarter of the year resulted in the early arrival of temperate summer fruits, which significantly affected demand for bananas throughout the EU.

[1] FAO Food Outlook June 2017 http://www.fao.org/3/a-i7343e.pdf
FAO Food Outlook November 2017 http://www.fao.org/3/a-I8080e.pdf

Indicative EU import unit values[2] of bananas closely reflect the overall market situation. Early in the year, a shortage in export supply resulted in unit values reaching a peak of USD 820 per tonne in February 2018. Meanwhile, abundant export supplies, coupled with declining demand in Europe, resulted in a significant drop during the summer months, with unit values reaching a trough of USD 685 in August 2018. A similar tendency was observed in the US.

## PINEAPPLES

Global trade in pineapples expanded by an estimated 17 percent in volume terms during the first half of 2018, suggesting total exports of 3.35 million tonnes in the current year. Export growth was mainly on account of a recovery from the weather-induced production shortage in Costa Rica, the largest supplier of pineapple globally. Compared to the first six months of 2017, Costa Rica's pineapple exports expanded by 40 percent in 2018, destined primarily to the US and the EU, which together accounted for approximately 45 percent of the country's total shipments.

Growth in the demand for pineapples in the key import markets of the US and the EU lagged behind that of supplies, resulting in a significant depressing effect on prices. While in the US the larger inflow of pineapples from Costa Rica outstripped demand, in the EU, strong competition from abundantly available temperate summer fruits further subdued demand for pineapples. Indicative EU import unit values of pineapples consequently declined from USD 875 per tonne in January 2018 to USD 690 per tonne in August 2018.

## MANGOES (MANGO, MANGOSTEEN AND GUAVA)

Global exports of mangoes increased by approximately 7 percent in the first half of 2018, to an estimated 1 million tonnes, suggesting that total exports in 2018 could reach 1.9 million tonnes. The two leading mango suppliers, Mexico and Peru, registered significant growth in exports, expanding their shipments by 9 percent and 39 percent, respectively. While Mexico ships approximately 85 percent of its produce to the US, Peru mainly caters for the European market.

Demand for mangoes remained strong in the two key import markets, the US and EU, supported by the fruit's unique flavour and its novelty compared with more common fruits such as bananas and pineapples. While indicative EU import unit values for mangoes have continued to display strong seasonal fluctuations, ample demand resulted in increases from USD 1 650 per tonne in January 2018 to USD 2 500 per tonne in August 2018.

## AVOCADOS

Global exports of avocados reached an estimated 1.2 million tonnes in the first half of 2018, a 22 percent increase over the same period of 2017, on account of ample production growth in Mexico, the largest supplier globally, as well as a significant expansion of supplies from emerging producers, namely Peru, South Africa and Kenya. The overall expansion points to exports likely reaching 2 million tonnes in 2018.

Mexico shipped about 75 percent of its produce to the US, while exports from all three emerging suppliers were primarily destined to the EU. Driven by rising consumer preferences, avocado has ranked as one of the most demanded tropical fruits in recent years, as reflected by its rising export earnings. Such ample market potential has stimulated investments in avocado production, leading to an expansion not only in established producing countries, but also in emerging production areas.

Following the weather-induced shortages in avocado supplies experienced during 2017, which sent prices soaring, indicative import unit values of avocados were strongly affected by the higher volumes of supply in 2018, and declined from a peak of USD 3 040 per tonne in February 2018 to USD 1 970 per tonne in August 2018.

## PAPAYAS

Global exports of papayas declined to an estimated 167 000 tonnes during the first half of 2018, down 18 percent compared to 2017, on account of adverse weather conditions in Mexico, the world's leading supplier. Based on this pace, papaya exports in 2018 could decline to 285 000 tonnes. Papaya supplies from Mexico are exclusively destined to the US market, where demand for the fruit is particularly strong during the summer months of the northern hemisphere. In light of low supplies, Mexican exports to the US experienced a 24 percent year-on-year decline during the period January-June 2018 – a gap which could not be filled by Mexico's main competitors, Guatemala and Brazil.

Despite the shortages in supply, indicative US import unit values of papaya displayed a tendency to remain stable, fluctuating around USD 600 per tonne throughout the year.

[2] In the absence of reported price data for the commodities in question, indicative unit values were calculated from trade values and quantities in selected markets, and are an assumed proxy for international prices.

# MARKET POLICY DEVELOPMENTS

# GRAINS: MAJOR POLICY DEVELOPMENTS MID-JUNE TO MID-OCTOBER 2018*

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Algeria | Aug-18 | Barley and maize | Import policy | Exempted barley and maize sales operations, as well as materials and products destined for livestock feed from value added tax (VAT). |
| Argentina | Aug-18 | Grains | Export policy | Published Resolution 290/2018, temporarily suspending the Record of Affidavits for Overseas Sale (DJVE) for grains, oilseeds and by-products. |
| | Sep-18 | Grains | Export duty | Introduced a 12 percent export duty on all products, valid with immediate effect until 31 December 2020 (Decree 793/2018). The measure aims to increase Government revenue amid high inflation (34.4 percent in August) and a sliding currency. The 12 percent export tax is subject to a cap of 4 pesos per US dollar of export value for primary products, including agricultural goods, and 3 pesos per US dollar for other goods. The amount of tax to be paid will depend on commodity prices and the exchange rate. |
| | Sep-18 | | Transport measures | Implemented a digital system to facilitate cargo unloading from trucks in the ports of Gran Rosario and the Province of Buenos Aires, in order to reduce logistics costs and increase harvest profitability. |
| Australia | Jul-18 | Grains | Government support | Assigned AUS 1 billion (USD 741 million) drought support, which includes freight subsidies to transport feed and water; and AUS 150 million (USD 107.9 million) for infrastructure improvements. |
| | Aug-18 | Wheat | Bilateral agreement | The Indonesia-Australia Comprehensive Economic Partnership was concluded. The agreement enables Australia to export 500 000 tonnes of feed grains, including wheat, to Indonesia. The exports would be free of duty in the first year, with 5 percent of annual growth in volume thereafter. In return, Australia would immediately eliminate all remaining tariffs on Indonesian imports. The agreement will be brought into effect by 2020. |
| Brazil | Jun-18 | Grains | Government procurement | Approved the new minimum prices for selected agricultural commodities produced in the summer season, including cereals and beans. The minimum prices for these products were increased by around 7 percent year-on-year. The minimum prices of maize and sorghum were increased by nearly 13 percent and 8 percent respectively in the north, midwest, southeast and south of the country, while they were reduced in other areas. |
| | Jul-18 | Grains | Transport measures | Approved a decree setting minimum prices for truck freight, as one of several measures proposed by the Government to end an 11-day truck driver protest in May that blocked Brazil's roads and brought shipment of goods to a halt. |
| | Sep-18 | Grains | Transport measures | Increased minimum freight rates charged on trucks by 5 percent, in an attempt to end the prevailing strike by truck drivers. |

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| China | Aug-18 | Maize | Futures market | China's Dalian Commodity Exchange set the price limits of maize and maize starch futures contracts at 4 percent, and their minimum trading margin at 5 percent of the contract value. |
| | Aug-18 | Grains | Import tariff | Announced a list of proposed supplemental tariffs ranging from 10 to 25 percent on USD 60 billion worth of US imports, including wheat, rice, soybean and maize products. |
| | Aug-18 | Wheat | Government procurement | Lowered the floor price for some wheat classes sold from state stocks in order to reduce their stockpiles, effective from 3 September. |
| | Sep-18 | Barley and maize | Bilateral agreement | Agreed to allow barley and maize exports from Kazakhstan to access the Chinese market by the end of the year. |
| Egypt | Aug-18 | Wheat | Import requirements | Allowed continued imports of wheat with a maximum moisture of 13.5 percent for another nine months. |
| EU | Aug-18 | Grains | Government support | Relaxed regulations governing the granting of financial assistance, in view of a prolonged drought. Affected producers will be able to receive up to 70 percent (previously 50 percent) of their direct income support entitlements, and up to 85 percent (previously 75 percent) of rural development entitlements by mid-October 2018, instead of December 2018. |
| Georgia | Sep-18 | Wheat | Transport measures | Postponed banning wheat imports until 1 October 2019. |
| Germany | Aug-18 | Wheat | Government support | Announced an emergency drought relief package worth EUR 340 million (USD 389 million). |
| India | Jul-18 | Maize | Government procurement | Increased the minimum support price of maize for the 2018/19 season by INR 255 to INR 1 700 per quintal (by USD 40 to USD 247.5 per tonne). |
| | Jul-18 | Grains | Government procurement | Approved a hike in minimum support prices for all 24 Kharif crops (including grains) for 2018-19, in line with the country's goal of doubling farmers' incomes by 2022. |
| | Jul-18 | Wheat | Government market intervention | Announced the selling of 7-8 million tonnes at INR 1 890 per quintal (USD 257 per tonne) to meet demand from flour millers and other bulk consumers. |
| | Oct-18 | Barley and wheat | Government procurement | Increased the minimum support price for wheat by 6 percent to INR 1 840 per quintal (USD 248 per tonne), while the minimum support price for barley was increased by 2 percent, to INR 1 440 per quintal (USD 194 per tonne). |
| Japan | Jul-18 | Wheat | Import policy | Revoked the suspension of wheat imports from Canada, which was imposed for five weeks amid concerns over the presence of unauthorized genetically modified wheat. |
| | Sep-18 | Wheat | Government market intervention | Raised the selling price of imported wheat to domestic millers by 2.2 percent from the previous six-month period. The average price is set at JPY 55 560 (USD 498) per tonne from October to March. |

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Jordan | Oct-18 | Barley and wheat | Government market intervention | Announced it will start selling wheat and barley to farmers at the subsidized prices of JD 500 (USD 705.2) per tonne for wheat, and JOD 420 (USD 592.4) per tonne for barley. |
| Kazakhstan | Oct-18 | Wheat | Government market intervention | Announced the construction of a grain hub in Egypt, in order to restore and expand Kazakhstan wheat exports to this country. |
| Kenya | Aug-18 | Maize | Government market intervention | Announced plans to increase strategic food reserve to 8 million bags of maize in the medium term, in order to boost the country's food security. |
| Malawi | Sep-18 | Maize | Government market intervention | Announced that maize grain held by the Agricultural Development and Marketing Corporation (ADMARC), a Government parastatal that procures and sells cereals, will be sold at MWK 170 per kg (USD 233.8 per tonne). This is more than 30 percent below the previous level of MWK 250 per kg (USD 343.8 per tonne), in place since October 2016. |
| Mexico | Jul-18 | Grains | Government support | Introduced a new income support scheme of MXN 2 billion (USD 186 million) in the face of declining prices faced by grain and oilseed producers. The programme is estimated to cover about 11 million tonnes of maize, sorghum, wheat and soybeans, and is open to producers in selected states or regions that are registered with the Forward Contract Programme. |
| Morocco | Oct-18 | Grains | Government support | Announced that 1 million ha of land will be distributed to smallholder farmers, in order to make the agricultural sector more efficient and ensure better employment conditions. |
| | Oct-18 | Wheat | Import duty | Suspended custom duty on soft wheat from 1 November to 31 December. A 30 percent duty will be imposed, starting from 1 January 2019. |
| Russian Fed. | Jun-18 | Wheat | Export duty | Extended the zero export duty on wheat until 1 July 2019, in order to safeguard stability of the domestic grain market. |
| | Aug-18 | Grains | Production support | Producers of fertilizer voluntarily agreed to freeze prices until completion of 2019/20 winter grain sowing. |
| | Sep-18 | Wheat | Export requirements | Introduced additional checks on wheat exports to Ecuador, Vietnam, Sudan, Egypt, Venezuela and Israel, due to a rise in complaints about quality from some major buyers. |
| | Oct-18 | Grains | Stocks release | Approved the sale of 1.5 million tonnes of wheat, rye and feed barley from the public intervention fund in the period 2018-2019. |
| Saudi Arabia | Jul-18 | Wheat | Government support | The Saudi Grains Organization (SAGO) approved a five-year domestic support programme to procure up to 700 000 tonnes of wheat annually from producers. During the agricultural season 2018/19, acquisition prices will be similar to the organisation's global import prices or at SAR 1 250 (USD 333) per tonne, whichever is higher. Prices will be subject to review after two agricultural seasons. Under the support scheme, farmers will be authorized to plant wheat on a maximum of 50 ha. |
| | Aug-18 | Wheat | Import policy | Issued a moratorium on deliveries of wheat and barley from Canada. |

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Serbia | Oct-18 | Wheat | Bilateral agreement | Reached an agreement for wheat exports to Egypt by the end of this year, after a 30-year pause. |
| South Africa | Sep-18 | Wheat | Import tariff | Lowered wheat import tariffs from ZAR 640.5 to ZAR 294.46 (USD 45 to USD 20.7) per tonne. |
| Sri Lanka | Sep-18 | Wheat | Government market intervention | Reversed the LKR 5 (USD 0.03) price hike imposed by Prima Company (supplier of wheat flour) on 1 kg of wheat flour, to prevent what the Government considers to be an arbitrary price hike of this essential food item. |
| Sudan | Oct-18 | Wheat | Government procurement | Raised the minimum price of a 50 kg bag of wheat by almost 150 percent as an incentive to farmers in central parts of the country, in order to help supply wheat in the marketplace and combat wheat and bread shortages that have affected consumers in recent months. |
| Tanzania | Jul-18 | Wheat | Bilateral agreement | Announced a joint free trade wheat agreement with Kenya. |
| Thailand | Oct-18 | Maize | Production support | Launched a maize growing promotion scheme under the Government's San Palang Pracharat public-private partnership initiative. The aim of the programme is to encourage rice farmers to switch from off-season rice to growing maize for animal feed on 319.7 million ha of land in 33 target provinces. |
| Turkey | Jul-18 | Maize and wheat | Import tariff | Authorized the Turkish Grain Board to open a duty free tariff rate quota to import 750 000 tonnes of wheat and 700 000 tonnes of maize. |
| | Sep-18 | Wheat | Export policy | Introduced a temporary limit on exports of wheat flour made from domestically produced grain to 1 percent of total shipments. Limits would be removed once domestic prices have stabilized. |
| Turkmenistan | Aug-18 | Grains | | Signed resolutions pursuant to which 760 000 ha of land are to be allocated for winter crops, with the aim of producing 1.6 million tonnes of grains in 2019. |
| | Oct-18 | Wheat | Government procurement | Authorized an increase in the state purchase price for wheat, starting from 2019, as part of a reform measure to improve farmers' livelihoods. |
| Uganda | Aug-18 | Maize | Government market intervention | Allocated SHS 100 billion (USD 26.4 million) to purchase maize from open market in order to revert falling maize prices. |
| Ukraine | Aug-18 | Wheat | Government market intervention | Signed a memorandum of understanding with local traders, allowing 16 million tonnes of wheat exports in 2018/19 (July/June). |

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| United States | Jul-18 | Grains | Import duty | Announced that a list of products imported from China worth USD 200 billion would be subject to an additional duty of 10 percent. The list includes wheat, rice, maize and soybean products. |
| | Aug-18 | Grains | Government support | Launched a support package worth USD 12 billion to mitigate the effects of retaliatory tariffs that were applied on certain commodities in response to China tariffs. A Market Facilitation Programme (MFP) will grant direct payments of approximately USD 4.7 billion to producers. The bulk of such direct payments, i.e. USD 3.6 billion, will benefit soybean farmers, while the remainder will compensate the sorghum, maize, wheat, cotton, dairy and meat sectors. Programme enrolment under MFP opens on 4 September, and closes in January 2019. |
| | Sep-18 | Maize and wheat | Import tariff | Announced a list of Chinese goods, including wheat and maize products, which would be subject to an additional tariff of 10 percent, effective from 24 September 2018. The additional tariff is expected to increase to 25 percent by the end of this year. |

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

## RICE: MAJOR POLICY DEVELOPMENTS MID-JUNE TO MID-OCTOBER 2018*

| COUNTRY | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Angola | Jul-18 | Stockholding policy, strategic reserve | Created the State's Strategic Food Reserve with the purpose of stabilizing the supply of basic foodstuffs. The reserve will be managed by the Customs Warehouse of Angola (Entreposto Aduaneiro de Angola), reportedly comprising some 60 000 tonnes of rice, wheat flour, maize flour and beans. Of that total, some 21 000 tonnes would consist of rice. |
| Argentina | Sep-18 | Export taxes | Decreed that exported goods would be subject to export taxes, effective from 4 September 2018 until 31 December 2020. In the case of rice, the decision reimposed export taxes, last removed in December 2015, setting them at 12 percent, with a ceiling of ARS 4 for every US dollar of value, or of the official free-on-board (FOB) price. |
| Bangladesh | Sep-18 | Government procurement | Raised the 2018 Boro procurement target to 1.4 million tonnes, up from a previous 1.05 million tonnes. The duration of the Boro procurement drive was also extended by 15 days, to 15 September 2018. |
| | Oct-18 | Production support | Announced that it would allocate BDT 800 (USD 9.5) million to provide seed and fertilizer assistance to some 691 000 smallholders. The measure seeks to aid production of 11 crops, including Boro rice. It will provide each Boro rice farmer with 5 kg of seeds and 30 kg of fertilizer, free of costs. |
| | Jun-18 | Finance and credit facilities | Instructed banks to stop issuing Letters of Credit to rice importers at zero margin, while extending the loan disbursement tenure for rice millers and traders from 30 to 45 days, with immediate effect. |
| Brazil | Jun-18 | Minimum support prices | Set Minimum Support Prices (MSPs) for the 2019/20 season (2018/19 season for Brazil), effective from February 2019 to January 2020. The MSP for fine long grain paddy was raised by 1.19 percent to BRL 728.8 (USD 193) per tonne for the Southern region (except Paraná), while it was left unchanged at BRL 720.17 (USD 190) per tonne for all other regions. The MSPs for long grain paddy were similarly left unvaried at BRL 378.0 (USD 100) per tonne for the Southern region (except Paraná), and at BRL 407.5 (USD 108) per tonne for all other regions. |
| China (Mainland) | Jun-18 | Import tariff | Announced that an additional 25 percent import tariff would be imposed on a set of goods originating in the United States, including paddy, husked, semi/wholly milled and broken rice. The measure was a response to US tariff increases on imports of various Chinese products approved days earlier. It became effective on 6 July 2018. |
| | Jun-18 | Import tariff | Announced amendments to import tariffs levied on rice, effective from 1 July 2018. Specifically, out-of-quota duties on non-long grain paddy, husked and semi/wholly milled rice imported from member countries of the Association of Southeast Asian Nations (ASEAN) were raised from 5 percent to 50 percent. Additionally, changes to the product classification system would have relocated long grain glutinous rice from non-Indica tariff lines to long grain lines, alongside Indica imports. |
| Colombia | Aug-18 | Warehouse receipts programme | Set aside COP 30 billion (USD 9.6 million) to implement a storage incentive programme for 2018 second semester crops. The scheme will cover the equivalent of up to 272 000 tonnes of dry paddy, from 31 August 2018 to 30 December 2018, extending an outlay of COP 28 890 (USD 9.2) to cover the monthly cost of storing a tonne of dry paddy, husked or milled rice for up to three months. To qualify for the incentive, buyers must purchase supplies at reference prices ranging from COP 117 000 to 144 800 per 125 kg of wet paddy (USD 300 to 371 per tonne), depending on the various producing zones. |
| | Aug-18 | Import quota | Reached an agreement with Peruvian counterparts, whereby Peru would rescind retaliatory import duties on ten Colombian products in exchange for Colombia's removal of entry barriers of rice originating in Peru. According to Peruvian officials, the agreement envisages Colombia progressively removing restrictions on Peruvian rice imports, as of 1 September 2018, and establishing an initial import quota of 45 000 tonnes for Peruvian rice. This volume would grow progressively until September 2022, when unlimited imports of Peruvian rice would be allowed into Colombia. |

| COUNTRY | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Costa Rica | Sep-18 | Safeguard measures | Decided that imports of selected classes of husked rice (SAC codes 100620000091 and 1006200099), originating in countries not party to a preferential trade agreement with Costa Rica, would accrue an additional import tariff of 11.67 percent, after cumulative imports of these classes (starting from 1 January 2018) exceeded 6 366.83 tonnes. The surcharge will apply to imports in excess of this volume, and will be levied on top of a 35 percent import duty accrued by these classes. The measure is effective from 21 September 2018 to 31 December 2018. |
| Ecuador | Sep-18 | Production support | In an effort to help the rice sector cope with declining profit margins, the Government announced that it would provide producers with input assistance, promote exports, enhance the National Storage Unit's (*Unidad Nacional de Almacenamiento*) capacity to absorb local produce, and step up border protection to curb undocumented rice imports. Among other measures, steps to enhance the placement of produce would also be taken through the establishment of more collection centres and the introduction of the *PacifiCard Productiva*, a credit card that would allow farmers to receive immediate payment for produce sold at official prices, while also enabling processors to defer payments for their purchases by 30 to 90 days. |
| Egypt | Sep-18 | Government procurement | Announced that it would pay between EGP 4 400 and EGP 4 700 (USD 245-262) per tonne of local paddy that it purchased from the 2018 harvest. |
| | Aug-18 | Import agreement | According to press reports, the Government signed a memorandum of understanding on rice trade with Viet Nam, which would foresee the option of importing up to 1.0 million tonnes of Vietnamese rice. |
| European Union | Jun-18 | Import tariff | Issued a regulation setting an additional customs duty on semi/wholly milled and fully broken rice originating in the United States at 25 percent. The measure will be effective from 22 June 2018, and for as long as the United States applies the higher import tariff on EU steel and aluminum products. |
| | Oct-18 | Preferential trade arrangement | Issued statements noting that due to its concerns over human rights developments in Cambodia and Myanmar, it had begun the process of withdrawing trade concessions granted to Cambodia, under the Everything-But-Arms (EBA) agreement. According to the statement, "without clear and evident improvements on the ground" the process would lead to the suspension of said trade concessions for Cambodia. Additionally, it intended to conduct a high-level mission to Myanmar, within the framework of potentially withdrawing Myanmar's preferential market access to the EU under the EBA accord. |
| Honduras | Sep-18 | Import quota | Established a shortage import quota of 60 000 tonnes of paddy, to be brought into the country between 1 September and 31 December 2018, free of duties. |
| India | Jul-18 | Support prices, Government procurement | Raised minimum support prices for common paddy by 12.9 percent to INR 17 500 (USD 237) per tonne, and by 11.32 percent in the case of Grade A paddy to INR 17 700 (USD 240) per tonne. |
| Kenya | Jun-18 | Import tariff | Renewed an exemption to the 75 percent rice import duty applicable under the Common External Tariff of the East African Community. Accordingly, imports of paddy, husked, semi/wholly milled rice and broken rice will continue to accrue a 35 percent tariff (or USD 200 per tonne, whichever is higher) for a period of one year, effective from 1 July 2018. |
| Nepal | Aug-18 | Support prices | Set the minimum support price (MSP) for common paddy at NPR 24 606 (USD 207) per tonne, up from the NPR 22 300 (USD 187) set for the 2016/17 crop. In the case of Mota Dhan varieties, the MSP was set at NPR 23 312 (USD 196 per tonne), up from NPR 20 700 (USD 174) per tonne in 2016/17. |
| Peru | Jul-18 | Import tariff | Issued new customs tables adjusting the additional duties levied on rice imports under the price band mechanism, and raised the ceiling of these additional tariffs to 20 percent of the imports' Cost, Insurance and Freight (CIF) value. The measure is effective until 31 December 2018. Thereafter, the cap on additional surcharges will revert to a previously applicable level of 15 percent of CIF value. |

| COUNTRY | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Philippines | Jun-18 | Price controls | Established Suggested Retail Prices (SRPs) for eight basic foodstuffs in Metro Manila. Prices of commodities subject to SRPs would accordingly not be able to exceed the SRP level by more than 10 percent, without sellers facing sanctions. In the case of regular milled rice, the SRP was set at PHP 39 (USD 0.72) per kg. |
| | Oct-18 | Government procurement | Announced that the National Food Authority would offer an incentive of PHP 3.0 per kg (USD 55.4 per tonne) of clean dry paddy bought from local farmers. The incentive would be paid on top of the government procurement price of PHP 17 per kg (USD 314 per tonne) and a drying and delivery incentive of PHP 0.7 per kg (USD 13 per tonne). Additional efforts to shore up domestic procurement of paddy would include linking state programmes distributing farm machinery and providing credit assistance to sales to the National Food Authority. |
| | Jul-18 | Import quota | Extended the delivery deadline of the first phase of rice imports conducted under 2017/18 Minimum Access Volume (MAV) quotas by 15 days to 15 September 2018. A 29 August 2018 decision extended this delivery deadline by an additional 15 days, while also specifying that imports under 2016/17 MAV quotas would be allowed to arrive in the country by 15 September 2018, rather than by 31 August 2018. |
| | Aug-18 | Import quota | Approved immediate imports of 133 500 tonnes of rice to quell hikes in rice prices in Zamboanga, Basilan, Sulu and Tawi-Tawi. The imports would be conducted under the 2017/18 MAV omnibus quota, with 30 000 tonnes to be delivered in the second half of September 2018, and the balance by 30 November 2018. |
| | Sep-18 | Import quota | Authorized the National Food Authority to import 250 000 tonnes of rice on a government-to-private basis, in order to reconstitute state reserves. In light of crop damages inflicted by the strike of Typhoon Mangkhut, a successive decision raised the import authorization to 750 000 tonnes, for delivery from 30 November 2018 onwards. This import volume would comprise 25 percent broken rice, to be sourced through three fortnightly tenders for 250 000 tonnes, each, to be held starting on 18 October 2018. The National Food Authority was additionally given standby authority to purchase 1.0 million tonnes of rice in 2019. |
| | Sep-18 | Import requirements, facilitation | Issued an Administrative Order instructing the National Food Authority, the Sugar Regulatory Administration, and the Department of Trade and Industry to remove administrative hurdles and non-tariff barriers to imports of agricultural commodities, with immediate effect. Such measures would include expediting goods unloading, streamlining import procedures and requirements, the reduction or removal of import fees, registration exemptions and liberalizing the issuance of rice import permits and trader accreditation. The National Food Authority Council was also authorized to import rice beyond MAV commitments, if conditions so warranted, and subject to existing legal provisions. |
| | Oct-18 | Import quota, price controls | Approved a proposal by the Department of Trade and Industry that would have 350 000 tonnes of rice imported directly by selected retailers, on condition that they sell these supplies at a fixed retail price of PHP 38 (USD 0.7) per kg. |
| Republic of Korea | Sep-18 | Government procurement | Announced that the Government would purchase 340 000 tonnes of rice from the 2018 harvest between 25 September and 31 December 2018, in order to refurbish stockpiles and stabilize local prices. An additional 10 000 tonnes would be purchased as the country's contribution to the ASEAN Plus Three Emergency Rice Reserve (APTERR). |
| Rwanda | Jun-18 | Import tariff | Decided that it would continue applying a 45 percent import duty (or USD 345 per tonne, whichever is higher) on milled and broken rice imports until 30 June 2019, instead of the 75 percent rice import tariff applicable under the Common External Tariff of the East African Community. |
| Sri Lanka | Aug-18 | Government procurement | Set aside LKR 4.9 billion (USD 28.9 million) to purchase paddy from the 2018 Yala harvest. The procurement drive would target the absorption of 120 000 tonnes of paddy, with the Paddy Marketing Board offering farmers LKR 41 per kg of Samba purchased (USD 241 per tonne), and LKR 38 per kg (USD 224 per tonne) in the case of Nadu paddy. The entity will also provide packaging material for purchased supplies, which will be redistributed at affordable prices through Lak Sathosa outlets. In order to provide further assistance to producers at harvest time, a subsequent decision raised the maximum volume that the Paddy Marketing Board can purchase per farmer to 5 000 kg, up from a previous limit of 3 000 kg. |

| COUNTRY | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Thailand | Jul-18 | Production support | Renewed three schemes aiming to stabilize local prices at harvest time. The first, an on-farm mortgaging programme, would cover 2.0 million tonnes of paddy between September 2018 and September 2019, except in southern parts of the country, where it would be implemented from June 2019 to October 2019. Mortgaging prices under the scheme would be raised 9 percent above 2017/18 levels in the case of Hom Mali paddy to THB 11 800 (USD 359) per tonne, by 5 percent for Pathum Thani fragrant to THB 8 900 (USD 271) per tonne, and by 4 percent in the case of white paddy to 7 500 (USD 228) per tonne, while glutinous prices would be cut by 6 percent to THB 10 200 (USD 310) per tonne. Farmers participating in the scheme would receive an additional THB 1 500 per rai (USD 285 per ha) as compensation for harvesting, and quality improvements for a maximum of THB 18 000 (USD 547) or 12 rais (1.9 ha) per household. This compares with a THB 1 200 per rai (USD 228 per ha) outlay extended for the purpose in 2017/18. Under another scheme, THB 12.5 billion (USD 380 million) would go to provide credit to farmer organizations in order to delay the sales of 2.0 million tonnes of paddy, while another programme would provide a 3 percent interest subsidy to millers and traders who agree to store supplies for 60 to 180 days. The latter scheme aims to delay sales of 5.0 million tonnes of paddy. |
| | Sep-18 | Production adjustment programme | Approved a budget of THB 461 million (USD 14 million) to encourage rice producers cultivating 2 million rai (320 000 ha) under irrigation across 33 provinces to grow maize during the 2018/19 offseason cycle. Under the programme, participating farmers would be provided with a THB 2 000 per rai (USD 380 per ha) loan at a subsidized interest rate of 0.1 percent, for up to 15 rai (2.4 ha), while officials would also take steps to facilitate maize sales at remunerative prices and offer crop insurance against natural disasters. |
| | Aug-18 | Stock release | Sold 267 000 tonnes of rice for feed and industrial uses from government stocks through two tenders held on 29 and 30 August 2018. According to reports, these volumes constituted the last public stockpiles of rice accumulated through the defunct paddy-pledging programme. |
| Turkey | Jun-18 to Aug-18 | Import tariff | Levied an additional import duty of 25 percent on rice originating in the United States, effective 21 June 2018, in response to US tariff increases on imports of selected steel and aluminum products. A decision published on 15 August 2018 doubled this additional levy, bringing total import duties on US rice to 84 percent for paddy, 86 percent for husked rice, and 95 percent for semi/wholly milled and broken rice. |
| | Aug-18 | Import quota, import tariffs | Authorized the Turkish Grain Board to import 100 000 tonnes of rice, free of duties, until 31 August 2019. |
| United States | Aug-18 | Production support, government procurement | Laid out details of a USD 12 billion short-term support package to agricultural producers, in order to help them cope with losses incurred as a result of trade disputes. Under the measure, assistance for the rice sector would be channeled through the Food Purchase and Distribution Program, under which USD 48.1 million would go to purchase domestic rice, to be distributed under nutrition assistance schemes. Under two separate programmes, payments would be extended to producers of seven products (not including rice), while USD 200 million would be allocated to promote the development of new export markets for all US agricultural sectors. |
| | Sep-18 | Import tariff | Announced that a range of imported goods originating in China, including husked, semi/wholly milled and broken rice, would be subject to an additional import tariff of 10 percent, as of 24 September 2018. This additional duty would rise to 25 percent on 1 January 2019. |
| Venezuela | Aug-18 to Sep-18 | Price controls | Set the consumer price for Type I rice at VES 42.0 per kg, with immediate effect. Based on this decision, ceilings on consumer prices for Type II rice were subsequently set at VES 36.33 per kg, and at VES 31.87 per kg in the case of Type III rice. |
| Viet Nam | Aug-18 | Export requirements | Issued Decree 107/2018/ND-CP relaxing conditions on rice exports. Among its provisions, the Decree stipulates that in order to be eligible for rice exports, traders must count on at least one storage and one milling facility that meet national standards and regulations, whether owned or leased. They must also maintain the equivalent of 5 percent of the volume they shipped in the preceding six months on reserve. Traders exporting organic, parboiled and multi-micronutrient fortified rice will not be subject to these conditions, nor will they be required to acquire export certificates. The Decree is effective 1 October 2018, repealing Decree 109/2010/ND-CP, which in 2010 stipulated provisions to determine minimum export prices, made it requisite for rice exporters to own warehouses for at least 5 000 tonnes and processing capacity of at least 10 tonnes per hour, further to requiring that traders register export contracts with the Viet Nam Food Association and maintain the equivalent of 10 percent of the volumes they shipped in the preceding six months on reserve. |

* 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-JUNE TO MID-OCTOBER 2018*

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Argentina | Soybeans, sunflower seed, groundnut (incl. respective oils/meals) | Sep-18 | Export policy | Reduced the export tax on soybeans, soymeal and soyoil to 18 percent, after deciding to suspend its policy of gradually reducing export taxes for soymeal and soyoil for six month in mid-August. On top of that, a new export levy of 12 percent was introduced, with a maximum limit of 4 ARS (11 US cents) for each US dollar export value. While sunflower seed and groundnut also face a 4 ARS export levy, only 3 ARS (8 US cents) are assessed on the respective oils and meals. |
| | Biodiesel | Sep-18 | Biofuel policy | Implemented three successive increases in the price that oil companies are required to pay for biodiesel. |
| Australia | All crops | Aug-18 | Agricultural policy | Announced a number of federal and state level relief packages to assist farmers hit by this year's widespread drought. |
| Brazil | Biodiesel | Jul-18 | Biofuel policy | Raised the allowed voluntary percentage of biodiesel mixture in regular diesel for certain groups of users, in a bid to expand domestic biodiesel consumption. |
| | Glyphosate | Aug-18 | Pesticide regulation | Federal court overruled an injunction suspending the use of products containing glyphosate, a herbicide widely employed for soybeans and other crops, citing potential economic damage at national level. |
| | Grains, oilseeds | June-18 | Transport policy | Implemented temporary reductions in fuel taxes and introduced minimum freight rates to halt a nationwide strike by Brazil's truck drivers. |
| | Grains, oilseeds | Sep-18 | Transport policy | Raised the countrywide minimum truck freight rates by 5 percent, following a rise in the market price of transport diesel. |
| Canada | Rapeseed | Sep-18 | Sector development measures | Granted state funding to the country's Canola Council in a bid to advance growth and profitability in the rapeseed sector, focusing on the development of new and improved products. |
| Canada/United States/Mexico | Oilcrops | Sep-18 | Trade agreement | Agreed to replace the North American Free Trade Agreement (NAFTA) with the United States-Mexico-Canada Agreement (USMCA), under which trade facilitation measures for oilcrops would remain in place. |
| China (Mainland)/ Kazakhstan | Rapeseed, rapeseed meal | Jul-18 | Trade arrangement | Agreed to relax sanitary requirements related to agricultural product trade – a development that could boost Kazakhstan's shipments of rapeseed and rapeseed meal to China. |
| China (Mainland) | Soybeans, soyoil rapeseed oil | Jul-18 to Sep-18 | Public stockholding | Held public auctions of soybeans, soybean oil and rapeseed oil, with less than one-third of the quantities offered finding a buyer. |
| | Soybeans | Sep-18 | Agricultural policy | Envisaged a further expansion in domestic soybean plantings over the next five years, hand-in-hand with a reduction in maize sowings. |
| | Selected oilseeds, oils and meals | Sep-18 | Trade dispute | Implemented, effective 24 September 2018, retaliatory tariffs of 10 percent on selected, weakly traded oilseeds, vegetable oils/meals and fish oil/meal imported from the Unite States, plus rates of 5 percent on a number of other oilseeds, vegetable oils and meals of animal origin. The measure follows the earlier introduction of a 25 percent tariff on soybean imports from the US. |
| | Rapeseed meal | Oct-18 | Import policy | Removed a ban on imports of rapeseed meal from India that was introduced in 2011 over quality concerns. |
| East African Community | Aflatoxin | Sep-18 | Pesticide regulation | Planned to develop a regional policy framework to address human and animal health threats posed by aflatoxin contamination. |
| Ecuador | Palm oil | Jul-18 | Sector development measures | Presented a five-year action plan to make the country's palm oil supply chain more sustainable, including key objective to make RSPO (Roundtable on Sustainable Palm Oil) certification the national norm. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Eurasian Economic Union | Trans-fatty acid | Jan-18 | Food standards | Set the maximum permitted percentage of trans fats in food products at 2 percent of total fat content. |
| European Union | Gene-edited crops | Jul-18 | GMO policy | Ruled that crops and other organisms obtained through innovative genome editing techniques fall under EU laws regulating the use of GMOs, and are therefore subject to lengthy approval processes and stringent traceability, labelling and monitoring requirements. |
| | Olive tree | Jul-18 | Disease control | Developed a remote, airborne imaging method capable of scanning orchards and detecting olive trees infected by the *xylella fastidiosa* bacterium before visible symptoms appear. |
| | All crops, livestock products | Aug-18 | Agricultural policy | Announced a set of support measures for European farmers affected by the current season's extreme drought, including allowing farmers to receive their direct and rural development payments earlier than scheduled, and to use fallow land with more flexibility. Member states are also allowed to provide compensation for damage without notifying the Commission. |
| | Biodiesel | Sep-18 | Trade dispute | Decided to postpone the introduction of provisional countervailing duties on biodiesel imported from Argentina. |
| France | Soybeans, palm oil | Jul-18 | Climate policy | Launched a public consultation on its draft National Strategy to Combat Imported Deforestation (SNDI), aimed at ending the import of forestry and agricultural products, including soybeans and palm oil. |
| India | Biodiesel | Jun-18 | Biofuel policy | Released its National Policy on Biofuels, which includes indicative mandatory blending targets for biodiesel by 2030 and emphasizes the reliance on biofuels produced from domestic raw materials. |
| | Coconut oil | Jun-18 | Food standards | Banned the manufacture, storage, sale and distribution of 45 brands of coconut oil in Kerala State, after detecting samples that were adulterated and unsafe for human consumption. |
| | Oilseeds | Jun-18 | Public procurement | Procured a record amount of oilseeds from farmers at minimum support prices in the 2017/18 season. |
| | Grains, oilseeds | Jul-18 | Agricultural policy | Significantly raised minimum support prices for the major 2018/19 Kharif crops. |
| | Food product labels | Jul-18 | Food standards | Proposed to require oil manufacturers to disclose the exact composition of blended oils on product labels, to enable consumers to make informed choices. |
| | Biodiesel | Jul-18 | Biofuel policy | Launched discussions on setting up a system for the collection of used cooking oil and its conversion into biodiesel. |
| | Palm oil | Jul-18 | Sector development measures | Encouraged farmers in Telangana State to embark on oil palm cultivation, in a bid to reduce India's dependence on imported vegetable oils. |
| | Soybean oil, palm olein, wheat | Jul-18 | Trade dispute | Filed a WTO notification listing US products – including wheat, crude soybean oil and refined palm olein – that could be subject to retaliatory import duties, thereby responding to the United States' higher duties on imports of steel and aluminium from India. |
| | Oilcrops | Sep-18 | Sector development measures | Presented new strategies to raise domestic oilcrop production over the next four years, with a view to helping to reduce the country's dependence on edible oil imports. |
| | Oilcrops | Sep-18 | Public procurement | Reformed its procurement policy for agricultural crops with a focus on those where domestic demand exceeds local supplies, including a couple of oilseed specific schemes, with a view to helping to raise farmers' incomes by covering gaps in existing public procurement and compensation mechanisms. |
| | Grains, oilcrops | Oct-18 | Agricultural policy | Raised the minimum support prices for the major 2018/19 Rabi crops. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Indonesia | Palm oil | Jul-18 to Oct-18 | Export policy | Kept the country's sliding tax on crude palm oil exports at zero, marking 18 months in succession with no export tax. |
| | Biodiesel | Aug-18, Sep-18 | Biofuel policy | Required, starting 1 September 2018, all diesel fuel sold in the country to contain biodiesel, and widened the ability of the country's Oil Palm Estate Fund to subsidize the price gap between conventional diesel and biodiesel, reflecting increased efforts to raise domestic palm oil uptake. |
| | Oil palm | Sep-18 | Environmental policy | Signed a three-year nationwide moratorium on new oil palm plantation licences, supplementing an existing ban on primary forest and peat land clearing. |
| | Primary products | Sep-18 | Export policy | Laid out new rules requiring commodity exporters to guarantee funding for shipments exclusively through local banks, as part of policies to address ongoing currency and current account problems. |
| | Palm oil | Sep-18 | Foreign agricultural investment | Supported initiatives to establish overseas palm oil processing facilities that would source crude palm oil primarily from Indonesia, complementing past efforts to raise demand for locally produced palm oil. |
| Kazakhstan/China (Mainland) | Rapeseed, rapeseed meal | Jul-18 | Trade arrangement | Agreed to relax sanitary requirements related to agricultural product trade – a measure that could boost Kazakhstan's shipments of rapeseed and rapeseed meal to China. |
| Malaysia | Palm oil | Sep-18 to Oct-18 | Export policy | Suspended the country's export tax on crude palm oil for the months of September and October. |
| | Plantation crops | Sep-18 | Labour policy | Announced a new minimum wage that will take effect nationwide on 1 January 2019. |
| | Coconut | Sep-18 | Sector development measures | Planned to set up a special body to manage and regulate the country's coconut industry. |
| | Palm oil | Sep-18 | Market regulation | Sought the assistance of the Government of Sabah State to ensure that local smallholders achieve Malaysian Sustainable Palm Oil (MSPO) certification, instead of pursuing a separate state specific certification scheme. |
| Malaysia/ Switzerland | Palm oil, rapeseed | Sep-18 | Bilateral cooperation | Decided to set up an expert committee to explore opportunities for sustainable production, bilateral trade, exchange of relevant technologies and possible collaboration in downstream palm oil industry applications, with a view to securing Malaysia's palm oil exports to Switzerland without harming Swiss rapeseed producers. |
| Mexico/Canada/ United States | Oilcrops | Sep-18 | Trade agreement | Agreed to replace North American Free Trade Agreement (NAFTA) with the United States-Mexico-Canada Agreement (USMCA), under which trade facilitation measures for oilcrops would remain in place. |
| Pakistan | Soybean oil | Apr-18 | Import policy | Raised the import custom duty on crude soybean oil, with the aim of protecting local soft oil production. |
| Philippines | Coconut | Sep-18 | Sector development measures | Approved a bill creating a trust fund to be used over the next 25 years for the benefit of the country's coconut farmers. |
| Switzerland/ Malaysia | Palm oil, rapeseed | Sep-18 | Bilateral cooperation | Decided to set up an expert committee to explore opportunities for sustainable production, bilateral trade, exchange of relevant technologies and possible collaboration in downstream palm oil industry applications, with a view to protecting the interests of Swiss rapeseed producers, while Malaysia raises its palm oil exports to Switzerland. |
| Tanzania | Oilcrops | Sep-18 | Sector development measures | Pursued plans to modernize domestic production of oil palm, sunflower seed, groundnut, sesame, coconut palm and coconut, with a view to reducing the country's dependence on edible oil imports and improve the livelihood of smallholder farmers. |
| Thailand | Trans-fatty acid | Jul-18 | Health policy | Banned, effective 13 July 2018, the production, import and sale of partially hydrogenated oils (PHOs) and foods containing the same, allowing for a 180-day grace period. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Turkey | Sunflower seed, oil and meal | Jun-18 | Import policy | Decided to leave the import tariffs on sunflower seed, oil and meal at their reduced levels, to ensure that domestic demand for edible oils was met. |
| Ukraine | Soybeans, rapeseed | Jul-18 | Export policy | Postponed the abolition of a VAT refund on exports of soybeans and rapeseed until 31 December 2021, but only for farmers and companies exporting their own crops. |
| United States | GM crops | May-18 | GMO policy | Called for public comments on a legislative framework for the labelling of GMOs, notably on detailed standards for the disclosure of food ingredients, with a view to assisting consumers in making informed choices. |
| | Biodiesel | Jun-18 | Biofuel policy | Proposed the blending mandates for renewable fuels in 2019 and 2020, entailing i) increases in 'cellulosic biofuel' and 'advanced biofuel' volumes in 2019; ii) unchanged levels of 'conventional' biofuels in 2019; and iii) a moderate increase for 'biomass-based diesel' targets in 2020. |
| | Trans-fatty acid | Jun-18 | Health policy | Decided, with regard to the nationwide ban on food products containing partially hydrogenated oils (PHOs), to extend the compliance date for certain specified applications of PHOs to 1 June 2019. Also allowed all food products containing PHOs produced prior to 18 June 2018 to be distributed until 1 January 2020. |
| | Glyphosate | Jul-18 | Pesticide regulation | Federal courts are considering cases linking the use of glyphosate, a herbicide widely employed for soybeans and other crops, to human health issues. |
| | Crops, livestock products | Aug-18 | Agricultural policy | Announced details of public assistance to be provided to farmers impacted by China's introduction of retaliatory tariffs, including direct payments, Government procurement of affected commodities for distribution to public nutrition programmes, and trade promotion programmes to assist in developing new export markets. |
| United States/ Mexico/Canada | Oilcrops | Sep-18 | Trade agreement | Agreed to replace North American Free Trade Agreement (NAFTA) with the United States-Mexico-Canada Agreement (USMCA), under which trade facilitation measures for oilcrops would remain in place. |
| Viet Nam | Soybeans, wheat | Sep-18 | Import policy | Sent non-compliance notifications to the United States regarding wheat and soybean consignments contaminated with seeds of perennial weed *cirsium arvense*. |
| Zimbabwe | Soybeans | Jul-18 | Sector development measures | Raised the price of soybeans delivered to the state-run Grain Marketing Board in a bid to stimulate domestic soybean production. |

* A collection of major policy developments starting in January 2011 is available at:
http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/?groupANDcommodity=Oilseeds,%20oils%20and%20meals

## MEAT: MAJOR POLICY DEVELOPMENTS MID-JUNE TO MID-OCTOBER 2018*

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Argentina | Sep-18 | Bovine meat | Export tax | Imposed an export tax on meat products (four pesos per USD for raw/primary products and three pesos per USD for value-added products), and reduced the original export tax rebate from 3.5 percent to 1.0 percent for chilled beef, and from 4.0 percent to 1.25 percent for frozen beef. |
| Canada | Jul-18 | Bovine meat | Tariff rate | Announced a list of goods, including beef, targeted for retaliation over tariffs imposed by the United States on steel and aluminium imports from Canada. |
| China (Mainland) | Jun-18 | Poultry meat | Anti-dumping measure | Imposed a temporary anti-dumping measure on poultry meat imports from Brazil, which requires Chinese importers of Brazilian poultry meat to pay deposits ranging from 18.8 percent to 38.4 percent of the value of the shipments from 9 June 2018. |
| | Jun-18 | Bovine meat | Market access | Signed a health and safety accord, which will allow chilled and frozen beef to be imported from France. This reversed an embargo introduced in the 1990s, in the wake of bovine spongiform encephalopathy (BES) outbreaks in Europe, and follows similar agreements signed with Ireland, the Netherlands and Denmark during the past few months. |
| | Jul-18 | All | Tariff rate | Imposed a retaliatory tariff of 25 percent on 545 US products, including bovine and pigmeat. |
| | Jul-18 | Pigmeat | Tariff rate | Established, on a temporary basis, tariffs lower than the current Most Favoured Nation rates for some consumer products, including certain pigmeat products (raw, cooked and cured hams) and pellets, imported from Argentina. |
| | Oct-18 | Pigmeat | Import ban | Banned imports of pigs and pork products from Belgium, Bulgaria, Japan and Moldova to prevent the spread of African swine fever. |
| European Union | Jun-18 | All | Domestic policy | Published its legislative proposals for the new Common Agricultural Policy (CAP) beyond 2020. The new CAP is likely to grant more responsibilities to Member State governments, and to continue coupled direct payments for beef production. |
| | Jul-18 | All | Trade agreement | Signed an Economic Partnership Agreement with Japan, allowing the European Union to increase exports of beef and pigmeat. The agreement included provisions for mutual recognition of geographical indicators of selected agricultural commodities in both countries. |
| Ghana | Jun-18 | Bovine meat | Market access | Confirmed acceptance of a Veterinary Health Certificate for the import of cattle from the United States, proposed by the US Department of Agriculture. |
| India | Sep-18 | Pigmeat | Market access | Approved imports of Brazilian pigmeat. |
| Japan | Jul-18 | Ovine meat | Import ban lifted | Reopened its market to ovine meat from the United States after 14 years. |

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Mexico | Jun-18 | Pigmeat | Tariff rate | Imposed retaliatory tariff on pigmeat imports from the United States at 10 percent in June, subsequently raised to 20 percent in July. |
| Morocco | Aug-18 | Poultry meat | Import ban lifted | Lifted a ban on imports of poultry meat from the United States under an agreement for US exports to comply with its health and halal certificates. |
| Republic of Korea | Sep-18 | All | Trade agreement | Signed the revised Korea-US Free Trade Agreement, allowing duty free access for pigmeat products and reduced tariff for bovine meat from the United States. The agreement stipulates that tariff rates on bovine meat must decline each year, and be completely removed by 2026. |
| Russian Federation | Jul-18 | All | Import ban extended | Extended the food embargo on agricultural products from the United States, including meat, until 31 December 2019. |
| | Aug-18 | Poultry meat | Market access | Removed special conditions previously required for the transit of US poultry products through the Russian Territory to Kazakhstan. |
| | Aug-18 | All | Tariff rate quota | Announced tariff-rate quotas (TRQs) and respective volumes for imports of meat, poultry and whey into the Eurasian Economic Union for 2019. TRQs for the Russian Federation, Belarus and Kazakhstan remained unchanged, and as in previous years, Armenia will have no TRQs in 2019. Kyrgyzstan's TRQs for beef will be increased, while those for poultry will be reduced. |
| Saudi Arabia | Sep-18 | All | Food standard | Launched an advanced halal identification system, aimed at guaranteeing that all meat products exported to Saudi Arabia, and a number of other countries, comply with Sharia standards. The system is overseen by the Muslim World League, which is authorized to issue halal certificates to exporters. |
| United States | Jul-18 | All | Tariff rate | Imposed a 25 percent tariff on a number of goods from China, including dairy milkers, chicken incubators, and other livestock equipment. |
| | Aug-18 | All | Trade agreement | Announced a preliminary agreement between the United States and Mexico on trade, which would maintain reciprocal duty free market access for agricultural goods. |

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

## DAIRY: MAJOR POLICY DEVELOPMENTS MID-JUNE TO MID-OCTOBER 2018*

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| China (Mainland) | Jul-18 | Dairy products | Tariff rate | Imposed 25 percent tariff on a number of agricultural products, including some dairy products, in retaliation for tariff introduced by the United States on Chinese goods. The list of dairy products did not include lactose, infant formula, casein or caseinates. |
| | Jul-18 | Dairy products | Tariff rate | Adjusted the tariff structure, essentially lowering import tariffs on 1 449 consumer products, including dairy, below the Most Favoured Nation (MFN) tariff rates. |
| | Aug-18 | Dairy products | Market access | Agreed to import dairy products from the United Kingdom, made with milk from third countries. |
| European Union | Jul-18 | Dairy products | Trade agreement | Signed an Economic Partnership Agreement (EPA) with Japan. Among other things, this will: (a) allow scrapping of Japanese duties on some dairy products such as Gouda and Cheddar cheese; (b) ensure protection under geographical indications (GIs) for more than 200 European agricultural products in Japan; and (c) protect some Japanese GIs in the European Union. |
| | Sep-18 | Milk powder | Stocks | Fixed buying-in price at zero for skim milk powder (SMP) to the EU intervention stock for the 2018 window (1 March–30 September). Typically, the Intervention scheme allows the European Commission to buy in 60 000 tonnes of butter and 109 000 tonnes of SMP between 1 March and 30 September each year, at set prices of EUR 2 217 (USD 2 586)/tonne and EUR 1 698 (USD 1 981)/tonne respectively. |
| Ghana | Jun-18 | Dairy products | Market access | Confirmed acceptance of a Veterinary Health Certificate for the export of cattle from the United States, proposed by the US Department of Agriculture. Cattle imports are expected to boost milk production to meet rising domestic demand. |
| India | Jun-18 | Dairy products | Import ban extended | Extended the ban on milk and dairy product imports from China for six months. The ban has been in place since 2008 amid safety concerns. |
| Indonesia | Jul-18 | Dairy products | Import policy | Issued a revised regulation on its milk supply and distribution policy. The new guidelines have rescinded an earlier regulation that mandated importers to establish 'partnership agreements' with local entities to procure local milk, and invest in local milk production and in promoting local fluid milk consumption. |

| COUNTRY | DATE | PRODUCT | POLICY CATEGORY/ INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Japan | Aug-18 | Dairy products | Food standard | Introduced new standards for liquid infant formula under the Food Sanitation Act, which allows the production and sale of liquid baby formula for the first time. |
| | Aug-18 | Dairy products | Trade agreement | Notified the World Trade Organization of its intention to amend the Act on the *Protection of the Names of Specific Agricultural, Forestry and Fishery Products and Foodstuffs*, to ensure the proper reciprocal protection of GIs within the ambit of the Japan-EU EPA signed in July 2018. |
| Mexico | Jun-18 | Cheese | Tariff rate | Imposed import duties, ranging from 10 to 25 percent, on some cheese imports from the United States. |
| New Zealand | Jul-18 | Dairy products | Production support | Announced plans to try to eradicate Mycoplasma bovis from its dairy herds. |
| | Sep-18 | Dairy products | Production support | Allocated NZD 7 million (around USD 5 million) to boost dairy industry genetic research, with the objective of increasing milk yield, as the number of dairy cattle has reached 5 million, considered to be the maximum sustainable herd size. |
| Russian Federation | Jun-18 | Dairy products | Import ban | Banned imports of some dairy products from Belarus in bulk form. Products included pasteurized milk and cream, sterilized and ultrapasterized milk, milk and cream, whey and concentrate of whey and milk protein. |
| | Aug-18 | Dairy products | Tariff rate quota | Published Decision No. 141 of the Eurasian Economic Commission establishing tariff-rate quotas (TRQs) and respective volumes of whey into the Eurasian Economic Union for 2019. TRQs remained unchanged from 2018. |
| Turkey | Jul-18 | Dairy products | Import ban lifted | Reopened market to US dairy products, ending a ban lasting nearly three years, after reaching an agreement for a new certificate. |
| United States | Jul-18 | Dairy products | Tariff rate | Imposed a 25 percent tariff on a number of goods from China, including dairy milkers and other livestock equipment. |

*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/?groupANDcommodity=Milk,%20Dairy%20products

# Statistical appendix tables

## 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 54 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 (i.e. USD 1 945 in 2011). 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 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014-2016 average | 2017 estim. | 2018 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | million tonnes | | | | | | | | |
| **ASIA** | **1 124.1** | **1 157.4** | **1 158.1** | **201.9** | **216.7** | **210.6** | **56.3** | **63.4** | **63.0** |
| Bangladesh | 38.4 | 38.6 | 40.2 | 6.5 | 9.2 | 8.2 | 0.1 | - | - |
| China | 501.1 | 503.2 | 496.9 | 35.5 | 34.6 | 33.3 | 1.0 | 1.9 | 2.2 |
| India | 240.1 | 258.0 | 261.8 | 2.5 | 1.5 | 0.4 | 13.3 | 13.6 | 14.0 |
| Indonesia | 64.9 | 70.7 | 72.4 | 12.4 | 13.6 | 12.3 | 0.2 | 0.3 | 0.2 |
| Iran, Islamic Republic of | 17.0 | 18.5 | 19.1 | 12.9 | 12.5 | 13.0 | - | 0.5 | 0.1 |
| Iraq | 4.8 | 4.8 | 4.1 | 3.5 | 5.5 | 5.3 | - | - | - |
| Japan | 8.8 | 8.7 | 8.6 | 23.3 | 24.2 | 23.9 | 0.3 | 0.2 | 0.3 |
| Kazakhstan | 18.1 | 19.7 | 20.6 | 0.3 | 0.1 | 0.1 | 7.7 | 10.0 | 10.6 |
| Korea, Republic.of | 4.5 | 4.2 | 4.2 | 14.6 | 14.8 | 15.2 | 0.1 | 0.1 | 0.1 |
| Myanmar | 19.3 | 20.5 | 21.2 | 0.4 | 0.5 | 0.5 | 2.9 | 4.0 | 4.2 |
| Pakistan | 38.4 | 40.7 | 38.7 | 0.5 | 0.2 | 0.2 | 4.6 | 5.3 | 5.1 |
| Philippines | 19.5 | 20.6 | 20.8 | 7.1 | 8.0 | 8.6 | 0.1 | - | 0.1 |
| Saudi Arabia | 0.6 | 0.3 | 0.3 | 17.1 | 16.7 | 17.3 | - | - | - |
| Thailand | 25.0 | 27.3 | 28.0 | 4.5 | 3.5 | 3.6 | 10.9 | 11.1 | 9.7 |
| Turkey | 35.2 | 35.8 | 35.7 | 6.6 | 11.3 | 8.2 | 4.3 | 4.7 | 4.5 |
| Viet Nam | 34.1 | 32.9 | 33.8 | 11.6 | 14.4 | 14.2 | 7.1 | 7.1 | 7.5 |
| **AFRICA** | **174.4** | **188.4** | **183.8** | **89.6** | **91.7** | **91.2** | **7.0** | **7.1** | **7.0** |
| Algeria | 3.5 | 3.4 | 6.0 | 13.4 | 13.1 | 12.7 | - | - | - |
| Egypt | 22.4 | 21.3 | 20.5 | 19.8 | 22.9 | 22.9 | 0.3 | 0.1 | - |
| Ethiopia | 24.8 | 26.7 | 26.6 | 1.6 | 1.8 | 1.8 | 1.2 | 1.2 | 1.2 |
| Morocco | 7.4 | 9.8 | 10.5 | 7.4 | 6.8 | 6.2 | 0.2 | 0.1 | 0.1 |
| Nigeria | 22.6 | 23.2 | 22.4 | 7.4 | 8.0 | 8.5 | 0.7 | 0.7 | 0.7 |
| South Africa | 13.5 | 19.6 | 15.8 | 4.3 | 3.0 | 2.6 | 1.3 | 2.4 | 2.3 |
| Sudan | 6.9 | 5.2 | 6.0 | 2.9 | 2.8 | 2.7 | 0.5 | 0.2 | 0.4 |
| **CENTRAL AMERICA** | **42.3** | **44.0** | **43.4** | **31.1** | **34.6** | **37.1** | **2.6** | **2.9** | **3.0** |
| Mexico | 36.0 | 37.4 | 37.0 | 19.1 | 22.0 | 24.2 | 2.3 | 2.7 | 2.8 |
| **SOUTH AMERICA** | **180.4** | **215.8** | **194.8** | **30.2** | **32.1** | **33.3** | **63.3** | **79.6** | **75.8** |
| Argentina | 59.0 | 75.8 | 70.6 | 0.1 | 0.1 | 0.1 | 32.2 | 42.5 | 44.5 |
| Brazil | 93.1 | 113.3 | 97.9 | 9.3 | 8.6 | 9.4 | 24.9 | 32.5 | 26.1 |
| Chile | 3.6 | 3.3 | 3.4 | 2.8 | 3.7 | 3.6 | 0.1 | 0.1 | 0.1 |
| Colombia | 3.0 | 3.5 | 3.4 | 7.0 | 7.7 | 8.0 | - | - | - |
| Peru | 4.2 | 4.0 | 4.1 | 5.3 | 5.8 | 6.2 | 0.1 | 0.1 | - |
| Venezuela | 2.3 | 1.3 | 1.2 | 3.6 | 3.7 | 3.4 | - | - | - |
| **NORTH AMERICA** | **502.1** | **493.9** | **505.6** | **9.3** | **10.4** | **10.1** | **114.7** | **117.7** | **128.0** |
| Canada | 54.5 | 56.3 | 57.6 | 1.9 | 2.1 | 2.0 | 26.6 | 27.8 | 29.7 |
| United States of America | 447.5 | 437.6 | 448.0 | 7.4 | 8.3 | 8.1 | 88.1 | 89.9 | 98.3 |
| **EUROPE** | **510.3** | **524.0** | **486.1** | **24.4** | **30.9** | **31.8** | **121.6** | **126.0** | **120.5** |
| European Union | 314.4 | 310.1 | 287.8 | 20.5 | 26.5 | 27.0 | 43.8 | 30.3 | 31.3 |
| Russian Federation | 107.4 | 130.8 | 110.0 | 0.8 | 0.8 | 0.8 | 33.9 | 52.6 | 44.1 |
| Serbia | 10.0 | 6.8 | 10.4 | 0.1 | 0.1 | 0.1 | 3.3 | 1.8 | 2.1 |
| Ukraine | 63.0 | 60.8 | 62.6 | 0.2 | 0.2 | 0.2 | 39.7 | 40.0 | 42.0 |
| **OCEANIA** | **41.9** | **34.5** | **29.5** | **1.7** | **1.7** | **1.8** | **26.2** | **23.8** | **18.6** |
| Australia | 40.8 | 33.5 | 28.4 | 0.2 | 0.2 | 0.2 | 26.2 | 23.8 | 18.6 |
| **WORLD** | **2 575.2** | **2 658.1** | **2 601.2** | **388.1** | **418.1** | **415.9** | **391.6** | **420.4** | **415.9** |
| Developing countries | 1 464.1 | 1 541.4 | 1 520.2 | 314.9 | 337.1 | 334.9 | 118.9 | 139.6 | 134.7 |
| Developed countries | 1 111.2 | 1 116.6 | 1 081.1 | 73.2 | 80.9 | 80.9 | 272.6 | 280.8 | 281.1 |
| LIFDC | 470.3 | 495.6 | 494.3 | 61.6 | 65.9 | 66.1 | 23.4 | 23.9 | 24.1 |
| LDC | 173.8 | 181.3 | 181.8 | 36.6 | 40.5 | 40.4 | 8.8 | 9.7 | 9.9 |

# APPENDIX TABLE 1(B): **CEREAL STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | (. . . . . million tonnes . . . . . ) | | | | | | (. . . . . Kg/year . . . . . ) | | |
| **ASIA** | **1 246.5** | **1 296.7** | **1 318.9** | **470.1** | **499.7** | **486.8** | **155.9** | **156.1** | **156.4** |
| Bangladesh | 44.4 | 47.1 | 48.5 | 7.5 | 9.6 | 9.8 | 210.6 | 213.7 | 214.5 |
| China | 504.6 | 526.6 | 539.1 | 319.7 | 359.4 | 348.3 | 147.7 | 148.4 | 148.2 |
| India | 233.3 | 238.9 | 244.5 | 41.8 | 41.7 | 45.3 | 147.6 | 147.4 | 148.1 |
| Indonesia | 78.1 | 81.7 | 85.6 | 9.5 | 10.0 | 9.9 | 188.7 | 188.3 | 189.5 |
| Iran, Islamic Republic of | 29.6 | 32.2 | 33.1 | 9.2 | 6.5 | 5.3 | 202.4 | 201.8 | 202.9 |
| Iraq | 9.0 | 9.3 | 9.4 | 1.4 | 1.4 | 1.4 | 189.7 | 187.3 | 187.5 |
| Japan | 32.1 | 32.4 | 31.9 | 7.0 | 6.7 | 6.8 | 94.0 | 93.5 | 93.1 |
| Kazakhstan | 10.5 | 10.3 | 9.8 | 2.9 | 2.6 | 2.9 | 156.8 | 156.5 | 156.0 |
| Korea, Republic.of | 19.1 | 19.8 | 19.3 | 4.0 | 3.1 | 3.1 | 127.9 | 125.0 | 123.3 |
| Myanmar | 17.2 | 17.0 | 17.1 | 3.0 | 2.7 | 2.9 | 210.9 | 211.0 | 210.8 |
| Pakistan | 34.2 | 36.7 | 35.8 | 5.5 | 4.2 | 2.3 | 147.3 | 147.3 | 147.1 |
| Philippines | 26.5 | 27.7 | 29.0 | 4.0 | 4.1 | 4.6 | 156.7 | 158.0 | 158.6 |
| Saudi Arabia | 17.6 | 17.8 | 17.8 | 7.6 | 6.3 | 6.0 | 145.2 | 140.6 | 138.9 |
| Thailand | 21.8 | 21.6 | 21.6 | 13.8 | 8.0 | 7.8 | 117.7 | 116.7 | 117.9 |
| Turkey | 38.4 | 40.3 | 40.4 | 5.6 | 6.0 | 4.8 | 239.3 | 238.9 | 239.0 |
| Viet Nam | 37.4 | 41.8 | 41.2 | 4.9 | 5.1 | 4.6 | 177.3 | 177.7 | 175.9 |
| **AFRICA** | **253.0** | **266.5** | **268.2** | **54.0** | **58.8** | **57.1** | **147.8** | **148.6** | **148.6** |
| Algeria | 16.5 | 16.7 | 17.5 | 5.4 | 5.4 | 6.6 | 230.1 | 229.0 | 230.1 |
| Egypt | 41.8 | 43.4 | 44.1 | 6.6 | 7.0 | 6.3 | 268.4 | 270.0 | 269.1 |
| Ethiopia | 24.3 | 26.6 | 27.0 | 4.0 | 5.6 | 5.8 | 182.7 | 190.3 | 192.6 |
| Morocco | 14.6 | 15.8 | 15.8 | 6.5 | 6.6 | 7.3 | 239.3 | 242.7 | 243.9 |
| Nigeria | 28.9 | 30.8 | 30.0 | 3.3 | 2.3 | 2.1 | 125.0 | 125.0 | 125.5 |
| South Africa | 16.0 | 17.0 | 16.2 | 3.0 | 4.9 | 4.6 | 163.6 | 164.8 | 165.1 |
| Sudan | 8.5 | 8.5 | 8.6 | 3.1 | 2.8 | 2.1 | 183.4 | 175.2 | 173.7 |
| **CENTRAL AMERICA** | **69.4** | **75.0** | **78.0** | **10.1** | **13.4** | **13.1** | **159.0** | **161.5** | **163.2** |
| Mexico | 51.9 | 56.2 | 58.7 | 4.9 | 7.6 | 7.5 | 185.9 | 186.5 | 187.0 |
| **SOUTH AMERICA** | **145.3** | **153.1** | **157.1** | **41.9** | **55.9** | **49.3** | **118.8** | **120.3** | **122.2** |
| Argentina | 26.5 | 28.8 | 30.7 | 9.3 | 13.4 | 9.0 | 134.9 | 135.3 | 135.7 |
| Brazil | 78.6 | 82.3 | 82.5 | 14.8 | 19.7 | 16.8 | 112.9 | 114.3 | 114.6 |
| Chile | 5.8 | 5.9 | 6.2 | 3.7 | 4.7 | 5.5 | 145.8 | 147.1 | 147.7 |
| Colombia | 9.6 | 10.2 | 10.9 | 1.9 | 2.5 | 2.4 | 98.7 | 111.9 | 124.9 |
| Peru | 8.3 | 8.9 | 9.7 | 3.9 | 5.7 | 6.5 | 152.3 | 159.9 | 159.4 |
| Venezuela | 6.3 | 5.1 | 4.9 | 1.4 | 0.5 | 0.3 | 128.2 | 107.8 | 109.1 |
| **NORTH AMERICA** | **384.2** | **390.5** | **402.9** | **91.2** | **99.5** | **86.0** | **110.0** | **110.9** | **110.7** |
| Canada | 31.0 | 32.5 | 32.8 | 11.0 | 10.8 | 9.1 | 95.8 | 96.3 | 96.3 |
| United States of America | 353.2 | 358.0 | 370.2 | 80.3 | 88.8 | 76.9 | 111.6 | 112.5 | 112.4 |
| **EUROPE** | **409.8** | **416.9** | **412.1** | **67.8** | **78.4** | **63.3** | **133.4** | **133.8** | **133.7** |
| European Union | 290.9 | 298.0 | 293.0 | 36.5 | 40.9 | 31.2 | 133.8 | 134.6 | 134.5 |
| Russian Federation | 70.4 | 74.4 | 73.0 | 14.3 | 23.7 | 17.4 | 126.7 | 126.3 | 126.2 |
| Serbia | 6.7 | 5.4 | 7.9 | 1.0 | 0.8 | 1.3 | 174.0 | 175.0 | 175.6 |
| Ukraine | 24.7 | 22.2 | 21.5 | 9.9 | 6.2 | 5.6 | 144.9 | 143.2 | 143.4 |
| **OCEANIA** | **16.2** | **15.2** | **15.3** | **8.3** | **9.1** | **6.3** | **91.3** | **92.0** | **92.0** |
| Australia | 13.6 | 12.7 | 12.6 | 7.9 | 8.7 | 5.8 | 100.1 | 101.0 | 101.3 |
| **WORLD** | **2 524.4** | **2 613.9** | **2 652.6** | **743.6** | **815.0** | **761.9** | **147.8** | **148.3** | **148.6** |
| Developing countries | 1 630.1 | 1 705.7 | 1 739.3 | 556.6 | 606.4 | 585.0 | 152.8 | 153.3 | 153.6 |
| Developed countries | 894.3 | 908.2 | 913.4 | 187.0 | 208.6 | 177.0 | 126.2 | 126.7 | 126.6 |
| LIFDC | 509.4 | 530.1 | 536.8 | 96.3 | 99.1 | 97.6 | 146.6 | 147.0 | 147.3 |
| LDC | 199.6 | 210.4 | 213.9 | 41.6 | 45.3 | 43.0 | 153.5 | 154.6 | 154.7 |

# APPENDIX TABLE 2(A): **WHEAT STATISTICS**

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2014-2016** average | **2017** *estim.* | **2018** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| | *million tonnes* | | | | | | | | |
| **ASIA** | **319.6** | **333.1** | **326.2** | **82.6** | **87.9** | **86.2** | **15.1** | **17.7** | **17.4** |
| Bangladesh | 1.3 | 1.3 | 1.3 | 4.6 | 5.9 | 6.0 | - | - | - |
| China | 128.4 | 133.0 | 128.0 | 5.0 | 5.6 | 5.9 | 0.2 | 0.2 | 0.2 |
| of which Taiwan Prov. | - | - | - | 1.3 | 1.4 | 1.4 | - | - | - |
| India | 91.5 | 98.5 | 99.7 | 2.2 | 1.3 | 0.2 | 1.0 | 0.5 | 0.6 |
| Indonesia | - | - | - | 9.2 | 10.7 | 10.5 | 0.1 | 0.1 | 0.1 |
| Iran, Islamic Republic of | 11.1 | 12.5 | 13.4 | 3.3 | - | 0.2 | - | 0.5 | 0.1 |
| Iraq | 3.6 | 3.5 | 3.0 | 2.3 | 4.0 | 3.8 | - | - | - |
| Japan | 0.9 | 0.9 | 0.9 | 5.6 | 5.6 | 5.8 | 0.2 | 0.2 | 0.2 |
| Kazakhstan | 13.9 | 14.8 | 15.0 | 0.3 | 0.1 | 0.1 | 6.9 | 8.5 | 8.5 |
| Korea, Republic of | - | - | - | 4.2 | 4.5 | 4.4 | - | - | - |
| Pakistan | 25.6 | 26.7 | 25.5 | 0.7 | - | - | 0.7 | 1.2 | 1.2 |
| Philippines | - | - | - | 5.2 | 5.7 | 5.8 | 0.1 | - | - |
| Saudi Arabia | 0.7 | - | - | 3.4 | 3.4 | 3.4 | - | - | - |
| Thailand | - | - | - | 4.1 | 3.0 | 3.2 | - | - | - |
| Turkey | 20.7 | 21.5 | 21.0 | 4.8 | 6.5 | 5.0 | 4.2 | 4.5 | 4.4 |
| **AFRICA** | **26.1** | **27.1** | **29.0** | **48.4** | **49.1** | **47.5** | **1.0** | **0.9** | **0.9** |
| Algeria | 2.5 | 2.4 | 3.9 | 8.2 | 8.2 | 7.6 | - | - | - |
| Egypt | 9.3 | 8.8 | 8.8 | 11.5 | 12.4 | 12.5 | - | - | - |
| Ethiopia | 4.4 | 4.6 | 4.6 | 1.2 | 1.3 | 1.3 | - | - | - |
| Morocco | 5.3 | 7.1 | 7.3 | 4.7 | 3.7 | 3.2 | 0.2 | 0.1 | 0.1 |
| Nigeria | 0.1 | 0.1 | 0.1 | 4.7 | 5.1 | 5.1 | 0.4 | 0.4 | 0.4 |
| South Africa | 1.7 | 1.5 | 1.8 | 1.8 | 1.9 | 1.4 | 0.2 | 0.1 | 0.1 |
| Tunisia | 1.1 | 1.1 | 1.0 | 1.9 | 2.0 | 1.9 | 0.1 | - | - |
| **CENTRAL AMERICA** | **3.8** | **3.5** | **2.9** | **8.8** | **9.4** | **9.8** | **1.3** | **1.2** | **1.4** |
| Cuba | - | - | - | 0.8 | 0.9 | 0.9 | - | - | - |
| Mexico | 3.8 | 3.5 | 2.9 | 4.7 | 5.2 | 5.5 | 1.2 | 1.1 | 1.3 |
| **SOUTH AMERICA** | **25.1** | **25.8** | **28.7** | **14.1** | **15.2** | **16.0** | **10.8** | **13.9** | **15.0** |
| Argentina | 14.8 | 18.5 | 20.0 | - | - | - | 8.2 | 13.4 | 14.2 |
| Brazil | 6.2 | 4.3 | 5.4 | 6.5 | 6.7 | 7.2 | 1.1 | 0.2 | 0.3 |
| Chile | 1.5 | 1.5 | 1.5 | 1.0 | 1.4 | 1.4 | - | - | - |
| Colombia | - | - | - | 1.9 | 2.0 | 2.0 | - | - | - |
| Peru | 0.2 | 0.2 | 0.2 | 1.9 | 2.0 | 2.2 | - | - | - |
| Venezuela | - | - | - | 1.4 | 1.4 | 1.4 | - | - | - |
| **NORTH AMERICA** | **87.8** | **77.3** | **82.3** | **3.2** | **4.5** | **3.8** | **46.6** | **44.9** | **53.0** |
| Canada | 29.7 | 30.0 | 31.0 | 0.1 | 0.1 | 0.1 | 22.0 | 21.8 | 24.0 |
| United States of America | 58.0 | 47.3 | 51.3 | 3.0 | 4.4 | 3.8 | 24.6 | 23.1 | 29.0 |
| **EUROPE** | **252.6** | **271.9** | **241.7** | **8.0** | **7.8** | **9.0** | **73.8** | **82.5** | **74.4** |
| European Union | 154.0 | 152.0 | 137.0 | 5.8 | 5.5 | 6.5 | 31.7 | 22.5 | 21.5 |
| Russian Federation | 64.9 | 85.9 | 71.6 | 0.4 | 0.3 | 0.3 | 25.0 | 40.7 | 35.5 |
| Ukraine | 25.6 | 26.2 | 24.6 | - | 0.1 | 0.1 | 15.6 | 17.8 | 16.0 |
| **OCEANIA** | **26.4** | **21.6** | **17.0** | **0.9** | **0.9** | **0.9** | **18.2** | **15.6** | **11.1** |
| Australia | 25.9 | 21.2 | 16.6 | - | - | - | 18.2 | 15.6 | 11.1 |
| **WORLD** | **741.3** | **760.4** | **727.9** | **166.0** | **174.8** | **173.2** | **166.8** | **176.6** | **173.2** |
| Developing countries | 345.9 | 360.5 | 358.3 | 138.5 | 145.8 | 143.8 | 20.1 | 24.2 | 25.1 |
| Developed countries | 395.4 | 399.9 | 369.6 | 27.5 | 29.0 | 29.4 | 146.6 | 152.5 | 148.1 |
| LIFDC | 142.1 | 148.9 | 146.4 | 36.9 | 38.6 | 38.8 | 3.0 | 3.0 | 3.1 |
| LDC | 14.0 | 13.3 | 12.5 | 21.3 | 23.1 | 23.7 | 0.2 | 0.1 | 0.1 |

# APPENDIX TABLE 2(B): **WHEAT STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | (. . . . . million tonnes . . . . . ) | | | | | | (. . . . . Kg/year . . . . . ) | | |
| **ASIA** | **376.7** | **385.9** | **387.5** | **134.2** | **163.2** | **170.6** | **64.8** | **65.2** | **65.2** |
| Bangladesh | 5.4 | 6.9 | 7.2 | 1.4 | 2.4 | 2.4 | 26.5 | 29.8 | 29.8 |
| China | 121.9 | 122.4 | 122.6 | 73.2 | 105.3 | 116.6 | 62.5 | 62.4 | 62.4 |
| of which Taiwan Prov. | 1.4 | 1.4 | 1.4 | 0.4 | 0.4 | 0.4 | 45.7 | 45.7 | 45.6 |
| India | 94.5 | 95.2 | 97.3 | 18.8 | 18.0 | 20.0 | 59.6 | 59.8 | 59.8 |
| Indonesia | 8.8 | 11.1 | 10.7 | 1.0 | 1.2 | 0.8 | 25.1 | 26.0 | 25.8 |
| Iran, Islamic Republic of | 14.4 | 14.8 | 14.6 | 7.2 | 3.3 | 2.2 | 166.4 | 166.3 | 166.4 |
| Iraq | 6.4 | 6.6 | 6.8 | 1.2 | 1.3 | 1.3 | 149.3 | 149.7 | 150.0 |
| Japan | 6.4 | 6.3 | 6.3 | 1.6 | 1.7 | 1.8 | 40.6 | 40.4 | 40.4 |
| Kazakhstan | 7.1 | 6.8 | 6.4 | 2.5 | 2.2 | 2.4 | 142.5 | 142.0 | 141.3 |
| Korea, Republic of | 4.2 | 4.5 | 4.4 | 0.7 | 1.0 | 1.0 | 47.7 | 47.9 | 47.7 |
| Pakistan | 25.2 | 26.3 | 25.7 | 3.2 | 2.3 | 1.0 | 124.4 | 124.4 | 124.5 |
| Philippines | 5.1 | 5.4 | 5.8 | 0.7 | 1.0 | 1.0 | 23.1 | 23.4 | 23.5 |
| Saudi Arabia | 3.5 | 3.7 | 3.6 | 3.5 | 3.2 | 3.0 | 99.3 | 98.7 | 98.3 |
| Thailand | 3.7 | 2.8 | 3.3 | 1.3 | 1.8 | 1.7 | 16.0 | 16.0 | 16.3 |
| Turkey | 22.0 | 22.4 | 22.7 | 3.4 | 3.8 | 2.7 | 210.2 | 209.9 | 210.0 |
| **AFRICA** | **71.7** | **74.8** | **75.2** | **21.2** | **20.2** | **19.7** | **50.4** | **50.3** | **49.9** |
| Algeria | 10.3 | 10.8 | 10.8 | 3.7 | 3.8 | 4.5 | 208.8 | 208.1 | 209.5 |
| Egypt | 20.7 | 21.2 | 21.6 | 4.5 | 4.3 | 4.0 | 185.4 | 186.1 | 186.2 |
| Ethiopia | 5.6 | 6.0 | 6.1 | 0.8 | 0.9 | 0.8 | 44.4 | 46.1 | 46.0 |
| Morocco | 9.5 | 10.4 | 10.1 | 5.1 | 5.4 | 5.7 | 208.8 | 211.2 | 212.8 |
| Nigeria | 4.0 | 4.1 | 4.1 | 0.2 | 0.2 | 0.2 | 20.3 | 20.2 | 19.9 |
| South Africa | 3.2 | 3.2 | 3.3 | 0.6 | 0.5 | 0.3 | 56.7 | 56.4 | 56.6 |
| Tunisia | 3.0 | 3.0 | 3.0 | 0.5 | 0.6 | 0.5 | 209.3 | 209.4 | 209.3 |
| **CENTRAL AMERICA** | **11.0** | **11.6** | **11.8** | **2.2** | **2.6** | **2.5** | **44.0** | **44.9** | **45.3** |
| Cuba | 0.8 | 0.9 | 0.9 | 0.1 | 0.1 | 0.1 | 57.0 | 63.4 | 63.5 |
| Mexico | 7.1 | 7.5 | 7.6 | 0.9 | 1.2 | 1.1 | 48.5 | 48.8 | 48.9 |
| **SOUTH AMERICA** | **27.1** | **28.1** | **28.6** | **8.6** | **8.2** | **7.9** | **59.1** | **59.7** | **60.0** |
| Argentina | 5.8 | 5.8 | 5.9 | 3.4 | 2.5 | 1.7 | 117.5 | 117.6 | 117.7 |
| Brazil | 11.3 | 11.8 | 11.9 | 1.7 | 1.8 | 2.0 | 52.7 | 53.7 | 53.6 |
| Chile | 2.4 | 2.5 | 2.5 | 1.0 | 1.4 | 1.8 | 108.7 | 108.9 | 108.8 |
| Colombia | 1.6 | 1.6 | 1.6 | 0.7 | 1.0 | 0.9 | 29.5 | 29.4 | 29.5 |
| Peru | 2.1 | 2.3 | 2.4 | 0.3 | 0.3 | 0.3 | 61.0 | 67.4 | 67.9 |
| Venezuela | 1.4 | 1.3 | 1.4 | 0.1 | 0.1 | 0.1 | 46.8 | 40.7 | 42.6 |
| **NORTH AMERICA** | **40.8** | **38.2** | **40.2** | **32.7** | **36.1** | **31.2** | **82.6** | **82.7** | **82.7** |
| Canada | 9.1 | 8.9 | 9.1 | 6.4 | 6.2 | 5.2 | 80.7 | 81.2 | 81.2 |
| United States of America | 31.7 | 29.3 | 31.1 | 26.4 | 29.9 | 26.0 | 82.8 | 82.9 | 82.9 |
| **EUROPE** | **183.2** | **190.1** | **188.3** | **31.6** | **40.4** | **28.2** | **107.4** | **107.8** | **107.8** |
| European Union | 127.0 | 128.6 | 128.8 | 15.5 | 21.0 | 14.0 | 109.1 | 109.6 | 109.6 |
| Russian Federation | 37.1 | 43.7 | 42.2 | 10.1 | 15.7 | 9.9 | 100.1 | 100.0 | 99.9 |
| Ukraine | 10.6 | 9.3 | 8.7 | 3.9 | 1.7 | 1.6 | 112.1 | 111.8 | 111.7 |
| **OCEANIA** | **8.7** | **8.4** | **8.7** | **5.7** | **6.1** | **4.3** | **67.4** | **67.5** | **67.4** |
| Australia | 7.4 | 7.2 | 7.4 | 5.4 | 5.8 | 4.0 | 80.0 | 80.2 | 80.3 |
| **WORLD** | **719.1** | **737.2** | **740.1** | **236.2** | **276.8** | **264.4** | **66.7** | **66.9** | **66.8** |
| Developing countries | 450.6 | 465.1 | 468.1 | 156.9 | 184.8 | 191.7 | 60.0 | 60.3 | 60.3 |
| Developed countries | 268.5 | 272.1 | 272.0 | 79.3 | 92.0 | 72.8 | 95.2 | 95.4 | 95.3 |
| LIFDC | 176.4 | 180.8 | 182.7 | 37.9 | 35.9 | 34.4 | 52.9 | 53.2 | 53.0 |
| LDC | 34.0 | 36.7 | 37.1 | 10.4 | 10.1 | 8.8 | 29.5 | 30.5 | 30.3 |

# APPENDIX TABLE 3(A): **COARSE GRAIN STATISTICS**

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014-2016 average | 2017 estim. | 2018 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | million tonnes | | | | | | | | |
| **ASIA** | **357.0** | **366.2** | **368.2** | **97.9** | **105.7** | **103.5** | **4.2** | **5.5** | **5.8** |
| China | 229.6 | 226.0 | 226.3 | 23.8 | 23.2 | 21.9 | 0.1 | 0.1 | 0.1 |
| of which Taiwan Prov. | 0.2 | 0.2 | 0.2 | 4.3 | 4.4 | 5.1 | - | - | - |
| India | 42.1 | 46.6 | 46.8 | 0.4 | 0.2 | 0.2 | 1.1 | 1.0 | 0.7 |
| Indonesia | 19.7 | 24.3 | 25.7 | 2.3 | 0.7 | 0.7 | 0.2 | 0.2 | 0.1 |
| Iran, Islamic Republic of | 4.3 | 4.0 | 3.7 | 8.3 | 11.2 | 11.5 | - | - | - |
| Japan | 0.2 | 0.2 | 0.2 | 17.0 | 17.8 | 17.4 | - | - | - |
| Korea, Republic of | 0.2 | 0.2 | 0.2 | 10.0 | 9.9 | 10.4 | - | - | - |
| Malaysia | 0.1 | 0.1 | 0.1 | 3.7 | 4.2 | 4.2 | - | - | - |
| Pakistan | 6.0 | 6.6 | 6.3 | 0.2 | 0.2 | 0.2 | - | - | - |
| Philippines | 7.5 | 7.9 | 8.2 | 0.6 | 0.7 | 0.7 | - | - | - |
| Saudi Arabia | 0.3 | 0.3 | 0.3 | 12.4 | 12.1 | 12.6 | - | - | - |
| Thailand | 4.8 | 5.0 | 5.2 | 0.2 | 0.2 | 0.2 | 0.5 | 0.3 | 0.3 |
| Turkey | 13.9 | 13.7 | 14.1 | 1.5 | 4.5 | 2.9 | 0.1 | 0.1 | 0.1 |
| Viet Nam | 5.3 | 5.1 | 4.8 | 7.4 | 9.0 | 9.1 | 0.1 | 0.1 | 0.1 |
| **AFRICA** | **128.2** | **140.6** | **134.0** | **25.9** | **26.3** | **26.0** | **5.2** | **5.9** | **5.8** |
| Algeria | 1.0 | 1.0 | 2.1 | 5.1 | 4.8 | 5.0 | - | - | - |
| Egypt | 8.9 | 8.1 | 8.3 | 8.2 | 10.3 | 10.0 | - | - | - |
| Ethiopia | 20.2 | 22.0 | 21.9 | 0.1 | - | - | 1.2 | 1.2 | 1.2 |
| Morocco | 2.1 | 2.7 | 3.1 | 2.7 | 3.0 | 3.0 | - | - | - |
| Nigeria | 18.8 | 19.0 | 18.0 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 |
| South Africa | 11.8 | 18.0 | 14.0 | 1.6 | 0.2 | 0.2 | 1.2 | 2.3 | 2.2 |
| Sudan | 6.3 | 4.7 | 5.5 | 0.3 | 0.3 | 0.2 | 0.5 | 0.2 | 0.4 |
| Tanzania, United Rep. of | 7.3 | 7.1 | 7.2 | - | - | - | 0.4 | 0.3 | 0.3 |
| **CENTRAL AMERICA** | **36.7** | **38.6** | **38.5** | **19.9** | **22.8** | **24.9** | **1.1** | **1.6** | **1.5** |
| Mexico | 32.1 | 33.7 | 33.9 | 13.7 | 16.1 | 18.0 | 1.1 | 1.5 | 1.5 |
| **SOUTH AMERICA** | **138.6** | **173.0** | **149.5** | **14.3** | **15.0** | **15.4** | **49.4** | **62.1** | **57.5** |
| Argentina | 43.1 | 56.4 | 49.7 | 0.1 | 0.1 | 0.1 | 23.6 | 28.7 | 29.8 |
| Brazil | 79.0 | 100.7 | 84.3 | 2.2 | 1.2 | 1.4 | 23.1 | 31.3 | 25.0 |
| Chile | 2.0 | 1.8 | 1.8 | 1.6 | 2.1 | 2.0 | 0.1 | 0.1 | 0.1 |
| Colombia | 1.5 | 1.6 | 1.7 | 5.0 | 5.6 | 5.8 | - | - | - |
| Peru | 1.9 | 1.7 | 1.8 | 3.0 | 3.5 | 3.6 | - | - | - |
| Venezuela | 1.8 | 1.1 | 1.1 | 1.9 | 1.8 | 1.6 | - | - | - |
| **NORTH AMERICA** | **407.5** | **410.9** | **416.3** | **5.0** | **4.6** | **5.0** | **64.8** | **69.8** | **71.8** |
| Canada | 24.8 | 26.4 | 26.5 | 1.4 | 1.6 | 1.5 | 4.6 | 6.0 | 5.7 |
| United States of America | 382.7 | 384.6 | 389.8 | 3.6 | 3.1 | 3.5 | 60.2 | 63.9 | 66.1 |
| **EUROPE** | **255.1** | **249.7** | **241.9** | **14.0** | **20.6** | **20.2** | **47.4** | **43.0** | **45.5** |
| European Union | 158.6 | 156.4 | 149.1 | 12.8 | 19.1 | 18.6 | 11.8 | 7.4 | 9.5 |
| Russian Federation | 41.8 | 44.3 | 37.8 | 0.2 | 0.3 | 0.3 | 8.7 | 11.8 | 8.5 |
| Serbia | 7.4 | 4.5 | 7.2 | 0.1 | 0.1 | 0.1 | 2.4 | 0.9 | 1.1 |
| Ukraine | 37.4 | 34.6 | 38.0 | 0.1 | 0.1 | 0.1 | 24.1 | 22.2 | 26.0 |
| **OCEANIA** | **15.1** | **12.3** | **12.0** | **0.3** | **0.3** | **0.3** | **7.8** | **8.0** | **7.3** |
| Australia | 14.4 | 11.7 | 11.4 | - | - | - | 7.8 | 8.0 | 7.3 |
| **WORLD** | **1 338.2** | **1 391.3** | **1 360.3** | **177.3** | **195.3** | **195.3** | **180.0** | **195.8** | **195.3** |
| Developing countries | 640.5 | 691.5 | 666.9 | 137.3 | 149.3 | 150.0 | 58.2 | 71.3 | 66.3 |
| Developed countries | 697.7 | 699.9 | 693.5 | 40.0 | 46.0 | 45.4 | 121.8 | 124.5 | 129.0 |
| LIFDC | 158.6 | 170.0 | 166.5 | 8.1 | 9.0 | 9.1 | 4.9 | 4.3 | 4.2 |
| LDC | 85.0 | 92.4 | 90.3 | 4.1 | 5.1 | 5.3 | 4.8 | 5.1 | 5.2 |

# APPENDIX TABLE 3(B): **COARSE GRAIN STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | ( million tonnes ) | | | | | | ( Kg/year ) | | |
| **ASIA** | **438.4** | **473.6** | **490.4** | **178.5** | **174.9** | **149.7** | **13.8** | **13.8** | **13.8** |
| China | 239.9 | 259.4 | 271.2 | 153.1 | 150.8 | 127.3 | 9.3 | 9.4 | 9.3 |
| of which Taiwan Prov. | 4.5 | 4.7 | 5.2 | 0.2 | 0.4 | 0.5 | 7.0 | 7.0 | 7.0 |
| India | 41.6 | 45.3 | 47.0 | 2.9 | 2.0 | 1.3 | 19.4 | 19.5 | 19.6 |
| Indonesia | 22.9 | 23.4 | 26.7 | 1.9 | 2.5 | 2.0 | 29.2 | 29.2 | 29.1 |
| Iran, Islamic Republic of | 12.2 | 14.3 | 15.2 | 1.4 | 2.3 | 2.3 | 1.3 | 1.3 | 1.2 |
| Japan | 17.2 | 17.8 | 17.4 | 2.1 | 1.9 | 2.0 | 3.3 | 3.3 | 3.3 |
| Korea, Republic.of | 10.4 | 10.6 | 10.6 | 1.7 | 1.1 | 1.1 | 4.3 | 4.3 | 4.3 |
| Malaysia | 3.7 | 4.1 | 4.2 | 0.1 | 0.2 | 0.2 | 1.7 | 1.8 | 1.9 |
| Pakistan | 6.0 | 7.2 | 7.0 | 1.6 | 1.2 | 0.6 | 10.3 | 10.2 | 9.9 |
| Philippines | 8.2 | 8.1 | 8.9 | 0.7 | 1.1 | 1.2 | 18.6 | 18.6 | 18.5 |
| Saudi Arabia | 12.8 | 12.8 | 12.9 | 3.8 | 2.9 | 2.9 | 3.0 | 2.9 | 2.9 |
| Thailand | 4.4 | 4.9 | 5.1 | 0.7 | 0.6 | 0.6 | 2.7 | 2.7 | 2.7 |
| Turkey | 15.6 | 17.0 | 16.9 | 2.1 | 2.1 | 2.1 | 19.9 | 19.7 | 19.7 |
| Viet Nam | 12.3 | 14.5 | 14.3 | 1.4 | 1.2 | 0.7 | 6.9 | 7.3 | 7.4 |
| **AFRICA** | **147.0** | **154.7** | **154.4** | **27.9** | **33.2** | **32.5** | **72.4** | **72.5** | **72.1** |
| Algeria | 6.1 | 5.8 | 6.6 | 1.7 | 1.6 | 2.1 | 18.6 | 17.9 | 17.6 |
| Egypt | 17.1 | 18.0 | 18.3 | 1.6 | 1.9 | 1.9 | 45.1 | 45.1 | 44.2 |
| Ethiopia | 18.3 | 20.0 | 20.3 | 3.1 | 4.5 | 4.9 | 134.8 | 138.9 | 140.8 |
| Morocco | 5.0 | 5.3 | 5.6 | 1.3 | 1.2 | 1.6 | 29.6 | 30.1 | 29.5 |
| Nigeria | 18.4 | 19.9 | 18.5 | 2.4 | 1.6 | 1.2 | 74.0 | 74.7 | 73.5 |
| South Africa | 11.9 | 12.8 | 11.9 | 2.3 | 4.2 | 4.1 | 91.1 | 92.6 | 92.4 |
| Sudan | 5.9 | 5.6 | 5.7 | 1.2 | 1.0 | 0.8 | 116.6 | 105.4 | 103.2 |
| Tanzania, United Rep. of | 6.8 | 6.9 | 7.1 | 1.6 | 1.4 | 1.2 | 87.4 | 87.4 | 87.5 |
| **CENTRAL AMERICA** | **54.4** | **59.1** | **61.9** | **7.4** | **10.2** | **9.9** | **97.4** | **98.5** | **99.5** |
| Mexico | 43.9 | 47.8 | 50.3 | 4.0 | 6.3 | 6.3 | 131.0 | 131.2 | 131.4 |
| **SOUTH AMERICA** | **103.0** | **109.6** | **113.1** | **31.2** | **45.4** | **39.4** | **27.5** | **28.5** | **29.8** |
| Argentina | 20.2 | 22.5 | 24.3 | 5.6 | 10.6 | 7.1 | 7.3 | 7.3 | 7.3 |
| Brazil | 59.5 | 62.4 | 62.5 | 12.6 | 17.4 | 14.4 | 25.4 | 25.6 | 25.7 |
| Chile | 3.2 | 3.2 | 3.4 | 2.7 | 3.3 | 3.6 | 24.9 | 25.3 | 25.4 |
| Colombia | 6.3 | 6.7 | 7.3 | 0.9 | 1.0 | 1.1 | 37.0 | 48.1 | 60.3 |
| Peru | 4.0 | 4.2 | 4.9 | 3.2 | 5.0 | 5.8 | 26.5 | 27.3 | 26.3 |
| Venezuela | 4.0 | 3.2 | 3.0 | 1.1 | 0.4 | 0.1 | 57.8 | 50.5 | 49.9 |
| **NORTH AMERICA** | **339.0** | **347.7** | **358.1** | **57.0** | **62.5** | **53.3** | **18.0** | **18.1** | **18.0** |
| Canada | 21.6 | 23.2 | 23.3 | 4.5 | 4.6 | 3.9 | 4.7 | 4.7 | 4.6 |
| United States of America | 317.4 | 324.4 | 334.9 | 52.4 | 57.9 | 49.4 | 19.5 | 19.6 | 19.5 |
| **EUROPE** | **222.3** | **222.2** | **219.4** | **35.4** | **37.3** | **34.4** | **20.8** | **20.7** | **20.6** |
| European Union | 160.6 | 166.0 | 160.9 | 20.5 | 19.3 | 16.6 | 19.2 | 19.3 | 19.3 |
| Russian Federation | 32.5 | 30.0 | 30.1 | 4.1 | 7.9 | 7.4 | 21.8 | 21.3 | 21.2 |
| Serbia | 5.1 | 3.7 | 6.1 | 0.5 | 0.5 | 0.5 | 24.4 | 24.6 | 24.7 |
| Ukraine | 14.0 | 12.8 | 12.6 | 6.0 | 4.5 | 4.0 | 30.1 | 28.7 | 28.9 |
| **OCEANIA** | **6.8** | **6.0** | **5.9** | **2.4** | **2.7** | **1.7** | **8.1** | **8.1** | **7.9** |
| Australia | 5.9 | 5.2 | 4.9 | 2.3 | 2.6 | 1.5 | 9.7 | 9.6 | 9.5 |
| **WORLD** | **1 311.0** | **1 372.9** | **1 403.3** | **339.7** | **366.1** | **321.0** | **27.3** | **27.7** | **27.9** |
| Developing countries | 704.6 | 756.6 | 781.6 | 238.2 | 254.8 | 222.5 | 29.1 | 29.5 | 29.7 |
| Developed countries | 606.4 | 616.3 | 621.7 | 101.6 | 111.3 | 98.5 | 19.9 | 19.9 | 19.9 |
| LIFDC | 160.5 | 173.1 | 173.6 | 27.0 | 28.6 | 26.3 | 38.3 | 38.7 | 38.8 |
| LDC | 83.8 | 90.2 | 91.4 | 17.0 | 19.5 | 18.3 | 58.0 | 58.5 | 58.8 |

# APPENDIX TABLE 4(A): **MAIZE STATISTICS**

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014-2016 average | 2017 *estim.* | 2018 *f'cast* | 14/15-16/17 average | 2017/18 *estim.* | 2018/19 *f'cast* | 14/15-16/17 average | 2017/18 *estim.* | 2018/19 *f'cast* |
| | *million tonnes* | | | | | | | | |
| **ASIA** | **309.1** | **316.6** | **318.5** | **64.5** | **73.7** | **74.5** | **3.2** | **3.8** | **3.6** |
| China | 220.1 | 216.0 | 216.7 | 7.7 | 8.6 | 9.6 | - | - | - |
| of which Taiwan Prov. | 0.2 | 0.2 | 0.2 | 4.2 | 4.3 | 5.0 | - | - | - |
| India | 24.2 | 28.7 | 28.5 | 0.2 | - | - | 0.9 | 0.8 | 0.6 |
| Indonesia | 19.7 | 24.3 | 25.7 | 2.2 | 0.6 | 0.6 | 0.2 | 0.2 | 0.1 |
| Iran, Islamic Republic of | 1.3 | 0.9 | 0.9 | 6.7 | 8.3 | 8.5 | - | - | - |
| Japan | - | - | - | 15.0 | 15.9 | 15.4 | - | - | - |
| Korea, Republic.of | 0.1 | 0.1 | 0.1 | 9.9 | 9.8 | 10.2 | - | - | - |
| Malaysia | 0.1 | 0.1 | 0.1 | 3.6 | 4.2 | 4.2 | - | - | - |
| Pakistan | 5.4 | 6.1 | 5.8 | - | - | - | - | - | - |
| Philippines | 7.5 | 7.9 | 8.2 | 0.6 | 0.6 | 0.7 | - | - | - |
| Thailand | 4.6 | 4.9 | 5.0 | 0.1 | 0.2 | 0.2 | 0.5 | 0.3 | 0.3 |
| Turkey | 6.3 | 5.9 | 6.0 | 1.2 | 3.7 | 2.6 | 0.1 | 0.1 | 0.1 |
| Viet Nam | 5.2 | 5.1 | 4.8 | 7.4 | 8.9 | 9.0 | 0.1 | 0.1 | 0.1 |
| **AFRICA** | **74.9** | **87.1** | **78.1** | **21.9** | **22.3** | **22.5** | **3.7** | **4.5** | **4.3** |
| Algeria | - | - | - | 4.3 | 4.1 | 4.4 | - | - | - |
| Egypt | 8.0 | 7.1 | 7.3 | 8.2 | 10.3 | 10.0 | - | - | - |
| Ethiopia | 7.6 | 8.4 | 8.4 | - | - | - | 0.8 | 0.7 | 0.7 |
| Kenya | 3.5 | 3.0 | 3.2 | 1.0 | 1.3 | 1.2 | - | - | - |
| Morocco | 0.1 | 0.1 | 0.1 | 2.1 | 2.6 | 2.6 | - | - | - |
| Nigeria | 10.4 | 11.1 | 10.1 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 |
| South Africa | 11.2 | 17.6 | 13.5 | 1.5 | - | - | 1.1 | 2.3 | 2.2 |
| Tanzania, United Rep. of | 6.2 | 6.0 | 6.1 | - | - | - | 0.4 | 0.3 | 0.3 |
| **CENTRAL AMERICA** | **29.7** | **32.1** | **31.9** | **19.2** | **22.3** | **23.6** | **1.1** | **1.5** | **1.5** |
| Mexico | 25.4 | 27.6 | 27.6 | 12.9 | 15.7 | 16.7 | 1.1 | 1.5 | 1.5 |
| **SOUTH AMERICA** | **125.4** | **160.4** | **136.6** | **12.8** | **13.7** | **14.0** | **46.0** | **58.8** | **54.4** |
| Argentina | 35.5 | 49.5 | 43.3 | - | - | - | 20.4 | 25.6 | 27.0 |
| Brazil | 76.2 | 97.8 | 80.8 | 1.5 | 0.7 | 0.8 | 23.1 | 31.3 | 25.0 |
| Chile | 1.3 | 1.0 | 1.1 | 1.4 | 2.0 | 1.9 | - | - | - |
| Colombia | 1.5 | 1.6 | 1.7 | 4.6 | 5.2 | 5.5 | - | - | - |
| Peru | 1.6 | 1.5 | 1.6 | 2.9 | 3.4 | 3.5 | - | - | - |
| Venezuela | 1.7 | 1.0 | 1.0 | 1.9 | 1.8 | 1.6 | - | - | - |
| **NORTH AMERICA** | **376.8** | **385.1** | **389.8** | **2.5** | **2.4** | **2.6** | **53.0** | **59.6** | **63.8** |
| Canada | 13.0 | 14.1 | 14.5 | 1.2 | 1.5 | 1.4 | 1.3 | 1.8 | 1.8 |
| United States of America | 363.8 | 371.0 | 375.4 | 1.3 | 1.0 | 1.2 | 51.7 | 57.8 | 62.0 |
| **EUROPE** | **116.1** | **110.9** | **113.4** | **12.8** | **18.7** | **18.4** | **28.7** | **26.3** | **28.2** |
| European Union | 65.9 | 65.0 | 63.0 | 12.1 | 17.8 | 17.5 | 2.9 | 1.6 | 1.5 |
| Russian Federation | 13.3 | 13.2 | 10.9 | - | 0.1 | 0.1 | 4.3 | 5.8 | 3.7 |
| Serbia | 6.9 | 4.0 | 6.7 | - | - | - | 2.3 | 0.9 | 1.0 |
| Ukraine | 26.6 | 24.7 | 29.0 | - | 0.1 | 0.1 | 19.0 | 17.7 | 21.6 |
| **OCEANIA** | **0.6** | **0.6** | **0.6** | **0.2** | **0.2** | **0.2** | **0.1** | **0.1** | **0.1** |
| **WORLD** | **1 032.7** | **1 092.7** | **1 068.9** | **133.8** | **153.3** | **155.8** | **135.8** | **154.7** | **155.8** |
| Developing countries | 525.3 | 576.1 | 549.1 | 100.2 | 114.2 | 117.4 | 52.9 | 66.4 | 61.5 |
| Developed countries | 507.4 | 516.6 | 519.8 | 33.6 | 39.2 | 38.4 | 82.9 | 88.3 | 94.3 |
| LIFDC | 89.4 | 100.6 | 96.6 | 6.3 | 7.1 | 7.2 | 3.1 | 2.8 | 2.6 |
| LDC | 45.5 | 52.9 | 49.7 | 3.5 | 4.4 | 4.7 | 3.4 | 3.9 | 3.8 |

# APPENDIX TABLE 4(B): **MAIZE STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **2015-2017** average | **2018** *estim.* | **2019** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| | *(. . . . . million tonnes . . . . . )* | | | | | | *(. . . . . Kg/year . . . . . )* | | |
| **ASIA** | **358.2** | **394.2** | **414.7** | **164.8** | **163.4** | **137.5** | **8.2** | **8.3** | **8.3** |
| China | 215.0 | 235.2 | 249.7 | 149.0 | 147.1 | 123.0 | 6.0 | 6.1 | 6.0 |
| of which Taiwan Prov. | 4.4 | 4.6 | 5.1 | 0.2 | 0.4 | 0.5 | 5.5 | 5.5 | 5.5 |
| India | 23.7 | 27.3 | 28.5 | 1.4 | 1.5 | 1.0 | 6.9 | 7.1 | 7.0 |
| Indonesia | 22.8 | 23.3 | 26.6 | 1.9 | 2.5 | 2.0 | 28.8 | 28.8 | 28.7 |
| Iran, Islamic Republic of | 7.6 | 8.7 | 9.4 | 0.7 | 1.5 | 1.5 | 0.9 | 0.9 | 0.9 |
| Japan | 14.8 | 15.7 | 15.3 | 1.8 | 1.6 | 1.7 | 0.8 | 0.8 | 0.8 |
| Korea, Republic.of | 10.1 | 10.3 | 10.3 | 1.7 | 1.1 | 1.0 | 1.9 | 2.0 | 2.0 |
| Malaysia | 3.7 | 4.1 | 4.2 | 0.1 | 0.2 | 0.2 | 1.7 | 1.8 | 1.9 |
| Pakistan | 5.4 | 6.6 | 6.4 | 1.6 | 1.2 | 0.6 | 8.2 | 8.1 | 8.0 |
| Philippines | 8.1 | 8.1 | 8.8 | 0.7 | 1.1 | 1.2 | 18.5 | 18.5 | 18.5 |
| Thailand | 4.2 | 4.7 | 4.9 | 0.7 | 0.6 | 0.6 | 1.2 | 1.2 | 1.2 |
| Turkey | 7.5 | 8.5 | 8.5 | 1.0 | 1.0 | 1.0 | 16.2 | 16.1 | 16.1 |
| Viet Nam | 12.1 | 14.4 | 14.2 | 1.4 | 1.2 | 0.7 | 6.8 | 7.2 | 7.4 |
| **AFRICA** | **91.5** | **97.9** | **96.9** | **15.8** | **21.8** | **20.8** | **39.7** | **40.1** | **39.9** |
| Algeria | 4.1 | 4.1 | 4.4 | 1.3 | 1.2 | 1.2 | 3.5 | 3.4 | 3.3 |
| Egypt | 16.2 | 17.0 | 17.3 | 1.5 | 1.8 | 1.8 | 41.9 | 42.0 | 41.3 |
| Ethiopia | 6.8 | 7.5 | 7.5 | 0.6 | 0.8 | 0.9 | 43.9 | 45.2 | 46.5 |
| Kenya | 4.3 | 4.4 | 4.4 | 0.5 | 0.4 | 0.4 | 80.9 | 81.3 | 80.1 |
| Morocco | 2.2 | 2.5 | 2.5 | 0.7 | 0.9 | 1.1 | 10.1 | 10.5 | 10.4 |
| Nigeria | 10.3 | 11.6 | 10.4 | 1.0 | 0.7 | 0.6 | 34.9 | 36.1 | 35.5 |
| South Africa | 11.3 | 12.2 | 11.2 | 1.9 | 4.0 | 3.9 | 88.3 | 89.9 | 89.7 |
| Tanzania, United Rep. of | 5.6 | 5.8 | 6.0 | 1.4 | 1.2 | 1.0 | 69.5 | 70.0 | 70.4 |
| **CENTRAL AMERICA** | **46.7** | **52.1** | **53.9** | **7.0** | **9.8** | **9.5** | **96.5** | **97.5** | **98.6** |
| Mexico | 36.5 | 41.2 | 42.6 | 3.7 | 6.0 | 6.0 | 130.6 | 130.8 | 131.0 |
| **SOUTH AMERICA** | **91.8** | **99.0** | **101.7** | **27.4** | **41.9** | **35.9** | **25.8** | **26.8** | **28.2** |
| Argentina | 15.5 | 18.5 | 20.3 | 4.3 | 10.0 | 6.5 | 7.1 | 7.1 | 7.1 |
| Brazil | 56.0 | 59.1 | 58.3 | 12.2 | 17.0 | 14.0 | 24.0 | 24.1 | 24.2 |
| Chile | 2.5 | 2.6 | 2.8 | 2.2 | 2.6 | 2.8 | 21.1 | 21.3 | 21.4 |
| Colombia | 6.0 | 6.4 | 7.0 | 0.9 | 1.0 | 1.1 | 35.6 | 47.1 | 59.5 |
| Peru | 3.6 | 3.9 | 4.6 | 3.2 | 5.0 | 5.8 | 20.1 | 20.7 | 20.9 |
| Venezuela | 3.8 | 3.1 | 2.8 | 1.1 | 0.3 | - | 57.3 | 50.0 | 49.4 |
| **NORTH AMERICA** | **317.6** | **327.8** | **336.4** | **50.9** | **56.8** | **48.3** | **14.8** | **14.8** | **14.8** |
| Canada | 12.8 | 14.0 | 14.3 | 2.0 | 2.4 | 2.2 | 3.2 | 3.2 | 3.2 |
| United States of America | 304.8 | 313.8 | 322.1 | 48.8 | 54.4 | 46.1 | 16.1 | 16.2 | 16.1 |
| **EUROPE** | **100.6** | **100.4** | **105.4** | **17.5** | **17.2** | **15.4** | **8.4** | **8.4** | **8.4** |
| European Union | 75.3 | 78.7 | 80.5 | 9.8 | 10.0 | 8.5 | 9.8 | 9.9 | 9.9 |
| Russian Federation | 8.7 | 7.1 | 7.6 | 0.7 | 1.3 | 1.0 | 1.4 | 1.4 | 1.4 |
| Serbia | 4.5 | 3.2 | 5.7 | 0.5 | 0.5 | 0.5 | 22.6 | 22.8 | 22.8 |
| Ukraine | 8.3 | 7.7 | 7.8 | 4.4 | 2.6 | 2.3 | 11.1 | 11.2 | 11.3 |
| **OCEANIA** | **0.7** | **0.7** | **0.7** | **0.1** | **0.1** | **0.1** | **2.3** | **2.3** | **2.3** |
| **WORLD** | **1 007.0** | **1 072.2** | **1 109.8** | **283.4** | **311.1** | **267.4** | **17.2** | **17.5** | **17.7** |
| Developing countries | 558.0 | 610.7 | 636.5 | 210.0 | 230.2 | 196.9 | 18.4 | 18.8 | 18.9 |
| Developed countries | 449.1 | 461.5 | 473.3 | 73.4 | 80.9 | 70.5 | 11.9 | 12.1 | 12.1 |
| LIFDC | 91.6 | 102.5 | 103.0 | 14.1 | 16.8 | 14.8 | 18.4 | 18.8 | 18.8 |
| LDC | 45.5 | 50.5 | 51.5 | 8.0 | 10.5 | 9.4 | 27.8 | 28.2 | 28.5 |

# APPENDIX TABLE 5(A): **BARLEY STATISTICS**

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2014-2016** average | **2017** *estim.* | **2018** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| | *million tonnes* | | | | | | | | |
| **ASIA** | **20.3** | **21.6** | **22.0** | **23.7** | **25.0** | **24.5** | **0.8** | **1.4** | **2.0** |
| China | 1.8 | 2.0 | 1.8 | 7.8 | 8.8 | 9.1 | - | - | - |
| India | 1.6 | 1.8 | 1.8 | 0.4 | 0.2 | 0.2 | 0.2 | - | - |
| Iran, Islamic Republic of | 3.0 | 3.1 | 2.8 | 1.7 | 2.9 | 3.0 | - | - | - |
| Iraq | 0.8 | 0.8 | 0.7 | - | - | - | - | - | - |
| Japan | 0.2 | 0.2 | 0.2 | 1.2 | 1.3 | 1.2 | - | - | - |
| Kazakhstan | 2.8 | 3.3 | 4.2 | - | - | - | 0.7 | 1.4 | 2.0 |
| Saudi Arabia | - | - | - | 9.1 | 8.0 | 7.6 | - | - | - |
| Syrian Arab Republic | 0.5 | 0.8 | 0.4 | 0.4 | 0.4 | 0.6 | - | - | - |
| Turkey | 7.0 | 7.1 | 7.4 | 0.5 | 0.8 | 0.2 | - | - | - |
| **AFRICA** | **6.0** | **6.6** | **8.0** | **3.1** | **2.9** | **2.5** | **-** | **-** | **-** |
| Algeria | 0.9 | 0.9 | 2.0 | 0.8 | 0.7 | 0.6 | - | - | - |
| Ethiopia | 2.0 | 2.1 | 2.0 | - | - | - | - | - | - |
| Libya | 0.1 | 0.1 | 0.1 | 1.1 | 1.0 | 1.0 | - | - | - |
| Morocco | 1.9 | 2.5 | 2.9 | 0.6 | 0.4 | 0.4 | - | - | - |
| Tunisia | 0.5 | 0.5 | 0.4 | 0.6 | 0.6 | 0.4 | - | - | - |
| **CENTRAL AMERICA** | **0.8** | **1.0** | **1.0** | **0.2** | **0.2** | **0.2** | **-** | **-** | **-** |
| Mexico | 0.8 | 1.0 | 1.0 | 0.2 | 0.2 | 0.2 | - | - | - |
| **SOUTH AMERICA** | **4.8** | **4.8** | **5.5** | **1.2** | **1.0** | **1.1** | **2.4** | **2.7** | **2.6** |
| Argentina | 3.7 | 3.7 | 4.1 | - | - | - | 2.4 | 2.7 | 2.5 |
| **NORTH AMERICA** | **12.4** | **11.0** | **11.6** | **0.5** | **0.2** | **0.4** | **1.6** | **2.2** | **2.1** |
| Canada | 8.0 | 7.9 | 8.2 | 0.1 | 0.1 | 0.1 | 1.4 | 2.1 | 2.0 |
| United States of America | 4.4 | 3.1 | 3.3 | 0.4 | 0.2 | 0.4 | 0.2 | 0.1 | 0.1 |
| **EUROPE** | **91.3** | **90.9** | **85.0** | **0.5** | **0.8** | **0.9** | **17.7** | **15.8** | **16.5** |
| Belarus | 1.7 | 1.4 | 1.7 | 0.1 | - | - | - | - | - |
| European Union | 60.5 | 59.0 | 57.0 | 0.3 | 0.4 | 0.5 | 8.6 | 5.5 | 7.6 |
| Russian Federation | 18.6 | 20.6 | 17.4 | 0.2 | 0.2 | 0.2 | 4.1 | 5.8 | 4.5 |
| Ukraine | 8.9 | 8.3 | 7.4 | - | - | - | 4.8 | 4.3 | 4.2 |
| **OCEANIA** | **10.8** | **9.3** | **8.6** | **-** | **-** | **-** | **6.4** | **7.3** | **6.5** |
| Australia | 10.4 | 8.9 | 8.2 | - | - | - | 6.4 | 7.3 | 6.5 |
| **WORLD** | **146.5** | **145.2** | **141.7** | **29.1** | **30.2** | **29.7** | **28.9** | **29.5** | **29.7** |
| Developing countries | 26.9 | 28.3 | 29.9 | 26.5 | 27.4 | 26.6 | 2.6 | 2.8 | 2.6 |
| Developed countries | 119.6 | 116.8 | 111.8 | 2.7 | 2.8 | 3.1 | 26.4 | 26.7 | 27.1 |
| LIFDC | 5.5 | 6.1 | 5.7 | 0.8 | 0.9 | 1.0 | 0.2 | - | - |
| LDC | 2.6 | 2.6 | 2.6 | - | - | - | - | - | - |

# APPENDIX TABLE 5(B): **BARLEY STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | ( million tonnes ) | | | | | | ( Kg/year ) | | |
| **ASIA** | **42.9** | **45.0** | **43.5** | **9.6** | **9.2** | **10.2** | **0.7** | **0.7** | **0.7** |
| China | 9.2 | 10.9 | 10.3 | 2.3 | 2.4 | 3.0 | 0.2 | 0.2 | 0.2 |
| India | 1.5 | 2.0 | 2.0 | - | - | - | 1.0 | 1.3 | 1.3 |
| Iran, Islamic Republic of | 4.5 | 5.6 | 5.8 | 0.7 | 0.8 | 0.8 | 0.3 | 0.3 | 0.3 |
| Iraq | 0.8 | 0.8 | 0.8 | 0.1 | - | - | 3.6 | 3.4 | 3.3 |
| Japan | 1.4 | 1.4 | 1.4 | 0.2 | 0.2 | 0.2 | 2.3 | 2.4 | 2.4 |
| Kazakhstan | 2.1 | 2.0 | 2.1 | 0.3 | 0.2 | 0.3 | 1.1 | 1.1 | 1.1 |
| Saudi Arabia | 9.2 | 8.5 | 7.6 | 3.5 | 2.6 | 2.6 | 0.9 | 0.9 | 0.8 |
| Syrian Arab Republic | 1.1 | 1.0 | 0.9 | 0.3 | 0.4 | 0.4 | 14.9 | 15.3 | 15.3 |
| Turkey | 7.5 | 7.7 | 7.6 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| **AFRICA** | **9.5** | **9.4** | **9.8** | **1.9** | **1.3** | **2.0** | **2.7** | **2.7** | **2.6** |
| Algeria | 1.9 | 1.6 | 2.0 | 0.5 | 0.4 | 0.8 | 15.0 | 14.5 | 14.3 |
| Ethiopia | 2.0 | 2.1 | 2.1 | 0.1 | - | - | 17.2 | 17.7 | 17.2 |
| Libya | 1.1 | 1.1 | 1.1 | - | - | - | 13.5 | 13.5 | 13.3 |
| Morocco | 2.7 | 2.8 | 3.1 | 0.7 | 0.2 | 0.5 | 19.4 | 19.5 | 19.1 |
| Tunisia | 1.0 | 1.0 | 0.8 | 0.4 | 0.4 | 0.4 | 8.0 | 7.8 | 7.7 |
| **CENTRAL AMERICA** | **1.0** | **1.2** | **1.2** | **0.1** | **0.1** | **0.1** | **-** | **-** | **-** |
| Mexico | 1.0 | 1.2 | 1.2 | 0.1 | 0.1 | 0.1 | - | - | - |
| **SOUTH AMERICA** | **3.7** | **3.0** | **4.1** | **0.6** | **0.4** | **0.6** | **0.5** | **0.4** | **0.5** |
| Argentina | 1.5 | 1.0 | 1.6 | 0.5 | 0.3 | 0.5 | - | - | - |
| **NORTH AMERICA** | **11.1** | **10.2** | **10.6** | **3.7** | **3.3** | **2.9** | **0.5** | **0.5** | **0.5** |
| Canada | 6.7 | 6.8 | 6.8 | 1.6 | 1.3 | 1.0 | 0.3 | 0.3 | 0.3 |
| United States of America | 4.3 | 3.4 | 3.7 | 2.1 | 2.1 | 1.9 | 0.6 | 0.6 | 0.6 |
| **EUROPE** | **74.3** | **74.9** | **70.3** | **11.3** | **12.0** | **11.2** | **1.2** | **1.1** | **1.1** |
| Belarus | 1.6 | 1.5 | 1.2 | 0.9 | 0.8 | 1.4 | - | - | - |
| European Union | 52.6 | 54.4 | 50.4 | 7.2 | 6.0 | 5.5 | 0.8 | 0.7 | 0.7 |
| Russian Federation | 14.4 | 13.8 | 13.8 | 1.8 | 3.6 | 2.9 | 1.8 | 1.8 | 1.8 |
| Ukraine | 4.2 | 3.7 | 3.4 | 1.2 | 1.4 | 1.2 | 3.0 | 2.6 | 2.6 |
| **OCEANIA** | **3.9** | **3.2** | **3.0** | **1.2** | **1.3** | **0.4** | **0.2** | **0.1** | **0.1** |
| Australia | 3.4 | 2.8 | 2.6 | 1.1 | 1.3 | 0.4 | 0.3 | 0.2 | 0.2 |
| **WORLD** | **146.3** | **146.7** | **142.4** | **28.4** | **27.7** | **27.5** | **1.0** | **1.0** | **1.0** |
| Developing countries | 51.1 | 52.6 | 52.5 | 10.7 | 9.1 | 10.7 | 1.0 | 1.1 | 1.0 |
| Developed countries | 95.2 | 94.1 | 89.9 | 17.7 | 18.5 | 16.7 | 1.0 | 1.0 | 1.0 |
| LIFDC | 6.2 | 6.6 | 6.5 | 1.0 | 1.2 | 1.4 | 1.3 | 1.5 | 1.4 |
| LDC | 2.6 | 2.6 | 2.6 | 0.3 | 0.1 | 0.2 | 1.9 | 1.9 | 1.9 |

# APPENDIX TABLE 6(A): **SORGHUM STATISTICS**

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2014-2016** average | **2017** *estim.* | **2018** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| | *million tonnes* | | | | | | | | |
| **ASIA** | **9.1** | **8.8** | **9.1** | **9.0** | **6.1** | **3.9** | **0.1** | **0.1** | **0.1** |
| China | 2.9 | 3.3 | 3.1 | 8.1 | 5.4 | 3.1 | - | - | - |
| India | 5.0 | 4.6 | 5.0 | - | - | - | 0.1 | - | - |
| Japan | - | - | - | 0.8 | 0.6 | 0.7 | - | - | - |
| **AFRICA** | **28.1** | **27.0** | **28.1** | **0.9** | **1.0** | **0.9** | **1.0** | **0.9** | **1.1** |
| Burkina Faso | 1.6 | 1.6 | 1.7 | - | - | - | - | - | - |
| Ethiopia | 4.6 | 5.2 | 5.2 | - | - | - | 0.4 | 0.5 | 0.5 |
| Nigeria | 6.9 | 6.3 | 6.5 | - | - | - | - | - | - |
| Sudan | 5.2 | 3.7 | 4.5 | 0.2 | 0.2 | 0.1 | 0.5 | 0.2 | 0.4 |
| **CENTRAL AMERICA** | **6.1** | **5.3** | **5.6** | **0.6** | **0.1** | **1.0** | **-** | **-** | **-** |
| Mexico | 5.7 | 5.0 | 5.2 | 0.6 | 0.1 | 1.0 | - | - | - |
| **SOUTH AMERICA** | **6.3** | **5.8** | **4.9** | **0.2** | **0.1** | **0.1** | **0.9** | **0.5** | **0.3** |
| Argentina | 3.2 | 2.5 | 1.6 | - | - | - | 0.8 | 0.5 | 0.3 |
| Brazil | 1.9 | 1.9 | 2.1 | - | - | - | - | - | - |
| Venezuela | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| **NORTH AMERICA** | **12.8** | **9.2** | **9.7** | **0.1** | **0.1** | **-** | **8.1** | **5.9** | **3.9** |
| United States of America | 12.8 | 9.2 | 9.7 | 0.1 | 0.1 | - | 8.1 | 5.9 | 3.9 |
| **EUROPE** | **1.2** | **1.1** | **1.1** | **0.1** | **0.4** | **0.2** | **0.2** | **0.2** | **0.1** |
| European Union | 0.7 | 0.8 | 0.8 | 0.1 | 0.4 | 0.2 | - | - | - |
| **OCEANIA** | **1.8** | **1.0** | **1.4** | **0.1** | **-** | **-** | **1.0** | **0.4** | **0.5** |
| Australia | 1.8 | 1.0 | 1.4 | - | - | - | 1.0 | 0.4 | 0.5 |
| **WORLD** | **65.3** | **58.3** | **59.8** | **10.7** | **7.9** | **6.1** | **11.3** | **7.9** | **6.1** |
| Developing countries | 49.4 | 46.8 | 47.4 | 9.7 | 6.7 | 5.1 | 2.0 | 1.5 | 1.5 |
| Developed countries | 16.0 | 11.5 | 12.4 | 1.0 | 1.2 | 1.0 | 9.3 | 6.5 | 4.6 |
| LIFDC | 32.8 | 31.0 | 32.6 | 0.8 | 0.9 | 0.8 | 1.1 | 0.9 | 1.1 |
| LDC | 19.5 | 18.8 | 20.0 | 0.6 | 0.7 | 0.5 | 0.9 | 0.8 | 1.0 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2014-2016** average | **2017** *estim.* | **2018** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| | *million tonnes* | | | | | | | | |
| ASIA | 18.5 | 19.2 | 18.6 | 0.7 | 0.9 | 0.6 | 0.2 | 0.2 | 0.1 |
| AFRICA | 19.1 | 19.9 | 19.8 | - | 0.1 | 0.1 | 0.5 | 0.5 | 0.4 |
| CENTRAL AMERICA | 0.1 | 0.2 | - | - | 0.2 | 0.1 | - | 0.1 | - |
| SOUTH AMERICA | 2.1 | 2.0 | 2.5 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 |
| NORTH AMERICA | 5.5 | 5.6 | 5.2 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.0 |
| EUROPE | 46.6 | 46.8 | 42.4 | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| OCEANIA | 1.9 | 1.4 | 1.4 | - | 0.1 | 0.1 | 0.3 | 0.2 | 0.2 |
| **WORLD** | **93.7** | **95.1** | **89.9** | **3.6** | **3.9** | **3.7** | **4.0** | **3.7** | **3.7** |

# APPENDIX TABLE 6(B): **SORGHUM STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | (. . . . . million tonnes . . . . . ) | | | | | | (. . . . . Kg/year . . . . . ) | | |
| **ASIA** | **17.7** | **14.4** | **12.8** | **1.7** | **1.0** | **1.0** | **1.4** | **1.3** | **1.3** |
| China | 10.6 | 8.0 | 6.2 | 1.1 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 |
| India | 5.0 | 4.5 | 4.9 | 0.3 | - | - | 3.6 | 3.3 | 3.5 |
| Japan | 0.8 | 0.6 | 0.6 | 0.1 | 0.1 | 0.1 | - | - | - |
| **AFRICA** | **27.9** | **28.0** | **28.2** | **4.9** | **3.8** | **3.4** | **18.2** | **17.9** | **17.7** |
| Burkina Faso | 1.7 | 1.6 | 1.6 | 0.6 | 0.4 | 0.4 | 76.9 | 77.9 | 77.5 |
| Ethiopia | 4.1 | 4.5 | 4.7 | 0.5 | 0.8 | 0.8 | 31.2 | 32.7 | 32.9 |
| Nigeria | 6.8 | 6.8 | 6.6 | 1.0 | 0.4 | 0.3 | 33.1 | 32.5 | 31.9 |
| Sudan | 4.9 | 4.5 | 4.5 | 0.9 | 0.6 | 0.4 | 97.4 | 89.1 | 87.2 |
| **CENTRAL AMERICA** | **6.5** | **5.6** | **6.6** | **0.3** | **0.3** | **0.3** | **0.7** | **0.7** | **0.7** |
| Mexico | 6.2 | 5.2 | 6.2 | 0.2 | 0.2 | 0.2 | - | - | - |
| **SOUTH AMERICA** | **5.5** | **5.7** | **4.9** | **2.6** | **2.2** | **2.0** | **0.1** | **0.0** | **0.0** |
| Argentina | 2.3 | 2.3 | 1.6 | 0.7 | 0.3 | 0.1 | - | - | - |
| Brazil | 1.9 | 1.8 | 2.1 | 0.3 | 0.2 | 0.2 | - | - | - |
| Venezuela | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| **NORTH AMERICA** | **5.0** | **4.1** | **5.8** | **0.8** | **0.9** | **0.9** | **0.1** | **0.1** | **0.1** |
| United States of America | 5.0 | 4.0 | 5.8 | 0.7 | 0.9 | 0.9 | 0.1 | 0.1 | 0.1 |
| **EUROPE** | **1.2** | **1.3** | **1.2** | **0.3** | **0.3** | **0.2** | **0.2** | **0.2** | **0.2** |
| European Union | 0.9 | 1.1 | 1.0 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |
| **OCEANIA** | **0.8** | **0.8** | **0.8** | **0.8** | **0.7** | **0.7** | **0.2** | **0.2** | **0.2** |
| Australia | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 | - | - | - |
| **WORLD** | **64.6** | **59.8** | **60.4** | **11.4** | **9.2** | **8.5** | **3.8** | **3.8** | **3.8** |
| Developing countries | 56.6 | 52.9 | 51.7 | 9.4 | 7.1 | 6.6 | 4.6 | 4.6 | 4.7 |
| Developed countries | 8.0 | 6.9 | 8.7 | 2.0 | 2.0 | 1.9 | 0.2 | 0.2 | 0.2 |
| LIFDC | 32.5 | 32.2 | 32.7 | 5.3 | 3.8 | 3.5 | 9.6 | 9.4 | 9.5 |
| LDC | 19.2 | 19.4 | 19.7 | 3.8 | 3.2 | 2.9 | 14.9 | 14.9 | 14.8 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | (. . . . . million tonnes . . . . . ) | | | | | | (. . . . . Kg/year . . . . . ) | | |
| ASIA | 19.6 | 20.0 | 19.4 | 2.4 | 1.3 | 1.0 | 3.5 | 3.5 | 3.5 |
| AFRICA | 18.1 | 19.4 | 19.5 | 5.3 | 6.3 | 6.3 | 11.7 | 11.8 | 11.9 |
| CENTRAL AMERICA | 0.2 | 0.2 | 0.2 | - | - | - | 0.3 | 0.3 | 0.2 |
| SOUTH AMERICA | 2.1 | 1.9 | 2.4 | 0.6 | 0.9 | 0.9 | 1.1 | 1.3 | 1.1 |
| NORTH AMERICA | 5.3 | 5.6 | 5.3 | 1.7 | 1.5 | 1.2 | 2.6 | 2.7 | 2.6 |
| EUROPE | 46.2 | 45.6 | 42.5 | 6.3 | 7.8 | 7.6 | 11.1 | 11.0 | 10.9 |
| OCEANIA | 1.5 | 1.3 | 1.4 | 0.3 | 0.6 | 0.5 | 5.4 | 5.5 | 5.3 |
| **WORLD** | **93.1** | **94.2** | **90.7** | **16.6** | **18.1** | **17.6** | **5.4** | **5.4** | **5.4** |

# APPENDIX TABLE 8(A): **RICE STATISTICS**

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014-2016 average | 2017 *estim.* | 2018 *f'cast* | 2015-2017 average | 2018 *f'cast* | 2019 *f'cast* | 2015-2017 average | 2018 *f'cast* | 2019 *f'cast* |
| | *million tonnes, milled equivalent* | | | | | | | | |
| **ASIA** | **447.4** | **458.0** | **463.7** | **21.5** | **23.1** | **20.9** | **37.0** | **40.1** | **39.8** |
| Bangladesh | 34.7 | 34.2 | 35.8 | 1.2 | 1.8 | 0.5 | - | - | - |
| China | 143.2 | 144.1 | 142.6 | 6.6 | 5.8 | 5.5 | 0.7 | 1.6 | 1.9 |
| of which Taiwan Prov. | 1.2 | 1.3 | 1.3 | 0.1 | 0.1 | 0.1 | 0.1 | - | - |
| India | 106.5 | 112.9 | 115.3 | - | - | - | 11.2 | 12.2 | 12.7 |
| Indonesia | 45.2 | 46.3 | 46.7 | 0.9 | 2.2 | 1.1 | - | - | - |
| Iran, Islamic Republic of | 1.6 | 2.0 | 1.9 | 1.2 | 1.2 | 1.3 | - | - | - |
| Iraq | 0.1 | 0.2 | 0.1 | 1.0 | 1.1 | 1.2 | - | - | - |
| Japan | 7.7 | 7.5 | 7.5 | 0.7 | 0.7 | 0.7 | 0.1 | - | - |
| Korea DPR | 1.6 | 1.6 | 1.6 | - | - | - | - | - | - |
| Korea, Republic of | 4.2 | 4.0 | 3.9 | 0.4 | 0.4 | 0.5 | - | 0.1 | - |
| Malaysia | 1.8 | 1.8 | 1.8 | 0.9 | 1.0 | 1.0 | 0.1 | - | - |
| Myanmar | 16.9 | 17.7 | 18.2 | - | - | - | 2.0 | 2.7 | 3.0 |
| Pakistan | 6.9 | 7.4 | 6.9 | - | - | - | 3.9 | 4.1 | 3.8 |
| Philippines | 12.0 | 12.7 | 12.6 | 1.2 | 1.7 | 2.1 | - | - | - |
| Saudi Arabia | - | - | - | 1.3 | 1.2 | 1.2 | - | - | - |
| Sri Lanka | 2.9 | 1.6 | 2.6 | 0.5 | 0.3 | 0.1 | - | - | - |
| Thailand | 20.2 | 22.3 | 22.8 | 0.2 | 0.3 | 0.2 | 10.4 | 10.8 | 9.4 |
| Viet Nam | 28.9 | 27.8 | 29.0 | 0.6 | 0.6 | 0.6 | 6.9 | 7.0 | 7.3 |
| **AFRICA** | **20.1** | **20.7** | **20.8** | **15.2** | **16.3** | **17.7** | **0.7** | **0.4** | **0.3** |
| Cote D'ivoire | 0.5 | 0.5 | 0.5 | 1.5 | 1.5 | 1.6 | - | - | - |
| Egypt | 4.2 | 4.4 | 3.4 | 0.1 | 0.1 | 0.4 | 0.3 | 0.1 | - |
| Madagascar | 2.6 | 2.1 | 2.5 | 0.4 | 0.5 | 0.5 | - | - | - |
| Nigeria | 3.8 | 4.2 | 4.3 | 2.4 | 2.5 | 3.0 | - | - | - |
| Senegal | 0.6 | 0.7 | 0.6 | 1.4 | 1.3 | 1.5 | - | - | - |
| South Africa | - | - | - | 0.9 | 0.9 | 1.0 | - | - | - |
| Tanzania, United Rep. of | 1.9 | 1.6 | 2.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **CENTRAL AMERICA** | **1.8** | **1.9** | **2.0** | **2.4** | **2.4** | **2.4** | **0.1** | **0.1** | **-** |
| Cuba | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | - | - | - |
| Mexico | 0.2 | 0.2 | 0.2 | 0.7 | 0.8 | 0.7 | 0.1 | 0.1 | - |
| **SOUTH AMERICA** | **16.6** | **17.0** | **16.7** | **1.8** | **1.9** | **1.9** | **3.1** | **3.6** | **3.3** |
| Argentina | 1.1 | 0.9 | 0.9 | - | - | - | 0.4 | 0.4 | 0.5 |
| Brazil | 8.0 | 8.4 | 8.2 | 0.6 | 0.7 | 0.8 | 0.7 | 1.0 | 0.8 |
| Peru | 2.1 | 2.1 | 2.1 | 0.3 | 0.3 | 0.4 | 0.1 | 0.1 | - |
| Uruguay | 0.9 | 1.0 | 1.0 | - | - | - | 0.9 | 0.9 | 0.8 |
| **NORTH AMERICA** | **6.8** | **5.7** | **6.9** | **1.1** | **1.2** | **1.3** | **3.4** | **3.0** | **3.2** |
| Canada | - | - | - | 0.4 | 0.4 | 0.4 | - | - | - |
| United States of America | 6.8 | 5.7 | 6.9 | 0.8 | 0.9 | 0.9 | 3.4 | 3.0 | 3.2 |
| **EUROPE** | **2.6** | **2.4** | **2.4** | **2.4** | **2.5** | **2.5** | **0.5** | **0.5** | **0.5** |
| European Union | 1.8 | 1.7 | 1.7 | 1.9 | 2.0 | 2.0 | 0.3 | 0.4 | 0.4 |
| Russian Federation | 0.7 | 0.7 | 0.6 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 |
| **OCEANIA** | **0.4** | **0.5** | **0.4** | **0.5** | **0.6** | **0.6** | **0.2** | **0.3** | **0.2** |
| Australia | 0.4 | 0.5 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 |
| **WORLD** | **495.7** | **506.3** | **513.0** | **44.9** | **48.0** | **47.3** | **44.9** | **48.0** | **47.3** |
| Developing countries | 477.7 | 489.4 | 495.0 | 39.2 | 42.0 | 41.1 | 40.6 | 44.1 | 43.3 |
| Developed countries | 18.0 | 16.8 | 18.0 | 5.7 | 6.0 | 6.2 | 4.2 | 3.9 | 4.0 |
| LIFDC | 169.6 | 176.7 | 181.4 | 16.7 | 18.3 | 18.2 | 15.5 | 16.6 | 16.8 |
| LDC | 74.7 | 75.7 | 79.0 | 11.2 | 12.3 | 11.4 | 3.9 | 4.4 | 4.6 |

# APPENDIX TABLE 8(B): **RICE STATISTICS**

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast | 2015-2017 average | 2018 estim. | 2019 f'cast | 14/15-16/17 average | 2017/18 estim. | 2018/19 f'cast |
| | million tonnes, milled equivalent | | | | | | Kg/year | | |
| **ASIA** | **431.4** | **437.2** | **441.0** | **157.5** | **161.6** | **166.5** | **77.3** | **77.2** | **77.3** |
| Bangladesh | 36.0 | 35.7 | 36.4 | 5.8 | 6.8 | 7.0 | 180.4 | 180.0 | 180.6 |
| China | 142.7 | 144.8 | 145.4 | 93.4 | 103.3 | 104.4 | 75.9 | 76.6 | 76.5 |
| of which Taiwan Prov. | 1.3 | 1.3 | 1.3 | 0.2 | 0.3 | 0.3 | 48.2 | 49.2 | 49.3 |
| India | 97.2 | 98.4 | 100.2 | 20.1 | 21.7 | 24.0 | 68.5 | 68.2 | 68.6 |
| Indonesia | 46.4 | 47.2 | 48.1 | 6.6 | 6.3 | 7.1 | 134.3 | 133.1 | 134.6 |
| Iran, Islamic Republic of | 3.1 | 3.1 | 3.2 | 0.7 | 0.8 | 0.8 | 34.7 | 34.2 | 35.3 |
| Iraq | 1.3 | 1.2 | 1.3 | 0.2 | 0.1 | 0.1 | 34.1 | 31.7 | 31.9 |
| Japan | 8.6 | 8.3 | 8.2 | 3.3 | 3.0 | 3.1 | 50.1 | 49.8 | 49.4 |
| Korea DPR | 1.6 | 1.7 | 1.7 | 0.2 | 0.1 | 0.1 | 56.2 | 58.4 | 58.5 |
| Korea, Republic of | 4.6 | 4.8 | 4.3 | 1.5 | 1.0 | 1.0 | 75.9 | 72.8 | 71.2 |
| Malaysia | 2.7 | 2.8 | 2.8 | 0.4 | 0.3 | 0.3 | 81.0 | 80.8 | 80.6 |
| Myanmar | 15.2 | 15.0 | 15.0 | 2.8 | 2.5 | 2.6 | 193.7 | 194.0 | 193.9 |
| Pakistan | 2.9 | 3.2 | 3.1 | 0.6 | 0.8 | 0.7 | 12.6 | 12.7 | 12.6 |
| Philippines | 13.3 | 14.2 | 14.4 | 2.5 | 2.0 | 2.5 | 115.0 | 116.1 | 116.6 |
| Saudi Arabia | 1.4 | 1.3 | 1.3 | 0.4 | 0.2 | 0.1 | 42.9 | 39.0 | 37.7 |
| Sri Lanka | 3.1 | 2.7 | 2.8 | 0.6 | 0.2 | 0.3 | 123.2 | 122.1 | 122.8 |
| Thailand | 13.8 | 13.9 | 13.2 | 11.8 | 5.6 | 5.5 | 99.1 | 98.0 | 99.0 |
| Viet Nam | 21.7 | 22.3 | 22.3 | 3.1 | 3.1 | 3.2 | 154.6 | 153.2 | 150.5 |
| **AFRICA** | **34.3** | **37.0** | **38.7** | **5.0** | **5.5** | **5.0** | **25.0** | **25.9** | **26.6** |
| Cote D'ivoire | 1.9 | 2.0 | 2.1 | 0.4 | 0.4 | 0.4 | 76.2 | 79.0 | 79.7 |
| Egypt | 3.9 | 4.2 | 4.2 | 0.6 | 0.8 | 0.4 | 37.9 | 38.9 | 38.7 |
| Madagascar | 2.8 | 2.8 | 2.9 | 0.3 | 0.3 | 0.3 | 100.8 | 98.4 | 99.7 |
| Nigeria | 6.5 | 6.8 | 7.4 | 0.7 | 0.5 | 0.6 | 30.7 | 30.1 | 32.0 |
| Senegal | 1.8 | 2.1 | 2.2 | 0.4 | 0.4 | 0.4 | 112.7 | 119.5 | 122.3 |
| South Africa | 0.9 | 0.9 | 0.9 | 0.2 | 0.1 | 0.1 | 15.8 | 15.8 | 16.1 |
| Tanzania, United Rep. of | 2.0 | 1.9 | 2.0 | 0.4 | 0.3 | 0.3 | 26.8 | 27.4 | 27.6 |
| **CENTRAL AMERICA** | **4.0** | **4.2** | **4.3** | **0.5** | **0.6** | **0.6** | **17.6** | **18.1** | **18.3** |
| Cuba | 0.8 | 0.8 | 0.8 | 0.1 | 0.1 | 0.1 | 67.3 | 68.4 | 68.7 |
| Mexico | 0.8 | 0.9 | 0.9 | 0.1 | 0.1 | 0.1 | 6.4 | 6.5 | 6.7 |
| **SOUTH AMERICA** | **15.1** | **15.4** | **15.4** | **2.2** | **2.3** | **2.0** | **32.1** | **32.1** | **32.3** |
| Argentina | 0.5 | 0.6 | 0.6 | 0.3 | 0.2 | 0.2 | 10.2 | 10.5 | 10.8 |
| Brazil | 7.9 | 8.2 | 8.1 | 0.5 | 0.5 | 0.4 | 34.8 | 35.0 | 35.3 |
| Peru | 2.3 | 2.4 | 2.4 | 0.4 | 0.4 | 0.4 | 64.9 | 65.2 | 65.2 |
| Uruguay | 0.1 | 0.1 | 0.1 | 0.1 | - | 0.1 | 10.9 | 10.8 | 11.0 |
| **NORTH AMERICA** | **4.4** | **4.7** | **4.6** | **1.5** | **1.0** | **1.4** | **9.4** | **10.1** | **10.0** |
| Canada | 0.4 | 0.4 | 0.4 | 0.1 | - | - | 10.5 | 10.4 | 10.5 |
| United States of America | 4.0 | 4.3 | 4.2 | 1.5 | 0.9 | 1.4 | 9.3 | 10.0 | 10.0 |
| **EUROPE** | **4.3** | **4.5** | **4.4** | **0.7** | **0.7** | **0.7** | **5.1** | **5.3** | **5.2** |
| European Union | 3.2 | 3.4 | 3.3 | 0.5 | 0.6 | 0.6 | 5.4 | 5.7 | 5.6 |
| Russian Federation | 0.8 | 0.8 | 0.8 | 0.1 | 0.1 | - | 4.9 | 4.9 | 5.0 |
| **OCEANIA** | **0.7** | **0.7** | **0.8** | **0.2** | **0.3** | **0.3** | **15.7** | **16.4** | **16.7** |
| Australia | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 10.4 | 11.2 | 11.5 |
| **WORLD** | **494.3** | **503.8** | **509.2** | **167.7** | **172.0** | **176.6** | **53.7** | **53.8** | **54.0** |
| Developing countries | 474.9 | 484.0 | 489.6 | 161.6 | 166.8 | 170.8 | 63.7 | 63.5 | 63.7 |
| Developed countries | 19.5 | 19.8 | 19.6 | 6.1 | 5.3 | 5.7 | 11.1 | 11.4 | 11.3 |
| LIFDC | 172.4 | 176.2 | 180.6 | 31.4 | 34.6 | 36.9 | 55.4 | 55.2 | 55.6 |
| LDC | 81.8 | 83.5 | 85.3 | 14.2 | 15.7 | 15.9 | 65.9 | 65.6 | 65.6 |

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) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2016/17 | 2017/18 estim. | 2018/19 f'cast | 2016/17 | 2017/18 estim. | 2018/19 f'cast | 2016/17 | 2017/18 estim. | 2018/19 f'cast |
| | **UNITED STATES** (June/May) | | | **UNITED STATES** | | | **UNITED STATES** (Aug/July) | | |
| Opening Stocks | 26.6 | 32.1 | 29.9 | 48.1 | 62.2 | 57.9 | 1.5 | 1.5 | 0.9 |
| Production | 62.8 | 47.3 | 51.3 | 403.0 | 384.6 | 389.8 | 7.1 | 5.7 | 6.9 |
| Imports | 3.2 | 4.3 | 3.8 | 3.5 | 3.0 | 3.5 | 0.7 | 0.9 | 0.9 |
| **Total Supply** | **92.6** | **83.7** | **85.0** | **454.6** | **449.8** | **451.2** | **9.3** | **8.1** | **8.7** |
| Domestic use | 31.9 | 29.3 | 31.1 | 327.8 | 324.4 | 334.9 | 4.2 | 4.3 | 4.2 |
| Exports | 28.6 | 24.5 | 27.9 | 64.6 | 67.4 | 66.9 | 3.6 | 2.8 | 3.1 |
| Closing stocks | 32.1 | 29.9 | 26.0 | 62.2 | 57.9 | 49.4 | 1.5 | 0.9 | 1.4 |
| | **CANADA** (August/July) | | | **CANADA** | | | **THAILAND** (Aug/July) | | |
| Opening Stocks | 5.2 | 6.9 | 6.2 | 4.8 | 5.5 | 4.6 | 10.9 | 8.2 | 5.6 |
| Production | 32.1 | 30.0 | 31.0 | 26.7 | 26.4 | 26.5 | 21.5 | 22.3 | 22.8 |
| Imports | 0.1 | 0.1 | 0.1 | 0.9 | 1.8 | 1.5 | 0.2 | 0.4 | 0.2 |
| **Total Supply** | **37.4** | **37.0** | **37.3** | **32.4** | **33.7** | **32.6** | **32.6** | **30.9** | **28.6** |
| Domestic use | 10.4 | 8.9 | 9.1 | 22.1 | 23.2 | 23.3 | 13.5 | 13.9 | 13.2 |
| Exports | 20.2 | 21.9 | 23.0 | 4.8 | 5.8 | 5.5 | 10.8 | 11.4 | 9.9 |
| Closing stocks | 6.9 | 6.2 | 5.2 | 5.5 | 4.6 | 3.9 | 8.2 | 5.6 | 5.5 |
| | **ARGENTINA** (Dec./Nov.) | | | **ARGENTINA** | | | **INDIA** (Oct./Sept.) | | |
| Opening Stocks | 2.1 | 2.3 | 2.5 | 5.2 | 5.9 | 10.6 | 18.9 | 19.5 | 21.7 |
| Production | 18.6 | 18.5 | 20.0 | 47.0 | 56.4 | 49.7 | 109.7 | 112.9 | 115.3 |
| Imports | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| **Total Supply** | **20.7** | **20.8** | **22.5** | **52.3** | **62.4** | **60.4** | **128.6** | **132.4** | **137.0** |
| Domestic use | 5.8 | 5.8 | 5.9 | 22.0 | 22.5 | 24.3 | 97.5 | 98.4 | 100.2 |
| Exports | 12.5 | 12.5 | 15.0 | 24.4 | 29.3 | 29.0 | 11.6 | 12.3 | 12.8 |
| Closing stocks | 2.3 | 2.5 | 1.7 | 5.9 | 10.6 | 7.1 | 19.5 | 21.7 | 24.0 |
| | **AUSTRALIA** (Oct./Sept.) | | | **AUSTRALIA** | | | **PAKISTAN** (Sept./Aug.) | | |
| Opening Stocks | 4.6 | 6.0 | 5.8 | 1.8 | 3.1 | 2.6 | 0.5 | 0.7 | 0.8 |
| Production | 31.8 | 21.2 | 16.6 | 18.3 | 11.7 | 11.4 | 6.8 | 7.4 | 6.9 |
| Imports | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total Supply** | **36.4** | **27.2** | **22.4** | **20.1** | **14.8** | **14.0** | **7.3** | **8.1** | **7.7** |
| Domestic use | 7.8 | 7.2 | 7.4 | 6.2 | 5.2 | 4.9 | 3.0 | 3.2 | 3.1 |
| Exports | 22.6 | 14.3 | 11.1 | 10.7 | 7.1 | 7.5 | 3.6 | 4.2 | 3.9 |
| Closing stocks | 6.0 | 5.8 | 4.0 | 3.1 | 2.6 | 1.5 | 0.7 | 0.8 | 0.7 |
| | **EU** (July/June) | | | **EU** | | | **VIET NAM** (Jan./Dec.) | | |
| Opening Stocks | 17.5 | 14.8 | 21.0 | 18.4 | 17.8 | 19.3 | 2.8 | 3.3 | 3.1 |
| Production | 144.5 | 152.0 | 137.0 | 153.1 | 156.4 | 149.1 | 28.1 | 27.8 | 29.0 |
| Imports | 5.0 | 5.5 | 6.5 | 15.2 | 18.3 | 18.6 | 0.6 | 0.7 | 0.6 |
| **Total Supply** | **167.0** | **172.3** | **164.5** | **186.7** | **192.5** | **187.0** | **31.5** | **31.8** | **32.7** |
| Domestic use | 125.4 | 128.6 | 128.8 | 161.0 | 166.0 | 160.9 | 22.0 | 22.3 | 22.3 |
| Exports | 26.8 | 22.7 | 21.7 | 7.9 | 7.1 | 9.5 | 6.1 | 6.3 | 7.2 |
| Closing stocks | 14.8 | 21.0 | 14.0 | 17.8 | 19.3 | 16.6 | 3.3 | 3.1 | 3.2 |
| | **TOTAL OF ABOVE** | | | **TOTAL OF ABOVE** | | | **TOTAL OF ABOVE** | | |
| Opening Stocks | 56.0 | 62.1 | 65.4 | 78.3 | 94.5 | 95.0 | 34.6 | 33.2 | 32.1 |
| Production | 289.8 | 269.0 | 255.9 | 648.1 | 635.5 | 626.5 | 173.2 | 176.1 | 180.9 |
| Imports | 8.3 | 9.9 | 10.4 | 19.7 | 23.2 | 23.7 | 1.5 | 2.0 | 1.7 |
| **Total Supply** | **354.1** | **341.0** | **331.7** | **746.1** | **753.2** | **745.2** | **209.3** | **211.3** | **214.7** |
| Domestic use | 181.3 | 179.8 | 182.3 | 539.1 | 541.3 | 548.3 | 140.2 | 142.1 | 143.0 |
| Exports | 110.7 | 95.9 | 98.7 | 112.4 | 116.7 | 118.4 | 35.7 | 37.0 | 36.9 |
| Closing stocks | 62.1 | 65.4 | 50.9 | 94.5 | 95.0 | 78.5 | 33.2 | 32.1 | 34.8 |

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

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

# APPENDIX TABLE 10: **TOTAL OILCROPS STATISTICS** (*million tonnes*)

| | Production [1] | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| **ASIA** | **132.5** | **141.6** | **143.7** | **122.0** | **134.8** | **134.4** | **3.7** | **4.4** | **4.2** |
| China | 58.4 | 62.2 | 62.7 | 93.0 | 103.2 | 100.9 | 1.1 | 1.2 | 0.9 |
| of which Taiwan Prov. | 0.1 | 0.1 | 0.1 | 2.5 | 2.6 | 2.7 | - | - | - |
| India | 36.7 | 39.6 | 40.4 | 0.4 | 0.4 | 0.4 | 1.1 | 1.5 | 1.4 |
| Indonesia | 11.4 | 12.3 | 12.7 | 2.6 | 2.8 | 3.0 | 0.1 | 0.1 | 0.1 |
| Iran, Islamic Republic of | 0.7 | 0.9 | 0.9 | 2.0 | 2.7 | 2.7 | 0.1 | 0.1 | 0.1 |
| Japan | 0.3 | 0.3 | 0.3 | 5.9 | 6.1 | 6.1 | - | - | - |
| Korea, Republic of | 0.2 | 0.2 | 0.2 | 1.6 | 1.7 | 1.7 | - | - | - |
| Malaysia | 4.9 | 5.1 | 5.2 | 0.8 | 0.9 | 1.0 | 0.1 | 0.1 | - |
| Pakistan | 4.5 | 4.4 | 4.9 | 2.3 | 3.8 | 4.1 | - | - | 0.1 |
| Thailand | 0.9 | 1.1 | 1.1 | 2.7 | 3.0 | 3.0 | - | - | - |
| Turkey | 3.2 | 3.7 | 3.6 | 3.2 | 2.7 | 2.8 | 0.1 | 0.2 | 0.2 |
| **AFRICA** | **20.3** | **21.0** | **21.4** | **4.2** | **5.4** | **5.8** | **0.8** | **0.9** | **0.8** |
| Nigeria | 4.7 | 4.6 | 4.7 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| **CENTRAL AMERICA** | **2.0** | **2.0** | **2.1** | **6.7** | **7.4** | **7.9** | **0.2** | **0.2** | **0.2** |
| Mexico | 1.4 | 1.5 | 1.5 | 5.9 | 6.6 | 7.1 | - | - | - |
| **SOUTH AMERICA** | **184.9** | **182.0** | **201.8** | **2.9** | **6.1** | **7.0** | **74.8** | **87.0** | **91.9** |
| Argentina | 62.9 | 42.8 | 59.1 | 0.8 | 4.1 | 4.5 | 10.1 | 3.0 | 8.9 |
| Brazil | 105.2 | 123.3 | 124.6 | 0.4 | 0.3 | 0.6 | 56.3 | 75.6 | 74.5 |
| Paraguay | 9.7 | 10.1 | 10.7 | - | - | - | 5.1 | 6.2 | 5.2 |
| Uruguay | 3.3 | 2.1 | 3.5 | - | - | - | 3.0 | 2.1 | 3.1 |
| **NORTH AMERICA** | **146.0** | **162.1** | **168.7** | **2.4** | **2.5** | **2.2** | **71.3** | **75.6** | **74.6** |
| Canada | 25.8 | 30.2 | 29.7 | 0.6 | 0.9 | 0.7 | 15.3 | 16.7 | 17.9 |
| United States of America | 120.2 | 131.9 | 139.0 | 1.7 | 1.6 | 1.5 | 56.0 | 58.9 | 56.3 |
| **EUROPE** | **68.6** | **74.5** | **74.8** | **22.0** | **22.7** | **24.5** | **6.4** | **7.8** | **8.2** |
| European Union | 33.6 | 35.6 | 32.7 | 19.3 | 19.8 | 21.7 | 1.1 | 0.8 | 0.9 |
| Russian Federation | 14.3 | 16.6 | 17.8 | 2.1 | 2.2 | 2.0 | 0.7 | 1.3 | 1.7 |
| Ukraine | 18.5 | 19.9 | 21.8 | - | - | - | 4.1 | 5.2 | 5.0 |
| **OCEANIA** | **5.1** | **5.7** | **3.7** | **-** | **-** | **-** | **3.0** | **2.9** | **2.1** |
| Australia | 4.6 | 5.3 | 3.2 | - | - | - | 2.9 | 2.8 | 2.0 |
| **WORLD** | **559.4** | **589.0** | **616.1** | **160.3** | **178.9** | **181.8** | **160.1** | **178.8** | **181.9** |
| Developing countries | 339.8 | 346.7 | 369.1 | 129.9 | 147.6 | 149.1 | 79.5 | 92.6 | 97.1 |
| Developed countries | 219.6 | 242.2 | 247.1 | 30.4 | 31.3 | 32.8 | 80.6 | 86.3 | 84.7 |
| LIFDC | 62.1 | 65.0 | 66.4 | 4.8 | 6.4 | 7.1 | 2.0 | 2.5 | 2.4 |
| LDC | 13.5 | 13.8 | 13.8 | 1.4 | 1.6 | 1.9 | 0.6 | 0.6 | 0.6 |

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

# APPENDIX TABLE 11: **TOTAL OILS AND FATS STATISTICS** [1] (*million tonnes*)

| | Imports | | | Exports | | | Utilization | | |
|---|---|---|---|---|---|---|---|---|---|
| | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| **ASIA** | **46.7** | **47.8** | **50.6** | **50.8** | **51.8** | **54.4** | **111.3** | **120.4** | **125.4** |
| Bangladesh | 2.1 | 2.5 | 2.6 | - | - | - | 2.5 | 2.9 | 3.1 |
| China | 9.7 | 10.3 | 11.2 | 0.6 | 0.5 | 0.6 | 39.3 | 42.2 | 43.9 |
| of which Taiwan Prov. | 0.5 | 0.5 | 0.5 | - | - | - | 0.9 | 1.0 | 1.0 |
| India | 15.2 | 14.9 | 15.7 | 0.2 | 0.2 | 0.2 | 24.4 | 25.6 | 26.0 |
| Indonesia | 0.1 | 0.1 | 0.1 | 28.3 | 29.3 | 30.9 | 11.1 | 13.0 | 14.7 |
| Iran, Islamic Republic of | 1.3 | 1.1 | 1.3 | 0.1 | - | - | 1.9 | 2.1 | 2.1 |
| Japan | 1.3 | 1.4 | 1.4 | - | - | - | 3.3 | 3.4 | 3.4 |
| Korea, Republic of | 1.1 | 1.3 | 1.3 | - | - | - | 1.5 | 1.7 | 1.7 |
| Malaysia | 1.5 | 1.3 | 1.2 | 18.1 | 17.7 | 18.9 | 4.8 | 5.2 | 5.4 |
| Pakistan | 3.2 | 3.3 | 3.4 | 0.1 | 0.1 | 0.1 | 5.0 | 5.4 | 5.4 |
| Philippines | 1.1 | 1.2 | 1.2 | 0.8 | 0.9 | 0.9 | 1.9 | 2.1 | 2.3 |
| Singapore | 0.8 | 0.8 | 0.8 | 0.2 | 0.2 | 0.2 | 0.7 | 0.7 | 0.7 |
| Turkey | 1.9 | 1.6 | 1.7 | 0.7 | 0.6 | 0.5 | 3.1 | 3.2 | 3.1 |
| **AFRICA** | **11.4** | **11.7** | **12.2** | **1.9** | **1.9** | **1.9** | **18.5** | **19.3** | **20.0** |
| Algeria | 0.9 | 0.9 | 1.1 | 0.1 | 0.1 | 0.1 | 1.0 | 1.0 | 1.1 |
| Egypt | 2.0 | 2.1 | 2.2 | 0.2 | 0.2 | 0.2 | 2.4 | 2.6 | 2.8 |
| Nigeria | 1.5 | 1.4 | 1.5 | 0.1 | 0.1 | 0.1 | 3.3 | 3.3 | 3.4 |
| South Africa | 0.9 | 0.8 | 0.9 | 0.1 | - | - | 1.4 | 1.5 | 1.5 |
| **CENTRAL AMERICA** | **2.6** | **2.6** | **2.7** | **1.3** | **1.5** | **1.6** | **5.2** | **5.3** | **5.7** |
| Mexico | 1.5 | 1.5 | 1.6 | 0.1 | - | - | 3.5 | 3.6 | 3.9 |
| **SOUTH AMERICA** | **3.2** | **3.2** | **3.3** | **10.4** | **10.1** | **10.8** | **17.8** | **18.4** | **19.3** |
| Argentina | 0.1 | 0.1 | 0.1 | 6.3 | 5.8 | 6.9 | 4.0 | 4.0 | 4.0 |
| Brazil | 0.6 | 0.6 | 0.6 | 1.8 | 1.7 | 1.3 | 9.0 | 9.5 | 10.3 |
| Paraguay | - | - | - | 0.7 | 0.7 | 0.7 | 0.1 | 0.1 | 0.1 |
| Uruguay | 0.1 | 0.1 | 0.1 | - | - | - | 0.1 | 0.2 | 0.2 |
| **NORTH AMERICA** | **5.4** | **5.8** | **6.1** | **6.9** | **7.3** | **7.2** | **20.8** | **22.7** | **23.0** |
| Canada | 0.5 | 0.4 | 0.4 | 3.5 | 3.8 | 3.8 | 1.6 | 1.6 | 1.7 |
| United States of America | 4.9 | 5.4 | 5.6 | 3.4 | 3.5 | 3.4 | 19.3 | 21.1 | 21.4 |
| **EUROPE** | **14.7** | **15.5** | **15.4** | **11.2** | **12.7** | **13.1** | **39.5** | **41.1** | **40.4** |
| European Union | 11.9 | 12.6 | 12.6 | 3.3 | 3.2 | 3.1 | 32.6 | 34.2 | 33.4 |
| Russian Federation | 1.4 | 1.4 | 1.4 | 2.4 | 3.1 | 3.3 | 4.6 | 4.6 | 4.7 |
| Ukraine | 0.3 | 0.3 | 0.3 | 5.0 | 5.8 | 6.2 | 1.0 | 0.9 | 0.9 |
| **OCEANIA** | **0.6** | **0.7** | **0.8** | **1.9** | **2.0** | **2.0** | **1.2** | **1.3** | **1.3** |
| Australia | 0.5 | 0.5 | 0.6 | 0.7 | 0.7 | 0.7 | 0.8 | 0.9 | 1.0 |
| **WORLD** | **84.6** | **87.3** | **91.1** | **84.4** | **87.3** | **91.0** | **214.4** | **228.5** | **235.2** |
| Developing countries | 62.7 | 63.9 | 67.4 | 65.0 | 66.1 | 69.5 | 149.7 | 160.2 | 167.1 |
| Developed countries | 21.9 | 23.4 | 23.7 | 19.4 | 21.2 | 21.5 | 64.7 | 68.3 | 68.1 |
| LIFDC | 28.4 | 28.7 | 30.0 | 2.2 | 2.2 | 2.2 | 45.9 | 48.2 | 49.1 |
| LDC | 7.7 | 8.4 | 8.6 | 0.7 | 0.7 | 0.7 | 11.3 | 12.1 | 12.4 |

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

# APPENDIX TABLE 12: **TOTAL MEALS AND CAKES STATISTICS** [1] (*million tonnes*)

| | Imports | | | Exports | | | Utilization | | |
|---|---|---|---|---|---|---|---|---|---|
| | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* | **14/15-16/17** average | **2017/18** *estim.* | **2018/19** *f'cast* |
| **ASIA** | **36.3** | **39.5** | **42.4** | **13.4** | **15.0** | **15.7** | **161.5** | **179.8** | **183.9** |
| China | 3.1 | 4.1 | 5.9 | 2.1 | 2.2 | 2.0 | 89.4 | 101.5 | 104.3 |
| of which Taiwan Prov. | 0.5 | 0.5 | 0.5 | - | - | - | 2.5 | 2.6 | 2.6 |
| India | 0.4 | 0.6 | 0.6 | 2.0 | 2.9 | 3.7 | 14.7 | 15.8 | 15.7 |
| Indonesia | 4.3 | 4.7 | 4.9 | 4.4 | 4.9 | 5.1 | 4.9 | 5.2 | 5.3 |
| Iran, Islamic Republic of | 1.9 | 1.7 | 1.8 | - | - | - | 3.6 | 4.1 | 4.3 |
| Japan | 2.2 | 2.2 | 2.2 | - | - | - | 6.4 | 6.5 | 6.5 |
| Korea, Republic of | 3.6 | 3.6 | 3.6 | 0.2 | 0.1 | 0.1 | 4.8 | 4.8 | 4.9 |
| Malaysia | 1.4 | 1.6 | 1.6 | 2.6 | 2.8 | 2.8 | 2.1 | 2.3 | 2.5 |
| Pakistan | 0.9 | 0.3 | 0.4 | 0.2 | - | - | 4.1 | 5.0 | 4.9 |
| Philippines | 2.7 | 3.1 | 3.1 | 0.3 | 0.4 | 0.4 | 3.3 | 3.7 | 3.8 |
| Saudi Arabia | 1.2 | 1.5 | 1.6 | 0.1 | 0.1 | 0.1 | 1.6 | 1.9 | 2.1 |
| Thailand | 3.2 | 3.8 | 3.9 | 0.2 | 0.2 | 0.2 | 6.0 | 6.8 | 7.0 |
| Turkey | 2.0 | 2.4 | 2.4 | 0.1 | 0.1 | 0.1 | 5.4 | 5.8 | 5.8 |
| Viet Nam | 5.3 | 5.6 | 5.8 | 0.3 | 0.2 | 0.3 | 6.8 | 7.4 | 7.4 |
| **AFRICA** | **5.9** | **5.6** | **5.8** | **1.1** | **1.1** | **1.1** | **14.0** | **15.2** | **15.8** |
| Egypt | 1.7 | 1.2 | 1.1 | - | - | - | 3.2 | 3.7 | 3.8 |
| South Africa | 0.8 | 0.7 | 0.8 | 0.1 | 0.1 | 0.1 | 2.0 | 2.0 | 2.1 |
| **CENTRAL AMERICA** | **4.3** | **4.1** | **4.1** | **0.2** | **0.2** | **0.2** | **9.8** | **10.2** | **10.5** |
| Mexico | 2.4 | 2.2 | 2.2 | 0.1 | 0.1 | 0.1 | 7.2 | 7.6 | 7.8 |
| **SOUTH AMERICA** | **5.5** | **5.4** | **5.8** | **51.0** | **50.2** | **53.2** | **29.3** | **31.8** | **32.6** |
| Argentina | - | - | - | 31.4 | 27.8 | 31.5 | 4.5 | 5.8 | 5.8 |
| Bolivia | - | - | - | 1.7 | 1.6 | 1.7 | 0.3 | 0.4 | 0.4 |
| Brazil | - | - | - | 14.3 | 16.7 | 15.9 | 16.9 | 17.7 | 18.3 |
| Chile | 1.2 | 1.2 | 1.2 | 0.2 | 0.2 | 0.2 | 1.6 | 1.6 | 1.7 |
| Paraguay | - | - | - | 2.5 | 2.7 | 2.6 | 0.4 | 0.5 | 0.4 |
| Peru | 1.1 | 1.3 | 1.4 | 0.8 | 1.0 | 1.0 | 1.5 | 1.7 | 1.8 |
| Uruguay | 0.2 | 0.2 | 0.2 | - | - | - | 0.2 | 0.2 | 0.2 |
| Venezuela | 1.0 | 0.7 | 0.7 | - | - | - | 1.3 | 0.9 | 0.9 |
| **NORTH AMERICA** | **5.1** | **5.1** | **4.8** | **16.7** | **19.5** | **18.5** | **38.5** | **40.1** | **41.4** |
| Canada | 0.9 | 1.1 | 1.0 | 5.1 | 5.5 | 5.5 | 2.3 | 2.6 | 2.7 |
| United States of America | 4.1 | 4.0 | 3.7 | 11.6 | 14.0 | 13.1 | 36.2 | 37.5 | 38.7 |
| **EUROPE** | **30.4** | **31.5** | **31.2** | **8.2** | **8.9** | **9.3** | **68.9** | **72.7** | **72.3** |
| European Union | 27.7 | 29.1 | 28.8 | 1.4 | 1.4 | 1.2 | 58.1 | 61.1 | 60.6 |
| Russian Federation | 0.5 | 0.2 | 0.1 | 2.0 | 2.0 | 2.3 | 6.2 | 6.9 | 6.9 |
| Ukraine | - | - | - | 4.3 | 5.0 | 5.3 | 1.8 | 1.8 | 1.8 |
| **OCEANIA** | **3.4** | **3.9** | **4.2** | **0.3** | **0.2** | **0.2** | **4.2** | **4.9** | **4.9** |
| Australia | 1.2 | 1.2 | 1.3 | 0.1 | 0.1 | 0.1 | 1.8 | 2.0 | 2.0 |
| **WORLD** | **90.8** | **95.2** | **98.2** | **90.9** | **95.1** | **98.2** | **326.2** | **354.6** | **361.4** |
| Developing countries | 49.7 | 52.4 | 55.9 | 65.8 | 66.6 | 70.3 | 208.3 | 230.6 | 236.4 |
| Developed countries | 41.0 | 42.7 | 42.3 | 25.0 | 28.5 | 27.9 | 117.9 | 124.0 | 125.0 |
| LIFDC | 3.6 | 3.3 | 3.8 | 3.2 | 3.9 | 4.8 | 27.6 | 30.1 | 30.4 |
| LDC | 0.9 | 0.9 | 1.1 | 0.5 | 0.6 | 0.6 | 5.6 | 5.8 | 6.3 |

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

# APPENDIX TABLE 13: **SUGAR STATISTICS**
(*million tonnes - raw value*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2017/18 *estim.* | 2018/19 *f'cast* | 2017/18 *estim.* | 2018/19 *f'cast* | 2017/18 *estim.* | 2018/19 *f'cast* | 2017/18 *estim.* | 2018/19 *f'cast* |
| **ASIA** | **75.1** | **76.5** | **33.3** | **34.5** | **12.8** | **16.1** | **83.4** | **85.5** |
| China | 10.5 | 10.7 | 5.7 | 6.0 | 0.1 | 0.1 | 16.6 | 17.0 |
| India | 31.0 | 34.0 | 1.5 | 1.5 | 2.0 | 3.0 | 25.0 | 26.1 |
| Indonesia | 2.2 | 2.3 | 4.6 | 5.0 | - | - | 6.9 | 7.2 |
| Japan | 0.7 | 0.8 | 1.4 | 1.4 | - | - | 2.1 | 2.1 |
| Korea, Republic of | - | - | 2.0 | 2.0 | 0.4 | 0.3 | 1.6 | 1.6 |
| Malaysia | - | - | 1.9 | 2.0 | 0.1 | 0.1 | 1.9 | 1.9 |
| Pakistan | 8.0 | 6.5 | - | - | 0.7 | 1.0 | 5.2 | 5.3 |
| Philippines | 2.3 | 2.3 | 0.2 | 0.1 | 0.2 | 0.2 | 2.3 | 2.3 |
| Thailand | 13.7 | 13.0 | - | - | 7.2 | 8.0 | 3.0 | 3.1 |
| Turkey | 2.4 | 2.7 | - | - | - | 0.3 | 2.4 | 2.5 |
| Viet Nam | 1.6 | 1.7 | 0.1 | 0.1 | 0.1 | 0.1 | 1.6 | 1.7 |
| **AFRICA** | **11.8** | **11.9** | **13.0** | **14.7** | **3.4** | **3.5** | **20.6** | **21.7** |
| Algeria | - | - | 1.9 | 2.1 | 0.4 | 0.5 | 1.5 | 1.5 |
| Egypt | 2.7 | 2.8 | 1.1 | 1.1 | 0.2 | 0.2 | 3.6 | 3.7 |
| Eswatini | 0.7 | 0.7 | - | - | 0.6 | 0.6 | 0.1 | 0.1 |
| Ethiopia | 0.5 | 0.7 | - | 0.1 | - | 0.1 | 0.5 | 0.6 |
| Kenya | 0.5 | 0.5 | 0.5 | 0.6 | - | - | 1.0 | 1.1 |
| Mauritius | 0.4 | 0.4 | - | - | 0.4 | 0.4 | - | - |
| Morocco | 0.6 | 0.6 | 0.9 | 0.8 | 0.2 | 0.2 | 1.3 | 1.3 |
| Mozambique | 0.5 | 0.5 | - | - | 0.2 | 0.2 | 0.2 | 0.3 |
| South Africa | 1.9 | 2.0 | 0.2 | 0.2 | 0.2 | 0.1 | 1.9 | 2.2 |
| Sudan | 0.7 | 0.7 | 1.4 | 1.7 | 0.4 | 0.4 | 1.7 | 2.0 |
| Tanzania, United Rep, of | 0.3 | 0.3 | 0.3 | 0.4 | - | - | 0.6 | 0.7 |
| Zambia | 0.4 | 0.4 | - | - | 0.2 | 0.3 | 0.2 | 0.2 |
| **CENTRAL AMERICA & THE CARIBBEAN** | **13.9** | **13.8** | **0.4** | **0.5** | **6.2** | **5.9** | **8.1** | **8.3** |
| Cuba | 1.6 | 1.6 | - | - | 1.0 | 1.0 | 0.6 | 0.6 |
| Dominican Republic | 0.6 | 0.6 | - | - | 0.2 | 0.2 | 0.4 | 0.4 |
| Guatemala | 2.8 | 2.7 | - | - | 1.9 | 1.9 | 0.8 | 0.9 |
| Mexico | 6.0 | 6.0 | - | - | 1.5 | 1.4 | 4.5 | 4.6 |
| **SOUTH AMERICA** | **40.7** | **41.0** | **1.7** | **1.5** | **24.6** | **24.4** | **19.3** | **19.4** |
| Argentina | 2.1 | 2.1 | - | - | 0.4 | 0.5 | 1.7 | 1.6 |
| Brazil | 33.3 | 33.5 | - | - | 23.5 | 23.0 | 11.5 | 11.7 |
| Colombia | 2.2 | 2.2 | 0.1 | 0.1 | 0.4 | 0.4 | 1.9 | 1.9 |
| Peru | 1.2 | 1.3 | 0.2 | 0.3 | - | 0.1 | 1.3 | 1.3 |
| Venezuela | 0.3 | 0.3 | 0.8 | 0.4 | - | - | 0.9 | 0.9 |
| **NORTH AMERICA** | **8.5** | **8.5** | **3.9** | **3.7** | **0.1** | **0.1** | **12.3** | **12.5** |
| Canada | 0.1 | 0.1 | 1.1 | 1.2 | - | - | 1.2 | 1.2 |
| United States of America | 8.4 | 8.4 | 2.8 | 2.5 | 0.1 | 0.1 | 11.1 | 11.3 |
| **EUROPE** | **29.5** | **28.3** | **2.4** | **2.5** | **4.3** | **3.6** | **26.2** | **26.6** |
| European Union | 20.0 | 18.6 | 1.6 | 1.6 | 3.0 | 2.0 | 17.5 | 17.9 |
| Russian Federation | 6.4 | 6.2 | 0.2 | 0.2 | 0.6 | 0.5 | 5.8 | 5.9 |
| Ukraine | 2.0 | 1.9 | - | - | 0.4 | 0.3 | 1.6 | 1.6 |
| **OCEANIA** | **5.0** | **5.2** | **0.4** | **0.2** | **4.1** | **4.3** | **1.2** | **1.3** |
| Australia | 4.7 | 4.9 | 0.1 | 0.1 | 3.9 | 4.1 | 0.9 | 0.9 |
| Fiji | 0.2 | 0.2 | - | - | 0.2 | 0.2 | - | - |
| **WORLD** | **184.4** | **185.2** | **55.1** | **57.5** | **55.5** | **57.9** | **171.1** | **175.3** |
| Developing countries | 139.2 | 140.7 | 46.2 | 48.7 | 47.0 | 49.9 | 126.9 | 130.2 |
| Developed countries | 45.2 | 44.5 | 8.9 | 8.8 | 8.5 | 7.9 | 44.2 | 45.0 |
| LIFDC | 44.8 | 46.5 | 12.8 | 13.0 | 4.3 | 5.8 | 45.1 | 47.0 |
| LDC | 3.9 | 4.4 | 8.2 | 8.9 | 1.3 | 1.4 | 10.4 | 11.8 |

# APPENDIX TABLE 14: **TOTAL MEAT STATISTICS**[1]
(*thousand tonnes - carcass weight equivalent*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* |
| **ASIA** | **138 882** | **140 699** | **17 456** | **18 329** | **4 435** | **4 487** | **151 886** | **154 476** |
| China | 85 614 | 86 609 | 5 423 | 5 975 | 590 | 597 | 90 456 | 92 007 |
| India | 7 348 | 7 510 | 1 | 1 | 1 736 | 1 557 | 5 614 | 5 954 |
| Indonesia | 3 639 | 3 701 | 160 | 152 | 5 | 5 | 3 795 | 3 848 |
| Iran, Islamic Republic of | 3 165 | 3 208 | 167 | 184 | 53 | 55 | 3 280 | 3 336 |
| Japan | 3 979 | 4 027 | 3 635 | 3 790 | 18 | 18 | 7 558 | 7 808 |
| Korea, Republic of | 2 417 | 2 571 | 1 317 | 1 447 | 13 | 32 | 3 739 | 3 885 |
| Malaysia | 1 921 | 1 951 | 332 | 340 | 64 | 67 | 2 189 | 2 224 |
| Pakistan | 3 484 | 3 514 | 33 | 27 | 76 | 77 | 3 441 | 3 464 |
| Philippines | 3 484 | 3 566 | 542 | 602 | 9 | 7 | 4 017 | 4 161 |
| Saudi Arabia | 888 | 946 | 970 | 837 | 75 | 68 | 1 783 | 1 715 |
| Singapore | 120 | 122 | 386 | 366 | 39 | 62 | 467 | 426 |
| Thailand | 2 989 | 3 076 | 21 | 23 | 1 113 | 1 247 | 1 889 | 1 860 |
| Turkey | 3 536 | 3 600 | 23 | 73 | 477 | 537 | 3 082 | 3 135 |
| Viet Nam | 5 095 | 5 081 | 1 440 | 1 492 | 39 | 25 | 6 497 | 6 547 |
| **AFRICA** | **17 910** | **18 118** | **2 960** | **2 887** | **292** | **286** | **20 578** | **20 720** |
| Algeria | 744 | 752 | 65 | 56 | 1 | 1 | 807 | 807 |
| Angola | 293 | 298 | 505 | 506 | - | - | 798 | 804 |
| Egypt | 2 291 | 2 383 | 474 | 368 | 8 | 8 | 2 758 | 2 742 |
| Nigeria | 1 385 | 1 391 | 4 | 4 | 1 | 1 | 1 389 | 1 395 |
| South Africa | 3 181 | 3 259 | 623 | 637 | 172 | 159 | 3 632 | 3 737 |
| **CENTRAL AMERICA** | **9 831** | **10 058** | **3 425** | **3 592** | **692** | **728** | **12 564** | **12 922** |
| Cuba | 364 | 368 | 339 | 342 | - | - | 703 | 710 |
| Mexico | 6 801 | 6 980 | 2 167 | 2 300 | 443 | 475 | 8 524 | 8 805 |
| **SOUTH AMERICA** | **42 982** | **43 161** | **1 101** | **1 134** | **8 683** | **8 725** | **35 400** | **35 569** |
| Argentina | 5 592 | 5 718 | 55 | 55 | 554 | 693 | 5 093 | 5 080 |
| Brazil | 27 079 | 26 984 | 64 | 61 | 7 023 | 6 886 | 20 121 | 20 160 |
| Chile | 1 431 | 1 539 | 535 | 536 | 304 | 337 | 1 662 | 1 738 |
| Colombia | 2 738 | 2 826 | 205 | 237 | 25 | 25 | 2 918 | 3 038 |
| Uruguay | 684 | 665 | 58 | 72 | 412 | 415 | 330 | 322 |
| Venezuela | 1 130 | 1 073 | 57 | 17 | - | - | 1 187 | 1 090 |
| **NORTH AMERICA** | **50 610** | **51 934** | **2 969** | **2 996** | **9 615** | **9 966** | **43 940** | **44 925** |
| Canada | 4 763 | 4 872 | 762 | 789 | 1 897 | 1 921 | 3 611 | 3 731 |
| United States of America | 45 846 | 47 061 | 2 195 | 2 195 | 7 718 | 8 045 | 40 317 | 41 182 |
| **EUROPE** | **63 054** | **64 137** | **3 226** | **3 021** | **6 157** | **6 349** | **60 123** | **60 809** |
| Belarus | 1 203 | 1 237 | 55 | 54 | 438 | 466 | 820 | 825 |
| European Union | 47 810 | 48 597 | 1 286 | 1 286 | 4 986 | 5 069 | 44 110 | 44 814 |
| Russian Federation | 9 902 | 10 186 | 1 290 | 1 049 | 303 | 356 | 10 888 | 10 880 |
| Ukraine | 2 364 | 2 320 | 133 | 167 | 330 | 356 | 2 168 | 2 131 |
| **OCEANIA** | **6 718** | **6 941** | **443** | **445** | **2 899** | **3 080** | **4 267** | **4 301** |
| Australia | 4 752 | 4 961 | 200 | 197 | 1 905 | 2 064 | 3 051 | 3 089 |
| New Zealand | 1 449 | 1 461 | 79 | 83 | 991 | 1 012 | 537 | 531 |
| **WORLD** | **329 988** | **335 048** | **31 580** | **32 404** | **32 774** | **33 621** | **328 758** | **333 722** |
| Developing countries | 206 143 | 208 528 | 21 471 | 22 317 | 14 088 | 14 211 | 213 547 | 216 560 |
| Developed countries | 123 844 | 126 520 | 10 109 | 10 087 | 18 686 | 19 410 | 115 211 | 117 162 |
| LIFDC | 24 407 | 24 576 | 1 256 | 1 285 | 1 984 | 1 811 | 23 679 | 24 051 |
| LDC | 11 150 | 11 167 | 1 427 | 1 450 | 23 | 22 | 12 554 | 12 594 |

[1] including "other meat"

# APPENDIX TABLE 15: **BOVINE MEAT STATISTICS**
(*thousand tonnes - carcass weight equivalent*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* |
| **ASIA** | **19 442** | **19 618** | **5 572** | **6 012** | **1 982** | **1 823** | **23 043** | **23 840** |
| China | 7 638 | 7 714 | 1 596 | 1 991 | 41 | 36 | 9 203 | 9 689 |
| India | 2 553 | 2 557 | - | - | 1 708 | 1 529 | 845 | 1 028 |
| Indonesia | 565 | 574 | 149 | 137 | - | - | 714 | 711 |
| Iran, Islamic Republic of | 602 | 632 | 150 | 154 | 5 | 4 | 746 | 782 |
| Japan | 469 | 470 | 824 | 844 | 4 | 4 | 1 284 | 1 326 |
| Korea, Republic of | 281 | 285 | 488 | 518 | 4 | 3 | 771 | 797 |
| Malaysia | 50 | 51 | 197 | 192 | 11 | 11 | 236 | 232 |
| Pakistan | 1 846 | 1 866 | 4 | 4 | 65 | 66 | 1 786 | 1 804 |
| Philippines | 302 | 300 | 160 | 162 | 3 | 2 | 459 | 460 |
| **AFRICA** | **6 372** | **6 435** | **605** | **616** | **130** | **129** | **6 847** | **6 922** |
| Algeria | 149 | 152 | 58 | 52 | - | - | 207 | 204 |
| Angola | 104 | 107 | 131 | 114 | - | - | 235 | 221 |
| Egypt | 856 | 868 | 250 | 283 | 3 | 3 | 1 103 | 1 148 |
| South Africa | 984 | 1 027 | 22 | 23 | 69 | 65 | 937 | 985 |
| **CENTRAL AMERICA** | **2 652** | **2 710** | **490** | **509** | **453** | **479** | **2 689** | **2 740** |
| Mexico | 1 924 | 1 958 | 249 | 263 | 255 | 276 | 1 918 | 1 945 |
| **SOUTH AMERICA** | **15 580** | **15 984** | **396** | **414** | **2 945** | **3 290** | **13 031** | **13 108** |
| Argentina | 2 834 | 2 945 | - | - | 311 | 470 | 2 524 | 2 475 |
| Brazil | 9 553 | 9 914 | 53 | 49 | 1 858 | 2 038 | 7 748 | 7 925 |
| Chile | 200 | 199 | 264 | 283 | 10 | 10 | 454 | 472 |
| Colombia | 793 | 800 | 22 | 23 | 22 | 23 | 793 | 800 |
| Uruguay | 563 | 545 | 9 | 15 | 390 | 393 | 182 | 167 |
| Venezuela | 382 | 349 | 30 | 8 | - | - | 412 | 357 |
| **NORTH AMERICA** | **13 145** | **13 531** | **1 605** | **1 642** | **1 933** | **2 118** | **12 870** | **13 027** |
| Canada | 1 201 | 1 240 | 288 | 305 | 445 | 474 | 1 049 | 1 061 |
| United States of America | 11 944 | 12 291 | 1 314 | 1 334 | 1 487 | 1 644 | 11 819 | 11 963 |
| **EUROPE** | **10 582** | **10 690** | **1 092** | **1 062** | **883** | **872** | **10 791** | **10 879** |
| European Union | 7 889 | 8 015 | 305 | 324 | 492 | 470 | 7 702 | 7 869 |
| Russian Federation | 1 621 | 1 625 | 623 | 581 | 71 | 70 | 2 173 | 2 136 |
| Ukraine | 362 | 337 | 3 | 3 | 49 | 45 | 315 | 295 |
| **OCEANIA** | **3 080** | **3 267** | **56** | **54** | **1 900** | **2 029** | **1 236** | **1 293** |
| Australia | 2 387 | 2 564 | 16 | 15 | 1 357 | 1 468 | 1 046 | 1 111 |
| New Zealand | 679 | 689 | 14 | 13 | 540 | 558 | 153 | 144 |
| **WORLD** | **70 853** | **72 235** | **9 816** | **10 309** | **10 225** | **10 741** | **70 508** | **71 808** |
| Developing countries | 43 592 | 44 292 | 6 265 | 6 734 | 5 509 | 5 721 | 44 364 | 45 322 |
| Developed countries | 27 262 | 27 943 | 3 550 | 3 575 | 4 716 | 5 020 | 26 144 | 26 486 |
| LIFDC | 10 020 | 10 034 | 104 | 106 | 1 908 | 1 735 | 8 216 | 8 405 |
| LDC | 3 820 | 3 830 | 192 | 174 | 4 | 4 | 4 008 | 4 000 |

# APPENDIX TABLE 16: **OVINE MEAT STATISTICS**
(*thousand tonnes - carcass weight equivalent*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* |
| **ASIA** | **9 064** | **9 122** | **594** | **648** | **42** | **43** | **9 616** | **9 727** |
| Bangladesh | 215 | 216 | - | - | - | - | 215 | 216 |
| China | 4 691 | 4 748 | 279 | 319 | 1 | 1 | 4 969 | 5 067 |
| India | 741 | 739 | - | - | 23 | 21 | 718 | 718 |
| Iran, Islamic Republic of | 395 | 392 | 14 | 26 | - | - | 409 | 418 |
| Pakistan | 469 | 473 | - | - | 6 | 6 | 463 | 467 |
| Saudi Arabia | 125 | 128 | 45 | 42 | 3 | 4 | 168 | 166 |
| Turkey | 425 | 427 | 1 | 1 | - | - | 426 | 428 |
| **AFRICA** | **2 825** | **2 833** | **29** | **28** | **32** | **32** | **2 822** | **2 829** |
| Algeria | 289 | 292 | 4 | 2 | - | - | 293 | 294 |
| Nigeria | 388 | 388 | - | - | - | - | 388 | 388 |
| South Africa | 195 | 197 | 7 | 7 | 1 | 1 | 200 | 203 |
| Sudan | 358 | 355 | - | - | 6 | 6 | 353 | 350 |
| **CENTRAL AMERICA** | **128** | **129** | **20** | **19** | **-** | **-** | **148** | **148** |
| Mexico | 101 | 102 | 10 | 9 | - | - | 111 | 111 |
| **SOUTH AMERICA** | **303** | **305** | **7** | **8** | **19** | **20** | **291** | **293** |
| Brazil | 125 | 126 | 7 | 8 | - | - | 131 | 134 |
| **NORTH AMERICA** | **83** | **84** | **148** | **146** | **4** | **4** | **227** | **226** |
| United States of America | 68 | 69 | 122 | 122 | 4 | 4 | 186 | 187 |
| **EUROPE** | **1 230** | **1 220** | **151** | **152** | **38** | **42** | **1 344** | **1 331** |
| European Union | 887 | 876 | 140 | 142 | 30 | 26 | 997 | 992 |
| Russian Federation | 215 | 215 | 3 | 3 | - | 8 | 218 | 210 |
| **OCEANIA** | **1 199** | **1 261** | **25** | **26** | **850** | **898** | **374** | **388** |
| Australia | 727 | 787 | - | 1 | 454 | 499 | 274 | 289 |
| New Zealand | 471 | 473 | 2 | 3 | 396 | 399 | 78 | 77 |
| **WORLD** | **14 833** | **14 954** | **973** | **1 027** | **984** | **1 039** | **14 822** | **14 942** |
| Developing countries | 12 321 | 12 389 | 649 | 700 | 93 | 94 | 12 877 | 12 995 |
| Developed countries | 2 512 | 2 565 | 324 | 327 | 891 | 944 | 1 945 | 1 947 |
| LIFDC | 4 122 | 4 122 | 22 | 23 | 57 | 55 | 4 087 | 4 090 |
| LDC | 1 603 | 1 606 | 7 | 7 | 16 | 16 | 1 594 | 1 597 |

# APPENDIX TABLE 17: **PIGMEAT STATISTICS**
(*thousand tonnes - carcass weight equivalent*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* |
| **ASIA** | **66 131** | **66 937** | **4 745** | **4 906** | **205** | **185** | **70 663** | **71 553** |
| China | 54 335 | 55 080 | 2 115 | 2 163 | 107 | 98 | 56 342 | 57 145 |
| India | 315 | 313 | 1 | 1 | - | - | 316 | 314 |
| Indonesia | 785 | 786 | 1 | 4 | - | - | 786 | 790 |
| Japan | 1 282 | 1 285 | 1 481 | 1 510 | 4 | 4 | 2 748 | 2 786 |
| Korea, Republic of | 1 280 | 1 373 | 654 | 733 | 2 | 2 | 1 935 | 2 005 |
| Malaysia | 218 | 219 | 28 | 30 | 4 | 5 | 242 | 244 |
| Philippines | 1 817 | 1 861 | 135 | 153 | 2 | 2 | 1 950 | 2 012 |
| Thailand | 948 | 952 | 1 | 1 | 21 | 23 | 928 | 930 |
| Viet Nam | 3 720 | 3 631 | 33 | 38 | 39 | 25 | 3 714 | 3 644 |
| **AFRICA** | **1 478** | **1 501** | **280** | **285** | **29** | **28** | **1 728** | **1 758** |
| Madagascar | 63 | 62 | - | - | - | - | 63 | 62 |
| Nigeria | 280 | 282 | 2 | 2 | - | - | 282 | 284 |
| South Africa | 249 | 264 | 37 | 42 | 26 | 25 | 260 | 281 |
| Uganda | 128 | 129 | 1 | 1 | - | - | 128 | 129 |
| **CENTRAL AMERICA** | **2 003** | **2 058** | **1 148** | **1 233** | **199** | **209** | **2 952** | **3 082** |
| Cuba | 232 | 236 | 20 | 19 | - | - | 252 | 255 |
| Mexico | 1 440 | 1 489 | 916 | 988 | 177 | 188 | 2 178 | 2 289 |
| **SOUTH AMERICA** | **5 980** | **6 023** | **340** | **365** | **1 026** | **931** | **5 294** | **5 456** |
| Argentina | 566 | 591 | 45 | 47 | 3 | 4 | 608 | 634 |
| Brazil | 3 725 | 3 677 | 2 | 2 | 856 | 742 | 2 871 | 2 937 |
| Chile | 489 | 528 | 123 | 111 | 162 | 180 | 449 | 459 |
| Colombia | 352 | 375 | 98 | 126 | - | - | 450 | 501 |
| Venezuela | 152 | 148 | 5 | 4 | - | - | 157 | 152 |
| **NORTH AMERICA** | **13 741** | **14 126** | **869** | **850** | **3 713** | **3 866** | **10 858** | **11 122** |
| Canada | 2 131 | 2 133 | 251 | 261 | 1 273 | 1 280 | 1 091 | 1 124 |
| United States of America | 11 610 | 11 993 | 613 | 585 | 2 440 | 2 586 | 9 763 | 9 994 |
| **EUROPE** | **28 892** | **29 415** | **557** | **410** | **2 992** | **3 052** | **26 457** | **26 773** |
| Belarus | 392 | 390 | 7 | 11 | 47 | 38 | 352 | 363 |
| European Union | 23 405 | 23 757 | 15 | 16 | 2 845 | 2 916 | 20 575 | 20 857 |
| Russian Federation | 3 520 | 3 738 | 401 | 216 | 58 | 60 | 3 863 | 3 894 |
| Serbia | 345 | 356 | 44 | 50 | 22 | 20 | 367 | 386 |
| Ukraine | 735 | 676 | 8 | 30 | 6 | 5 | 737 | 701 |
| **OCEANIA** | **556** | **576** | **254** | **255** | **40** | **44** | **773** | **782** |
| Australia | 408 | 428 | 168 | 166 | 39 | 43 | 541 | 546 |
| Papua New Guinea | 80 | 81 | 10 | 9 | - | - | 90 | 90 |
| **WORLD** | **118 781** | **120 636** | **8 191** | **8 304** | **8 204** | **8 317** | **118 725** | **120 526** |
| Developing countries | 74 411 | 75 336 | 5 054 | 5 301 | 1 455 | 1 350 | 78 013 | 79 188 |
| Developed countries | 44 370 | 45 300 | 3 137 | 3 002 | 6 749 | 6 967 | 40 711 | 41 337 |
| LIFDC | 1 651 | 1 657 | 142 | 140 | 3 | 3 | 1 789 | 1 793 |
| LDC | 1 976 | 1 989 | 169 | 174 | 1 | 1 | 2 144 | 2 162 |

# APPENDIX TABLE 18: **POULTRY MEAT STATISTICS**
(*thousand tonnes - carcass weight equivalent*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* | 2017 *estim.* | 2018 *f'cast* |
| **ASIA** | **42 288** | **43 067** | **6 495** | **6 712** | **2 182** | **2 412** | **46 581** | **47 373** |
| China | 17 466 | 17 583 | 1 427 | 1 496 | 426 | 447 | 18 467 | 18 631 |
| India | 3 591 | 3 752 | - | - | 4 | 6 | 3 587 | 3 747 |
| Indonesia | 2 173 | 2 225 | 4 | 4 | - | - | 2 177 | 2 229 |
| Iran, Islamic Republic of | 2 152 | 2 167 | - | - | 45 | 49 | 2 107 | 2 118 |
| Japan | 2 216 | 2 260 | 1 291 | 1 394 | 10 | 10 | 3 475 | 3 642 |
| Korea, Republic of | 845 | 902 | 150 | 171 | 7 | 27 | 997 | 1 046 |
| Kuwait | 59 | 63 | 139 | 137 | - | - | 198 | 200 |
| Malaysia | 1 648 | 1 676 | 68 | 80 | 49 | 51 | 1 667 | 1 705 |
| Saudi Arabia | 661 | 716 | 725 | 602 | 47 | 40 | 1 339 | 1 278 |
| Singapore | 102 | 104 | 158 | 162 | 19 | 17 | 241 | 249 |
| Thailand | 1 895 | 1 977 | 2 | 2 | 1 051 | 1 180 | 839 | 807 |
| Turkey | 2 175 | 2 236 | 3 | 4 | 437 | 498 | 1 741 | 1 742 |
| Yemen | 125 | 100 | 77 | 104 | - | - | 202 | 204 |
| **AFRICA** | **5 793** | **5 907** | **2 012** | **1 925** | **91** | **88** | **7 714** | **7 744** |
| Angola | 40 | 40 | 281 | 294 | - | - | 321 | 334 |
| South Africa | 1 730 | 1 748 | 557 | 565 | 70 | 62 | 2 218 | 2 251 |
| **CENTRAL AMERICA** | **4 928** | **5 041** | **1 749** | **1 813** | **39** | **38** | **6 638** | **6 816** |
| Cuba | 34 | 34 | 284 | 287 | - | - | 318 | 321 |
| Mexico | 3 234 | 3 328 | 978 | 1 027 | 10 | 10 | 4 202 | 4 345 |
| **SOUTH AMERICA** | **20 912** | **20 641** | **357** | **346** | **4 628** | **4 418** | **16 641** | **16 570** |
| Argentina | 2 003 | 1 992 | 9 | 7 | 208 | 186 | 1 804 | 1 813 |
| Brazil | 13 645 | 13 236 | 3 | 2 | 4 284 | 4 081 | 9 364 | 9 157 |
| Chile | 712 | 783 | 148 | 142 | 122 | 138 | 738 | 787 |
| Venezuela | 590 | 570 | 21 | 5 | - | - | 611 | 575 |
| **NORTH AMERICA** | **23 414** | **23 966** | **339** | **349** | **3 947** | **3 959** | **19 769** | **20 333** |
| Canada | 1 416 | 1 484 | 198 | 199 | 179 | 167 | 1 432 | 1 507 |
| United States of America | 21 998 | 22 482 | 137 | 146 | 3 769 | 3 792 | 18 333 | 18 822 |
| **EUROPE** | **21 156** | **21 619** | **1 259** | **1 230** | **2 160** | **2 298** | **20 256** | **20 550** |
| European Union | 14 587 | 14 907 | 726 | 704 | 1 537 | 1 575 | 13 776 | 14 036 |
| Russian Federation | 4 456 | 4 518 | 215 | 202 | 174 | 217 | 4 497 | 4 503 |
| Ukraine | 1 224 | 1 264 | 121 | 133 | 274 | 306 | 1 071 | 1 091 |
| **OCEANIA** | **1 452** | **1 405** | **104** | **105** | **68** | **67** | **1 488** | **1 443** |
| Australia | 1 208 | 1 160 | 15 | 15 | 42 | 41 | 1 180 | 1 134 |
| New Zealand | 209 | 210 | 1 | 1 | 26 | 26 | 184 | 185 |
| **WORLD** | **119 943** | **121 646** | **12 316** | **12 481** | **13 115** | **13 279** | **119 087** | **120 830** |
| Developing countries | 71 740 | 72 432 | 9 411 | 9 492 | 6 929 | 6 945 | 74 224 | 74 986 |
| Developed countries | 48 203 | 49 215 | 2 905 | 2 989 | 6 185 | 6 334 | 44 864 | 45 844 |
| LIFDC | 6 909 | 7 059 | 959 | 988 | 11 | 14 | 7 857 | 8 033 |
| LDC | 3 067 | 3 058 | 1 032 | 1 068 | 2 | 2 | 4 098 | 4 124 |

# APPENDIX TABLE 19: **MILK AND MILK PRODUCTS STATISTICS**
(*thousand tonnes - milk equivalent*)

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014-2016 average | 2017 *estim.* | 2018 *f'cast* | 2014-2016 average | 2017 *estim.* | 2018 *f'cast* | 2014-2016 average | 2017 *estim.* | 2018 *f'cast* |
| **ASIA** | **313 857** | **322 409** | **333 972** | **40 701** | **43 014** | **44 456** | **6 625** | **6 630** | **6 458** |
| China | 41 954 | 40 288 | 42 238 | 12 126 | 13 554 | 13 619 | 69 | 49 | 46 |
| India [1] | 153 872 | 165 612 | 172 899 | 104 | 164 | 151 | 401 | 245 | 274 |
| Indonesia | 1 453 | 1 510 | 1 535 | 2 640 | 2 736 | 2 737 | 74 | 39 | 39 |
| Iran, Islamic Republic of | 7 330 | 6 855 | 6 980 | 429 | 343 | 347 | 591 | 843 | 743 |
| Japan | 7 371 | 7 276 | 7 311 | 1 911 | 2 171 | 2 316 | 7 | 9 | 10 |
| Korea, Republic.of | 2 159 | 2 087 | 2 098 | 1 041 | 1 186 | 1 261 | 38 | 34 | 35 |
| Malaysia | 73 | 53 | 54 | 2 185 | 2 179 | 2 286 | 683 | 640 | 635 |
| Pakistan | 40 509 | 40 167 | 40 482 | 556 | 631 | 689 | 48 | 35 | 38 |
| Philippines | 16 | 15 | 16 | 1 919 | 2 164 | 2 241 | 150 | 49 | 77 |
| Saudi Arabia | 2 531 | 2 740 | 2 716 | 3 180 | 3 038 | 3 079 | 1 344 | 1 485 | 1 520 |
| Singapore | - | - | - | 1 707 | 1 563 | 1 560 | 598 | 471 | 440 |
| Thailand | 1 089 | 1 120 | 1 138 | 1 519 | 1 606 | 1 614 | 212 | 247 | 249 |
| Turkey | 18 467 | 17 917 | 19 619 | 203 | 119 | 178 | 683 | 862 | 775 |
| **AFRICA** | **45 759** | **45 080** | **45 572** | **10 330** | **9 836** | **10 328** | **1 315** | **1 292** | **1 288** |
| Algeria | 4 161 | 4 201 | 4 296 | 2 998 | 3 473 | 3 783 | 2 | - | - |
| Egypt | 4 976 | 4 670 | 4 694 | 1 799 | 956 | 1 114 | 561 | 552 | 567 |
| Kenya | 4 769 | 4 620 | 4 972 | 67 | 219 | 239 | 12 | 8 | 8 |
| South Africa | 3 464 | 3 624 | 3 591 | 263 | 329 | 355 | 375 | 387 | 383 |
| Sudan | 4 425 | 4 300 | 4 310 | 246 | 365 | 363 | - | - | - |
| Tunisia | 1 385 | 1 488 | 1 533 | 80 | 68 | 75 | 36 | 36 | 36 |
| **CENTRAL AMERICA** | **17 189** | **17 618** | **17 715** | **5 347** | **6 156** | **6 640** | **770** | **1 443** | **1 750** |
| Costa Rica | 1 105 | 1 144 | 1 152 | 62 | 71 | 67 | 161 | 128 | 128 |
| Mexico | 11 593 | 12 029 | 12 105 | 3 294 | 3 965 | 4 415 | 245 | 940 | 1 247 |
| **SOUTH AMERICA** | **63 841** | **63 290** | **63 958** | **3 498** | **3 426** | **3 415** | **4 261** | **3 268** | **3 598** |
| Argentina | 11 121 | 10 098 | 10 800 | 27 | 33 | 24 | 1 993 | 1 341 | 1 568 |
| Brazil | 34 699 | 35 257 | 34 869 | 1 097 | 1 133 | 901 | 322 | 98 | 58 |
| Colombia | 6 666 | 6 807 | 6 950 | 284 | 324 | 311 | 23 | 27 | 37 |
| Uruguay | 2 152 | 2 148 | 2 260 | 27 | 32 | 33 | 1 328 | 1 268 | 1 408 |
| Venezuela | 2 069 | 1 787 | 1 733 | 1 132 | 739 | 891 | - | - | - |
| **NORTH AMERICA** | **103 581** | **107 182** | **108 606** | **2 637** | **2 615** | **2 606** | **10 526** | **11 850** | **13 042** |
| Canada | 8 764 | 9 450 | 9 800 | 687 | 591 | 583 | 566 | 1 125 | 1 142 |
| United States of America | 94 816 | 97 730 | 98 805 | 1 933 | 2 007 | 2 006 | 9 959 | 10 724 | 11 899 |
| **EUROPE** | **220 514** | **224 600** | **226 099** | **6 957** | **6 401** | **5 576** | **24 689** | **26 553** | **26 273** |
| Belarus | 6 964 | 7 322 | 7 386 | 205 | 61 | 56 | 3 774 | 3 713 | 3 596 |
| European Union | 161 867 | 165 600 | 166 600 | 1 424 | 1 225 | 1 144 | 18 505 | 20 391 | 20 310 |
| Russian Federation | 30 776 | 31 112 | 31 645 | 4 434 | 4 202 | 3 441 | 302 | 257 | 227 |
| Ukraine | 10 710 | 10 324 | 10 126 | 83 | 64 | 74 | 661 | 815 | 809 |
| **OCEANIA** | **31 516** | **30 710** | **31 028** | **1 249** | **1 551** | **1 645** | **22 586** | **21 728** | **22 137** |
| Australia [2] | 9 855 | 9 301 | 9 587 | 791 | 1 127 | 1 166 | 3 310 | 3 018 | 3 151 |
| New Zealand [3] | 21 593 | 21 341 | 21 373 | 246 | 221 | 270 | 19 274 | 18 707 | 18 983 |
| **WORLD** | **796 257** | **810 888** | **826 949** | **70 718** | **72 998** | **74 665** | **70 773** | **72 763** | **74 546** |
| Developing countries | 407 084 | 415 186 | 427 979 | 56 902 | 58 966 | 61 076 | 12 503 | 12 107 | 12 569 |
| Developed countries | 389 173 | 395 702 | 398 971 | 13 816 | 14 031 | 13 590 | 58 270 | 60 657 | 61 977 |
| LIFDC | 242 020 | 251 973 | 259 979 | 5 947 | 6 307 | 6 580 | 1 090 | 933 | 952 |
| LDC | 31 120 | 30 574 | 30 639 | 3 948 | 3 925 | 4 161 | 207 | 234 | 222 |

[1] For production, the annual dairy cycle starting in April is applied
[2] For production, the annual dairy cycle starting in July is applied
[3] For production, the annual dairy cycle starting in June is applied

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

# APPENDIX TABLE 20: **FISH AND FISHERY PRODUCTS STATISTICS** [1]

| | Capture fisheries production | | Aquaculture fisheries production | | Exports | | | Imports | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2015 | 2016 | 2016 | 2017 estim. | 2018 f'cast | 2016 | 2017 estim. | 2018 f'cast |
| | *Million tonnes (live weight equivalent)* | | | | | *USD billion* | | | *USD billion* | |
| **ASIA**[2] | **50.7** | **50.2** | **67.9** | **71.5** | **54.5** | **58.2** | **61.9** | **43.8** | **48.2** | **52.7** |
| China | 18.7 | 18.5 | 47.4 | 49.5 | 22.6 | 23.4 | 24.8 | 14.0 | 15.9 | 18.2 |
| of which: Hong Kong SAR | 0.1 | 0.1 | - | - | 0.8 | 1.0 | 1.0 | 3.8 | 3.6 | 4.1 |
| Taiwan Prov. | 1.0 | 0.8 | 0.3 | 0.3 | 1.7 | 1.9 | 2.1 | 1.3 | 1.4 | 1.7 |
| India | 4.8 | 5.1 | 5.3 | 5.7 | 5.5 | 7.2 | 7.4 | 0.1 | 0.1 | 0.2 |
| Indonesia | 6.7 | 6.5 | 4.3 | 5.0 | 3.9 | 4.2 | 4.7 | 0.4 | 0.4 | 0.4 |
| Japan | 3.5 | 3.2 | 0.7 | 0.7 | 2.0 | 2.0 | 2.5 | 13.9 | 15.0 | 15.4 |
| Korea, Republic of | 1.6 | 1.4 | 0.5 | 0.5 | 1.7 | 1.7 | 1.8 | 4.6 | 5.1 | 5.9 |
| Philippines | 2.2 | 2.0 | 0.8 | 0.8 | 0.7 | 0.9 | 1.0 | 0.4 | 0.5 | 0.6 |
| Thailand | 1.5 | 1.5 | 0.9 | 1.0 | 5.9 | 5.9 | 6.0 | 3.1 | 3.6 | 4.0 |
| Viet Nam | 2.8 | 2.8 | 3.4 | 3.6 | 7.3 | 7.5 | 7.7 | 1.3 | 1.4 | 1.4 |
| **AFRICA** | **8.8** | **9.3** | **1.8** | **2.0** | **6.4** | **6.6** | **7.2** | **4.9** | **5.2** | **5.9** |
| Egypt | 0.3 | 0.3 | 1.2 | 1.4 | - | - | - | 0.7 | 0.6 | 0.9 |
| Morocco | 1.4 | 1.4 | - | - | 2.1 | 2.2 | 2.4 | 0.2 | 0.2 | 0.3 |
| Namibia | 0.5 | 0.5 | - | - | 0.6 | 0.7 | 0.8 | 0.1 | - | 0.1 |
| Nigeria | 0.7 | 0.7 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.7 | 0.8 | 0.8 |
| Senegal | 0.4 | 0.5 | - | - | 0.4 | 0.4 | 0.5 | - | - | - |
| South Africa | 0.6 | 0.6 | - | - | 0.6 | 0.6 | 0.7 | 0.4 | 0.4 | 0.5 |
| **CENTRAL AMERICA** | **2.1** | **2.1** | **0.4** | **0.4** | **2.5** | **2.9** | **3.2** | **1.7** | **1.9** | **1.9** |
| Mexico | 1.5 | 1.5 | 0.2 | 0.2 | 1.0 | 1.3 | 1.7 | 0.8 | 0.9 | 0.9 |
| Panama | 0.1 | 0.1 | - | - | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| **SOUTH AMERICA** | **9.3** | **8.1** | **2.3** | **2.3** | **13.9** | **16.3** | **17.9** | **2.6** | **2.9** | **3.1** |
| Argentina | 0.8 | 0.8 | - | - | 1.7 | 2.0 | 2.0 | 0.2 | 0.2 | 0.2 |
| Brazil | 0.7 | 0.7 | 0.6 | 0.6 | 0.2 | 0.3 | 0.3 | 1.2 | 1.4 | 1.3 |
| Chile | 1.8 | 1.5 | 1.0 | 1.0 | 5.1 | 6.0 | 6.7 | 0.3 | 0.4 | 0.4 |
| Ecuador | 0.6 | 0.7 | 0.4 | 0.5 | 3.9 | 4.6 | 5.0 | 0.1 | 0.1 | 0.1 |
| Peru | 4.8 | 3.8 | 0.1 | 0.1 | 2.2 | 2.7 | 3.1 | 0.2 | 0.3 | 0.3 |
| **NORTH AMERICA** | **6.2** | **6.1** | **0.6** | **0.6** | **11.3** | **12.0** | **12.5** | **23.4** | **24.6** | **25.6** |
| Canada | 0.9 | 0.9 | 0.2 | 0.2 | 5.0 | 5.3 | 5.4 | 2.8 | 2.9 | 3.1 |
| United States of America | 5.0 | 4.9 | 0.4 | 0.4 | 5.8 | 6.1 | 6.5 | 20.5 | 21.6 | 22.5 |
| **EUROPE** | **14.1** | **13.7** | **2.9** | **2.9** | **50.8** | **54.0** | **58.6** | **56.9** | **61.1** | **66.3** |
| European Union[2] | 5.3 | 5.2 | 1.3 | 1.3 | 32.8 | 35.0 | 37.6 | 52.0 | 55.8 | 60.2 |
| of which extra-EU | - | - | - | - | 5.5 | 6.2 | 6.5 | 27.2 | 29.0 | 31.6 |
| Iceland | 1.3 | 1.1 | - | - | 2.0 | 2.0 | 2.5 | 0.1 | 0.1 | 0.1 |
| Norway | 2.3 | 2.0 | 1.4 | 1.3 | 10.8 | 11.3 | 12.3 | 1.2 | 1.2 | 1.3 |
| Russian Federation | 4.5 | 4.8 | 0.2 | 0.2 | 3.9 | 3.9 | 4.3 | 1.7 | 1.9 | 2.4 |
| **OCEANIA** | **1.4** | **1.4** | **0.2** | **0.2** | **3.1** | **3.3** | **3.4** | **1.8** | **1.9** | **2.1** |
| Australia | 0.2 | 0.2 | 0.1 | 0.1 | 1.0 | 1.1 | 1.2 | 1.5 | 1.6 | 1.6 |
| New Zealand | 0.4 | 0.4 | 0.1 | 0.1 | 1.2 | 1.2 | 1.2 | 0.2 | 0.2 | 0.2 |
| **WORLD**[3] | **92.7** | **90.9** | **76.1** | **80.0** | **142.5** | **153.2** | **164.7** | **135.0** | **145.8** | **157.5** |
| Excl. intra-EU | - | - | - | - | 115.3 | 124.4 | 133.6 | 110.2 | 118.9 | 128.9 |
| Developing countries | 68.3 | 67.4 | 71.6 | 75.5 | 76.0 | 82.9 | 88.6 | 38.7 | 42.7 | 47.6 |
| Developed countries | 24.4 | 23.6 | 4.5 | 4.5 | 66.5 | 70.2 | 77.6 | 96.4 | 103.2 | 112.6 |
| LIFDC | 12.7 | 13.4 | 8.2 | 8.8 | 9.0 | 10.8 | 11.2 | 2.7 | 3.0 | 3.3 |
| LDC | 8.7 | 9.2 | 3.5 | 3.7 | 3.1 | 3.4 | 3.8 | 1.1 | 1.2 | 1.3 |

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

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

[3] For capture fisheries production, the aggregate includes 39 006 tonnes in 2015 and 5 229 tonnes in 2016 from non-identified countries; these data are not included in any other aggregates. Totals may not match due to rounding

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

| Period | Wheat | | | Maize | | Barley | | Sorghum |
|---|---|---|---|---|---|---|---|---|
| | US No. 2 Hard Red Winter Ord. Prot. [1] | US Soft Red Winter No. 2 [2] | Argentina Trigo Pan [3] | US No. 2 Yellow [2] | Argentina [3] | France feed Rouen | Australia feed Southern States | US No. 2 Yellow [2] |
| | (USD/tonne) | | | | | | | |
| **Annual (July/June)** | | | | | | | | |
| 2007/08 | 270 | 201 | 234 | 188 | 180 | 178 | 179 | 170 |
| 2008/09 | 209 | 185 | 224 | 160 | 168 | 146 | 154 | 165 |
| 2009/10 | 316 | 289 | 311 | 254 | 260 | 266 | 248 | 248 |
| 2010/11 | 300 | 259 | 264 | 281 | 269 | 270 | 249 | 264 |
| 2011/12 | 348 | 310 | 336 | 311 | 277 | 297 | 298 | 281 |
| 2012/13 | 318 | 265 | 335 | 216 | 219 | 243 | 241 | 218 |
| 2013/14 | 266 | 221 | 246 | 173 | 177 | 205 | 242 | 210 |
| 2014/15 | 211 | 194 | 208 | 166 | 170 | 174 | 185 | 173 |
| 2015/16 | 197 | 170 | 190 | 156 | 172 | 157 | 161 | 151 |
| 2016/17 | 230 | 188 | 203 | 159 | 165 | 190 | 202 | 174 |
| 2017/18 | 230 | 188 | 203 | 159 | 165 | 174 | 217 | 174 |
| 2017 - June | 214 | 177 | 182 | 148 | 149 | 187 | 202 | 171 |
| 2017 - July | 220 | 176 | 179 | 148 | 150 | 188 | 185 | 167 |
| 2017 - August | 219 | 171 | 178 | 149 | 158 | 176 | 184 | 174 |
| 2017 September | 229 | 178 | 178 | 156 | 164 | 177 | 193 | 178 |
| 2017 - October | 240 | 191 | 189 | 164 | 177 | 183 | 206 | 188 |
| 2017 - November | 246 | 198 | 211 | 171 | 188 | 199 | 214 | 181 |
| 2017 - December | 240 | 198 | 229 | 175 | 189 | 214 | 216 | 180 |
| 2018 - January | 250 | 211 | 261 | 179 | 192 | 215 | 209 | 165 |
| 2018 - February | 242 | 205 | 268 | 166 | 170 | 215 | 199 | 167 |
| 2018 - March | 235 | 207 | 245 | 157 | 165 | 215 | 218 | 147 |
| 2018 - April | 250 | 215 | 242 | 162 | 168 | 228 | 246 | 165 |
| 2018 - May | 242 | 203 | 235 | 156 | 160 | 235 | 239 | 165 |
| 2018 June | 241 | 210 | 233 | 161 | 163 | 233 | 240 | 160 |

[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 22: TOTAL **WHEAT AND MAIZE** FUTURES PRICES

| | July | | September | | December | | March | |
|---|---|---|---|---|---|---|---|---|
| | July 2018 | July 2017 | Sept. 2018 | Sept. 2017 | Dec. 2018 | Dec. 2017 | March 2019 | March 2018 |
| | (USD/tonne) | | | | | | | |
| **Wheat** | | | | | | | | |
| Sept 25 | 191 | 167 | 198 | 174 | 203 | 179 | 203 | 183 |
| Oct 2 | 191 | 163 | 198 | 170 | 202 | 175 | 204 | 180 |
| Oct 9 | 189 | 160 | 197 | 168 | 201 | 173 | 203 | 178 |
| Oct 16 | 192 | 160 | 200 | 167 | 204 | 172 | 205 | 177 |
| Oct 23 | 187 | 160 | 194 | 167 | 199 | 172 | 202 | 177 |
| Oct 30 | 184 | 156 | 190 | 163 | 195 | 168 | 197 | 173 |
| **Maize** | | | | | | | | |
| Sept 25 | 143 | 139 | 148 | 144 | 151 | 148 | 153 | 150 |
| Oct 2 | 145 | 138 | 149 | 143 | 152 | 147 | 155 | 150 |
| Oct 9 | 144 | 138 | 148 | 143 | 151 | 146 | 153 | 150 |
| Oct 16 | 148 | 138 | 152 | 143 | 155 | 147 | 157 | 150 |
| Oct 23 | 146 | 138 | 151 | 144 | 154 | 147 | 156 | 150 |
| Oct 30 | 144 | 137 | 149 | 143 | 152 | 146 | 154 | 149 |

*Source*: Chicago Board of Trade (CBOT)

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

| | International prices | | | | FAO indices | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Indica | | | |
| **Period** | **Thai 100% B[1]** | **Thai broken [2]** | **US long grain [3]** | **Pakisan Basmati[4]** | **Total** | **Higher quality** | **Lower quality** | **Japonica** | **Aromatic** |
| **Annual (Jan/Dec)** | *(USD per tonne)* | | | | *(2002-2004=100)* | | | | |
| 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 |
| 2017 | 415 | 334 | 456 | 1131 | 206 | 183 | 195 | 232 | 204 |
| **Monthly** | | | | | | | | | |
| 2017 – October | 411 | 328 | 516 | 1169 | 216 | 188 | 195 | 250 | 216 |
| 2017 – November | 424 | 330 | 516 | 1155 | 219 | 191 | 196 | 256 | 213 |
| 2017 – December | 432 | 338 | 518 | 1136 | 220 | 192 | 197 | 254 | 216 |
| 2018 – January | 462 | 352 | 526 | 1087 | 224 | 200 | 207 | 254 | 219 |
| 2018 – February | 463 | 363 | 537 | 1095 | 227 | 200 | 211 | 257 | 227 |
| 2018 – March | 453 | 376 | 539 | 1072 | 227 | 199 | 212 | 258 | 226 |
| 2018 – April | 478 | 385 | 543 | 1053 | 229 | 210 | 219 | 255 | 221 |
| 2018 – May | 477 | 388 | 550 | 1043 | 228 | 212 | 222 | 249 | 218 |
| 2018 – June | 456 | 378 | 550 | 1042 | 235 | 209 | 219 | 271 | 219 |
| 2018 – July | 420 | 363 | 546 | 1040 | 228 | 199 | 208 | 266 | 217 |
| 2018 – August | 427 | 349 | 535 | 1029 | 224 | 199 | 203 | 258 | 218 |
| 2018 – September | 427 | 352 | 519 | 995 | 222 | 197 | 200 | 259 | 213 |
| 2018 – October | 432 | 358 | 510 | 961 | 218 | 197 | 200 | 252 | 204 |

[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% brokens 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 brokens. The sub-index for Aromatic Rice follows movements in prices of Basmati and Fragrant rice.
Sources: FAO for indices. Rice prices: Livericeindex.com - Thai Department of Foreign Trade (DFT) and other public sources.

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

| Period | International prices [1] | | | | | FAO indices [8] | | |
|---|---|---|---|---|---|---|---|---|
| | Soybeans [2] | Soybean oil [3] | Palm oil [4] | Soybean cake [5] | Rapeseed meal [6] | Oilseeds | Vegetable oils | Oilcakes/meals |
| | (USD per tonne) | | | | | (2002-2004=100) | | |
| **Annual (Oct/Sept)** | | | | | | | | |
| 2004/05 | 275 | 545 | 419 | 212 | 130 | 104 | 103 | 101 |
| 2005/06 | 259 | 572 | 451 | 202 | 130 | 100 | 107 | 96 |
| 2006/07 | 335 | 772 | 684 | 264 | 184 | 129 | 150 | 128 |
| 2008/09 | 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 |
| 2016/17 | 404 | 806 | 729 | 336 | 225 | 154 | 160 | 171 |
| 2017/18 | 402 | 820 | 648 | 381 | 258 | 153 | 154 | 182 |
| **Monthly** | | | | | | | | |
| 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 |
| 2017 - June | 379 | 821 | 681 | 313 | 238 | 144 | 162 | 150 |
| 2017 - July | 409 | 836 | 665 | 326 | 220 | 154 | 160 | 155 |
| 2017 - August | 391 | 854 | 678 | 318 | 216 | 149 | 164 | 152 |
| 2017 - September | 395 | 879 | 729 | 329 | 209 | 151 | 172 | 156 |
| 2017 - October | 397 | 869 | 721 | 331 | 207 | 151 | 170 | 157 |
| 2017 - November | 401 | 885 | 719 | 333 | 204 | 153 | 172 | 158 |
| 2017 - December | 397 | 863 | 666 | 348 | 219 | 151 | 163 | 165 |
| 2018 - January | 404 | 865 | 679 | 361 | 239 | 153 | 163 | 171 |
| 2018 - February | 416 | 846 | 660 | 400 | 265 | 157 | 158 | 190 |
| 2018 - March | 432 | 830 | 684 | 427 | 294 | 162 | 157 | 203 |
| 2018 - April | 441 | 824 | 663 | 447 | 302 | 164 | 155 | 213 |
| 2018 - May | 432 | 787 | 659 | 443 | 282 | 161 | 151 | 211 |
| 2018 - June | 389 | 783 | 631 | 391 | 264 | 148 | 146 | 187 |
| 2018 - July | 378 | 774 | 591 | 382 | 267 | 145 | 142 | 184 |
| 2018 - August | 379 | 763 | 561 | 365 | 282 | 146 | 138 | 178 |
| 2018 - September | 357 | 755 | 545 | 347 | 277 | 139 | 135 | 169 |
| 2018 - October [7] | 371 | 764 | 532 | 351 | 271 | 142 | 133 | 169 |

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

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

Sources: FAO and Oil World.

# APPENDIX TABLE 25: **SELECTED INTERNATIONAL PRICES FOR SUGAR AND SUGAR PRICE INDEX**

| | I.S.A. daily price average[1] | FAO Sugar Price Index (2002/04 = 100) |
|---|---|---|
| | Raw sugar | |
| **Annual (Jan/Dec)** | *(US Cents/lb)* | *(2002/04=100)* |
| 2009 | 18.1 | 257.3 |
| 2010 | 21.3 | 302.0 |
| 2011 | 26.0 | 368.9 |
| 2012 | 21.5 | 305.7 |
| 2013 | 17.7 | 251.0 |
| 2014 | 17.0 | 241.2 |
| 2015 | 13.4 | 190.7 |
| 2016 | 18.0 | 256.0 |
| 2017 | 16.0 | 227.3 |
| **Monthly** | | |
| 2016 - August | 20.1 | 285.6 |
| 2016 - September | 21.5 | 304.8 |
| 2016 - October | 22.2 | 315.3 |
| 2016 - November | 20.2 | 287.1 |
| 2016 - December | 18.5 | 262.6 |
| 2017 - January | 20.3 | 288.5 |
| 2017 - February | 20.3 | 287.9 |
| 2017 - March | 18.1 | 256.5 |
| 2017 - April | 16.4 | 233.3 |
| 2017 - May | 16.1 | 227.9 |
| 2017 - June | 13.9 | 197.3 |
| 2017 - July | 14.6 | 207.5 |
| 2017 - August | 14.3 | 203.9 |
| 2017 - September | 14.4 | 204.2 |
| 2017 - October | 14.3 | 203.5 |
| 2017 - November | 15.0 | 212.7 |
| 2017 - December | 14.4 | 204.1 |
| 2018 - January | 14.1 | 199.9 |
| 2018 - February | 13.6 | 192.4 |
| 2018 - March | 13.1 | 185.5 |
| 2018 - April | 12.0 | 176.1 |
| 2018 - May | 12.4 | 175.3 |
| 2018 - June | 12.5 | 177.4 |
| 2018 - July | 11.7 | 166.3 |
| 2018 - August | 11.1 | 157.3 |
| 2018 - September | 11.4 | 161.4 |
| 2018 - October | 12.5 | 175.4 |

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

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

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

| | International prices | | | | FAO dairy price index |
|---|---|---|---|---|---|
| **Period** | **Butter [1]** | **Skim milk powder [2]** | **Whole milk powder [3]** | **Cheddar cheese [4]** | |
| **Annual (Jan/Dec)** | ..... *(USD per tonne)* ..... | | | | ... *(2002-2004=100)* ... |
| 2008 | 3 701 | 3 251 | 3 891 | 4 633 | 223 |
| 2009 | 2 736 | 2 332 | 2 556 | 2 957 | 150 |
| 2010 | 4 270 | 3 081 | 3 514 | 4 010 | 207 |
| 2011 | 4 876 | 3 556 | 4 018 | 4 310 | 230 |
| 2012 | 3 547 | 3 119 | 3 358 | 3 821 | 194 |
| 2013 | 4 484 | 4 293 | 4 745 | 4 402 | 243 |
| 2014 | 4 010 | 3 647 | 3 868 | 4 456 | 224 |
| 2015 | 3 212 | 2 113 | 2 509 | 3 340 | 160 |
| 2016 | 3 350 | 1 983 | 2 457 | 3 094 | 154 |
| 2017 | 5 573 | 2 025 | 3 179 | 3 848 | 202 |
| **Monthly** | | | | | |
| 2017 – October | 6 306 | 1 856 | 3 198 | 4 125 | 215 |
| 2017 – November | 5 732 | 1 763 | 2 985 | 4 044 | 204 |
| 2017 – December | 4 969 | 1 723 | 2 886 | 3 594 | 184 |
| 2018 – January | 4 843 | 1 740 | 2 977 | 3 413 | 180 |
| 2018 – February | 5 129 | 1 864 | 3 127 | 3 644 | 191 |
| 2018 – March | 5 588 | 1 784 | 3 228 | 3 700 | 197 |
| 2018 – April | 5 961 | 1 813 | 3 301 | 3 788 | 204 |
| 2018 – May | 6 245 | 1 941 | 3 289 | 4 094 | 215 |
| 2018 – June | 6 271 | 2 018 | 3 290 | 3 981 | 213 |
| 2018 – July | 5 777 | 1 949 | 3 130 | 3 700 | 199 |
| 2018 – August | 5 463 | 1 937 | 3 102 | 3 713 | 196 |
| 2018 – September | 5 156 | 2 023 | 3 048 | 3 619 | 191 |
| 2018 – October | 4 702 | 1 935 | 2 910 | 3 513 | 182 |

[1] Butter - 82% butterfat - f.o.b. Oceania and EU; average indicative traded prices
[2] Skim Milk Powder - 1.25% butterfat - f.o.b. Oceania and EU - averaged indicative traded prices
[3] Whole Milk Powder - 26% butterfat - f.o.b. Oceania and EU - average indicative traded prices
[4] Cheddar Cheese - 39% max. moisture - f.o.b. Oceania - indicative traded prices

*Note*: The FAO Dairy Price Index is derived from a trade-weighted average of a selection of representative internationally-traded dairy products
Sources: FAO for indices. Product prices: Mid-point of price ranges reported by Dairy Market News (USDA)

# APPENDIX TABLE 27: **SELECTED INTERNATIONAL MEAT PRICES**

| Period | Bovine meat prices | | | Ovine meat price | Pigmeat prices | | | Poultry meat prices | |
|---|---|---|---|---|---|---|---|---|---|
| | Australia | United States | Brazil | New Zealand | United States | Brazil | Germany | United States | Brazil |
| **Annual (Jan/Dec)** | *(USD per tonne)* | | | | | | | | |
| 2008 | 3 024 | 4 325 | 3 785 | 2 975 | 2 270 | 3 000 | 2 364 | 997 | 1 896 |
| 2009 | 2 562 | 3 897 | 3 118 | 3 495 | 2 202 | 2 223 | 2 035 | 989 | 1 552 |
| 2010 | 3 272 | 4 378 | 3 919 | 3 662 | 2 454 | 2 747 | 1 913 | 1 032 | 1 781 |
| 2011 | 3 944 | 4 516 | 4 816 | 5 370 | 2 648 | 3 023 | 2 169 | 1 147 | 2 083 |
| 2012 | 4 176 | 4 913 | 4 492 | 4 754 | 2 676 | 2 784 | 2 233 | 1 228 | 1 931 |
| 2013 | 4 009 | 5 535 | 4 326 | 4 130 | 2 717 | 2 872 | 2 311 | 1 229 | 2 014 |
| 2014 | 5 016 | 6 678 | 4 515 | 4 687 | 3 183 | 3 434 | 2 106 | 1 206 | 1 940 |
| 2015 | 4 638 | 6 201 | 4 130 | 3 641 | 2 576 | 2 499 | 1 582 | 1 003 | 1 642 |
| 2016 | 4 059 | 5 569 | 3 836 | 3 571 | 2 424 | 2 143 | 1 682 | 914 | 1 532 |
| 2017 | 4 378 | 5 871 | 4 047 | 4 486 | 2 529 | 2 482 | 1 871 | 999 | 1 653 |
| **Monthly** | | | | | | | | | |
| 2017 – October | 4 344 | 6 152 | 4 085 | 5 015 | 2 510 | 2 454 | 1 800 | 1 052 | 1 697 |
| 2017 – November | 4 391 | 6 314 | 4 105 | 4 975 | 2 538 | 2 422 | 1 750 | 1 019 | 1 689 |
| 2017 – December | 4 212 | 6 270 | 4 196 | 4 880 | 2 614 | 2 323 | 1 717 | 983 | 1 607 |
| 2018 – January | 4 289 | 6 225 | 4 167 | 4 982 | 2 559 | 2 155 | 1 671 | 972 | 1 554 |
| 2018 – February | 4 458 | 6 411 | 3 870 | 4 974 | 2 580 | 2 160 | 1 844 | 979 | 1 572 |
| 2018 – March | 4 441 | 6 422 | 3 854 | 5 140 | 2 568 | 2 105 | 1 869 | 1 024 | 1 549 |
| 2018 – April | 4 175 | 6 557 | 3 913 | 5 149 | 2 543 | 2 105 | 1 806 | 1 063 | 1 573 |
| 2018 – May | 4 178 | 6 503 | 4 045 | 5 071 | 2 492 | 2 031 | 1 722 | 1 065 | 1 550 |
| 2018 – June | 4 091 | 6 354 | 4 041 | 5 317 | 2 491 | 1 956 | 1 739 | 1 002 | 1 516 |
| 2018 – July | 4 035 | 6 241 | 4 839 | 5 357 | 2 488 | 1 857 | 1 715 | 995 | 1 514 |
| 2018 – August | 4 013 | 6 256 | 3 988 | 5 463 | 2 602 | 1 821 | 1 805 | 968 | 1 551 |
| 2018 – September | 3 939 | 6 266 | 3 871 | 5 547 | 2 640 | 1 750 | 1 745 | 960 | 1 541 |
| 2018 – October | 3 736 | 6 270 | 3 858 | 5 328 | 2 648 | 1 721 | 1 636 | 955 | 1 534 |

**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

**Pigmeat 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 28: SELECTED INTERNATIONAL MEAT PRICES AND FAO MEAT PRICE INDICES

| | FAO indices | | | | |
|---|---|---|---|---|---|
| **Period** | **Total meat** | **Bovine meat** | **Ovine meat** | **Pig meat** | **Poultry meat** |
| **Annual (Jan/Dec)** | *(2002-2004=100)* | | | | |
| 2008 | 161 | 158 | 128 | 152 | 184 |
| 2009 | 141 | 135 | 151 | 131 | 162 |
| 2010 | 158 | 165 | 158 | 138 | 179 |
| 2011 | 183 | 191 | 232 | 153 | 206 |
| 2012 | 182 | 195 | 205 | 153 | 201 |
| 2013 | 184 | 197 | 178 | 157 | 206 |
| 2014 | 198 | 231 | 202 | 164 | 200 |
| 2015 | 168 | 213 | 157 | 126 | 168 |
| 2016 | 156 | 191 | 154 | 123 | 156 |
| 2017 | 170 | 204 | 194 | 135 | 169 |
| **Monthly** | | | | | |
| 2017 – October | 173 | 207 | 216 | 132 | 175 |
| 2017 – November | 173 | 210 | 215 | 130 | 172 |
| 2017 – December | 170 | 208 | 211 | 129 | 165 |
| 2018 – January | 167 | 208 | 215 | 125 | 161 |
| 2018 – February | 170 | 209 | 215 | 131 | 162 |
| 2018 – March | 171 | 209 | 222 | 131 | 164 |
| 2018 – April | 170 | 207 | 222 | 128 | 168 |
| 2018 – May | 169 | 208 | 219 | 124 | 166 |
| 2018 – June | 167 | 204 | 230 | 124 | 160 |
| 2018 – July | 169 | 214 | 231 | 122 | 160 |
| 2018 – August | 167 | 201 | 236 | 126 | 160 |
| 2018 – September | 165 | 198 | 239 | 124 | 159 |
| 2018 – October | 162 | 195 | 230 | 120 | 158 |

**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 pigmeat product quotations (average weighted by assumed fixed trade weights) - 1 ovine meat product quotation (average weighted by assumed fixed trade weights): the four meat group average prices are weighted by world average export trade shares for 2002/2004.

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

# APPENDIX TABLE 29: **FISH PRICE INDICES**

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

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 30: **SELECTED INTERNATIONAL COMMODITY PRICES**

| | Currency and unit | Effective date | Latest quotation | One month ago | One year ago | Average 2013-2017 |
|---|---|---|---|---|---|---|
| Sugar (ISA daily price) | US cents per lb | 30-10-18 | 13.42 | 10.97 | 14.34 | 16.44 |
| Coffee (ICO daily price) | US cents per lb | 30-10-18 | 111.23 | 100.83 | 120.01 | 130.69 |
| Cocoa (ICCO daily price) | US cents per lb | 30-10-18 | 100.33 | 92.83 | 95.12 | 123.00 |
| Tea (FAO Tea Composite Price) | USD per kg | 28-09-18 | 2.65 | 2.70 | 3.24 | 2.77 |
| Cotton (COTLOOK A index) | US cents per lb | 28-09-18 | 90.36 | 94.55 | 80.60 | 80.34 |
| Jute "BTD" (Fob Bangladesh Port) | USD per tonne | 30-10-18 | 840.00 | 840.00 | 670.00 | 684.67 |

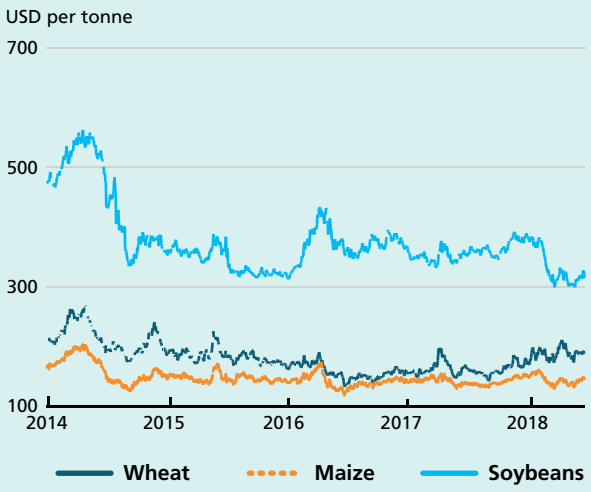
# MARKET INIDCATORS

# Futures markets

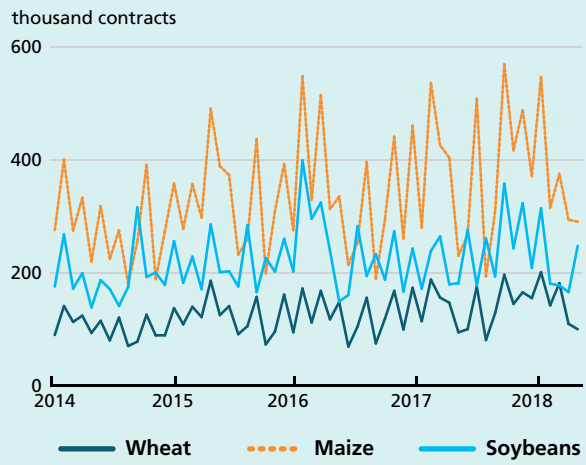
*Contributed by Ann Berg (International Consultant)*

Futures prices of wheat, maize and soybeans have followed divergent paths during the last five months, each driven by global fundamentals, domestic crop developments and trade policies. Wheat prices on average were about 8 percent higher than during the first half of the year, buoyed by deteriorating crop prospects in several regions, including northern Europe, the Russian Federation and Australia. Total wheat ending stocks were estimated to decline by about 5 percent from last year's record levels, causing wheat prices to climb to a three-year high during August and maintain premiums over the same period for the last two years by as much as 30 percent. Maize prices experienced a seasonal decline between May and September, as favourable weather in the US boosted yields. Despite record supplies at the start of the 2018/19 maize crop year (September 1), values remained mostly elevated compared with the same period for the past two years. Conversely, soybeans registered the worst price performance among the three commodities. After slumping to a ten-year low at the end of June in response to China's proposed trade tariffs, prices remained distressed as US weekly crop progress reports signalled record yields and production. Despite US origin soybean values declining as much as 30 percent below other origins, fully pricing-in the Chinese tariff, only

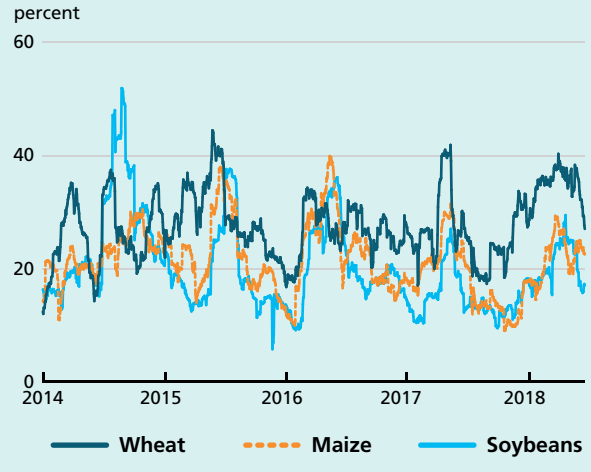
**CME futures prices**



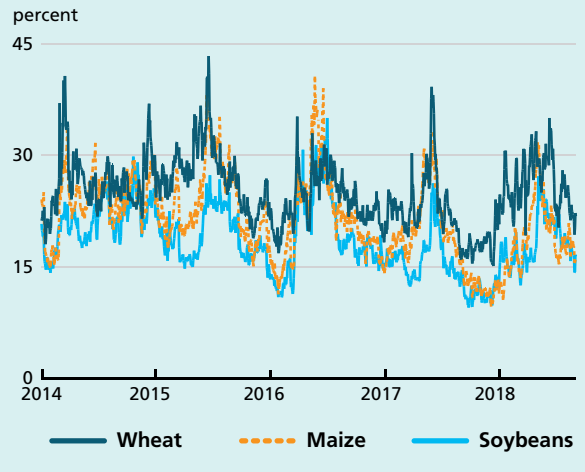

**CME futures volumes**




**Historical volatility (30 days)**




**Implied volatility**



210 000 tonnes (three US soybean cargoes) were shipped to China between September 1 and November 1, compared with about 5 million tonnes for the same period last year. Record US domestic crush levels reported to be 17 percent higher year-on-year (y/y), were deemed unlikely to make up for lost exports to China, which exceeded 36 million tonnes in 2016/17. The influence of exogenous markets, such as foreign exchange movements and energy prices, remained subordinate to trade tariffs and supply and demand fundamentals. Higher trending prices of West Texas Intermediate crude oil y/y and the US Administration's promise to expand the percentage of ethanol from 10 to 15 percent in domestic gasoline blends may, however, have kept maize prices from falling below levels of the past two years. The US dollar, despite some analysts' predictions of continued upward movement, traded in a sideways pattern against the major currencies over the past five months, producing negligible effects on grain and oilseed prices.

## FORWARD CURVES

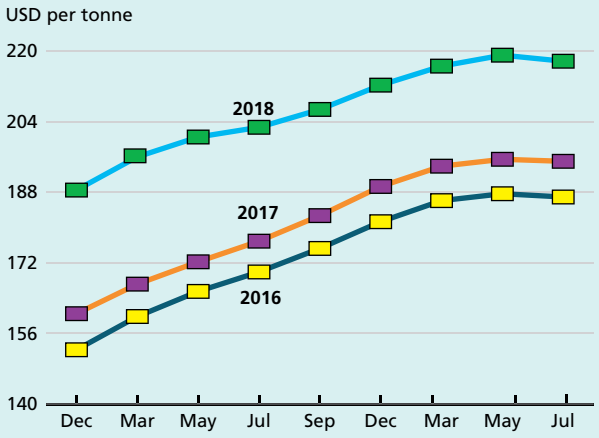
Forward curves for wheat, maize and soybeans displayed upward sloping (contango) price configurations extending until May 2020, reflecting surplus supply situations and low interior basis levels for all three commodities. The y/y curves (calculating the difference between December 2018 and December 2019 contracts) for wheat and maize at USD 24 and USD 12 respectively, were slightly less upward sloping by a few USD per tonne than the past two years, and possibly predictive of a more optimistic demand picture for the current crop year. The soybean curve between November 2018 and November 2019, however, reached an historic wide contango level of over USD 25 per tonne, reflecting the dire effects of the Chinese trade tariffs on export demand. That same curve was quoted at USD 8 and USD 2 contango for the same time period during 2017 and 2016 respectively, when China's demand for US soybeans seemed unstoppable.

## VOLUMES

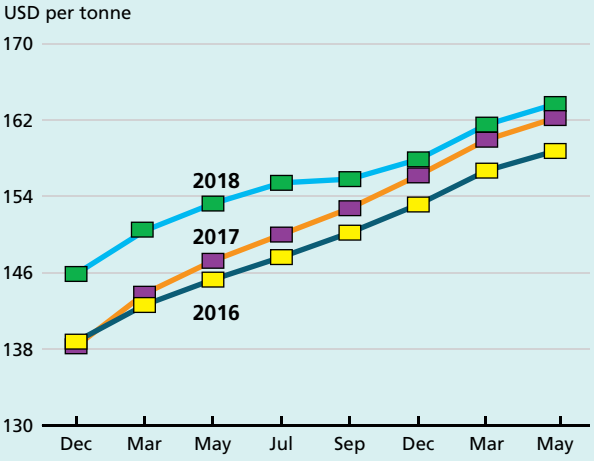
Trade volumes, which posted record numbers in the first six months of 2018, slowed in pace for soybeans, and to a lesser extent for wheat and maize. The slowdown in soybean trading could in part be attributed to China's tariff on US origin soybeans, which created a divergence between US and non-US prices and eroded the US-based Chicago Mercantile Exchange contract's effectiveness as a global hedging mechanism. Open interest for all three commodities also declined from record levels posted in June. The retreat in open interest and volumes was possibly a temporary deviation from a long-term trend of growing trade interest

**Forward curves snapshots as of June 2016, 2017 and 2018**

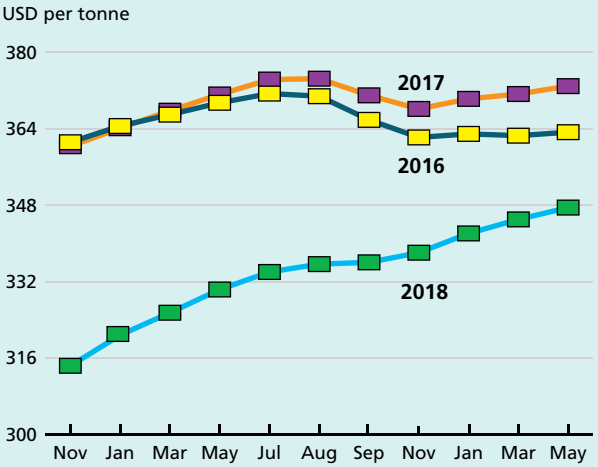
### Wheat




### Maize




### Soybeans



that has persisted since the advent of computerized trading. Trading strategies have increasingly evolved into more complex strategies – spreading (simultaneously buying and selling two different contracts) or futures and options combinations, creating greater transaction levels and open positions. The execution of these strategies, often generated by algorithms, has been greatly facilitated by the recent migration of options trading from open outcry to the exchange operated trade engine, which has matched virtually all the buy and sell orders for futures contracts for the past two years. Options open interest, when added to futures for wheat, maize and soybeans, reflected an additional rise of 30, 27 and 21 percentage points respectively to open interest totals, but the combined totals fell short of record numbers.

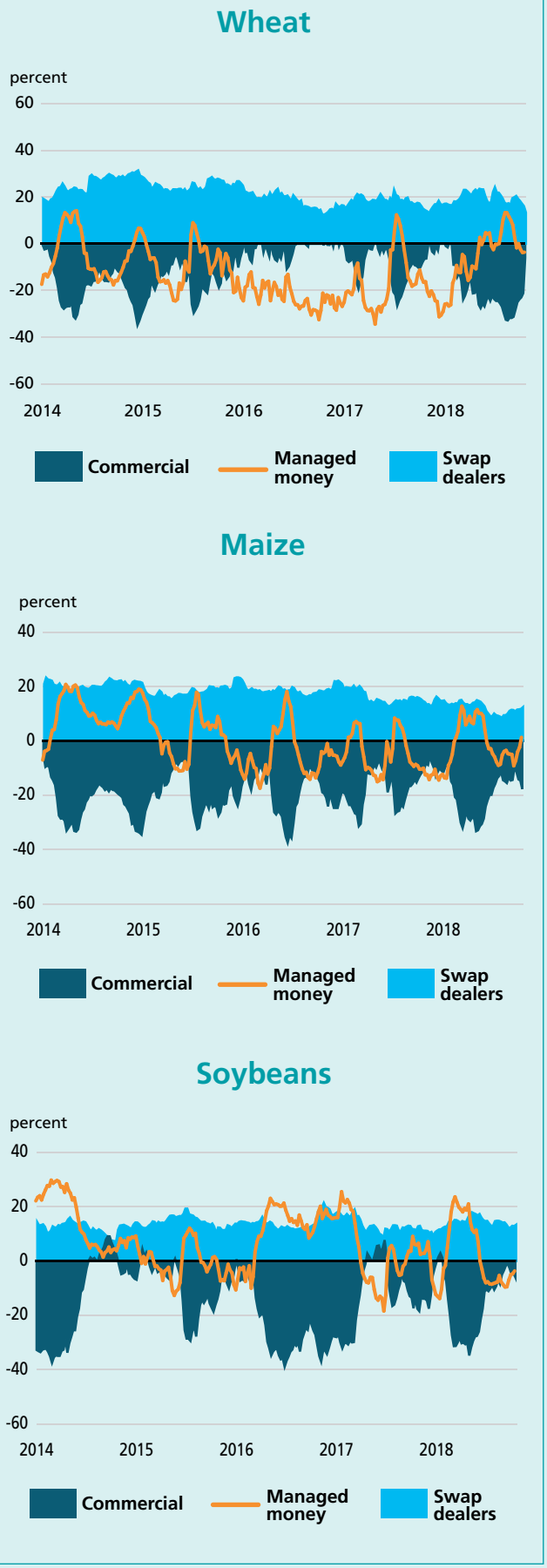
## VOLATILITY

Volatility levels for wheat, maize and soybeans followed typical seasonal patterns, declining during the summer months as traders and analysts ascertained the level of deterioration in the global wheat markets and observed the steady progress of US maize and soybean crop development. China's soybean trade tariff, enacted in July, a seemingly landmark event, had little effect on volatility as China had ceased buying US cargoes as early as April. Historical volatility (based on 30 days) for both maize and soybeans ranged between the levels of 17 and 27 (monthly averages), while wheat, normally exhibiting more volatile price action, ranged between 32 and 38 (monthly averages). Implied volatility (calculated by the level of option premiums on underlying futures contracts) was unremarkable for both maize and soybeans and registered mostly in the low 20s, while wheat reached a level of 31 in July and then declined into the 20s range. In general, volatility was moderate to low, but remained above the ultra-low levels recorded during January of 18, 11 and 12 for wheat, maize and soybeans, respectively. The most watched commodity volatility index, the OVX, which measures crude oil price volatility, has remained in a narrow range in the upper 20s, despite a considerable y/y rise in crude oil prices.

## INVESTMENT FLOWS

Managed money continued its revised strategy for agricultural markets by increasing its spread positioning relative to its overall exposure to long or short strategies for all three commodities. Managed money spread position totals grew 15 percent since June, following a 30 percent increase for the previous six months. Its net

**CME net-length as % of open interests (Jan 2014 - Oct 2018)**



longs in wheat and maize and net short in soybeans were dramatically smaller than last year's positions. For example, figures for maize show that managed money held a net long position of about 21 000 contracts in October 2018 versus a net short position of 154 000 contracts in October 2017. The trend in spread positioning is also evident for other trader categories, especially Swaps Dealers. For the past decade, these dealers have offered securitized products that tracked and guaranteed returns on weighted price indices of select commodities. Virtually all these products have declined in value since 2011, forcing product issuers to adopt spread strategies to counteract the effects of low-priced markets and rolling forward long positions in contango configurations. Nonetheless, both managed money and swaps dealers have performed poorly relative to other asset classes this year. Barclay Hedge, the primary hedge fund tracker, reported that agricultural traders managing fund monies showed a return of 0.89 percent year to date, compared with a gain of 2.49 percent in 2017 and a loss of 2.40 percent in 2016. The Deutsche Bank Agricultural Index Fund, which tracks ten agricultural futures markets, including wheat, maize and soybeans, sunk to a new low of USD 16.85 during September, before rebounding slightly in October, but remained far below its 2008 high of USD 42, attained a year after its inception.

# Ocean freight rates

*Contributed by the International Grains Council (IGC)*
*www.igc.int*

## OCEAN FREIGHT MARKET (APRIL 2018- OCTOBER 2018)

The dry bulk freight market posted considerable gains since late-April as advances across all constituent segments underpinned a 16 percent rise in the Baltic Dry Index (BDI). With year-on-year (y/y) Capesize losses only partly countered by increases in the grains and oilseeds carrying sectors, the Index was down slightly y/y, albeit more than five times higher compared to the early-2016 all-time low. The IGC Grains and Oilseeds Freight Index (GOFI), which provides a measure of trade-weighted shipping costs on major grains and oilseeds carrying routes, rose by 13 percent over the period and was up by 10 percent y/y.

Initial declines, partly linked to concerns about mounting global trade tensions, were quickly reversed by a strong rebound in Capesize values in early June, with the BDI at its highest level in more than four and a half years in late-July. Although this was followed by a softer spell, markets were much less volatile recently, compared to the rather erratic second quarter. As demonstrated by the accompanying graphic, historical volatility has been well below average since mid-August.

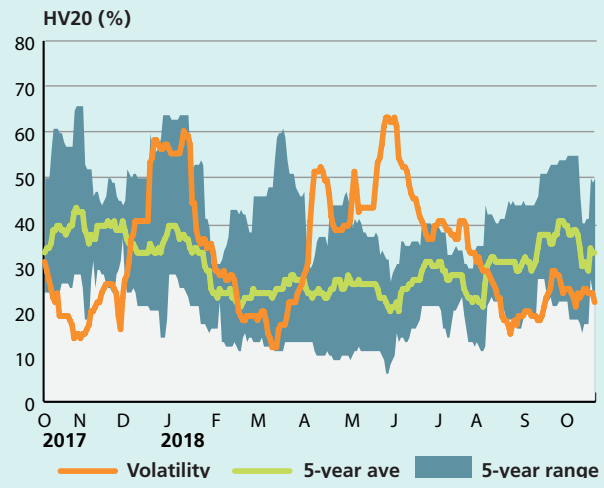
Earnings in the **Capesize** sector were typically sensitive to day-to-day changes in mineral chartering activity. After initially dipping on weakening rates at major iron ore origins, coupled with tepid interest in period fixing, values climbed to a near-eight month peak by early-August amid positive signs in steel production across major iron ore and coking coal importing countries. While average rates mostly eased in the period since on sagging demand, recent support stemmed from improvements in Asia and firmer fuel and iron ore prices. As at 24 October, the Baltic sub-Index was quoted 12 percent higher compared to six months earlier, but was down by one-quarter y/y.

**Summary of dry bulk freight markets**

| | 24 Oct 2018 | Changes | |
|---|---|---|---|
| | | 6 months | y/y |
| | | % | |
| **Baltic Dry Index (BDI)*** | **1 546** | 16 | -3 |
| *Sub-indices:* | | | |
| Capesize | **2 388** | 12 | -25 |
| Panamax | **1 669** | 32 | +3 |
| Supramax | **1 144** | 11 | +1 |
| *Baltic Handysize Index (BHSI)*** | ***675*** | ***9*** | ***-2*** |

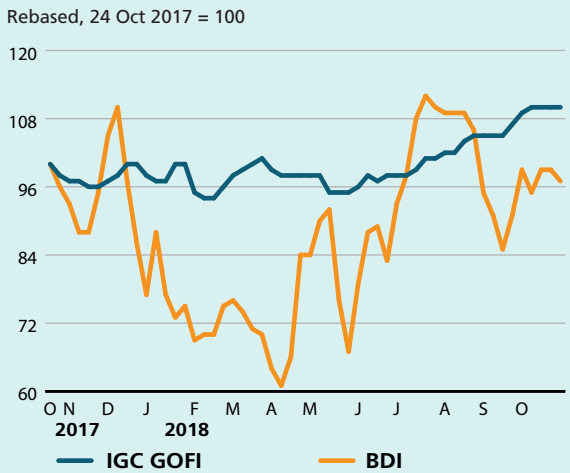
Source: Baltic Exchange, * 4 January 1985 = 1000 ** 23 May 2006 = 1000.
Note: Baltic Handysize sub-Index excluded from the BDI from 1 March 2018.

**Volatility in Baltic Dry Index (HV20) (24 October 2017– 24 October 2018)**




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

**BDI vs IGC GOFI (24 October 2017– 24 October 2018)**

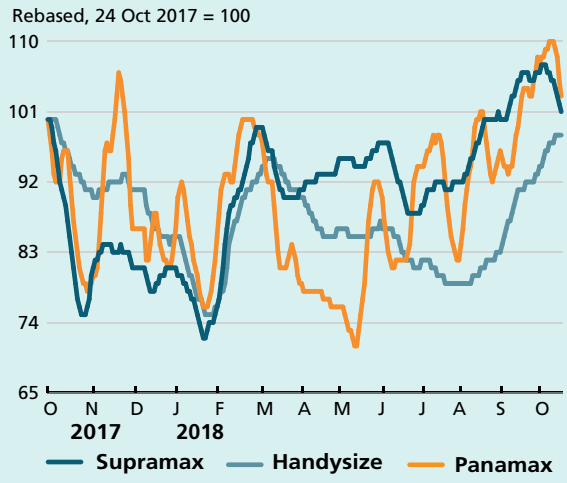



Note: IGC Grains and Oilseeds Freight Index, constructed based on nominal freight rates on major grains/oilseeds routes using trade-weighted approach.
Source: Baltic Exchange, IGC

**Baltic Capesize sub-Index (24 October 2017 - 24 October 2018)**


Source: Baltic Exchange

**Grains and oilseeds carrying sectors: Panamax & Supramax sub-Indices and Handysize Index (24 October 2017 - 24 October 2018)**




Source: Baltic Exchange

Occasional splitting of Capesize cargoes amid shortages of vessels offered support to **Panamax** rates at times. Despite some pressure from variable demand on transatlantic routes and reduced activity in the north Pacific, values climbed by about one-third since late April, hitting the highest levels since December 2013 in the second half of October. Busy trading out of South America provided steady support in recent months, as did sustained coal and minerals flows from Indonesia and Australia, notably to India. Reflecting solid demand from China, the nominal freight rate on the key Brazil-China soyabean route rose by USD4 since April, to USD39 per tonne. Sentiment at the US Gulf was also supported by brisk demand for shipments of grains, oilseeds and coal, with unusually large shipments of soyabeans to Iran a notable feature in recent weeks.

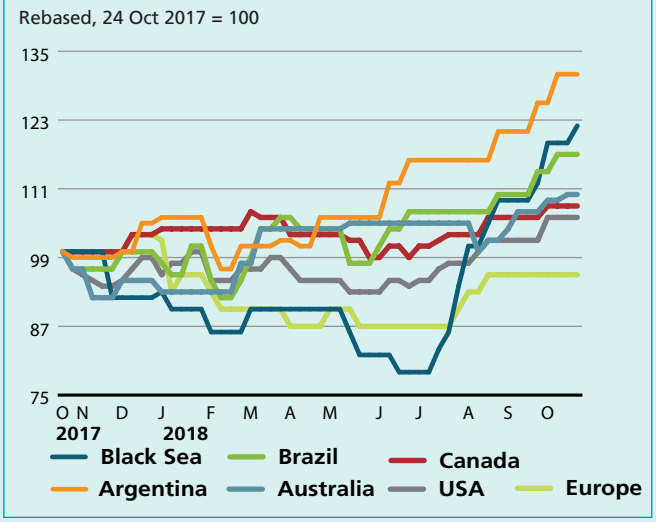
Sectors for the relatively smaller carrying Supramax and Handysize vessels exhibited a steadier tone throughout the period, with average rates advancing by 11 percent and 9 percent, respectively. Markets were mostly flat to higher in the second quarter of 2018, buoyed by a good volume of fixing out of South America and the US Gulf, which compensated for a generally subdued tone in Europe, where demand was mainly centred on scrap and fertiliser business. Dashed expectations for an upturn in demand amid upbeat sentiment in other segments resulted in a slight downturn in July, but subsequent – almost uninterrupted – growth was linked to fresh orders for grains and oilseeds dispatches from the US Gulf and the Black Sea region. Decent enquiry levels in Europe amid limited tonnage offered further support, although demand in that region was notably softer more recently. Ongoing changes to the pattern of global soyabean trade against the backdrop of attractive US export prices resulted in some atypical trades in recent times, including Handysize trips from the Mississippi River to Argentina's River Plate.

## Developments across major grains/oilseeds origins

The below IGC Grains and Oilseeds Freight sub-Indices provide a measure of freight costs from major grains and oilseeds origins and highlight solid gains in transportation costs in the latter part of 2018.

While values across most origins are higher compared to a year ago, strength was particularly pronounced in the southern hemisphere, where robust demand for

**IGC GOFI sub-Indices (24 October 2017– 24 October 2018)**




Source: IGC

grains and soyabeans, coupled with logistical difficulties, contributed to steep gains in Argentina and Brazil, the corresponding sub-Indices up by 31 percent and 17 percent y/y, respectively. A sharp upturn in wheat dispatches from Russia underpinned freight values in the Black Sea in recent months, as did a strong start to the maize export season in Ukraine, with the Black Sea sub-Index posting a 22 percent annual gain. Strong coal and minerals demand contributed to moderate upside in Australia and Canada. Annual advances in the USA were relatively small, at 6 percent, as underlying uncertainty surrounding future trade with China and the EU weighed on market sentiment. Levels in Europe softened slightly during the year, reflecting generally sluggish demand for grains dispatches.

**Summary of freight rates on selected routes**

| USD/t | 24 Oct 2018 | Changes | |
|---|---|---|---|
| | | 6 months | y/y |
| ***US (Gulf) to:*** | | % | |
| China (Dalian) | **51** | 13 | 13 |
| EU (ARAH) | **27** | 13 | -11 |
| Japan | **50** | 14 | 16 |
| ***Canada (St. Lawrence) to:*** | | | |
| China (Dalian) | **53** | 8 | 18 |
| EU (ARAH) | **24** | 4 | -8 |
| Japan | **52** | 8 | 21 |
| ***Argentina to:*** | | | |
| Algeria | **36** | 20 | 24 |
| Brazil | **24** | 26 | 33 |
| EU (ARAH) | **27** | 17 | 13 |
| ***Brazil to:*** | | | |
| China (Dalian) | **39** | 11 | 15 |
| EU (ARAH) | **33** | 22 | 27 |
| ***EU (France, Rouen) to:*** | | | |
| Algeria | **33** | 10 | 6 |
| Egypt (Mediterranean) | **27** | 17 | -16 |
| Morocco | **25** | 14 | -29 |
| ***Black sea to:*** | | | |
| Egypt (Alexandria) | **32** | 39 | 23 |
| Morocco | **35** | 25 | 17 |
| Tunisia | **35** | 35 | 21 |
| ***Australia (East Coast) to:*** | | | |
| China (Dalian) | **23** | 15 | 21 |
| Indonesia | **20** | 0 | 5 |
| Yemen | **40** | 5 | 8 |

EU (ARAH) refers to Antwerp, Rotterdam, Hamburg

Source: IGC

# Food import bills

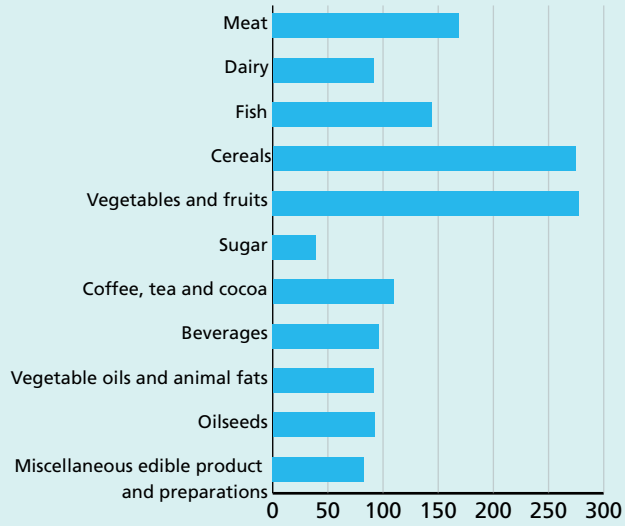
## Global food import bill still expected to rise in 2018

FAO's forecast of the world food import bill in 2018 has been slightly lowered from the July edition of Food Outlook, and now stands at USD 1.467 trillion, some USD 5 billion less than earlier envisaged, but still 3 percent above the 2017 level.

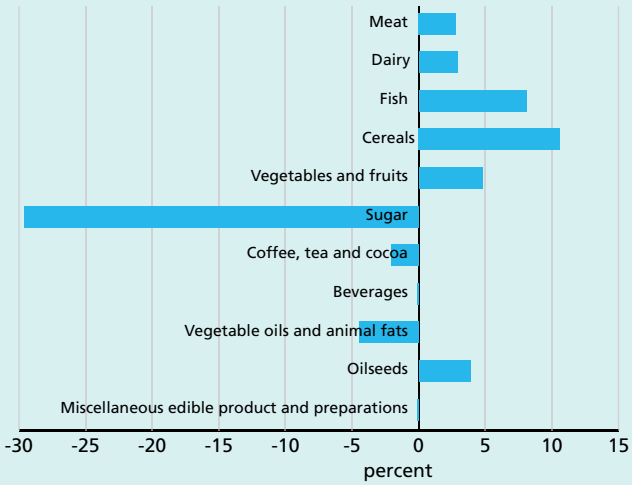
The predicted year-on-year increase in the world food import bill is still largely a reflection of higher international prices of bulk commodities, especially cereals and oilseeds, but also fish, and together these are expected to offset a substantial fall in the cost of global sugar imports. Significant changes from the last report include the expenditures on coffee, tea and cocoa, which, instead of rising as predicted in July, are now expected to fall by 2 percent from 2017, mostly on account of lower reference price quotations for coffee and tea. Similarly, the global sugar bill is set to fall even further, 30 percent from 2017 compared to foreseen in July. Offsetting these developments has been the increase in the cost of freight – an important factor in determining the global food import bill. A benchmark indicator of freight rates – the Baltic Dry Index, has recently been on a highly volatile upward trajectory after declining in the first half of 2018.

A positive development since the last report in July is the cost of importing food by the least developed countries (LDCs), which is now expected to fall from last year's level, reflecting a significant drop in the cost of imported sugar.

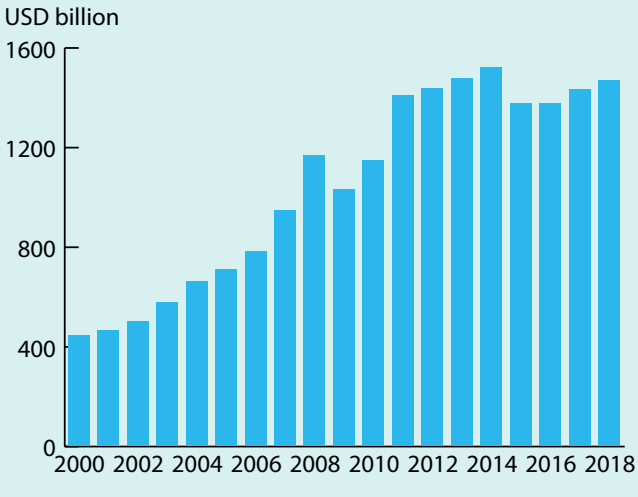
**Global import bill: food commodities 2018 (USD billion)**




**Forecast changes in global food import bills by type (2018 over 2017)**




**World food import bills (2000-2018*)**




*Forecast. Current US dollars.

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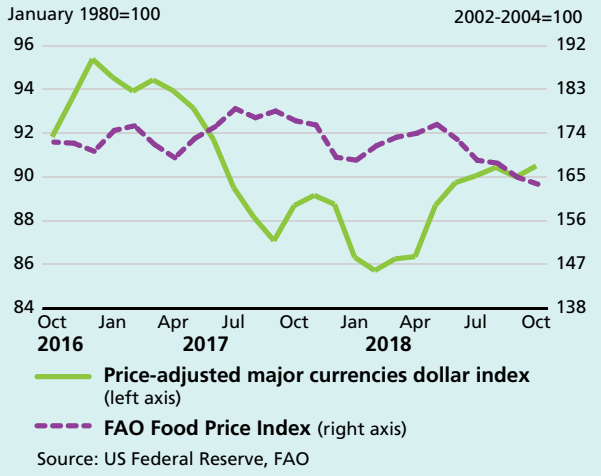
## Import bills of total food and major foodstuffs (USD billion)

| | World | | Developed | | Developing | | LDC | | LIFDC | | Sub-Saharan Africa | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 f'cast | 2017 | 2018 f'cast | 2017 | 2018 f'cast | 2017 | 2018 f'cast | 2017 | 2018 f'cast | 2017 | 2018 f'cast |
| **TOTAL FOOD** | **1.430.5** | **1.467.4** | **831.0** | **850.0** | **599.5** | **617.4** | **41.8** | **40.3** | **85.9** | **86.5** | **47.2** | **45.8** |
| Meat | 164.0 | 168.6 | 92.9 | 94.8 | 71.2 | 73.8 | 2.7 | 2.9 | 2.5 | 2.6 | 3.8 | 4.1 |
| Dairy | 89.0 | 91.5 | 54.6 | 55.7 | 34.4 | 35.8 | 1.8 | 1.9 | 2.9 | 2.9 | 2.2 | 2.2 |
| Fish | 133.4 | 144.1 | 95.1 | 101.4 | 38.3 | 42.7 | 1.0 | 1.0 | 2.5 | 2.7 | 3.5 | 3.7 |
| Cereals | 248.0 | 274.3 | 115.6 | 128.1 | 132.4 | 146.2 | 14.5 | 16.0 | 22.5 | 25.1 | 15.4 | 17.4 |
| Vegetables and fruit | 264.8 | 277.5 | 181.2 | 188.4 | 83.7 | 89.1 | 3.8 | 4.1 | 13.0 | 14.5 | 3.3 | 3.8 |
| Sugar | 55.6 | 39.1 | 24.7 | 17.6 | 30.8 | 21.5 | 5.2 | 2.7 | 7.8 | 4.9 | 5.1 | 4.7 |
| Coffee, tea and cocoa | 111.8 | 109.5 | 83.0 | 81.3 | 28.8 | 28.2 | 1.3 | 1.3 | 3.6 | 3.6 | 1.5 | 1.5 |
| Beverages | 96.7 | 96.5 | 25.8 | 26.4 | 25.7 | 25.6 | 1.1 | 1.1 | 1.7 | 1.7 | 2.1 | 2.1 |
| Vegetables oils and animal fats | 95.7 | 91.3 | 42.4 | 40.7 | 53.3 | 50.6 | 6.6 | 5.5 | 22.5 | 21.7 | 6.4 | 2.5 |
| Oilseeds | 89.0 | 92.4 | 25.8 | 26.4 | 63.2 | 66.1 | 0.7 | 0.7 | 2.4 | 2.5 | 0.2 | 0.1 |
| Miscellaneous edible products and preparations | 82.6 | 82.5 | 44.8 | 44.7 | 37.8 | 37.7 | 3.1 | 3.1 | 4.4 | 4.4 | 3.7 | 3.7 |

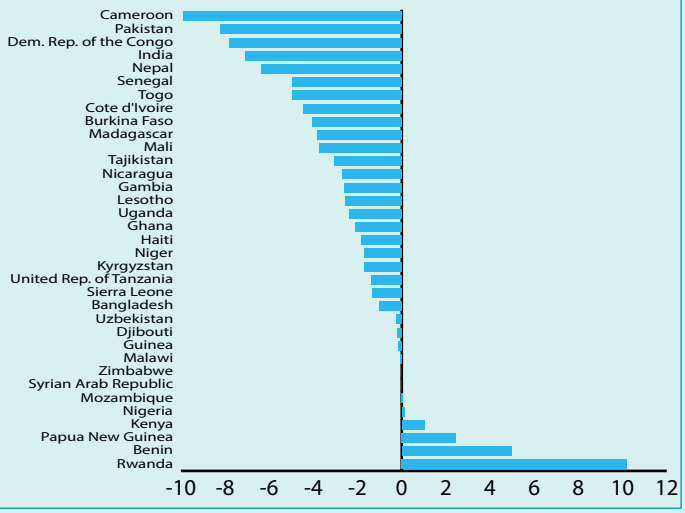
## Exchange rates and food prices

**Against the trend - food prices climb with the US dollar (Oct 2016 - Oct 2018)**




Source: US Federal Reserve, FAO

**% changes in real terms in the currencies of selected LIFDCs against the USD (Oct 2017 - Oct 2018)**




Having reached a three-and-a-half year low in February 2018, the US dollar has begun to rise relative to major currencies, with the nominal index climbing to a 15-month high of 90.5 points in October 2018. With the US dollar being the primary currency in international trade, a strong (weak) US dollar typically imparts a loss (gain) to domestic purchasing power in importing countries. A strong US dollar raises serious concerns to LIFDCs. From October 2017 to October 2018, almost all the major food importing LIFDCs, which import more than USD 1 billion worth of food annually, saw their currencies fall against the US dollar in real terms, reversing the gains of generally lower international food prices.

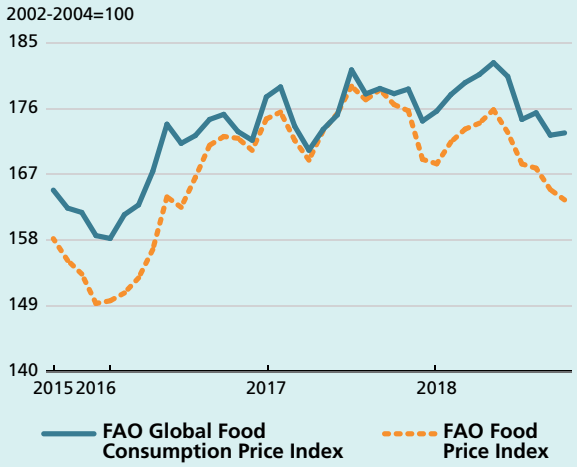
# FAO price indices[1]

## FAO Global Food Consumption Price Index lose momentum

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

After exhibiting substantial variability throughout much of 2017, the index began to climb uninterruptedly, reaching a three-and-half year high in May 2018. Since then, it has lost around 10 points, and stood at 173 points in October. While the index still exhibits concordance with the trade-weighted FAO Food Price Index (FPI) in terms of trend, the FAO Global Food Consumption Price Index currently carries a margin of around 9 points over the FFPI. This is because international prices of foodstuffs that carry a much larger weight in the Consumption Index, namely cereals (59 percent), have generally increased throughout 2018.

**The FAO Global Food Consumption and Food Price Indices (Oct 2015 - Oct 2018)**




## FAO Food Price Index dips for the fifth consecutive month in October[3]

The **FAO Food Price Index**[2] (FFPI) averaged 163.5 points in October 2018, down 1.4 points (0.9 percent) from September and some 13 points (7.4 percent) below its level in the corresponding period last year. The October decline in the FFPI was the result of falling dairy, meat and oils prices, which more than offset a surge in sugar prices and a more moderate increase in the prices of cereals.

The **FAO Cereal Price Index** averaged 166.3 points in October, marking a rebound of 2.2 points (1.3 percent) from September and representing a 13.6 point (8.9 percent) year-on-year increase. Among the major cereals, maize quotations from the United States firmed the most, supported by strong export sales, while wheat prices also averaged higher, driven by a tighter supply outlook especially in view of deteriorating crop prospects in Australia. By contrast, rice prices fell, as harvest pressure, competition among exporters and currency movements weighed on Japonica and fragrant quotations.

The **FAO Vegetable Oil Price Index** averaged 132.9 points in October, down 2 points (1.5 percent) month-on-month. Falling for the ninth month in succession, the index dropped to its lowest level since April 2009. The latest slide was mostly driven by lower price quotations of palm oil, reflecting persistent pressure from large inventories held by major exporting countries amid sluggish global import demand. By contrast, international soy oil prices rebounded slightly, underpinned by robust demand from the biodiesel sector, while rapeseed oil values were supported by reduced availabilities in the EU. International sunflower oil prices remained virtually unchanged from September.

The **FAO Dairy Price Index** averaged 181.8 points in October, down 9.2 points (4.8 percent) from the previous month, continuing the downward trend for the fifth consecutive month. Price quotations of all the dairy products represented in the index fell in October, plummeting the overall index 15.3 percent below its value in the corresponding month last year and 34 percent below the peak reached in February 2014. The latest price weakness reflects the growing evidence of increased export supplies across all major dairy products, especially from New Zealand.

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

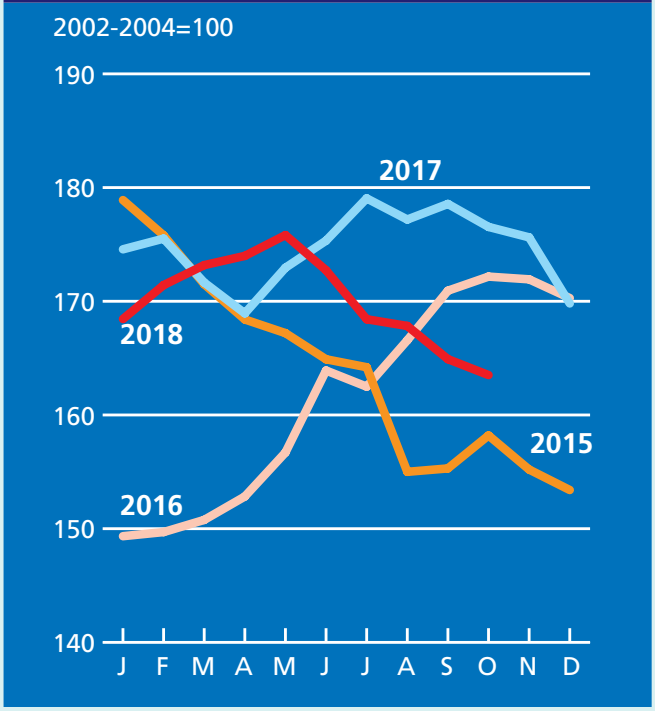
[2] The FAO Global Food Consumption Price Index is published twice a year in *Food Outlook*.

[3] The FAO Food Price Index and its sub-indices are updated on a monthly basis and are available on: http://www.fao.org/worldfoodsituation

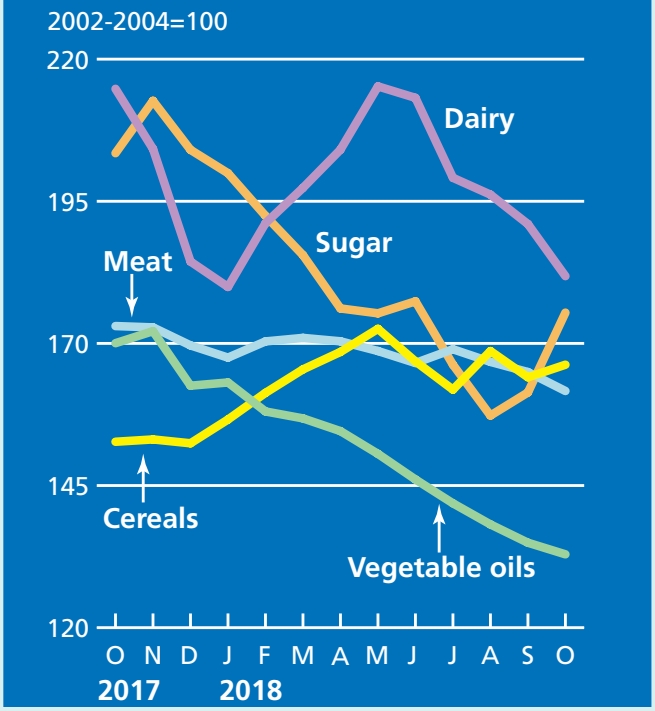
The **FAO Meat Price Index**[3] averaged 161.6 points in October, down 3.3 points (2.0 percent) from September and 11 points below its value a year ago. In October, the prices of all main meat categories represented in the index eased, with ovine meat falling the most, followed by pigmeat, bovine and poultry meat. After four months of continuous strength, ovine meat prices lessened, underpinned by the availability of new season supplies from Oceania. Import restrictions associated with new cases of African swine fever, coupled with large export availabilities from the main producing countries, continued to weigh on pigmeat prices. Bovine meat prices declined for the third consecutive month on continued abundant export supplies, while the current market sluggishness weighed on the prices of poultry meat.

The **FAO Sugar Price Index** averaged 175.4 points in October, up 14 points (8.7 percent) from September, marking the second consecutive monthly gain. The rapid increase in sugar price quotations is attributed to negative production prospects in the major sugar producing regions, notably in India and Indonesia, mostly as a result of climate-related events. In Brazil, the world's largest sugar producer and exporter, the latest indications pointing to an increasing share of sugarcane output being used for ethanol production, have also underpinned international sugar prices.

## FAO Food Price Index




## FAO Food Commodity Price Indices




[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 Indices

| | | 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 |
| 2017 | | 174.6 | 170.1 | 202.2 | 151.6 | 168.8 | 227.3 |
| 2017 | October | 176.5 | 173.1 | 214.8 | 152.7 | 170.0 | 203.5 |
| | November | 175.7 | 172.8 | 204.2 | 153.1 | 172.2 | 212.7 |
| | December | 169.1 | 169.7 | 184.4 | 152.4 | 162.6 | 204.1 |
| 2018 | January | 168.4 | 167.5 | 179.9 | 156.6 | 163.1 | 199.9 |
| | February | 171.4 | 170.3 | 191.1 | 161.3 | 158.0 | 192.4 |
| | March | 173.2 | 171.0 | 197.4 | 165.4 | 156.8 | 185.5 |
| | April | 174.0 | 170.4 | 204.1 | 168.5 | 154.6 | 176.1 |
| | May | 175.8 | 168.7 | 215.2 | 172.6 | 150.6 | 175.3 |
| | June | 172.7 | 166.5 | 213.2 | 166.8 | 146.1 | 177.4 |
| | July | 168.4 | 169.0 | 199.1 | 161.9 | 141.9 | 166.3 |
| | August | 167.8 | 166.8 | 196.2 | 168.7 | 138.2 | 157.3 |
| | September | 164.9 | 165.0 | 191.0 | 164.0 | 134.9 | 161.4 |
| | October | 163.5 | 161.6 | 181.8 | 166.3 | 132.9 | 175.4 |

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

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

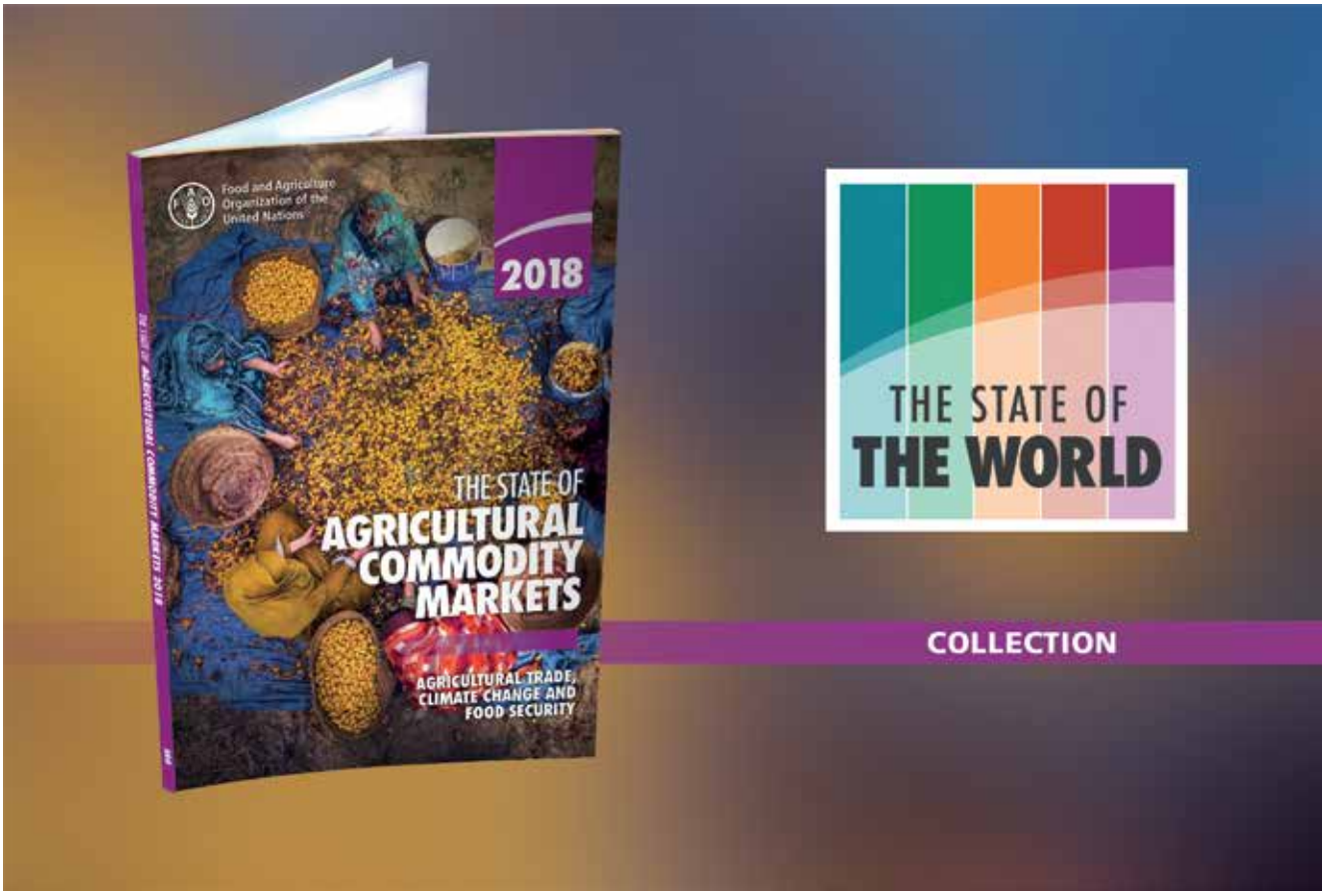
3 **Dairy Price Index:** Consists of butter, SMP, WMP, and cheese price quotations; the average is weighted by world average export trade shares for 2002-2004.

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

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

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

# NEW RELEASE




## Agricultural Trade, Climate Change and Food Security

Global agricultural trade has increased significantly in value terms since 2000. Its pattern has also changed – emerging economies and developing countries play a bigger role in international markets, and South–South agricultural trade has expanded significantly. Climate change is expected to affect agriculture, food security and nutrition unevenly across countries and regions. Changes in comparative advantage in agriculture around the world will also affect international trade.

This edition of The State of Agricultural Commodity Markets focuses on the complex and underexplored intersection between agricultural trade, climate change and food security. The report makes an important contribution to the policy debates on climate change adaptation and mitigation under the Paris Agreement and the multilateral agricultural trade rules. The report discusses policies – both domestic support and trade measures – that can promote food security, adaptation and mitigation, and improve the livelihoods of family farmers around the world.

It offers recommendations on the importance of the mutually supportive role trade rules and climate interventions can have for achieving the 2030 Agenda and reaching Zero Hunger in the context of climate change.

**The full report is available in all UN languages including a report summary and flyer with key messages.**

**www.fao.org/publications/soco/en/**

# FOOD PRICE MONITORING AND ANALYSIS


## Global Information and Early Warning System (GIEWS) Food Price Monitoring and Analysis

The monthly Food Price Monitoring and Analysis (FPMA) Bulletin reports on the latest food price developments at world, regional and national level. It focuses on countries where prices are abnormally high, based on GIEWS analysis and the Indicator of Food Price Anomalies (IFPA). The IFPA is an indirect indicator of Target 2.c of Sustainable Development Goal (SDG) 2 as it is a measure of food price volatility, detecting abnormal growth of prices in food markets. The full Bulletin is in English, and selected abstracts are in Arabic, Chinese, French, Spanish and Russian.

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# INTERACTIVE COURSES

## Interactive course: SDG Indicator 2.c.1 - Food price anomalies

**Course content focuses on:**

- Rationale of the SDG Indicator 2.c.1 in the context of SDG 2 – Zero Hunger;
- Understanding the importance of market stability, how food prices are determined in markets and how to utilize the SDG Indicator 2.c.1 as a warning tool;
- Key determinants to understand supply and demand, market integration and price volatility;
- How to calculate and interpret the SDG Indicator 2.c.1;
- Main features of the Food Price Monitoring and Analysis (FPMA) Tool to search for national and international food price series and analyse their trends and statistics for monitoring purposes.

This course is part of a series of courses on SDG indicators, developed by FAO.

**Language:** English
**Duration:** 2.5 hours
**Who will benefit:** All agriculture and food security professionals and other interested stakeholders.
**Registration:** Available online, through the FAO e-learning Centre, free of charge as a global public good to all
**Questions?** Email us at GIEWS1@fao.org
**Course link:** www.fao.org/elearning/#/elc/en/course/SDG2C1

## Interactive course: Agriculture in International Trade Agreements

**Course content focuses on:**

- Identify the main provisions of the WTO Agreement on Agriculture (AoA) on market access, domestic support and export competition.
- Understand the main provisions of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), and address trade-related constraints and procedures.
- Describe the treatment of agriculture in Regional Trade Agreements (RTAs) and their provisions on policy areas relevant to agricultural trade, compared to those of multilateral trade agreements.

**Language:** English
**Duration:** Up to 7 hours
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# TRADE AND MARKETS

*Transparent and efficient agricultural commodity markets for global food security*



AREAS OF WORK AT A GLANCE
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Food Outlook is published by the Trade and Markets Division of FAO under the 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 the global food situation can be found at http://www.fao.org/worldfoodsituation.

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