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Food and Agriculture Organization
of the United Nations

# Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS

June 2016

## ACKNOWLEDGEMENTS

The Food Outlook report is a product of the FAO Trade and Markets Division. This report is prepared under the overall guidance of Boubaker Ben-Belhassen, Director, Concepcion Calpe and Abdolreza Abbassian, Senior Economists. It is written by a team of economists, whose names and email contacts appear under their respective market summary contributions. The report benefited from research support by many staff, namely, Andrea Alesiani, David Bedford, Claudio Cerquiglini, Julie Claro, Anna Maria Giusti, Grace Karumathy, David Mancini, Emanuele Marocco, Patrizia Mascianá, Marta Michetti, Marco Milo and the fisheries statistical team.

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# HIGHLIGHTS

Global food commodity markets are broadly stable, supported by adequate supplies. Market prospects remain favourable also for 2016/17. Despite larger volumes of imports, the world food import bill is set to decline in 2016 on expectation of lower international prices and freights compared to last year.

## WHEAT

Global wheat supplies are forecast to remain ample in the 2016/17 marketing season. Although below the 2015 record, world wheat production in 2016 is set to outstrip utilization for the fourth consecutive season, boosting world stocks to a 15-year high. World wheat utilization is seen to decline slightly mostly because of reduced feed use.

## COARSE GRAINS

Despite a likely rebound in production and large opening stocks, world inventories could be drawn down in 2016/17 because of a more dynamic demand for animal feed and industrial use. Recent policy developments in China will have important implications for coarse grain markets, in particular for maize.

## RICE

After two seasons of stagnation or decline, global rice production is set to recover in 2016. In May, international prices rallied, on concerns about tightening supplies in major exporting countries. The sustainability of the price upturn will depend on the timing and scale of imports and of the release of supplies from government-owned stocks.

## OILCROPS

Following heavy El Niño-related losses in South America (soy) and Southeast Asia (palm oil), global oilcrop production prospects for 2015/16 have deteriorated. With early projections for 2016/17 barely suggesting a recovery in output, there is scope for international prices of oilseed, oils and meals to strengthen.

## MEAT

Overall world meat production is predicted to stagnate at about 321 million tonnes in 2016. Poultry is forecast to register some growth, followed by bovine and ovine meat, while pigmeat output could decline. Global meat trade is expected to recover, growing by 2.8 percent to 30.6 million tonnes.

## DAIRY

International dairy product prices remained depressed during the first five months of 2016, due to subdued import demand and plentiful export availability. Milk production continues to increase steadily in many countries, although lower prices are expected to dampen growth in world output in 2016.

## FISHERIES

After a year of falling prices, seafood markets are expected to stabilize in 2016. Supply continues to grow, driven by a vibrant aquaculture sector. The international community's efforts towards ensuring the sustainability and legality of catches will get a strong boost from the FAO Port State Measures Agreement, which will enter into force on 5 June 2016.

## FOOD IMPORT BILL

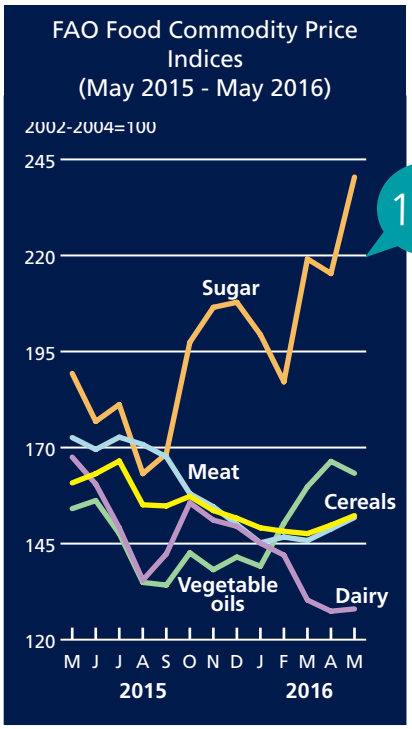
At USD 986 billion, the value of food imports in 2016 is forecast to decline by 9 percent from last year, marking the first time it will dip below the USD 1 trillion mark since 2009. At the product level, almost all commodity import bills are set to fall this year.

## SPECIAL FEATURE - Pulses: A multifaceted crop

*Pulses can have an important role in the 2030 Agenda for Sustainable Development recently adopted by the global community and contribute to the achievement of many of its goals. The International Year of Pulses 2016 presents a unique opportunity to bring to the fore the challenges faced by the sector and galvanize stakeholders to ensure the successful role of pulses in food and nutrition security, poverty alleviation and sustainability.*

# CONTENTS



# MARKET SUMMARIES

# CEREALS

World cereal production in 2016 is anticipated to fall slightly short of projected demand in 2016/17, which would bring global end-of-season inventories in 2017 somewhat below their near record 2016 level. Supply prospects improved in recent months, on larger than earlier projected stocks at the beginning of the 2016/17 marketing season and more buoyant expectations about 2016 production.

FAO forecasts world cereal production in 2016 at around 2 543 million tonnes, 0.6 percent higher than in 2015 and only 0.7 percent below the 2014 record high. At that level, production would be 17.3 million tonnes larger than was expected in May, reflecting upward revisions for wheat production in Argentina, the EU and the Russian Federation, as well as for maize in Argentina, Canada, the EU and the United States. Compared to 2015, world wheat production is likely to decline, while rice and coarse grains outputs are forecast to increase.

World cereal utilization in 2016/17 is currently put at nearly 2 546 million tonnes, or 0.9 percent above the 2015/16 estimate. The forecast is 3.5 million tonnes lower than reported in May, because global feed use of wheat was revised down. Total utilization of wheat is now foreseen to even decline by 0.1 percent in 2016/17.

The forecast for global cereal stocks by the end of seasons in 2017 has been lifted by 27 million tonnes since May and now stands at nearly 642 million tonnes. Higher forecasts for production, lower for utilization and historical revisions to China's wheat inventory estimates are the main reasons for this month's adjustment. At their newly predicted level, world stocks would be barely 1.8 million tonnes below their all-time high opening level.

At 369 million tonnes, global trade in cereals in 2016/17 is predicted to decline by 1.9 percent compared to 2015/16, mostly due to reduced import demand for barley and sorghum. The overall contraction in world cereal trade is likely to intensify competition for market share among major exporters, a prospect that could keep international prices in check.

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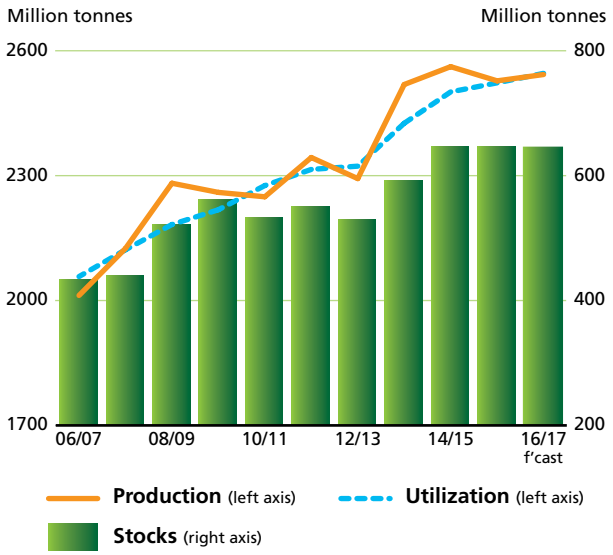
## CEREAL PRODUCTION, UTILIZATION AND STOCKS




## WORLD CEREAL MARKET AT A GLANCE [1]

| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | *million tonnes* | | | *%* |
| **WORLD BALANCE** | | | | |
| **Production** | **2 561.8** | **2 527.7** | **2 542.9** | **0.6** |
| **Trade[2]** | **376.1** | **376.2** | **369.1** | **-1.9** |
| **Total utilization** | **2 501.2** | **2 522.9** | **2 545.7** | **0.9** |
| Food | 1 080.2 | 1 091.7 | 1 105.7 | 1.3 |
| Feed | 889.8 | 901.7 | 914.7 | 1.5 |
| Other uses | 531.2 | 529.5 | 525.3 | -0.8 |
| **Ending stocks** | **644.1** | **644.0** | **642.2** | **-0.3** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 148.9 | 148.8 | 149.0 | 0.2 |
| LIFDC[3] (kg/yr) | 147.1 | 146.5 | 146.8 | 0.2 |
| *World stock-to-use ratio (%)* | *25.5* | *25.3* | *24.5* | |
| *Major exporters stock-to-disappearance ratio (%)* | *17.7* | *16.1* | *15.6* | |

| **FAO CEREAL PRICE INDEX (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| | 192 | 162 | 149 | -11.8 |

[1] Rice in milled equivalent.
[2] Trade refers to exports based on a July/June marketing season for wheat and coarse grains and on a January/December marketing season for rice.
[3] Low-income Food-Deficit countries.

# WHEAT

Global wheat markets are set to be well supplied in 2016/17 despite a forecast decline in global production. Total wheat output in 2016 is put at around 724 million tonnes, down 1.4 percent, or 10 million tonnes, from the 2015 record. The decline would be mostly the result of expected lower year-on-year outputs in the EU of 6.5 million tonnes, in Morocco of 5 million tonnes, in Ukraine of 4.5 million tonnes, and in the United States of 1.4 million tonnes.

Total wheat utilization in 2016/17 is likely to decrease marginally from the 2015/16 estimated level and reach 718.3 million tonnes. While food consumption is expected to grow modestly and keep pace with population growth, demand for feed and industrial uses are expected to shrink in 2016/17. Wheat feeding is forecast to decrease by 2.6 percent, with most of the decline concentrated in China and the EU due to increased local availability of maize.

Based on the latest production prospects for 2016 and the projected utilization in 2016/17, world wheat stocks by the close of crop seasons in 2017 are seen to increase for the fourth consecutive season, reaching 215.5 million tonnes, about 2.4 percent (5 million tonnes) higher than their already above-average opening level. However, the biggest year-on-year increases are forecast for China and the United States, where stocks might surge by 8.8 million tonnes and 1.4 million tonnes, respectively. By contrast, inventory levels are likely to fall in many countries facing a decline in production, especially in Africa.

World wheat trade in 2016/17 is set to increase slightly, to 155 million tonnes, as higher imports by a few countries, in particular Morocco, would barely offset declining purchases by several countries in Asia and South America. On the export side, increases in shipments are forecast for Argentina, Australia, Canada and the United States, more than compensating for reduced sales by the EU, the Russian Federation and Ukraine.

Overall, with global export availabilities well exceeding the expected import demand, international prices are anticipated to remain broadly stable. In May, wheat futures for September delivery at the Chicago Board of Trade (CBOT) continued to trade below the levels of the corresponding period last year.

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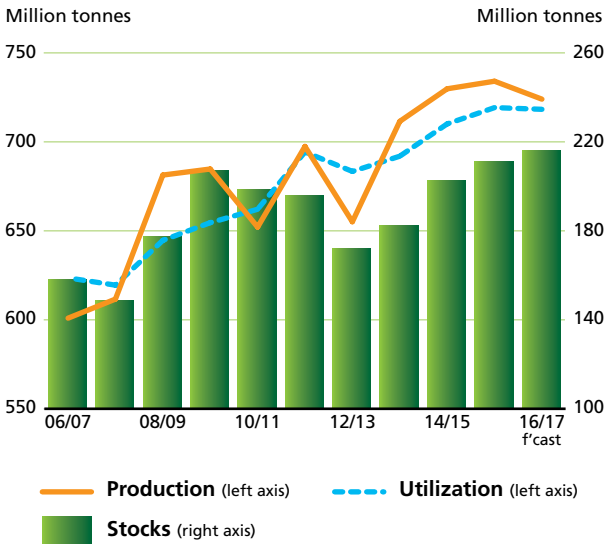
## WHEAT PRODUCTION, UTILIZATION AND STOCKS




## WORLD WHEAT MARKET AT A GLANCE

| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | | *million tonnes* | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **729.8** | **734.1** | **724.0** | **-1.4** |
| **Trade**[1] | **155.6** | **154.5** | **155.0** | **0.3** |
| **Total utilization** | **710.1** | **719.2** | **718.3** | **-0.1** |
| Food | 485.7 | 491.4 | 497.4 | 1.2 |
| Feed | 138.1 | 140.3 | 136.6 | -2.6 |
| Other uses | 86.2 | 87.5 | 84.3 | -3.7 |
| **Ending stocks** | **201.8** | **210.6** | **215.5** | **2.4** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 67.0 | 67.0 | 67.0 | 0.1 |
| LIFDC (kg/yr) | 47.4 | 47.4 | 47.4 | 0.0 |
| *World stock-to-use ratio (%)* | *28.1* | *29.3* | *29.0* | |
| *Major exporters stock-to-disappearance ratio[2] (%)* | *16.6* | *18.2* | *19.3* | |

| **FAO WHEAT PRICE INDEX[3] (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| | 181 | 144 | 127 | -17.4 |

[1] Trade refers to exports based on a common July/June marketing season.
[2] Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States.
[3] Derived from the International Grains Council (IGC) wheat index.

# COARSE GRAINS

Based on FAO's latest assessment of supply and demand prospects, coarse grain markets are likely to be generally subdued during the 2016/17 season. World production of coarse grains is currently forecast to increase by 1.6 percent, mainly due to favourable prospects for maize, compensating for a negative production outlook for sorghum and barley. The increase in global maize output would be mainly concentrated in Europe and the United States, more than offsetting reduced harvests in Africa, Asia and South America.

Global utilization of coarse grains is anticipated to rise by 1.3 percent in 2016/17, faster than in 2015/16. Recent policy changes in China could have important implications for coarse grain markets, not only for China but also for international markets. China's decision to lower its maize reserves is expected to boost domestic feed use of maize and dampen the country's demand of maize substitutes, namely, barley and sorghum, the imports of which surged in recent years. In fact, world maize stocks are forecast to contract by 2.5 percent in 2017, with the largest declines projected for China, down 9 million tonnes, to around 96 million tonnes. In spite of the projected draw down in world reserves, the ratio of major exporters' closing stocks to their total disappearance (defined as domestic utilization plus exports), which is a good indicator of export availabilities, is set to exceed its already comfortable 2015/16 value. This is largely due to a positive outlook in the United States, the world's largest producer, where ending stocks could climb to a record level.

International trade in coarse grains in 2016/17 is forecast to contract by 3.9 percent, with maize volumes decreasing by only 1.1 percent. More drastic declines of 9 percent and 27 percent respectively, are expected for trade in barley and sorghum, largely because of reduced projected import demands in China. While dwindling world purchases could intensify competition among major exporters, the projected fall in Brazil's maize production and exports is likely to keep world trade fairly in balance, thereby relieving some of the downward pressure on prices.

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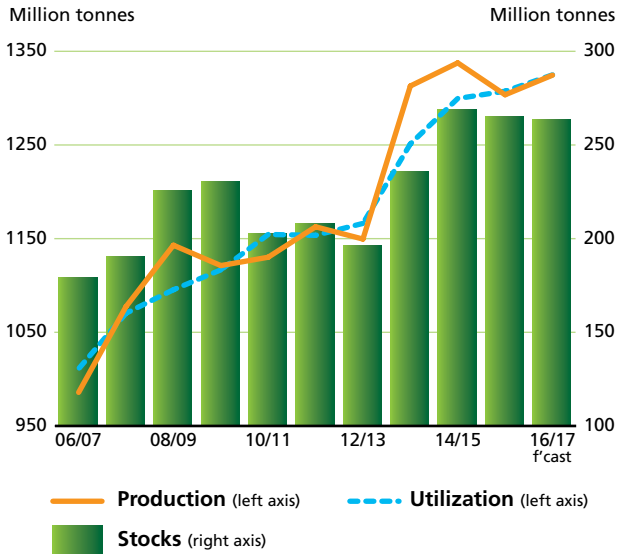
## COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS




## WORLD COARSE GRAIN MARKET AT A GLANCE

| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | *million tonnes* | | | *%* |
| **WORLD BALANCE** | | | | |
| **Production** | **1 337.7** | **1 303.6** | **1 324.5** | **1.6** |
| **Trade**[1] | **175.9** | **177.0** | **170.0** | **-3.9** |
| **Total utilization** | **1 299.6** | **1 307.4** | **1 324.8** | **1.3** |
| Food | 199.2 | 200.6 | 203.6 | 1.5 |
| Feed | 734.0 | 743.6 | 760.1 | 2.2 |
| Other uses | 366.4 | 363.2 | 361.2 | -0.6 |
| **Ending stocks** | **268.4** | **264.5** | **262.8** | **-0.6** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 27.5 | 27.3 | 27.4 | 0.3 |
| LIFDC (kg/yr) | 40.5 | 39.9 | 40.2 | 0.8 |
| *World stock-to-use ratio (%)* | *20.5* | *20.0* | *19.2* | |
| *Major exporters stock-to-disappearance ratio[2] (%)* | *12.8* | *11.9* | *12.9* | |

| **FAO COARSE GRAIN PRICE INDEX (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| | 183 | 161 | 154 | -5.7 |

[1] Trade refers to exports based on a common July/June marketing season.
[2] Major exporters include Argentina, Australia, Brazil, Canada, EU, Russian Fed., Ukraine and the United States.

# RICE

After a 2015 season marred by erratic conditions associated with one of the strongest El Niño on record, FAO forecasts only a modest 1 percent recovery in world production in 2016 to 494.4 million tonnes.

FAO's current outlook puts international rice trade in calendar year 2016 at 44.7 million tonnes, slightly above 2015 and the second largest traded volume on record. The small increase would mainly result from surging purchases in Latin America and the Caribbean and a slight revival of import demand in Africa. By contrast, deliveries to Asian markets, while remaining very high, may decline somewhat. As for exports, the expected lack of growth in 2016 would be consistent with a general tightening of supplies, after four of the five most important rice exporting countries faced poor 2015 harvests.

World rice utilization in 2016/17 is forecast at around 502.6 million tonnes, 1.3 percent more than in the previous year, sustained by a growing demand for direct human consumption. Overall, food uses are expected to reach 405 million tonnes, resulting in an average per capita food intake of 54.6 kilos in 2016/17, slightly more than the previous year's level.

World rice inventories are expected to fall by 3 percent to 163.8 million tonnes in 2017, which, if confirmed, would be the second consecutive season of declines. Based on current expectations, the world stock-to-use ratio is estimated to fall to 32.0 percent in 2016/17, still indicating a comfortable level of world reserves. The same cannot be said of the stock-to-disappearance ratio for the five major exporters, which is estimated to fall to 14.7 percent in 2016/17, its lowest level since 2006/07.

Reflecting a prolonged declining trend, the FAO Index of international rice prices fell below 200 points in October 2015 for the first time since January 2008. Although still shedding a few points, the Index gave signs of stabilization between November 2015 and April 2016, before it rallied in May, sustained by a firming of Indica and Aromatic rice prices. Such rebounding represented a first sign of market players' unease about a likely tightening of trade availabilities at least until the last quarter of the year, when the bulk of 2016 crops will be harvested. Against this backdrop, the sustainability of the recent price upturn will very much depend on the progress of the seasons and on the timing and scale of both imports and releases of supplies from government-owned stocks.

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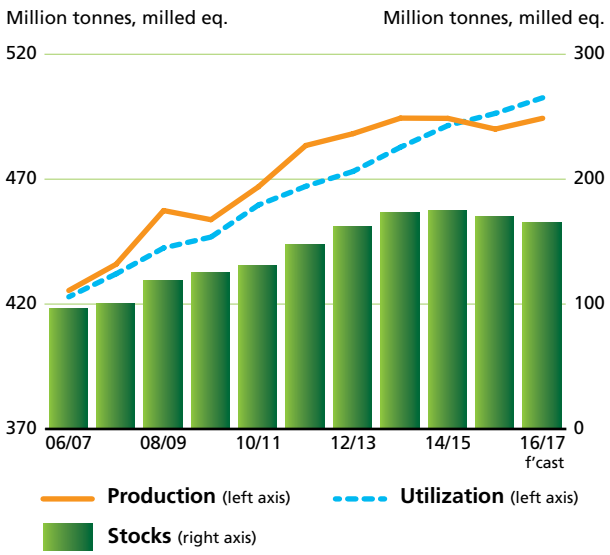
## RICE PRODUCTION, UTILIZATION AND STOCKS




## WORLD RICE MARKET AT A GLANCE

| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | *million tonnes, milled equivalent* | | | *%* |
| **WORLD BALANCE** | | | | |
| **Production** | **494.4** | **490.1** | **494.4** | **0.9** |
| **Trade** [1] | **44.6** | **44.7** | **44.1** | **-1.4** |
| **Total utilization** | **491.5** | **496.4** | **502.6** | **1.3** |
| Food | 395.2 | 399.7 | 404.7 | 1.3 |
| **Ending stocks** | **173.9** | **168.9** | **163.8** | **-3.0** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 54.5 | 54.5 | 54.6 | 0.2 |
| LIFDC (kg/yr) | 59.2 | 59.2 | 59.2 | 0.0 |
| *World stock-to-use ratio (%)* | *35.0* | *33.6* | *32.0* | |
| *Major exporters stock-to-disappearance ratio[2] (%)* | *23.9* | *18.2* | *14.7* | |

| FAO RICE PRICE INDEX (2002-2004=100) | 2014 | 2015 | 2016 *Jan-May* | Change: Jan-May 2016 over Jan-May 2015 % |
|---|---|---|---|---|
| | 235 | 211 | 196 | -10.3 |

[1] Calendar year exports (second year shown).
[2] Major exporters include India, Pakistan, Thailand, the United States and Viet Nam.

# OILCROPS

FAO's latest forecasts for the 2015/16 season point to a tightening in the global supply-and-demand balance for oilcrops and derived products.

Together with low estimates for global rape and cottonseed output, recent downward adjustments in the soybean forecast for South America – due to adverse, El Niño-related, weather conditions – are expected to result in a contraction in global oilseed production. Furthermore, global output of palm oil, the world's leading vegetable oil, is expected to shrink for the first time in 18 years, after prolonged El Niño-related dryness hit palm plantations across Southeast Asia.

Based on current forecasts, world output of both oilmeals/cakes and oils/fats are expected to contract in 2015/16. In the case of meals, record high levels of carry-in stocks should prevent global 2015/16 supplies from falling, but total availabilities of oils/fats are likely to decline.

Fueled by population and economic growth, global utilization of both meals and oils are expected to expand further in 2015/16, albeit at a reduced pace. With world production estimated to fall short of consumption, a reduction in global inventories of oilseeds, oils and meals from last season's historically high levels will be necessary, resulting in lower global stock-to-use ratios and major exporters' stock-to-disappearance ratios.

The likelihood of tighter global supply-and-demand balances in the oilcrop complex explains the recent strengthening in international prices for oilseeds and derived products, which had followed a downward trend since early 2014.

Highly tentative projections for the 2016/17 season, which starts in October 2016, indicate that global oilseed production may just recover from the current season's drop. While current forecasts for 2016/17 would translate into a record output of vegetable oils, global oilmeal production would merely recuperate from the 2015/16 drop. Assuming a continuation of current utilization trends, global production – in particular of meals but also of oils – could again fall short of world demand, possibly resulting in additional cutbacks in end-of-season inventories. The current outlook gives scope for international prices of oilseeds and oilseed products to remain under upward pressure over the coming months.

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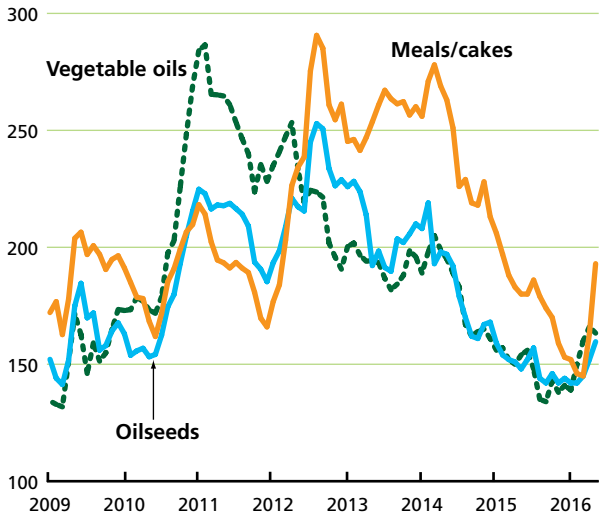
## FAO MONTHLY INTERNATIONAL PRICE INDICES FOR OILSEEDS, VEGETABLE OILS AND MEALS/CAKES (2002-2004=100)




## WORLD OILCROP AND PRODUCT MARKET AT A GLANCE

| | 2013/14 | 2014/15 *estim.* | 2015/16 *f'cast* | Change: 2015/16 over 2014/15 |
|---|---|---|---|---|
| | | *million tonnes* | | % |
| **TOTAL OILCROPS** | | | | |
| Production | 513.3 | 548 | 532.7 | -2.8 |
| **OILS AND FATS** | | | | |
| Production | 203.3 | 210.9 | 207.4 | -1.6 |
| Supply | 236.0 | 247.3 | 245.9 | -0.5 |
| Utilization | 199.3 | 205.9 | 211.5 | 2.7 |
| Trade | 108.1 | 114.0 | 117.0 | 2.6 |
| *Global stock-to-use ratio (%)* | *18.2* | *18.7* | *16.4* | |
| *Major exporters stock-to-disappearance ratio (%)* | *10.4* | *11.1* | *9.6* | |
| **MEALS AND CAKES** | | | | |
| Production | 128.8 | 140.9 | 137.7 | -2.2 |
| Supply | 146.9 | 162.1 | 163.7 | 1.0 |
| Utilization | 125.9 | 133.4 | 139.2 | 4.3 |
| Trade | 81.4 | 86.4 | 89.5 | 3.5 |
| *Global stock-to-use ratio (%)* | *16.8* | *19.5* | *17.4* | |
| *Major exporters stock-to-disappearance ratio (%)* | *9.0* | *11.3* | *10.6* | |

| **FAO PRICE INDICES (Jan/Dec) (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| Oilseeds | 184 | 149 | 148 | -3.1 |
| Meals/cakes | 243 | 179 | 160 | -16.1 |
| Vegetable oils | 181 | 147 | 156 | 1.4 |

NOTE: Refer to footnote 2 on page 34 and to table 2 on page 37 for explanations regarding definitions and coverage.

# MEAT AND MEAT PRODUCTS

World meat production is anticipated to stagnate in 2016, rising by a mere 0.3 percent to 320.7 million tonnes. Increases in output are expected in the United States, Brazil, the EU, India and the Russian Federation, while reduced production is foreseen for China, Australia and South Africa. Global meat trade is forecast to recover in 2016, growing by 2.8 percent to 30.6 million tonnes, which would represent a return to trend, after a fall in 2015.

Trade in **poultry meat** is expected to reach12.7 million tonnes in 2016, a rise of 3.5 percent. Prevailing low international prices and rising domestic consumption have been important factors in stimulating import demand in a number of markets, including Saudi Arabia, South Africa, Japan, Viet Nam, Cuba and the United Arab Emirates. By contrast, purchases by China and the Russian Federation may fall. Brazil, the United States and Thailand are expected to be the main suppliers of the rising demand. **Pigmeat** trade could experience a second year of growth, increasing by 4.4 percent to 7.5 million tonnes. Most of the principal importing countries are anticipated to increase their purchases, including Mexico, China, the Russian Federation, the United States, Japan, the Republic of Korea and Australia. In response to rising demand, exports are projected to grow, in particular those of the United States, Canada, the EU and Brazil. Exports of **bovine meat** could rise by 1.3 percent to 9.3 million tonnes, following a decline of 5.0 percent in 2015. Growing demand in *Asia*, in particular China, Malaysia, the Islamic Republic of Iran and the Republic of Korea, and a limited recovery in purchases by the Russian Federation are expected to be the main drivers of expansion in bovine meat trade in 2016. The *Americas* are set to take the lead in meeting increased demand, especially Brazil, the United States, Mexico, Uruguay and Argentina. Restocking in Australia and New Zealand is forecast to result in a 3.2 percent fall in world trade in **ovine meat** to 933 000 tonnes. Constrained world export availabilities are predicted to produce a second year of reduced import flows to China, the main market, although some higher value markets may register moderately greater levels of purchases.

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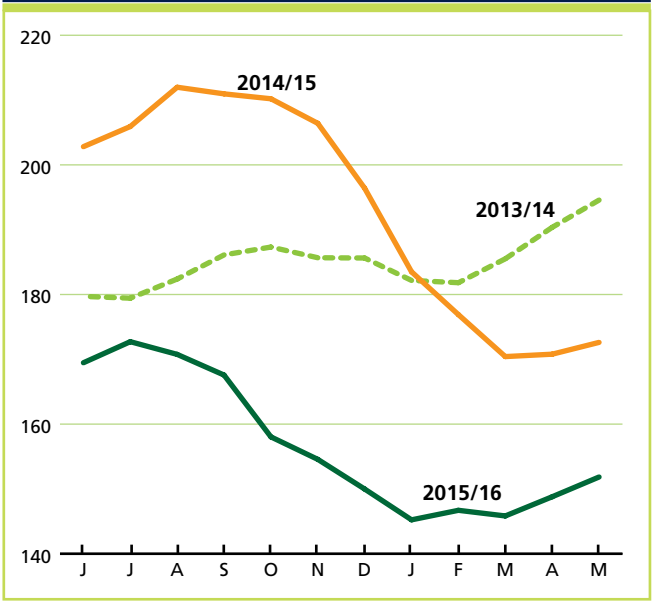
## FAO INTERNATIONAL MEAT PRICE INDEX (2002-2004 = 100)




## WORLD MEAT MARKET AT A GLANCE

| | 2014 | 2015 *estim.* | 2016 *f'cast* | Change: 2016 over 2015 |
|---|---|---|---|---|
| | *million tonnes* | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **315.4** | **319.6** | **320.7** | **0.3** |
| Bovine meat | 68.0 | 67.9 | 68.4 | 0.8 |
| Poultry meat | 111.0 | 114.9 | 116.2 | 1.1 |
| Pigmeat | 116.9 | 117.2 | 116.4 | -0.7 |
| Ovine meat | 13.9 | 14.0 | 14.1 | 0.7 |
| **Trade** | **30.6** | **29.8** | **30.6** | **2.8** |
| Bovine meat | 9.6 | 9.1 | 9.3 | 1.3 |
| Poultry meat | 12.8 | 12.3 | 12.7 | 3.5 |
| Pigmeat | 7.0 | 7.2 | 7.5 | 4.4 |
| Ovine meat | 1.0 | 1.0 | 0.9 | -3.2 |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/year) | 43.4 | 43.3 | 43.4 | 0.1 |
| *Trade - share of prod. (%)* | *9.7* | *9.3* | *9.6* | *2.4* |

| FAO MEAT PRICE INDEX (2002-2004=100) | 2014 | 2015 | 2016 *Jan-May* | Change: Jan-May 2016 over Jan-May 2015 % |
|---|---|---|---|---|
| | 198 | 168 | 148 | -15.5 |

# MILK AND MILK PRODUCTS

World milk production is forecast to grow by 1.6 percent to 816 million tonnes in 2016. Output is set to expand in *Europe*, *Asia* and the *Americas*, but anticipated to stagnate or decline in *Africa* and *Oceania*. Since reaching a peak at the beginning of 2014, international dairy prices have fallen steeply. During the first part of 2016, export availability was generally in excess of demand, resulting in the accumulation of stocks of some products in several exporting countries. While from January to May 2016 prices of butter and cheese fell by more than those of milk powders, the largest decline since 2014 was in the prices of milk powders.

Low prevailing international prices for dairy products are expected to revive world demand, which could boost trade in dairy products by 1.5 percent to 73.2 million tonnes of milk equivalent in 2016. This follows the market upheavals of 2015, when a sharp fall-off in shipments to China and the continuation of the Russian Federation's embargo on imports from specific countries caused growth to stall. The main drivers behind the anticipated rise in trade for 2016 are a continued expansion of purchases in *Asia*, including by Viet Nam, Bangladesh, Sri Lanka and the Republic of Korea, with a limited recovery in import demand expected in China, and, in the other regions, greater deliveries to the Russian Federation, the United States and Algeria. By contrast, Nigeria, Venezuela, Saudi Arabia, Yemen and Brazil are predicted to reduce imports.

The EU, anticipated to take the lead among the major exporters, may see its sales rise by 4.1 percent to 19.2 million tonnes of milk equivalent. The 2016 increase in EU exports would stem from a rise in milk production and limited growth in consumption within its internal market, but also from the prevailing lower Euro/USD exchange rate. Belarus is also projected to record strong export growth, due to its increased trade with the Russian Federation. In Oceania, low world prices are forecast to negatively affect output and, thereby, limit expansion in trade.

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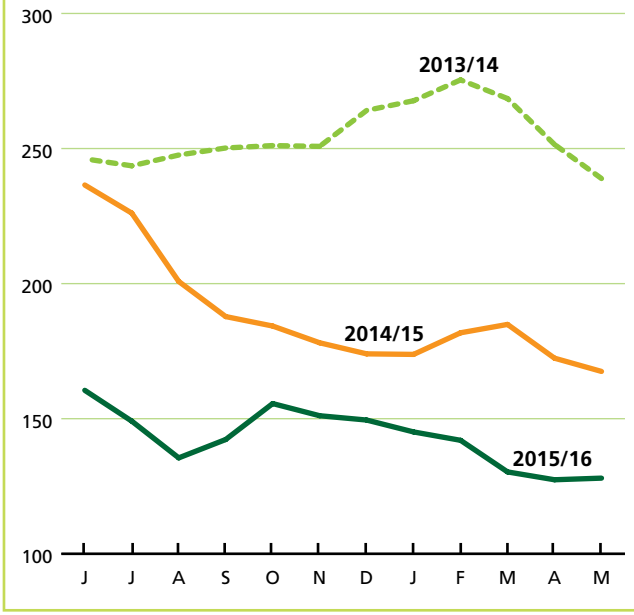
## FAO INTERNATIONAL DAIRY PRICE INDEX (2002-2004 = 100)




## WORLD DAIRY MARKET AT A GLANCE

| | 2014 | 2015 *estim.* | 2016 *f'cast* | Change: 2016 over 2015 |
|---|---|---|---|---|
| | *million tonnes, milk equiv.* | | | % |
| **WORLD BALANCE** | | | | |
| **Total milk production** | **789.1** | **802.8** | **816.0** | **1.6** |
| Total trade | **72.1** | **72.2** | **73.2** | **1.5** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 108.6 | 109.2 | 109.8 | 0.5 |
| *Trade share of prod. (%)* | *9.1* | *9.0* | *9.0* | *-0.2* |

| **FAO DAIRY PRICE INDEX (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| | 224 | 160 | 135 | -23.6 |

# FISH AND FISHERY PRODUCTS

Sustained by a strong world consumer demand, global total production of fishery products is forecast to reach 175 million tonnes in 2016, 2.3 percent, or 4 million tonnes, more than in 2015. Confirming the trend observed in recent years, the expected expansion would rest almost exclusively on aquaculture, as capture fisheries is predicted to stagnate.

According to the latest forecasts, international trade in fish and fishery products would remain steady, in terms of volumes in 2016. However, with prices falling for most seafood products, the value of export flows might drop by 1 percent compared to 2015, and well below the 2014 high. Among major markets, traditional importers such as Canada, the United States, the EU and Japan are anticipated to face lower fish import bills in 2016. These are also expected to decline in emerging economies such as Brazil, partly reflecting the expected negative impact of the depreciating currency on the country's purchases.

Among exporters, suppliers in Asia are forecast to incur strong declines in the value of their shipments, especially China, the Philippines and Thailand. Only Viet Nam looks set to see the value of its fish exports rise. Fish export earnings are forecast down for most countries in Latin America and the Caribbean, with the exception of Argentina and Brazil, which have regained competitiveness. In Europe, the diversification into new markets, should support a recovery in Norway's fish earnings from the fall incurred in 2015, following the embargo introduced by the Russian Federation.

World demand for fish for direct human consumption is now forecast to reach 153.6 million tonnes, or 2.8 percent more than in 2015, giving rise to a small increase in per capita fish consumption as food, to 20.6 kg in 2016, a growing part of which will come from aquaculture.

After registering sharp declines last year, international seafood prices continued to slide over the first months of 2016, bringing the FAO Fish Price Index in January-February down by 5 percent year-on-year. Comparisons over the same periods show prices falling for most fish products. Only salmon prices rose, reflecting a tightening of supplies in the wake of large fish losses caused by a massive algal bloom in Chile and sea lice issues in Norway.

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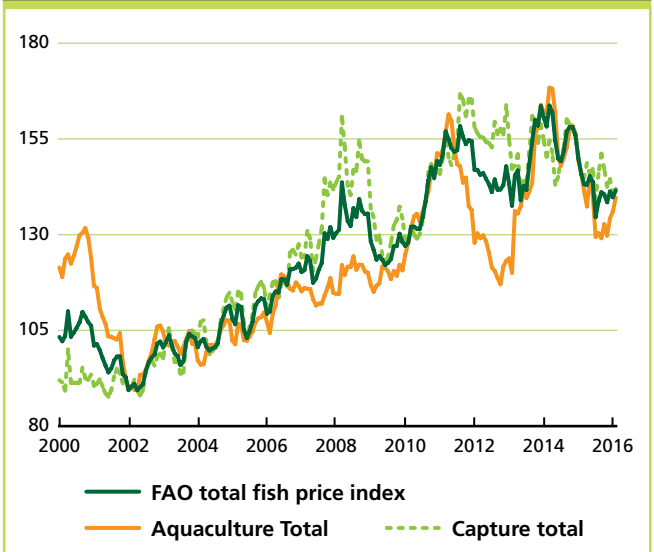
## FAO FISH PRICE INDEX (2002-2004 = 100)




Source: Norwegian Seafood Council (NSC)

## WORLD FISH MARKET AT A GLANCE

| | 2014 | 2015 *estim.* | 2016 *f'cast* | Change: 2016 over 2015 |
|---|---|---|---|---|
| | *million tonnes* | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **167.2** | **171.0** | **175.0** | **2.3** |
| Capture fisheries | 93.4 | 93.5 | 93.6 | 0.1 |
| Aquaculture | 73.8 | 77.5 | 81.4 | 5.0 |
| **Trade value (exports USD billion)** | **148.1** | **134.1** | **132.6** | **-1.1** |
| **Trade volume (live weight)** | **60.0** | **59.9** | **59.9** | **0.0** |
| **Total utilization** | **167.2** | **171.0** | **175.0** | **2.3** |
| Food | 146.3 | 149.4 | 153.6 | 2.8 |
| Feed | 15.8 | 16.5 | 16.3 | -1.2 |
| Other uses | 5.1 | 5.1 | 5.1 | 0.0 |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| Food fish (kg/yr) | 20.1 | 20.3 | 20.6 | 1.7 |
| From capture fisheries (kg/year) | 10.0 | 9.8 | 9.7 | -0.7 |
| From aquaculture (kg/year) | 10.1 | 10.5 | 10.9 | 3.9 |

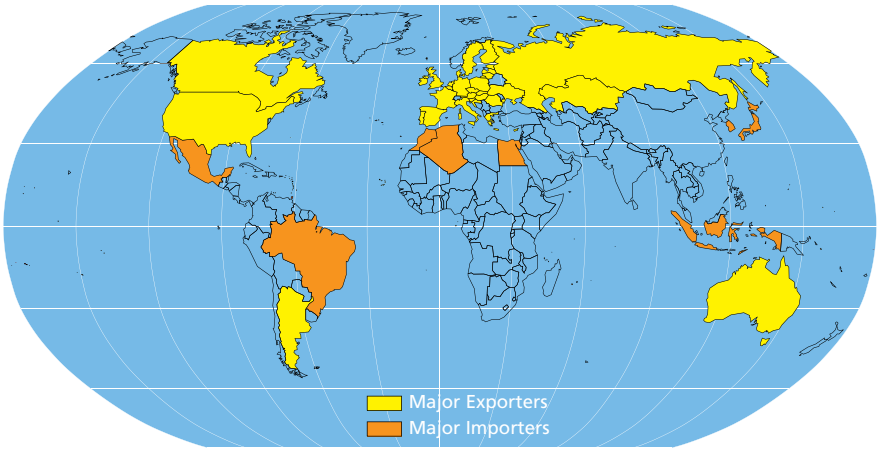
| **FAO FISH PRICE INDEX (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-Feb* | **Change: Jan-Feb 2016 over Jan-Feb 2015 %** |
|---|---|---|---|---|
| | 156 | 142 | 141 | -5.0 |

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

# MARKET ASSESSMENTS

# WHEAT

**Major Wheat Exporters and Importers**




## PRICES

### International prices broadly stable and below last year

International wheat prices remained generally steady during the first five months of 2016 although a stronger US dollar pressured quotations at times, as it did with all other dollar-denominated commodities. With old crop supplies still abundant and prospects for 2016 production improved, the occasional increases in wheat values observed in recent weeks were more reflective of developments in other commodity markets, in particular those of maize and soybeans. Lacklustre trade activity and increased exporter competition for market share, especially following the elimination of export taxes in Argentina earlier in the year, also contributed to a general weakness in wheat markets. Overall, international wheat prices remained below their corresponding levels of last year and falling, albeit following a steadier trend, as captured by the movements of the **International Grains Council (IGC) wheat Index**, a trade-weighted price measure of ten major export quotations.

**Figure 1. IGC Wheat Price Index**

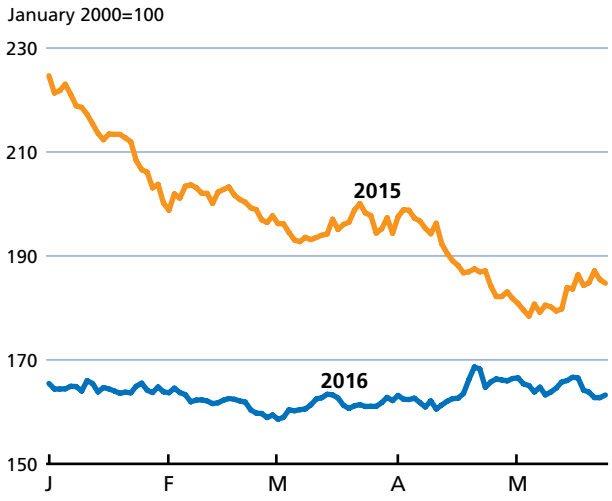
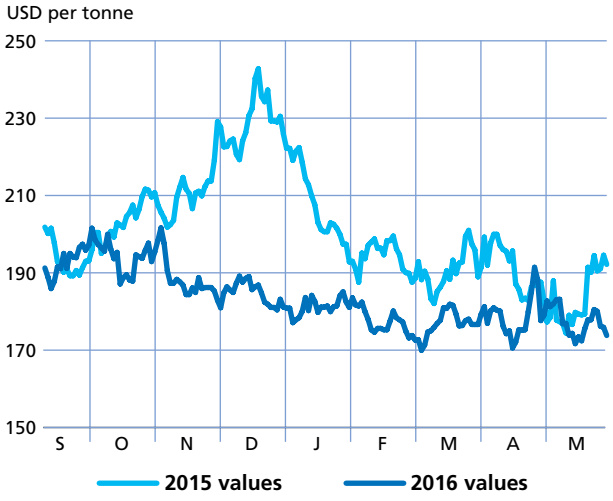



**Figure 2. CBOT wheat futures for September**



By late-May 2016, the benchmark **United States wheat, No.2 Hard Red Winter, f.o.b. Gulf** averaged USD 193 per tonne, some 10 percent below its level at the start of the year and 17 percent lower than in May 2015. Similarly, **wheat futures** in Chicago for September delivery averaged USD 177 per tonne in May, down 3 percent from January and 4 percent lower than in May 2015, signalling the market's expectation of a comfortable world supply-and-demand balance in the 2016/17 marketing season.

## PRODUCTION

### Wheat production in 2016 to fall below the 2015 record

FAO's latest forecast for 2015 world wheat production stands at 724 million tonnes, 10.1 million tonnes or 1.4 percent lower than the 2015 record. The contraction mostly reflects expected declines in Europe, largely attributed to reduced plantings, and in Africa, mainly due to dry weather.

In *Europe*, aggregate production is forecast to decrease to 246 million tonnes in 2016, about 4 percent, or 10 million tonnes down from the previous year, but potentially the third biggest crop on record. In the **EU,** improved spring weather lifted yield forecasts from earlier projections, but the crop is still anticipated to fall by 4 percent from 2015, mainly due to reduced plantings. The outlook is less favourable in the **Ukraine**, where dry conditions caused a cutback in the area sown and also impaired yields. As a result, the country may harvest 22 million tonnes, 4.5 million tonnes less than in 2015.

In the **United States**, 2016 production is forecast to decline by 2.6 percent to 54.4 million tonnes. The anticipated decline is almost entirely due to sharply lower plantings, down 9 percent from the previous year, which more than outweighs a projected increase in yields. This forecast also takes into account the recently planted spring crop. The outlook is more favourable in **Canada**, where production is forecast to recover to 28.9 million tonnes. The buoyant outlook would be in spite of a decline in the area sown to spring wheat and reflects an upturn of yields from their 2015 drought-reduced levels. Likewise, in the **Russian Federation**, beneficial spring weather improved prospects for yields, which may result in production rising to the second highest on record.

Current prospects in *Asia*, where the wheat harvest is underway, point to a record 2016 output, driven mainly by an increase in **India**, where production may reach 89 million tonnes, up 2.9 percent from the 2015 drought-reduced level. An improvement in yields is mainly behind the expected production rise, despite some dryness. In **China**, production

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

| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | *million tonnes* | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **729.8** | **734.1** | **724.0** | **-1.4** |
| **Trade**[1] | **155.6** | **154.5** | **155.0** | **0.3** |
| **Total utilization** | **710.1** | **719.2** | **718.3** | **-0.1** |
| Food | 485.7 | 491.4 | 497.4 | 1.2 |
| Feed | 138.1 | 140.3 | 136.6 | -2.6 |
| Other uses | 86.2 | 87.5 | 84.3 | -3.7 |
| **Ending stocks** | **201.8** | **210.6** | **215.5** | **2.4** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 67.0 | 67.0 | 67.0 | 0.1 |
| LIFDC (kg/yr) | 47.4 | 47.4 | 47.4 | 0.0 |
| *World stock-to-use ratio (%)* | *28.1* | *29.3* | *29.0* | |
| *Major exporters stock-to-disappearance ratio*[2] *(%)* | *16.6* | *18.2* | *19.3* | |

| **FAO WHEAT PRICE INDEX**[3] **(2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| | 181 | 144 | 127 | -17.4 |

[1] Trade refers to exports based on a common July/June marketing season.
[2] Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and the United States.
[3] Derived from the International Grains Council (IGC) wheat index.

**Table 2. Wheat production: leading producers***

| | 2014 | 2015 *estim.* | 2016 *f"cast* | Change: 2016 over 2015 |
|---|---|---|---|---|
| | *million tonnes* | | | % |
| European Union | 157.1 | 160.5 | 154.0 | -4.0 |
| China (Mainland) | 126.2 | 130.2 | 129.0 | -0.9 |
| India | 95.9 | 86.5 | 89.0 | 2.9 |
| Russian Federation | 59.7 | 61.8 | 62.5 | 1.2 |
| United States | 55.1 | 55.8 | 54.4 | -2.6 |
| Canada | 29.4 | 27.6 | 28.9 | 4.7 |
| Pakistan | 26.0 | 25.5 | 25.5 | -0.1 |
| Ukraine | 24.1 | 26.5 | 22.0 | -17.1 |
| Australia | 23.1 | 24.2 | 24.5 | 1.2 |
| Turkey | 19.0 | 22.6 | 22.0 | -2.7 |
| Kazakhstan | 13.0 | 13.7 | 13.5 | -1.8 |
| Argentina | 13.9 | 11.3 | 14.0 | 23.9 |
| Iran Islamic Rep. of | 10.6 | 11.5 | 12.5 | 8.7 |
| Egypt | 9.3 | 9.0 | 9.0 | 0.0 |
| Other countries | 67.5 | 67.3 | 63.3 | -5.9 |
| **World** | **729.8** | **734.1** | **724.0** | **-1.4** |

* Countries listed according to their position in global production (average 2014-2016)

**Figure 3. Wheat production and area**

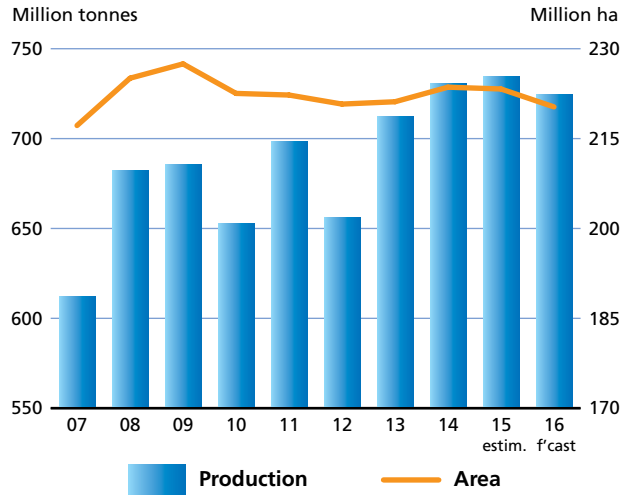
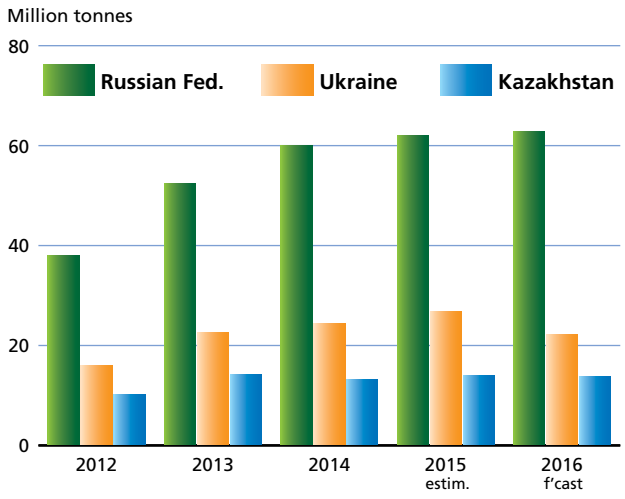



**Figure 4 . Major CIS producers**




is forecast to decline slightly from the previous year's all-time high of 130.2 million tonnes. In **Pakistan**, dry weather spells affected rainfed crops, lowering the 2016 wheat forecast from earlier expectations to 25.5 million tonnes, virtually unchanged from 2015. Planting of the main spring wheat crop is underway in **Kazakhstan,** where the 2016 production is forecast at 13.5 million tonnes, down from 2015, but still close to the previous three-year average. The decrease mainly reflects a smaller sown area, as the country seeks to increase crop diversity.

In *Near East Asia*, recent wetter weather has benefitted the soon-to-be harvested winter wheat crop in **Turkey**. However, because of dryness in some parts of the country limiting yield potential and a contraction in the area planted, production is forecast to decline slightly to 22 million tonnes. Favourable weather also benefited the wheat crop in the **Islamic Republic of Iran**, with the production forecast pegged at 12.5 million tonnes, up 8.7 percent from 2015, mostly on account of higher yield prospects. In **Afghanistan**, **Iraq** and **Syria**, although generally satisfactory weather conditions favoured crop development, the ongoing conflicts continue to severely impair agricultural production. As a result, 2016 wheat production in all three countries is forecast to fall.

In *North Africa*, the sub-region accounting for the bulk of Africa's wheat production, drought conditions in **Morocco** sharply curtailed prospects, with the output expected to decline to 3 million tonnes, 62.5 percent below the above-average 2015 harvest. Weather conditions were less negative in **Algeria** and **Egypt**, which may keep their wheat outputs close to average. In **Tunisia,** a return to near-average yields is set to result in a larger 2016 crop.

In **Australia**, the 2016 harvest will commence in August–September. Based on a forecast expansion in land coverage and registered good moisture levels during the start of the season, production is foreseen to rise by 1.2 percent to 24.5 million tonnes. In *South America*, sowing began in May and will be finalized by September. Higher wheat prices, partly attributed to currency depreciations that also boosted export prospects, are expected to instigate an expansion in plantings in both **Argentina** and **Brazil**, where production could rise by almost 24 percent and 5 percent, respectively. In *Central America and the Caribbean*, favourable weather in **Mexico,** the main producer, is expected to foster a small increase in production, maintaining an above-average level.

## TRADE

### World trade to rise only marginally in 2016/17

Global wheat trade (including wheat flour in wheat grain equivalent) in the 2016/17 (July/June) marketing season is forecast at 155 million tonnes, 0.3 percent (0.5 million tonnes) above the 2015/16 estimate, but still 1.5 million tonnes short of the 2013/14 record level. Most of the increase in the coming season reflects anticipated larger imports by North Africa, more than offsetting expected declines in Europe and South America.

In *Africa*, aggregate wheat imports in 2016/17 are forecast to reach 47.7 million tonnes, up 1.3 million tonnes, or 2.9 percent, from the previous season – with deliveries to drought-stricken **Morocco** alone rising by at least 1.7 million tonnes to an all-time high of 5 million tonnes. In anticipation of a sharp shortfall in domestic production, Morocco's Government

**Figure 5. Wheat imports by selected importers**

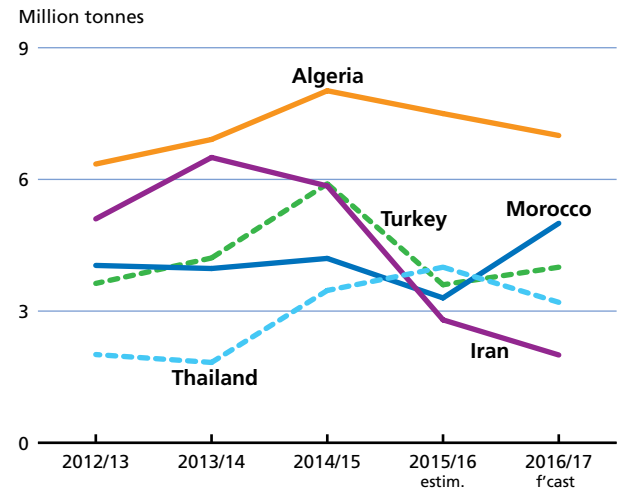
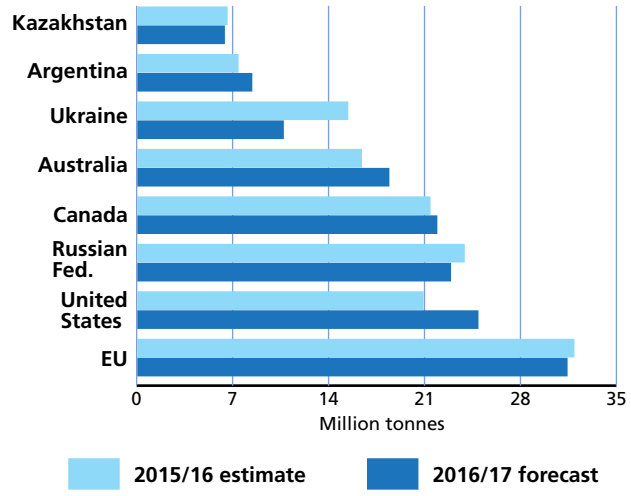



**Figure 6. Wheat exports: major exporters**

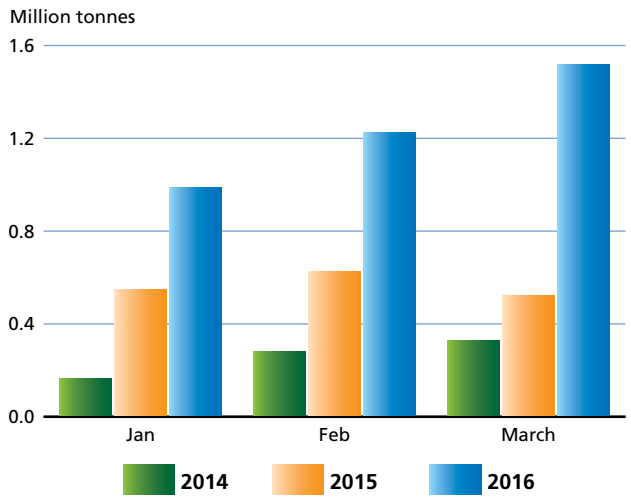



lowered the import duty on soft wheat from 50 percent to 30 percent in December 2015, and announced in April 2016 that the 30 percent duty is to remain in force until the end of the year in order to ensure adequate domestic supply. **Egypt**, the world's largest wheat importer, is seen to import 11.5 million tonnes, the same level as in the previous season. Yet, the final level of deliveries may be lower than currently forecast, because the policy that will be applied in 2016/17 regarding tolerated levels of ergot (naturally occurring fungus) in wheat shipments remains uncertain. At the start of 2016, the Government announced that wheat imports containing any trace of ergot fungus would be rejected, reversing the country's customary practice of allowing the importation of wheat with traces up to 0.05 percent. Wheat purcheases by **Algeria** are likely to drop to 7 million tonnes, which is 500 000 tonnes, or almost 7 percent, below 2015/16. The decline reflects expectation of a relatively good harvest for the second consecutive season, because of favourable weather conditions. Imports by **South Africa** are forecast to decline to 1.9 million tonnes. To protect local farmers from lower international prices, in April 2016 the Government increased the tariff on wheat imports by 34 percent for the rest of the year. Wheat shipments to **Nigeria,** Africa's third largest importer, are forecast to remain steady at around 4.7 million tonnes.

In *Asia*, total wheat imports are forecast at 73 million tonnes, unchanged from the 2015/16 estimate. While in most countries deliveries are likely to remain close to the 2015/16 level or increase slightly, major exceptions include the **Islamic Republic of Iran,** where foreign wheat purchases could fall to a 5-year low of 2 million tonnes, down 800 000 tonnes from 2015/16. A rise in domestic production and the Government's decision to promote wheat self-sufficiency are the main reasons for the decline. Wheat imports by **Thailand** are expected to drop to 3.2 million tonnes, down 800 000 tonnes from the 2015/16 level, mainly on account of reduced demand for feed wheat, consistent with the anticipated recovery in domestic maize and broken rice supplies. Since the beginning of 2016, imported wheat has been added to the list of "controlled" commodities, as a way to monitor the volume of feed wheat entering the country, because of its potentially negative impact on domestic maize and cassava prices. On the other hand, wheat purchases by **Indonesia,** Asia's largest importer, are anticipated to remain at around 8 million tonnes, close to the 2015/16. By contrast, wheat imports by **Saudi Arabia** are expected to increase for the fourth consecutive season, reaching an all-time high of 3.8 million tonnes, 500 000 tonnes more than in the previous year. In 2015/16, Saudi Arabia terminated its 3-decade long wheat production support policy, as stipulated in a government decree in 2007.

Wheat imports in *Latin America and the Caribbean* are forecast to total nearly 22 million tonnes, almost unchanged from the 2015/16 level. In **Brazil**, the region's largest importer, wheat purchases in 2016/17 are put at 6.5 million tonnes, down 200 000 tonnes from 2015/16, mostly reflecting this year's anticipated small increase in domestic production. **Chile** is also anticipated to buy less this season, due again to higher expected production. Despite growing demand, wheat imports by **Mexico**, the region's second largest market, may increase only slightly to 4.4 million tonnes, constrained by a weaker currency. In *Europe*, aggregate imports are forecast at 7.8 million

**Figure 7. Argentina's monthly exports**




tonnes, down 600 000 tonnes from the 2015/16 level, mainly because of reduced projected purchases by the **EU** and the **Russian Federation**.

Given the prospect of only a marginal rise in global import demand in 2016/17, competition among the major **exporters** for market share is likely to remain intense, especially in view of the very large export availabilities held by several countries. Despite a predicted 500 000 million tonne decline in sales to 31 million tonnes in 2016/17, the **EU** is expected to preserve its position as the world's largest wheat exporter for the third consecutive season. Driven by very large carryovers, wheat exports from the **United States** are forecast to reach 24.5 million tonnes, 4 million tonnes more than in 2015/16. In **Argentina,** higher projected production and the elimination of the export tax, coupled with a steep year-on-year decline in the peso, could result in a surge in wheat shipments to a 4-year high of 8 million tonnes in 2016/17 (July/June). By contrast, an anticipated fall in this year's wheat production is likely to curb **Ukraine's** exports to a 3-year low of 10.3 million tonnes, down 4.7 million tonnes from the 2015/16 estimate. Slightly reduced exports are anticipated for the **Russian Federation,** which, at 22.5 million tonnes, would place the country as the third largest wheat exporter after the EU and the United States, followed closely by **Canada** and **Australia**.

## UTILIZATION

### Total utilization dampened by a fall in wheat feeding

At 718 million tonnes, total wheat utilization in 2016/17 is forecast to decrease marginally from 2015/16, some 1.8 percent below the 10-year trend. Reduced demand from the livestock sector is the main factor behind the likely stagnation in global wheat utilization in 2016/17. Total **feed** use of wheat is set to decline by 2.6 percent (3.6 million tonnes) in 2016/17 to around 137 million tonnes. Much of the decline stems from expectations of lower feed use of wheat in China, where maize feeding is forecast to surge, following a recent policy change that has put an end to the state maize stockpiling programme in 2016/17, and which has already resulted in some declines in domestic maize prices. In the EU, a drop in wheat production is expected to result in slightly lower level of wheat feed use, especially given the outlook for larger supplies of coarse grains in 2016/17.

Total utilization of wheat for **direct human consumption** in 2016/17 is forecast at 497 million tonnes, up 1.2 percent from 2015/16. At this level, world per capita wheat consumption would be steady at around 67 kg per annum, remaining in the order of 60 kg in developing countries and 97 kg in developed countries.

Total **industrial use** of wheat is projected at around 23 million tonnes, little changed from the previous year, with nearly half of that amount used for the production of starch. In the EU, the industrial use of wheat may increase slightly, to around 11 million tonnes, of which 4.9 million tonnes to be used for the production of biofuels, up 0.4 million tonnes from the previous season.

## STOCKS

### World inventories to reach a 15-year high

World wheat stocks are currently foreseen to approach 216 million tonnes by the close of crop seasons in 2017, representing an increase of 2.4 percent, or 5 million tonnes,

**Figure 8. Wheat feed use**

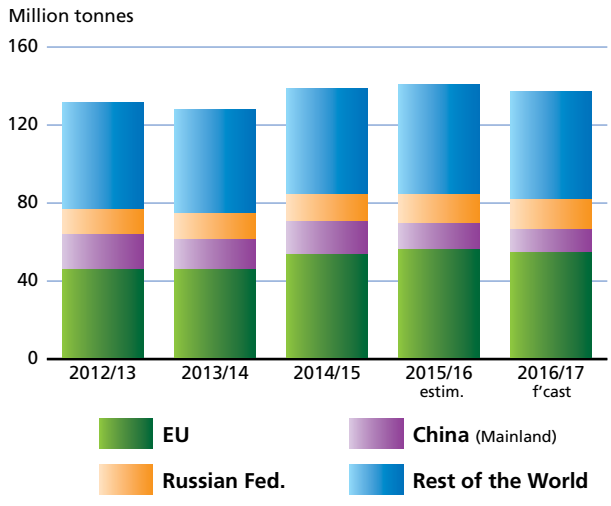


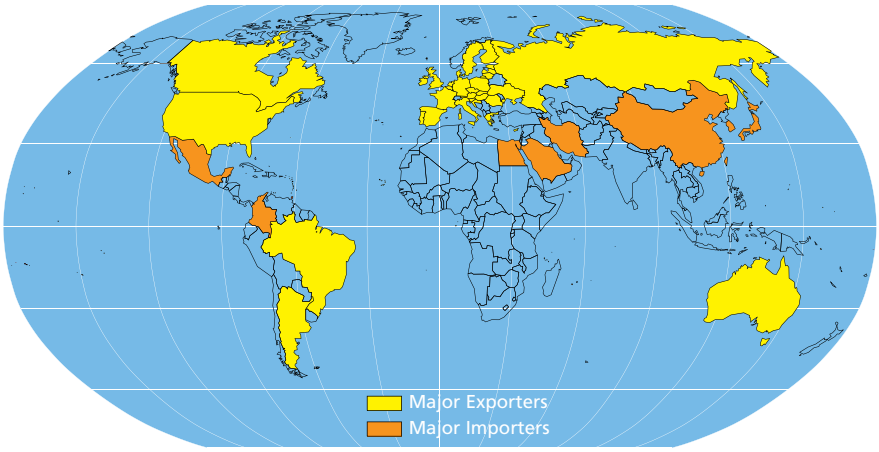
**Figure 9. Wheat stocks and ratios**


from their already very high opening levels. The forecast has been raised by 20 million tonnes since last month, mostly reflecting significant upward revisions in China (14.5 million tonnes). Starting from the 2013/14 marketing season, the FAO estimates for China's stocks have been lifted in line with downward adjustments to feed and other uses of wheat. As a result, China's wheat stocks ending in 2017 are now projected to approach 69 million tonnes, 9 million tonnes higher than FAO's previous forecast published in May, and almost 9 million tonnes, or 14.5 percent, more than in 2016. Expectations of another bumper crop this year, coupled with a likely decrease in wheat use for animal feeding, are among the main reasons for the projected expansion in China's closing inventories in 2016/17.

If China's stocks were to be excluded from the world total, the remaining inventories by the close of seasons in 2017 would amount to some 146 million tonnes, 3.8 million tonnes, or 2.6 percent, below their opening levels. In fact, outside China, wheat stocks in most countries are likely to remain at the same level as in 2015/16 or decrease. Lower end-of-season wheat reserves are currently projected for several countries, most notably Australia, Egypt, India, the Islamic Republic of Iran and Morocco. At the current forecast levels, the world wheat **stocks-to-use ratio** in 2016/17 would reach 29 percent, almost unchanged from 2015/16 but well above the historic low of 22.7 percent registered in 2007/08. Furthermore, **the ratio of major wheat exporters' closing stocks to their total disappearance** (defined as domestic utilization plus exports) is set to rise, to 19.3 percent in 2016/17, which compares to 18.2 percent in 2015/16. This indicator, which does not include China (because China is not a major wheat exporter) tends to confirm a rather comfortable market situation in 2016/17.

# COARSE GRAINS

**Major Coarse Grain Exporters and Importers**




## PRICES

### Mixed trends in international prices

During the first quarter of 2016, international prices of coarse grains were under general downward pressure, at times reaching their lowest levels since 2010. In recent months, prices were influenced by ample global availabilities, especially after Argentina eliminated export taxes and licensing requirements. Abundant supplies of low quality (feed) wheat also contributed to the overall declining trend of coarse grain prices. More recently, stronger global demand, coupled with weather concerns in Argentina and Brazil, underpinned prices. In addition, soaring soybean prices also had an effect. By May, most maize quotations equalled or exceeded their corresponding May 2015 values. The benchmark **US maize prices (yellow, No. 2, f.o.b.)** averaged USD 169 per tonne, up 5 percent from the start of the year and 2 percent over the May 2015 average. However **Argentine maize prices (up river, f.o.b.)** stood at around USD 184 per tonne, up 9 percent from May 2015 and 14 percent higher than at the beginning of this year. Maize export prices from

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

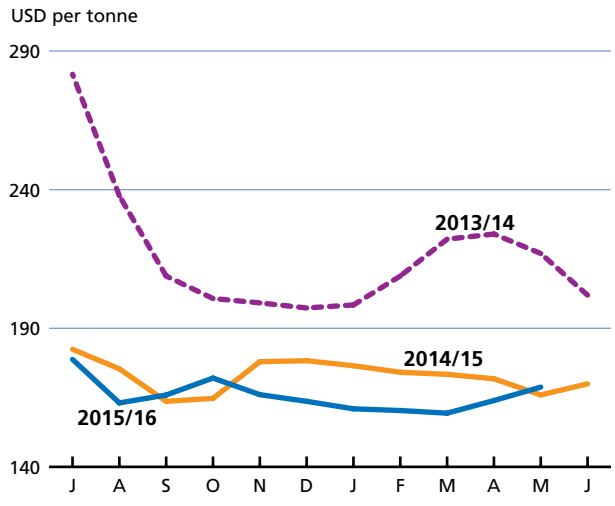
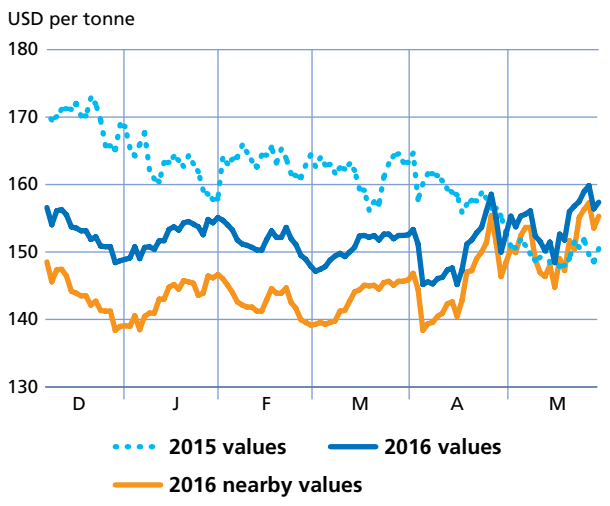



**Figure 2. CBOT maize nearby and December futures**



Argentina have risen sharply, in part on crop prospect concerns, but also because of a weaker currency, which boosted the country's competiveness and pushed up export demand. With regard to other major coarse grains, international prices of **barley** (feed) in May averaged some 20 percent less than a year ago, while those of sorghum fell even more, by nearly 30 percent. China's curtailment of barley and sorghum purchases so far this year was the main reason for the fall in prices of both grains.

The anticipated high level of global stocks to be carried over into the 2016/17 season, combined with current prospects for a high 2016 world production level, limits the scope for a significant increase of international prices of coarse grains. The **CBOT maize futures** for December 2016 delivery averaged around USD 156 per tonne in May, up over 3 percent from April, largely reflecting a spillover from the surging soybean prices. Overall, however, the trend in December futures still points to a fairly comfortable market outlook, albeit with prices slightly above the previous year's levels. *More detailed analysis of the futures markets can be found in the Market Indicators section of this report.*

## PRODUCTION

### Production forecast to rebound in 2016

World production of coarse grains in 2016 is anticipated to reach almost 1 325 million tonnes, which is 1.6 percent, or 21.0 million tonnes, higher than the previous year. The increase mostly reflects buoyant prospects for maize in Europe and the United States, which are forecast to more than compensate for reduced maize production in Africa, Asia and South America, and for lower global sorghum and barley outputs.

Global maize production in 2016 is forecast at 1 026 million tonnes, 2.3 percent, or 22.6 million tonnes, above 2015. The bulk of the increase is attributed to a significant year-on-year rise in the **United States**, the world's largest maize producer. Favourable weather at the start of the season hastened plantings and boosted the area sown, which is expected to more than make up for an anticipated decrease in yields. As a result, 2016 maize production in the United States is forecast to reach a record of 366.5 million tonnes. By contrast, in **Canada**, production is projected to remain largely at the same high level of 2015.

In *Europe*, early indications point to a recovery in the **EU**'s maize production, which is forecast to rebound to 66 million tonnes from the reduced 2015 level. This year's growth rests on expectations of increased plantings and a return to near-average yields. In the **Russian Federation**, official projections point to an 8 percent expansion in plantings which, together with anticipated yield gains, could result in a record maize output of 13.8 million tonnes. In **Ukraine**, production is forecast to rise slightly from last year's low level to 25.6 million tonnes, sustained by higher yields.

In *Asia*, production of maize in **China** is foreseen to fall by 2 percent to 220 million tonnes, as low-price incentives and changes to production support measures are likely to curb sowings. By contrast, in **India**, production is foreseen to rebound by 9.5 percent, to reach 23 million tonnes, on expectations of a return to more normal weather following the 2015 drought-reduced harvest.

In the *Southern Hemisphere*, harvesting of the maize crop is expected to conclude in July. In South America, **Brazil** is forecast to garner 81.2 million tonnes, about

**Figure 3. Coarse grain production and area**

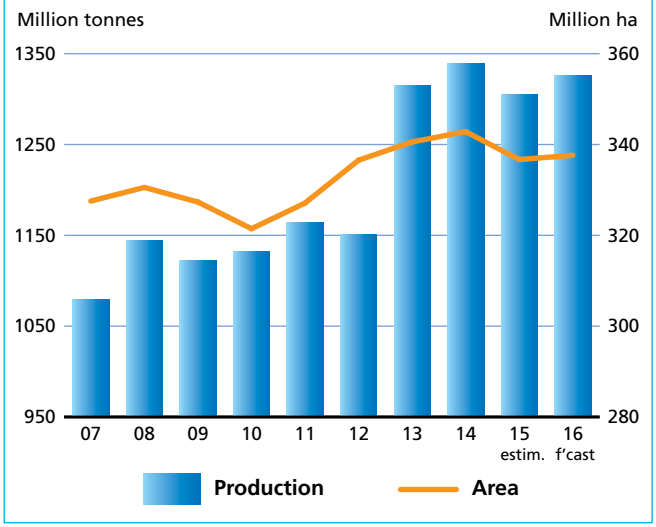
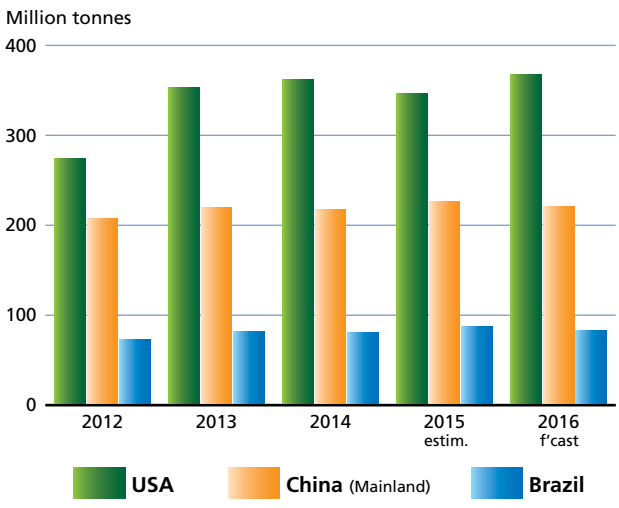



**Figure 4. Major maize producers**



## Table 1. World coarse grain market at a glance

| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | | *million tonnes* | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **1 337.7** | **1 303.6** | **1 324.5** | **1.6** |
| **Trade**[1] | **175.9** | **177.0** | **170.0** | **-3.9** |
| **Total utilization** | **1 299.6** | **1 307.4** | **1 324.8** | **1.3** |
| Food | 199.2 | 200.6 | 203.6 | 1.5 |
| Feed | 734.0 | 743.6 | 760.1 | 2.2 |
| Other uses | 366.4 | 363.2 | 361.2 | -0.6 |
| **Ending stocks** | **268.4** | **264.5** | **262.8** | **-0.6** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 27.5 | 27.3 | 27.4 | 0.3 |
| LIFDC (kg/yr) | 40.5 | 39.9 | 40.2 | 0.8 |
| *World stock-to-use ratio (%)* | *20.5* | *20.0* | *19.2* | |
| *Major exporters stock-to-disappearance ratio*[2] *(%)* | *12.8* | *11.9* | *12.9* | |

| **FAO COARSE GRAIN PRICE INDEX (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
|---|---|---|---|---|
| | 183 | 161 | 154 | -5.7 |

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

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

## Table 2. Coarse grain production: leading producers*

| | 2014 | 2015 *estim.* | 2016 *f"cast* | Change: 2016 over 2015 |
|---|---|---|---|---|
| | | *million tonnes* | | % |
| United States | 377.6 | 367.2 | 382.6 | 4.2 |
| China (Mainland) | 225.2 | 234.5 | 229.7 | -2.0 |
| European Union | 171.7 | 150.0 | 160.7 | 7.1 |
| Brazil | 82.9 | 88.3 | 83.9 | -5.0 |
| Argentina | 39.9 | 42.4 | 45.4 | 7.2 |
| Russian Federation | 42.4 | 39.5 | 41.8 | 5.9 |
| India | 43.1 | 38.3 | 41.7 | 9.0 |
| Ukraine | 39.7 | 33.4 | 36.0 | 7.9 |
| Mexico | 31.8 | 32.8 | 31.4 | -4.4 |
| Canada | 22.1 | 25.7 | 25.8 | 0.1 |
| Nigeria | 19.5 | 19.2 | 20.2 | 5.3 |
| Indonesia | 19.0 | 19.4 | 19.0 | -2.1 |
| Ethiopia | 19.2 | 16.6 | 17.0 | 2.4 |
| Turkey | 12.9 | 15.1 | 14.2 | -5.9 |
| Australia | 11.3 | 12.6 | 12.5 | -0.6 |
| Other countries | 179.5 | 168.6 | 162.6 | -3.5 |
| **World** | **1 337.7** | **1 303.6** | **1 324.5** | **1.6** |

* Countries listed according to their position in global production (average 2014-2016)

5 percent down from the previous year. The decline reflects lower plantings for the first season crop, which was harvested from February, on account of dry weather and low-price incentives, while continued dryness is similarly expected to affect yields for the second season crop. Ample maize supplies and low prices resulted in a smaller planted area in **Paraguay** where, accordingly, production is set to decline by 38 percent from the 2015 record. By contrast, production in **Argentina** may reach 37.9 million tonnes, 12.1 percent more than in 2015. The year-on-year increase would mainly result from an expansion in the area sown, instigated by favourable weather and the elimination of export restrictions, which have increased profit prospects for maize. A lingering and extensive drought has resulted in sharply lower production expectations in affected Southern African countries, with **South Africa**'s 2016 maize crop forecast to shrink by 31 percent to 7.4 million tonnes, from an already below-average level in 2015. **Malawi** and **Zimbabwe** are also forecast to harvest significantly smaller crops, while improved rains in **Zambia** since January are behind expectations of a production gain in 2016.

The global forecast for 2016 barley production stands at 144.6 million tonnes, 1.6 percent, or 2.4 million tonnes, below the high level of 2015. The anticipated decrease is mainly on account of lower expected harvests in **Morocco** and **Argentina**.

World sorghum production in 2016 is set to decline to 61 million tonnes, almost 5 percent, or 3.2 million tonnes, down from 2015. The outlook reflects forecasts of a contraction in the **United States,** which would more than outweigh foreseen year-on-year increases in **Sudan** and **Nigeria**.

# TRADE

## World trade in coarse grains to contract in 2016/17

International trade in coarse grains in 2016/17 (July/June) is forecast to decline to 170 million tonnes, down almost 4 percent, or 7 million tonnes, from the estimated 2015/16 volume. Of all coarse grains, world trade in maize is expected to decrease the least; falling by only 1.1 percent or 1.5 million tonnes, from the near-record 2015/16 level, to reach 131 million tonnes. However, trade is forecast to fall more markedly for barley, by almost 9 percent, to 25 million tonnes, as well as for sorghum, which is set to plunge by 27 percent to 9 million tonnes. Lower imports by China is the leading factor behind the anticipated contraction of world trade in both grains. By contrast, trade in millet is projected to rise by 31 percent

**Figure 5. Argentina's maize monthly exports**

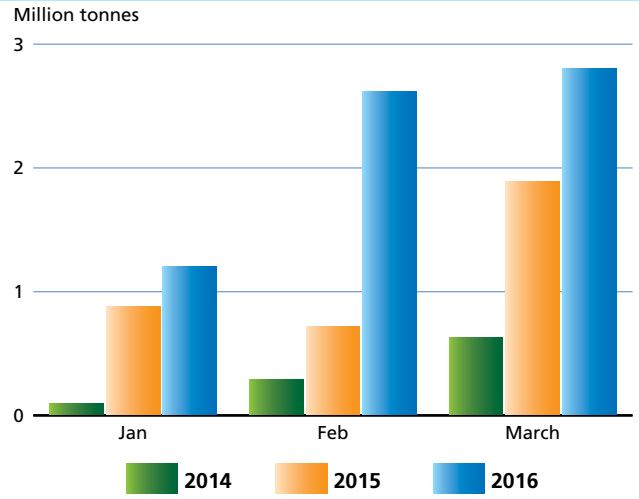



**Figure 6. Coarse grain exports: major exporters**

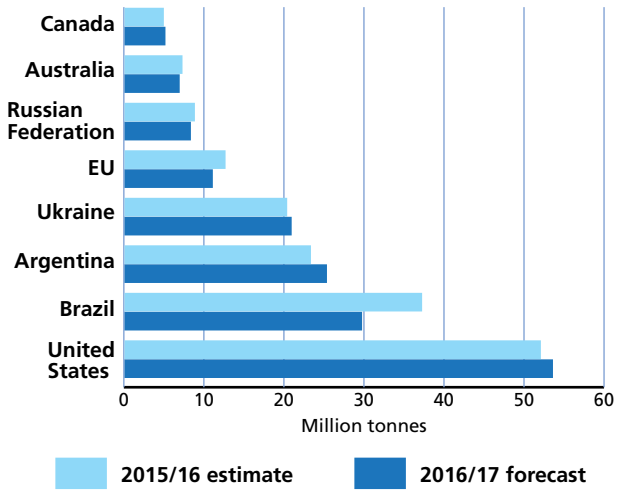



**Figure 7. Sorghum imports: major importers**

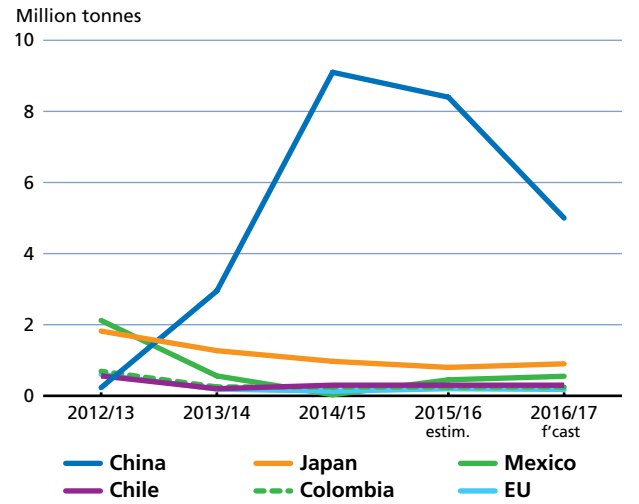
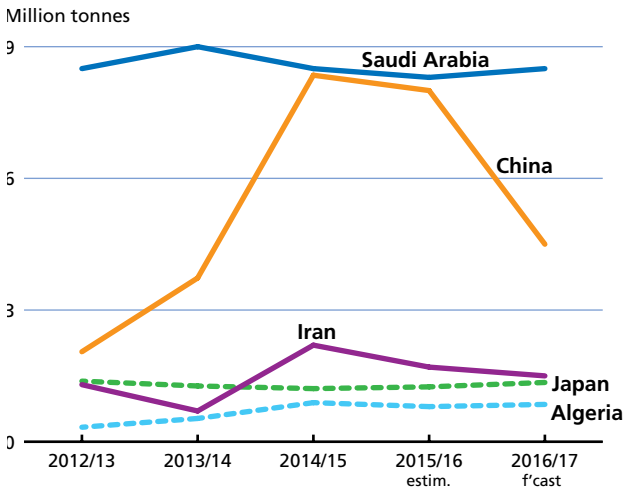



**Figure 8. Barley imports: major importers**




or 200 000 tonnes, to 855 000 tonnes, mainly reflecting larger import demand from **Mali** and **India**. As for oats and rye, the volumes of trade are predicted largely unchanged from the 2015/16 levels, at 2.2 million tonnes and 370 000 tonnes respectively.

In *Asia*, aggregate imports of coarse grains in 2016/17 are forecast to decline to 88.2 million tonnes, down as much as 8.6 percent, or 8.3 million tonnes, from 2015/16. The sharp drop reflects the expectation of much smaller barley and sorghum purchases by **China**. Total coarse grains imports by China are currently forecast at 11.8 million tonnes, down 41 percent, or 8.2 million tonnes, from 2015/16. This forecast is based on the assumption that recent policy changes would result in domestic maize prices falling to levels that would discourage imports of maize and maize-substitutes, such as barley and sorghum for animal feeding. China imported record volumes of barley and sorghum in 2014/15 and again in 2015/16 because of very high, hence uncompetitive, domestic maize prices. Imports of coarse grains by the **Islamic Republic of Iran** are forecast to decline by 1.2 million tonnes, to 6.5 million tonnes, on smaller maize purchases, amid large carryovers from the 2015/16 season. By contrast, imports of barley and maize by **Turkey** are seen rising by 300 000 tonnes to 2 million tonnes, to compensate for the lower production expected this year. Imports by **Japan** are also predicted to rise, by 600 000 tonnes to 17.7 million tonnes, driven by higher demand for maize, barley and sorghum for domestic feed. Deliveries of barley to **Saudi Arabia**, the world's leading importer, are also set to increase, albeit by only 200 000 tonnes, to 8.5 million tonnes.

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

| | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16* (estim.) | 2016/17 (f'cast) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Thousand tonnes* | | | | |
| Maize production | 307 142 | 332 550 | 316 166 | 313 956 | 273 188 | 351 270 | 361 101 | 345 479 | 366 536 |
| Ethanol use | 93 396 | 116 616 | 127 538 | 127 005 | 117 886 | 130 155 | 132 085 | 133 355 | 134 625 |
| Yearly change (%) | 21 | 25 | 9.4 | -0.4 | -7.2 | 10.4 | 1.5 | 1.0 | 1.0 |
| As % of production | 30 | 35 | 40.3 | 40.5 | 43.2 | 37.1 | 36.6 | 38.6 | 36.7 |

Source: WASDE-USDA. * 10 May 2016

In *Africa*, total coarse grain imports are forecast to reach 29.8 million tonnes in 2016/17, up by as much as 4 million tonnes, or 16 percent, from the 2015/16 estimate, underpinned by an expected surge in imports by Morocco and South Africa. In **Morocco**, barley purchases are likely to increase by 1.2 million tonnes, reflecting the anticipated decline in this year's domestic production. In the case of **South Africa**, maize imports could double from an already high level in 2015/16 and reach 3.6 million tonnes on reduced drought-affected crops. Maize shipments to **Malawi** and **Zimbabwe** are also anticipated to surge as both countries have suffered from a second consecutive year of drought. By contrast, good production prospects could lower **Tunisia's** import requirement of barley, while maize imports by the region's largest importer, **Egypt**, may stay close to the 2015/16 estimate of 8.5 million tonnes.

Coarse grain imports by countries in *Central America and the Caribbean* are likely to remain close to the 2015/16 levels. **Mexico**, the region's largest market, is expected to purchase 14.2 million tonnes of coarse grains, of which 13 million tonnes would be maize, up slightly from 2015/16, and 550 000 tonnes sorghum, up slightly from the 2015/16 level. In *South America*, total coarse grains imports are projected to amount to 13.1 million tonnes, around 200 000 tonnes more than in 2015/16. Most of the increase would correspond to maize purchased by **Brazil.** Despite being a major net-exporting country, in April, Brazil suspended import tariffs on maize for up to 1 million tonnes sourced from non-Mercosur countries, to ease tight prevailing supply conditions in the country.

In *Europe*, total imports are forecast at just over 14 million tonnes, down 3 million tonnes from 2015/16. Nearly all of the anticipated decline is expected in the **EU**, where maize imports are forecast to be cut as a result of the expected increase in this year's production.

As for **exports** in 2016/17 (July/June), the ample coarse grains availabilities held by several major exporting countries are projected to be curtailed in the new season because of lower domestic production. At the same time, the contraction in world import demand could actually intensify exporter competition for markets. Reduced maize supplies could result in much reduced shipments from **Brazil**; down from 36.5 million tonnes in 2015/16 to 29 million tonnes in 2016/17. Given the second year of low production, maize exports from **South Africa** are likely to remain at historically low levels for the second consecutive season. By contrast, good supply prospects and the elimination of export taxes are anticipated to boost maize sales from **Argentina**, from 19 million tonnes in 2015/16 to 21 million tonnes in 2016/17. Under current prospects for a record maize output, shipments of maize from the **United States**, the world's largest exporter, could increase significantly, from the 42 million tonnes estimated for 2015/16 to 46 million tonnes in 2016/17. As for barley, exporters are likely to face stiff competition this year, given the anticipated sharp fall in global import demand. As a result, exports of barley from the **EU** could decline by 1.5 million tonnes, to 8 million tonnes. Slightly smaller sales are also anticipated by the **Russian Federation,** while **Australia** and **Canada** could see exports of feed barley rise in 2016/17 because of their more competitive prices.

## UTILIZATION

### Total utilization in 2016/17 growing faster than in 2015/16

Global utilization of coarse grains in 2016/17 is seen growing by 1.3 percent, or 17.5 million tonnes, to 1 325 million tonnes. The increase would be slightly larger than the 0.6 percent rise estimated for 2015/16, but well below the 4 percent and the 7 percent growth rates registered in 2014/15 and 2013/14, respectively. The outlook for 2016/17 will, to a large degree, depend on market developments in China, where recent policy changes have excluded maize from the state procurement and stockholding programmes, already resulting in some declines in domestic maize prices. More abundant supplies and competitive prices are likely to encourage higher maize feed use in the country, mostly at the expense of feed

**Figure 9. Coarse grain utilization**

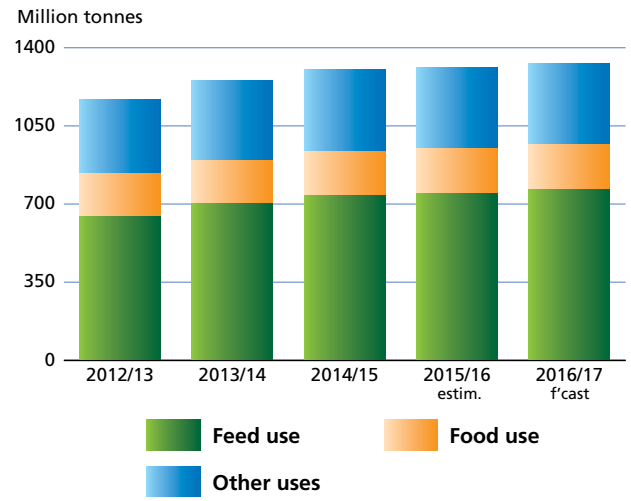
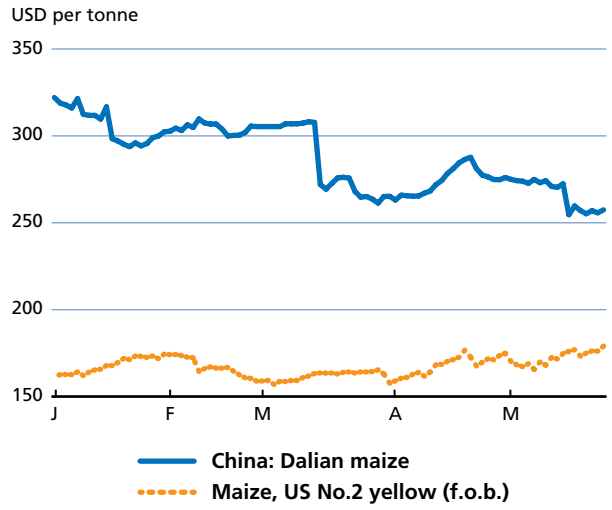



**Figure 10. Domestic maize prices in China above world prices**




use of barley and sorghum. In fact, China's barley and sorghum imports peaked in 2014/15, coinciding with the high domestic maize prices, which were sustained by large government procurement purchases.

World **feed utilization** of coarse grains in 2016/17 is expected to reach 760 million tonnes, up 2.2 percent, or 16.6 million tonnes, from 2015/16. Maize feeding, in particular, is expected to expand by 3.6 percent, or 20.8 million tonnes, to 593 million tonnes, with most of this increase concentrated in the United States and China. In the United States, the record maize crop expected this year is likely to foster a 5.7 percent (7.6 million tonnes) increase to 141 million tonnes in the use of maize by the livestock sector. In China, maize feeding is projected to top 149 million tonnes, also up 5.7 percent (8.0 million tonnes) from 2015/16. As for the other coarse grains, their use as animal feed may fall, in the case of barley, by 3 percent, or 1.8 million tonnes, to 99 million tonnes and, in the case of sorghum, by 10 percent, or 2.9 million tonnes, to 26 million tonnes. A likely cut in China's feed usage of the two crops in 2016/17 would account for most of the projected decline.

World **food consumption** of coarse grains is forecast to increase by 1.5 percent, or 3 million tonnes, in 2016/17 to nearly 204 million tonnes. While direct human consumption of coarse grains is less significant globally than that of other cereals, they are important foodstuffs in *Latin America and the Caribbean* (for maize) as well as for many countries in Africa (for maize, millet and sorghum). At the global level, the growth in food consumption of coarse grains is anticipated to virtually match growth in world population, thus maintaining a stable per capita consumption of around 27.5 kg per year. In Africa, per capita consumption is projected to average nearly 72 kg, while in sub-Saharan Africa, it is forecast at around 78 kg in 2016/17, falling marginally from 2015/16, with the slight decline resulting from reduced per capita intake in southern Africa in the wake of the extensive drought which devastated white maize supplies in the sub-region.

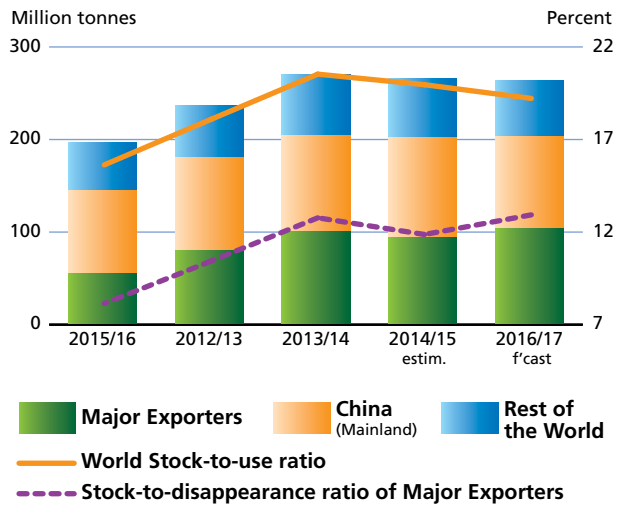
World **industrial use** of coarse grains in 2016/17 is projected to reach 326 million tonnes, up 1.2 percent from the 2015/16 estimate. Over half of this total would be in the United States, where industrial end-uses may absorb 170 million tonnes, with at least 134.6 million tonnes for the production of fuel ethanol in 2016/17, according to May official estimates. This represents a 1 percent growth from the 2015/16 estimated level. The starch industry, another major industrial use of coarse grains, is expected to globally attract up to 105 million tonnes of coarse grains in 2016/17, some 3 percent more than in 2015/16, with most of the increase accounted for by China, the world's largest producer of starch.

## STOCKS

### World inventories to decline slightly

Based on the current forecasts for production in 2016 and utilization in 2016/17, world coarse grain stocks are expected to drop by 0.6 percent, or 1.7 million tonnes, from their relatively high opening level, to 263 million tonnes by the close of seasons in 2017, marking the second consecutive year of declining stocks. Most of the anticipated fall would be due to drawdowns in maize and barley inventories. The current FAO global stock forecast is 7 million tonnes higher than estimated in May, largely reflecting upward revisions of maize inventories in the EU and the United States, which

**Figure 11. Coarse grain stocks and ratios**



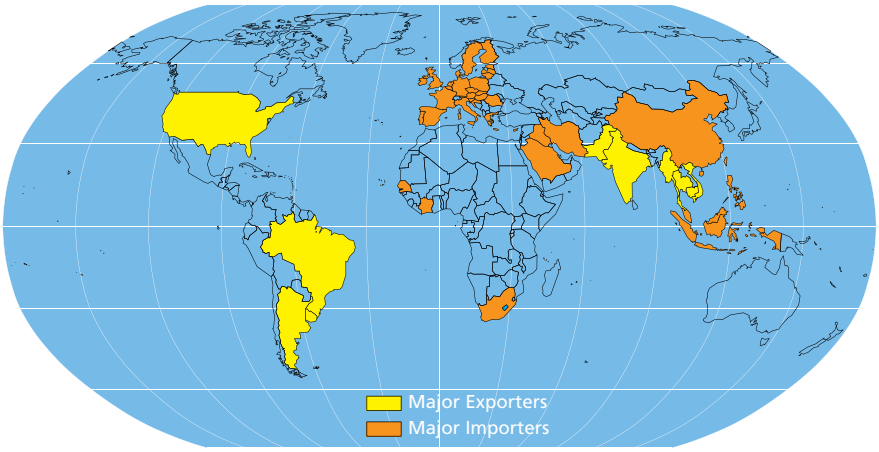

more than offset a further downward adjustment to end-of-season maize reserves in China.

Overall, the **world stocks-to-use ratio** for coarse grains in 2016/17 is seen to hit 19 percent, down from 20 percent in 2015/16. At that level, the ratio would be the smallest in four years but well above the historical low of 15.4 percent registered in 2009/10. On the other hand, the **ratio of major exporters' closing stocks to their total disappearance** (defined as domestic utilization plus exports), which is a more reflective measure of global availabilities for trade, is set to increase from 11.9 percent in 2015/16 to 12.9 percent in 2016/17. The main reason for the higher value of the ratio is the expectation of rising end-of-season inventories in the United States, the world's leading exporter.

World maize stocks are forecast at just over 214 million tonnes, over 5 million tonnes, or 2.5 percent less than their opening level, with the largest declines projected for China, down 8.7 million tonnes to just under 96 million tonnes, Brazil down 4 million tonnes and South Africa down 1.1 million tonnes. However, favourable crop prospects are likely to push up maize inventories in the United States by 9 million tonnes to an all-time high of 55 million tonnes. World barley stocks could rise to almost 30.4 million tonnes, 9.4 percent higher than their opening level, with most of the increase in Canada, the EU and Ukraine. However, global sorghum inventories are expected to decline, by almost 6 percent, to 7 million tonnes, mainly reflecting a 300 000 tonne contraction in the United States.

# RICE

**Major Rice Exporters and Importers**




## PRICES

### First signs of international rice prices recovering

International rice prices have lingered along a steady downward trend for the past two years, which made the value of the FAO All Rice Price Index (2002-2004=100) slide below 200 points in October 2015 for the first time since January 2008. Although still shedding a few points, the index gave signs of stabilizing between November 2015 and April 2016 before rallying in May, when prices started to recover in the Indica and Aromatic rice segments. The market revival was reflected in the benchmark Thai white 100%B rice price, which, at USD 448 per tonne in May 2016, was 19 percent higher than in January. The recent rebounding of Indica rice prices was the first sign of market players' unease about a possible tightening of trade availabilities in the coming months, after four of the five principal rice exporters harvested smaller crops in 2015. Against this background, the low international prices prevailing since late last year have reflected a dearth of new demand from importers, several of which reaped good

**Figure 1. All rice price index**

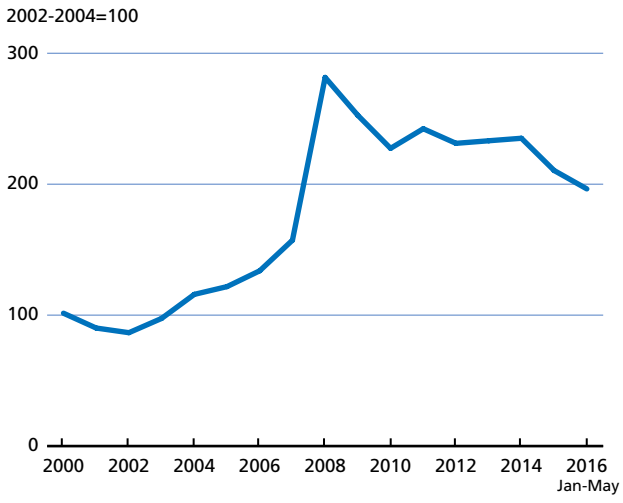
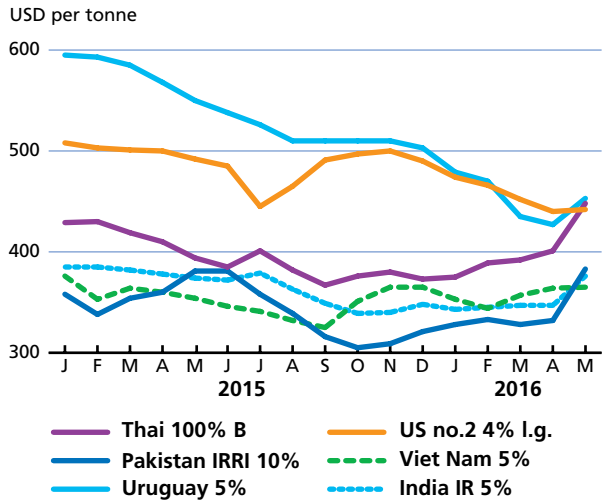



**Figure 2. Export prices for higher-quality rice in selected countries**



harvests in 2015, faced currency depreciations or intensified protection against imports, with others hoping for world prices to drop further before re-entering the market. As for the next few months, the sustainability of the price upturn will very much depend on how crop seasons progress and on the timing and scale not only of imports, but also of supply releases from government-owned stocks.

## PRODUCTION[3]

### Global rice production to rise only modestly in 2016

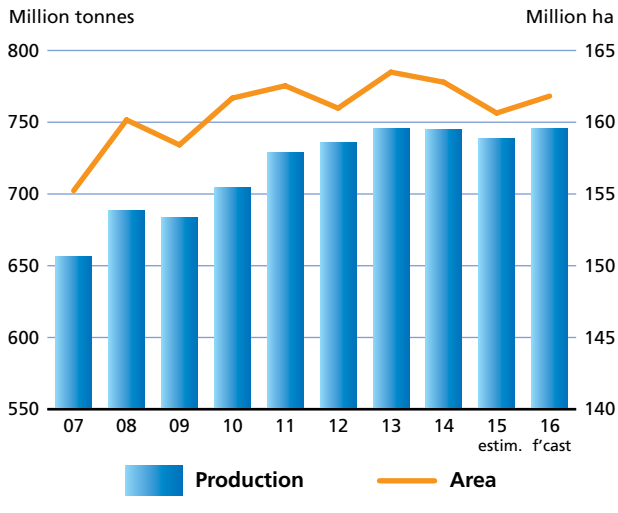
After a 2015 paddy season marred by one of the strongest El Niño on record, climate predicting agencies have presaged a return to a neutral El Niño by June 2016, with high chances of La Niña conditions emerging by the last quarter of the year. The dissipation of the El Niño weather anomaly by mid-year could be beneficial to the 2016 paddy crops in the Northern Hemisphere countries, which have just completed the planting or are awaiting the arrival of the monsoon rains around June to do so. Yet, its demise would come too late for the Southern Hemisphere countries, which seeded their first 2016 paddy crops in the last quarter of 2015 and early 2016, when the influence of El Niño was still very strong and many faced abnormally dry or wet conditions. On the other hand, a La Niña episode could hinder crops due for harvest later this year in many rice producing countries, as it can be associated with above normal rainfall, more intense cyclone or hurricane activity and floods.

Based on early evidence of 2016 harvest declines in Southern Hemisphere countries and expectations of a more normal progress of the season in Northern Hemisphere countries, FAO currently forecasts global rice production in 2016 at 494.4 million tonnes, merely 1 percent above the relatively poor 2015 outturn. This rather modest prospect also takes into account the relatively low returns faced by producers in several countries, which might encourage them to shift to alternative crops, thereby dampening the upturn in rice cultivation worldwide. Thus, the anticipated world output growth is seen to rest on a partial 0.7 percent recovery of plantings to 161.8 million hectares, and slightly increased yields of 4.60 tonnes per hectare.

Much of the 2016 world production expansion is expected to originate in *Asia*, with increases also anticipated in Africa, North America and Europe. By contrast, the negative influence of El Niño is likely to bring production down in *Latin America and the Caribbean* and in Oceania. In *Asia*, around 447.6 million tonnes are currently forecast to be harvested in 2016, underpinned by a strong recovery in **India** and **Thailand**, the two countries that experienced the largest rice production shortfalls from unseasonal drought in 2015. In addition, output is anticipated to pick up in the **DPR Korea**, **Laos**, **Myanmar**, **Nepal** and the **Philippines**, which also faced sizeable output declines last season. Production in **China** is expected to remain on the rise, especially as rice (together with wheat) was left unscathed from the policy change that is to affect maize as of October this year. Accordingly, paddy will continue to be subject to procurement purchases by state government agencies, at official prices that have been maintained at close to their 2015 levels, but well exceeding those prevailing in neighbouring countries. On the other hand, production may decline somewhat in **Bangladesh**, where low producer prices recently prompted the Government to announce that it would step up direct paddy purchases from farmers. The outlook is even less positive along and south of the equator, where **Indonesia**, **Malaysia** and **Viet Nam** may see production fall after their main crops were affected by drought and abnormally high temperatures, both at the planting and development stages.

In *Africa*, prospects for the season are positive overall, with close to 19 million tonnes of rice (milled basis) expected to be collected, 2.1 percent more than in 2015. Production is seen rising in **Egypt**, but also across much of Western Africa, where governments continue to support the sector, with some stepping up protection against imports. In absolute terms, the largest gains are expected in **Mali** and **Senegal,** where rice benefits from steady government support. Some increase is also expected for **Nigeria**, where production is being promoted through

**Figure 3. Global rice paddy production and area**




[3] All rice figures quoted are expressed on a milled weight basis.

## Table 1. World rice market at a glance

| | 2014/15 | 2015/16 estim. | 2016/17 f'cast | Change: 2016/17 over 2015/16 |
|---|---|---|---|---|
| | million tonnes, milled equivalent | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **494.4** | **490.1** | **494.4** | **0.9** |
| **Trade** [1] | **44.6** | **44.7** | **44.1** | **-1.4** |
| **Total utilization** | **491.5** | **496.4** | **502.6** | **1.3** |
| Food | 395.2 | 399.7 | 404.7 | 1.3 |
| **Ending stocks** | **173.9** | **168.9** | **163.8** | **-3.0** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 54.5 | 54.5 | 54.6 | 0.2 |
| LIFDC (kg/yr) | 59.2 | 59.2 | 59.2 | 0.0 |
| *World stock-to-use ratio (%)* | *35.0* | *33.6* | *32.0* | |
| *Major exporters stock-to-disappearance ratio[2] (%)* | *23.9* | *18.2* | *14.7* | |
| **FAO RICE PRICE INDEX (2002-2004=100)** | **2014** | **2015** | **2016** *Jan-May* | **Change: Jan-May 2016 over Jan-May 2015 %** |
| | 235 | 211 | 196 | -10.3 |

[1] Calendar year exports (second year shown).
[2] Major exporters include India, Pakistan, Thailand, the United States and Viet Nam.

## Table 2. Rice Production: leading producers *

| | 2014 | 2015 estim. | 2016 f.cast | Change: 2016 over 2015 |
|---|---|---|---|---|
| | million tonnes, milled equivalent | | | % |
| China (Mainland) | 141.5 | 142.7 | 143.4 | 0.5 |
| India | 105.5 | 103.4 | 105.6 | 2.2 |
| Indonesia | 44.4 | 45.8 | 45.1 | -1.5 |
| Bangladesh | 34.5 | 35.0 | 34.8 | -0.4 |
| Viet Nam | 29.2 | 29.4 | 28.9 | -1.6 |
| Thailand | 22.0 | 19.0 | 20.1 | 5.6 |
| Myanmar | 16.9 | 16.5 | 16.8 | 1.9 |
| Philippines | 12.4 | 11.7 | 12.2 | 4.4 |
| Brazil | 8.2 | 8.5 | 7.5 | -11.6 |
| Japan | 7.8 | 7.6 | 7.7 | 1.2% |
| United States | 7.1 | 6.1 | 7.3 | 20.1 |
| Pakistan | 7.0 | 6.6 | 6.6 | 0.0 |
| Cambodia | 5.6 | 5.5 | 5.6 | 1.4 |
| Korea Rep. of | 4.2 | 4.3 | 4.2 | -2.9 |
| Egypt | 4.3 | 4.1 | 4.2 | 3.4 |
| **World** | **494.4** | **490.1** | **494.4** | **0.9** |

* Countries listed according to their position in global production (average 2014-2016).

new initiatives that foster investment in large rice farms, the Anchor Borrowers' Programme and tighter import restrictions. However, given the continued prominence of rainfed rice cultivation, the production outcome in the sub-region will very much depend on the progress of the rainy season. In the rest of the continent, output in **Madagascar** is expected to recover only partially in 2016, given a mixed performance of the rains so far this year. Severe precipitation shortages since late 2015 are also anticipated to curb output in **Malawi** and **Mozambique**, while in **Tanzania**, production is set to recover only partially from the sizeable decrease incurred last year due to erratic rains.

Reflecting the negative climatic conditions prevailing since late 2015 in the southern part of the region, together with poor economic returns to producers, output in *Latin America and the Caribbean* is seen falling by a marked 7.5 percent to 17.7 million tonnes, its lowest level since 2010. The drop would largely stem from shortfalls incurred by countries located in the southern cone, several of which have already harvested their first 2016 crops. With the exception of **Ecuador** and **Peru**, all countries in South America are predicted to face severe drops in production, as their 2016 paddy seasons unfolded under the influence of a very strong El Niño. Particularly sharp declines are expected in **Argentina, Brazil, Paraguay** and **Uruguay**, where production was adversely affected by excess precipitation, floods and poor sunshine, but also in **Bolivia, Colombia, Guyana** and **Venezuela**, which suffered from dry conditions and low profit margins. Although more favourable, the outlook for countries in Central America and in the Caribbean would imply only a partial recovery of production in 2016, led by a rebounding of output in **Cuba,** the **Dominican Republic** and **Mexico.**

In *North America***,** USDA's forecast in May put the 2016 production in the **United States** at 7.3 million tonnes, or 20 percent above the poor 2015 harvest. The increase reflects expectations of a strong expansion of plantings of long grain rice, which would amply compensate for the reduced cultivation of medium and short grain rice, following a shift towards other crops, or rice varieties, by southern producing states. In ***Oceania***, the high costs of irrigation water, following another extensive drought period, were behind a sharp decline in area coverage in **Australia** this season. The recently harvested crop is officially estimated at 203 000 tonnes, 58 percent less than the already curtailed 2015 output and the lowest level since 2010. As for ***Europe*****,** where crops are already in the ground, production is anticipated to remain close to last year's level of 2.6 million tonnes, as a small contraction in the **EU** from last year's good harvest would compensate for an increase in the **Russian Federation**, where the

sector continues to benefit from strong government support.

## TRADE

### Limited trade growth expected in 2016

FAO's current forecast for **international rice trade** in calendar year 2016 suggests a marginal 0.4 percent increase to 44.7 million tonnes, a volume still short of the 2014 high, but the second largest on record. Although some 400 000 tonnes smaller than in 2015, imports by countries in *Asia* are anticipated to remain large in 2016, at around 22.7 million tonnes. The small contraction would stem from a decline in purchases by **Bangladesh** and **Sri Lanka**, where ample domestic supplies are weighing on local prices, but also by **China**, following a tightening of border controls since 2015 against the unauthorized entry of rice from neighbouring countries. Nonetheless, China, the largest rice importer since 2012, is still anticipated to take delivery of as much as 6.3 million tonnes in 2016, because relatively high domestic prices continue to make foreign rice very attractive. On the other hand, under the currently poor prospects for production in 2016, **Indonesia** may need to step up its purchases by 500 000 tonnes to 1.8 million tonnes this year, the highest level since 2012. Imports by **Nepal**, **Iraq** and the **Islamic Republic of Iran** are also forecast to increase, facilitated in **Nepal** by the February ending of blockades along the Indian border, and in the **Islamic Republic of Iran** by the easing of import restrictions in November 2015 and the lifting of international sanctions in January. Purchases by the **Philippines**, traditionally one of the most important importers, are currently foreseen to remain steady around the high 2015 level of 2 million tonnes, much of will continue to be channelled through the National Food Authority and, hence, subject to decision by the newly elected central government.

At 13.7 million tonnes, imports by *African countries* are predicted to rise only slightly above the 2015 reduced level. The small increase would be to meet greater needs due to drought in southern Africa, which is likely to boost imports by **South Africa** and **Madagascar**, in particular. The rest of Africa face generally comfortable supply situations, following above normal 2015 harvests. These, along with depreciated currencies, may result in reduced inflows of rice to western and eastern Africa. However, among individual importers, **Nigeria** may have to purchase a greater volume of 2.5 million tonnes in 2016, to rebuild its reserves and prevent domestic prices from rising further. The larger inflow would be in spite of a 110 percent import tax, prohibited hard currency access for traders and the resumption, last April, of a ban on rice importation through land borders. By contrast, improved supplies following favourable outcomes of their 2015 seasons should enable **Cote D'Ivoire** and **Senegal** to trim their rice imports in 2016.

On the other hand, shipments to *Latin America and the Caribbean* are predicted to reach a new high of 4.3 million tonnes, 11 percent more than in 2015. Most of the surge would be on account of **Brazil**, which is forecast to more than double its imports to compensate for the poor 2016 harvest and also maintain its presence in export markets. Deliveries to **Colombia** and **Venezuela**, which continue to face high domestic price pressure, are expected to remain steady around their 2015 levels. Among countries in Central America and the Caribbean, many of which are still in the grip of El Niño-related droughts, **Mexico** and **Panama** are forecast to step up their purchases, while shipments destined for **Cuba** and **Haiti** remaining high. In the ***other regions***, firm domestic demand is anticipated to underpin purchases by the **EU** and to keep those by the **United States** close to their high level of 2015.

The expectation of a subdued world import demand in 2016 coincides, on the export side, with a general tightening of availabilities for trade, after four, out of the five, most important rice exporting countries faced poor harvests in 2015. Among these, **Pakistan**, **Thailand** and **Viet Nam** may be in a position to increase the volumes shipped abroad, partly by releasing supplies from stocks, while both **India** and the **United States** may see their exports contract. Deliveries by **India**, in particular, may decline to some 10 million tonnes, down from more than 11 million tonnes in 2015. Reduced competition from the leading exporters may offer smaller suppliers the chance to increase their sales abroad. This would mainly

**Figure 4. World rice trade and FAO rice export price index**

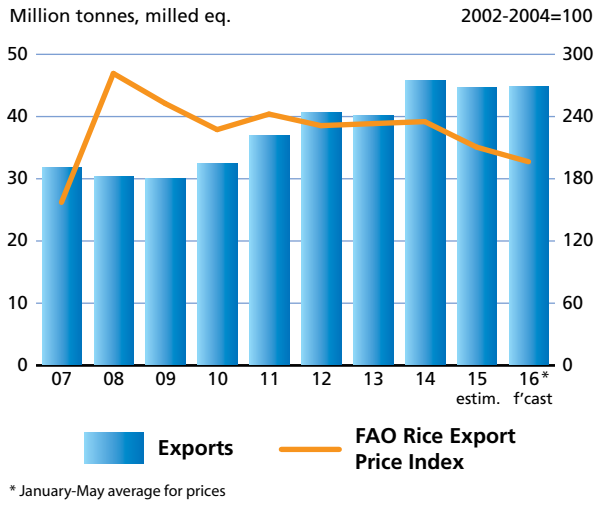


**Figure 5. Wholesale rice prices in China (Mainland) vs export prices in Vietnam**

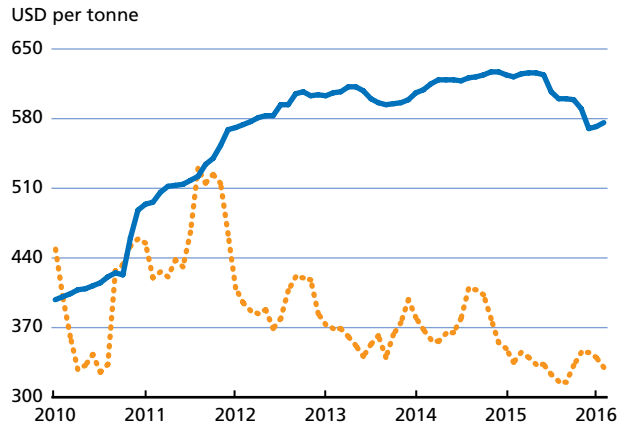



**Figure 6. Rice imports by region**

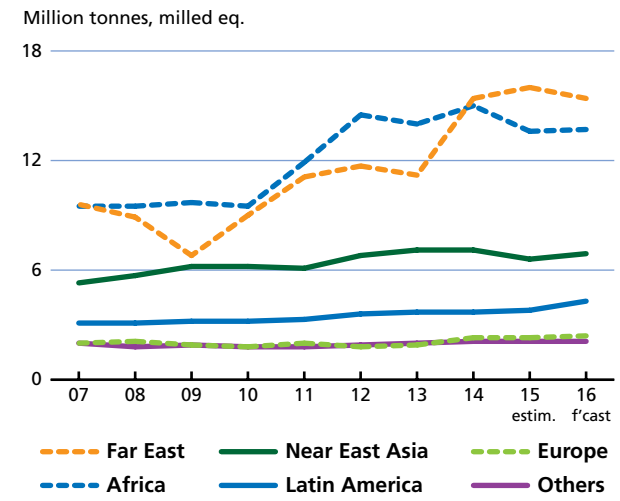
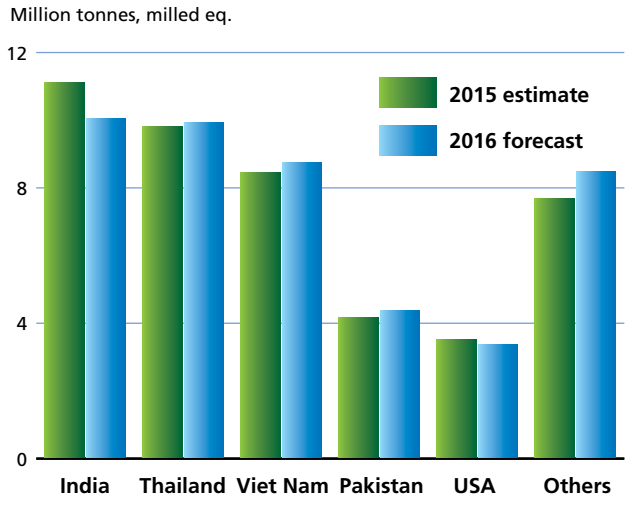



**Figure 7. Rice exports by the major exporters**




concern **Cambodia**, **Laos** and **Myanmar** in Asia, but also **Argentina**, **Paraguay** and **Uruguay** in *Latin America and the Caribbean*, which hold large supplies from previous seasons. On the other hand, reduced availabilities, due to poor 2016 crops, are likely to curb deliveries by **Australia** and **Brazil** this year.

Although very tentatively and largely drawing on current supply and demand prospects, FAO currently forecasts rice trade in calendar 2017 in the order of 44.1 million tonnes, which is about 600 000 tonnes, or 1.4 percent, lower than the expected 2016 level. The forecasted decline would mainly reflect reduced import demands by countries in *Asia*, especially **China**, **Indonesia** and the **Philippines**, as well as in *Latin America and the Caribbean*, with most of the reductions based on expectations of more normal progress of the paddy seasons in these regions. By contrast, imports *by African countries* may rebound, as many of them will need to reconstitute their rice reserves and meet the consumption requirements of their growing populations. Among exporters, **India** is anticipated to be responsible for much of the decline in trade next year, with its deliveries falling to a 6-year low of 8.5 million tonnes. Shipments from the other major sources are expected to change little compared to 2016.

## UTILIZATION

### Rice utilization to grow by 1.3 percent in 2016/17, on rising demand for food

**World rice utilization** in 2016/17 is forecast at around 502.6 million tonnes (milled basis), 1.3 percent more than in the previous year, mainly as a result of a growing demand for direct human consumption. Overall, food uses are expected to reach about 405 million tonnes, 1.3 percent more than in the previous year, resulting in an average per capita food intake of 54.6 kg, slightly higher than the previous year's estimate. While per capita food consumption in 2016/17 is expected to remain stable around the 2015/16 level in Asian countries, it is seen recovering in Africa and in *Latin America and the Caribbean*. On the other hand, the volume of rice used for animal feeding is likely to remain small, at around 18 million tonnes, and almost exclusively concentrated in Asian countries. As for the other end uses of rice (which also include the losses incurred from after the harvest up to household doors), these may amount to over 79.8 million tonnes worldwide, 1 million tonnes more than the estimate for 2015/16.

## GLOBAL RICE INVENTORIES

### Major exporters' inventories to reach their lowest level since 2008

As global rice consumption in 2016/17 is anticipated to exceed world production from the 2016 rice season, reserves will need to be curtailed by about 5 million tonnes by the close of seasons ending in 2017 to fill the gap. As a result, world rice inventories are expected to fall by 3 percent to 163.8 million tonnes in 2017, which, if confirmed, would be the second consecutive season of global stock declines. Although very much the result of the subdued prospects for production growth in 2016, the anticipated fall of reserves would be in line with continued efforts in several countries to curb the size of the public rice inventories. This particularly concerns **India**, where the government intends to bring public inventories close to buffer norms of 10.25 million tonnes by 1 October each year. Likewise, in **Thailand**, the public authorities remain determined to clear the over 11 million tonnes of publicly-owned rice by 2017, especially as the country's recent production shortfalls should facilitate their liquidation. As a result, rice inventories are expected to be sharply drawn down in these two countries, which are also the two leading exporters of the commodity. The decline would also concern **Viet Nam** and **Pakistan**, the third and fourth world suppliers, while the **United States**, the fifth largest origin, could see stocks rebounding in 2017, given prospects of a strong production recovery in 2016. Among the key importers, rice inventories in **China** are forecast to rise by about 3 million tonnes to some 101 million tonnes, as high domestic prices compared to those prevailing in neighbouring countries continue to encourage imports, both officially and through unrecorded border inflows. To prevent domestic prices from falling as a result, the public authorities have to keep local procurement purchases high and stocks bulging. Among other importers, **Bangladesh** and **Indonesia** are anticipated to incur stock drawdowns. Inventories held by *African countries* are overall assessed to contract by almost 7 percent to 4.4 million tonnes in 2017, after having already been cut by an estimated 16 percent in 2016, driven in both years by growing consumption needs and a slowing pace of imports. However, much of the decline in the region would be on account of **Nigeria**. Based on current expectations, the world stock-to-use ratio, a key indicator of global food security, is predicted to fall from 33.6 percent in 2015/16 to 32.0 percent in 2015/16, still a comfortable level covering about 3–4 months of global consumption needs. The same cannot be said for the five major exporters' stock-to-disappearance ratio, a better indicator of the tightness of the international market, which could fall from 18.2 percent in 2015/16 to 14.7 percent in 2016/17, its lowest level since 2006/07.

**Figure 8. Global rice stocks and stock-to-use ratio**

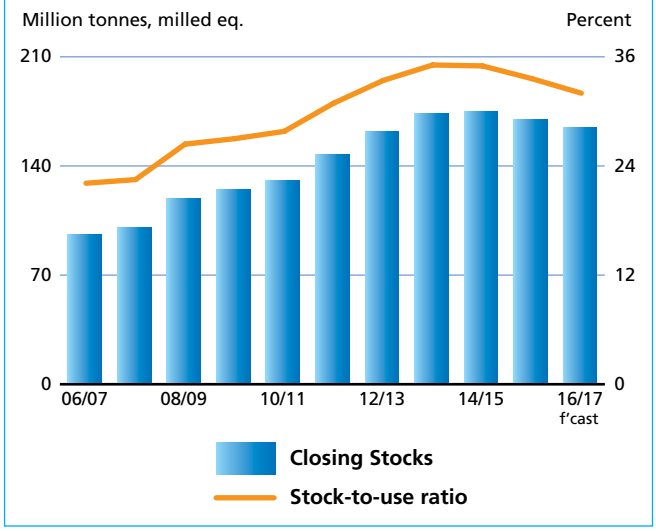
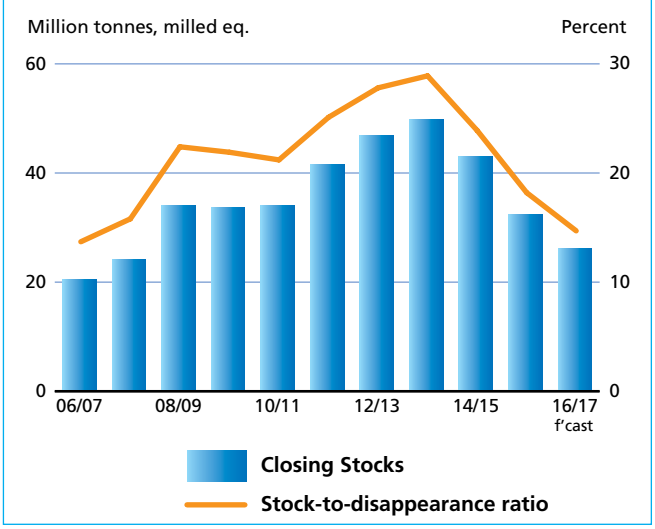



**Figure 9. Stocks held by the five major rice exporters and stock-to-disappearance ratio**



## Table 3. Monthly retail prices of rice in selected markets

| ASIA | Historical monthly price trend | Latest available: Month | USD/Kg | Latest quotation available compared to: /1 3 months earlier | 1 year earlier | 2 years earlier |
|---|---|---|---|---|---|---|
| Bangladesh: Dhaka (coarse) | | Apr-16 | 0.34 | -10% | -21% | -24% |
| Cambodia: Phnom Penh (mix)* | | Apr-16 | 0.42 | 6% | 6% | 6% |
| China: 50 City Avg. (japonica second quality) | | Apr-16 | 0.96 | 0% | 2% | 5% |
| India: Delhi | | Apr-16 | 0.42 | -1% | -9% | 1% |
| Indonesia: Ntl. Avg. (medium quality) | | Apr-16 | 0.81 | -1% | 7% | 21% |
| Japan: Ku-area of Tokyo (non-glutinous) | | Feb-16 | 4.08 | 0% | 0% | 0% |
| Republic of Korea: Ntl. Avg. | | May-16 | 1.73 | -5% | -11% | -13% |
| Lao PDR: Vientiane (glutinous first quality) | | Jan-16 | 1.02 | -2% | 4% | 5% |
| Mongolia: Ulaanbaatar | | Mar-16 | 1.22 | 0% | 6% | 7% |
| Myanmar: Yangon (Emata, Manawthukha FQ)* | | Apr-16 | 0.42 | 8% | 30% | 35% |
| Occupied Palestinian Territory: West Bank (short grain) | | Apr-16 | 1.94 | -1% | -1% | 5% |
| Pakistan: Karachi (irri) | | Apr-16 | 0.41 | 0% | -16% | -25% |
| Philippines: Ntl. Avg. (well-milled) | | Mar-16 | 0.89 | 0% | -2% | 0% |
| Saudi Arabia: Ntl. Avg. (Basmati, White Indian) | | Feb-16 | 2.27 | -2% | -9% | 2% |
| Sri Lanka: Colombo (white) | | Apr-16 | 0.46 | -8% | -4% | -4% |
| Thailand: Bangkok (5% broken)* | | Apr-16 | 0.35 | 3% | 6% | 9% |
| Viet Nam: Dong Thap (25% broken)* | | Apr-16 | 0.34 | -2% | 6% | 2% |
| **WESTERN AFRICA** | | | | | | |
| Benin: Cotonou (imported) | | Mar-16 | 0.82 | -9% | -9% | -9% |
| Burkina Faso: Ouagadougou (imported)* | | Apr-16 | 0.60 | 0% | 0% | -10% |
| Cape Verde: Santiago (imported) | | Mar-16 | 0.89 | 0% | -1% | -2% |
| Chad: N'Djamena (imported) | | Mar-16 | 0.85 | 0% | 4% | 3% |
| Mali: Bamako* | | Apr-16 | 0.54 | -2% | -5% | -3% |
| Niger: Niamey (imported)* | | Apr-16 | 0.67 | 3% | 3% | 3% |
| Senegal: Dakar (imported) | | Feb-16 | 0.59 | 0% | -11% | -20% |
| Togo: Lomé (imported) | | Apr-16 | 0.74 | 8% | 8% | -21% |
| **EASTERN AFRICA** | | | | | | |
| Somalia: Mogadishu (imported) | | Mar-16 | 0.51 | 7% | 0% | -8% |
| Uganda: Kampala* | | Apr-16 | 0.93 | 2% | 4% | 13% |
| United Rep. of Tanzania: Dar es Salaam* | | Apr-16 | 0.91 | 1% | - | 33% |

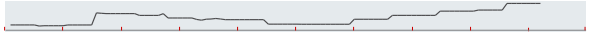
/1 *Quotations in the month specified in the third column were compared to their levels in the preceding three, twelve and twenty-four months. Price comparisons were made in nominal local currency units.*

** Wholesale prices.*

*Sources: FAO/GIEWS GIEWS Food Price Data and Analysis Tool; Korea Agricultural Marketing Information Service (KAMIS); Japan Ministry of Agriculture, Forestry and Fisheries; U.S. Bureau of Labor Statistics (BLS); Associazione Industrie Risiere Italiane (AIRI).*

*Please note that prices shown are comparable over time, but not across countries, as they may refer to different stages of the marketing chain (e.g. retail versus wholesale prices), different rice types (e.g. aromatic versus non-aromatic) or different qualities of rice (e.g fully broken versus 5% brokens).*

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

| | Historical monthly price trend | Latest available: Month | USD/Kg | Latest quotation available compared to: /1 3 months earlier | 1 year earlier | 2 years earlier |
|---|---|---|---|---|---|---|
| **SOUTHERN AFRICA** | 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 | | | -100 0 100 | -100 0 100 | -100 0 100 |
| Angola: Luanda |  | Mar-16 | 2.88 | 29% | 43% | 47% |
| Madagascar: Ntl. Avg. (local) |  | Apr-16 | 0.42 | -5% | - | 8% |
| Malawi: Lilongwe |  | Apr-16 | 1.14 | 25% | 67% | 53% |
| Mozambique: Maputo |  | Mar-16 | 0.67 | 40% | 33% | 40% |
| Namibia: Windhoe |  | Mar-16 | 1.17 | 24% | 12% | 17% |
| Swaziland: Ntl. Avg. |  | Mar-16 | 0.81 | 10% | 21% | 18% |
| Zimbabwe: Harare |  | Mar-16 | 1.23 | -1% | -11% | -12% |
| **CENTRAL AMERICA AND THE CARIBBEAN** | 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 | | | -100 0 100 | -100 0 100 | -100 0 100 |
| Costa Rica: Ntl. Avg. (first quality) |  | Mar-16 | 1.37 | -1% | -4% | 1% |
| Dominican Rep: Santo Domingo (first quality) |  | Apr-16 | 1.02 | 0% | 2% | 0% |
| El Salvador: San Salvador |  | Apr-16 | 0.97 | 0% | -10% | -10% |
| Haiti: Port-au-Prince (imported) |  | Apr-16 | 0.84 | 14% | 14% | 14% |
| Honduras: San Pedro Sula (second quality)* |  | Apr-16 | 0.76 | -1% | -2% | -4% |
| Mexico: Mexico City (sinaloa)* |  | Apr-16 | 0.75 | 3% | 1% | 19% |
| Nicaragua: Managua (oriental) (first quality) |  | Apr-16 | 0.97 | 1% | 2% | 3% |
| Panama: Panama City (first quality)* |  | Apr-16 | 0.87 | 0% | 3% | -20% |
| **SOUTH AMERICA** | 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 | | | -100 0 100 | -100 0 100 | -100 0 100 |
| Bolivia: La Paz (grano de oro)* |  | May-16 | 0.92 | 2% | -7% | -17% |
| Brazil: São Paulo |  | Mar-16 | 0.89 | 10% | 17% | 31% |
| Colombia: Ntl. Avg (first quality) |  | Apr-16 | 1.18 | 9% | 3% | 45% |
| Ecuador: Quito (long grain)* |  | Apr-16 | 1.22 | 2% | 7% | 16% |
| Paraguay: Asunción* |  | Mar-16 | 0.67 | 7% | 9% | -2% |
| Peru: Lima (corriente) * |  | Apr-16 | 0.61 | -3% | -3% | -3% |
| Uruguay: Ntl. Avg. (grade 1)* |  | Apr-16 | 0.97 | 0% | 20% | 44% |
| **NORTH AMERICA** | 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 | | | -100 0 100 | -100 0 100 | -100 0 100 |
| United States: City Avg. (long grain, uncooked) |  | Mar-16 | 1.57 | 0% | 6% | -3% |
| **EUROPE** | 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 | | | -100 0 100 | -100 0 100 | -100 0 100 |
| Italy: Milan (arborio volano)* |  | May-16 | 1.82 | -3% | -4% | 14% |

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

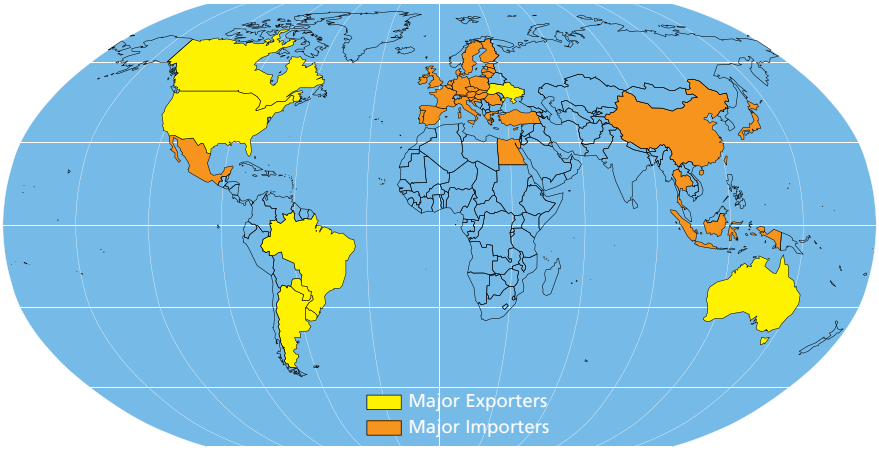
** Wholesale prices.*

*Sources: FAO/GIEWS GIEWS Food Price Data and Analysis Tool; Korea Agricultural Marketing Information Service (KAMIS); Japan Ministry of Agriculture, Forestry and Fisheries; U.S. Bureau of Labor Statistics (BLS); Associazione Industrie Risiere Italiane (AIRI).*

*Please note that prices shown are comparable over time, but not across countries, as they may refer to different stages of the marketing chain (e.g. retail versus wholesale prices), different rice types (e.g. aromatic versus non-aromatic) or different qualities of rice (e.g fully broken versus 5% brokens).*

# OILCROPS, OILS AND MEALS [2]

**Major Oilseed Exporters and Importers**




## PRICES[3]

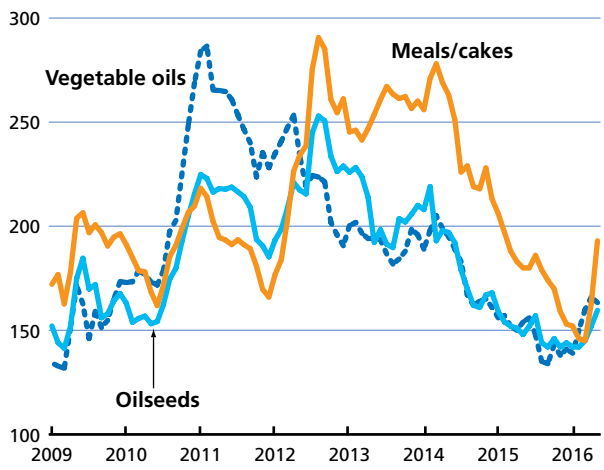
### Prices for oilseeds and derived products to rebound during 2015/16

After two years of relatively ample supplies, FAO's forecasts for the oilcrop complex in the 2015/16 season suggest a likely tightening in the global supply-and-demand balances. Contrasting with expectations of a firming world demand, global output of oils and meals is anticipated to contract this season, triggering a drawdown in global inventories and a fall in stock-to-use ratios. Against this background, international prices for oilseeds and oilseed products are expected to stabilize and possibly strengthen during the current season, reversing the downward trend prevailing since early 2014.

The prolonged decline in international oilseed and vegetable oil prices came to halt toward the end of 2015, with quotations starting to firm around March 2016. This is reflected in the FAO's price indices for oilseeds and for oils, which, by mid-May 2016, had risen by 12 percent and 22 percent, respectively, from the multi-year lows recorded in September 2015. As for oilmeals/cakes, international quotations remained under downward pressure until March 2016 but shot up thereafter, thrusting the FAO's price index for meals to a 10-month high by mid-May 2016.

For oilseeds, the rise in prices mainly reflects developments in the soybean market, notably the progressive deterioration of crop prospects in South America, along

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




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

[3] For details on prices and corresponding indices, see Statistical Appendix Table 23.

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

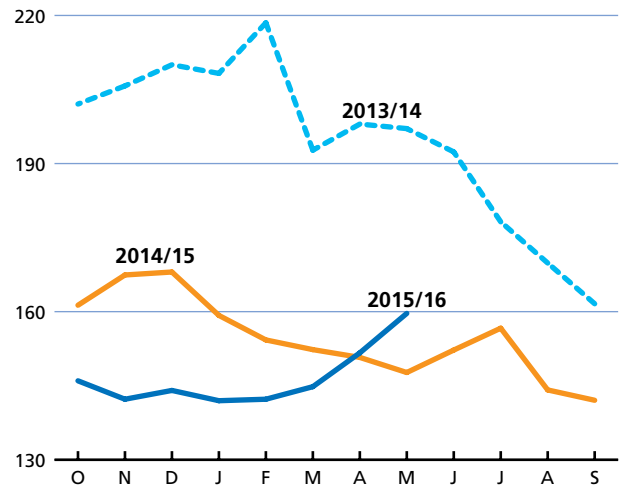



**Figure 3. FAO monthly price index for vegetable oils (2002-2004=100)**

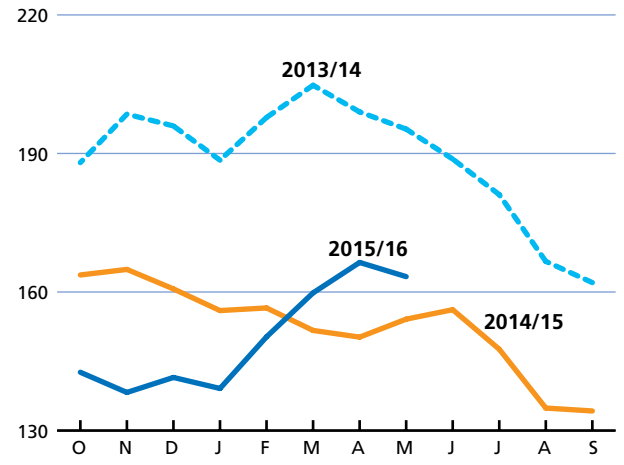



**Figure 4. FAO monthly price index for oilmeals/cakes (2002-2004=100)**

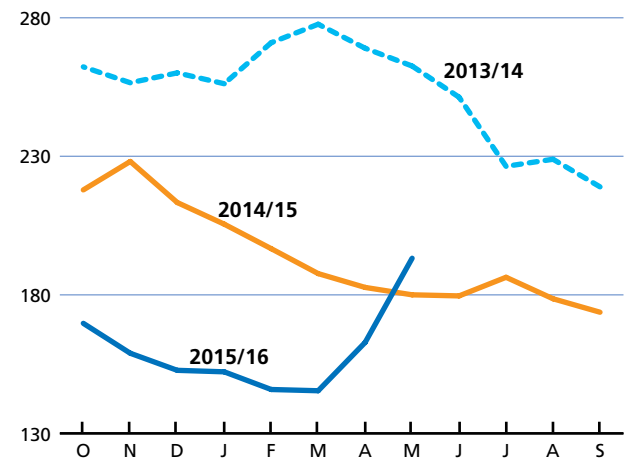
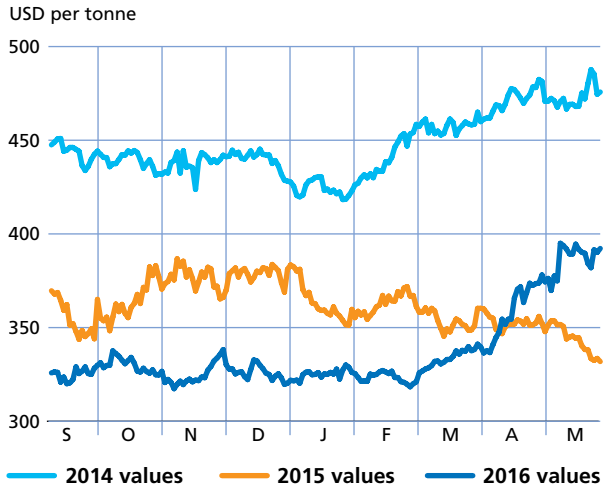



**Figure 5. CBOT soybean futures for September**




with stronger than expected import demand, especially from China. On the other hand, palm oil, the world's most widely consumed vegetable oil, has been the main driver behind the course of international oils/fats prices. The recent surge in palm oil quotations mirrored a slowdown of production in Southeast Asia, which coincided with robust international demand – amid limited possibilities of substitution with other vegetable oils. In the oilmeals segment, initial expectations of ample global soymeal availabilities (as well as ample feed grain supplies) weighed on prices until recently, before news of severe crop damage in South America, in April, propelled oilmeal prices sharply upwards.

Less favourable 2015/16 supply prospects, along with first indications that global oilcrop production in 2016/17 may just recover from the current season's reduced level, suggest that prices in the oilcrop complex could strengthen over the coming months. The recent gains in the Chicago Board of Trade (CBOT) futures prices for soybeans point into the same direction; since mid-April 2016, contracts traded above their corresponding values in 2015.

## OILSEEDS

### 2015/16 production to trail behind last season's record

After three years of record-breaking harvests, the expansion in world oilseed production is expected to come to a halt in 2015/16. Total output is tentatively forecast at 533 million tonnes, almost 3 percent less than last season's all-time high. The year-on-year drop would mainly be on account of lower cottonseed, soybean and rapeseed production, with more modest falls anticipated for palmkernel and copra. Only world groundnut production is expected to increase.

Global soybean production in 2015/16 is currently forecast at 314 million tonnes, down 1.8 percent from last season's historic high, but still the second largest harvest ever. After three years of marked rises, in 2015/16, the total area harvested is assessed virtually unchanged, while average yields are estimated to drop by 2 percent. Northern Hemisphere production has fallen slightly. In the **United States**, where a small decrease in harvested area was offset by yield improvements, output is pegged at 107 million tonnes, almost identical to the 2014/15 all-time record. However, pronounced drops in output have been reported in **China** and, especially, **India**. While, in China, production shrank on further cuts in plantings, India's output again declined on poor weather conditions. By contrast, record crops were harvested in **Canada**, the **EU**, the **Russian Federation** and **Ukraine**, mostly reflecting higher plantings, except for Canada, which achieved best-ever yields. In South America, where harvests are still on-going, preliminary estimates point to a drop of almost 3 percent in overall output. Following record-high plantings in several key growing regions, crops have been affected by El Niño-related extreme weather conditions. Major crop damage has been reported in **Brazil**, **Argentina, Uruguay** and **Paraguay**. Consequently, Brazil's production forecast has been lowered to 97 million tonnes, only marginally above the 2014/15 performance (despite a sizeable expansion in area planted), while Argentina's estimate has been trimmed from close to 61 million tonnes to 56 million tonnes, or 9 percent below last year.

World rapeseed production in 2015/16 is pegged at 68 million tonnes, a 4–5 percent drop relative to the preceding two years' bumper harvests. Moderate increases in **Canada** and **India,** thanks to yield improvements, were not sufficient to offset declines elsewhere. The sharpest year-on-year fall occurred in the **EU,** which faced a decline of both area harvested and yields. Production also slid in **Australia**, due to difficult weather, and in **China**, following further cuts in plantings. Global cottonseed output is forecast to tumble to a 17-year low, with production faltering in all major producing countries on adverse growing conditions and lower sowings in some countries. The contraction in global palmkernel and copra output mainly concerns producers in Southeast Asia. World sunflowerseed production should remain about unchanged, as declines in the **EU** and **Argentina** have been made up by further gains in the **United States** and **CIS** countries. Global groundnut production could rise to near-record levels, with production expansions in **China** and the **United States** more than offsetting drops in **India** and **Argentina**.

**Table 1. World production of major oilcrops**

| | 2013/14 | 2014/15 *estim.* | 2015/16 *f'cast* | Change 2015/16 over 2014/15 |
|---|---|---|---|---|
| | | *million tonnes* | | % |
| Soybeans | 283.3 | 319.7 | 313.9 | -1.8 |
| Rapeseed | 71.9 | 71.3 | 68.0 | -4.6 |
| Cottonseed | 44.9 | 45.4 | 39.8 | -12.4 |
| Groundnuts (unshelled) | 38.6 | 37.7 | 38.1 | 1.0 |
| Sunflower seed | 42.3 | 40.9 | 40.8 | -0.2 |
| Palm kernels | 14.7 | 15.4 | 15.0 | -2.0 |
| Copra | 5.6 | 5.6 | 5.4 | -3.7 |
| **Total** | **501.6** | **535.9** | **523.0** | **-2.4** |

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

## OILS AND FATS[4]

### After three seasons of growth, global oils/fats supplies expected to fall in 2015/16

Global production of oils/fats recorded average annual increases of 4–5 percent during the last three seasons, but the latest crop forecasts for 2015/16 would translate into a 1.6 percent slide. All major vegetable oils (except sunflowerseed oil) should experience a fall in output. Rapeseed and palm oil are anticipated to contract the most, followed by cottonseed and soybean oil. Global production of palm oil, the world's leading vegetable oil, could fall by about 2 percent – its first drop in 18 years – on adverse weather. Prolonged El Niño-related dryness in key production regions in Southeast Asia compromised the yield potential of palms. In **Malaysia**, production is expected to decline by 4 percent (or 0.8 million tonnes) in 2016, on poor yields. In **Indonesia**, the year-on-year decline in output should be limited to 1–2 percent (0.5 million tonnes), as the expansion in mature oil palm area partly compensates for the yield losses.

Global oils/fats supplies, which comprise 2015/16 production and 2014/15 ending stocks, are expected to contract by about 1.3 million tonnes. The unprecedented drop comes after average annual gains of almost 5 percent in the last five years.

The slide in domestic availabilities should concern several important producers, especially the **EU**, **Indonesia** and **China** and, to a lesser extent, **Australia**, **Brazil**,

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

**Table 2. World oilcrops and product market at a glance**[1]

| | 2013/14 | 2014/15 *estim.* | 2015/16 *f'cast* | Change: 2015/16 over 2014/15 |
|---|---|---|---|---|
| | | *million tonnes* | | % |
| **TOTAL OILCROPS** | | | | |
| Production | 513.3 | 548 | 532.7 | -2.8 |
| **OILS AND FATS** [2] | | | | |
| Production | 203.3 | 210.9 | 207.4 | -1.6 |
| Supply [3] | 236.0 | 247.3 | 245.9 | -0.5 |
| Utilization [4] | 199.3 | 205.9 | 211.5 | 2.7 |
| Trade [5] | 108.1 | 114.0 | 117.0 | 2.6 |
| *Global stock-to-use ratio (%)* | *18.2* | *18.7* | *16.4* | |
| *Major exporters stock-to-disappearance ratio (%)* [6] | *10.4* | *11.1* | *9.6* | |
| **MEALS AND CAKES** [7] | | | | |
| Production | 128.8 | 140.9 | 137.7 | -2.2 |
| Supply [3] | 146.9 | 162.1 | 163.7 | 1.0 |
| Utilization [4] | 125.9 | 133.4 | 139.2 | 4.3 |
| Trade [5] | 81.4 | 86.4 | 89.5 | 3.5 |
| *Global stock-to-use ratio (%)* | *16.8* | *19.5* | *17.4* | |
| *Major exporters stock-to-disappearance ratio (%)* [8] | *9.0* | *11.3* | *10.6* | |

| **FAO PRICE INDICES (Oct/Sept) (2002-2004=100)** | 2013/14 | 2014/15 | 2015/16 *Oct-May* | Change: Oct-May 2015/16 over Oct-May 2014/15 % |
|---|---|---|---|---|
| Oilseeds | 194 | 155 | 147 | -7.0 |
| Oilmeals/cakes | 253 | 194 | 160 | -20.5 |
| Vegetable oils | 189 | 153 | 150 | -4.5 |

1 Refer to footnote 2 on page 34 for overall definitions and methodology.
2 Includes oils and fats of vegetable, animal and marine origin.
3 Production plus opening stocks.
4 Residual of the balance.
5 Trade data refer to exports based on a common October/September marketing season.
6 Major exporters include Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States.
7 All meal figures are expressed in protein equivalent; meals include all meals and cakes derived from oilcrops as well as meals of marine and animal origin.
8 Major exporters include Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, Ukraine and the United States.

**India** and **Malaysia**. On the other hand, marked supply gains are likely in the **United States**, along with smaller improvements in **Ukraine**, the **Russian Federation** and **Canada**. In the case of the United States, large carry-in stocks will strongly contribute to higher supplies.

## Oils/fats consumption to expand at a reduced pace

Global consumption of oils/fats is forecast to reach around 211 million tonnes in 2015/16, up by less than 3 percent year-on-year and below the average growth of recent years. Soy, palm and rapeseed oil are bound to drive overall consumption growth. The rise in consumption would be facilitated either by the availability of large opening stocks (soy oil) or/and a marked drawdown in inventories during the current season (palm and rapeseed oil). For most other oils/fats, global utilization should remain about unchanged, except for cottonseed oil, the consumption of which is forecast to plummet.

Although population and economic growth remain the key drivers behind the rising uptake for food and traditional industrial uses, slowing economic growth in some countries is contributing to a relatively weak expansion in oils/fats consumption in 2015/16. Furthermore, contrary to previous seasons, growing demand from the biofuel sector is expected to play a lesser role. For 2015, industry estimates indicate, for the first time, a contraction in global biodiesel production and hence in the uptake of oils/fats by fuel producers. While demand from the biodiesel industry is forecast to recover in 2016, it will likely remain below the 2014 peak. The revival in demand is supported by the introduction of higher blending mandates in some countries, notably the **United States**, **Indonesia** and **Malaysia**. However, uncertainties remain regarding the extent to which national consumption targets for biodiesel will be met. Meanwhile, in the **EU**, by far the world's largest producer and consumer of biodiesel, 2016 production could stagnate around the level of the last two years. Furthermore, discretionary blending of diesel with biodiesel (i.e. voluntary blending by petrol companies on purely economic grounds) has been discouraged worldwide by persistently weak international prices for crude mineral oil. Lasting high price premiums of vegetable oils relative to mineral oil would continue to erode the profitability of discretionary blending.

Developing nations in Asia continue to drive growth in total oils/fats utilization. In **China**, slower economic growth could somewhat temper demand expansion, while consumption is forecast to grow unabated in **India**. In **Indonesia**, new demand is likely to stem primarily from the biofuel sector – given the Government's ambitious blending targets and provided public support payments to the industry remain in place. Elsewhere, some further consumption growth is expected in the **United States**, **Brazil** and **CIS** countries, whereas utilization could stagnate in the **EU**, **Argentina** and several developing countries.

## Global inventories of oils/fats likely to contract strongly

After two seasons of ample supplies, in 2015/16, global oils/fats production is forecast to fall short of demand by about 4 million tonnes, which would require a drawdown

**Figure 6. Global production and utilization of oils/fats**

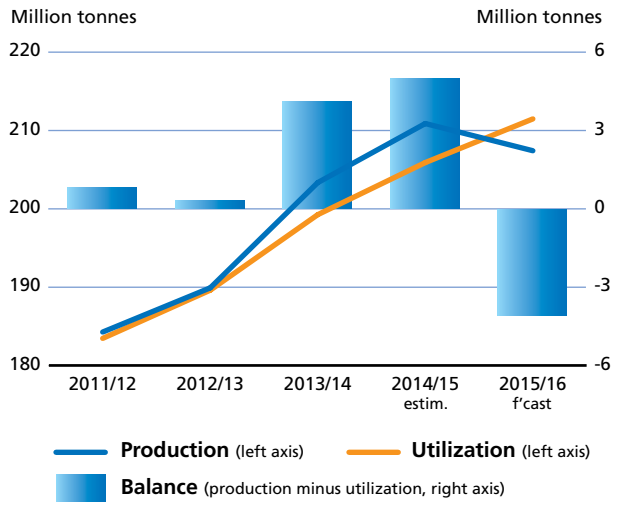
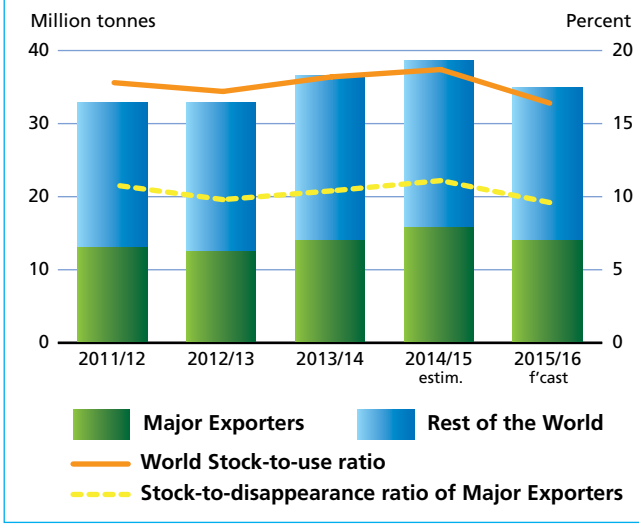



**Figure 7. World stocks and ratios of oils/fats (including the oil contained in seeds stored)**




in global inventories. Pegged at 34.7 million tonnes (including the oil contained in stored oilseeds), 2015/16 ending stocks could fall 10 percent below last season's historic peak. Closing stocks of all major oils, except soybean oil, should slide to multi-year lows, with the strongest drawdowns anticipated for palm and rapeseed oil. Soyoil reserves are pegged to remain close to last year's record.

Sizeable stock depletions are anticipated in **Argentina**, **Indonesia**, **Malaysia**, the **EU**, **Canada** and **China**. By contrast, another strong build-up is expected in the **United States**.

Based on current forecasts, both the 2015/16 global stock-to-use ratio and the stock-to-disappearance ratio for the major exporting countries[5] are expected to come down from last season's historic peak, suggesting that prices for oils/fats would be subject to upward pressure during the current year.

## Growth in oils/fats trade to slow down markedly

World trade in oils/fats – including the oil contained in traded oilseeds – is projected to expand by about 3 percent to 117 million tonnes in 2015/16 (October/September), which compares to a 5–6 percent increase in the last two seasons.

Reflecting current production forecasts, 2015/16 could see a faltering in global transactions of palm oil, the world's most widely traded oil. The gap left by palm oil is anticipated to be filled by record shipments of soybean oil and rising sunflower oil sales. Trade in rapeseed oil is forecast to remain about unchanged, given limited availabilities in some exporting countries.

On the import side, **India**'s tumbling domestic supplies, coupled with strong demand, are expected to boost the country's imports (primarily palm oil) to a record 15.8 million tonnes. Lower availabilities should also trigger an increase in the **EU**'s net purchases. **China**'s imports are seen growing by only 2 percent, in part because the country will be able to rely on large inventories to satisfy domestic demand. Global export growth would rest strongly on higher shipments by **Argentina**, although sizeable increases are also expected in **Brazil**, **Canada** and **Ukraine**. In Argentina and Brazil, stock releases would

[5] Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States.

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

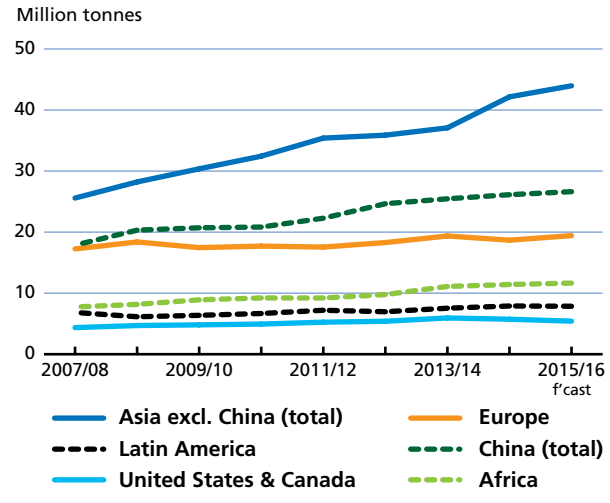
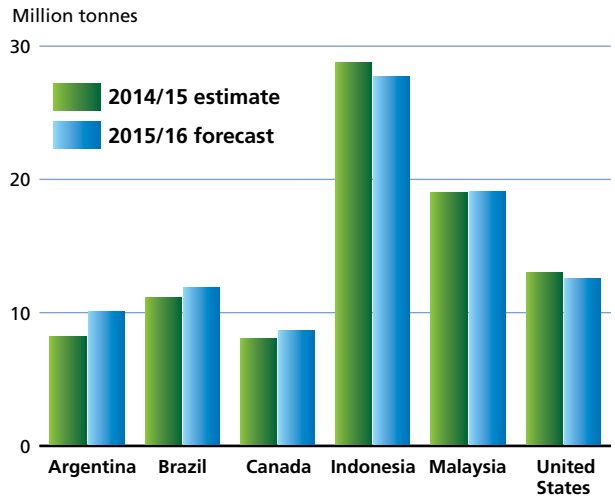


**Figure 9. Oil/fat exports by major exporters (including the oil contained in seed exports)**




strongly contribute to the anticipated expansion in sales. On the other hand, a number of countries may cut their exports. Most importantly, **Indonesia**, the world's leading supplier of palm oil, is forecast to ship 1.1 million tonnes less, due to both lower domestic production and increased uptake by local biodiesel producers. However, **Malaysia,** the second most important origin, may be in a position to keep deliveries close to last year's level. **Australia**, the **Philippines** and the **United States** may face moderate contractions in exports**.**

## MEALS AND CAKES[6]

### Global meal/cake supplies to increase – thanks to large opening stocks

If current crop forecasts are confirmed, the recent expansion in world oilmeal/cake production should come to a halt in 2015/16. At 138 million tonnes (expressed in protein equivalent), output would trail 2 percent behind the 2014/15 record, reflecting reductions in all major oilmeals, especially soybean, cottonseed and rapeseed meal.

By contrast, global supplies of meals/cakes are forecast to inch up, thanks to record opening stocks. Sizeable gains in domestic availabilities are expected in the **United States**, **Argentina** and **Brazil**, along with smaller increases in **Canada**, **China** and **CIS** countries. In the absence of production growth, supply gains in the United States and Argentina would rest exclusively on bumper carry-in stocks. In the United States, supplies are anticipated to hit a record.

[6] This section refers to meals from all origins. In addition to products derived from the oil crops discussed under the section on oilseeds, this also includes fish meal and meals of animal origin.

The aforementioned increases are expected to offset supply declines elsewhere, with poor harvests curbing availabilities in the **EU** and **India**, but also in **Australia**, **Indonesia**, **Pakistan** and **Uruguay**.

### World consumption to expand further in 2015/16

Global meal/cake consumption is expected to climb to a record 139 million tonnes (expressed in protein equivalent) in 2015/16. Growing uptake by the livestock sector – arising from steady economic growth in several countries and from the prolonged weakness in international meal prices – should underpin meal consumption. However, compared with the last two seasons, buyer interest may slacken as ample feed grain availability could dampen oilmeal demand in a number of countries. Overall, consumption growth would be entirely due to soybean meal, with consumption of the main other meals likely to shrink.

Among developing countries, Asia continues to occupy a key position in overall consumption growth. In **China**, the world's largest meal consumer, demand by the livestock sector (both the poultry and pig industry) is expected to grow at a slower pace than last season. In most other Asian countries, consumption could keep expanding at about average rates. Elsewhere, current estimates point to further expanding meal demand in the **United States** and **Brazil**, while, in the **EU**, bumper feed grain supplies should attenuate oilmeal consumption.

### Global inventories to drop from last season's all-time high

In 2015/16, global meal output is estimated to fall short of consumption by nearly 1 million tonnes or about

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

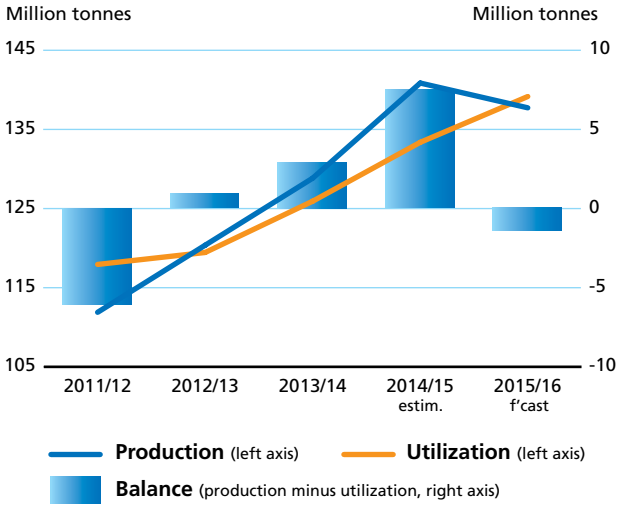
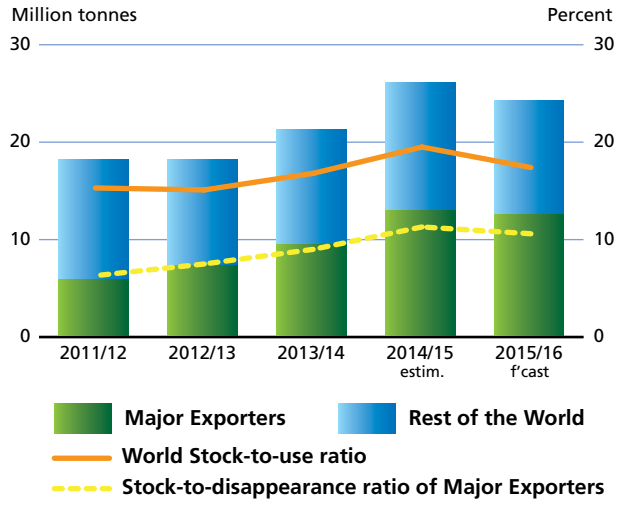


**Figure 11. World stocks and ratios of meals/cakes (in protein equivalent and including the meal contained in seeds stored)**




1 percent (expressed in protein equivalent and including the meal contained in stored seeds). This contrasts sharply with the situation prevailing last season, when production significantly outstripped demand, triggering an extraordinary rise in stocks. If confirmed, the portended production shortfall would lead to a contraction in global meal inventories. Regarding individual meals, the share of soymeal in total inventories is expected to climb further, possibly approaching 90 percent.

**Argentina**, **Australia**, **Brazil**, **Canada**, **China, India** and the **EU** are all expected to downsize their stocks to make up for poor domestic supplies and/or to support higher exports. The biggest drawdown concerns Argentina, where burdensome reserves will need to be scaled back to sustain the expansion in exports, and China, where the government, after discontinuing public soybean procurement, has intensified its efforts to dismantle state stockpiles. The above reductions should be partly offset by further replenishments in the **United States,** where, following another bumper soybean harvest and because of limited export opportunities, carry-out stocks may hit a 9-year high.

Based on the above forecasts, the oilmeal global stock-to-use ratio and the stock-to-disappearance ratio for the major exporters[7] would retreat from last year's peaks, thus providing scope for international oilmeal prices to increase.

[7] Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, Ukraine and the United States.

## Global meal trade to expand further

International trade in meals/cakes (including the meal contained in traded oilseeds) is estimated to post a 3–4 percent rise in 2015/16 (October/September). Commodity-wise, ample supplies and competitive prices are expected to boost soybean meal transactions to a record, offsetting falling international sales of rapeseed meal.

Regarding imports, Asian countries would continue to dominate demand. The region as a whole would account for roughly 60 percent of global purchases, with China alone responsible for 33 percent. **China**'s imports (mostly in the form of whole soybeans) are estimated to keep expanding, though at a slower pace than in the past, given the availability of large meal reserves as well as abundant feed grain supplies. Purchases by other developing nations in Asia would also continue to grow, led by the **Philippines**, **Indonesia**, **Malaysia** and **Vietnam**. In the **EU**, the world's second largest buyer after China, tighter domestic supplies should support a rebound of purchases, possibly lifting the bloc's imports to a multi-year high.

In 2015/16, export growth is expected to be concentrated in South America, with limited gains also taking place in **Canada**, **China**, the **Russian Federation** and **Ukraine**. Under the lead of **Argentina** and **Brazil**, soybean/soymeal sales by South America are set to swell by 10 percent or almost 11 million tonnes (in product weight). To a large extent, this increase would have to rest on the release of old-crop inventories, given Brazil's only modest production increase and Argentina's latest crop losses. In 2015/16, exports by both nations are being bolstered by major depreciations in their respective currencies, which

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

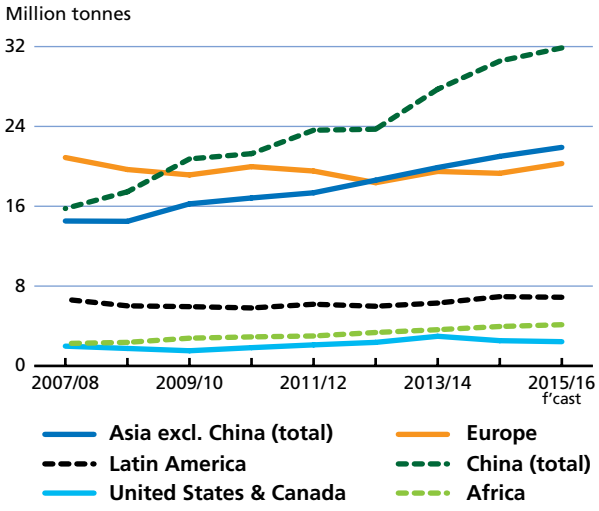
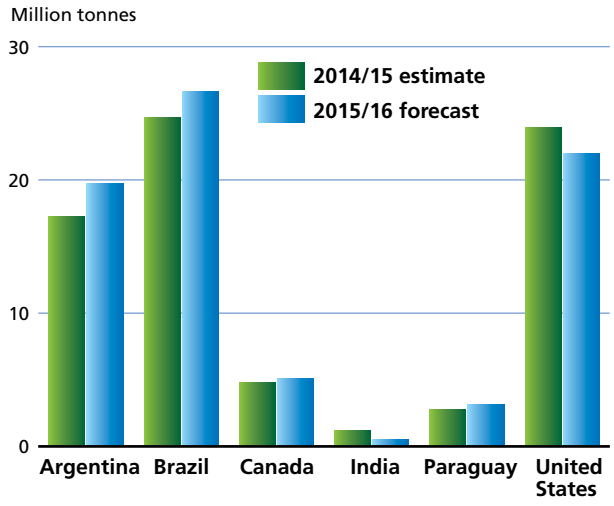


**Figure 13. Meal/cake exports by major exporters (in protein equivalent and including the meal contained in seed exports)**




improved the two countries' competitiveness relative to their main export competitor, the **United States**. In fact, shipments by the United States are estimated to drop by, at least, 4.3 million tonnes, or 8 percent, allowing other exporters to gain market share. In **India**, exports could tumble further, as domestic soymeal prices keep appreciating, making exports unprofitable.

## 2016/17 PRODUCTION OUTLOOK

With the 2015/16 season still on-going, it is far too early to draw forecasts with some degree of certainty for world supply and demand in 2016/17. Current available information is limited to planting intentions in some Northern Hemisphere countries, where preparations for the next campaign have started. Tentative forecasts for 2016/17 rest on expectations of a moderate increase in total area sown with oilcrops and of more normal weather conditions facilitating a return to average yields. Key factors driving planting decisions include price relationships between oilcrops and competing products, national policy changes and exchange rate movements.

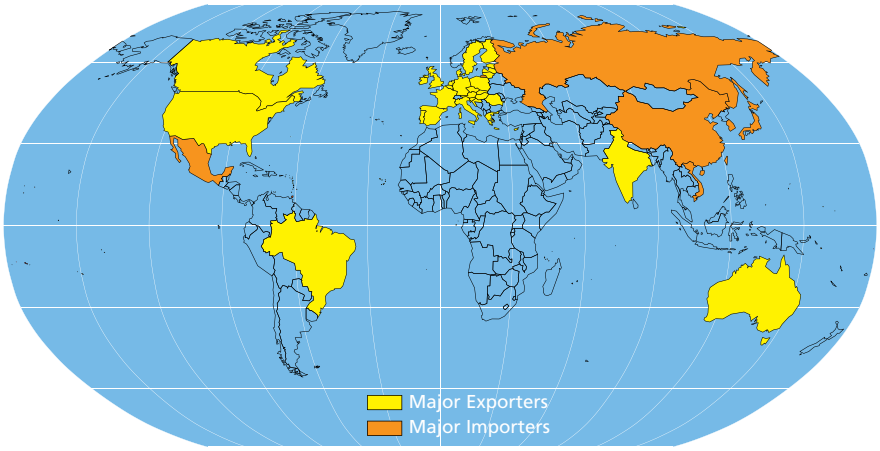
Regarding individual oilcrops production in 2016/17, a rebounding is forecast for soybean, sunflowerseed, cotton, palmkernel and copra – more than offsetting a further drop in rapeseed output. Soybean production could grow by 2 to 3 percent, as a result of a return to higher yields and some expansion in area harvested. Production gains in **Brazil** and **India,** and, to a lesser extent, in **China**, **Paraguay**, **Ukraine** and **Uruguay** could offset contractions elsewhere. In the **United States**, production could shrink, as yields return to more normal levels, and because record domestic stocks could discourage an expansion in area sown. However, the recent upswing in soybean prices may induce farmers to raise soy plantings beyond initial intentions. In **Argentina**, a strong rebound in production seems unlikely, as producers are expected to devote more area to competing crops that, due to recent policy changes, offer better return prospects. In **China**, the past decline in soybean plantings could come to a halt, as recent policy changes could reduce incentives to sow maize. World sunflowerseed production could expand by around 5 percent thanks to higher plantings in the main producing countries. Also cottonseed output could grow by 4 percent, underpinned by an improvement in average yields, with larger production in **India**, **Pakistan** and the **United States** more than offsetting a further drop in **China**. Global rapeseed output could slip by 2 or more percent, shrinking for the third consecutive season, given expectations of additional cutbacks in area and the possibility of below-average yields in some countries. Production drops in **Canada**, **China**, **Ukraine** and the **United States** may be only partly compensated by gains in the **EU**, **India** and **Australia**. World groundnut production is projected to remain about unchanged. Assuming more normal weather conditions, conspicuous rises are expected for coconut and oil palm products. Palm oil production growth in Southeast Asia is expected to resume as the impact of El Niño-related dryness wanes, with year-on-year gains in Indonesia and Malaysia potentially reaching 10–11 percent.

On such basis, global oilseed production in 2016/17 would just recover from the current season's reduced level. While the new season crop forecasts would translate into a record output of vegetable oils (thanks mainly to palm oil), oilmeal production may just recuperate from the 2015/16 drop. Assuming a continuation of current utilization trends, global production, in particular of meals but also of oils, could again fall short of world demand in 2016/17, likely requiring additional releases in inventories, especially of high meal-yielding soybeans.

The current outlook provides scope for international oilseed, oil and meal prices to strengthen during the coming months.

# MEAT AND MEAT PRODUCTS

**Major Meat Exporters and Importers**




The **FAO Meat Price Index** rose in April and May, reaching 152 points. However, prices were substantially below 2015, with May 2016 quotations for all categories of meat registering 8 to 16 percent declines year-on-year.

## Production stagnates; trade to recover

World meat production is anticipated to stagnate in 2016, rising by a mere 0.3 percent to 320.7 million tonnes. Increases in output are expected in the United States, Brazil, the EU, India and the Russian Federation, while lower production is foreseen for China, Australia and South Africa. Among the various sectors, poultry meat is forecast to grow most vigorously, followed by bovine meat and ovine meat, while pigmeat output could decline.

Global meat trade is forecast to recover in 2016, growing by 2.8 percent to 30.6 million tonnes, which would represent a return to trend, after a fall in 2015. Poultry meat trade is expected to grow the most, volume-wise, followed by pigmeat and bovine meat, while that of ovine meat is forecast to fall. Based on current expectations, poultry meat trade is seen increasing by 3.5 percent, pigmeat by 4.4 percent and bovine meat by 1.3 percent, while ovine meat may decrease by 3.2 percent.

Increased demand for meat is expected in most importing countries, including Saudi Arabia, China, Mexico, Japan, South Africa, the Republic of Korea, Malaysia, Cuba, Viet Nam and the EU, whereas recovery in bovine meat production in the United States may cause its overall meat purchases to fall. For exporting countries, trade expansion

**Figure 1. International prices remain low (2002-2004=100)**

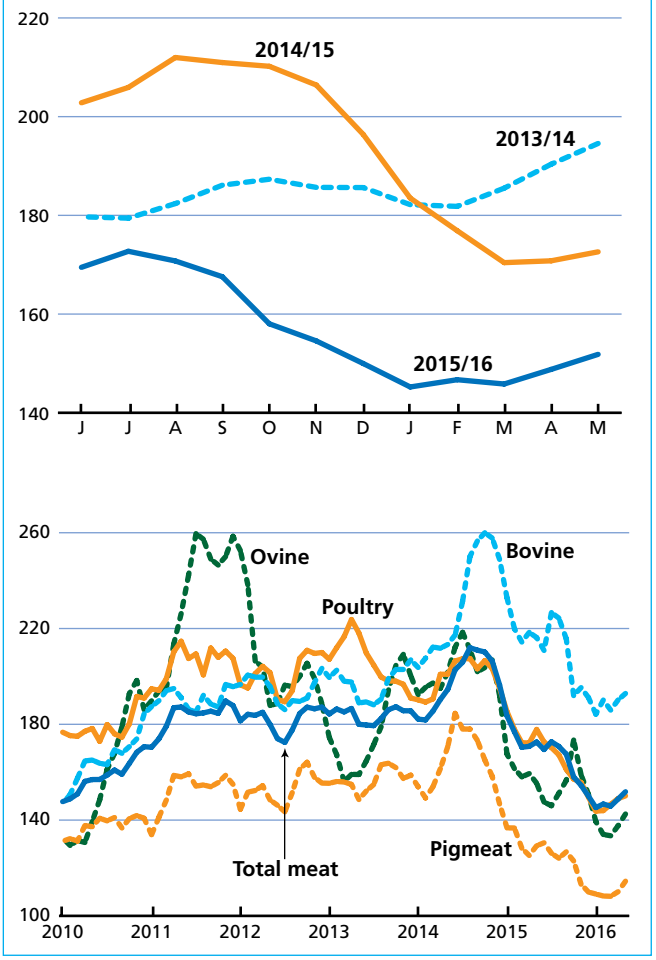


**Table 1. World meat market at a glance**

| | 2014 | 2015 estim. | 2016 f'cast | Change: 2016 over 2015 |
|---|---|---|---|---|
| | million tonnes | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **315.4** | **319.6** | **320.7** | **0.3** |
| Bovine meat | 68.0 | 67.9 | 68.4 | 0.8 |
| Poultry meat | 111.0 | 114.9 | 116.2 | 1.1 |
| Pigmeat | 116.9 | 117.2 | 116.4 | -0.7 |
| Ovine meat | 13.9 | 14.0 | 14.1 | 0.7 |
| **Trade** | **30.6** | **29.8** | **30.6** | **2.8** |
| Bovine meat | 9.6 | 9.1 | 9.3 | 1.3 |
| Poultry meat | 12.8 | 12.3 | 12.7 | 3.5 |
| Pigmeat | 7.0 | 7.2 | 7.5 | 4.4 |
| Ovine meat | 1.0 | 1.0 | 0.9 | -3.2 |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/year) | 43.4 | 43.3 | 43.4 | 0.1 |
| Trade - share of prod. (%) | 9.7 | 9.3 | 9.6 | 2.4 |

| FAO MEAT PRICE INDEX (2002-2004=100) | 2014 | 2015 | 2016 Jan-May | Change: Jan-May 2016 over Jan-May 2015 % |
|---|---|---|---|---|
| | 198 | 168 | 148 | -15.5 |

is projected to be led by Brazil and the United States, followed by Canada, the EU, Mexico, Thailand, Argentina and Belarus. Meanwhile, reduced production is anticipated to curtail sales by Australia, New Zealand, China, Turkey and South Africa.

## BOVINE MEAT

### Production: modest growth continues

Bovine meat production in 2016 is forecast to increase by 0.8 percent, to 68.4 million tonnes – prolonging the modest growth trend of the last several years.

In *South America*, weather patterns have been mixed, with countries on the Atlantic coast experiencing generally favourable rainfall, while those on the western seaboard have suffered from dry to drought conditions. In **Brazil**, favourable international demand and increased competitiveness due to currency devaluation have encouraged producers to expand herds – despite reduction in domestic demand. As a consequence, bovine meat production is anticipated to rise by 2.1 percent to 9.6 million tonnes. Also in neighbouring **Paraguay** and **Uruguay**, growth is forecast, supported by productivity increases and also spurred by international demand. In **Argentina**, a 2.2 percent drop in output, to 2.7 million tonnes, is predicted, as more calves and cows are retained to facilitate herd expansion. Importantly, the lifting of export restrictions imposed by the previous Government is anticipated to result in considerable change within the industry, including a longer retention of cattle for heavier slaughter weights, rather than the lighter animals favoured by domestic consumers. Meanwhile, in **Chile, Colombia** and **Ecuador,** chronic dry to drought conditions are impinging on production, which may fall.

In *Asia*, subdued international demand for buffalo meat is anticipated to slowdown growth in bovine meat production in **India**, which exports approximately 70 percent of its total output. Production is forecast to drop in the **Republic of Korea**, where improved prices have encouraged herd rebuilding and some small-scale producers have left the industry. Production in **Japan** also could fall, due to continued herd reduction, especially dairy cattle, while high prices for *Wagyu* beef have fostered some retention of stock. In **China**, stable prices are attracting investment in production and a limited increase in output could occur.

Several parts of *North Africa* received adequate rainfall during the first part of the year, which led to satisfactory pasture conditions and laid the basis for predicted moderate increase in bovine meat production, for example, **Morocco.** In **Egypt**, increased output is also forecast, supported by government programmes to control foot-and-mouth disease (FMD) and other policies aimed at bolstering red meat production. Meanwhile, in eastern and southern Africa, many areas experienced dry to drought conditions in 2015, which persisted into 2016 and affected pastures and feed availability. As a consequence, growth may be constrained in these two subregions.

In *North America*, bovine meat production in the **United States** is forecast to rise by almost 5 percent due to larger cattle supplies and augmented slaughter weights, assisted by favourable feed costs. Output, foreseen at 11.3 million tonnes, would be the highest in three years. The long-term herd decline in **Canada**, evident since 1992, appears to have come to an end and expansion in cattle numbers is forecast in 2016. Despite lower slaughter numbers, increased weights could maintain bovine meat production at 1.1 million tonnes. In **Mexico,** government incentives are both improving genetics and encouraging herd expansion. As in Canada, heavier slaughter weights are expected to counterbalance a decline in cattle slaughter.

In **Australia**, following three-years of dry weather, improved rainfall in some parts of the country at the beginning of 2016 has aided pasture conditions and encouraged stock retention. However, a further fall in the national herd is expected, which could reach a 21-year

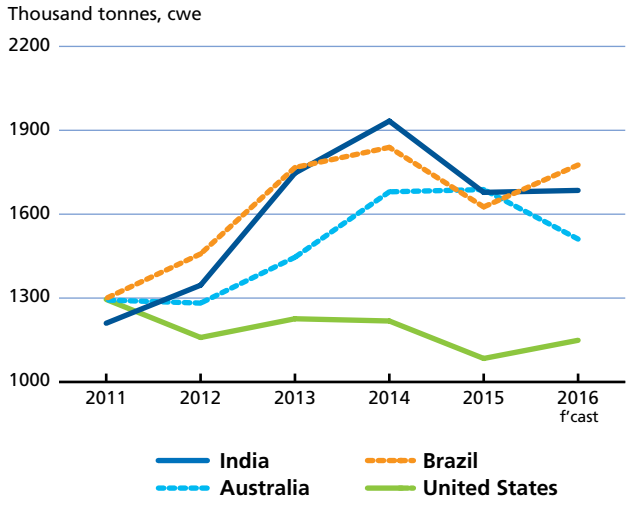
low of 25.6 million head, as a result of the high level of cow slaughter in the preceding years. Concomitant on herd rebuilding, bovine meat production in Australia could fall to 2.3 million tonnes, an 11.8 percent decline from 2015. Likewise, output in **New Zealand** is foreseen to fall, dropping by 4.3 percent to 660 000 tonnes, due to a significantly higher slaughter rate in 2015, caused by sharply lower milk payouts which led farmers to reduce their dairy herds and resulted in a smaller calf crop.

In the **Russian Federation**, 2016 bovine meat output may reach 1.6 million tonnes, somewhat down from 2015. Output is declining because of greater herd retention in the dairy industry, which supplies approximately 90 percent of the cattle used by the meat processing industry, and limited investment in pure beef production. In the **EU**, production could rise by 2 percent in 2016, owing to the culling of dairy cows in some countries, heavier average slaughter weights and retention of male dairy calves for fattening.

### Trade: recovery expected

Subsequent to a decline of 5 percent in 2015, world trade in bovine meat in 2016 is anticipated to rise 1.3 percent to 9.3 million tonnes,. The *Americas* are projected to lead this growth, notably Brazil, the United States, Mexico, Uruguay and Argentina. **Brazil** is forecast to regain its position as the world's principal bovine meat exporting country, superseding India, which held the spot in 2014 and 2015. Brazil's exports could increase by 9.2 percent to 1.8 million tonnes, assisted by herd expansion, reduced domestic consumption and currency devaluation. The increase in domestic availabilities is expected to boost sales by the **United States** by 6 percent to 1.1 million tonnes, representing its first growth in three years. Reduced bovine meat production in *Oceania* is anticipated to furnish additional trade opportunities to both Brazil and the United States, as well as to Mexico, Uruguay and Argentina. Exports by **Australia** and **New Zealand** are forecast to be down 10.5 percent and 5 percent, respectively, consequent on a fall in output. Meanwhile, uncertainty remains on the level of bovine meat exports by **India.** In 2015, reduced demand from key trading partners, such as Thailand, Egypt and Viet Nam, and increased competition from other exporters caused India's sales to fall by 13.2 percent, despite growing shipments to some countries, for example Iraq and Malaysia. For 2016, India's bovine meat exports are provisionally forecast to remain unchanged, at 1.7 million tonnes, on the assumption that it will be able to maintain its 2015 market share in the face of increased competition from suppliers in South America. Exports by the **EU** are also projected to be little changed, at 292 000 tonnes.

**Figure 2. Brazil takes the lead in bovine meat exports**




Expansion of import demand in *Asia*, in particular by China, Malaysia, the Islamic Republic of Iran and the Republic of Korea, combined with some recovery in imports by the Russian Federation, is expected to be the main driver of growth in bovine meat trade in 2016. This should be more than sufficient to counterbalance an anticipated sharp fall in purchases by the United States and more limited decreases by some other countries. Import demand for bovine meat by **China** in 2016 is forecast to jump to 1.4 million tonnes, a rise of 11.9 percent, following tepid growth of 1.5 percent in 2015. This expansion would particularly be met by South American exporters, including Argentina, Brazil and Uruguay, which have seen exports rocket in recent years following the signing of bi-lateral animal health and sanitary protocols. Brazil is also forecast to be the main beneficiary of rising imports by the **Islamic Republic of Iran**, while **Malaysia** and the **Republic of Korea**, respectively, are predicted to source their growing purchases mainly from India and the United States. Imports by the **Russian Federation** could recover modestly, following their dramatic decline in 2015, when they fell by almost 40 percent. Conversely, purchases by the **United States** are forecast to drop significantly, by 11.4 percent to 1.2 million tonnes, as domestic bovine meat production is set to surge. Elsewhere, imports by **Viet Nam**, **Japan** and **Egypt** may be moderately lower, while those of the **EU** and **Canada** are forecast to remain steady.

## PIGMEAT

### Production: set to decline

World production of pigmeat in 2016 is forecast to decrease marginally, by 0.7 percent to 116.4 million tonnes, thus registering a second year of virtual stagnation. As in

2015, lower output in **China**, which accounts for almost half the world total, is the main reason for the slowdown. An unfavourable feed-pork price ratio in the country and new environmental regulations have caused farmers to reduce breeding sows, stalling growth. China's production is projected to be 54 million tonnes, down 2.5 percent from the previous year. Elsewhere in *Asia*, the **Philippines** and **Viet Nam** could boost output. Also, production in **Japan** and the **Republic of Korea** may expand, as the industry recovers from outbreaks of porcine endemic diarrhoea (PED), which reduced piglet numbers in the previous two years. Recovery from the effects of PED has been faster in the **United States**, where a second year of growth is anticipated, when production could increase by 1.9 percent to a record 11.3 million tonnes. Output in **Mexico** also continues to recover, following a PED outbreak in 2014, and may rise in 2016 by 2.0 percent to 1.3 million tonnes. In both countries, lower feed prices have encouraged up-scaling. Elsewhere in the *Americas*, favourable feed costs are forecast to boost production in **Canada** and **Brazil**. In the **Russian Federation**, the pace of growth in pigmeat production could quicken, due to investment in, and the growing importance of, large-scale production units. Meanwhile, **EU** output is expected to fall marginally, by 0.3 percent to 23.3 million tonnes, as a result of a decline in breeding sow numbers.

**Figure 3. All major pigmeat exporters see sales rise**

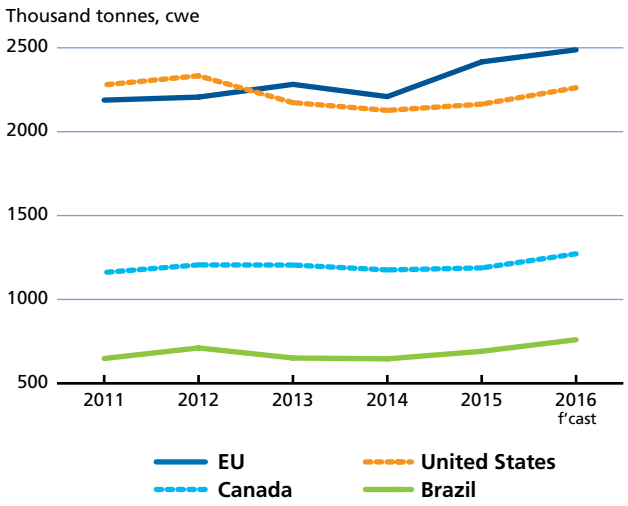
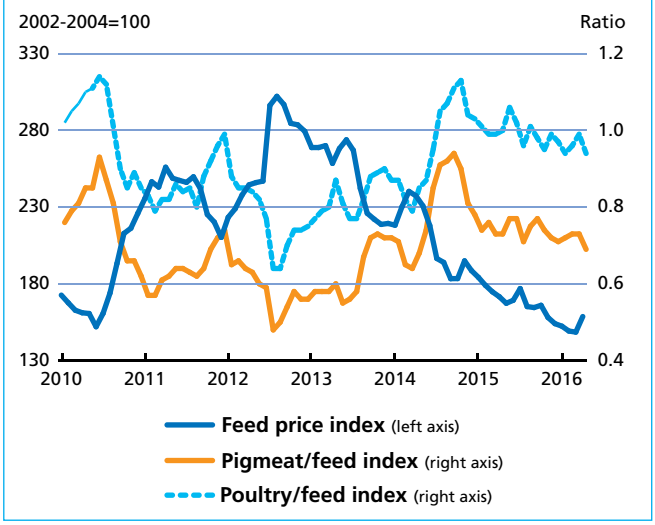



**Figure 4. Pigmeat and poultry meat prices fall in line with feed costs**




## Trade: second year of strong growth

Trade in pigmeat in 2016 is expected to experience a second year of growth, increasing by 4.4 percent to 7.5 million tonnes – a record level. Lower international prices have stimulated trade. In May 2016, average export prices were 11 percent below a year earlier and almost 33 percent below those of May 2014. Most of the principal importing countries are anticipated to augment their levels of purchases, including **Mexico**, **China**, the **Russian Federation**, the **United States**, **Japan,** the **Republic** of **Korea** and **Australia.** The upward surge in demand would be more than sufficient to counterbalance anticipated declining imports by **Canada**, **Viet Nam** and **Colombia**.

In response to rising demand, shipments by most of the main exporting countries are projected to grow in 2016. *The Americas are* forecast to lead the way, assisted by post-PED industry recovery in the **United States**, **Canada** and **Mexico**, and generally favourable feed prices in all countries, including **Brazil.** The **EU** is anticipated to see sales rise further, building on the vibrant growth experienced in 2015. EU exporters have adjusted to the 2014 Russian Federation embargo by seeking alternative markets, in particular in *Asia*, especially China. Conversely, Brazil, which was not subject to the ban, has experienced a substantial rise in exports to the Russian Federation, which, as a single destination, may constitute as much as half of Brazil's external sales of pigmeat in 2016.

# POULTRY MEAT

## Production: Limited growth

Modest growth is foreseen for poultry meat production in 2016, with output forecast to rise by 1.1 percent to 116.2 million tonnes. Substantial expansion is anticipated in the **United States** and **Brazil**, as well as greater production in the **EU**, **India**, the **Russian Federation**, **Argentina**, **Mexico** and **Canada** – along with most other countries. Rising demand and sustained low feed

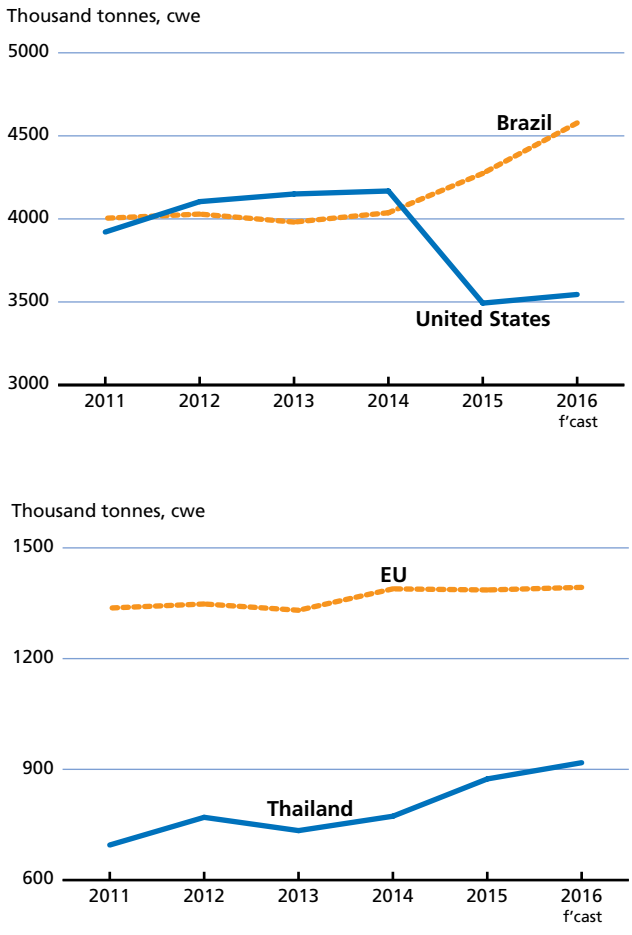
costs have provided the basis for increased output. At the same time, **China** may experience a production fall, provisionally estimated at 5 percent, due to lacklustre consumer demand. Trade prohibitions on countries with highly pathogenic avian influenza (HPAI) have also hindered the sector's growth in China by curtailing access to replacement broiler breeding stock. In the **United States**, the principal producer, outbreaks of HPAI dampened the sector's expansion in 2015. The reappearance of the disease in a single area of Indiana in January 2016 rekindled concern, with the affected part of the State not being declared disease free until the beginning of May.

### Poultry Meat: Trade set to grow

Trade in poultry meat in 2016 is expected to increase by 3.5 percent to 12.7 million tonnes. Since reaching a peak in mid-2014, poultry prices have declined steadily. For example, in May 2016, they were 16 percent below their level of a year earlier. Prevailing low international prices and rising domestic consumption have been important factors in stimulating import demand in a number of markets including **Saudi Arabia**, **South Africa**, **Japan**, **Viet Nam**, **Cuba** and the **United Arab Emirates.** The same factors should also result in moderate increases in imports in other key markets including **Angola**, the **EU** and **Canada**, along with **Kuwait**, **Mexico**, **Iraq, Ghana** and the **Philippines.** Conversely, in **China**, stagnant demand and HPAI-related import prohibitions could lead to imports falling for a second year. In the **Russian Federation**, growth in domestic production and the continuation of the country-specific trade embargo may result in a second annual decrease in imports. Reduced imports are also expected for **Benin** and the **United States**.

Pre-2015, the three leading poultry meat exporters, **Brazil**, the **United States** and the **EU,** had relatively stable export levels. This situation changed in 2015, as HPAI outbreaks in the United States caused importers to look for alternative sources of supply and, as a consequence, exports by the country fell by 16.2 percent. Containment and elimination of HPAI in the United States was projected to herald a substantial recovery in exports in 2016. However, the outbreak in January (see above) led to some countries' prohibitions on trade with the United States remaining in place (as of May 2016). Consequently, the United States is preliminarily foreseen to have only a limited rise in 2016 exports – 1.5 percent to 3.5 million tonnes. This estimate would have to be re-examined as the year progresses to gauge the extent to which trade recovers from HPAI-related import prohibitions: United States exports of poultry meat for the first 3 months of 2016 were down by 7.7 percent compared with the same period in 2015. Conversely, Brazil's exports grew by 5.9 percent in 2015 and are projected to increase by 7.1 percent in 2016, meaning that it has replaced the United States as the leading exporter of poultry meat in the world. Brazil has seen a substantial rise in its sales to China as well as Saudi Arabia, Japan, the United Arab Emirates and South Africa, among others. **Thailand** also experienced a surge in sales in 2015, in particular to Japan, and is projected to record a second year of strong growth. Elsewhere, exports by the **Russian Federation**, **Saudi Arabia**, **Ukraine**, **Chile, Belarus**, the **EU** and **Canada** could also rise in 2016. Conversely, lower external sales are anticipated for **Turkey**, **China** and **Australia**.

**Figure 5. Poultry meat exports from Brazil and Thailand surge**




## OVINE MEAT

### Production: continued modest growth

Production of ovine meat has grown little in the last few years and a continuation of this trend is anticipated in

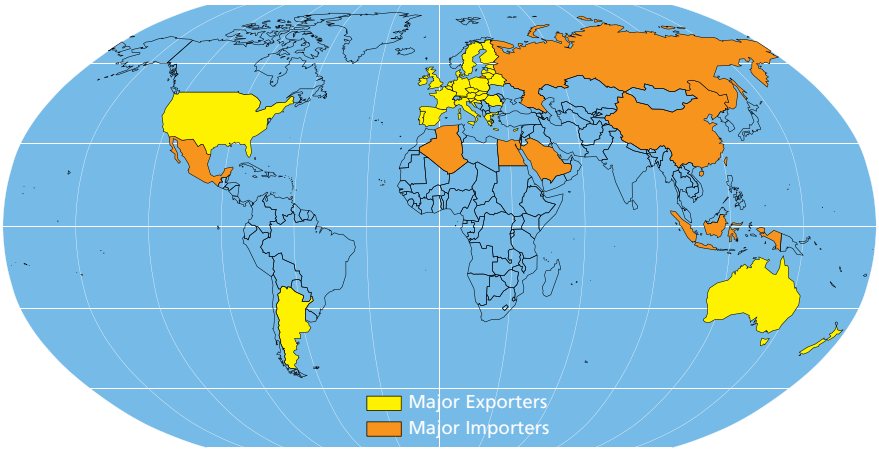
2016, with output forecast to increase by 0.7 percent to 14.1 million tonnes. Developing countries account for over 80 percent of global output, with the largest producers in this grouping being **China**, **India**, **Nigeria** and **Pakistan**. Generally satisfactory pasture conditions have set the basis for output expansion in many of the major producing areas. In *Oceania*, drought-imposed herd reduction and subsequent rebuilding are projected to constrain output in **Australia** and **New Zealand**. In the **EU**, a slowdown in herd expansion could result in production rising only slightly in 2016.

## Ovine Meat: Trade decline anticipated

World trade in ovine meat is forecast to contract by 3.2 percent in 2016, to 933 000 tonnes, principally reflecting reduced shipments from **New Zealand** and **Australia.** New Zealand is projected to record a 6.3 percent fall in exports, while Australia could experience a 2.3 percent drop. Constrained world export availabilities are forecast to result in a second year of reduced import flows into **China**, the main market, although higher value markets such as the **EU**, the **United States** and **Canada** may register moderately greater levels of imports.

# MILK AND MILK PRODUCTS

**Major Dairy Exporters and Importers**




## PRICES

### International prices: Excess supply causes prices to fall

Since reaching a peak at the beginning of 2014, international dairy prices have fallen steeply. Export availability generally exceeded demand during the first part of 2016, resulting in the accumulation of stocks of some products in the main exporting countries. Although from January to May 2016 prices of butter and cheese fell by more than those of milk powders, the largest decline since 2014 was in the prices of milk powders.

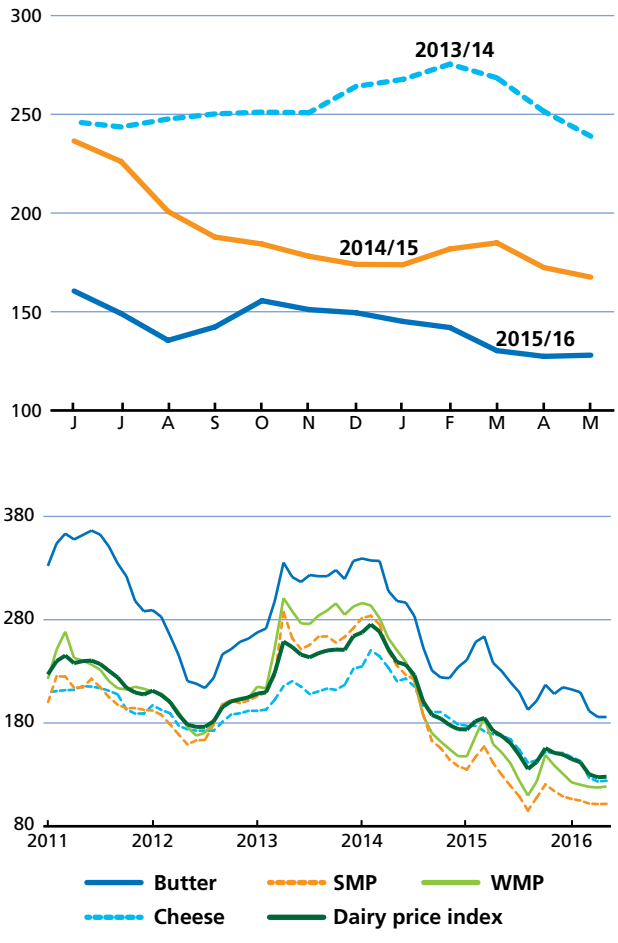
The **FAO Dairy Price Index** averaged 128 points in May 2016, up 0.6 points (0.4 percent) from April. Compared with May 2015, quotations for all dairy products covered in the Index were lower. Prices fell for skimmed milk powder (SMP) by 21.6 percent to USD 1 735 per tonne; for cheddar cheese by 26.1 percent to USD 2 588 per tonne; for whole milk powder (WMP) by 21.8 percent to USD 2 064 per tonne; and for butter by 19.3 percent to USD 2 657 per tonne.

## PRODUCTION

### Most growth to come from Asia

World milk production is forecast to grow by 1.6 percent in 2016 to reach 816 million tonnes. Output is set to expand in *Europe*, *Asia* and the *Americas*, but anticipated to stagnate or decline in *Africa* and *Oceania*. At the

**Figure 1. International prices remain weak**



## Table 1. World dairy market at a glance

| | 2014 | 2015 estim. | 2016 f'cast | Change: 2016 over 2015 |
|---|---|---|---|---|
| | million tonnes, milk equiv. | | | % |
| **WORLD BALANCE** | | | | |
| **Total milk production** | **789.1** | **802.8** | **816.0** | **1.6** |
| Total trade | **72.1** | **72.2** | **73.2** | **1.5** |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| World (kg/yr) | 108.6 | 109.2 | 109.8 | 0.5 |
| *Trade share of prod. (%)* | *9.1* | *9.0* | *9.0* | *-0.2* |

| FAO DAIRY PRICE INDEX (2002-2004=100) | 2014 | 2015 | 2016 Jan-May | Change: Jan-May 2016 over Jan-May 2015 % |
|---|---|---|---|---|
| | 224 | 160 | 135 | -23.6 |

world level, most of the increase is expected to originate in *Asia,* principally from **India,** where production is forecast to expand by 4.8 percent, or 7.1 million tonnes, to 155.2 million tonnes. In India, urbanization and rising incomes are fuelling demand, although the small size and limited productivity of the herd both present challenges to the industry. Increased output is also anticipated in **Pakistan**, **Turkey** and **China**. Elsewhere in *Asia*, the **Islamic Republic of Iran** and **Saudi Arabia** may reach production levels slightly above last year. In **China**, where output is expected to recover after marginal growth last year, more emphasis is being placed on developing large farms and improving genetics, while low farmgate prices have led some smaller scale producers to leave the industry. In **Japan** and the **Republic of Korea,** poor profitability is likely to lead to a continued exodus from milk production. In *Africa*, drought has affected both animals and pasture conditions in many countries in the northeastern and southern parts of the continent and, as a result, milk production for the region as a whole is forecast to fall in 2016. Among the larger milk producing countries, output is expected to contract in **Ethiopia** and **South Africa**. Conversely, some areas in *North Africa*, including **Egypt** and **Tunisia**, have received adequate rain, which has aided pasture growth and improved animal condition, and is expected to lead to increased milk output in 2016.

In *Latin America and the Caribbean*, generally good pasture conditions and favourable prices for feed are fostering an expansion of milk production, albeit tempered by adverse weather conditions in some countries. In **Mexico**, improvements in genetics and technology, combined with an increase in farmgate prices, would likely support further growth in milk output. In *South America*, herd amalgamation through larger farms and an accompanying process of genetic selection are providing the basis for industry expansion. Furthermore, profitability in a number of countries is improving, mainly because of more favourable feed/milk price ratios. As a result of these factors, milk output is expected to grow in **Brazil, Ecuador** and **Peru.** Elsewhere, drought in **Colombia**, **Venezuela** and **Chile** and flooding in **Argentina** are forecast to lead to a decrease in their 2016 milk production. In **Uruguay**, where approximately half of the milk produced is exported in the form of milk and milk products, prevailing low international prices may impinge negatively on production this year.

In *North America*, output in the **United States** is forecast to rise by 2 percent to 96.3 million tonnes, assisted by affordable feed costs and strong domestic demand. Milk deliveries in **Canada** are set to remain at 8.7 million tonnes, within the limits established by its milk quota system.

In *Europe*, **EU** milk production is projected to grow by 1.3 percent to 165.7 million tonnes. Reduced farmgate prices in many member countries have acted as a brake on production, even though feed costs have been reduced and forage has been in good supply. Low prices – both domestically and internationally – dampened the effect of the abolition of the milk quota system at the end of March 2015. Yet, there are marked differences between countries within the EU, such as cow numbers increasing by 10 percent in Ireland and falling by 5 percent in Poland and Estonia. For 2016, expansion is expected to be centred in Ireland, the Netherlands, Denmark and the United Kingdom. Milk production in the **Russian Federation** is predicted to be little changed in 2016. Poor profitability has caused a contraction in the country's dairy herd,

## Figure 2. EU intervention and export prices

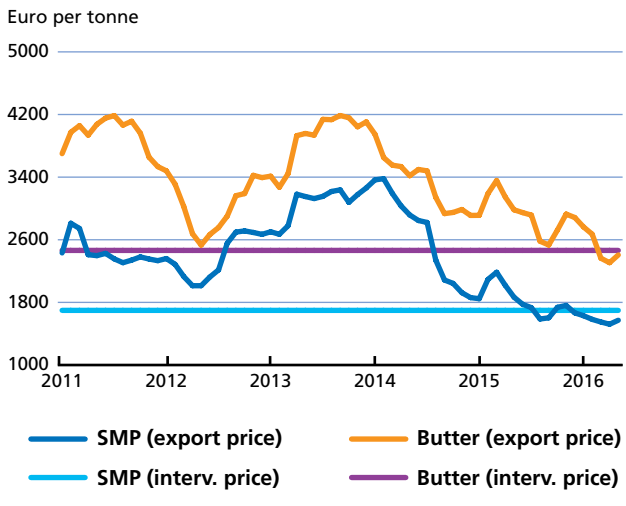


**Figure 3. Dairy prices fall by more than feed costs in 2015/16**

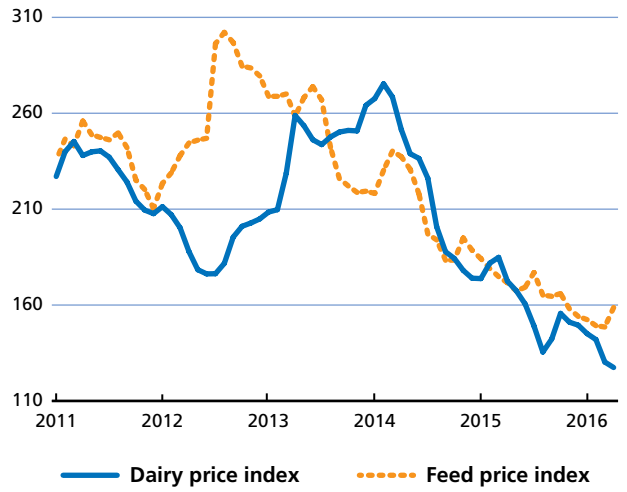



**Table 2. Trade in dairy products: Principal exporting countries**

| | *Average 2012-14* | *2015 prelim.* | *2016 f'cast* | *Change 2016 over 2015* |
|---|---|---|---|---|
| | *thousand tonnes (product weight)* | | | *%* |
| **WHOLE MILK POWDER** | | | | |
| **World** | **2 488** | **2 565** | **2 565** | **0.0** |
| New Zealand | 1 326 | 1 380 | 1 370 | -0.8 |
| European Union* | 383 | 390 | 403 | 3.4 |
| Argentina | 176 | 138 | 127 | -8.2 |
| Uruguay | 65 | 97 | 100 | 2.6 |
| **SKIM MILK POWDER** | | | | |
| **World** | **1 952** | **2 215** | **2 276** | **2.8** |
| European Union* | 524 | 684 | 715 | 4.5 |
| United States | 518 | 560 | 564 | 0.7 |
| New Zealand | 388 | 411 | 430 | 4.5 |
| Australia | 150 | 201 | 210 | 4.7 |
| **BUTTER** | | | | |
| **World** | **933** | **946** | **989** | **4.6** |
| New Zealand | 478 | 500 | 505 | 0.9 |
| European Union* | 134 | 185 | 210 | 13.2 |
| Belarus | 73 | 83 | 95 | 14.5 |
| Australia | 49 | 34 | 33 | -4.9 |
| United States | 72 | 26 | 28 | 7.7 |
| **CHEESE** | | | | |
| **World** | **2 375** | **2 392** | **2 430** | **1.6** |
| European Union* | 758 | 719 | 763 | 6.1 |
| United States | 317 | 318 | 306 | -3.7 |
| New Zealand | 287 | 327 | 305 | -6.7 |
| Belarus | 147 | 178 | 192 | 8.1 |
| Australia | 159 | 171 | 173 | 1.3 |
| Saudi Arabia | 124 | 120 | 120 | 0.0 |

* Excluding trade between the EU Member States. From 2013: EU-28

in particular in the small farm sector, but this has been largely offset by productivity increases in the commercial farm sector. In neighbouring **Belarus**, production is on an upward trend, stimulated by growing sales to the Russian Federation.

In *Oceania*, **New Zealand'**s dependency on the export market has left it particularly exposed to the prevailing low prices, as these caused a substantial downward revision in payments to producers. This situation has acted as a disincentive for farmers to raise output via herd expansion or feeding supplements. New Zealand's production in the current dairy year is anticipated to decrease by 1.8 percent to 21.5 million tonnes, as farmers cull less-productive cows. The negative trend is anticipated to carry over to the 2016/2017 dairy year, when the same factors could cause production to decline to 20.7 million tonnes. In **Australia**, adverse weather, reduced farmgate returns for milk and favourable prices for culled cows are likely to curtail 2015/2016 production by 1.1 percent to 10.3 million tonnes.

## TRADE

### Recovery expected

Low prevailing international prices for dairy products are expected to contribute to a revival of world demand, boosting trade by 1.5 percent to 73.2 million tonnes of milk equivalent in 2016. This follows the market upheavals of 2015, when a sharp fall-off in shipments to China and the continuation of the Russian Federation embargo on imports from specific countries caused growth to stall. The main drivers behind the rise in trade are a continued expansion of imports in *Asia*, including by **Viet Nam**, **Bangladesh**, **Sri Lanka** and the **Republic of Korea**, with a limited recovery in import demand expected in **China**, and, in the other regions, an increase in purchases by the **Russian Federation**, the **United States** and **Algeria**. By contrast, imports are anticipated to fall in **Nigeria**, **Venezuela**, **Saudi Arabia**, **Yemen** and **Brazil**. The **EU,** likely to take the lead among exporters in supplying increased import demand, may see its sales rise by 4.1 percent to 19.2 million tonnes of milk equivalent. This would place it at almost the same level as New Zealand – each with 26 percent of world trade – and peg them as the joint major exporters of dairy products. The rise in EU exports would stem from a rise in milk production, limited growth in consumption within its internal market and a favourable Euro/USD exchange rate. External sales by **Belarus** are also projected to record strong growth due to a rise in trade with the Russian Federation. In **Oceania**, low world prices are forecast to stem output and thereby limit

expansion in exports. Meanwhile, higher domestic prices in the **United States** relative to those prevailing in the world market are projected to curb the country's exports.

## Whole milk powder (WMP) - Trade projected unchanged

World trade in WMP is projected to be unchanged in 2016, remaining at 2.6 million tonnes. The primary factor affecting the market this year is the anticipated partial recovery in demand from **China**, where imports for the first three months of 2016 recorded a 20 percent increase compared to the same period in 2015. Should international prices remain low, this could stimulate imports in several major markets, including **Algeria**, **Viet Nam, Oman,** the **United Arab Emirates**, **Bangladesh, Cuba** and **Sri Lanka.**

The revival of world import demand for WMP in 2016 is foreseen to have a positive impact on sales by the **EU** and **Uruguay**. However, reduced milk production in **New Zealand** and **Argentina**, may mean that the exports could diminish. Much will depend on the price movement of WMP relative to other products and on the volume of milk produced in both countries in the first part of the 2016/2017 dairy year. In the case of New Zealand, it was the exporter most affected by the fall in import demand from China in 2015. This led to increased competition for sales in other markets in 2015, including Algeria, Venezuela, Malaysia, Vietnam, the United Arab Emirates and Nigeria.

## Skim milk powder (SMP) – Trade to grow

Trade in SMP is predicted to expand by 2.8 percent (or 61 000 tonnes) in 2016 to 2.3 million tonnes, sustained by increased production in exporting countries and low international prices. From the exporting countries' side, uncertain import demand for WMP, combined with its shorter shelf-life, has made producing SMP a preferred option. Additionally, since dairy prices overall began to fall in 2014, quotations for butter – SMP's co-product – have fallen less than those of milk powders, prompting manufacturers to switch production from WMP to SMP/butter. Furthermore, a decrease in EU cheese exports, due to the Russian Federation's embargo, fostered a diversion of the resultant excess milk into production of butter and SMP. This caused a surge in SMP supply, which, combined with low international prices, led to a substantial rise in sales to EU intervention stocks in the first part of 2016.

As for importing countries, **China, Viet Nam**, **Egypt**, the **Philippines**, **Malaysia, Thailand, Indonesia** and **Singapore**, among others, are anticipated to boost purchases and more than counterbalance reduced imports by **Saudi Arabia, Yemen,** the **Russian Federation** and **Nigeria.** About half of the 61 000 tonne predicted increase in 2016 world trade is expected to be met by the **EU** and a third by **New Zealand**. In the case of New Zealand, stymied import demand for WMP has led to greater emphasis on SMP production and export, with *Southeast Asia* being the principal destination. Exports by **Australia**, the **United States** and the **Ukraine** are also anticipated to grow.

## Butter – Import demand recovers

Trade in butter is forecast to rebound, after falling in 2015. Sales are expected to rise by 4.6 percent to 989 000 tonnes. Along with other dairy products, international quotations for butter have fallen, dropping 45 percent from USD 4 853 at

**Figure 4. WMP: Major exporters**

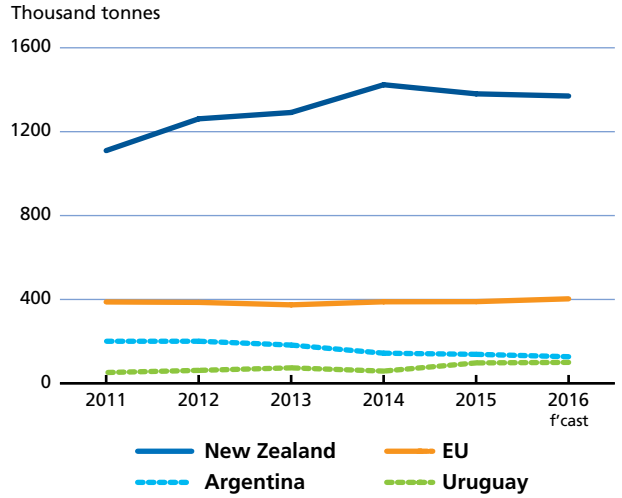
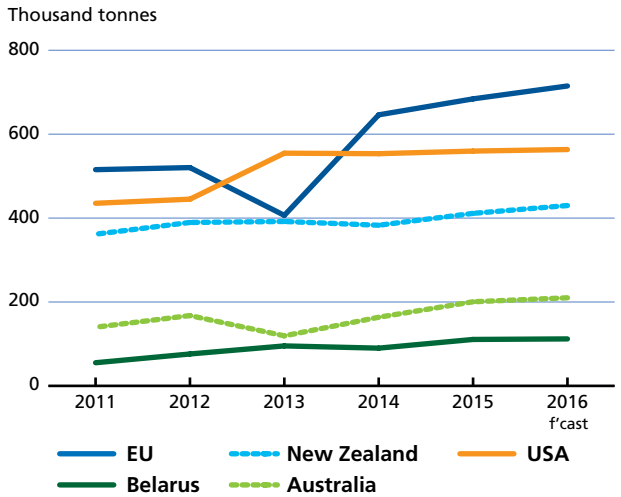



**Figure 5. SMP: Major exporters**



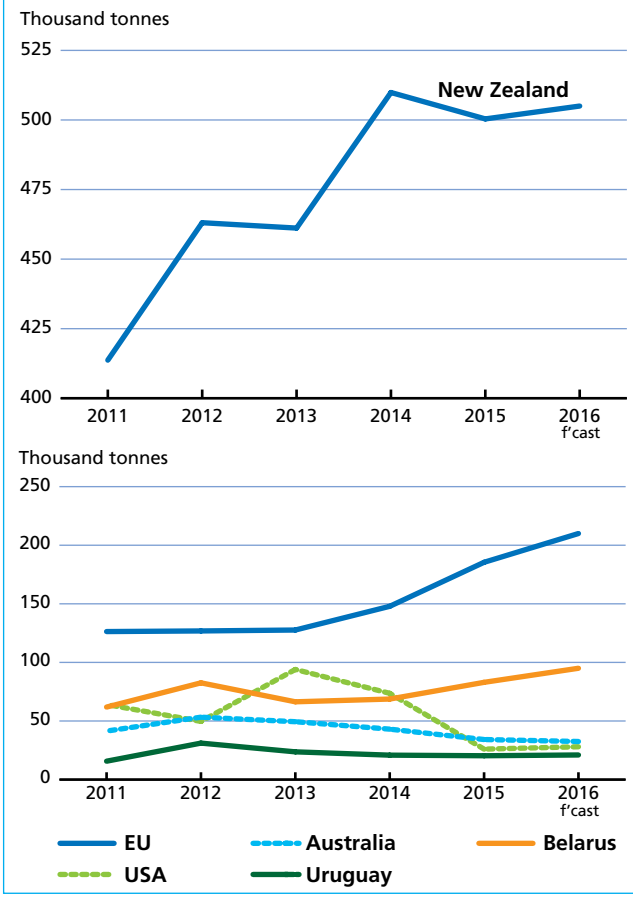
their peak in January 2014 to USD 2 657 per tonne in May 2016. Low prices are projected to stimulate import demand, namely by **China**, the **United States**, **Saudi Arabia**, **Egypt**, the **Islamic Republic of Iran**, the **United Arab Emirates** and **Malaysia**. Imports by the **Russian Federation** are also forecast to grow, while purchases by the **EU** could remain unchanged.

Among exporting countries, the **EU** and **Belarus** are projected to benefit most from the rise in import demand. In the EU, both growth in output and a favourable rate of exchange are anticipated to underpin a rise in sales. Meanwhile, in Belarus, augmented trade with the Russian Federation could boost shipments for the third year. In the case of **New Zealand**, exports are expected to stay around the 505 000 tonne mark. For the **United States**, increased production of cheese and yogurt, and strong domestic demand from the food industry may contribute to keeping internal butter prices high, thus constraining export sales for the third year in a row.

## Cheese – Modest growth

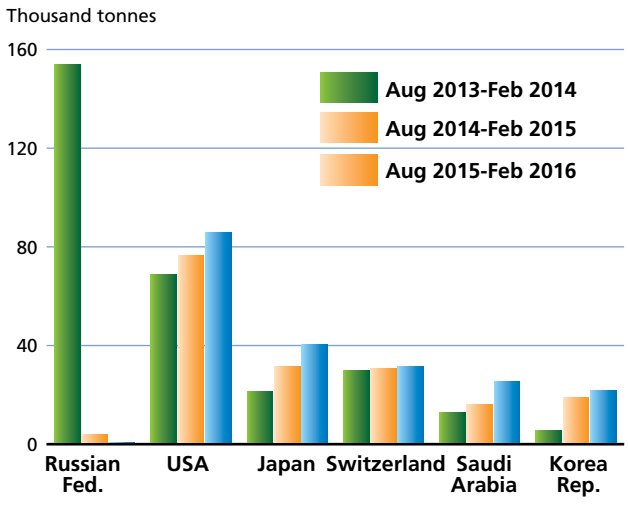
Trade in cheese is forecast to register limited growth in 2016, increasing by 1.6 percent to 2.4 million tonnes.

**Figure 6. Butter: Major exporters**



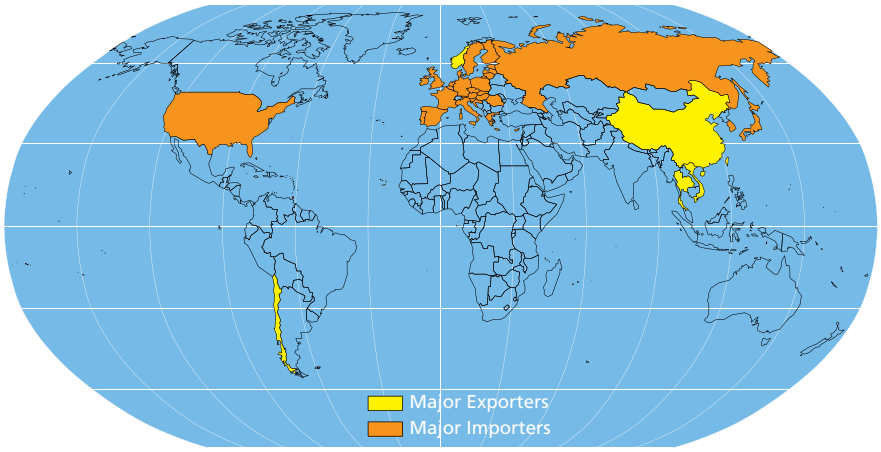

International quotations for cheese fell 50 percent from the peak of USD 5 225 per tonne in February 2014, reaching USD 2 588 per tonne in May 2016. The principal countries where a higher import demand is anticipated are the **Russian Federation**, **United States**, **Republic of Korea**, **Japan**, **Iraq** and **Mexico**. Among the major exporters, increased shipments are forecast for the **EU**, **Belarus**, **Argentina** and the **Islamic Republic of Iran**, while sales by **New Zealand**, the **United States** and **Egypt** are predicted to fall. Exports by the EU could rise by 6.1 percent to more than 763 000 tonnes, which would represent the first annual increase since the Russian Federation embargo was imposed in 2014. Because of the prior importance of the Russian Federation, which absorbed a third of EU exports before the ban was introduced, the EU has had to shift its export focus elsewhere – mainly to the United States, Japan, the Republic of Korea and Saudi Arabia. Meanwhile, as the principal pre-2014 supplying countries continue to be subject to the embargo, Belarus has now has considerable opportunities for export to the Russian Federation and consequently its exports are projected to rise by 8.1 percent in 2016, to over 192 000 tonnes. The sharp fall in WMP imports by China in 2015 caused New Zealand to focus more on cheese as an alternative use for milk. Consequently, its cheese exports rose by 18 percent in 2015, reaching 327 000 tonnes. For 2016, reduced milk production could see shipments drop to around 300 000 tonnes. In the United States, continued strong domestic demand for dairy products in general and depressed international prices for cheese are anticipated to lead to a second year of diminished cheese exports.

**Figure 7. Cheese exports: EU major markets**



# FISH AND FISHERY PRODUCTS

**Major Exporters and Importers of Fish and Fishery Products**




## GLOBAL FISH ECONOMY

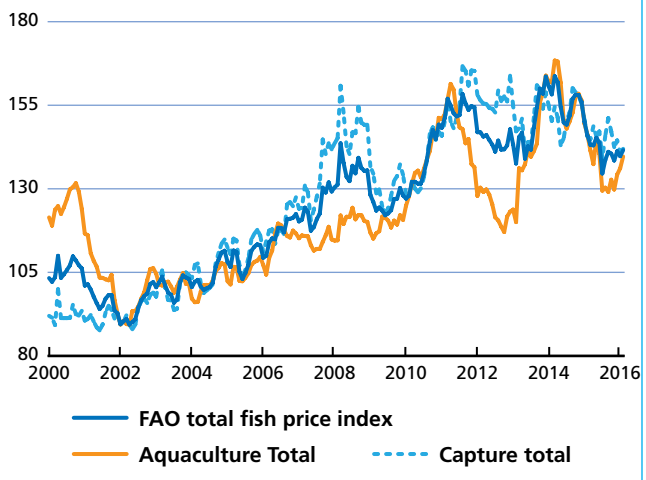
Global seafood markets will be characterized by uncertainty in 2016, but economic growth in the United States and the EU should have a positive effect on demand. Despite the economic slowdown in China, a major importer, exporter, processor and producer of seafood products, overall traded volumes are expected to remain stable. The prevailing stability of capture fisheries supply and the steady growth of the global aquaculture sector are expected to continue, with world per capita consumption of fish also forecast to keep growing.

The value of global trade in fish and fishery products decreased in 2015, contrary to the long-term trend. The drop was the result of a range of factors: the strengthening of the United States dollar relative to many other currencies, which contributed to a fall in USD denominated prices for the most important traded species, the effects of El Niño on production, and the economic slowdowns of important emerging markets. In 2016, however, more stability is expected, overall, and a rebound in the value of trade is possible in the second half of the year. This would be partly led by recovery on international quotations, as a tightening of supply is likely to drive prices higher for farmed salmon, cephalopods, seabass and seabream.

Economic difficulties in Russia and Brazil and slowing income and consumption growth in China are behind a softening of international demand for fish and fishery products in 2016, even though imports by the United States and the EU are expected to rebound. In Japan, a weaker currency and declining overall demand for seafood continue to represent significant challenges for importers. The picture is brighter in many emerging economies, particularly in Africa and South and East Asia, where increasing income growth and urbanization is driving expansion of seafood consumption.

In 2016, the major exporting countries will continue to benefit from the strong US dollar, which has made their

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




Source: Norwegian Seafood Council (NSC)

## Table 1. World fish market at a glance

| | 2014 | 2015 *estim.* | 2016 *f'cast* | Change: 2016 over 2015 |
|---|---|---|---|---|
| | *million tonnes* | | | % |
| **WORLD BALANCE** | | | | |
| **Production** | **167.2** | **171.0** | **175.0** | **2.3** |
| Capture fisheries | 93.4 | 93.5 | 93.6 | 0.1 |
| Aquaculture | 73.8 | 77.5 | 81.4 | 5.0 |
| **Trade value (exports USD billion)** | **148.1** | **134.1** | **132.6** | **-1.1** |
| **Trade volume (live weight)** | **60.0** | **59.9** | **59.9** | **0.0** |
| **Total utilization** | **167.2** | **171.0** | **175.0** | **2.3** |
| Food | 146.3 | 149.4 | 153.6 | 2.8 |
| Feed | 15.8 | 16.5 | 16.3 | -1.2 |
| Other uses | 5.1 | 5.1 | 5.1 | 0.0 |
| **SUPPLY AND DEMAND INDICATORS** | | | | |
| **Per caput food consumption:** | | | | |
| Food fish (kg/yr) | 20.1 | 20.3 | 20.6 | 1.7 |
| From capture fisheries (kg/year) | 10.0 | 9.8 | 9.7 | -0.7 |
| From aquaculture (kg/year) | 10.1 | 10.5 | 10.9 | 3.9 |

| FAO FISH PRICE INDEX (2002-2004=100) | 2014 | 2015 | 2016 *Jan-Feb* | Change: Jan-Feb 2016 over Jan-Feb 2015 % |
|---|---|---|---|---|
| | 156 | 142 | 141 | -5.0 |

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

### Combating IUU fishing: Port State Measures

On 16 May 2016, it was announced that the FAO Port State Measures Agreement had exceeded the twenty-five parties necessary for the Agreement to enter into force as a binding, international treaty designed to combat illegal, unreported and unregulated (IUU) fishing. The Agreement, which aims to prevent illegally caught fish from ever entering markets through ports, emerged from a lengthy consultation process. Negotiated by FAO's Committee on Fisheries and Aquaculture and adopted at FAO Conference in 2009, the new treaty is designed to strengthen inspections and control procedures at ports and on vessels, and calls on countries to deny entry or inspect vessels that have been involved in IUU fishing, and to take necessary action. Although entry into force of this important treaty is cause for celebration, much still needs to be accomplished to build capacity at the country level. The Agreement has taken into account this need, particularly in developing countries. The Agreement's Article 21 will be instrumental for raising the resources to undertake this work. Through international collaboration and capacity building in developing countries, this new international treaty can deliver a powerful blow to IUU fishing.

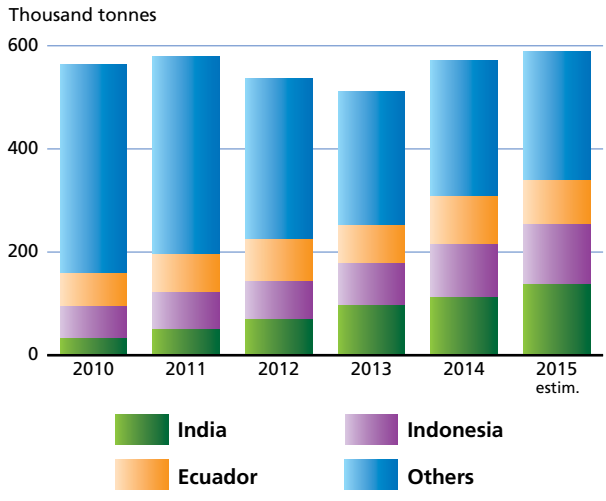
exports more attractive for buyers in the United States. At the same time, a range of different factors, including a strong El Niño, are negatively impacting production volumes in many regions, in particular of salmon and bivalves in South America.

The international community's efforts towards ensuring the sustainability and legality of catches is getting a strong boost from the FAO Port State Measures Agreement, which is to enter into force on 5 June 2016.

## SHRIMP

Export earnings from shrimp declined in most of the producing countries in 2015 due to lower market prices, although many producers were able to increase sales to non-traditional markets. The year 2016 has started with some stability in market prices. US imports increased by 6.5 percent during the first two months of 2016, due to lower inventories combined with stronger consumer demand during the February–March Lent season, particularly within the catering trade. US buyers are now waiting for the seasonal supply, mostly of farmed shrimp, to begin in Asia. In Europe, shrimp prices are expected to continue their downward trend due to plentiful stocks and the expectation of further arrivals of frozen shrimp, especially from Argentina's record-high catches. Sales within the EU were strong during the Easter holiday in late March, but European buyers are holding back in anticipation of further price discounts. On the production side, pond stocking has been delayed in India due to weather conditions as well as some disease issues. In addition, while demand for Vietnamese farmed shrimp is

### Figure 2. Shrimp prices (16-20 count) in main wholesale markets




Source: INFOFISH

## Table 2. EU-28 shrimp imports, by origin

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *Jan-Dec (thousand tonnes)* | | | | | |
| **IMPORTS** | | | | | | |
| Ecuador | 80.7 | 97.3 | 92.3 | 83.1 | 93.3 | 96.3 |
| India | 60.0 | 59.5 | 60.6 | 66.4 | 83.3 | 82.7 |
| Argentina | 55.5 | 62.1 | 55.0 | 59.9 | 66.2 | 72.4 |
| Viet Nam | 43.2 | 45.5 | 35.7 | 37.9 | 49.7 | 53.1 |
| Greenland | 72.6 | 68.3 | 61.2 | 60.1 | 55.1 | 46.9 |
| Denmark | 49.5 | 44.8 | 43.4 | 47.2 | 44.8 | 37.5 |
| Netherlands | 41.1 | 44.1 | 40.9 | 35.1 | 36.0 | 35.8 |
| Canada | 30.5 | 27.8 | 30.1 | 31.6 | 35.9 | 35.0 |
| Bangladesh | 41.2 | 43.4 | 42.1 | 42.3 | 40.7 | 35.0 |
| China | 41.0 | 38.8 | 36.2 | 37.4 | 28.7 | 28.9 |
| Spain | 26.1 | 24.8 | 28.4 | 23.4 | 25.3 | 28.6 |
| Morocco | 14.5 | 15.1 | 13.1 | 13.3 | 15.5 | 21.6 |
| Belgium | 23.4 | 27.7 | 21.6 | 22.9 | 23.2 | 20.2 |
| Germany | 21.7 | 22.1 | 19.8 | 19.1 | 19.1 | 15.7 |
| Indonesia | 23.1 | 18.9 | 10.8 | 12.1 | 15.6 | 12.5 |
| Nicaragua | 8.5 | 9.7 | 11.5 | 11.3 | 15.2 | 11.5 |
| UK | 12.7 | 12.1 | 10.1 | 11.8 | 10.9 | 11.3 |
| Others | 203.3 | 188.1 | 170.2 | 143.8 | 137.0 | 123.9 |
| **Grand Total** | **848.5** | **850.1** | **782.8** | **758.5** | **795.5** | **768.9** |
| **Total Intra Imports** | **202.8** | **202.1** | **188.7** | **185.6** | **187.7** | **176.0** |
| **Tot. Extra Imports** | **645.7** | **648.0** | **594.1** | **572.9** | **607.8** | **592.9** |
| **EXPORTS** | | | | | | |
| Morocco | 31.9 | 32.6 | 31.1 | 30.1 | 31.6 | 35.4 |
| France | 47.1 | 51.8 | 42.7 | 34.8 | 32.0 | 32.1 |
| Germany | 34.9 | 34.5 | 32.1 | 32.4 | 35.1 | 31.5 |
| Italy | 29.6 | 33.6 | 28.5 | 30.6 | 28.5 | 30.1 |
| Spain | 30.2 | 28.5 | 26.7 | 24.7 | 26.3 | 28.2 |
| Netherlands | 28.6 | 29.6 | 30.0 | 29.7 | 28.5 | 23.9 |
| Sweden | 21.3 | 24.0 | 25.4 | 26.2 | 25.1 | 23.6 |
| Belgium | 22.4 | 23.0 | 19.2 | 15.5 | 16.3 | 16.1 |
| UK | 20.2 | 16.1 | 14.0 | 14.5 | 14.7 | 15.8 |
| Portugal | 13.1 | 13.0 | 10.4 | 13.3 | 12.6 | 13.4 |
| China | 12.7 | 7.7 | 9.5 | 11.2 | 8.6 | 8.4 |
| Norway | 8.7 | 8.3 | 7.7 | 8.0 | 6.9 | 7.3 |
| Russian Fed. | 15.3 | 9.8 | 6.7 | 6.3 | 8.2 | 7.0 |
| **Grand Total** | **379.0** | **374.8** | **340.0** | **333.4** | **326.7** | **317.5** |
| **Total Intra Exports** | **275.1** | **284.6** | **258.4** | **253.4** | **249.9** | **243.7** |
| **Total Extra Exports** | **103.9** | **90.2** | **81.6** | **80.0** | **76.8** | **73.8** |

Source: EUROSTAT

## Table 3. USA shrimp imports, by origin

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *Jan-Dec (thousand tonnes)* | | | | | |
| India | 30.3 | 48.2 | 66.1 | 94.2 | 108.7 | 135.7 |
| Indonesia | 61.1 | 70.3 | 74.1 | 81.2 | 103.3 | 114.4 |
| Ecuador | 65.0 | 73.8 | 81.5 | 74.7 | 92.4 | 85.7 |
| Thailand | 203.4 | 185.8 | 136.1 | 84.2 | 64.8 | 73.9 |
| Viet Nam | 48.5 | 45.4 | 41.2 | 60.0 | 73.5 | 60.7 |
| China | 48.2 | 43.0 | 35.7 | 32.5 | 32.6 | 28.6 |
| Mexico | 23.5 | 30.9 | 26.3 | 18.5 | 20.2 | 28.0 |
| Peru | 7.0 | 8.3 | 8.4 | 9.0 | 11.8 | 10.3 |
| Malaysia | 24.3 | 29.3 | 23.5 | 10.5 | 17.7 | 8.3 |
| Guyana | 7.8 | 6.5 | 9.0 | 8.7 | 6.7 | 7.3 |
| Honduras | 10.3 | 10.4 | 9.1 | 8.5 | 8.0 | 4.8 |
| **Others** | **32.0** | **25.1** | **24.2** | **27.3** | **28.9** | **29.5** |
| **Total** | **561.5** | **577.1** | **535.0** | **509.3** | **568.6** | **587.2** |

Source: NMFS

## Table 4. Japan shrimp imports, by product form

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *Jan-Dec (thousand tonnes)* | | | | | |
| Live | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| Fresh/chilled | ** | ** | ** | ** | ** | ** |
| Frozen, raw | 205.3 | 205.2 | 200.5 | 187.3 | 162.3 | 153.2 |
| Dried/salted/in brine | 2.6 | 2.8 | 2.3 | 1.9 | 1.6 | 0.1 |
| Cooked, frozen | 21.6 | 23.6 | 24.5 | 24.2 | 20.0 | 19.5 |
| Cooked & smoked | 0.3 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 |
| Frozen ebi | - | - | 0.4 | 0.4 | 0.4 | 0.4 |
| Prepared/preserved* | 46.6 | 49.2 | 50.3 | 45.7 | 36.8 | 37.5 |
| Sushi (with rice) | 2.0 | 3.2 | 2.4 | 2.2 | 2.0 | 2.4 |
| **Total** | **280.7** | **285.3** | **280.4** | **262.1** | **223.4** | **213.7** |

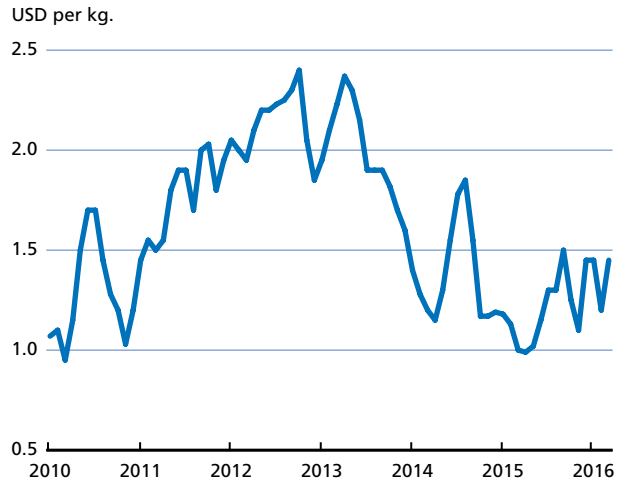
Source: Japan Customs/INFOFISH
* (incl. tempura shrimp ); ** (included under others)

high, the processors often must buy unprocessed shrimp from other farms, which drives up the price.

## TUNA

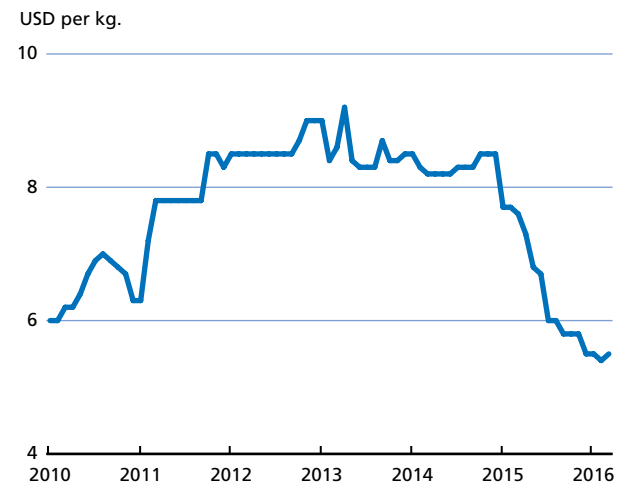
Throughout 2015, overall supply of tuna remained higher than the corresponding market demand for canned tuna. As a result, tuna packers in Southeast Asia, Ecuador and in the Western Indian Ocean built up large inventories. Frozen skipjack prices fell to record low levels as did canned tuna prices. The lower tuna prices increased demand for canned tuna in emerging markets, but failed to make much of an impact on US and EU imports for conventional products, although US imports of pouched tuna increased and Spain managed to increase its exports of high-value canned tuna to the intra-EU market. These 2015 trends are likely to continue through 2016, as long as raw material prices remain stable. By March, declining supplies of tuna and lower inventories in canneries had led to strong demand for raw material, which resulted in increasing prices for both skipjack and yellowfin. In Ecuador, skipjack prices reached USD 1 500 per tonne at the end of April. Demand from canned tuna buyers for tuna caught and semi-processed in Ecuador has also started to strengthen. Time will tell if this demand growth will continue long enough to affect overall tuna trade trends in 2016.

**Figure 3. CFR prices canned tuna (USA and Europe)**




Source: GLOBEFISH European Price Report.

**Figure 4. Tuna loin prices**




Source: GLOBEFISH European Price Report.

**Table 5. Tuna: Japan**

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *Jan-Dec (thousand tonnes)* | | | | | |
| **Bluefin** | | | | | | |
| Fresh | 1.0 | 2.0 | 1.1 | 2.0 | 2.3 | 2.6 |
| Frozen | 1.3 | 1.2 | 1.5 | 1.4 | 1.9 | 2.6 |
| **Bigeye** | | | | | | |
| Fresh | 5.7 | 6.1 | 5.4 | 4.2 | 4.4 | 4.0 |
| Frozen | 17.5 | 15.3 | 20.4 | 23.2 | 23.6 | 25.4 |
| **Yellowfin** | | | | | | |
| Fresh | 8.9 | 7.9 | 7.0 | 6.5 | 4.5 | 6.5 |
| Frozen | 6.4 | 5.7 | 24.5 | 21.9 | 28.9 | 31.5 |
| **Albacore** | | | | | | |
| Fresh | 30.6 | 33.6 | 42.1 | 35.9 | 36.6 | 34.4 |
| Frozen | 16.9 | 16.7 | 23.8 | 22.2 | 16.8 | 11.7 |
| **Skipjack** | | | | | | |
| Fresh | 68.2 | 46.0 | 45.2 | 50.1 | 46.2 | 52.2 |
| Frozen | 212.6 | 182.2 | 217.6 | 207.4 | 197.6 | 182.2 |
| **Total** | | | | | | |
| **Fresh** | **114.4** | **95.6** | **100.8** | **98.7** | **94.0** | **99.8** |
| **Frozen** | **254.7** | **221.1** | **287.8** | **276.1** | **268.8** | **253.3** |
| **Grand Total** | **369.1** | **316.7** | **388.6** | **374.8** | **362.8** | **353.1** |

Source: INFOFISH Trade News

## GROUNDFISH

Overall, groundfish trade flows are expected to undergo some shifts in 2016, with more processing of raw material from Europe and North America to be done in Viet Nam instead of China. Currency trends will continue to play a key role. Total supplies of groundfish are forecast to increase by just over 3 percent to reach 7.27 million tonnes for the year, according to estimates presented in March at the North Atlantic Seafood Forum. Supplies of Atlantic cod are forecast to remain about the same as in 2015, while there could be slight increases for pollock, haddock and saithe. Various types of hake are also expected to increase marginally, while supplies of hoki would likely

decline by 3 percent. After three years of slight declines in total landings, the southern African hake fishery outlook is optimistic, with a 2016 forecast for a slight increase in production. In the cod market, prices for Norwegian product are high at the moment, and demand for this high-quality fish is very strong in Europe. For pollock surimi, US production is expected to reach record levels of more than 210 000 tonnes in 2016 and, consequently, Japanese buyers are predicting prices to decline.

## CEPHALOPODS

The strong El Niño event this year is negatively impacting South American cephalopod landings in the Pacific, although global squid supplies are expected to remain stable at about 3.0–3.2 million tonnes. In Peru, there has been concern about the poor catches of giant squid (*Dosidicus gigas*) for some time, but it now seems that the catches are slowly improving. Although there were some ups and downs during the last half of 2015, squid prices have been somewhat more stable over the past year. Supplies of octopus have increased in the last few months, which has pushed prices down on the main markets. Continuing good catches should see this trend continue. In Argentina, the Mariculture Experimental Station of the National Institute for Fisheries Research has reported some progress with its cultured octopus research. Meanwhile, the ongoing lull in cuttlefish trade continued in 2015. Japanese cuttlefish imports have declined by about one-third since 2010, while cuttlefish prices have been declining in major markets for several months.

## TILAPIA

In 2015, the US and EU tilapia markets weakened and prices declined. Average export prices of Chinese frozen tilapia fillets were lower by 15.3 percent compared to 2014, falling to USD 3.86 per kg. At the same time, industry sources estimate a 40 percent drop in Chinese tilapia production in 2015, due to poor weather conditions coupled with continued lower demand in the major markets and issues relating to antibiotic use. Extreme cold weather in China and Taiwan Province of China affected many fish farms in early 2016, which is expected to result in lower production volume and, subsequently, higher prices. While demand in major markets is relatively weak, regional Asian markets remain firm, reporting higher imports as well as strong local production.

## PANGASIUS

Lower pangasius prices in 2015 did not encourage imports into the major markets. The US, the EU, Asia and

**Table 6. Exports of frozen Tilapia: China**

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *(thousand tonnes - Jan-Dec)* | | | | | |
| **Whole frozen** | **75.7** | **107.6** | **111.1** | **134.6** | **139** | **132.6** |
| USA | 20.2 | 25.5 | 21.8 | 24.4 | 27.0 | 22.6 |
| Cote d'Ivoire | 6.2 | 9.0 | 15.5 | 17.4 | 20.1 | 20.8 |
| Zambia | 1.4 | 1.2 | 3.0 | 9.1 | 12.0 | 12.4 |
| Cameroon | 4.6 | 12.7 | 5.7 | 7.5 | 10.2 | 7.6 |
| Mexico | 10.2 | 13.9 | 10.3 | 14.9 | 11.5 | 7.5 |
| Others | 33.1 | 45.3 | 54.8 | 61.3 | 58.2 | 61.7 |
| **Frozen fillets** | **186.5** | **158.1** | **179.2** | **182.1** | **170.3** | **153.2** |
| USA | 111.4 | 85.2 | 108.8 | 102.5 | 98.0 | 84.0 |
| Mexico | 24.1 | 24.1 | 20.9 | 25.1 | 23.2 | 24.0 |
| Israel | 6.4 | 9.3 | 4.9 | 3.3 | 9.4 | 10.9 |
| Iran | 0.0 | 0.5 | 1.7 | 3.4 | 9.3 | 10.7 |
| Russia | 19.2 | 14.3 | 18.0 | 18.7 | 6.9 | 4.1 |
| Others | 25.4 | 24.7 | 24.9 | 29.1 | 23.5 | 19.5 |
| **Breaded tilapia** | **59.5** | **63.3** | **69.8** | **85.8** | **92.5** | **105.4** |
| **Total** | **321.7** | **329.0** | **360.1** | **402.5** | **401.8** | **391.2** |

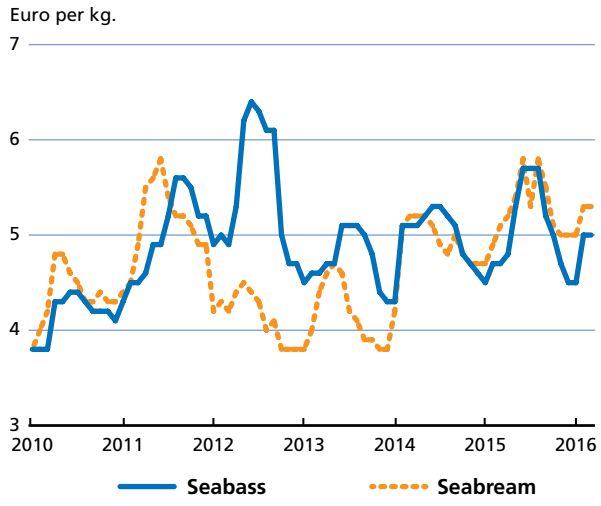
Source: China customs

Latin America remained the most lucrative markets for pangasius, while the leading producer, Viet Nam, continued to be plagued by production problems. According to the Viet Nam Association of Seafood Exporters and Producers, the value of Viet Nam's pangasius exports is expected to continue to fall this year, for a year-on-year drop of 5 percent to USD 1.5 billion. Challenges for the Vietnamese industry have included lower demand and stagnant selling prices as well as increasingly strict standards for food quality, hygiene and safety. As of late March, however, industry sources were already reporting higher raw material prices due to supply shortages, and the upcoming high demand season – from April to August – has potential to put further upward pressure on prices, as Asian and Latin American markets absorb increasing volume of products.

## SEABASS & SEABREAM

After a year of lower harvests, firming prices and relieved pressure on producer margins, 2016 started off well for the seabass and seabream industry, with a sharp upturn in prices on European markets. Further reductions in supply from the major sources should see this situation continue, giving a further boost to the expanding Turkish industry and providing Greek companies the opportunity to build further on what are now more solid foundations. Total supply of bream fell by approximately 6 percent in 2015, pushing prices strongly upward, and multi-year highs were reached in the peak mid-summer season on the major Italian market. Bass production, meanwhile, remained flat compared with the previous year, which kept prices for this species relatively low. The tight

**Figure 3. Prices of seabass and seabream in Italy, origin Greece**




Source: GLOBEFISH European Price Report: Seabass fresh whole 300-450 gr/pc – Seabream fresh whole 300-450 gr/pc

supply situation can be expected to continue for at least the next two years, which should keep prices at a sustainable level and give the Greek industry time to recover further.

## SALMON

News in the salmon sector for 2016 has so far been dominated by reports of a massive algal bloom in southern Chile that had killed some 27 million fish by 10 March. Compounded by an expected drop in production in Norway, where growth is currently limited by sea lice issues, the supply shock has driven up previously depressed Chilean farmed salmon prices while pushing up the already high Norwegian prices even further. The total financial loss for the Chilean salmon sector resulting from the algal bloom is estimated at between USD 500 million and 1 billion. For other producers, particularly Norwegian producers who are now well established in almost all major markets, the net 6.8 percent decrease in the global salmon supply and the sharp upturn in prices should be a huge boost to revenues and margins. However, this same price trend, together with the rising costs of treating diseases in pen farming, is increasing the attractiveness of land-based ventures that could take advantage of the supply gap. For wild salmon, the situation is somewhat different, with prices still languishing after high catch volumes.

## SMALL PELAGICS

Global supplies of small pelagics are forecast to increase by 4 percent in 2016, entirely due to strong growth in supplies of anchovies. Supplies of Atlantic mackerel and Atlantic

**Table 7. World production farmed salmon**

| | 2011 | 2012 | 2013 | 2014 | 2015* | 2016* |
|---|---|---|---|---|---|---|
| | *(thousand tonnes)* | | | | | |
| | *Jan-Dec* | | | | | |
| **ATLANTIC SALMON** | | | | | | |
| Norway | 1 065 | 1 232 | 1 168 | 1 258 | 1 300 | 1 235 |
| Chile | 264 | 400 | 492 | 644 | 620 | 515 |
| UK | 158 | 163 | 164 | 165 | 180 | 190 |
| Faroe Islands | 60 | 77 | 76 | 86 | 75 | 84 |
| Canada | 110 | 116 | 100 | 79 | 120 | 118 |
| Australia | 37 | 44 | 43 | 42 | 50 | 52 |
| USA | 19 | 19 | 19 | 19 | 21 | 21 |
| Others | 19 | 21 | 35 | 31 | 34 | 34 |
| **Total** | **1 726** | **2 067** | **2 146** | **2 187** | **2 338** | **2 434** |
| **PACIFIC SALMON** | | | | | | |
| Chile | 161 | 164 | 146 | 159 | 163 | 124 |
| Others | 14 | 22 | 24 | 24 | 20 | 22 |
| **Total** | **175** | **186** | **170** | **183** | **183** | **146** |
| **Grand Total** | **1 911** | **2 260** | **2 266** | **2 509** | **2 583** | **2 395** |

Source: FAO (until 2014)
* Estimate

herring are expected to decline and, as a result, prices are likely to increase for both species, though fluctuations in currency exchange rates may give a somewhat uncertain price picture. Combined with a lower capelin quota this year, analysts expect the supply drop to result in less pelagic fish available for human consumption in 2016 than in 2015. In South America, this year's strong El Niño off the Pacific coast may create long-term problems for the anchovy fishery, with fishers already reporting low landings and a high share of juveniles. Consequently, scientists fear that the long-term viability of this fishery, which is the world's largest, may be in danger.

## FISHMEAL & FISH OIL

In 2015, the market demand for fishmeal and oil was eased somewhat during Peru's second fishing season from November 2015 until January 2016, even though the total allowable catch (TAC) was set at only 1.1 million tonnes. According to Peru's Ministry of Production, 98 percent of the second fishing season quota was met, which means that the 2016 market demand should be met, to some extent, by catches from 2015. In addition, *Estudio Nacional del Fenómeno "El Niño"* (ENFEN), Peru's national institute for El Niño, reported that the El Niño strength would be moderate through the first half of 2016, which will lessen its impact on landings during this time. As a

**Table 8. Production fishmeal: Main producers**

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *(thousand tonnes)* | | | | | |
| | *Jan-Dec* | | | | | |
| Peru/Chile | 1 274 | 2 160 | 1 161 | 855 | 910 | 1 013 |
| Denmark/Norway | 345 | 256 | 140 | 190 | 281 | 292 |
| Iceland | 146 | 134 | 169 | 176 | 165 | 174 |
| **Total** | **1 855** | **2 607** | **1 801** | **1 477** | **1 672** | **1 798** |

Source: IFFO
*These figures refer only to IFFO member countries

**Table 9. Production fish oil: Main producers**

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| | *(thousand tonnes)* | | | | | |
| | *Jan-Dec* | | | | | |
| Peru/Chile | 279 | 450 | 295 | 181 | 255 | 300 |
| Denmark/Norway | 116 | 92 | 50 | 57 | 88 | 88 |
| Iceland | 69 | 67 | 67 | 69 | 51 | 52 |
| **Total** | **471** | **612** | **479** | **441** | **484** | **484** |

Source: IFFO
*These figures refer only to IFFO member countries

result, the fishmeal and oil market should remain relatively firm in terms of availability, and relatively lower prices can be expected, although the long-term trend is clearly upward. Climate change is strongly driving fish schools to move south to cooler waters, which makes anchoveta increasingly difficult to capture, while a high prevalence of anchovy juveniles in Peru's second fishing season pointed to major issues for future feed supply.

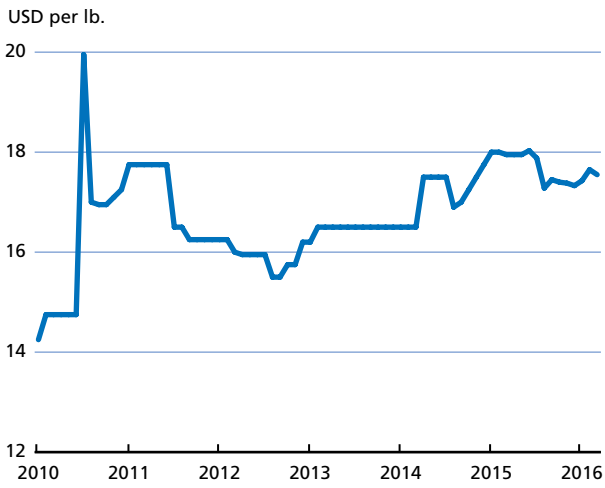
## LOBSTER

As of May 2016, supplies of lobster are strong, and the New England lobster season is expected to peak early in 2016. Consequently, prices may come under pressure. Weaker demand in China due to economic growth slowdown is also affecting prices negatively, and prices for lobster tails and live lobster may decline.

## BIVALVES

The world bivalve market was impacted by currency fluctuations and strengthening of the US dollar in 2015 and 2016, including the relatively lower value of the euro against the US dollar. EU countries reported lower bivalve imports, particularly the Spanish mussel processing industry, which moved away from expensive imports back to domestic products. Chile, again confirmed as the number

**Figure 4. Oyster prices, origin: Ireland/France**




Source: GLOBEFISH European Price Report

one exporter of mussels in 2015, increased its volume by 8.6 percent to 69 700 tonnes, due to strong levels of production. Chile's 2016 production has suffered from warmer temperatures and algal blooms. Meanwhile, oyster imports by the top two global markets, the US and Japan, increased by 15.9 percent and 49 percent, respectively, due to declining domestic landings and growing consumer demand. World trade in scallops increased in 2015, though only due to Chinese growth. A study in early 2016 by the US National Oceanic and Atmospheric Administration (NOAA) found that species such as scallops, which are considered "specialists", meaning they use a limited range of prey and habitats, are more likely to be vulnerable to climate change.

## CRAB

A significant reduction in the world crab supply is expected in 2016, due to a lower snow crab quota in Alaska and Russia's crackdown on illegal crab fishing. Consequently, snow crab prices on the Japanese market are forecast to rise, while a more stable situation is predicted in the US. Quotas for red king crab in the Barents Sea will increase, but with relatively modest growth.

# SPECIAL FEATURES

# PULSES: A MULTI-FACETED CROP

*Contributed by John Heine, Pulses Market Analyst (Consultant)*

Pulses can have an important role in the 2030 Agenda for Sustainable Development recently adopted by the global community and contribute to the achievement of many of its goals. The International Year of Pulses 2016 presents a unique opportunity to bring to the fore the challenges faced by the sector and galvanize stakeholders to ensure the successful role of pulses in food and nutrition security, poverty alleviation and sustainability.

Pulses are edible seeds that are extracted from the pods of a variety of plant species belonging to the legume family. Varying widely in shape, color and size, they all have significantly higher protein content-per-gram than most cereal crops. Grown and eaten worldwide, pulses offer an important and affordable source of protein in human diets. They are also rich in energy, dietary fibre, micronutrients such as vitamin B, and a variety of anti-oxidants. Their nutrient density has also led many food processors to employ them in fortifying other foodstuffs, especially cereals.

Legume crops are cultivated extensively by resource-poor smallholders and subsistence farmers. Pulses are important for both household food security and for income generation as a cash crop. They possess a unique ability to enrich the soil they grow in through nitrogen fixation, and they serve as companions to cereals and root crops in rotational cropping systems to increase soil fertility. In some parts of the world, pulses are also used in animal feed.

Recognizing the importance and potential of pulses for agricultural systems, nutrition and food security, in 2013, the United Nation General Assembly declared 2016 as the International Year of Pulses (IYP 2016).

## PRODUCTION

Since the early 1960s, world production of pulses has increased by about 1 percent per annum, reaching 73 million tonnes in 2011–13. Production has made steady advances over this period in all the world's regions, except Europe, where it has fallen during the past two decades.

**Figure 1. Pulse production, 1961-2013**

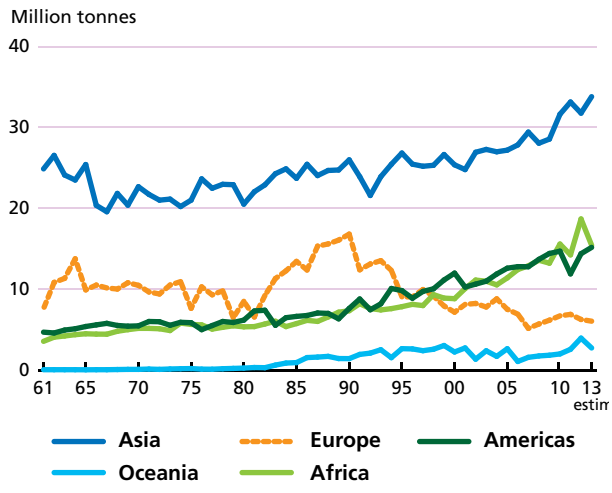



**Figure 2. Pulse yields, 1961-2013**

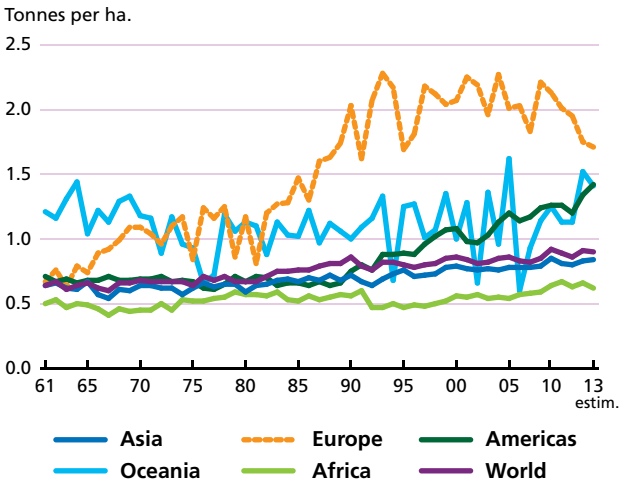



**Table 1. Average world pulse production by variety**

| | 1961-63 | | 2011-13 | |
|---|---|---|---|---|
| Species | 000 mt | % | 000 mt | % |
| Dry beans | 11.6 | 26.4 | 23.4 | 32.7 |
| Chickpeas | 7.3 | 16.6 | 12.2 | 17.0 |
| Dry peas | 10.1 | 23.0 | 10.4 | 14.5 |
| Cow peas | 1.0 | 2.2 | 5.5 | 7.6 |
| Lentils | 0.9 | 2.1 | 4.7 | 6.6 |
| Pigeon peas | 1.8 | 4.2 | 4.5 | 6.3 |
| Broad beans | 5.5 | 12.4 | 4.1 | 5.7 |
| Lupins | 0.6 | 1.4 | 1.1 | 1.5 |
| Vetches | 1.9 | 4.3 | 0.9 | 1.2 |
| Bambara beans | 0.0 | 0.1 | 0.2 | 0.3 |
| Pulses, nes | 3.2 | 7.3 | 4.8 | 6.7 |
| **Total production (mt)** | **43.8** | | **71.6** | |

Source: FAOSTAT

In the developing world, production of pulses is often small scale, where the crop is grown for subsistence. In developed countries, and in several developing countries, pulses are cultivated on an industrial scale. They are often grown in rotation with other crops or they constitute a secondary crop to staples. They require little use of fertilizers and, in fact, can reduce the fertilizer requirements for crops planted in subsequent seasons (see box).

Owing to the wide variety of species and cultivars, pulse production is diffused throughout the world and can be found in a wide range of latitudes. From a species standpoint, dry beans, chickpeas, dry peas and cow peas account for more than 70 percent of global pulse output.

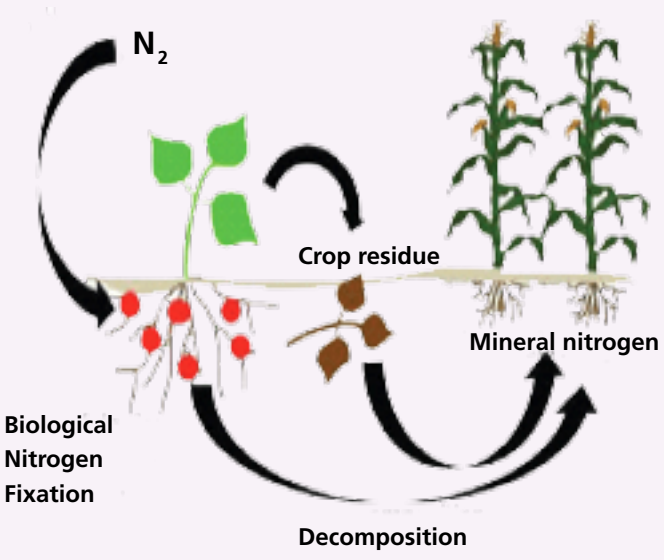
According to the latest FAO data, almost 50 percent of world pulse output is concentrated in Asia (India, Myanmar, China and Turkey), followed by 22 percent in Africa (Nigeria,

**Table 2. Pulse production - major players**

| Country | 1961-63 000 mt | 1961-63 World share (%) | 2011-13 000 mt | 2011-13 World share (%) | Avg. ann. growth 1961-13 (%) | Principal pulse crops |
|---|---|---|---|---|---|---|
| **World** | 43 849 | 100 | 73 886 | 100 | 1.3 | Beans, chickpeas, peas |
| **India** | 12 041 | 27 | 17 554 | 24 | 1.5 | Chickpeas, beans, pigeon peas |
| **Canada** | 63 | - | 5 382 | 7 | 12.0 | Peas, lentils |
| **Myanmar** | 264 | 1 | 5 061 | 7 | 7.0 | Beans, pigeon peas, chickpeas |
| **China** | 9 517 | 22 | 4 530 | 6 | 0.4 | Beans, broad beans, peas |
| **Nigeria** | 558 | 1 | 3 866 | 5 | 7.5 | Cow peas |
| **Brazil** | 1 857 | 4 | 3 054 | 4 | 2.8 | Beans |
| **Australia** | 23 | - | 3 049 | 4 | 18.5 | Lupines, lentils, chickpeas |
| **Ethiopia** | n/a | - | 2 580 | 3 | 2.6 | Broad beans, beans, chickpeas, peas |
| **Russia** | n/a | - | 2 307 | 3 | 2.3 | Peas, chickpeas, vetches |
| **USA** | 1 131 | 3 | 2 030 | 3 | 3.5 | Beans, peas |
| **Tanzania** | 133 | – | 1 739 | 2 | 6.4 | Beans |
| **Niger** | 87 | - | 1 556 | 2 | 17.6 | Cowpeas |
| **Mexico** | 845 | 2 | 1 312 | 2 | 4.2 | Beans, chickpeas, vetches |
| **Turkey** | 595 | 1 | 1 260 | 2 | 2.0 | Beans, chickpeas, lentils, vetches |

Source: FAOSTAT

**Box. Environmental sustainability: a unique ability to reduce the need for costly inputs**




Pulses have a unique ability to reduce the need for costly inputs to subsequent crop cycles through a process called biological nitrogen fixation. Use of legumes in pastures and for soil improvement dates back to the Romans who noted "Legumes should be planted in light soils, not so much for their own crops as for the good they do to subsequent crops"[1]. Naturally occurring bacteria in the soil attach to root fibres and penetrate the root, thus beginning a symbiotic relationship with the plant in which the bacteria stimulate the growth of encapsulating nodules. These nodules then host the bacteria colonies which collect nitrogen from the air and store it in the nodules for use by the plant. After the plant has fruited and died, the nodules decompose and release the stored nitrogen back into the soil. Proper inoculation boosts the yield of the mother pulse plant and, at the same time, will provide a boost to plantings of nitrogen-needy crops in subsequent crop cycles. As a result, the plantings will require less nitrogenous fertilizer and experience "naturally" occurring yield growth.

Source: FAOSTAT

Tanzania, Niger and Ethiopia), 19 percent in the Americas (Canada, Brazil, USA and Mexico), 9 percent in Europe and the remaining 4 percent in Oceania (Figure 1). Low Income Food Deficit Countries (LIFDCs) account for 48 percent of world production and Least Developed Countries (LDCs) for 23 percent, substantiating the importance of these crops in the most economically disadvantaged countries. For the past 30 years, the largest global producer of pulses has unwaveringly been India, consistently producing two to three times more than any other country.

In Asia, Myanmar increased its pulse production almost 20-fold during the period examined, becoming the world's third largest producer. In China, total pulse production dropped by more than half over the past 50 years representing a suspected shift in consumption toward animal-based proteins, following growth in per capita incomes in the country.

In the Americas, Canada stands as a major producer and has witnessed a remarkable expansion in pulse acreage and production over the last three decades, with the bulk of the produce destined for exports. Similarly, Australia's export-driven pulse sector ships more than half of its crop. In Africa, the main pulse producers – Ethiopia, the United Republic of Tanzania, Nigeria and Niger – have all boosted production significantly in recent years. None have done so more effectively than Ethiopia, which, through a mixture of national and international support, such as the country's "Agricultural Growth Programme", has successfully doubled chickpea yields and is now among the world's top ten exporters of the commodity.

## CONSUMPTION

Once removed from pods and dried, pulses can be stored without refrigeration for over a year and can be consumed directly by the household without undergoing processing. Dry beans, peas and chickpeas need to be soaked for approximately twelve hours before cooking, which itself requires between 45 minutes and 1.5 hours to complete. Other pulses, such as lentils and split peas, generally do not need soaking and require much less time to cook, anywhere between 10 and 40 minutes.

According to the latest FAO data, around 7 kg of pulses are consumed worldwide per person per annum, supplying 65 calories and 4.0 g of proteins per person per day. At the country level, dietary shares are the highest in Rwanda and Niger, accounting for as much as 13 percent of all calories consumed. In fact, pulses currently play a substantive role in diets in many of the Least Developed Countries (LDCs).

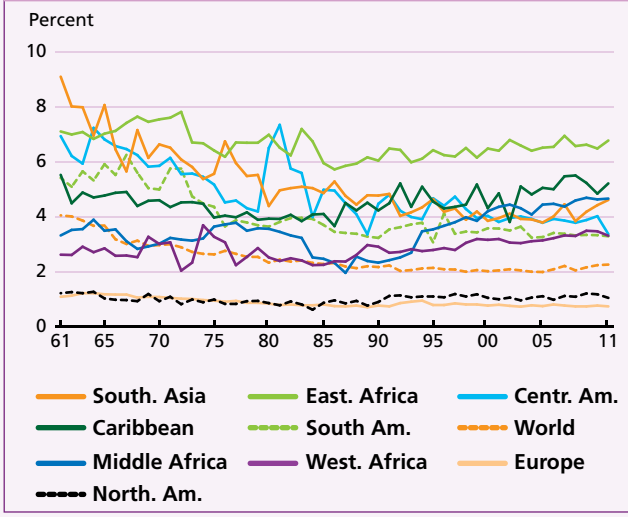
Indeed, the role of pulses in the diets of economically vulnerable countries has grown in importance in recent decades, and is a tendency shared by many regions in the developing world. Dietary shares at the regional level still remain relatively minor, but the long-term trend of declining consumption witnessed in earlier decades appears to be in reversal. This cannot be said of developed regions, particularly Europe and Northern America, in which dietary growth has been negligible. The lack of convenience, preferences and access to affordable animal proteins could underpin these trends.

**Table 3. Top pulse-consuming countries (shares in total calories and protein intake)**

| Area | Grand total (cal/cap/day) | Pulses (cal/cap/day) | % Share pulses | Total protein supply quantity (g/capita/day) | Pulse protein supply quantity (g/capita/day) | % Share |
|---|---|---|---|---|---|---|
| **World** | 2 868 | 64 | 2.2 | 80.49 | 4.05 | 5.0 |
| **Rwanda** | 2 148 | 276 | 12.8 | 52.40 | 17.85 | 34.1 |
| **Niger** | 2 546 | 327 | 12.8 | 80.94 | 21.70 | 26.8 |
| **Haiti** | 2 097 | 181 | 8.6 | 47.41 | 11.44 | 24.1 |
| **Ethiopia** | 2 103 | 175 | 8.3 | 61.84 | 12.20 | 19.7 |
| **Tanzania** | 2 200 | 178 | 8.1 | 56.99 | 11.17 | 19.6 |
| **Malawi** | 2 334 | 174 | 7.5 | 63.63 | 10.42 | 16.4 |
| **Cameroon** | 2 586 | 192 | 7.4 | 69.29 | 12.69 | 18.3 |
| **Kenya** | 2 170 | 160 | 7.4 | 63.27 | 10.33 | 16.3 |
| **Nicaragua** | 2 564 | 186 | 7.3 | 67.38 | 12.13 | 18.0 |
| **UAE** | 3 215 | 231 | 7.2 | 98.23 | 14.62 | 14.9 |

Source: FAOSTAT

**Figure 3. Trends in dietary shares of pulses**




Source: FAOSTAT

Given that mono-diets are associated with poor nutritional outcomes, the inclusion of pulses can contribute to improving the nutritional balance of food intake. They represent an important, and often a first step towards dietary diversification in resource-poor and subsistence agriculture contexts. Their inclusion in the diets of people is facilitated by the significant price advantage they have over animal-based products, given that pulses are a much cheaper staple source of protein, especially for low-income consumers around the world, and more so in societies that do not consume animal protein.

The recognized health benefits of pulses have led to their being an integral part of nutritional programs in many countries. This, plus the need to respond to consumer needs – especially in reducing their lengthy cooking time – has fostered the development of more than 350 commercially known pulse-related value-added products, including pulse flour, starch, noodles, bread, breakfast cereals, dumplings and baked/fried whole pulse snacks. Pulses are also used in pet and animal feed preparations [2]. While commonly thought of in a vegetarian context, pulses are also used as meat binders, extenders and stabilizers[3]. The absence of gluten and the high quality protein content[4] constitute an additional advantage that makes pulses particularly suitable as an alternative to wheat in breads, pasta products, tortillas, bagels, crackers, flat breads, pizza crusts and cookies[5].

With food manufacturers becoming more concerned about the macro- and micronutrient composition of the products they offer, pulses have become a commodity of growing interest. This is due to their unique protein composition profile which complements the protein composition of cereals, making pulse flours a natural companion ingredient for traditional cereal-flour-based foods.

While the majority of animal feed requirements are satisfied with oilmeals and coarse grains, pulses (peas in particular) can serve as a low-cost foodstuff alternative. Indeed, being an important source of amino acids – the building blocks of protein, as well as energy supplied by carbohydrates, pulses are also applied in animal diets. Typical animal feeding applications include pet food, aquaculture, and general livestock (poultry, swine and cattle). However, feed use at the global level has been waning over time. The share of feed in total use stood at 30 percent in the early 1990's but has fallen to approximately 20 percent in recent years.

Industrial uses of pulses are not extensive as of yet, although pulses are being used in adhesives and carbonless paper, and the potential for biofuel production from hulls and stalks is being explored.

## INTERNATIONAL TRADE IN PULSES

International trade in pulses has expanded by an average of 5.5 percent per annum since 1961, reaching a volume of 13.6 million tonnes in 2011–13, indicating a progressive integration of pulses in world commerce. In the last decade, trade in dry beans and dry peas has made greater inroads into global markets than others (Figure 2). Up to the 1970s trade as a share of production was extremely thin relative to other crops, standing at under 5 percent. However, on account of growth in export-led sectors, such as in Canada, Australia and Myanmar, the share of production that is currently traded is around 18 percent – higher than most other staple crops. The expansion of global pulse trade is mostly on account of increased demand in the traditional consuming markets of South Asia as well as rising demand in Europe for animal feeding.

International trade in pulses is characterized by a relatively high concentration of both imports and exports among a small number of trading countries, with the top ten exporters and top ten importers accounting, respectively, for an average of 77 percent and 75 percent of global trade in 2011–13. An emerging feature in the international pulse market is China's likely reversal from its historic position as a net-exporter to become a net-importer, due to its growing use of dry pea protein to enrich vermicelli noodles and the country's slow expansion of pulse production. At the current trajectory, China could overtake India as the number one importer of yellow peas in the coming years.

Since the mid-1990s, Canada has been the world's leading supplier of pulses to world markets, exporting mostly to India, Bangladesh and China. Australia and Myanmar, the second and third largest pulse exporters,

**Table 4. Trade by major exporter/importer in pulses**

| 1961-63 | | | 1981-83 | | | 2011-13 | | |
|---|---|---|---|---|---|---|---|---|
| Country | 000 tonnes | Share (%) | Country | 000 tonnes | Share (%) | Country | 000 tonnes | Share (%) |
| Major exporters | | | Major exporters | | | Major exporters | | |
| USA | 237 | 18 | USA | 702 | 23 | Canada | 4 223 | 28 |
| Myanmar | 117 | 9 | Turkey | 521 | 17 | Australia | 1 534 | 10 |
| Morocco | 107 | 8 | Thailand | 246 | 8 | Myanmar | 1 455 | 10 |
| Ethiopia | 87 | 6 | Canada | 213 | 7 | USA | 1 118 | 8 |
| China | 72 | 5 | Argentina | 189 | 6 | China | 939 | 6 |
| Major importers | | | Major importers | | | Major importers | | |
| UK | 164 | 40 | Mexico | 342 | 20 | India | 3 613 | 32 |
| Germany | 134 | 32 | Netherlands | 318 | 18 | EU-27 | 1 103 | 10 |
| Japan | 113 | 27 | Japan | 215 | 12 | China | 956 | 8 |
| France | 94 | 23 | India | 165 | 9 | Bangladesh | 563 | 5 |
| Sri Lanka | 66 | 16 | UK | 158 | 9 | Pakistan | 546 | 5 |

Source: FAOSTAT

mainly export to India and Pakistan. These destinations constitute the major importing countries, with India currently the largest buyer accounting for almost one-third of global volumes. The EU is also an important destination in world pulse trade.

For the future, international trade in pulses is likely to continue growing. Constraints to pulse production and productivity growth in the developing regions may not be easily overcome and, as a result, production would most likely lag behind demand. It is expected that many developing countries would continue to rely on imports to meet their needs in pulses.

## CHALLENGES AND OPPORTUNITIES

Pulses can play an important role in fighting hunger and malnutrition and in improving agricultural sustainability. They can also support the livelihoods of smallholders, being cultivated as cash crops or grown for food by farmers who consume part of their agricultural produce. But serious challenges remain.

For instance, the pace of expansion in global pulse production has not matched that of the two oil crops belonging to the broader legume family – soybean and groundnut. Despite having an untapped pool of genetic diversity for adaptation and yield growth, pulses have registered only modest productivity gains and have not been widely subject to technical initiatives concerning seed enhancement, herbicide tolerance and pest resistance. Consequently, reducing the yield gap for pulses is the primary challenge in countries where pulses play a significant role in diets. For instance, in India, it has been estimated that food production must increase by about 5 million tonnes (Mt) annually for the next 25 years to ensure food and nutritional security. The fact that a large share of the Indian population does not consume animal-origin proteins makes realizing the potential of pulses especially important.

Renewed efforts are needed to disseminate high yielding varieties to producers, especially to the majority who are small-scale producers. Initiating a positive shift in the supply of pulses also calls for lifting the many barriers to innovation – especially the under-investment in agricultural research and development [6] by both the public and private sectors – to improve varieties of all the pulse species. For example, according to the Agricultural Science and Technology Indicators database, more than triple the number of full-time-equivalent scientists have been dedicated to advancing cereals among the 35 African countries analyzed [7] than those working on pulses.

Further investment is also needed along the entire value chain to reduce inputs requirements, improve seed systems and storage, and reduce post-harvest losses. Sensitizing consumers to the nutritional benefits of pulses also remains a challenge in some parts of the world, especially where consumption growth is either stagnating or where it has stalled. Indeed, encouraging awareness of the nutritional value of pulses can help consumers adopt healthier diets. Where animal-based foodstuffs dominate protein intake, the promotion of pulses can be an integral way to ensure that diets remain balanced and to circumvent increases in non-communicable diseases. This applies not only to developed countries, but also in countries that are undergoing dietary transition and rising income.

Soil degradation poses a serious threat to food security in many parts of the world. In regions that are severely impacted, such as in Africa, Central America and the

Caribbean, pulses are important in diets. By cultivating pulses in rotation with other crops, smallholders could enhance yields and bolster their incomes while containing the threat to food security posed by soil degradation. Improving know-how at the farm level, and investing in productivity all the way to consumer advocacy will foster the marketability of pulses at the local, regional and international level, and can create valuable addition to farmers' livelihoods.

For these reasons, pulses can play an important role supporting multiple objectives of the 2030 Agenda for Sustainable Development, particularly the SDG targets addressing hunger and malnutrition, the productivity and incomes of smallholders, and the sustainably of agricultural practices.

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# MARKET POLICY DEVELOPMENTS

# GRAINS: MAJOR POLICY DEVELOPMENTS: OCTOBER 2015 - MID-MAY 2016*

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Afghanistan | Wheat | Nov-15 | Bilateral agreement | Agreed to a purchase of 600 000 tonnes of wheat from Kazakhstan. In addition, Kazakhstan agreed to donate 400 000 tonnes of wheat to Afghanistan as aid. |
| Algeria | Grains | Dec-15 | Trade policy | Introduced import and export licensing system for several agricultural commodities (including durum and bread wheat, barley, oats and maize) as well as for agricultural products originating from the EU, in order to take advantage of the custom duty exemption and preferential tariffs. |
| Argentina | Wheat, Maize | Dec-15 | Export tariff | Eliminated a 23 percent export tax on wheat and a 20 percent export tax on maize. |
| | Grains | Dec-15 | Export policy | Removed export restrictions, eliminating the export permit system (known as the Register of Export Operations) for grains and oilseeds and replacing it with a reporting mechanism to monitor exports. |
| Australia | Barley, Sorghum | Dec-15 | Bilateral agreement | Removed the 3 percent duty on Australian barley and sorghum imported into China under the China-Australia Free Trade Agreement. |
| Azerbaijan | Wheat | Jan-16 | Government procurement | Exempted wheat, wheat flour and bread from value-added tax. The measure aims at reducing prices of these commodities, which have risen because of the currency weakness. |
| Bangladesh | Wheat | Nov-15 | Government procurement | Published new international milling wheat quality specifications for government tenders. |
| | | Dec-15 | Government procurement | Revised its food grain procurement policy. Under the revised policy, only registered farmers can sell grain to the government on a first-come first-served basis. |
| Brazil | Maize | Jan-16 | Stocks release | Announced that up to 500 000 tonnes of maize will be auctioned from government stocks. |
| | | Mar-16 | Stocks release | Announced that maize will be sold from the state granaries |
| | | Apr-16 | Import tax | Suspended import tax on maize sourced from non-Mercosur countries in response to tightening domestic supplies. The suspension covers a period of six months for up to 1 million tonnes. |
| Bulgaria | Wheat | Nov-15 | Production support | Announced availability of soft loans for farmers for up to USD 5.9 million. The funds can be used for purchases of fertilizers and wheat planting seeds at a rate of USD 47 /ha for fertilizers and USD 23 /ha for planting seeds. The interest on the loans is 4.5 percent per year. |
| Canada | Wheat | Dec-15 | Licensing requirements | Introduced new purchasing regulations for neonicotinoid-treated maize and soybeans seeds in the province of Ontario. Maize and soybean seeds treated with the neonicotinoid insecticides will be subject to licensing and reporting requirements, as well as to certain restrictions on end users. |
| | | Apr-16 | Transport measures | Extended for another year the transportation rule put in place in 2014 to speed movement of grain by rail. |
| Chile | Wheat | Jan-16 | Producer support | Established a new purchasing scheme of domestic wheat for small farmers, as a way to protect them against falling international prices. |
| China | Wheat, Maize | Dec-15 | Food safety regulations | Signed food safety protocols with the Russian Federation, covering wheat, maize, soybeans, rapeseed and rice. |
| | Grains | Feb-16 | Import policy | Lifted phytosanitary restrictions on imports of grains from Kazakhstan. |
| | Maize | Mar-16 | Producer subsidies | Announced the end of the state maize purchasing and stockpiling programme starting in the 2016/17 marketing season. Under the new policy, farmers to be offered direct support and other forms of subsidies (details to be announced). This follows a recent government decision to cut the guaranteed purchase price of maize by 10 percent for crops to be harvested starting in September of this year. |
| | Grains | Apr-16 | GMO Policy | Announced the commercialization of pest-resistant genetically modified maize was being considered under the government's 13th Five-Year Plan. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Colombia | Maize | Oct-15 | Import quota | Authorized additional maize imports of 2.5 million tonnes. |
| Egypt | Wheat | Nov-15 | Government procurement | Approved a policy proposal to replace the procurement price with direct payments to farmers, providing each farmer with LE 1 300/feddan (USD395/ha) up to a maximum of 25 feddans (10.5 ha) per farmer. |
| | Wheat | Jan-16 | Import policy | Announced that wheat imports containing any trace of ergot fungus would be rejected (i.e. a zero tolerance). |
| | Wheat | Feb-16 | Government procurement | Announced that wheat will be procured at a fixed price of EGP 2 800/tonne (USD 358) in 2016/17 (Apr/Mar), reversing previously announced plans to buy local supplies at an average global price, supplemented by a direct cash subsidy. |
| | Wheat | Feb-16 | Import policy | Issued a joint statement from the Ministries of Supply and Agriculture that, contrary to announcements made in January, wheat import specifications for ergot had not been changed and that 0.05% ergot tolerance level would remain in place. |
| | Wheat | Apr-16 | Trade ban | Banned local purchase of imported wheat in domestic grain procurement scheme for three months. |
| | Wheat | Apr-16 | Government procurement | Announced the government decision to procure local supplies at the subsidised price of EGP 420 per ardeb (USD 313/tonne), reversing its previous decision to replace the crop subsidy with an area-based subsidy. |
| | Wheat | Apr-16 | Import policy | Lowered the specifications of moisture content of imported wheat from 13.5 percent to 13.0 percent. |
| | Maize | May-16 | Government procurement | Set a new yellow maize purchasing price of EGP 2 100 (USD 236) per tonne, in order to encourage domestic production and decrease the country's reliance on imports. |
| | Wheat | May 16 | Government procurement | Allocated two billion pounds ( USD 224 million) for the purchase of 2016 harvested wheat from farmers. |
| India | Wheat | Oct-15 | Import tariff | Increased basic custom duty on imports of wheat to 25 percent from 10 percent, effective until 31 March 2016. |
| | Wheat, Barley | Nov-15 | Government procurement | Raised wheat minimum support price by 5.2 percent, to INR 1 525 per quintal (USD 230 per tonne); and the minimum support price for barley by 6.5 percent, to INR 1 225 per quintal (186 USD per tonne). |
| | Maize | Dec-15 | Import quota | Issued licenses for duty-free imports of 500 000 tonnes of maize to ease the tight domestic supply following the drought-reduced summer-sown (kharif) crops. |
| | Wheat | Mar-16 | Import tariff | Extended the 25 percent tax on wheat imports until 30 June 2016. |
| | Grains | Apr-16 | Marketing | Launched the National Agriculture Market e-market platform covering 25 key commodities, including wheat, paddy and maize. The platform allows registered farmers to sell their produce online across the country, where they can get the best price. |
| Indonesia | Maize | Dec-15 | Import quota | Lowered 2016 maize import allowance to 2.4 million tonnes – 600 000 tonnes less than in 2015. |
| | Feed ingredients | Dec-15 | Import tariff | Exempted imports of poultry feed ingredients (including maize and wheat pollard) from value added tax. |
| | Maize | Apr-16 | Import quota | Limited maize imports for feedmills to 1 million tonnes, expecting domestic production to be sufficient to cover the anticipated demand. |
| | Maize | Apr-16 | Procurement price | Increased the procurement price of maize from Rp 2 000 per kg (USD 153 per tonne) to Rp. 2 700 per kg (158 per tonne). |
| Islamic Republic of Iran | Grains | Nov-15 | Government procurement | Increased procurement price for durum and milling wheat by 10 percent and for barley by 9 percent. |
| | Grains | Nov-15 | Government procurement | Increased procurement price for durum and milling wheat by 10 percent and for barley by 9 percent. |
| | Wheat | Feb-16 | Import quota | Announced that there would be no state imports of wheat for the year starting 20 March, because of sufficient domestic supplies. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Japan | Wheat | Nov-15 | Government procurement | Lowered the government's purchase price of wheat by 5.7 percent to Yen 56 640 (USD 520) per tonne. |
| | | Mar-16 | | Announced that imported wheat will be sold to domestic millers at an average price of Yen 52 621 (USD 468) per tonne between April and September 2016, down 7.1 percent from the prior 6-month period price. |
| Jordan | Wheat and barley | May-16 | Government procurement | Set preferential prices for guaranteed purchase of wheat and barley from farmers: JOD 450 ( USD 634) per tonne for wheat and JOD 370 ( USD 522) per tonne for barley. |
| Kazakhstan | Grains | Oct-15 | Production support | Announced that starting from January 2016, investment subsidies will replace per-hectare crop subsidies – to encourage farmers to invest in new machinery or technology and improve production efficiency. |
| | Wheat | Dec-15 | Bilateral agreement | Signed a protocol with China to remove restrictions on wheat exports to the country. |
| Kenya | Maize | Apr-16 | GMO Policy | Announced that commercial plantings of insect-resistant genetically modified maize will start in 2018. |
| Korea - Republic of | Feed ingredients | Dec-15 | Import tariff | Announced an updated list of adjustments to tariffs and voluntary tariff rate quotas for 2016 in order to facilitate imports of US agricultural products, particularly feed grains and food ingredients. The tariff rate quota for feed maize was set at 10 million tonnes with zero percent duty. Excluded from the list, milling wheat will carry a 1.8 percent duty. |
| Malawi | Maize | Feb-16 | Import quota | Approved 50 000 tonnes of maize imports from Tanzania following a severe drought which reduced availability in the country. |
| Mexico | Maize, Wheat, Sorghum | Dec-15 | Government support | Granted a flat rate payment for maize, sorghum, wheat and rice to growers for the 2016 spring/ summer and 2016/2017 fall/winter crop cycles. Under the domestic agricultural support programme, supports will be based on the size of the production unit. |
| Morocco | Wheat | Oct-15 | Import tariff | Reduced import duties on soft wheat from 75 percent to 50 percent but maintained the 2.5 percent duty on durum wheat. |
| | Wheat | Dec-15 | Import tariff | Lowered the import duty on soft wheat from 50 percent to 30 percent. |
| | Wheat | Apr-16 | Import tariff | Announced the continuation of a 30 percent import duty on soft wheat until the end of 2016, to ensure adequate market supply. |
| Nigeria | Maize, sorghum | Feb-16 | GMO Policy | Release of 17 new high yield crop varieties approved by the National Varieties Release Committee to enhance food production according to the. Among those, eight correspond to maize hybrids, one to maize and two to sorghum. |
| | Wheat | Apr-16 | Stock release | Approved the release of 10 000 tonnes of wheat from the National Strategic Grains Reserve to stabilize food prices. |
| | Wheat | May-16 | Import ban | Announced a ban on import of six commodities by 2018, including wheat. |
| Pakistan | Maize | Nov-15 | Import tariff | Approved the imposition of a 30 percent regulatory duty on import of maize, due to abundant maize stocks and high domestic prices compared with those in international markets. |
| | Wheat | Nov-15 | Government procurement | Guaranteed minimum price of Rs 1 300 per 40 kg (USD 305.5/tonne) for wheat crops to be harvested in 2015-16. |
| | Maize | May-16 | GMO policy | Approved cultivation of genetically-modified maize seeds in order to boost domestic production and cut costs. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Russian Federation | Wheat | Oct-15 | Government procurement | Increased intervention prices for the 2015 wheat crop, setting the State Intervention Fund price for wheat Class 3 at RUB 10 900 (USD 169) per tonne, wheat Class 4 at RUB 10 400 (USD 161) per tonne, and wheat Class 5 (feed quality) at RUB 8 800 (USD 136) per tonne for all federal districts. The new prices of milling wheat classes 3 and 4 were increased by some 14 percent and 18 percent, respectively, from their previous levels set in March, their highest in ten years. |
| | Wheat | Oct-15 | Export tariff | Reduced export tax to encourage sales in view of ample domestic supplies after good production results in 2015. The new tax is calculated as half of the contracted price, minus RUB 6 500 (USD 103) per tonne (previously it was RUB 5 500 (USD 87)), with a minimum threshold of RUB 10 per tonne. |
| | Maize | Feb-16 | Import ban | Banned the importation of US maize and soybeans from 15 February due to phytosanitary safety concerns. |
| | Wheat | March-16 | Government procurement | Announced that the minimum prices for 2016 wheat crop purchases by the State Intervention Fund for its restocking programme in 2016/17 will remain unchanged compared to the previous season. Purchasing is expected to start from 1 July 2016. The Intervention Fund price for wheat (Class 3) will remain at RUB 10 900 (USD 161) per tonne. |
| Saudi Arabia | Wheat | Nov-15 | Production | Ended its domestic wheat production programme that lasted for more than three decades by fully implementing the 2007 decree, which had set 2016 as the date for termination of domestic cultivation of wheat. |
| | | Nov-15 | Marketing | Approved establishment of four milling companies, and restructured the Grain Silos and Flour Mills Organization under a new name, the Saudi Grains Organization. The Public Investment Fund of the Ministry of Finance will set up the four flourmill companies, which will be eventually sold to the private sector, to produce wheat flour for domestic market. |
| South Africa | Maize | Feb-16 | GMO Policy | Approved plans allowing the temporary storage of genetically modified maize at pre-designated facilities. |
| | Wheat | Apr-16 | Import duty | Approved a 34 percent increase in the tariff on wheat imports for the rest of 2016. The tariff will be raised from the R 911.20 (USD 61) per tonne established in September 2015, to R 1 224.31 (USD 82) per tonne. The increase of the tariff aims to protect local farmers from low international prices and sustain domestic production of wheat. |
| Sri Lanka | Wheat | Mar-16 | Import tariff | Reduced tax concessions on wheat flour imports temporarily, to buoy demand for locally produced rice. |
| Thailand | Wheat | Jan-16 | Import policy | Added imported wheat grains to the "controlled" commodity list, in order to better monitor the impact of feed wheat imports and to guarantee that they will not influence negatively domestic maize and cassava prices. |
| Turkey | Maize | Apr-16 | Import ban | Announced a directive, which bans imports of maize until 30 November 2016. This applies only to traders with import authorizations issued after 10 April 2016. |
| Ukraine | | Nov-15 | Export quota | Agreed to cap wheat exports at 16.6 million tonnes in 2015/16 in order to maintain sufficient reserves and meet domestic demand. |
| United States | Wheat | Dec-15 | GMO policy | Announced that plant developers will be required to apply for a permit for field trials involving genetically modified wheat from 1 January 2016. This is more stringent than the process set in 1997, under which such trials were authorized by notification. |
| Vietnam | Wheat | Nov-15 | Import ban | Banned imports of wheat from Ukraine temporarily, stating phytosanitary irregularities as the reason. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Zambia | Maize | Dec-15 | Stock release | Announced plans to sell maize from state reserves to millers to control escalating prices. The measure will stay in place until June 2016. The programme also will distribute relief maize to vulnerable households through the Governments Disaster Management and Mitigation Unit. |
| | | Feb-16 | Government support | Dispatched more than 100 tonnes of relief maize to Luano District in Central Province, through the government's Disaster Management and Mitigation Unit (DMMU) in response to the hunger situation in the area. |
| | | Feb-16 | Export ban | Restricted maize exports to Zimbabwe to help rebuild reserves, in the light of the El Niño-induced drought. |
| | | Apr-16 | | Banned export of maize and maize products for a week to ascertain the actual quantities of maize held by the Food Reserve Agency, the grain and millers associations of Zambia, and some members of the Zambia National Farmers Union. |
| | | Apr-16 | | Lifted the 1-week ban imposed on maize exports, after a physical verification revealed stocks were sufficient to last until August 2016. |
| Zimbabwe | Maize | Nov-15 | Production support | Started the distribution of inputs (seeds and fertilizer) bought under the Presidential Input Support Scheme, which mainly targets vulnerable households. The allocations for the 2015/16 season amounted to USD 28 million, in support of 300 000 vulnerable households. The input support package includes 10 kg of maize/small grain seeds, 50 kg of compound D and 50 kg of ammonium nitrate. |
| | Maize | Mar-16 | Import quota | Imported additional 469 000 tonnes of white maize to be used for current food emergency. |

* 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: JANUARY 2016 - MID- MAY 2016*

| COUNTRY | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Argentina | Feb-16 | Production support, credit | Announced that Banco Nación would triple working capital loans to the rice sector to ARS 300 million (USD 20.5 million). In addition, the national government and provincial authorities in Corrientes will jointly contribute ARS 45 million (USD 3.1 million) to a revolving fund destined to aid harvesting operations. The initiatives are meant to assist the sector in facing liquidity issues associated with poor export performance in 2015. |
| Bangladesh | Feb-16 | Food subsidies | Lowered the open market sale price of rice by 25 percent to BDT 15 (USD 0.2) per kg. The measure is meant to hasten sale of government stockpiles and free storage space, ahead of the 2016 Boro harvest. |
| | Mar-16 | Production support | Announced that incentives on Aus rice cultivation would be renewed for the 2016 season under a BDT 336.2 million (USD 4.2 million) package. The funds are to provide some 230 000 smallholders with free fertilizer and seeds of high-yielding and Nerica varieties, in addition to cash outlays to cover irrigation costs. |
| | Apr-16 | Government procurement, purchasing prices | Announced that it would purchase 1.3 million tonnes of paddy and rice from the 2016 Boro harvest. Of this volume, 700 000 tonnes would consist of direct paddy purchases from farmers, in a move intended to support producers at harvest time. The procurement drive – from 5 May until 31 August 2016 – offers BDT 32 per kg of rice purchased (USD 400 per tonne) and BDT 23 per kg of paddy bought (USD 288 per tonne). |
| Bilateral/Multilateral | Mar-16 | Production support, management of natural resources | Announced that, in response to a request from Viet Nam, China (Mainland) would raise water discharges from the Jinghong Hydropower Station in Yunnan between 15 March and 10 April 2016. The measure is meant to raise water levels in the Mekong River and help alleviate water shortages associated with drought in Cambodia, Myanmar, the Lao People's Democratic Republic and Viet Nam. Officials subsequently decided to extend the increased water discharge until 31 May 2016. |
| Brazil | Jan 16 | Stock release | Authorized the release of up to 100 000 tonnes from government inventories, at a stock release sale price (*preço de liberação de estoques*) of BRL 36.57 per 50 kg (USD 203 per tonne). |
| | Feb-16 to Apr-16 | Stock release | Sold 150 000 tonnes of paddy from government stocks through five auctions, which offered a combined 185 000 tonnes of paddy. |
| Cambodia | Mar-16 | Export promotion, credit, tax policy | Announced that in order to aid the sector in cutting production costs, the 10 percent value added tax levied on unprocessed rice would soon be abolished and that measures would be taken against entities labelling imported rice as Cambodian. Officials would also consider the rice sector's requests for credit assistance to help processors cover the cost of local purchases. Negotiations with Thai officials were also being pursued to enable Cambodian rice to be exported via the Thai Lam Chabang port. |
| China (Mainland) | Feb-16 | Support prices | Decided to keep government paddy procurement prices for the 2016 season unchanged at CNY 138 per 50 kg bag for late/ intermediate Indica (USD 428 per tonne) and at CNY 155 per 50 kg bag for Japonica varieties (USD 481 per tonne). In the case of early Indica paddy, procurement prices were lowered by 1.5 percent year-on-year to CNY 133 per 50 kg bag (USD 412 per tonne). |
| Colombia | Feb-16 | Import requirements, phytosanitary measures | Set forth the sanitary and phytosanitary requirements to import rice from Uruguay. |
| Egypt | Jan-16 to Apr-16 | Import tender | Opened three international tenders between January and April to source at least 10 000 tonnes of rice. All tenders were subsequently cancelled, with officials stating in April that they would pursue direct agreements with foreign suppliers, should the price of offers not be reduced. |
| | March 16 | Export ban | Announced that the suspension of the ban on milled rice exports would not be extended beyond its original 6-month period. As such, milled rice shipments would again be prohibited as of 4 April 2016. |
| | May 16 | Import quota | Announced that the General Authority for Supply Commodities (GASC) would seek to import 80 000 tonnes of rice for immediate delivery, through direct contracts with suppliers. The volume would serve to ensure sufficient local availabilities during Ramadan. |

| COUNTRY | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Guyana | Jan-16 | Budgetary allocations, production support, tax policy, export promotion | Announced that GYD 20.3 billion (USD 94 million) would be allocated to the agricultural sector as part of its 2016 budget. Steps would be taken to encourage agricultural diversification, boost competitiveness and intensify agricultural research, training and extension services. The government would also continue to assist the rice sector in finding new outlets for its produce, with parboiled rice exempted from value added taxes. |
| India | Jan-16 | Production support, crop insurance | Approved the "Pradhan Mantri Fasal Bima Yojana" crop insurance scheme, to replace the National Agricultural Insurance Scheme (NAIS) and the Modified National Agricultural Insurance Scheme (MNAIS) as of the 2016 Kharif season. The programme aims to provide comprehensive crop insurance against losses incurred due to natural calamities, with premiums to be paid by farmers set at lows of 2 percent for Kharif crops and 1.5 percent for Rabi crops. Government outlays will cover the balance of premiums, abolishing pre-existing ceilings, such that farmers are in a position to claim insured amounts in full when facing losses. |
| | Feb-16 | Budgetary allocations, production support | Set a target to double rural incomes by 2022, as part of its 2016 budgetary allocations. Officials will additionally seek to bring 10.9 million hectares of farmland under irrigation through the "Pradhan Mantri Sinchai Yojana" scheme and by fast-tracking 89 irrigation projects. This would be further to creating a Long Term Irrigation Fund and enhancing groundwater management. Efforts to address deteriorating soil health by extending soil health cards to farmers will be continued, as will steps to promote organic farming, including through the "Parmparagat Krishi Vikas Yojana" scheme launched last year. Agricultural credit and storage capacity would also be boosted, while a pilot programme extending direct payments to farmers to help them purchase fertilizers would be implemented. Steps to enhance farmer access to markets through the Unified Agricultural Marketing Scheme will also be taken, together with improvements to the procurement system. The latter would include encouraging greater de-centralization and online procurement by the Food Corporation of India. Meanwhile, INR 55 billion (USD 830 million) will go to implement the "Pradhan Mantri Fasal Bima Yojana" crop insurance scheme approved in January. |
| Malaysia | Jan-16 | Food subsidies | Announced that the government would supply hard-core poor households with a monthly ration of 20 kg of rice through December 2016, under the MyBeras programme. The initiative forms part of the 2016 Budget Recalibration and is geared to aid vulnerable groups in coping with rising prices. The scheme was originally targeted to begin as of March 2016, but official statements to the press later indicated that it would be implemented between May 2016 and February 2017. |
| | Jan-16 | Production support | Announced that the government would extend an additional MYR 50 (USD 13) per tonne outlay to rice producers, as part of the 2016 Budget Recalibration. Additional support measures would include steps to improve the grading system. |
| Nigeria | Mar-16 | Import restrictions | Reintroduced, and put into immediate effect, the ban on rice imports through land borders. |
| Philippines | Jan-16 | Import quota | Decided to abstain from importing rice in the first quarter of 2016, as local availabilities were deemed sufficient. |
| Republic of Korea | Feb-16 | Stock release | Announced that it would release 99 000 tonnes of husked rice from government stocks for use as animal feed, at a price of KRW 200 per kg (USD 174 per tonne). |
| | Mar-16 | Government procurement | Decided to purchase an additional 157 000 tonnes of surplus rice from the local market, in an effort to stabilize prices. |
| Sri Lanka | Feb-16 | Import tariff | Set import duties on paddy, husked, semi/wholly milled and/or broken rice at LKR 50 per kg (USD 329 per tonne), up from a previous applicable rate of LKR 35 per kg (USD 230) – effective 1 February 2016. |
| Thailand | Feb-16 | Production support, production adjustment program | Approved a budget of THB 10 billion (USD 284 million) to cover rice interventions during the 2016 season. The majority of the funds will be destined to price stabilization measures, namely extending loans to farmers storing paddy. Nonetheless, as officials seek to keep paddy output at 27.0 million tonnes during the season, THB 3.3 billion (USD 94 million) of this outlay will go to encouraging cultivation of alternative crops or premium rice varieties, while also promoting the consolidation of holdings, as a means to cut production costs. |
| | Feb-16 to May-16 | Stock release | Put 1.2 million tonnes of rice from government stocks on sale through four auctions held between February and March 2016. A fifth auction, to be held on 19 May 2016, would seek to sell an additional 1.2 million tonnes from government stocks |
| | Feb-16 | Stock release | Issued statements indicating that it would consider allowing foreign bidders to participate in future auctions of government rice stockpiles. |

| COUNTRY | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|
| Venezuela | Mar-16 | Price controls | Set consumer-level fair prices at VEF 120.0 for a kg of Type I rice, VEF 119.11 per kg of Type II rice and VEF 118.33 per kg of Type III rice (USD 11.8-11.9 per kg). Previously applicable levels ranged between VEF 22.00 and 25.00 per kg (USD 2.2-2.5 per kg). |
| | Mar-16 | Production support, support prices | Raised paddy producer prices to VEF 70.00 per kg of Type A paddy and to VEF 69.58 per kg of Type B paddy (USD 6.97-6.92 per kg), up from the VEF 16.80–16.70 per kg set in October 2015 (USD 1.67-1.66 per kg). |
| Viet Nam | Mar-16 | Government procurement | According to official statements to the press, the Viet Nam Food Association would not pursue a stockpiling programme for the 2016 winter-spring harvest, as rice prices were on the rise. |
| Yemen | Feb-16 | Finance and credit facilities | According to press reports, the Central Bank would no longer provide credit to rice and sugar importers at the official exchange rates, in order to preserve foreign exchange reserves. |

* 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 OCTOBER 2015 – MID MAY 2016*

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Argentina | Biodiesel | Dec-15 to Apr-16 | Trade policy | Adjusted the level of export taxes and domestic retail prices for biodiesel with a view to stimulate domestic biodiesel consumption, while providing adequate incentives for biodiesel exporters. |
| | Soybean, sunflowerseed, groundnut and their respective oils/meals | Dec-15 | Trade policy | Reformed trade policies, including: streamlining export regulations; lowering export taxes for soybean, soymeal and soyoil, with further reductions planned for the coming years; eliminating export taxes for sunflowerseed, groundnut and their respective oils/meals; and simplifying import procedures for soybeans. |
| | Arable crops | Feb-16 | Emergency relief | Declared flood emergency areas eligible for financial assistance to support farmers affected by heavy rains. |
| | Grains and oilseeds | Apr-16 | GMO policy | Imposed government approval for tests used to detect the presence of GM seed technology in private grain and oilseed shipments. |
| Australia | Biodiesel | Jan-16 | Renewable energy policy | Introduced 5 percent mandatory blending of diesel with biodiesel/renewable biodiesel in Queensland. |
| Bangladesh | Edible oils | Jan-16 | Market regulation | Reduced the wholesale price of cooking oils to ensure that consumers benefit from declines in international prices. |
| | Edible oils | Mar-16 | Edible oil taxation | Extended the value-added tax exemption on domestic edible oil trade until June 2017, with a view to stabilize domestic retail prices of edible oils. |
| Brazil | Biodiesel | Jan-16 | Renewable energy policy | Authorized voluntary use of biodiesel blends exceeding the mandatory 7 percent blending rate. |
| | Soybean | Mar-16 | Agricultural policy | Expanded the federal programme supporting the collective bargaining of crop insurance packages by soybean farmers. |
| | Biodiesel | Apr-16 | Renewable energy policy | Announced an increase in the national mandatory biodiesel blending rate from 7 percent to 8 percent in March 2017, and further to 9 percent in 2018 and 10 percent in 2019. |
| | Soybean | May-16 | Environmental policy | Announced indefinite extension of the industry's voluntary moratorium on trading and financing of soybeans grown on illegally cleared land in the Amazon region. |
| Canada | Grains and oilseeds | Apr-16 | Market regulation | Extended measures regulating national grain transportation until August 2017, in order to prevent logistical bottlenecks affecting the movement of grains/oilseeds to ports. |
| China | Edible meals and oils/fats | Oct-15 | Food safety standards | Revised standards for edible meals derived from oilseeds other than rapeseed and cottonseed, and modified code of hygienic practices in the production of edible oils/fats. |
| | Rapeseed oil | Dec-15 | Stock policy | Resumed sale of rapeseed oil from state reserves. |
| | Soybean, rapeseed | Jan-16 | Phytosanitary measure | Signed phytosanitary protocol with the Russian Federation that will allow the importation of soybean and rapeseed grown in selected far-eastern provinces of Russia into China. |
| | Soybean | Feb-16 | GMO policy | Approved importation of a GM soybean variety developed to tolerate applications of herbicides containing glyphosate/dicamba. |
| | Rapeseed | Mar-16 | Phytosanitary measure | Postponed the implementation of a stringent standard on rapeseed imports from Canada to September 2016. The standard is meant to reduce the risk of a spread of blackleg disease. |
| Colombia | Palm oil | Feb-16 | Import policy | Authorized duty-free imports of palm oil for 6 months (until August 2016) to ensure that domestic consumption requirements are met. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| European Union | Olive oil | Oct-15 | Trade policy | Proposed a temporary increase in the tariff rate quota for imports of olive oil from Tunisia into the EU. |
| | GM crops | Oct-15 | GMO policy | Accepted requests by 19 EU member nations to opt out of the cultivation of GM crops on their respective territories. |
| | Agricultural products | Nov-15 | Market regulation | Adopted new guidelines on how specific derogations from EU antitrust rules apply to groups of farmers selling arable crops, bovine meat and olive oil. |
| | Olive tree | Nov-15 | Disease control | Allocated funds to foster research on the plant bacteria, xylella fastidiosa, as part of efforts to tackle its spreading from Italy to other key olive-producing regions in the EU. |
| | Biodiesel | Mar-16 | Trade policy | Received mixed ruling from WTO dispute settlement panel on EU anti-dumping measures on biodiesel imports from Argentina. |
| | Arable crops | Apr-16 | Environmental/Health policy | Informed that the European Parliament invited the European Commission to limit the renewal of the bloc's market approval for the widely used herbicide, glyphosate, to 7 years, and to reassess the herbicide's toxicity and classification for safe and sustainable use. |
| Hong Kong | Edible oils/fats | Oct-15 | Food safety standards | Announced the introduction of new safety standards and certification requirements for edible oils and fats. |
| India | Biodiesel | Oct-15 | Renewable energy policy | Issued tenders for local purchase of biodiesel by state-owned oil marketing companies, with a view to stimulate domestic biodiesel production and consumption. |
| | Oilseeds, edible oils | Oct-15 | Market regulation | Extended federal provisions limiting the amount of stocks of edible oils and oilseeds that private traders are allowed to hold until September 2016. |
| | Butter | Oct-15 | Import policy | Raised import tariff for butter, butter oil and ghee (clarified butter) with a view to protect local producers. |
| | Biodiesel | Oct-15 | Renewable energy policy | Exempted raw materials used for biodiesel production from central excise duties, with a view to encourage domestic biodiesel production and consumption. |
| | Rapeseed, mustardseed, sunflowerseed | Nov-15 | Producer support | Raised minimum support prices for rapeseed, mustard seed and safflower seed. |
| | Palm oil, olive oil | Nov-15 | Sector development support | Allowed 100 percent foreign direct investment in oil palm and olive tree cultivation, with a view to stimulate domestic vegetable oil production. |
| | Oilseeds | Jan-16 | Sector development support | Launched dedicated national programmes to support the development of oilcrop cultivation across the country. |
| | Arable crops | Jan-16 | Agricultural policy | Approved a new national insurance scheme including higher subsidies on farm insurance premiums and an increase in area coverage. |
| | Copra | Feb-16 | Producer support | Raised minimum support prices for copra. |
| | Oilseeds | Apr-16 | Market regulation | Launched e-trading platforms for farmers covering 25 commodities, including oilseeds, with a view to improve transparency in wholesale markets and help farmers fetch better prices for their produce. |
| | Coconut oil | Apr-16 | Food Quality Control | Introduced mandatory brand registration for coconut oils in the State of Kerala, with a view to curb adulteration. |
| | Copra | Apr-16 | Price support | Carried out public procurement of copra in the State of Kerala, with the aim of supporting coconut farmers. |
| | Palm oil | Apr-16 | Producer support | Introduced a market intervention scheme for palm oil. |
| Indonesia | Soybean | Oct-15 | Production support | Proposed a 10 percent import tariff for soybeans as well as higher floor prices for soybeans, with a view to stimulate domestic production. |
| | Palm oil | Oct-15 to May-16 | Export policy | Left in place sliding export tax regime for palm oil used to protect the interests of domestic producers and consumers. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Indonesia | Soybean | Jan-16 | Market regulation | Authorized limited state imports of soybeans, with a view to stabilize domestic soy food prices. |
| | Oil palm | Jan-16 | Environmental policy | Set up a new inter-ministerial agency responsible for coordinating peatland restoration efforts, with a view to reduce the risk of fire outbreaks when land is cleared to establish new plantations. |
| | Biodiesel | Jan-16 | Renewable energy policy | Increased nationwide mandatory blending of palm oil-based biodiesel into transportation fuel from 15 to 20 percent. |
| | Palm oil | Feb-16 | Export policy | Lowered, temporarily, the export levy on palm kernel shell in an effort to support palm oil producers facing low world prices. |
| | Oil palm | Apr-16 | Environmental policy | Announced (i) a moratorium on new concessions for oil palm plantations in a bid to protect the environment, and (ii) a review of existing plantation permits to ensure they have been obtained through legal and valid land acquisition processes. |
| Malaysia | Palm oil | Oct-15 to May-16 | Export policy | Left in place sliding export tax regime for palm oil used to protect the interest of domestic producers and consumers. |
| | Palm oil | Oct-15 | Market regulation / sector development | Announced subsidy payments for replanting old oil palms in a bid to temporarily reduce national palm oil output, while raising productivity levels in the long term. |
| | Palm oil | Oct-15 | Import policy | Introduced measures to regulate palm oil imports, with a view to prevent a surge in domestic inventories. |
| | Biodiesel | Jan-16 | Renewable energy policy | Announced plans to increase, during 2016, mandatory blending of palm oil-based biodiesel into transportation fuel from 7 to 10 percent. |
| | Oil palm | Mar-16 | Labour market policies | Raised the levy applied to foreign workers employed in plantations and temporarily halted the intake of foreign workers. |
| | Oil palm | Apr-16 | Environmental policy | Proposed regulations allowing the government to seize control of land where big fires are discovered, with a view to discourage slash-and-burn practices when new plantations are developed. |
| Malaysia / Indonesia | Palm oil | Nov-15 | Bilateral cooperation | Set up an intergovernmental organization to foster cooperation among palm oil-producing countries, including the regulation of production and management of stocks across countries to stabilize prices. |
| Nepal | Edible oils | Apr-16 | Consumer protection | Initiated investigation into retail price hikes of selected edible oils and other essential goods. |
| Pakistan | Olive tree | Jan-16 | Sector development support | Launched a provincial plan promoting olive farming in Punjab. |
| Peru | Biodiesel | Feb-16 | Trade policy | Introduced anti-dumping duties on biodiesel imports from individual Argentine companies. |
| Philippines | Coconut oil | Oct-15 | Bilateral cooperation | Signed a memorandum of understanding with the Republic of Fiji to provide technical assistance for the development of Fiji's coconut industry. |
| | GM crops | Jan-16 | GMO policy | Suspended the approval of applications for the testing, contained use, importation and commercialization of GM crops and derived products while the existing regulatory process for GMOs was under review. |
| | GM crops | Mar-16 | GMO policy | Reformed the country's regulatory process for GMOs, emphasizing socio-economic issues, environmental impacts assessments, and public participation in biosafety decision making. |
| | Coconut | Apr-16 | Production support | Released funds to the country's Coconut Authority for the implementation of programmes supporting domestic coconut production. |
| Russian Federation | Soybean, animal/fish feed | Oct-15 | Import / GMO policy | Suspended temporarily the importation of animal/fish feed products from selected EU companies, citing presence of undeclared GM-soybean lines. |
| | Soybean, rapeseed | Jan-16 | Phytosanitary measure | Signed phytosanitary protocol that will allow the exportation of soybean and rapeseed grown in selected provinces of far-eastern Russia to China. |
| | Soybean | Feb-16 | Import policy | Imposed temporary restrictions on soybean (and maize) imports originating from the United States, citing violations of phytosanitary requirements. |

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Sri Lanka | Edible oils | Oct-15 | Import policy | Increased a special commodity levy applicable to edible oil imports, with a view to support the domestic coconut industry. |
| Thailand | Palm oil | Mar-16 | Producer support | Authorized public purchases of palm oil, with a view to sustain farm-gate prices and protect the revenue of growers. |
| Turkey | Soybean | Nov-15 | GMO policy | Approved the importation of two GM soybean varieties for domestic feed use. |
| Ukraine | Grains and oilseeds | Apr-16 | Export policy | Reinstated the practice of refunding value added tax on grains and oilseeds exports in a bid to support exports. |
| United States | Soybean, groundnut | Nov-15 | Producer support | Announced support payments for groundnut producers whose revenues dropped below five-year average levels in the 2014 crop year. |
| | GMO products | Nov-15 | Consumer protection | Proposed guidelines on voluntary labelling of food products for the inclusion/absence of GM ingredients. |
| | Biodiesel | Nov-15 | Renewable energy policy | Set mandatory national consumption targets for biodiesel for the 2014–2017 period and proposed targets for 2018. This also included associated percentage standards to be used by producers to calculate individual compliance obligations. |
| | Soybean, groundnut, sunflowerseed | Nov-15 | Export promotion | Released funds to assist individual commodity organizations in their efforts to expand commercial exports. |
| | Biodiesel | Jan-16 | Renewable energy policy | Extended for two years the USD 1.00 per gallon tax credit for biodiesel blenders that had expired at the end of 2014. |
| | Groundnut | Mar-16 | Marketing support | Authorized payments to groundnut producers to help them recover the value of produce lost following the bankruptcy of a licensed groundnut processor/warehouse operator. |
| Vietnam | Groundnut | Jan-16 | Import policy | Lifted a temporary ban (introduced on phytosanitary grounds) on groundnut imports from India. |
| Zambia | Edible oils | Nov-15 | Import policy | Lifted the import ban on edible oils introduced in March 2015, in a bid to stabilize domestic cooking oil prices. |

* For more details please see the database on major policy developments since January 2011 which is available at: http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/?groupANDcommodity=Oilseeds,%20oils%20and%20meals

# MEAT: MAJOR POLICY DEVELOPMENTS: OCTOBER 2015 - MID-MAY 2016*

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| Argentina | Bovine meat | Dec-15 | Export restricitons | Lifted licensing requirements for bovine meat exports and eliminated a 15 percent tax. |
| Canada | Bovine meat | Oct-15 | Import ban lifted | Re-opened its market to imports of bovine meat from the EU (19 EU member countries initially approved), after recognizing that bovine spongiform encephalopathy (BSE) risks had subsided. The Canadian market had been closed to EU bovine meat, including deboned bovine meat, since 1996. |
| Egypt | Live animals | Feb-16 | Market access | Agreed on protocol for the importation of live cattle from Ireland. |
| European Union | Pigmeat | Jan-16 | Production support | Opened private-storage aid for pigmeat during a 17-day period (closing on 3 February 2016), during which over 90 000 metric tonnes of pigmeat were taken into storage. |
| Israel | Bovine meat | Feb-16 | Import ban | Lifted the ban on US bovine meat imports from a single meat plant in Nebraska. The ban was initiated in 2003, following a US outbreak of BSE. |
| Japan | Pigmeat | Feb-16 | Market access | Opened its market to imports of pigmeat from Mexico, after the country was recognized as being free of classical swine fever. |
| | Bovine meat | Feb-16 | Import ban | Lifted ban on bovine meat imports from Denmark. Japan imposed a ban on bovine meat imports from all EU countries in 2001, referring to the risk of BSE. The ban had been lifted for four other EU countries – France, Ireland, the Netherlands and Poland – in 2013. |
| Republic of Korea | Bovine meat | Jan-16 | Import ban | Resumed bovine meat imports from Canada. Imports had been suspended in early 2015 after a case of BSE was found in Alberta. |
| | Pigmeat | Mar-16 | Market access | Opened its market to pigmeat imports from Brazil. |
| Mexico | Poultry meat | Dec-15 | Tariff rate quota | Extended the tariff rate quota scheme allowing duty-free import of up to 300 000 tonnes of poultry meat until 2017. |
| | | Apr-16 | Import ban lifted | Lifted ban on poultry meat imports from the US state of Arkansas, which had been imposed in March 2015 following an outbreak of highly pathogenic avian influenza in the state. |
| | Pigmeat | Apr-16 | Market access | Opened its market to fresh pigmeat imports from Spain, with a number of other EU Member States expected to follow in the coming months. |
| Peru | Bovine meat | Mar-16 | Import ban | Lifted the ban on US bovine meat and bovine meat products, that was imposed in 2013 following a BSE outbreak. |
| Puerto Rico | Pigmeat | May-16 | Market access | Opened its market to imports of pigmeat from Brazil, after animal health protocols were agreed. |
| South Africa | All | Jan-16 | Market access | Opened market to poultry meat, bovine meat and pigmeat imports from the US. |
| | Pigmeat | Mar-16 | Market access | Opened market to pigmeat imports from Brazil. |

* 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: OCTOBER 2015 - MID-MAY 2016*

| COUNTRY | PRODUCT | DATE | POLICY CATEGORY/INSTRUMENT | DESCRIPTION |
|---|---|---|---|---|
| China (Hong Kong – SAR) | Dairy products | Nov-15 | Import ban | Banned imports of dairy products from an Australian company, due to food safety concerns. |
| European Union | Dairy products | Apr-16 | State market intervention | Increased the volume limits for sales of skimmed milk powder (SMP) and butter to EU intervention stocks for 2016. The limits for SMP were increased from 109 000 tonnes to 218 000 tonnes, while those for butter rose from 60 000 tonnes to 100 000 tonnes. |
| India | Butter | Oct-15 | Import tariffs | Increased import duty on ghee, butter and butter oil from 30 percent to 40 percent –applicable until March 2016. |
| | Dairy products | Apr-16 | Import ban | Extended the 2008 ban on milk and dairy product imports from China until 23 June 2016, or until further notice, whichever is earlier. The extension also prohibits the importation of chocolate and chocolate products, and confectionary and food preparations that contain fluid milk or dairy solids as ingredients. |
| Pakistan | Dairy products | Mar-16 | Import ban | Lifted a long-standing ban on the importation of dairy cows from the US. |
| Russian Federation | Dairy products | Jan-16 | Market access | Approved four dairy processing factories in the Islamic Republic of Iran for export of dairy products. |
| Turkey | Dairy products | Apr-16 | Import ban | Suspended imports of dairy products from the US, pending the conclusion of negotiations on a renewed bilateral veterinary certification agreement. |

* 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.

### 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 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 *estim.* | 2016 *f'cast* | 12/13-14/15 average | 2015/16 *estim.* | 2016/17 *f'cast* | 12/13-14/15 average | 2015/16 *estim.* | 2016/17 *f'cast* |
| | *(. . . . . million tonnes . . . . . .)* | | | | | | | | |
| **ASIA** | **1 104.8** | **1 117.6** | **1 120.4** | **176.6** | **192.1** | **182.8** | **60.4** | **54.7** | **52.8** |
| Bangladesh | 37.8 | 39.0 | 38.9 | 3.7 | 3.9 | 4.3 | - | - | - |
| China | 487.1 | 508.5 | 503.4 | 29.2 | 36.4 | 28.0 | 0.9 | 0.8 | 0.9 |
| India | 242.6 | 228.2 | 236.3 | 0.1 | 1.1 | 1.0 | 20.5 | 12.0 | 10.7 |
| Indonesia | 63.1 | 65.2 | 64.1 | 11.4 | 12.9 | 12.3 | 0.1 | 0.4 | 0.4 |
| Iran, Islamic Republic of | 15.4 | 17.2 | 18.2 | 13.5 | 11.7 | 9.7 | - | 0.2 | 0.2 |
| Iraq | 4.4 | 4.4 | 4.2 | 4.8 | 4.4 | 4.5 | - | - | - |
| Japan | 8.9 | 8.8 | 8.8 | 24.2 | 23.5 | 24.4 | 0.3 | 0.3 | 0.3 |
| Kazakhstan | 15.5 | 17.8 | 17.3 | 0.2 | 0.1 | 0.1 | 6.9 | 6.9 | 6.5 |
| Korea, Republic of | 4.4 | 4.6 | 4.5 | 14.3 | 14.8 | 14.7 | 0.1 | 0.1 | 0.1 |
| Myanmar | 18.6 | 18.2 | 18.5 | 0.3 | 0.4 | 0.4 | 1.6 | 1.7 | 1.7 |
| Pakistan | 36.2 | 37.5 | 37.6 | 0.5 | 0.2 | 0.2 | 4.6 | 5.0 | 5.0 |
| Philippines | 19.7 | 19.2 | 19.9 | 5.9 | 7.1 | 6.6 | - | - | - |
| Saudi Arabia | 1.0 | 0.4 | 0.4 | 15.7 | 16.7 | 17.3 | - | - | - |
| Thailand | 28.8 | 23.8 | 24.9 | 2.9 | 4.4 | 3.7 | 9.6 | 10.0 | 10.4 |
| Turkey | 34.2 | 38.2 | 36.8 | 6.8 | 5.6 | 6.3 | 3.2 | 4.4 | 3.6 |
| Viet Nam | 33.8 | 34.7 | 34.1 | 6.2 | 10.6 | 10.6 | 8.4 | 9.0 | 9.1 |
| **AFRICA** | **166.0** | **163.6** | **156.0** | **77.7** | **85.8** | **91.9** | **9.7** | **7.2** | **6.7** |
| Algeria | 4.4 | 4.1 | 4.2 | 11.5 | 12.7 | 12.3 | - | - | - |
| Egypt | 20.4 | 19.9 | 20.0 | 17.4 | 20.2 | 20.1 | 0.4 | 0.4 | 0.4 |
| Ethiopia | 21.6 | 20.2 | 20.7 | 1.3 | 2.0 | 2.2 | 2.1 | 1.4 | 1.3 |
| Morocco | 7.4 | 11.7 | 4.2 | 6.4 | 5.6 | 8.6 | 0.2 | 0.2 | 0.2 |
| Nigeria | 21.0 | 22.1 | 23.2 | 7.6 | 7.4 | 7.6 | 0.7 | 0.7 | 0.7 |
| South Africa | 15.8 | 12.6 | 9.4 | 2.8 | 5.0 | 6.7 | 2.3 | 0.9 | 0.8 |
| Sudan | 5.3 | 3.4 | 4.5 | 2.5 | 2.8 | 2.9 | 0.2 | - | - |
| **CENTRAL AMERICA** | **41.1** | **42.9** | **42.2** | **25.9** | **29.9** | **30.6** | **1.7** | **1.8** | **1.7** |
| Mexico | 34.5 | 37.2 | 35.9 | 15.1 | 18.5 | 19.3 | 1.5 | 1.6 | 1.5 |
| **SOUTH AMERICA** | **169.7** | **185.9** | **184.0** | **28.3** | **28.6** | **28.0** | **59.3** | **75.9** | **70.4** |
| Argentina | 48.8 | 54.7 | 60.4 | 0.1 | 0.1 | 0.1 | 27.1 | 30.2 | 33.2 |
| Brazil | 93.7 | 102.2 | 97.0 | 8.6 | 8.9 | 8.7 | 25.6 | 38.3 | 31.1 |
| Chile | 3.5 | 3.8 | 3.5 | 2.5 | 2.6 | 2.4 | 0.1 | 0.1 | 0.1 |
| Colombia | 2.9 | 2.7 | 2.6 | 6.6 | 7.1 | 7.0 | 0.1 | 0.1 | 0.1 |
| Peru | 4.2 | 4.3 | 4.6 | 4.3 | 4.1 | 4.0 | - | - | - |
| Venezuela | 3.1 | 2.7 | 2.7 | 4.5 | 4.4 | 4.4 | - | 0.1 | 0.1 |
| **NORTH AMERICA** | **464.8** | **482.5** | **499.0** | **10.3** | **10.2** | **9.7** | **99.4** | **100.4** | **106.9** |
| Canada | 56.5 | 53.3 | 54.7 | 1.6 | 2.1 | 1.8 | 26.6 | 25.3 | 26.0 |
| United States of America | 408.2 | 429.2 | 444.3 | 8.8 | 8.1 | 7.8 | 72.8 | 75.2 | 81.0 |
| **EUROPE** | **474.2** | **497.1** | **503.3** | **23.3** | **27.8** | **24.3** | **95.8** | **113.4** | **106.0** |
| European Union | 305.0 | 312.2 | 316.4 | 19.0 | 23.3 | 20.1 | 39.0 | 43.7 | 41.6 |
| Russian Federation | 87.1 | 102.1 | 105.1 | 0.8 | 0.9 | 0.5 | 23.9 | 31.8 | 30.3 |
| Serbia | 8.4 | 8.3 | 8.3 | 0.1 | 0.1 | 0.1 | 2.3 | 2.5 | 2.8 |
| Ukraine | 57.5 | 59.9 | 58.0 | 0.1 | 0.2 | 0.2 | 29.8 | 34.7 | 30.5 |
| **OCEANIA** | **37.3** | **38.2** | **38.1** | **1.6** | **1.7** | **1.8** | **25.8** | **22.9** | **24.6** |
| Australia | 36.5 | 37.3 | 37.2 | 0.2 | 0.2 | 0.2 | 25.8 | 22.9 | 24.6 |
| **WORLD** | **2 457.9** | **2 527.7** | **2 542.9** | **343.8** | **376.2** | **369.1** | **352.0** | **376.2** | **369.1** |
| Developing countries | 1 425.9 | 1 455.0 | 1 451.9 | 271.3 | 297.7 | 291.9 | 120.7 | 130.6 | 123.1 |
| Developed countries | 1 032.0 | 1 072.7 | 1 091.0 | 72.4 | 78.5 | 77.2 | 231.3 | 245.6 | 246.0 |
| LIFDCs | 426.3 | 408.6 | 419.8 | 49.9 | 53.6 | 56.0 | 27.0 | 17.3 | 16.0 |
| LDCs | 164.2 | 160.0 | 163.2 | 28.7 | 30.8 | 32.4 | 8.9 | 8.0 | 7.7 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 2013-2015 average | 2016 estim. | 2017 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **1 201.0** | **1 256.0** | **1 261.6** | **391.3** | **411.0** | **402.5** | **157.1** | **157.6** | **157.7** |
| Bangladesh | 41.2 | 43.1 | 43.4 | 8.3 | 9.2 | 8.8 | 207.0 | 209.3 | 209.6 |
| China | 498.3 | 526.5 | 530.2 | 234.6 | 267.4 | 269.6 | 150.6 | 150.7 | 150.8 |
| India | 220.7 | 227.0 | 228.9 | 53.9 | 44.9 | 42.2 | 148.1 | 148.9 | 149.3 |
| Indonesia | 74.7 | 77.7 | 77.2 | 11.1 | 10.1 | 9.7 | 185.3 | 186.4 | 186.4 |
| Iran, Islamic Republic of | 27.6 | 28.9 | 29.2 | 4.5 | 6.1 | 4.5 | 201.8 | 201.7 | 202.2 |
| Iraq | 9.1 | 9.3 | 9.4 | 2.2 | 1.7 | 1.1 | 198.4 | 194.8 | 195.6 |
| Japan | 33.0 | 32.4 | 32.9 | 5.7 | 5.0 | 5.0 | 103.6 | 102.4 | 101.5 |
| Kazakhstan | 10.4 | 11.0 | 11.0 | 3.4 | 3.3 | 3.2 | 159.0 | 158.0 | 158.7 |
| Korea, Republic of | 18.6 | 18.9 | 19.1 | 3.7 | 4.6 | 4.7 | 131.9 | 129.0 | 127.3 |
| Myanmar | 17.6 | 17.3 | 17.4 | 2.8 | 2.2 | 2.0 | 212.7 | 213.7 | 213.1 |
| Pakistan | 32.4 | 33.3 | 33.5 | 4.0 | 3.9 | 3.0 | 146.8 | 147.2 | 144.7 |
| Philippines | 25.1 | 26.6 | 26.9 | 3.5 | 4.0 | 4.0 | 159.7 | 160.7 | 161.0 |
| Saudi Arabia | 15.9 | 17.2 | 17.4 | 6.1 | 6.9 | 7.2 | 144.6 | 147.5 | 147.9 |
| Thailand | 21.2 | 23.0 | 21.4 | 18.9 | 12.9 | 10.1 | 119.3 | 121.6 | 121.8 |
| Turkey | 37.6 | 39.9 | 39.8 | 4.9 | 4.7 | 4.3 | 238.3 | 238.4 | 238.9 |
| Viet Nam | 31.9 | 36.6 | 36.2 | 4.3 | 4.4 | 4.0 | 178.5 | 178.1 | 177.3 |
| **AFRICA** | **231.2** | **242.7** | **245.8** | **42.2** | **44.8** | **39.4** | **147.7** | **146.9** | **146.8** |
| Algeria | 15.1 | 16.4 | 16.7 | 5.2 | 6.4 | 6.2 | 231.8 | 231.2 | 231.0 |
| Egypt | 37.5 | 39.8 | 40.2 | 6.9 | 7.3 | 6.9 | 274.5 | 273.5 | 272.8 |
| Ethiopia | 20.5 | 21.3 | 21.6 | 2.1 | 2.0 | 1.7 | 169.1 | 171.7 | 171.6 |
| Morocco | 13.5 | 15.1 | 14.6 | 4.7 | 7.2 | 5.1 | 254.2 | 256.9 | 256.6 |
| Nigeria | 27.7 | 29.0 | 30.0 | 1.6 | 1.3 | 1.1 | 120.3 | 119.1 | 121.0 |
| South Africa | 16.0 | 16.6 | 16.3 | 2.5 | 3.3 | 2.2 | 168.6 | 167.4 | 169.1 |
| Sudan | 7.6 | 7.2 | 7.8 | 0.9 | 0.4 | 0.3 | 171.5 | 164.0 | 173.6 |
| **CENTRAL AMERICA** | **65.2** | **69.8** | **72.3** | **6.3** | **6.9** | **6.2** | **157.9** | **158.9** | **159.8** |
| Mexico | 48.0 | 52.3 | 54.3 | 3.2 | 3.9 | 3.2 | 184.0 | 185.3 | 184.3 |
| **SOUTH AMERICA** | **135.8** | **145.9** | **147.4** | **25.4** | **29.5** | **24.2** | **119.4** | **118.3** | **118.3** |
| Argentina | 20.5 | 26.2 | 27.2 | 6.0 | 8.5 | 8.6 | 134.0 | 134.8 | 134.8 |
| Brazil | 75.2 | 78.7 | 78.8 | 10.6 | 9.7 | 4.9 | 112.7 | 110.8 | 110.5 |
| Chile | 6.1 | 6.2 | 6.3 | 0.8 | 0.9 | 0.6 | 150.5 | 150.2 | 150.2 |
| Colombia | 9.6 | 10.2 | 10.2 | 0.8 | 0.8 | 0.8 | 99.6 | 99.3 | 100.2 |
| Peru | 8.2 | 8.5 | 8.6 | 1.5 | 1.5 | 1.5 | 148.8 | 149.4 | 149.7 |
| Venezuela | 7.6 | 7.2 | 7.2 | 0.8 | 0.8 | 0.6 | 137.9 | 132.5 | 132.8 |
| **NORTH AMERICA** | **365.3** | **380.5** | **390.0** | **66.1** | **86.8** | **96.8** | **109.0** | **109.3** | **109.7** |
| Canada | 29.1 | 29.5 | 29.5 | 11.3 | 8.3 | 8.4 | 96.2 | 96.5 | 97.1 |
| United States of America | 336.1 | 350.9 | 360.5 | 54.9 | 78.5 | 88.4 | 110.4 | 110.7 | 111.1 |
| **EUROPE** | **403.3** | **412.3** | **412.5** | **48.8** | **57.4** | **66.2** | **136.1** | **136.1** | **137.4** |
| European Union | 283.7 | 290.5 | 291.5 | 30.0 | 37.2 | 40.4 | 136.6 | 136.2 | 138.0 |
| Russian Federation | 66.4 | 71.0 | 71.3 | 7.1 | 8.8 | 12.9 | 127.0 | 128.2 | 128.5 |
| Serbia | 6.3 | 5.9 | 5.7 | 0.7 | 0.7 | 0.6 | 161.1 | 163.4 | 163.6 |
| Ukraine | 28.4 | 27.2 | 26.9 | 6.8 | 6.4 | 7.3 | 157.2 | 156.7 | 157.0 |
| **OCEANIA** | **15.0** | **15.8** | **16.1** | **7.2** | **7.6** | **6.8** | **90.5** | **91.1** | **90.2** |
| Australia | 12.7 | 13.4 | 13.7 | 6.7 | 7.1 | 6.3 | 97.6 | 99.0 | 97.9 |
| **WORLD** | **2 416.6** | **2 522.9** | **2 545.7** | **587.2** | **644.0** | **642.2** | **148.6** | **148.8** | **149.0** |
| Developing countries | 1 549.5 | 1 629.5 | 1 642.0 | 447.7 | 473.8 | 455.6 | 153.5 | 153.6 | 153.7 |
| Developed countries | 867.1 | 893.5 | 903.7 | 139.5 | 170.1 | 186.6 | 128.5 | 128.4 | 129.2 |
| LIFDCs | 446.5 | 459.1 | 464.2 | 91.2 | 79.6 | 74.4 | 146.4 | 146.5 | 146.8 |
| LDCs | 182.4 | 187.5 | 190.3 | 34.5 | 32.5 | 30.3 | 153.0 | 152.5 | 152.7 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | | | |
| **ASIA** | **313.0** | **317.5** | **318.4** | **72.5** | **73.0** | **73.0** | **18.4** | **14.4** | **13.7** |
| Bangladesh | 1.2 | 1.4 | 1.4 | 2.8 | 3.5 | 3.6 | - | - | - |
| China | 123.0 | 130.2 | 129.0 | 5.7 | 4.9 | 5.0 | 0.4 | 0.3 | 0.3 |
| of which Taiwan Prov. | - | - | - | 1.4 | 1.4 | 1.5 | - | - | - |
| India | 94.7 | 86.5 | 89.0 | 0.1 | 0.8 | 0.7 | 5.2 | 0.5 | 0.8 |
| Indonesia | - | - | - | 7.4 | 8.0 | 8.2 | 0.1 | 0.1 | 0.1 |
| Iran, Islamic Republic of | 9.6 | 11.5 | 12.5 | 5.8 | 2.8 | 2.0 | - | 0.2 | 0.2 |
| Iraq | 3.1 | 3.2 | 3.0 | 3.4 | 3.0 | 3.0 | - | - | - |
| Japan | 0.8 | 1.0 | 0.9 | 6.0 | 5.7 | 6.0 | 0.2 | 0.2 | 0.2 |
| Kazakhstan | 12.3 | 13.7 | 13.5 | 0.2 | 0.1 | 0.1 | 6.5 | 6.2 | 6.0 |
| Korea, Republic of | - | - | - | 4.4 | 4.2 | 4.2 | 0.1 | 0.1 | 0.1 |
| Pakistan | 24.6 | 25.5 | 25.5 | 0.4 | 0.2 | 0.2 | 0.7 | 0.7 | 0.7 |
| Philippines | - | - | - | 4.0 | 4.5 | 4.5 | - | - | - |
| Saudi Arabia | 0.6 | - | - | 3.0 | 3.3 | 3.8 | - | - | - |
| Thailand | - | - | - | 2.4 | 4.0 | 3.2 | - | - | - |
| Turkey | 20.4 | 22.6 | 22.0 | 4.6 | 3.6 | 4.0 | 3.1 | 4.3 | 3.5 |
| **AFRICA** | **26.1** | **27.5** | **23.1** | **43.1** | **46.3** | **47.7** | **1.3** | **1.0** | **1.0** |
| Algeria | 2.9 | 2.8 | 2.8 | 7.1 | 7.5 | 7.0 | - | - | - |
| Egypt | 9.2 | 9.0 | 9.0 | 10.1 | 11.5 | 11.5 | - | - | - |
| Ethiopia | 3.9 | 3.6 | 3.7 | 1.0 | 1.8 | 2.0 | - | - | - |
| Morocco | 5.3 | 8.0 | 3.0 | 4.1 | 3.3 | 5.0 | 0.2 | 0.2 | 0.2 |
| Nigeria | 0.1 | 0.1 | 0.1 | 4.5 | 4.7 | 4.7 | 0.5 | 0.5 | 0.5 |
| South Africa | 1.8 | 1.4 | 1.6 | 1.7 | 2.0 | 1.9 | 0.3 | 0.1 | 0.1 |
| Tunisia | 1.4 | 0.9 | 1.3 | 1.7 | 2.0 | 1.9 | 0.1 | 0.1 | 0.1 |
| **CENTRAL AMERICA** | **3.4** | **4.2** | **4.3** | **8.4** | **8.3** | **8.4** | **1.1** | **1.1** | **1.1** |
| Cuba | - | - | - | 0.8 | 0.8 | 0.8 | - | - | - |
| Mexico | 3.4 | 4.2 | 4.3 | 4.4 | 4.3 | 4.4 | 1.0 | 1.0 | 1.0 |
| **SOUTH AMERICA** | **20.0** | **20.6** | **23.8** | **13.9** | **13.8** | **13.4** | **7.0** | **9.6** | **10.4** |
| Argentina | 10.4 | 11.3 | 14.0 | - | - | - | 4.2 | 7.0 | 8.0 |
| Brazil | 5.5 | 5.4 | 5.6 | 6.7 | 6.7 | 6.5 | 1.2 | 1.0 | 1.2 |
| Chile | 1.3 | 1.5 | 1.6 | 0.8 | 1.0 | 0.7 | - | - | - |
| Colombia | - | - | - | 1.6 | 1.7 | 1.7 | - | 0.1 | 0.1 |
| Peru | 0.2 | 0.1 | 0.2 | 1.7 | 1.7 | 1.7 | - | - | - |
| Venezuela | - | - | - | 1.8 | 1.7 | 1.8 | - | - | - |
| **NORTH AMERICA** | **89.6** | **83.4** | **83.3** | **3.7** | **3.8** | **3.8** | **49.0** | **41.5** | **46.0** |
| Canada | 31.4 | 27.6 | 28.9 | 0.2 | 0.3 | 0.3 | 21.8 | 21.0 | 21.5 |
| United States of America | 58.2 | 55.8 | 54.4 | 3.5 | 3.5 | 3.5 | 27.3 | 20.5 | 24.5 |
| **EUROPE** | **222.7** | **256.3** | **246.3** | **7.1** | **8.4** | **7.8** | **56.1** | **71.0** | **64.8** |
| European Union | 144.4 | 160.5 | 154.0 | 4.9 | 5.8 | 5.5 | 28.8 | 31.5 | 31.0 |
| Russian Federation | 49.8 | 61.8 | 62.5 | 0.2 | 0.5 | 0.2 | 17.1 | 23.5 | 22.5 |
| Ukraine | 20.7 | 26.5 | 22.0 | - | - | - | 9.2 | 15.0 | 10.3 |
| **OCEANIA** | **24.1** | **24.5** | **24.8** | **0.9** | **0.9** | **0.9** | **18.7** | **16.0** | **18.0** |
| Australia | 23.7 | 24.2 | 24.5 | - | - | - | 18.7 | 16.0 | 18.0 |
| **WORLD** | **698.8** | **734.1** | **724.0** | **149.7** | **154.5** | **155.0** | **151.7** | **154.5** | **155.0** |
| Developing countries | 335.4 | 341.2 | 341.6 | 122.7 | 126.5 | 127.2 | 20.0 | 18.7 | 19.1 |
| Developed countries | 363.4 | 392.8 | 382.4 | 26.9 | 28.0 | 27.8 | 131.7 | 135.8 | 135.9 |
| LIFDCs | 119.7 | 110.5 | 113.0 | 28.5 | 32.2 | 32.6 | 6.6 | 1.8 | 2.1 |
| LDCs | 13.5 | 12.6 | 12.9 | 16.6 | 18.9 | 19.2 | 0.2 | 0.1 | 0.1 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 2013-2015 average | 2016 estim. | 2017 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **365.6** | **374.3** | **373.1** | **108.5** | **115.0** | **118.6** | **64.5** | **64.9** | **64.9** |
| Bangladesh | 4.2 | 4.7 | 4.9 | 0.7 | 1.4 | 1.4 | 22.9 | 23.7 | 24.1 |
| China | 127.1 | 126.7 | 124.9 | 52.1 | 61.1 | 69.9 | 63.9 | 64.0 | 64.0 |
| of which Taiwan Prov. | 1.3 | 1.4 | 1.5 | 0.5 | 0.5 | 0.5 | 45.3 | 45.8 | 45.7 |
| India | 87.4 | 89.9 | 90.4 | 25.1 | 23.0 | 21.0 | 59.1 | 59.4 | 59.4 |
| Indonesia | 7.0 | 7.8 | 7.9 | 1.4 | 1.5 | 1.5 | 21.1 | 21.9 | 21.7 |
| Iran, Islamic Republic of | 14.5 | 15.2 | 15.3 | 2.3 | 3.2 | 2.0 | 166.9 | 167.0 | 167.4 |
| Iraq | 6.3 | 6.6 | 6.7 | 1.8 | 1.6 | 0.9 | 151.0 | 152.4 | 151.8 |
| Japan | 6.6 | 6.5 | 6.6 | 1.0 | 0.5 | 0.6 | 42.3 | 42.2 | 42.4 |
| Kazakhstan | 7.6 | 7.8 | 7.9 | 3.1 | 2.8 | 2.6 | 144.7 | 143.3 | 143.9 |
| Korea, Republic of | 4.4 | 4.0 | 4.3 | 0.8 | 0.8 | 0.7 | 47.6 | 48.3 | 48.1 |
| Pakistan | 24.6 | 25.1 | 25.2 | 1.8 | 2.0 | 1.8 | 125.6 | 125.7 | 123.2 |
| Philippines | 4.0 | 4.7 | 4.6 | 0.6 | 0.6 | 0.5 | 23.1 | 23.3 | 23.5 |
| Saudi Arabia | 3.4 | 3.6 | 3.6 | 2.5 | 2.8 | 3.0 | 98.6 | 100.8 | 100.8 |
| Thailand | 2.5 | 3.8 | 3.1 | 0.8 | 1.1 | 1.2 | 15.8 | 17.3 | 17.3 |
| Turkey | 21.9 | 22.8 | 22.5 | 2.6 | 1.9 | 1.9 | 209.1 | 209.1 | 209.7 |
| **AFRICA** | **66.8** | **70.8** | **71.7** | **17.7** | **20.4** | **17.6** | **50.6** | **50.3** | **50.2** |
| Algeria | 9.5 | 9.8 | 10.0 | 3.8 | 4.7 | 4.5 | 209.8 | 209.9 | 209.9 |
| Egypt | 19.5 | 20.7 | 20.9 | 4.9 | 5.2 | 4.8 | 188.8 | 189.1 | 189.0 |
| Ethiopia | 4.8 | 5.1 | 5.3 | 0.5 | 0.6 | 0.6 | 41.2 | 42.6 | 42.6 |
| Morocco | 8.9 | 9.9 | 9.6 | 3.6 | 5.3 | 3.5 | 202.3 | 203.6 | 203.9 |
| Nigeria | 3.9 | 4.0 | 4.0 | 0.2 | 0.2 | 0.2 | 20.3 | 19.6 | 19.1 |
| South Africa | 3.2 | 3.2 | 3.4 | 0.5 | 0.5 | 0.5 | 57.7 | 57.3 | 58.7 |
| Tunisia | 3.0 | 3.0 | 3.0 | 0.8 | 0.6 | 0.7 | 211.1 | 211.0 | 208.8 |
| **CENTRAL AMERICA** | **10.7** | **11.1** | **11.6** | **1.3** | **1.5** | **1.5** | **44.2** | **44.2** | **44.8** |
| Cuba | 0.8 | 0.8 | 0.8 | - | 0.1 | - | 54.9 | 55.3 | 59.2 |
| Mexico | 6.8 | 7.2 | 7.6 | 0.7 | 0.8 | 0.9 | 47.5 | 48.0 | 48.6 |
| **SOUTH AMERICA** | **26.3** | **26.7** | **26.9** | **5.6** | **5.8** | **5.8** | **59.8** | **59.5** | **59.4** |
| Argentina | 5.5 | 5.7 | 5.8 | 2.3 | 2.7 | 2.9 | 117.2 | 117.5 | 117.5 |
| Brazil | 11.1 | 11.2 | 11.3 | 1.0 | 0.9 | 0.5 | 51.6 | 51.5 | 51.3 |
| Chile | 2.3 | 2.4 | 2.4 | 0.1 | 0.1 | 0.1 | 120.3 | 120.2 | 120.2 |
| Colombia | 1.5 | 1.5 | 1.5 | 0.3 | 0.5 | 0.5 | 28.2 | 28.2 | 28.0 |
| Peru | 1.9 | 2.0 | 2.0 | 0.5 | 0.6 | 0.6 | 60.1 | 60.1 | 60.1 |
| Venezuela | 1.8 | 1.8 | 1.8 | 0.2 | 0.1 | 0.1 | 59.3 | 54.7 | 55.6 |
| **NORTH AMERICA** | **43.3** | **40.5** | **41.1** | **26.2** | **30.5** | **31.6** | **81.9** | **82.2** | **82.3** |
| Canada | 8.7 | 8.7 | 8.4 | 7.5 | 3.9 | 3.7 | 80.4 | 80.7 | 81.3 |
| United States of America | 34.5 | 31.7 | 32.7 | 18.7 | 26.6 | 28.0 | 82.0 | 82.4 | 82.4 |
| **EUROPE** | **174.9** | **187.3** | **185.4** | **21.1** | **32.4** | **36.2** | **110.0** | **109.4** | **110.8** |
| European Union | 119.4 | 128.4 | 127.5 | 10.4 | 19.7 | 20.5 | 111.9 | 111.0 | 112.9 |
| Russian Federation | 35.0 | 38.0 | 38.0 | 4.2 | 6.0 | 8.2 | 100.3 | 100.7 | 100.7 |
| Ukraine | 11.9 | 12.4 | 11.7 | 3.5 | 3.6 | 3.6 | 122.9 | 122.5 | 123.0 |
| **OCEANIA** | **7.6** | **8.5** | **8.5** | **4.7** | **5.0** | **4.2** | **66.8** | **67.1** | **66.2** |
| Australia | 6.4 | 7.3 | 7.3 | 4.3 | 4.6 | 3.8 | 78.1 | 79.3 | 78.2 |
| **WORLD** | **695.1** | **719.2** | **718.3** | **185.0** | **210.6** | **215.5** | **67.0** | **67.0** | **67.0** |
| Developing countries | 433.1 | 446.2 | 446.2 | 124.5 | 135.2 | 137.0 | 59.9 | 60.1 | 60.0 |
| Developed countries | 262.1 | 273.0 | 272.1 | 60.5 | 75.4 | 78.5 | 96.6 | 96.4 | 97.2 |
| LIFDCs | 139.7 | 144.2 | 145.6 | 36.3 | 33.8 | 30.4 | 47.4 | 47.4 | 47.4 |
| LDCs | 29.9 | 31.6 | 32.6 | 6.3 | 6.5 | 5.8 | 28.5 | 28.7 | 29.3 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | | | |
| **ASIA** | **345.8** | **356.9** | **354.4** | **82.5** | **96.5** | **88.2** | **6.4** | **3.5** | **3.5** |
| China | 222.6 | 234.5 | 229.8 | 17.2 | 24.7 | 16.5 | 0.1 | 0.2 | 0.2 |
| of which Taiwan Prov. | 0.1 | 0.1 | 0.1 | 4.4 | 4.7 | 4.7 | - | - | - |
| India | 42.1 | 38.3 | 41.7 | - | 0.3 | 0.3 | 4.2 | 1.5 | 1.4 |
| Indonesia | 19.0 | 19.4 | 19.0 | 3.1 | 3.1 | 3.1 | - | 0.3 | 0.3 |
| Iran, Islamic Republic of | 4.3 | 3.9 | 3.9 | 6.3 | 7.7 | 6.5 | - | - | - |
| Japan | 0.2 | 0.2 | 0.2 | 17.6 | 17.1 | 17.7 | - | - | - |
| Korea, D.P.R. | 2.5 | 2.7 | 2.6 | 0.2 | 0.2 | 0.2 | - | - | - |
| Korea, Republic of | 0.2 | 0.2 | 0.2 | 9.6 | 10.1 | 10.1 | - | - | - |
| Malaysia | 0.1 | 0.1 | 0.1 | 3.5 | 3.7 | 3.8 | - | - | - |
| Pakistan | 5.2 | 5.4 | 5.5 | - | - | - | - | - | - |
| Philippines | 7.5 | 7.5 | 7.7 | 0.4 | 0.6 | 0.6 | - | - | - |
| Saudi Arabia | 0.4 | 0.4 | 0.4 | 11.3 | 11.8 | 12.0 | - | - | - |
| Thailand | 5.0 | 4.8 | 4.9 | 0.2 | 0.1 | 0.1 | 0.5 | 0.1 | 0.2 |
| Turkey | 13.3 | 15.1 | 14.2 | 2.0 | 1.8 | 2.0 | 0.1 | 0.1 | 0.1 |
| Viet Nam | 5.1 | 5.3 | 5.2 | 3.7 | 7.6 | 7.6 | 0.1 | 0.2 | 0.2 |
| **AFRICA** | **121.7** | **117.6** | **114.0** | **20.4** | **25.8** | **29.8** | **7.8** | **5.7** | **5.2** |
| Algeria | 1.5 | 1.3 | 1.4 | 4.3 | 5.1 | 5.2 | - | - | - |
| Egypt | 7.0 | 6.8 | 6.8 | 7.3 | 8.6 | 8.6 | - | - | - |
| Ethiopia | 17.6 | 16.6 | 17.0 | 0.1 | - | - | 2.1 | 1.4 | 1.3 |
| Kenya | 4.0 | 4.0 | 3.8 | 0.8 | 1.1 | 1.1 | - | - | - |
| Morocco | 2.1 | 3.7 | 1.2 | 2.4 | 2.3 | 3.6 | - | - | - |
| Nigeria | 18.1 | 19.2 | 20.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 |
| South Africa | 13.9 | 11.2 | 7.9 | 0.2 | 2.0 | 3.8 | 2.0 | 0.8 | 0.7 |
| Sudan | 5.0 | 2.9 | 4.0 | 0.4 | 0.6 | 0.7 | 0.2 | - | - |
| Tanzania, United Rep. of | 6.9 | 7.2 | 7.2 | - | - | - | 0.4 | 0.5 | 0.5 |
| **CENTRAL AMERICA** | **35.7** | **36.9** | **36.1** | **15.3** | **19.2** | **19.8** | **0.6** | **0.6** | **0.5** |
| Mexico | 30.9 | 32.8 | 31.4 | 10.1 | 13.6 | 14.2 | 0.5 | 0.6 | 0.5 |
| **SOUTH AMERICA** | **133.3** | **148.0** | **144.4** | **12.8** | **12.9** | **13.1** | **49.2** | **63.0** | **56.5** |
| Argentina | 37.3 | 42.4 | 45.4 | - | 0.1 | 0.1 | 22.5 | 22.6 | 24.6 |
| Brazil | 80.2 | 88.3 | 83.9 | 1.3 | 1.4 | 1.7 | 23.6 | 36.5 | 29.0 |
| Chile | 2.0 | 2.2 | 1.8 | 1.6 | 1.5 | 1.6 | 0.1 | 0.1 | 0.1 |
| Colombia | 1.5 | 1.2 | 1.2 | 4.8 | 5.1 | 5.2 | 0.1 | 0.1 | 0.1 |
| Peru | 1.9 | 2.0 | 2.3 | 2.3 | 2.2 | 2.1 | - | - | - |
| Venezuela | 2.4 | 2.1 | 2.1 | 2.2 | 2.2 | 2.2 | - | 0.1 | 0.1 |
| **NORTH AMERICA** | **368.7** | **393.0** | **408.4** | **5.5** | **5.3** | **4.7** | **47.1** | **55.6** | **57.3** |
| Canada | 25.2 | 25.7 | 25.8 | 1.0 | 1.4 | 1.1 | 4.8 | 4.3 | 4.5 |
| United States of America | 343.5 | 367.2 | 382.6 | 4.5 | 3.9 | 3.5 | 42.3 | 51.4 | 52.9 |
| **EUROPE** | **248.9** | **238.1** | **254.3** | **14.0** | **17.1** | **14.1** | **39.2** | **42.0** | **40.8** |
| European Union | 158.7 | 150.0 | 160.7 | 12.5 | 15.6 | 12.7 | 9.9 | 12.0 | 10.4 |
| Russian Federation | 36.5 | 39.5 | 41.8 | 0.3 | 0.2 | 0.1 | 6.6 | 8.1 | 7.6 |
| Serbia | 6.1 | 5.9 | 5.9 | - | - | - | 1.6 | 1.7 | 2.0 |
| Ukraine | 36.7 | 33.4 | 36.0 | 0.1 | 0.1 | 0.1 | 20.6 | 19.7 | 20.2 |
| **OCEANIA** | **12.6** | **13.1** | **13.0** | **0.2** | **0.3** | **0.3** | **6.6** | **6.6** | **6.2** |
| Australia | 12.1 | 12.6 | 12.5 | - | - | - | 6.6 | 6.6 | 6.2 |
| **WORLD** | **1 266.7** | **1 303.6** | **1 324.5** | **150.7** | **177.0** | **170.0** | **156.9** | **177.0** | **170.0** |
| Developing countries | 616.3 | 641.1 | 634.3 | 110.8 | 132.4 | 126.7 | 61.5 | 71.3 | 64.5 |
| Developed countries | 650.4 | 662.5 | 690.2 | 39.9 | 44.6 | 43.4 | 95.4 | 105.7 | 105.6 |
| LIFDCs | 146.6 | 140.2 | 145.7 | 6.1 | 7.1 | 8.1 | 9.2 | 5.4 | 5.3 |
| LDCs | 77.8 | 74.3 | 76.2 | 2.6 | 3.1 | 3.9 | 5.9 | 4.6 | 4.3 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 *estim.* | 2016/17 *f'cast* | 2013-2015 average | 2016 *estim.* | 2017 *f'cast* | 12/13-14/15 average | 2015/16 *estim.* | 2016/17 *f'cast* |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **412.9** | **446.3** | **448.7** | **123.5** | **137.4** | **129.4** | **14.2** | **14.1** | **14.1** |
| China | 232.7 | 254.9 | 256.9 | 97.3 | 107.8 | 98.5 | 9.7 | 9.6 | 9.5 |
| of which Taiwan Prov. | 4.4 | 4.7 | 4.7 | 0.3 | 0.2 | 0.2 | 6.8 | 7.1 | 7.1 |
| India | 37.4 | 38.3 | 38.8 | 4.9 | 5.9 | 7.7 | 19.9 | 19.4 | 19.8 |
| Indonesia | 22.2 | 23.1 | 22.3 | 2.9 | 2.0 | 1.7 | 29.2 | 29.3 | 29.2 |
| Iran, Islamic Republic of | 10.1 | 10.9 | 11.0 | 1.6 | 2.5 | 2.2 | 1.3 | 1.3 | 1.3 |
| Japan | 18.0 | 17.4 | 17.9 | 1.1 | 1.2 | 1.2 | 10.1 | 10.0 | 10.0 |
| Korea, D.P.R. | 2.6 | 2.9 | 2.5 | - | 0.1 | 0.3 | 81.7 | 86.4 | 81.6 |
| Korea, Republic of | 9.7 | 10.4 | 10.3 | 1.7 | 2.1 | 2.1 | 4.3 | 4.3 | 4.3 |
| Malaysia | 3.5 | 3.8 | 3.9 | 0.1 | 0.1 | 0.1 | 1.6 | 1.5 | 1.5 |
| Pakistan | 5.1 | 5.6 | 5.7 | 1.5 | 1.1 | 0.8 | 9.6 | 9.8 | 9.9 |
| Philippines | 7.8 | 8.3 | 8.4 | 0.6 | 0.7 | 0.6 | 18.0 | 18.4 | 18.1 |
| Saudi Arabia | 11.2 | 12.2 | 12.4 | 3.4 | 3.8 | 3.8 | 3.2 | 3.0 | 3.0 |
| Thailand | 4.6 | 4.6 | 4.7 | 0.4 | 0.8 | 0.9 | 2.8 | 2.7 | 2.7 |
| Turkey | 15.0 | 16.3 | 16.5 | 2.2 | 2.7 | 2.3 | 19.9 | 19.9 | 19.6 |
| Viet Nam | 8.6 | 12.7 | 12.6 | 0.7 | 0.9 | 0.9 | 5.7 | 5.6 | 5.5 |
| **AFRICA** | **132.8** | **139.7** | **140.7** | **19.3** | **19.7** | **17.3** | **72.4** | **71.9** | **71.7** |
| Algeria | 5.5 | 6.4 | 6.6 | 1.4 | 1.7 | 1.7 | 19.1 | 18.7 | 18.3 |
| Egypt | 14.2 | 15.3 | 15.4 | 1.4 | 1.6 | 1.6 | 46.7 | 46.4 | 45.5 |
| Ethiopia | 15.5 | 15.8 | 16.0 | 1.6 | 1.3 | 1.2 | 125.4 | 126.2 | 125.8 |
| Kenya | 4.5 | 4.8 | 4.8 | 0.7 | 0.8 | 0.7 | 86.7 | 87.8 | 86.0 |
| Morocco | 4.6 | 5.2 | 5.0 | 1.1 | 1.9 | 1.6 | 50.9 | 52.5 | 51.8 |
| Nigeria | 18.0 | 19.4 | 20.2 | 0.5 | 0.5 | 0.5 | 70.6 | 71.0 | 73.1 |
| South Africa | 11.8 | 12.5 | 11.9 | 1.7 | 2.8 | 1.6 | 93.2 | 93.1 | 93.1 |
| Sudan | 4.9 | 4.4 | 4.7 | 0.5 | 0.2 | 0.1 | 102.1 | 96.3 | 98.3 |
| Tanzania, United Rep. of | 6.2 | 6.7 | 6.8 | 1.2 | 1.5 | 1.4 | 88.8 | 90.3 | 89.9 |
| **CENTRAL AMERICA** | **50.4** | **54.5** | **56.5** | **4.4** | **4.8** | **4.1** | **95.9** | **96.5** | **96.6** |
| Mexico | 40.4 | 44.2 | 45.9 | 2.5 | 3.1 | 2.3 | 130.1 | 130.9 | 129.3 |
| **SOUTH AMERICA** | **94.4** | **103.9** | **105.2** | **17.8** | **21.2** | **16.7** | **26.6** | **26.6** | **26.5** |
| Argentina | 14.5 | 19.9 | 20.9 | 3.6 | 5.5 | 5.5 | 7.2 | 7.1 | 7.0 |
| Brazil | 55.9 | 59.5 | 59.7 | 8.6 | 8.4 | 4.3 | 24.5 | 24.9 | 24.9 |
| Chile | 3.6 | 3.6 | 3.7 | 0.6 | 0.7 | 0.5 | 18.6 | 18.2 | 18.0 |
| Colombia | 6.7 | 7.1 | 7.0 | 0.3 | 0.2 | 0.2 | 41.2 | 39.9 | 39.6 |
| Peru | 4.0 | 4.2 | 4.3 | 0.6 | 0.6 | 0.6 | 24.5 | 24.2 | 24.2 |
| Venezuela | 4.7 | 4.3 | 4.3 | 0.4 | 0.5 | 0.4 | 51.4 | 50.3 | 49.7 |
| **NORTH AMERICA** | **317.6** | **335.8** | **344.2** | **38.6** | **54.9** | **63.6** | **17.9** | **17.8** | **17.9** |
| Canada | 20.0 | 20.4 | 20.7 | 3.7 | 4.4 | 4.7 | 4.7 | 4.7 | 4.7 |
| United States of America | 297.6 | 315.3 | 323.5 | 34.9 | 50.5 | 58.8 | 19.3 | 19.3 | 19.4 |
| **EUROPE** | **224.1** | **220.6** | **222.6** | **27.0** | **24.1** | **29.1** | **21.0** | **21.3** | **21.1** |
| European Union | 161.2 | 158.9 | 160.6 | 19.1 | 16.9 | 19.2 | 19.3 | 19.7 | 19.3 |
| Russian Federation | 30.6 | 32.3 | 32.5 | 2.8 | 2.8 | 4.6 | 21.9 | 22.4 | 22.4 |
| Serbia | 4.6 | 4.2 | 3.9 | 0.4 | 0.5 | 0.5 | 21.9 | 22.8 | 22.9 |
| Ukraine | 16.3 | 14.7 | 15.0 | 3.3 | 2.9 | 3.7 | 31.4 | 31.2 | 30.9 |
| **OCEANIA** | **6.7** | **6.6** | **6.9** | **2.4** | **2.3** | **2.5** | **8.2** | **8.2** | **8.1** |
| Australia | 5.9 | 5.7 | 6.1 | 2.3 | 2.2 | 2.4 | 9.7 | 9.6 | 9.5 |
| **WORLD** | **1 239.0** | **1 307.4** | **1 324.8** | **233.0** | **264.5** | **262.8** | **27.2** | **27.3** | **27.4** |
| Developing countries | 653.1 | 706.3 | 713.1 | 160.1 | 175.8 | 160.9 | 28.8 | 28.9 | 29.0 |
| Developed countries | 585.9 | 601.1 | 611.7 | 72.9 | 88.6 | 101.9 | 20.7 | 20.8 | 20.7 |
| LIFDCs | 142.4 | 146.0 | 147.4 | 18.7 | 17.6 | 19.0 | 40.0 | 39.9 | 40.2 |
| LDCs | 73.8 | 75.7 | 76.6 | 13.0 | 11.0 | 10.4 | 56.8 | 56.4 | 56.4 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | | | |
| **ASIA** | **298.5** | **308.3** | **305.5** | **57.2** | **63.9** | **62.0** | **5.3** | **2.2** | **2.4** |
| China | 213.3 | 224.6 | 220.0 | 8.1 | 8.0 | 6.6 | - | 0.1 | 0.1 |
| of which Taiwan Prov. | - | - | - | 4.2 | 4.5 | 4.5 | - | - | - |
| India | 23.6 | 21.0 | 23.0 | - | 0.3 | 0.3 | 3.5 | 0.9 | 0.9 |
| Indonesia | 19.0 | 19.4 | 19.0 | 3.0 | 3.0 | 3.0 | - | 0.3 | 0.3 |
| Iran, Islamic Republic of | 1.5 | 0.9 | 0.9 | 4.9 | 6.0 | 5.0 | - | - | - |
| Japan | - | - | - | 14.7 | 14.7 | 15.0 | - | - | - |
| Korea, D.P.R. | 2.4 | 2.5 | 2.5 | 0.2 | 0.2 | 0.2 | - | - | - |
| Korea, Republic of | 0.1 | 0.1 | 0.1 | 9.4 | 10.0 | 10.0 | - | - | - |
| Malaysia | 0.1 | 0.1 | 0.1 | 3.5 | 3.7 | 3.8 | - | - | - |
| Pakistan | 4.6 | 4.8 | 4.9 | - | - | - | - | - | - |
| Philippines | 7.5 | 7.5 | 7.7 | 0.4 | 0.6 | 0.6 | - | - | - |
| Thailand | 4.9 | 4.6 | 4.7 | 0.1 | 0.1 | 0.1 | 0.5 | 0.1 | 0.2 |
| Turkey | 5.5 | 6.4 | 6.0 | 1.5 | 1.5 | 1.5 | 0.1 | 0.1 | 0.1 |
| Viet Nam | 5.1 | 5.3 | 5.2 | 3.6 | 7.5 | 7.5 | 0.1 | 0.2 | 0.2 |
| **AFRICA** | **72.3** | **69.6** | **66.2** | **17.2** | **21.6** | **24.5** | **5.4** | **3.8** | **3.3** |
| Algeria | - | - | - | 3.7 | 4.3 | 4.3 | - | - | - |
| Egypt | 6.2 | 6.0 | 6.0 | 7.2 | 8.5 | 8.5 | - | - | - |
| Ethiopia | 6.6 | 6.3 | 6.5 | - | - | - | 0.8 | 0.4 | 0.4 |
| Kenya | 3.6 | 3.6 | 3.4 | 0.6 | 1.0 | 1.0 | - | - | - |
| Morocco | 0.2 | 0.2 | 0.2 | 2.0 | 1.9 | 2.0 | - | - | - |
| Nigeria | 10.0 | 10.8 | 11.5 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 |
| South Africa | 13.4 | 10.6 | 7.4 | 0.1 | 1.9 | 3.6 | 2.0 | 0.8 | 0.7 |
| Tanzania, United Rep. of | 5.7 | 6.0 | 6.0 | - | - | - | 0.4 | 0.5 | 0.5 |
| **CENTRAL AMERICA** | **27.3** | **28.7** | **27.8** | **14.1** | **18.1** | **18.6** | **0.6** | **0.6** | **0.5** |
| Mexico | 22.9 | 25.0 | 23.5 | 8.9 | 12.5 | 13.0 | 0.5 | 0.6 | 0.5 |
| **SOUTH AMERICA** | **119.4** | **134.2** | **131.8** | **10.9** | **10.9** | **11.2** | **44.4** | **59.2** | **52.7** |
| Argentina | 28.8 | 33.8 | 37.9 | - | - | - | 17.9 | 19.0 | 21.0 |
| Brazil | 77.2 | 85.5 | 81.2 | 0.8 | 0.7 | 1.0 | 23.5 | 36.5 | 29.0 |
| Chile | 1.4 | 1.5 | 1.1 | 1.1 | 1.2 | 1.2 | - | - | - |
| Colombia | 1.5 | 1.2 | 1.2 | 4.1 | 4.5 | 4.6 | 0.1 | 0.1 | 0.1 |
| Peru | 1.6 | 1.8 | 2.0 | 2.2 | 2.1 | 2.0 | - | - | - |
| Venezuela | 2.3 | 2.0 | 2.0 | 2.2 | 2.2 | 2.2 | - | 0.1 | 0.1 |
| **NORTH AMERICA** | **341.4** | **359.0** | **379.9** | **2.8** | **2.5** | **1.8** | **38.2** | **43.0** | **47.0** |
| Canada | 12.9 | 13.6 | 13.4 | 0.9 | 1.2 | 1.0 | 1.4 | 1.0 | 1.0 |
| United States of America | 328.5 | 345.5 | 366.5 | 1.9 | 1.3 | 0.8 | 36.8 | 42.0 | 46.0 |
| **EUROPE** | **114.0** | **103.5** | **114.6** | **12.5** | **15.3** | **12.7** | **25.1** | **23.6** | **25.1** |
| European Union | 67.0 | 58.0 | 66.0 | 11.8 | 14.5 | 12.0 | 2.7 | 2.0 | 2.0 |
| Russian Federation | 10.4 | 13.2 | 13.8 | 0.1 | 0.1 | - | 3.0 | 4.0 | 4.0 |
| Serbia | 5.7 | 5.5 | 5.5 | - | - | - | 1.6 | 1.7 | 2.0 |
| Ukraine | 26.8 | 23.3 | 25.6 | 0.1 | 0.1 | 0.1 | 17.3 | 15.4 | 16.5 |
| **OCEANIA** | **0.6** | **0.6** | **0.6** | **0.1** | **0.2** | **0.2** | **0.1** | **0.1** | **0.1** |
| **WORLD** | **973.5** | **1 003.9** | **1 026.5** | **114.7** | **132.5** | **131.0** | **118.9** | **132.5** | **131.0** |
| Developing countries | 502.0 | 527.9 | 522.0 | 82.8 | 96.2 | 95.8 | 53.5 | 65.0 | 58.2 |
| Developed countries | 471.4 | 476.0 | 504.5 | 31.9 | 36.4 | 35.2 | 65.4 | 67.5 | 72.8 |
| LIFDCs | 81.2 | 78.6 | 80.8 | 4.7 | 5.5 | 6.4 | 6.1 | 2.9 | 2.9 |
| LDCs | 42.6 | 42.0 | 42.3 | 1.9 | 2.3 | 3.0 | 3.6 | 2.9 | 2.6 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 2013-2015 average | 2016 estim. | 2017 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **341.2** | **366.1** | **373.5** | **110.9** | **124.6** | **117.0** | **8.5** | **8.5** | **8.5** |
| China | 214.0 | 228.1 | 236.1 | 94.8 | 105.1 | 96.0 | 6.3 | 6.1 | 6.1 |
| of which Taiwan Prov. | 4.3 | 4.5 | 4.5 | 0.3 | 0.2 | 0.2 | 5.3 | 5.6 | 5.6 |
| India | 19.1 | 20.5 | 20.5 | 3.3 | 5.4 | 7.3 | 7.0 | 7.0 | 6.9 |
| Indonesia | 22.0 | 23.0 | 22.2 | 2.9 | 2.0 | 1.7 | 28.8 | 28.9 | 28.8 |
| Iran, Islamic Republic of | 6.2 | 6.4 | 6.4 | 0.9 | 1.5 | 1.3 | 1.0 | 0.9 | 0.9 |
| Japan | 14.8 | 14.7 | 15.0 | 0.6 | 0.8 | 0.8 | 7.6 | 7.5 | 7.5 |
| Korea, D.P.R. | 2.5 | 2.7 | 2.4 | - | 0.1 | 0.3 | 79.3 | 81.9 | 79.1 |
| Korea, Republic of | 9.5 | 10.2 | 10.1 | 1.7 | 2.1 | 2.1 | 1.9 | 1.9 | 1.9 |
| Malaysia | 3.5 | 3.8 | 3.9 | 0.1 | 0.1 | 0.1 | 1.6 | 1.5 | 1.5 |
| Pakistan | 4.5 | 5.0 | 5.1 | 1.5 | 1.1 | 0.8 | 7.5 | 7.7 | 7.8 |
| Philippines | 7.7 | 8.2 | 8.4 | 0.6 | 0.7 | 0.6 | 18.0 | 18.4 | 18.1 |
| Thailand | 4.4 | 4.4 | 4.5 | 0.4 | 0.8 | 0.9 | 1.3 | 1.3 | 1.2 |
| Turkey | 6.7 | 7.6 | 7.6 | 0.8 | 1.2 | 1.0 | 16.1 | 16.1 | 16.0 |
| Viet Nam | 8.5 | 12.6 | 12.5 | 0.7 | 0.9 | 0.9 | 5.6 | 5.6 | 5.5 |
| **AFRICA** | **82.8** | **88.7** | **88.7** | **13.4** | **13.9** | **12.2** | **39.8** | **40.1** | **39.8** |
| Algeria | 3.4 | 4.2 | 4.3 | 0.8 | 1.3 | 1.3 | 3.6 | 3.5 | 3.5 |
| Egypt | 13.3 | 14.4 | 14.5 | 1.3 | 1.5 | 1.5 | 43.4 | 43.2 | 42.3 |
| Ethiopia | 5.9 | 6.0 | 6.1 | 0.4 | 0.4 | 0.5 | 42.5 | 42.0 | 41.9 |
| Kenya | 4.0 | 4.2 | 4.3 | 0.5 | 0.6 | 0.5 | 79.6 | 79.5 | 78.9 |
| Morocco | 2.1 | 2.2 | 2.2 | 0.7 | 0.7 | 0.6 | 10.5 | 10.2 | 10.1 |
| Nigeria | 10.0 | 11.1 | 11.5 | 0.3 | 0.3 | 0.3 | 33.0 | 33.2 | 34.9 |
| South Africa | 11.1 | 11.7 | 11.2 | 1.5 | 2.5 | 1.4 | 89.2 | 89.0 | 89.1 |
| Tanzania, United Rep. of | 5.0 | 5.5 | 5.6 | 0.9 | 1.3 | 1.2 | 69.3 | 71.3 | 71.3 |
| **CENTRAL AMERICA** | **41.0** | **45.3** | **47.0** | **3.9** | **4.4** | **3.7** | **94.7** | **95.1** | **95.1** |
| Mexico | 31.4 | 35.4 | 36.8 | 2.0 | 2.8 | 2.0 | 129.3 | 129.5 | 127.9 |
| **SOUTH AMERICA** | **83.1** | **91.6** | **93.6** | **15.1** | **17.9** | **13.5** | **25.2** | **25.1** | **25.1** |
| Argentina | 10.6 | 15.3 | 16.9 | 2.4 | 4.0 | 4.0 | 7.0 | 6.9 | 6.8 |
| Brazil | 52.5 | 55.9 | 56.2 | 8.2 | 8.0 | 4.0 | 23.5 | 23.8 | 23.9 |
| Chile | 2.3 | 2.3 | 2.3 | 0.5 | 0.6 | 0.4 | 16.5 | 16.2 | 16.0 |
| Colombia | 5.7 | 6.0 | 5.9 | 0.3 | 0.1 | 0.2 | 39.7 | 38.4 | 38.1 |
| Peru | 3.6 | 3.9 | 3.9 | 0.6 | 0.6 | 0.5 | 18.2 | 18.2 | 18.3 |
| Venezuela | 4.5 | 4.2 | 4.2 | 0.3 | 0.4 | 0.4 | 50.9 | 49.8 | 49.2 |
| **NORTH AMERICA** | **298.4** | **314.2** | **323.5** | **33.6** | **48.0** | **57.0** | **14.8** | **14.7** | **14.9** |
| Canada | 12.5 | 13.0 | 13.1 | 1.5 | 2.2 | 2.3 | 3.2 | 3.2 | 3.2 |
| United States of America | 285.9 | 301.3 | 310.4 | 32.0 | 45.8 | 54.7 | 16.0 | 16.0 | 16.2 |
| **EUROPE** | **101.4** | **100.4** | **102.3** | **12.0** | **10.7** | **10.7** | **8.3** | **8.4** | **8.4** |
| European Union | 75.9 | 74.5 | 76.0 | 8.3 | 7.0 | 7.0 | 9.8 | 9.9 | 9.9 |
| Russian Federation | 7.4 | 9.3 | 9.8 | 0.6 | 0.8 | 0.9 | 1.2 | 1.4 | 1.4 |
| Serbia | 4.1 | 3.8 | 3.5 | 0.4 | 0.5 | 0.5 | 20.2 | 21.1 | 21.2 |
| Ukraine | 9.5 | 8.9 | 9.2 | 2.2 | 1.8 | 1.7 | 11.3 | 11.2 | 11.2 |
| **OCEANIA** | **0.6** | **0.7** | **0.7** | **0.1** | **0.1** | **0.1** | **2.4** | **2.4** | **2.3** |
| **WORLD** | **948.4** | **1 006.9** | **1 029.2** | **189.0** | **219.6** | **214.2** | **17.1** | **17.3** | **17.3** |
| Developing countries | 518.6 | 561.6 | 572.9 | 140.6 | 156.1 | 142.6 | 18.3 | 18.5 | 18.4 |
| Developed countries | 429.8 | 445.3 | 456.3 | 48.4 | 63.5 | 71.6 | 12.5 | 12.6 | 12.7 |
| LIFDCs | 78.5 | 82.8 | 82.6 | 11.6 | 12.3 | 14.0 | 19.2 | 19.6 | 19.6 |
| LDCs | 40.7 | 43.0 | 43.0 | 8.9 | 7.4 | 7.1 | 27.8 | 28.2 | 28.0 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | | | |
| **ASIA** | **19.7** | **21.7** | **20.8** | **18.7** | **22.1** | **18.9** | **0.9** | **1.0** | **0.7** |
| China | 1.7 | 2.0 | 1.9 | 4.8 | 8.1 | 4.6 | - | - | - |
| India | 1.7 | 1.6 | 1.7 | - | - | - | 0.5 | 0.4 | 0.3 |
| Iran, Islamic Republic of | 2.8 | 3.0 | 3.0 | 1.4 | 1.7 | 1.5 | - | - | - |
| Iraq | 0.8 | 0.8 | 0.8 | 0.1 | 0.1 | 0.1 | - | - | - |
| Japan | 0.2 | 0.2 | 0.2 | 1.3 | 1.3 | 1.4 | - | - | - |
| Kazakhstan | 2.2 | 2.7 | 2.5 | - | - | - | 0.4 | 0.6 | 0.4 |
| Saudi Arabia | - | - | - | 8.7 | 8.3 | 8.5 | - | - | - |
| Syria | 0.8 | 1.0 | 0.9 | 0.4 | 0.5 | 0.5 | - | - | - |
| Turkey | 7.1 | 8.0 | 7.5 | 0.4 | 0.3 | 0.5 | - | - | - |
| **AFRICA** | **6.5** | **7.5** | **5.3** | **2.1** | **2.9** | **4.0** | **-** | **-** | **-** |
| Algeria | 1.4 | 1.2 | 1.3 | 0.6 | 0.8 | 0.9 | - | - | - |
| Ethiopia | 1.9 | 1.7 | 1.8 | - | - | - | - | - | - |
| Libya | 0.1 | 0.1 | 0.1 | 0.5 | 0.9 | 1.0 | - | - | - |
| Morocco | 1.9 | 3.5 | 1.0 | 0.3 | 0.3 | 1.5 | - | - | - |
| Tunisia | 0.6 | 0.4 | 0.5 | 0.6 | 0.8 | 0.5 | - | - | - |
| **CENTRAL AMERICA** | **0.8** | **0.8** | **0.8** | **0.1** | **0.2** | **0.2** | **-** | **-** | **-** |
| Mexico | 0.8 | 0.8 | 0.8 | 0.1 | 0.2 | 0.2 | - | - | - |
| **SOUTH AMERICA** | **5.2** | **5.8** | **4.9** | **0.9** | **1.0** | **1.0** | **2.8** | **2.4** | **2.5** |
| Argentina | 4.3 | 4.9 | 4.0 | - | - | - | 2.7 | 2.3 | 2.4 |
| **NORTH AMERICA** | **12.9** | **12.9** | **12.7** | **0.5** | **0.6** | **0.5** | **1.8** | **1.5** | **1.6** |
| Canada | 8.5 | 8.2 | 8.5 | 0.1 | 0.1 | 0.1 | 1.5 | 1.2 | 1.3 |
| United States of America | 4.5 | 4.7 | 4.2 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 |
| **EUROPE** | **86.1** | **89.6** | **91.3** | **0.5** | **0.7** | **0.5** | **13.3** | **17.6** | **15.1** |
| Belarus | 1.9 | 1.5 | 1.7 | - | - | - | 0.1 | 0.1 | 0.1 |
| European Union | 58.3 | 60.8 | 62.0 | 0.1 | 0.4 | 0.2 | 6.8 | 9.5 | 8.0 |
| Russian Federation | 16.6 | 17.5 | 17.5 | 0.2 | 0.1 | 0.1 | 3.4 | 4.0 | 3.5 |
| Ukraine | 7.9 | 8.3 | 8.6 | - | - | - | 3.0 | 4.0 | 3.5 |
| **OCEANIA** | **8.6** | **8.8** | **8.9** | **-** | **-** | **-** | **5.4** | **5.0** | **5.2** |
| Australia | 8.3 | 8.5 | 8.6 | - | - | - | 5.4 | 5.0 | 5.2 |
| **WORLD** | **139.9** | **147.0** | **144.6** | **22.9** | **27.5** | **25.0** | **24.1** | **27.5** | **25.0** |
| Developing countries | 28.0 | 30.9 | 27.2 | 20.1 | 24.2 | 21.9 | 3.3 | 2.8 | 2.8 |
| Developed countries | 111.9 | 116.1 | 117.5 | 2.8 | 3.2 | 3.1 | 20.8 | 24.7 | 22.2 |
| LIFDCs | 5.7 | 5.6 | 5.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.3 |
| LDCs | 2.5 | 2.3 | 2.3 | - | - | - | - | - | - |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 2013-2015 average | 2016 estim. | 2017 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **36.6** | **42.4** | **39.4** | **9.1** | **10.3** | **10.2** | **0.6** | **0.6** | **0.6** |
| China | 6.2 | 10.7 | 7.1 | 1.4 | 1.4 | 1.3 | 0.1 | 0.2 | 0.2 |
| India | 1.4 | 1.3 | 1.4 | - | - | - | 0.9 | 0.8 | 0.9 |
| Iran, Islamic Republic of | 4.0 | 4.5 | 4.6 | 0.7 | 1.0 | 0.9 | 0.3 | 0.3 | 0.3 |
| Iraq | 0.9 | 0.9 | 0.8 | - | - | - | 3.8 | 3.6 | 3.5 |
| Japan | 1.5 | 1.4 | 1.5 | 0.3 | 0.3 | 0.3 | 2.4 | 2.4 | 2.4 |
| Kazakhstan | 1.8 | 2.0 | 2.0 | 0.1 | 0.2 | 0.3 | 1.2 | 1.1 | 1.1 |
| Saudi Arabia | 8.3 | 8.3 | 8.5 | 3.2 | 3.5 | 3.5 | 0.9 | 0.9 | 0.9 |
| Syria | 1.2 | 1.4 | 1.4 | 0.6 | 0.5 | 0.5 | 14.5 | 15.1 | 15.1 |
| Turkey | 7.5 | 8.0 | 8.2 | 1.3 | 1.4 | 1.2 | 1.1 | 1.0 | 1.0 |
| **AFRICA** | **8.8** | **9.6** | **9.6** | **1.6** | **2.2** | **1.9** | **3.3** | **3.3** | **3.2** |
| Algeria | 2.0 | 2.1 | 2.2 | 0.6 | 0.4 | 0.4 | 15.5 | 15.1 | 14.9 |
| Ethiopia | 1.9 | 1.8 | 1.8 | 0.1 | 0.1 | 0.1 | 16.1 | 15.8 | 15.4 |
| Libya | 0.6 | 1.0 | 1.1 | - | - | - | 13.2 | 13.2 | 13.1 |
| Morocco | 2.4 | 2.9 | 2.7 | 0.4 | 1.2 | 1.0 | 40.4 | 42.2 | 41.6 |
| Tunisia | 1.1 | 1.1 | 1.2 | 0.4 | 0.4 | 0.2 | 8.2 | 8.0 | 7.9 |
| **CENTRAL AMERICA** | **0.9** | **0.9** | **0.9** | **0.1** | **0.1** | **0.1** | **-** | **-** | **-** |
| Mexico | 0.9 | 0.9 | 0.9 | 0.1 | 0.1 | 0.1 | - | - | - |
| **SOUTH AMERICA** | **3.2** | **4.0** | **3.5** | **0.7** | **0.9** | **0.8** | **0.5** | **0.5** | **0.5** |
| Argentina | 1.4 | 2.2 | 1.7 | 0.6 | 0.8 | 0.8 | - | - | - |
| **NORTH AMERICA** | **10.7** | **10.6** | **10.7** | **3.1** | **3.5** | **3.7** | **0.5** | **0.5** | **0.5** |
| Canada | 6.2 | 6.1 | 6.3 | 1.4 | 1.4 | 1.7 | 0.3 | 0.3 | 0.3 |
| United States of America | 4.5 | 4.4 | 4.4 | 1.8 | 2.1 | 2.0 | 0.6 | 0.5 | 0.5 |
| **EUROPE** | **73.4** | **73.4** | **73.7** | **9.2** | **9.0** | **12.0** | **1.0** | **1.1** | **1.0** |
| Belarus | 1.8 | 1.8 | 1.7 | 0.3 | 0.1 | 0.1 | - | - | - |
| European Union | 51.6 | 52.2 | 52.2 | 7.2 | 7.0 | 9.0 | 0.8 | 0.8 | 0.7 |
| Russian Federation | 13.4 | 13.7 | 14.0 | 0.9 | 1.0 | 1.2 | 1.1 | 1.2 | 1.2 |
| Ukraine | 5.0 | 4.1 | 4.3 | 0.6 | 0.7 | 1.5 | 3.3 | 3.3 | 3.4 |
| **OCEANIA** | **3.4** | **3.5** | **3.8** | **1.6** | **1.7** | **1.7** | **0.2** | **0.2** | **0.2** |
| Australia | 3.1 | 3.1 | 3.4 | 1.6 | 1.7 | 1.7 | 0.3 | 0.3 | 0.2 |
| **WORLD** | **137.1** | **144.3** | **141.5** | **25.5** | **27.8** | **30.4** | **1.0** | **1.0** | **1.0** |
| Developing countries | 44.1 | 51.2 | 47.5 | 9.8 | 11.2 | 10.3 | 1.1 | 1.1 | 1.1 |
| Developed countries | 93.0 | 93.1 | 94.0 | 15.7 | 16.6 | 20.1 | 1.0 | 1.0 | 1.0 |
| LIFDCs | 5.9 | 5.8 | 5.7 | 1.0 | 1.0 | 1.0 | 1.3 | 1.2 | 1.2 |
| LDCs | 2.5 | 2.3 | 2.3 | 0.2 | 0.2 | 0.2 | 1.8 | 1.8 | 1.8 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . ) | | | | | | | | |
| **ASIA** | **9.2** | **8.9** | **9.4** | **5.9** | **9.5** | **6.2** | **0.1** | **0.1** | **-** |
| China | 2.8 | 3.1 | 3.0 | 4.2 | 8.5 | 5.1 | - | - | - |
| India | 5.4 | 5.0 | 5.5 | - | - | - | 0.1 | 0.1 | - |
| Japan | - | - | - | 1.4 | 0.8 | 0.9 | - | - | - |
| **AFRICA** | **25.5** | **23.3** | **25.0** | **0.9** | **1.2** | **1.2** | **1.0** | **0.3** | **0.2** |
| Burkina Faso | 1.8 | 1.4 | 1.7 | - | - | - | 0.1 | - | - |
| Ethiopia | 3.9 | 3.7 | 3.9 | 0.1 | - | - | 0.4 | 0.1 | 0.1 |
| Nigeria | 6.7 | 7.0 | 7.3 | - | - | - | 0.1 | 0.1 | 0.1 |
| Sudan | 4.4 | 2.4 | 3.3 | 0.3 | 0.5 | 0.6 | 0.2 | - | - |
| **CENTRAL AMERICA** | **7.5** | **7.4** | **7.4** | **0.9** | **0.5** | **0.6** | **-** | **-** | **-** |
| Mexico | 7.0 | 7.0 | 7.0 | 0.9 | 0.5 | 0.6 | - | - | - |
| **SOUTH AMERICA** | **6.9** | **6.2** | **5.9** | **0.8** | **0.6** | **0.6** | **1.9** | **1.3** | **1.2** |
| Argentina | 3.8 | 3.1 | 3.0 | - | - | - | 1.9 | 1.3 | 1.2 |
| Brazil | 2.1 | 2.1 | 1.9 | - | - | - | - | - | - |
| Venezuela | 0.1 | 0.1 | 0.1 | - | - | - | - | - | - |
| **NORTH AMERICA** | **9.1** | **15.2** | **10.3** | **0.1** | **0.1** | **0.1** | **5.1** | **9.0** | **6.5** |
| United States of America | 9.1 | 15.2 | 10.3 | 0.1 | 0.1 | 0.1 | 5.1 | 9.0 | 6.5 |
| **EUROPE** | **1.1** | **1.0** | **1.0** | **0.4** | **0.4** | **0.3** | **0.1** | **0.1** | **0.1** |
| European Union | 0.6 | 0.6 | 0.7 | 0.3 | 0.2 | 0.2 | - | - | - |
| **OCEANIA** | **1.9** | **2.2** | **2.0** | **0.1** | **-** | **-** | **1.1** | **1.5** | **0.9** |
| Australia | 1.9 | 2.2 | 2.0 | - | - | - | 1.1 | 1.5 | 0.9 |
| **WORLD** | **61.2** | **64.2** | **61.0** | **9.1** | **12.2** | **9.0** | **9.2** | **12.2** | **9.0** |
| Developing countries | 48.9 | 45.7 | 47.5 | 7.0 | 10.7 | 7.5 | 2.9 | 1.6 | 1.4 |
| Developed countries | 12.3 | 18.5 | 13.5 | 2.0 | 1.5 | 1.5 | 6.3 | 10.6 | 7.5 |
| LIFDCs | 30.6 | 27.8 | 30.1 | 0.8 | 1.0 | 1.1 | 1.0 | 0.3 | 0.2 |
| LDCs | 16.8 | 14.4 | 15.7 | 0.6 | 0.8 | 0.9 | 0.9 | 0.2 | 0.1 |

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

Table A7_a – Other coarse grain statistics - Millet, Rye, Oats and other Grains

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . ) | | | | | | | | |
| ASIA | 18.5 | 17.9 | 18.7 | 0.7 | 1.0 | 1.2 | 0.2 | 0.2 | 0.3 |
| AFRICA | 17.5 | 17.2 | 17.4 | 0.1 | 0.1 | 0.1 | 1.5 | 1.6 | 1.6 |
| CENTRAL AMERICA | 0.1 | 0.1 | 0.1 | 0.3 | 0.5 | 0.5 | - | - | - |
| SOUTH AMERICA | 1.8 | 1.8 | 1.8 | 0.2 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 |
| NORTH AMERICA | 5.2 | 5.9 | 5.4 | 2.1 | 2.1 | 2.3 | 2.1 | 2.2 | 2.3 |
| EUROPE | 47.7 | 44.0 | 47.5 | 0.6 | 0.7 | 0.5 | 0.7 | 0.7 | 0.6 |
| OCEANIA | 1.5 | 1.5 | 1.5 | 0.1 | 0.2 | 0.2 | - | 0.1 | 0.1 |
| **WORLD** | **92.3** | **88.5** | **92.4** | **4.1** | **4.8** | **5.0** | **4.7** | **4.8** | **5.0** |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 2013-2015 average | 2016 estim. | 2017 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **15.8** | **18.1** | **16.1** | **1.2** | **1.2** | **1.1** | **1.5** | **1.3** | **1.4** |
| China | 7.7 | 11.2 | 8.7 | 0.6 | 0.8 | 0.7 | 0.4 | 0.5 | 0.5 |
| India | 5.4 | 4.9 | 5.5 | - | - | - | 4.0 | 3.6 | 3.9 |
| Japan | 1.4 | 0.9 | 0.9 | 0.2 | 0.1 | 0.1 | - | - | - |
| **AFRICA** | **25.5** | **25.2** | **26.1** | **2.1** | **1.3** | **1.2** | **18.0** | **17.5** | **17.7** |
| Burkina Faso | 1.7 | 1.4 | 1.7 | 0.1 | - | - | 84.2 | 63.8 | 74.9 |
| Ethiopia | 3.7 | 3.7 | 3.8 | 0.2 | 0.2 | 0.2 | 30.1 | 30.3 | 30.7 |
| Nigeria | 6.7 | 6.9 | 7.3 | 0.1 | 0.1 | 0.1 | 31.8 | 31.7 | 32.6 |
| Sudan | 4.2 | 3.7 | 3.9 | 0.5 | 0.1 | 0.1 | 89.6 | 80.5 | 82.6 |
| **CENTRAL AMERICA** | **8.2** | **7.8** | **7.9** | **0.4** | **0.3** | **0.3** | **0.7** | **0.6** | **0.8** |
| Mexico | 7.8 | 7.4 | 7.6 | 0.3 | 0.2 | 0.2 | - | - | - |
| **SOUTH AMERICA** | **6.2** | **6.3** | **6.2** | **1.8** | **2.3** | **2.2** | **0.1** | **0.1** | **0.1** |
| Argentina | 1.9 | 1.9 | 1.8 | 0.6 | 0.7 | 0.7 | - | - | - |
| Brazil | 2.1 | 2.2 | 2.0 | 0.4 | 0.3 | 0.2 | - | - | - |
| Venezuela | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | - | - | - |
| **NORTH AMERICA** | **3.8** | **6.1** | **5.1** | **0.6** | **1.7** | **1.4** | **-** | **-** | **-** |
| United States of America | 3.8 | 6.1 | 5.1 | 0.6 | 1.7 | 1.4 | - | - | - |
| **EUROPE** | **1.3** | **1.3** | **1.3** | **0.3** | **0.4** | **0.4** | **0.3** | **0.3** | **0.2** |
| European Union | 0.9 | 0.8 | 0.8 | 0.1 | 0.2 | 0.2 | 0.4 | 0.4 | 0.3 |
| **OCEANIA** | **1.2** | **0.9** | **1.0** | **0.5** | **0.3** | **0.5** | **0.2** | **0.2** | **0.2** |
| Australia | 1.1 | 0.9 | 1.0 | 0.5 | 0.3 | 0.5 | - | - | - |
| **WORLD** | **61.9** | **65.8** | **63.6** | **6.8** | **7.5** | **7.1** | **3.7** | **3.6** | **3.8** |
| Developing countries | 53.9 | 56.2 | 55.1 | 5.2 | 4.9 | 4.7 | 4.6 | 4.4 | 4.6 |
| Developed countries | 8.0 | 9.6 | 8.5 | 1.6 | 2.6 | 2.4 | 0.3 | 0.3 | 0.2 |
| LIFDCs | 30.4 | 29.5 | 31.0 | 2.2 | 1.4 | 1.4 | 10.1 | 9.7 | 10.1 |
| LDCs | 16.5 | 15.8 | 16.4 | 1.8 | 1.1 | 1.1 | 14.4 | 13.7 | 13.9 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast | 2013-2015 average | 2016 estim. | 2017 f'cast | 12/13-14/15 average | 2015/16 estim. | 2016/17 f'cast |
| | (. . . . . million tonnes . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| ASIA | 19.3 | 19.7 | 19.7 | 2.4 | 1.2 | 1.1 | 3.6 | 3.6 | 3.6 |
| AFRICA | 15.8 | 16.1 | 16.3 | 2.1 | 2.3 | 2.0 | 11.1 | 11.0 | 11.0 |
| CENTRAL AMERICA | 0.4 | 0.6 | 0.6 | - | - | - | 0.5 | 0.8 | 0.8 |
| SOUTH AMERICA | 1.9 | 2.0 | 2.0 | 0.1 | 0.1 | 0.1 | 0.8 | 0.8 | 0.9 |
| NORTH AMERICA | 4.7 | 4.9 | 4.9 | 1.4 | 1.8 | 1.6 | 2.6 | 2.6 | 2.5 |
| EUROPE | 48.0 | 45.6 | 45.4 | 5.5 | 4.0 | 6.1 | 11.4 | 11.6 | 11.4 |
| OCEANIA | 1.5 | 1.5 | 1.5 | 0.2 | 0.2 | 0.2 | 5.4 | 5.5 | 5.4 |
| **WORLD** | **91.6** | **90.4** | **90.5** | **11.7** | **9.6** | **11.1** | **5.3** | **5.3** | **5.3** |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 estim. | 2016 f'cast | 2012-2014 average | 2015 estim. | 2016 f'cast | 2012-2014 average | 2015 estim. | 2016 f'cast |
| | (. . . . . million tonnes, milled equivalent . . . . . .) | | | | | | | | |
| **ASIA** | **446.1** | **443.2** | **447.6** | **20.2** | **23.1** | **22.7** | **34.0** | **36.9** | **36.8** |
| Bangladesh | 34.2 | 35.0 | 34.8 | 0.5 | 1.1 | 0.4 | - | - | - |
| China | 141.5 | 143.8 | 144.6 | 5.5 | 7.1 | 6.8 | 0.4 | 0.3 | 0.4 |
| of which Taiwan Prov. | 1.2 | 1.1 | 1.2 | 0.1 | 0.1 | 0.1 | - | 0.1 | 0.1 |
| India | 105.8 | 103.4 | 105.6 | - | - | - | 10.8 | 11.1 | 10.0 |
| Indonesia | 44.2 | 45.8 | 45.1 | 1.1 | 1.3 | 1.8 | - | - | - |
| Iran, Islamic Republic of | 1.5 | 1.7 | 1.8 | 1.6 | 0.8 | 1.2 | - | - | - |
| Iraq | 0.2 | 0.2 | 0.2 | 1.3 | 1.0 | 1.2 | - | - | - |
| Japan | 7.9 | 7.6 | 7.7 | 0.7 | 0.7 | 0.7 | 0.1 | 0.1 | 0.1 |
| Korea, D.P.R. | 1.8 | 1.3 | 1.6 | 0.1 | - | 0.1 | - | - | - |
| Korea, Republic of | 4.2 | 4.3 | 4.2 | 0.4 | 0.4 | 0.4 | - | - | - |
| Malaysia | 1.7 | 1.7 | 1.7 | 1.0 | 1.1 | 1.2 | - | 0.1 | 0.1 |
| Myanmar | 16.8 | 16.5 | 16.8 | - | - | - | 1.4 | 1.6 | 1.7 |
| Pakistan | 6.4 | 6.6 | 6.6 | 0.1 | - | - | 3.7 | 4.1 | 4.4 |
| Philippines | 12.2 | 11.7 | 12.2 | 1.2 | 2.0 | 2.0 | - | - | - |
| Saudi Arabia | - | - | - | 1.3 | 1.5 | 1.6 | - | - | - |
| Sri Lanka | 2.7 | 3.3 | 3.2 | 0.2 | 0.3 | - | - | - | 0.1 |
| Thailand | 23.8 | 19.0 | 20.1 | 0.4 | 0.3 | 0.3 | 8.1 | 9.8 | 9.9 |
| Viet Nam | 28.8 | 29.4 | 28.9 | 0.5 | 0.5 | 0.6 | 8.2 | 8.4 | 8.7 |
| **AFRICA** | **18.1** | **18.6** | **19.0** | **14.5** | **13.6** | **13.7** | **0.6** | **0.5** | **0.5** |
| Cote d'Ivoire | 0.5 | 0.5 | 0.5 | 1.3 | 1.3 | 1.2 | - | - | - |
| Egypt | 4.2 | 4.1 | 4.2 | 0.1 | - | 0.1 | 0.4 | 0.4 | 0.4 |
| Madagascar | 2.7 | 2.5 | 2.5 | 0.3 | 0.3 | 0.4 | - | - | - |
| Nigeria | 2.8 | 2.9 | 2.9 | 3.3 | 2.2 | 2.5 | - | - | - |
| Senegal | 0.3 | 0.6 | 0.7 | 1.2 | 1.3 | 1.1 | - | - | - |
| South Africa | - | - | - | 1.0 | 0.9 | 1.0 | - | - | - |
| Tanzania, United Rep. of | 1.4 | 1.6 | 1.6 | 0.1 | 0.2 | 0.1 | - | - | - |
| **CENTRAL AMERICA** | **2.0** | **1.8** | **1.8** | **2.0** | **2.3** | **2.4** | **0.1** | **0.1** | **-** |
| Cuba | 0.4 | 0.3 | 0.3 | 0.4 | 0.6 | 0.6 | - | - | - |
| Mexico | 0.1 | 0.1 | 0.2 | 0.6 | 0.6 | 0.7 | - | - | - |
| **SOUTH AMERICA** | **16.5** | **17.3** | **15.9** | **1.6** | **1.5** | **1.9** | **3.3** | **2.9** | **3.4** |
| Argentina | 1.1 | 1.1 | 1.0 | - | - | - | 0.5 | 0.3 | 0.6 |
| Brazil | 8.1 | 8.5 | 7.5 | 0.7 | 0.3 | 0.8 | 0.9 | 0.9 | 0.8 |
| Peru | 2.0 | 2.1 | 2.1 | 0.2 | 0.2 | 0.2 | - | - | - |
| Uruguay | 1.0 | 1.0 | 0.9 | - | - | - | 0.9 | 0.7 | 0.9 |
| **NORTH AMERICA** | **6.5** | **6.1** | **7.3** | **1.1** | **1.1** | **1.2** | **3.2** | **3.5** | **3.3** |
| Canada | - | - | - | 0.4 | 0.4 | 0.4 | - | - | - |
| United States of America | 6.5 | 6.1 | 7.3 | 0.7 | 0.8 | 0.8 | 3.2 | 3.5 | 3.3 |
| **EUROPE** | **2.6** | **2.6** | **2.6** | **2.0** | **2.4** | **2.4** | **0.4** | **0.5** | **0.4** |
| European Union | 1.8 | 1.8 | 1.8 | 1.4 | 1.8 | 1.9 | 0.2 | 0.2 | 0.2 |
| Russian Federation | 0.7 | 0.7 | 0.8 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |
| **OCEANIA** | **0.7** | **0.5** | **0.2** | **0.5** | **0.5** | **0.5** | **0.5** | **0.3** | **0.3** |
| Australia | 0.6 | 0.5 | 0.2 | 0.1 | 0.2 | 0.2 | 0.5 | 0.3 | 0.3 |
| **WORLD** | **492.4** | **490.1** | **494.4** | **42.0** | **44.6** | **44.7** | **42.0** | **44.6** | **44.7** |
| Developing countries | 474.2 | 472.7 | 476.0 | 36.6 | 38.8 | 38.8 | 37.8 | 40.2 | 40.6 |
| Developed countries | 18.1 | 17.4 | 18.4 | 5.4 | 5.7 | 5.9 | 4.2 | 4.4 | 4.1 |
| LIFDCs | 160.0 | 158.0 | 161.0 | 15.0 | 15.2 | 14.3 | 11.0 | 11.2 | 10.1 |
| LDCs | 72.9 | 73.2 | 74.1 | 8.7 | 10.1 | 8.8 | 2.8 | 3.0 | 3.3 |

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

| | Total Utilization | | | Stocks ending in | | | Per caput food use | | |
|---|---|---|---|---|---|---|---|---|---|
| | 11/12-13/14 average | 2014/15 estim. | 2015/16 f'cast | 2012-2014 average | 2015 estim. | 2016 f'cast | 11/12-13/14 average | 2014/15 estim. | 2015/16 f'cast |
| | (. . . . . million tonnes, milled equivalent . . . . . .) | | | | | | (. . . . . Kg/year . . . . . .) | | |
| **ASIA** | **415.9** | **430.3** | **435.4** | **150.1** | **163.5** | **158.6** | **78.4** | **78.6** | **78.6** |
| Bangladesh | 34.2 | 35.4 | 35.8 | 6.9 | 7.5 | 7.3 | 178.6 | 180.7 | 180.8 |
| China | 136.1 | 141.1 | 144.9 | 76.7 | 92.8 | 98.4 | 77.0 | 77.1 | 77.2 |
| of which Taiwan Prov. | 1.2 | 1.3 | 1.3 | 0.2 | 0.2 | 0.1 | 48.1 | 49.8 | 49.9 |
| India | 94.4 | 97.8 | 98.8 | 25.2 | 21.0 | 16.0 | 68.9 | 69.5 | 70.0 |
| Indonesia | 44.7 | 45.9 | 46.8 | 7.0 | 6.3 | 6.6 | 135.0 | 134.7 | 135.2 |
| Iran, Islamic Republic of | 2.8 | 2.9 | 2.9 | 0.6 | 0.5 | 0.4 | 33.6 | 33.3 | 33.4 |
| Iraq | 1.4 | 1.5 | 1.4 | 0.4 | 0.1 | - | 42.3 | 40.3 | 36.9 |
| Japan | 8.3 | 8.4 | 8.5 | 3.5 | 3.6 | 3.4 | 51.5 | 50.6 | 50.1 |
| Korea, D.P.R. | 1.8 | 1.8 | 1.5 | 0.2 | 0.2 | 0.1 | 59.7 | 60.4 | 54.0 |
| Korea, Republic of | 4.6 | 4.4 | 4.4 | 1.1 | 1.4 | 1.8 | 82.0 | 77.8 | 76.4 |
| Malaysia | 2.7 | 2.7 | 2.8 | 0.3 | 0.2 | 0.2 | 83.6 | 83.7 | 84.0 |
| Myanmar | 16.0 | 15.6 | 15.3 | 3.0 | 2.3 | 2.0 | 195.1 | 195.3 | 195.5 |
| Pakistan | 2.5 | 2.8 | 2.6 | 0.5 | 1.0 | 0.8 | 11.7 | 11.7 | 11.7 |
| Philippines | 13.2 | 13.6 | 13.6 | 2.0 | 2.6 | 2.7 | 118.6 | 118.7 | 119.0 |
| Saudi Arabia | 1.3 | 1.4 | 1.4 | 0.2 | 0.2 | 0.3 | 42.6 | 43.1 | 43.6 |
| Sri Lanka | 2.8 | 2.9 | 3.2 | 0.2 | 0.4 | 0.8 | 121.6 | 123.9 | 126.6 |
| Thailand | 13.4 | 15.1 | 14.6 | 16.2 | 16.2 | 11.0 | 100.5 | 101.1 | 101.5 |
| Viet Nam | 20.8 | 21.5 | 21.6 | 2.8 | 3.0 | 2.9 | 160.2 | 159.6 | 158.7 |
| **AFRICA** | **30.5** | **32.4** | **32.3** | **4.9** | **5.7** | **4.8** | **24.3** | **24.9** | **24.7** |
| Cote d'Ívoire | 1.6 | 1.7 | 1.8 | 0.3 | 0.4 | 0.3 | 72.4 | 72.9 | 73.1 |
| Egypt | 3.8 | 3.9 | 3.8 | 0.7 | 0.7 | 0.6 | 38.9 | 38.9 | 38.1 |
| Madagascar | 3.1 | 2.9 | 2.9 | 0.2 | 0.3 | 0.2 | 107.0 | 106.6 | 106.7 |
| Nigeria | 5.7 | 6.0 | 5.6 | 1.1 | 1.0 | 0.6 | 29.3 | 29.4 | 28.5 |
| Senegal | 1.5 | 1.6 | 1.7 | 0.3 | 0.4 | 0.4 | 102.9 | 103.4 | 103.7 |
| South Africa | 1.0 | 1.0 | 1.0 | 0.2 | 0.1 | 0.1 | 16.9 | 17.2 | 17.0 |
| Tanzania, United Rep. of | 1.4 | 1.7 | 1.7 | 0.2 | 0.4 | 0.4 | 24.0 | 25.5 | 25.7 |
| **CENTRAL AMERICA** | **3.9** | **4.1** | **4.1** | **0.6** | **0.6** | **0.6** | **17.8** | **18.0** | **18.2** |
| Cuba | 0.8 | 0.8 | 0.8 | 0.1 | 0.1 | 0.1 | 66.0 | 67.9 | 68.0 |
| Mexico | 0.8 | 0.8 | 0.8 | - | 0.1 | - | 6.2 | 6.3 | 6.4 |
| **SOUTH AMERICA** | **15.1** | **15.2** | **15.3** | **2.4** | **1.7** | **2.4** | **33.3** | **32.5** | **32.2** |
| Argentina | 0.5 | 0.5 | 0.5 | 0.1 | 0.2 | 0.4 | 9.2 | 10.0 | 10.2 |
| Brazil | 8.3 | 8.1 | 7.9 | 1.3 | 0.6 | 0.5 | 37.3 | 35.7 | 34.4 |
| Peru | 2.1 | 2.2 | 2.3 | 0.3 | 0.3 | 0.4 | 63.7 | 64.7 | 65.2 |
| Uruguay | 0.1 | 0.1 | 0.1 | 0.1 | - | 0.2 | 8.1 | 8.2 | 8.4 |
| **NORTH AMERICA** | **4.1** | **4.5** | **4.3** | **1.2** | **1.6** | **1.4** | **9.0** | **9.4** | **9.3** |
| Canada | 0.4 | 0.4 | 0.4 | - | - | - | 11.0 | 11.1 | 11.1 |
| United States of America | 3.7 | 4.2 | 3.9 | 1.2 | 1.6 | 1.4 | 8.7 | 9.2 | 9.1 |
| **EUROPE** | **4.2** | **4.3** | **4.4** | **0.7** | **0.7** | **0.9** | **5.1** | **5.2** | **5.3** |
| European Union | 3.1 | 3.2 | 3.2 | 0.5 | 0.4 | 0.6 | 5.3 | 5.5 | 5.5 |
| Russian Federation | 0.7 | 0.7 | 0.8 | 0.1 | 0.1 | 0.1 | 4.8 | 4.8 | 5.1 |
| **OCEANIA** | **0.7** | **0.7** | **0.7** | **0.1** | **0.2** | **0.3** | **15.5** | **15.7** | **15.8** |
| Australia | 0.3 | 0.3 | 0.3 | 0.1 | 0.2 | 0.2 | 9.8 | 10.0 | 10.1 |
| **WORLD** | **474.4** | **491.5** | **496.4** | **160.0** | **173.9** | **168.9** | **54.3** | **54.5** | **54.5** |
| Developing countries | 455.6 | 472.0 | 476.9 | 154.2 | 167.6 | 162.8 | 64.8 | 64.8 | 64.7 |
| Developed countries | 18.7 | 19.5 | 19.4 | 5.8 | 6.4 | 6.1 | 11.1 | 11.3 | 11.2 |
| LIFDCs | 161.4 | 168.1 | 168.9 | 37.1 | 34.5 | 28.2 | 58.8 | 59.2 | 59.2 |
| LDCs | 77.7 | 80.2 | 80.2 | 14.8 | 16.2 | 15.0 | 67.7 | 67.9 | 67.4 |

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

| | Wheat[1] | | | Coarse Grains[2] | | | Rice (milled basis) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* | 2014/15 | 2015/16 *estim.* | 2016/17 *f'cast* |
| | **UNITED STATES** (June/May) | | | **UNITED STATES** | | | **UNITED STATES** (Aug./July) | | |
| Opening stocks | 16.1 | 20.5 | 26.6 | 34.3 | 46.9 | 50.5 | 1.0 | 1.6 | 1.4 |
| Production | 55.1 | 55.8 | 54.4 | 377.6 | 367.2 | 382.6 | 7.1 | 6.1 | 7.3 |
| Imports | 4.1 | 3.3 | 3.5 | 3.5 | 3.8 | 3.6 | 0.8 | 0.7 | 0.8 |
| **Total Supply** | **75.3** | **79.6** | **84.5** | **415.4** | **418.0** | **436.6** | **8.9** | **8.4** | **9.5** |
| Domestic use | 31.6 | 31.7 | 32.7 | 311.7 | 315.3 | 323.5 | 4.2 | 3.9 | 4.3 |
| Exports | 23.2 | 21.2 | 23.8 | 56.7 | 52.2 | 54.3 | 3.2 | 3.2 | 3.6 |
| Closing stocks | 20.5 | 26.6 | 28.0 | 46.9 | 50.5 | 58.8 | 1.6 | 1.4 | 1.6 |
| | **CANADA** (August/July) | | | **CANADA** | | | **THAILAND** (Aug./July) | | |
| Opening stocks | 10.4 | 7.1 | 3.9 | 4.7 | 3.3 | 4.4 | 19.6 | 16.2 | 11.0 |
| Production | 29.4 | 27.6 | 28.9 | 22.1 | 25.7 | 25.8 | 22.0 | 19.0 | 20.1 |
| Imports | 0.1 | 0.1 | 0.1 | 1.8 | 1.5 | 0.9 | 0.3 | 0.3 | 0.3 |
| **Total Supply** | **40.0** | **34.8** | **32.8** | **28.6** | **30.6** | **31.1** | **41.8** | **35.5** | **31.4** |
| Domestic use | 8.9 | 8.7 | 8.4 | 19.8 | 20.4 | 20.7 | 15.1 | 14.6 | 13.6 |
| Exports | 23.9 | 22.2 | 20.8 | 5.4 | 5.7 | 5.7 | 10.5 | 9.9 | 9.8 |
| Closing stocks | 7.1 | 3.9 | 3.7 | 3.3 | 4.4 | 4.7 | 16.2 | 11.0 | 8.0 |
| | **ARGENTINA** (Dec./Nov.) | | | **ARGENTINA** | | | **INDIA** (Oct./Sept.) | | |
| Opening stocks | 2.0 | 4.5 | 2.7 | 3.8 | 5.3 | 5.5 | 25.5 | 21.0 | 16.0 |
| Production | 13.9 | 11.3 | 14.0 | 39.9 | 42.4 | 45.4 | 105.5 | 103.4 | 105.6 |
| Imports | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| **Total Supply** | **15.9** | **15.9** | **16.7** | **43.7** | **47.7** | **51.0** | **131.0** | **124.4** | **121.6** |
| Domestic use | 5.9 | 5.7 | 5.8 | 18.3 | 19.9 | 20.9 | 97.8 | 98.8 | 99.8 |
| Exports | 5.5 | 7.5 | 8.0 | 20.1 | 22.2 | 24.6 | 12.2 | 9.6 | 8.4 |
| Closing stocks | 4.5 | 2.7 | 2.9 | 5.3 | 5.5 | 5.5 | 21.0 | 16.0 | 13.5 |
| | **AUSTRALIA** (Oct./Sept.) | | | **AUSTRALIA** | | | **PAKISTAN** (Sept./Aug.) | | |
| Opening stocks | 4.5 | 4.2 | 4.6 | 2.1 | 2.2 | 2.2 | 0.7 | 1.0 | 0.8 |
| Production | 23.1 | 24.2 | 24.5 | 11.3 | 12.6 | 12.5 | 7.0 | 6.6 | 6.6 |
| Imports | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total Supply** | **27.6** | **28.4** | **29.1** | **13.4** | **14.8** | **14.7** | **7.7** | **7.6** | **7.4** |
| Domestic use | 6.8 | 7.3 | 7.3 | 5.5 | 5.7 | 6.1 | 2.8 | 2.6 | 2.6 |
| Exports | 16.6 | 16.5 | 18.0 | 5.7 | 6.8 | 6.2 | 3.9 | 4.2 | 4.4 |
| Closing stocks | 4.2 | 4.6 | 3.8 | 2.2 | 2.2 | 2.4 | 1.0 | 0.8 | 0.5 |
| | **EU** (July/June) | | | **EU** | | | **VIET NAM** (Jan./Dec.) | | |
| Opening stocks | 9.0 | 13.5 | 19.7 | 20.1 | 22.2 | 16.9 | 2.7 | 3.0 | 2.9 |
| Production | 157.1 | 160.5 | 154.0 | 171.7 | 150.0 | 160.7 | 29.2 | 29.4 | 28.9 |
| Imports | 5.7 | 5.8 | 5.5 | 9.6 | 15.6 | 12.7 | 0.5 | 0.5 | 0.6 |
| **Total Supply** | **171.8** | **179.8** | **179.2** | **201.4** | **187.7** | **190.2** | **32.5** | **32.9** | **32.4** |
| Domestic use | 123.9 | 128.4 | 127.5 | 165.1 | 158.9 | 160.6 | 21.5 | 21.6 | 21.3 |
| Exports | 34.3 | 31.7 | 31.2 | 14.1 | 12.0 | 10.4 | 8.0 | 8.4 | 8.7 |
| Closing stocks | 13.5 | 19.7 | 20.5 | 22.2 | 16.9 | 19.2 | 3.0 | 2.9 | 2.4 |
| | **TOTAL OF ABOVE** | | | **TOTAL OF ABOVE** | | | **TOTAL OF ABOVE** | | |
| Opening stocks | 42.0 | 49.8 | 57.4 | 64.9 | 79.9 | 79.5 | 49.5 | 42.8 | 32.1 |
| Production | 278.6 | 279.5 | 275.8 | 622.6 | 597.9 | 626.9 | 170.8 | 164.5 | 168.5 |
| Imports | 9.9 | 9.2 | 9.1 | 15.0 | 21.0 | 17.2 | 1.6 | 1.5 | 1.7 |
| **Total Supply** | **330.5** | **338.4** | **342.3** | **702.5** | **698.8** | **723.6** | **221.9** | **208.8** | **202.3** |
| Domestic use | 177.1 | 181.9 | 181.7 | 520.4 | 520.3 | 531.8 | 141.3 | 141.4 | 141.5 |
| Exports | 103.6 | 99.1 | 101.8 | 102.1 | 98.9 | 101.2 | 37.8 | 35.3 | 34.8 |
| Closing stocks | 49.8 | 57.4 | 58.8 | 79.9 | 79.5 | 90.6 | 42.8 | 32.1 | 25.9 |

[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 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* |
| **ASIA** | **135.4** | **132.6** | **125.6** | **90.6** | **112.7** | **117.0** | **2.7** | **3.0** | **3.1** |
| China | 60.4 | 59.5 | 57.9 | 69.7 | 86.4 | 89.8 | 1.1 | 1.2 | 1.3 |
| of which Taiwan Prov. | 0.1 | 0.1 | 0.1 | 2.3 | 2.5 | 2.5 | - | - | - |
| India | 38.1 | 34.6 | 31.6 | 0.2 | 0.4 | 0.3 | 0.8 | 0.8 | 0.8 |
| Indonesia | 10.4 | 11.8 | 11.6 | 2.2 | 2.5 | 2.6 | 0.1 | 0.1 | 0.1 |
| Iran, Islamic Republic of | 0.7 | 0.7 | 0.7 | 0.4 | 1.7 | 1.8 | - | 0.1 | 0.1 |
| Japan | 0.2 | 0.3 | 0.3 | 5.6 | 5.7 | 5.7 | - | - | - |
| Korea, Republic of | 0.2 | 0.2 | 0.2 | 1.5 | 1.4 | 1.6 | - | - | - |
| Malaysia | 5.0 | 5.1 | 4.9 | 0.6 | 0.8 | 0.8 | - | 0.1 | - |
| Pakistan | 5.4 | 5.5 | 4.1 | 1.3 | 1.6 | 2.0 | - | - | - |
| Thailand | 0.7 | 0.7 | 0.7 | 2.0 | 2.5 | 2.4 | - | - | - |
| Turkey | 2.9 | 3.1 | 2.9 | 2.3 | 3.2 | 2.8 | 0.1 | 0.1 | 0.1 |
| **AFRICA** | **17.1** | **17.8** | **17.8** | **3.3** | **4.4** | **3.9** | **0.8** | **0.6** | **0.7** |
| Nigeria | 4.9 | 5.0 | 5.0 | - | 0.1 | - | 0.1 | - | 0.1 |
| **CENTRAL AMERICA** | **1.6** | **1.8** | **1.8** | **6.2** | **6.6** | **6.2** | **0.2** | **0.2** | **0.2** |
| Mexico | 1.2 | 1.3 | 1.3 | 5.5 | 5.8 | 5.4 | - | - | - |
| **SOUTH AMERICA** | **148.1** | **182.5** | **176.5** | **1.4** | **2.1** | **2.0** | **58.3** | **70.1** | **77.4** |
| Argentina | 51.9 | 66.3 | 60.0 | 0.1 | - | - | 8.3 | 11.3 | 13.6 |
| Brazil | 81.6 | 99.8 | 100.4 | 0.3 | 0.3 | 0.3 | 41.8 | 50.8 | 55.6 |
| Paraguay | 7.4 | 8.9 | 9.3 | - | - | - | 4.7 | 4.5 | 5.0 |
| **NORTH AMERICA** | **117.4** | **140.5** | **141.6** | **2.9** | **2.8** | **2.2** | **53.4** | **65.7** | **63.3** |
| Canada | 22.0 | 23.9 | 24.9 | 0.6 | 0.6 | 0.6 | 12.6 | 14.1 | 15.2 |
| United States of America | 95.5 | 116.6 | 116.7 | 2.3 | 2.1 | 1.6 | 40.8 | 51.6 | 48.1 |
| **EUROPE** | **58.7** | **68.0** | **65.0** | **19.8** | **20.4** | **21.5** | **5.2** | **6.6** | **5.9** |
| European Union | 30.0 | 36.0 | 31.5 | 17.9 | 17.5 | 18.6 | 1.0 | 1.3 | 0.9 |
| Russian Federation | 12.4 | 13.2 | 13.7 | 1.4 | 2.2 | 2.3 | 0.5 | 0.4 | 0.5 |
| Ukraine | 14.0 | 16.4 | 17.4 | - | - | - | 3.2 | 4.4 | 3.8 |
| **OCEANIA** | **5.9** | **4.8** | **4.3** | **-** | **0.1** | **-** | **3.7** | **2.6** | **2.4** |
| Australia | 5.4 | 4.3 | 3.9 | - | - | - | 3.6 | 2.6 | 2.3 |
| **WORLD** | **484.2** | **548.0** | **532.7** | **124.3** | **149.0** | **152.8** | **124.2** | **148.9** | **152.9** |
| Developing countries | 302.3 | 334.8 | 321.9 | 95.4 | 119.3 | 122.6 | 62.1 | 74.0 | 81.4 |
| Developed countries | 182.0 | 213.2 | 210.8 | 29.0 | 29.7 | 30.1 | 62.1 | 74.9 | 71.5 |
| LIFDCs | 56.6 | 53.4 | 50.3 | 1.3 | 2.2 | 2.3 | 1.6 | 1.6 | 1.6 |
| LDCs | 10.7 | 10.6 | 10.7 | 0.6 | 0.9 | 1.4 | 0.5 | 0.5 | 0.5 |

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

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

| | Imports | | | Exports | | | Utilization | | |
|---|---|---|---|---|---|---|---|---|---|
| | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* |
| **ASIA** | **42.7** | **46.7** | **48.3** | **47.3** | **51.8** | **51.0** | **97.7** | **106.6** | **111.3** |
| Bangladesh | 1.6 | 1.9 | 2.0 | - | - | - | 1.9 | 2.2 | 2.4 |
| China | 11.5 | 10.4 | 10.4 | 0.5 | 0.5 | 0.6 | 35.5 | 38.4 | 39.2 |
| of which Taiwan Prov. | 0.4 | 0.4 | 0.4 | - | - | - | 0.8 | 0.9 | 0.9 |
| India | 11.0 | 14.4 | 15.6 | 0.5 | 0.3 | 0.2 | 20.5 | 22.9 | 24.5 |
| Indonesia | 0.1 | 0.1 | 0.2 | 23.0 | 28.6 | 27.5 | 9.7 | 10.2 | 11.3 |
| Iran | 1.7 | 1.4 | 1.3 | 0.2 | 0.2 | 0.3 | 1.9 | 1.9 | 1.7 |
| Japan | 1.2 | 1.3 | 1.3 | - | - | - | 3.1 | 3.2 | 3.2 |
| Korea, Republic of | 1.0 | 1.1 | 1.1 | - | - | - | 1.4 | 1.4 | 1.5 |
| Malaysia | 1.8 | 1.9 | 1.7 | 19.3 | 18.9 | 19.0 | 4.2 | 4.6 | 4.9 |
| Pakistan | 2.6 | 3.0 | 3.0 | 0.2 | 0.1 | 0.1 | 4.2 | 4.8 | 4.9 |
| Philippines | 0.6 | 0.9 | 0.8 | 0.9 | 0.9 | 0.8 | 1.6 | 1.7 | 1.7 |
| Singapore | 0.9 | 0.7 | 0.8 | 0.2 | 0.2 | 0.1 | 0.7 | 0.6 | 0.6 |
| Turkey | 1.7 | 1.9 | 2.0 | 0.7 | 0.7 | 0.7 | 2.7 | 3.0 | 3.2 |
| **AFRICA** | **9.4** | **10.6** | **10.9** | **1.8** | **1.8** | **2.0** | **15.2** | **16.9** | **17.0** |
| Algeria | 0.7 | 0.9 | 0.9 | - | 0.1 | 0.1 | 0.8 | 1.0 | 1.0 |
| Egypt | 1.9 | 2.0 | 2.0 | 0.4 | 0.2 | 0.2 | 2.0 | 2.4 | 2.4 |
| Nigeria | 1.2 | 1.6 | 1.6 | 0.2 | 0.2 | 0.2 | 3.0 | 3.4 | 3.3 |
| South Africa | 0.9 | 0.8 | 0.8 | 0.1 | 0.1 | 0.1 | 1.3 | 1.3 | 1.4 |
| **CENTRAL AMERICA** | **2.5** | **2.6** | **2.8** | **0.9** | **1.1** | **1.1** | **4.9** | **5.1** | **5.2** |
| Mexico | 1.4 | 1.4 | 1.5 | 0.1 | - | - | 3.3 | 3.4 | 3.4 |
| **SOUTH AMERICA** | **2.9** | **3.2** | **3.3** | **8.6** | **9.8** | **11.4** | **16.1** | **17.6** | **17.9** |
| Argentina | 0.1 | 0.1 | 0.1 | 5.1 | 5.9 | 7.3 | 3.7 | 3.8 | 3.8 |
| Brazil | 0.6 | 0.6 | 0.6 | 1.8 | 1.9 | 1.8 | 8.0 | 8.8 | 9.0 |
| **NORTH AMERICA** | **4.8** | **5.0** | **4.9** | **6.7** | **6.5** | **6.8** | **19.3** | **20.2** | **20.5** |
| Canada | 0.6 | 0.5 | 0.4 | 3.3 | 3.2 | 3.4 | 1.2 | 1.5 | 1.5 |
| United States of America | 4.3 | 4.6 | 4.4 | 3.4 | 3.3 | 3.4 | 18.1 | 18.8 | 19.1 |
| **EUROPE** | **13.6** | **14.2** | **14.3** | **9.3** | **10.0** | **10.9** | **36.5** | **38.4** | **38.4** |
| European Union | 11.2 | 11.5 | 11.6 | 3.1 | 3.3 | 3.5 | 30.1 | 31.7 | 31.6 |
| Russian Federation | 1.1 | 1.3 | 1.4 | 1.9 | 2.2 | 2.3 | 4.1 | 4.5 | 4.6 |
| Ukraine | 0.3 | 0.3 | 0.3 | 3.7 | 4.0 | 4.7 | 1.0 | 0.9 | 0.9 |
| **OCEANIA** | **0.6** | **0.5** | **0.7** | **1.8** | **1.8** | **1.9** | **1.1** | **1.1** | **1.2** |
| Australia | 0.5 | 0.4 | 0.5 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 |
| **WORLD** | **76.5** | **82.8** | **85.1** | **76.4** | **82.8** | **85.1** | **190.8** | **205.9** | **211.5** |
| Developing countries | 56.2 | 61.7 | 63.9 | 59.3 | 65.2 | 66.2 | 130.9 | 143.1 | 148.2 |
| Developed countries | 20.3 | 21.1 | 21.2 | 17.1 | 17.7 | 18.9 | 59.9 | 62.9 | 63.3 |
| LIFDCs | 19.0 | 23.9 | 25.5 | 2.6 | 2.3 | 2.5 | 34.3 | 38.4 | 40.2 |
| LDCs | 5.8 | 6.9 | 7.2 | 0.5 | 0.6 | 0.8 | 8.8 | 9.9 | 10.2 |

[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 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* | 11/12-13/14 average | 2014/15 *estim.* | 2015/16 *f'cast* |
| **ASIA** | **32.9** | **34.3** | **35.2** | **16.0** | **13.6** | **12.7** | **137.2** | **153.9** | **161.6** |
| China | 2.9 | 2.7 | 2.7 | 1.9 | 1.8 | 2.2 | 75.2 | 85.5 | 90.2 |
| of which Taiwan Prov. | 0.5 | 0.6 | 0.6 | - | - | - | 2.4 | 2.6 | 2.6 |
| India | 0.2 | 0.2 | 0.2 | 5.2 | 2.4 | 0.8 | 12.0 | 12.8 | 13.5 |
| Indonesia | 3.8 | 4.1 | 4.6 | 3.7 | 4.3 | 4.4 | 5.7 | 6.5 | 7.0 |
| Japan | 2.6 | 2.2 | 2.2 | - | - | - | 6.5 | 6.3 | 6.2 |
| Korea, Republic of | 3.8 | 3.9 | 4.1 | 0.1 | 0.2 | 0.2 | 4.8 | 5.0 | 5.2 |
| Malaysia | 1.3 | 1.4 | 1.4 | 2.6 | 2.7 | 2.7 | 2.0 | 2.0 | 2.1 |
| Pakistan | 0.8 | 0.6 | 1.1 | 0.2 | 0.2 | 0.3 | 3.5 | 3.5 | 3.8 |
| Philippines | 2.1 | 2.4 | 2.5 | 0.6 | 0.5 | 0.5 | 2.5 | 2.9 | 3.0 |
| Saudi Arabia | 0.7 | 0.9 | 1.0 | - | - | - | 0.9 | 1.3 | 1.5 |
| Thailand | 3.3 | 3.3 | 3.0 | 0.1 | 0.2 | 0.2 | 5.5 | 5.7 | 5.9 |
| Turkey | 1.9 | 1.7 | 1.7 | 0.2 | 0.1 | 0.1 | 4.3 | 5.0 | 5.3 |
| Viet Nam | 3.7 | 4.7 | 4.9 | 0.2 | 0.3 | 0.2 | 4.7 | 5.9 | 6.3 |
| **AFRICA** | **5.1** | **5.8** | **6.5** | **0.9** | **1.0** | **1.0** | **11.7** | **13.3** | **13.9** |
| Egypt | 1.1 | 1.1 | 1.6 | - | - | - | 2.6 | 2.8 | 3.1 |
| South Africa | 1.2 | 1.2 | 1.3 | 0.1 | 0.1 | 0.1 | 2.0 | 2.3 | 2.6 |
| **CENTRAL AMERICA** | **3.4** | **4.0** | **4.3** | **0.2** | **0.2** | **0.2** | **8.3** | **9.0** | **9.4** |
| Mexico | 1.8 | 2.1 | 2.5 | 0.1 | 0.1 | 0.1 | 6.2 | 6.5 | 6.9 |
| **SOUTH AMERICA** | **5.1** | **5.8** | **5.8** | **45.0** | **49.0** | **54.1** | **25.6** | **28.3** | **30.1** |
| Argentina | - | - | - | 26.3 | 29.4 | 33.1 | 3.0 | 4.1 | 4.5 |
| Bolivia | - | - | - | 1.6 | 1.6 | 1.7 | 0.1 | 0.3 | 0.3 |
| Brazil | 0.1 | - | - | 14.0 | 14.5 | 15.2 | 15.9 | 16.4 | 17.1 |
| Chile | 1.1 | 1.2 | 1.3 | 0.3 | 0.2 | 0.3 | 1.5 | 1.7 | 1.7 |
| Paraguay | - | - | - | 1.6 | 2.4 | 2.8 | 0.5 | 0.4 | 0.3 |
| Peru | 0.9 | 1.0 | 1.0 | 1.0 | 0.6 | 0.8 | 1.1 | 1.2 | 1.3 |
| Venezuela | 1.3 | 1.5 | 1.3 | - | - | - | 1.4 | 1.6 | 1.6 |
| **NORTH AMERICA** | **4.7** | **5.0** | **5.1** | **14.6** | **17.0** | **15.6** | **35.0** | **37.7** | **38.8** |
| Canada | 1.1 | 1.0 | 0.9 | 4.3 | 4.6 | 4.8 | 2.3 | 2.3 | 2.3 |
| United States of America | 3.6 | 4.1 | 4.2 | 10.3 | 12.4 | 10.8 | 32.8 | 35.4 | 36.5 |
| **EUROPE** | **30.6** | **30.8** | **32.1** | **7.5** | **7.7** | **8.4** | **63.4** | **67.2** | **68.2** |
| European Union | 27.7 | 28.2 | 29.3 | 1.4 | 1.3 | 1.3 | 55.1 | 57.4 | 57.7 |
| Russian Federation | 0.6 | 0.5 | 0.5 | 2.2 | 2.1 | 2.2 | 4.6 | 5.8 | 6.2 |
| Ukraine | - | - | - | 3.5 | 3.7 | 4.4 | 1.1 | 1.3 | 1.4 |
| **OCEANIA** | **2.6** | **3.1** | **3.2** | **0.3** | **0.2** | **0.3** | **3.3** | **3.9** | **4.0** |
| Australia | 0.8 | 1.1 | 1.1 | 0.1 | 0.1 | 0.1 | 1.4 | 1.8 | 1.9 |
| **WORLD** | **84.5** | **88.8** | **92.2** | **84.4** | **88.8** | **92.2** | **284.5** | **313.2** | **326.0** |
| Developing countries | 43.6 | 47.1 | 49.0 | 62.2 | 64.0 | 68.1 | 175.9 | 197.7 | 208.2 |
| Developed countries | 40.9 | 41.8 | 43.2 | 22.2 | 24.9 | 24.1 | 108.6 | 115.5 | 117.8 |
| LIFDCs | 1.9 | 2.6 | 2.5 | 6.1 | 3.3 | 1.8 | 18.9 | 20.8 | 21.7 |
| LDCs | 0.7 | 0.9 | 0.9 | 0.4 | 0.5 | 0.4 | 3.8 | 4.3 | 4.6 |

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

# APPENDIX TABLE 13: TOTAL **MEAT** STATISTICS[1]
(*thousand tonnes, carcass weight equivalent*)

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* |
| **ASIA** | **134 579** | **133 055** | **15 972** | **16 510** | **4 205** | **4 216** | **146 653** | **145 391** |
| China | 86 782 | 84 591 | 4 626 | 4 728 | 609 | 571 | 91 049 | 88 778 |
| India | 6 582 | 6 807 | 1 | 1 | 1 709 | 1 716 | 4 874 | 5 092 |
| Indonesia | 3 429 | 3 457 | 85 | 81 | 5 | 5 | 3 509 | 3 533 |
| Iran, Islamic Republic of | 2 694 | 2 726 | 101 | 134 | 67 | 72 | 2 728 | 2 787 |
| Japan | 3 248 | 3 274 | 3 158 | 3 236 | 14 | 13 | 6 379 | 6 509 |
| Korea, Republic of | 2 401 | 2 424 | 1 124 | 1 174 | 42 | 46 | 3 540 | 3 552 |
| Malaysia | 1 681 | 1 699 | 340 | 383 | 61 | 63 | 1 960 | 2 019 |
| Pakistan | 3 161 | 3 218 | 29 | 30 | 69 | 70 | 3 120 | 3 177 |
| Philippines | 3 214 | 3 277 | 417 | 435 | 13 | 16 | 3 618 | 3 696 |
| Saudi Arabia | 926 | 959 | 1 196 | 1 340 | 93 | 103 | 2 030 | 2 197 |
| Singapore | 120 | 121 | 348 | 361 | 34 | 39 | 434 | 444 |
| Thailand | 2 832 | 2 869 | 35 | 35 | 952 | 999 | 1 923 | 1 905 |
| Turkey | 3 238 | 3 258 | 23 | 18 | 371 | 335 | 2 894 | 2 940 |
| Viet Nam | 4 384 | 4 420 | 1 725 | 1 757 | 26 | 26 | 6 084 | 6 151 |
| **AFRICA** | **17 310** | **17 288** | **2 796** | **2 852** | **294** | **260** | **19 812** | **19 880** |
| Algeria | 755 | 762 | 89 | 90 | 2 | 2 | 842 | 850 |
| Angola | 264 | 259 | 436 | 450 | - | - | 700 | 709 |
| Egypt | 2 088 | 2 101 | 384 | 375 | 12 | 12 | 2 460 | 2 463 |
| Nigeria | 1 494 | 1 503 | 4 | 4 | 1 | 1 | 1 497 | 1 506 |
| South Africa | 2 886 | 2 855 | 556 | 626 | 207 | 172 | 3 234 | 3 309 |
| **CENTRAL AMERICA** | **9 212** | **9 369** | **3 071** | **3 229** | **522** | **579** | **11 761** | **12 019** |
| Cuba | 313 | 317 | 263 | 298 | - | - | 576 | 614 |
| Mexico | 6 503 | 6 646 | 1 992 | 2 089 | 298 | 355 | 8 197 | 8 380 |
| **SOUTH AMERICA** | **43 040** | **43 919** | **795** | **798** | **8 135** | **8 746** | **35 705** | **35 970** |
| Argentina | 5 217 | 5 285 | 19 | 20 | 451 | 484 | 4 784 | 4 821 |
| Brazil | 26 885 | 27 613 | 67 | 64 | 6 616 | 7 139 | 20 336 | 20 538 |
| Chile | 1 460 | 1 475 | 378 | 391 | 329 | 354 | 1 509 | 1 512 |
| Colombia | 2 531 | 2 510 | 131 | 131 | 15 | 21 | 2 647 | 2 622 |
| Uruguay | 675 | 681 | 49 | 49 | 359 | 391 | 365 | 340 |
| Venezuela | 2 190 | 2 250 | 46 | 35 | 1 | - | 2 240 | 2 286 |
| **NORTH AMERICA** | **47 931** | **49 323** | **3 053** | **2 931** | **8 484** | **8 782** | **42 442** | **43 484** |
| Canada | 4 450 | 4 562 | 782 | 789 | 1 721 | 1 806 | 3 500 | 3 545 |
| United States of America | 43 481 | 44 760 | 2 259 | 2 131 | 6 763 | 6 977 | 38 930 | 39 927 |
| **EUROPE** | **61 016** | **61 491** | **3 044** | **3 073** | **4 917** | **5 052** | **59 146** | **59 513** |
| Belarus | 1 128 | 1 149 | 37 | 32 | 261 | 294 | 903 | 887 |
| European Union | 46 787 | 47 110 | 1 314 | 1 340 | 4 191 | 4 273 | 43 911 | 44 176 |
| Russian Federation | 9 039 | 9 229 | 1 234 | 1 246 | 155 | 185 | 10 120 | 10 290 |
| Ukraine | 2 403 | 2 333 | 72 | 73 | 219 | 209 | 2 256 | 2 197 |
| **OCEANIA** | **6 520** | **6 244** | **486** | **514** | **3 242** | **2 997** | **3 766** | **3 790** |
| Australia | 4 654 | 4 417 | 256 | 277 | 2 208 | 2 016 | 2 704 | 2 706 |
| New Zealand | 1 356 | 1 317 | 78 | 84 | 1 031 | 978 | 404 | 424 |
| **WORLD** | **319 609** | **320 688** | **29 217** | **29 908** | **29 798** | **30 631** | **319 284** | **320 047** |
| Developing countries | 200 700 | 200 160 | 19 537 | 20 215 | 13 135 | 13 781 | 207 426 | 206 625 |
| Developed countries | 118 909 | 120 528 | 9 680 | 9 692 | 16 663 | 16 851 | 111 858 | 113 422 |
| LIFDCs | 19 401 | 19 628 | 1 322 | 1 318 | 1 868 | 1 875 | 18 855 | 19 072 |
| LDCs | 9 882 | 9 881 | 1 352 | 1 331 | 24 | 25 | 11 210 | 11 187 |

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

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* |
| **ASIA** | **17 990** | **18 118** | **4 592** | **4 780** | **1 945** | **1 966** | **20 681** | **20 928** |
| China | 6 766 | 6 801 | 1 207 | 1 351 | 38 | 49 | 7 954 | 8 093 |
| India | 2 678 | 2 700 | - | - | 1 678 | 1 685 | 1 000 | 1 015 |
| Indonesia | 601 | 608 | 70 | 65 | 1 | 1 | 670 | 672 |
| Iran, Islamic Republic of | 254 | 254 | 98 | 131 | 4 | 4 | 348 | 381 |
| Japan | 481 | 475 | 703 | 688 | 2 | 2 | 1 164 | 1 170 |
| Korea, Republic of | 323 | 308 | 366 | 390 | 8 | 8 | 720 | 686 |
| Malaysia | 31 | 31 | 224 | 258 | 15 | 16 | 240 | 273 |
| Pakistan | 1 725 | 1 775 | 4 | 4 | 33 | 33 | 1 697 | 1 747 |
| Philippines | 295 | 300 | 145 | 150 | 4 | 4 | 436 | 446 |
| **AFRICA** | **6 230** | **6 225** | **742** | **728** | **128** | **88** | **6 844** | **6 865** |
| Algeria | 140 | 140 | 82 | 83 | - | - | 222 | 223 |
| Angola | 105 | 104 | 94 | 90 | - | - | 199 | 194 |
| Egypt | 859 | 870 | 360 | 350 | 9 | 10 | 1 210 | 1 210 |
| South Africa | 870 | 862 | 25 | 24 | 92 | 50 | 803 | 836 |
| **CENTRAL AMERICA** | **2 555** | **2 571** | **366** | **367** | **325** | **359** | **2 595** | **2 579** |
| Mexico | 1 850 | 1 865 | 195 | 193 | 151 | 187 | 1 894 | 1 871 |
| **SOUTH AMERICA** | **15 576** | **15 722** | **329** | **320** | **2 545** | **2 758** | **13 365** | **13 284** |
| Argentina | 2 713 | 2 653 | - | - | 201 | 231 | 2 512 | 2 422 |
| Brazil | 9 425 | 9 620 | 53 | 50 | 1 626 | 1 776 | 7 853 | 7 894 |
| Chile | 211 | 200 | 217 | 210 | 11 | 13 | 417 | 397 |
| Colombia | 845 | 820 | 5 | 5 | 13 | 19 | 837 | 806 |
| Uruguay | 546 | 551 | 4 | 4 | 336 | 369 | 213 | 186 |
| Venezuela | 557 | 582 | 30 | 30 | - | - | 592 | 612 |
| **NORTH AMERICA** | **11 873** | **12 400** | **1 681** | **1 523** | **1 440** | **1 501** | **12 131** | **12 423** |
| Canada | 1 058 | 1 072 | 282 | 283 | 356 | 352 | 986 | 1 003 |
| United States of America | 10 815 | 11 328 | 1 396 | 1 237 | 1 084 | 1 149 | 11 142 | 11 417 |
| **EUROPE** | **10 375** | **10 406** | **928** | **947** | **475** | **515** | **10 828** | **10 837** |
| European Union | 7 719 | 7 876 | 322 | 327 | 289 | 292 | 7 752 | 7 911 |
| Russian Federation | 1 604 | 1 551 | 510 | 524 | 43 | 54 | 2 071 | 2 022 |
| Ukraine | 380 | 310 | 2 | 2 | 27 | 28 | 355 | 284 |
| **OCEANIA** | **3 260** | **2 930** | **63** | **63** | **2 273** | **2 067** | **1 052** | **955** |
| Australia | 2 550 | 2 250 | 14 | 14 | 1 688 | 1 511 | 878 | 782 |
| New Zealand | 690 | 660 | 16 | 16 | 582 | 553 | 124 | 123 |
| **WORLD** | **67 859** | **68 372** | **8 700** | **8 728** | **9 131** | **9 253** | **67 496** | **67 871** |
| Developing countries | 41 754 | 42 045 | 5 263 | 5 445 | 4 943 | 5 170 | 42 141 | 42 306 |
| Developed countries | 26 105 | 26 327 | 3 437 | 3 283 | 4 189 | 4 083 | 25 355 | 25 566 |
| LIFDCs | 7 981 | 7 998 | 128 | 128 | 1 804 | 1 810 | 6 305 | 6 315 |
| LDCs | 3 519 | 3 513 | 166 | 163 | 4 | 4 | 3 682 | 3 671 |

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

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | **2015** *estim.* | **2016** *f'cast* | **2015** *estim.* | **2016** *f'cast* | **2015** *estim.* | **2016** *f'cast* | **2015** *estim.* | **2016** *f'cast* |
| **ASIA** | **8 191** | **8 303** | **559** | **537** | **42** | **44** | **8 709** | **8 796** |
| Bangladesh | 213 | 215 | - | - | - | - | 213 | 215 |
| China | 4 178 | 4 268 | 252 | 226 | 1 | 1 | 4 429 | 4 493 |
| India | 732 | 730 | - | - | 22 | 22 | 711 | 708 |
| Iran, Islamic Republic of | 291 | 295 | 1 | 1 | - | - | 292 | 296 |
| Pakistan | 467 | 470 | - | - | 12 | 13 | 455 | 457 |
| Saudi Arabia | 134 | 136 | 61 | 60 | 2 | 2 | 193 | 195 |
| Turkey | 366 | 368 | 1 | 1 | - | - | 367 | 369 |
| **AFRICA** | **3 103** | **3 094** | **32** | **32** | **35** | **36** | **3 099** | **3 090** |
| Algeria | 315 | 320 | 4 | 4 | - | - | 319 | 324 |
| Nigeria | 487 | 488 | - | - | - | - | 487 | 488 |
| South Africa | 182 | 179 | 11 | 11 | 1 | 1 | 191 | 189 |
| Sudan | 483 | 481 | - | - | 6 | 6 | 478 | 476 |
| **CENTRAL AMERICA** | **124** | **125** | **20** | **20** | **-** | **-** | **144** | **145** |
| Mexico | 95 | 94 | 12 | 12 | - | - | 106 | 106 |
| **SOUTH AMERICA** | **324** | **329** | **7** | **8** | **16** | **16** | **315** | **321** |
| Brazil | 116 | 117 | 7 | 8 | - | - | 123 | 125 |
| **NORTH AMERICA** | **92** | **93** | **125** | **128** | **3** | **3** | **213** | **218** |
| United States of America | 75 | 76 | 103 | 105 | 3 | 3 | 175 | 178 |
| **EUROPE** | **1 238** | **1 246** | **178** | **181** | **25** | **25** | **1 391** | **1 402** |
| European Union | 915 | 920 | 166 | 169 | 18 | 18 | 1 063 | 1 071 |
| Russian Federation | 191 | 193 | 4 | 3 | - | - | 195 | 196 |
| **OCEANIA** | **964** | **939** | **26** | **27** | **842** | **808** | **147** | **158** |
| Australia | 558 | 546 | 1 | 1 | 443 | 433 | 117 | 114 |
| New Zealand | 405 | 393 | 4 | 4 | 400 | 375 | 9 | 22 |
| **WORLD** | **14 036** | **14 129** | **947** | **934** | **964** | **933** | **14 019** | **14 130** |
| Developing countries | 11 728 | 11 836 | 619 | 601 | 93 | 96 | 12 254 | 12 341 |
| Developed countries | 2 308 | 2 293 | 328 | 333 | 871 | 836 | 1 765 | 1 790 |
| LIFDCs | 3 505 | 3 500 | 24 | 25 | 42 | 44 | 3 487 | 3 481 |
| LDCs | 1 599 | 1 592 | 5 | 5 | 17 | 18 | 1 587 | 1 579 |

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

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | **2015** *estim.* | **2016** *f'cast* | **2015** *estim.* | **2016** *f'cast* | **2015** *estim.* | **2016** *f'cast* | **2015** *estim.* | **2016** *f'cast* |
| **ASIA** | **66 425** | **65 181** | **3 957** | **4 107** | **220** | **200** | **70 410** | **69 133** |
| China | 55 392 | 54 017 | 1 583 | 1 661 | 127 | 102 | 57 078 | 55 617 |
| India | 357 | 357 | 1 | - | - | - | 357 | 357 |
| Indonesia | 748 | 750 | 6 | 6 | - | - | 753 | 756 |
| Japan | 1 254 | 1 280 | 1 286 | 1 325 | 2 | 2 | 2 545 | 2 605 |
| Korea, D.P.R. | 114 | 114 | 3 | 3 | - | - | 116 | 116 |
| Korea, Republic of | 1 217 | 1 240 | 606 | 631 | 4 | 4 | 1 831 | 1 871 |
| Malaysia | 230 | 230 | 25 | 26 | 5 | 5 | 249 | 250 |
| Philippines | 1 720 | 1 758 | 99 | 104 | 3 | 3 | 1 816 | 1 859 |
| Thailand | 985 | 990 | 3 | 2 | 30 | 32 | 958 | 960 |
| Viet Nam | 3 354 | 3 388 | 112 | 105 | 25 | 25 | 3 440 | 3 468 |
| **AFRICA** | **1 365** | **1 364** | **302** | **303** | **33** | **34** | **1 635** | **1 632** |
| Madagascar | 60 | 58 | - | - | - | - | 60 | 58 |
| Nigeria | 257 | 259 | 1 | 1 | - | - | 258 | 260 |
| South Africa | 240 | 236 | 41 | 40 | 29 | 30 | 252 | 246 |
| Uganda | 118 | 117 | 1 | 1 | - | - | 118 | 117 |
| **CENTRAL AMERICA** | **1 840** | **1 869** | **1 048** | **1 147** | **158** | **178** | **2 730** | **2 837** |
| Cuba | 199 | 201 | 16 | 16 | - | - | 215 | 217 |
| Mexico | 1 323 | 1 349 | 845 | 930 | 137 | 157 | 2 030 | 2 123 |
| **SOUTH AMERICA** | **5 662** | **5 769** | **192** | **188** | **864** | **948** | **4 990** | **5 009** |
| Argentina | 475 | 495 | 16 | 16 | 1 | 1 | 490 | 510 |
| Brazil | 3 519 | 3 609 | 2 | 2 | 691 | 760 | 2 829 | 2 850 |
| Chile | 524 | 525 | 46 | 50 | 169 | 183 | 401 | 392 |
| Colombia | 240 | 237 | 65 | 59 | - | - | 305 | 296 |
| Venezuela | 260 | 255 | - | - | - | - | 260 | 255 |
| **NORTH AMERICA** | **13 172** | **13 424** | **853** | **884** | **3 353** | **3 533** | **10 617** | **10 786** |
| Canada | 2 051 | 2 090 | 244 | 233 | 1 188 | 1 272 | 1 103 | 1 051 |
| United States of America | 11 121 | 11 334 | 605 | 647 | 2 164 | 2 262 | 9 510 | 9 731 |
| **EUROPE** | **28 266** | **28 276** | **538** | **598** | **2 545** | **2 596** | **26 260** | **26 279** |
| Belarus | 376 | 406 | 6 | 4 | 29 | 29 | 353 | 382 |
| European Union | 23 354 | 23 279 | 13 | 12 | 2 416 | 2 488 | 20 951 | 20 803 |
| Russian Federation | 3 069 | 3 139 | 415 | 478 | 34 | 35 | 3 450 | 3 582 |
| Serbia | 260 | 265 | 29 | 27 | 22 | 21 | 267 | 271 |
| Ukraine | 730 | 710 | 6 | 7 | 29 | 7 | 707 | 709 |
| **OCEANIA** | **508** | **520** | **302** | **327** | **35** | **36** | **776** | **811** |
| Australia | 374 | 385 | 221 | 241 | 33 | 34 | 562 | 592 |
| Papua New Guinea | 72 | 72 | 9 | 9 | - | - | 81 | 81 |
| **WORLD** | **117 239** | **116 402** | **7 193** | **7 554** | **7 208** | **7 525** | **117 417** | **116 488** |
| Developing countries | 74 116 | 72 980 | 4 240 | 4 447 | 1 273 | 1 359 | 77 325 | 76 113 |
| Developed countries | 43 123 | 43 422 | 2 952 | 3 107 | 5 935 | 6 167 | 40 092 | 40 376 |
| LIFDCs | 1 626 | 1 631 | 182 | 186 | 4 | 4 | 1 803 | 1 813 |
| LDCs | 1 580 | 1 584 | 188 | 185 | 1 | 1 | 1 767 | 1 768 |

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

| | Production | | Imports | | Exports | | Utilization | |
|---|---|---|---|---|---|---|---|---|
| | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* | 2015 *estim.* | 2016 *f'cast* |
| **ASIA** | **40 017** | **39 498** | **6 813** | **7 035** | **1 973** | **1 982** | **44 870** | **44 551** |
| China | 18 961 | 18 021 | 1 579 | 1 484 | 428 | 404 | 20 112 | 19 100 |
| India | 2 666 | 2 872 | - | - | 8 | 7 | 2 658 | 2 865 |
| Indonesia | 1 963 | 1 980 | 2 | 2 | - | - | 1 965 | 1 983 |
| Iran, Islamic Republic of | 2 132 | 2 160 | - | - | 60 | 65 | 2 072 | 2 095 |
| Japan | 1 501 | 1 507 | 1 134 | 1 190 | 9 | 9 | 2 622 | 2 688 |
| Korea, Republic of | 850 | 865 | 134 | 135 | 31 | 35 | 960 | 965 |
| Kuwait | 47 | 50 | 143 | 157 | - | - | 189 | 206 |
| Malaysia | 1 418 | 1 436 | 57 | 63 | 40 | 42 | 1 434 | 1 457 |
| Saudi Arabia | 681 | 709 | 971 | 1 117 | 60 | 70 | 1 592 | 1 756 |
| Singapore | 100 | 101 | 152 | 159 | 9 | 10 | 243 | 250 |
| Thailand | 1 657 | 1 687 | 4 | 4 | 874 | 918 | 796 | 773 |
| Turkey | 1 913 | 1 920 | 1 | 1 | 347 | 312 | 1 568 | 1 609 |
| Yemen | 149 | 148 | 57 | 48 | - | - | 205 | 196 |
| **AFRICA** | **5 170** | **5 163** | **1 687** | **1 757** | **89** | **94** | **6 768** | **6 826** |
| Angola | 32 | 31 | 232 | 251 | - | - | 264 | 282 |
| South Africa | 1 571 | 1 555 | 479 | 550 | 79 | 84 | 1 971 | 2 021 |
| **CENTRAL AMERICA** | **4 573** | **4 685** | **1 618** | **1 675** | **37** | **38** | **6 154** | **6 322** |
| Cuba | 36 | 36 | 229 | 263 | - | - | 265 | 299 |
| Mexico | 3 132 | 3 235 | 928 | 941 | 8 | 10 | 4 052 | 4 166 |
| **SOUTH AMERICA** | **21 271** | **21 891** | **266** | **280** | **4 644** | **4 957** | **16 892** | **17 214** |
| Argentina | 1 843 | 1 950 | 3 | 4 | 217 | 220 | 1 629 | 1 734 |
| Brazil | 13 794 | 14 236 | 4 | 4 | 4 274 | 4 578 | 9 524 | 9 662 |
| Chile | 700 | 725 | 115 | 131 | 141 | 149 | 674 | 707 |
| Venezuela | 1 360 | 1 400 | 15 | 5 | 1 | - | 1 374 | 1 405 |
| **NORTH AMERICA** | **22 568** | **23 179** | **385** | **387** | **3 669** | **3 727** | **19 264** | **19 839** |
| Canada | 1 324 | 1 383 | 235 | 250 | 176 | 182 | 1 373 | 1 451 |
| United States of America | 21 244 | 21 796 | 146 | 134 | 3 493 | 3 545 | 17 887 | 18 384 |
| **EUROPE** | **19 943** | **20 369** | **1 233** | **1 180** | **1 788** | **1 831** | **19 390** | **19 719** |
| European Union | 13 757 | 13 993 | 714 | 732 | 1 386 | 1 393 | 13 084 | 13 331 |
| Russian Federation | 4 084 | 4 256 | 258 | 193 | 78 | 96 | 4 267 | 4 354 |
| Ukraine | 1 244 | 1 263 | 63 | 64 | 164 | 173 | 1 144 | 1 154 |
| **OCEANIA** | **1 356** | **1 423** | **91** | **93** | **50** | **45** | **1 396** | **1 471** |
| Australia | 1 150 | 1 214 | 18 | 20 | 31 | 25 | 1 137 | 1 209 |
| New Zealand | 178 | 181 | 1 | 1 | 19 | 20 | 160 | 162 |
| **WORLD** | **114 898** | **116 208** | **12 093** | **12 408** | **12 250** | **12 675** | **114 736** | **115 941** |
| Developing countries | 69 022 | 69 220 | 9 325 | 9 632 | 6 725 | 7 054 | 71 638 | 71 798 |
| Developed countries | 45 876 | 46 988 | 2 768 | 2 776 | 5 525 | 5 621 | 43 098 | 44 143 |
| LIFDCs | 4 707 | 4 919 | 960 | 951 | 15 | 14 | 5 652 | 5 856 |
| LDCs | 2 500 | 2 508 | 966 | 952 | 2 | 2 | 3 464 | 3 459 |

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

| | Production | | | Imports | | | Exports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012-2014 average | 2015 *estim.* | 2016 *f'cast* | 2012-2014 average | 2015 *estim.* | 2016 *f'cast* | 2012-2014 average | 2015 *estim.* | 2016 *f'cast* |
| **ASIA** | **294 264** | **311 400** | **321 089** | **37 891** | **39 763** | **40 875** | **6 602** | **6 370** | **6 343** |
| China | 41 944 | 42 526 | 43 376 | 11 701 | 10 726 | 11 434 | 106 | 75 | 75 |
| India[1] | 136 578 | 148 150 | 155 200 | 130 | 94 | 97 | 762 | 259 | 246 |
| Indonesia | 1 384 | 1 450 | 1 490 | 2 550 | 2 522 | 2 536 | 101 | 98 | 99 |
| Iran, Islamic Republic of | 7 628 | 7 800 | 7 850 | 483 | 464 | 496 | 447 | 467 | 489 |
| Japan | 7 491 | 7 375 | 7 340 | 1 758 | 2 011 | 2 026 | 5 | 7 | 7 |
| Korea, Republic of | 2 141 | 2 200 | 2 193 | 875 | 977 | 1 020 | 19 | 21 | 20 |
| Malaysia | 86 | 86 | 86 | 1 877 | 2 296 | 2 276 | 516 | 720 | 695 |
| Pakistan | 38 944 | 41 000 | 42 000 | 431 | 465 | 489 | 78 | 64 | 64 |
| Philippines | 20 | 23 | 23 | 1 676 | 1 679 | 1 715 | 120 | 150 | 154 |
| Saudi Arabia | 2 344 | 2 400 | 2 440 | 2 787 | 3 091 | 3 035 | 1 481 | 1 430 | 1 423 |
| Singapore | - | - | - | 1 785 | 1 760 | 1 752 | 622 | 609 | 598 |
| Thailand | 1 081 | 1 300 | 1 340 | 1 443 | 1 588 | 1 614 | 203 | 197 | 198 |
| Turkey | 18 376 | 19 700 | 20 000 | 192 | 225 | 231 | 502 | 469 | 469 |
| **AFRICA** | **45 834** | **46 191** | **46 162** | **9 080** | **10 377** | **10 356** | **1 090** | **1 232** | **1 195** |
| Algeria | 3 079 | 3 400 | 3 430 | 2 621 | 3 057 | 3 127 | 3 | 3 | 3 |
| Egypt | 5 896 | 5 940 | 5 960 | 1 354 | 1 564 | 1 594 | 497 | 530 | 497 |
| Kenya | 4 954 | 4 880 | 4 950 | 43 | 93 | 100 | 17 | 10 | 12 |
| South Africa | 3 406 | 3 420 | 3 370 | 232 | 307 | 327 | 251 | 379 | 372 |
| Sudan | 7 543 | 7 500 | 7 500 | 205 | 257 | 263 | - | - | - |
| Tunisia | 1 168 | 1 200 | 1 220 | 99 | 96 | 99 | 59 | 61 | 62 |
| **CENTRAL AMERICA** | **16 795** | **17 168** | **17 301** | **4 812** | **5 544** | **5 584** | **663** | **730** | **751** |
| Costa Rica | 1 060 | 1 125 | 1 145 | 52 | 64 | 63 | 167 | 144 | 144 |
| Mexico | 11 147 | 11 570 | 11 670 | 2 964 | 3 327 | 3 323 | 162 | 205 | 215 |
| **SOUTH AMERICA** | **68 901** | **70 145** | **70 356** | **3 659** | **3 703** | **3 600** | **4 559** | **4 325** | **4 345** |
| Argentina | 11 508 | 11 552 | 10 970 | 83 | 13 | 15 | 2 413 | 2 017 | 2 002 |
| Brazil | 34 363 | 35 203 | 36 270 | 931 | 934 | 900 | 190 | 380 | 388 |
| Colombia | 6 480 | 6 600 | 6 400 | 183 | 231 | 236 | 24 | 49 | 49 |
| Uruguay | 2 134 | 2 074 | 1 991 | 19 | 27 | 27 | 1 298 | 1 375 | 1 377 |
| Venezuela | 2 626 | 2 600 | 2 500 | 1 605 | 1 587 | 1 517 | - | - | - |
| **NORTH AMERICA** | **100 365** | **103 163** | **105 031** | **2 170** | **2 672** | **2 757** | **10 307** | **9 871** | **9 833** |
| Canada | 8 498 | 8 682 | 8 685 | 607 | 649 | 635 | 480 | 520 | 525 |
| United States of America | 91 866 | 94 480 | 96 345 | 1 549 | 2 009 | 2 107 | 9 825 | 9 349 | 9 307 |
| **EUROPE** | **214 855** | **222 325** | **224 170** | **6 845** | **5 287** | **5 423** | **23 445** | **26 671** | **27 638** |
| Belarus | 6 738 | 7 097 | 7 310 | 107 | 173 | 179 | 4 103 | 4 790 | 4 952 |
| European Union | 155 233 | 163 500 | 165 700 | 1 443 | 1 347 | 1 349 | 16 314 | 18 401 | 19 160 |
| Russian Federation | 30 924 | 30 025 | 29 985 | 4 359 | 3 010 | 3 131 | 204 | 290 | 267 |
| Ukraine | 11 459 | 11 470 | 10 880 | 184 | 33 | 37 | 852 | 904 | 950 |
| **OCEANIA** | **30 247** | **32 361** | **31 855** | **858** | **1 061** | **1 069** | **21 810** | **22 954** | **23 105** |
| Australia[2] | 10 002 | 10 382 | 10 265 | 589 | 706 | 710 | 3 620 | 3 644 | 3 717 |
| New Zealand[3] | 20 174 | 21 909 | 21 520 | 81 | 151 | 154 | 18 187 | 19 307 | 19 384 |
| **WORLD** | **771 262** | **802 754** | **815 965** | **65 315** | **68 407** | **69 664** | **68 476** | **72 153** | **73 211** |
| Developing countries | 393 400 | 412 440 | 423 708 | 52 996 | 56 205 | 56 399 | 12 655 | 12 162 | 12 429 |
| Developed countries | 377 861 | 391 058 | 394 329 | 12 530 | 11 928 | 12 039 | 56 027 | 59 818 | 61 002 |
| LIFDCs | 185 536 | 197 542 | 204 685 | 7 303 | 8 141 | 8 198 | 1 430 | 985 | 982 |
| LDCs | 32 336 | 32 545 | 32 453 | 3 527 | 3 936 | 3 971 | 175 | 152 | 157 |

[1] Dairy years starting April of the year stated (production only).
[2] Dairy years ending June of the year stated (production only).
[3] Dairy years ending May of the year stated (production only).

Note: Trade figures refer to the milk equivalent trade in the following products: butter (6.60), cheese (4.40), milk powder (7.60), skim condensed/evaporated milk (1.90), whole condensed/evaporated milk (2.10), yoghurt (1.0), cream (3.60), casein (7.40), skim milk (0.70), liquid milk (1.0), whey dry (7.6). The conversion factors cited refer to the solids content method. Refer to IDF Bulletin No. 390 (March 2004).

# APPENDIX TABLE 19: **FISH AND FISHERY PRODUCTS** STATISTICS[1]

| | Capture fisheries production | | Aquaculture fisheries production | | Exports | | | Imports | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2013 | 2014 | 2014 | 2015 estim. | 2016 f'cast | 2014 | 2015 estim. | 2016 f'cast |
| | Million tonnes (live weight equivalent) | | | | USD billion | | | USD billion | | |
| **ASIA** | **50.8** | **52.8** | **62.6** | **65.6** | **57.8** | **53.2** | **52.4** | **43.4** | **41.9** | **41.7** |
| China[2] | 17.4 | 18.3 | 43.9 | 45.8 | 23.8 | 21.9 | 21.2 | 13.5 | 13.4 | 13.6 |
| of which: Hong Kong SAR | 0.2 | 0.2 | - | - | 1.0 | 0.8 | 0.6 | 3.6 | 3.6 | 3.7 |
| Taiwan Prov. | 0.9 | 1.1 | 0.3 | 0.3 | 1.8 | 1.6 | 1.5 | 1.2 | 1.2 | 1.3 |
| India | 4.6 | 4.7 | 4.6 | 4.9 | 5.6 | 4.9 | 4.6 | 0.1 | 0.1 | 0.1 |
| Indonesia | 6.0 | 6.4 | 4.0 | 4.3 | 4.2 | 3.7 | 3.5 | 0.3 | 0.3 | 0.2 |
| Japan | 3.7 | 3.7 | 0.6 | 0.7 | 1.9 | 1.9 | 1.7 | 14.8 | 13.5 | 13.3 |
| Korea, Rep. of | 1.6 | 1.7 | 0.4 | 0.5 | 1.7 | 1.5 | 1.5 | 4.3 | 4.3 | 4.4 |
| Philippines | 2.3 | 2.4 | 0.8 | 0.8 | 1.0 | 0.7 | 0.4 | 0.3 | 0.4 | 0.3 |
| Thailand | 1.8 | 1.8 | 1.0 | 0.9 | 6.6 | 5.6 | 5.3 | 2.7 | 2.5 | 2.6 |
| Viet Nam | 2.8 | 2.9 | 3.2 | 3.4 | 8.0 | 8.0 | 8.1 | 1.3 | 1.3 | 1.3 |
| **AFRICA** | **8.4** | **8.6** | **1.6** | **1.7** | **6.1** | **5.5** | **5.6** | **5.6** | **5.4** | **5.5** |
| Egypt | 0.4 | 0.3 | 1.1 | 1.1 | - | - | - | 0.7 | 0.7 | 0.7 |
| Morocco | 1.3 | 1.4 | - | - | 2.0 | 1.9 | 1.9 | 0.2 | 0.2 | 0.2 |
| Namibia | 0.5 | 0.4 | - | - | 0.7 | 0.7 | 0.7 | 0.1 | 0.1 | 0.1 |
| Nigeria | 0.7 | 0.8 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 1.3 | 1.3 | 1.3 |
| Senegal | 0.5 | 0.5 | - | - | 0.4 | 0.4 | 0.4 | - | - | - |
| South Africa | 0.4 | 0.6 | - | - | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.3 |
| **CENTRAL AMERICA** | **2.2** | **2.2** | **0.4** | **0.4** | **2.8** | **2.5** | **2.4** | **1.8** | **1.6** | **1.5** |
| Mexico | 1.6 | 1.5 | 0.2 | 0.2 | 1.2 | 1.0 | 0.9 | 0.9 | 0.8 | 0.7 |
| Panama | 0.2 | 0.2 | - | - | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| **SOUTH AMERICA** | **10.3** | **8.6** | **2.1** | **2.4** | **15.5** | **13.2** | **12.9** | **3.4** | **2.8** | **2.6** |
| Argentina | 0.9 | 0.8 | - | - | 1.6 | 1.5 | 1.7 | 0.2 | 0.2 | 0.2 |
| Brazil | 0.8 | 0.8 | 0.5 | 0.6 | 0.2 | 0.2 | 0.3 | 1.6 | 1.2 | 1.0 |
| Chile | 1.8 | 2.2 | 1.0 | 1.2 | 5.9 | 4.8 | 4.5 | 0.4 | 0.4 | 0.3 |
| Ecuador | 0.5 | 0.7 | 0.3 | 0.4 | 4.3 | 3.7 | 3.6 | 0.1 | 0.1 | 0.1 |
| Peru | 5.9 | 3.6 | 0.1 | 0.1 | 2.9 | 2.4 | 2.3 | 0.2 | 0.3 | 0.3 |
| **NORTH AMERICA** | **6.3** | **6.1** | **0.6** | **0.6** | **11.1** | **11.2** | **11.2** | **23.3** | **21.5** | **20.9** |
| Canada | 0.9 | 0.9 | 0.2 | 0.1 | 4.5 | 4.8 | 4.9 | 3.0 | 2.7 | 2.5 |
| United States of America | 5.1 | 5.0 | 0.4 | 0.4 | 6.1 | 5.9 | 5.8 | 20.3 | 18.8 | 18.4 |
| **EUROPE** | **13.5** | **13.7** | **2.8** | **2.9** | **51.8** | **45.7** | **45.3** | **60.8** | **52.6** | **52.3** |
| European Union[2] | 5.0 | 5.5 | 1.2 | 1.3 | 33.5 | 30.1 | 29.6 | 54.1 | 48.0 | 47.7 |
| of which Extra -EU | | | | | 6.0 | 5.4 | 5.3 | 28.2 | 25.1 | 25.0 |
| Iceland | 1.4 | 1.1 | - | - | 2.1 | 2.1 | 2.0 | 0.1 | 0.2 | 0.1 |
| Norway | 2.1 | 2.3 | 1.2 | 1.3 | 10.8 | 9.2 | 9.9 | 1.4 | 1.2 | 1.2 |
| Russian Federation | 4.3 | 4.2 | 0.2 | 0.2 | 3.8 | 3.1 | 3.3 | 3.0 | 1.7 | 1.6 |
| **OCEANIA** | **1.2** | **1.3** | **0.2** | **0.2** | **3.0** | **2.8** | **2.8** | **2.2** | **1.9** | **1.8** |
| Australia | 0.2 | 0.2 | 0.1 | 0.1 | 1.1 | 1.1 | 1.0 | 1.7 | 1.4 | 1.3 |
| New Zealand | 0.4 | 0.4 | 0.1 | 0.1 | 1.2 | 1.1 | 1.2 | 0.2 | 0.2 | 0.2 |
| **WORLD[3]** | **92.7** | **93.4** | **70.3** | **73.8** | **148.1** | **134.1** | **132.6** | **140.6** | **127.8** | **126.3** |
| Excl. Intra-EU | | | | | 120.6 | 109.4 | 108.3 | 114.7 | 104.9 | 103.6 |
| Developing countries | 68.4 | 68.9 | 66.1 | 69.4 | 80.7 | 72.9 | 72.1 | 38.6 | 37.6 | 37.2 |
| Developed countries | 24.3 | 24.5 | 4.2 | 4.4 | 67.4 | 61.2 | 60.5 | 102.0 | 90.2 | 89.1 |
| LIFDCs | 11.8 | 12.1 | 7.1 | 7.6 | 9.0 | 8.1 | 7.8 | 3.3 | 3.3 | 3.3 |
| LDCs | 10.3 | 10.7 | 3.2 | 3.4 | 2.9 | 2.8 | 2.7 | 1.1 | 1.1 | 1.1 |

[1] Production and trade data exclude whales, seals, other aquatic mammals and aquatic plants. Trade data include fish meal and fish oil.
[2] Including intra-trade. Cyprus is included in the European Union as well as in Asia.
[3] For capture fisheries production, the aggregate includes also 22 155 tonnes in 2013 and 7 999 in 2014 of not identified countries, data not included in any other aggregates.

# APPENDIX TABLE 20: SELECTED INTERNATIONAL PRICES FOR **WHEAT AND COARSE GRAINS**

| Period | Wheat | | | Maize | | Barley | | Sorghum |
|---|---|---|---|---|---|---|---|---|
| | US No. 2 Hard Red Winter Ord. Prot. [1] | US Soft Red Winter No. 2 [2] | Argentina Trigo Pan [3] | US No. 2 Yellow [2] | Argentina [3] | France feed Rouen | Australia feed Southern States | US No. 2 Yellow [2] |
| | (USD/tonne) | | | | | | | |
| **Annual (July/June)** | | | | | | | | |
| 2005/06 | 175 | 138 | 138 | 104 | 101 | 133 | 128 | 109 |
| 2006/07 | 212 | 176 | 188 | 150 | 145 | 185 | 185 | 155 |
| 2007/08 | 361 | 311 | 322 | 200 | 192 | 319 | 300 | 206 |
| 2008/09 | 270 | 201 | 234 | 188 | 180 | 178 | 179 | 170 |
| 2009/10 | 209 | 185 | 224 | 160 | 168 | 146 | 154 | 165 |
| 2010/11 | 316 | 289 | 311 | 254 | 260 | 266 | 248 | 248 |
| 2011/12 | 300 | 259 | 264 | 281 | 269 | 270 | 249 | 264 |
| 2012/13 | 348 | 310 | 336 | 311 | 277 | 297 | 298 | 281 |
| 2013/14 | 318 | 265 | 335 | 216 | 219 | 243 | 241 | 218 |
| 2014/15 | 266 | 221 | 246 | 173 | 177 | 205 | 243 | 210 |
| 2015 – May | 231 | 199 | 228 | 166 | 168 | 217 | 194 | 217 |
| 2015 – June | 242 | 211 | 226 | 170 | 173 | 224 | 204 | 224 |
| 2015 – July | 238 | 208 | 229 | 178 | 176 | 223 | 214 | 223 |
| 2015 – August | 216 | 190 | 227 | 163 | 160 | 180 | 223 | 180 |
| 2015 – September | 218 | 195 | 223 | 166 | 161 | 177 | 215 | 177 |
| 2015 – October | 221 | 208 | 224 | 164 | 164 | 182 | 205 | 182 |
| 2015 – November | 211 | 201 | 210 | 166 | 167 | 173 | 199 | 173 |
| 2015 – December | 212 | 191 | 193 | 164 | 166 | 170 | 197 | 170 |
| 2016 – January | 214 | 192 | 194 | 161 | 161 | 165 | 194 | 165 |
| 2016 – February | 205 | 189 | 194 | 160 | 167 | 165 | 197 | 165 |
| 2016 – March | 207 | 189 | 192 | 159 | 163 | 161 | 198 | 161 |
| 2016 – April | 201 | 193 | 199 | 164 | 170 | 162 | 182 | 162 |
| 2016 – May | 193 | 189 | 202 | 169 | 187 | 152 | 175 | 153 |

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

# APPENDIX TABLE 21: TOTAL **WHEAT AND MAIZE** FUTURES PRICES

| | July | | September | | December | | March | |
|---|---|---|---|---|---|---|---|---|
| | Jul 2016 | Jul 2015 | Sept 2016 | Sept 2015 | Dec 2016 | Dec 2015 | Mar 2017 | Mar 2016 |
| | (USD/tonne) | | | | | | | |
| **Wheat** | | | | | | | | |
| April 20 | 157 | 151 | 157 | 154 | 159 | 158 | 162 | 162 |
| April 27 | 151 | 144 | 152 | 147 | 154 | 151 | 157 | 155 |
| May 4 | 148 | 142 | 149 | 145 | 152 | 149 | 155 | 153 |
| May 11 | 149 | 142 | 150 | 144 | 152 | 148 | 155 | 152 |
| May 18 | 157 | 145 | 158 | 148 | 160 | 152 | 163 | 156 |
| May 25 | 159 | 140 | 160 | 143 | 161 | 147 | 163 | 151 |
| **Maize** | | | | | | | | |
| April 20 | 157 | 151 | 157 | 154 | 159 | 158 | 162 | 162 |
| April 27 | 151 | 144 | 152 | 147 | 154 | 151 | 157 | 155 |
| May 4 | 148 | 142 | 149 | 145 | 152 | 149 | 155 | 153 |
| May 11 | 149 | 142 | 150 | 144 | 152 | 148 | 155 | 152 |
| May 18 | 157 | 145 | 158 | 148 | 160 | 152 | 163 | 156 |
| May 25 | 159 | 140 | 160 | 143 | 161 | 147 | 163 | 151 |

*Source*: Chicago Board of Trade (CBOT)

# APPENDIX TABLE 22: 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)* | | | | |
| 2009 | 587 | 329 | 545 | 937 | 253 | 224 | 196 | 317 | 231 |
| 2010 | 518 | 386 | 510 | 881 | 227 | 206 | 212 | 252 | 229 |
| 2011 | 565 | 464 | 577 | 1060 | 242 | 232 | 250 | 258 | 220 |
| 2012 | 588 | 540 | 567 | 1137 | 231 | 225 | 241 | 235 | 222 |
| 2013 | 534 | 483 | 628 | 1372 | 233 | 219 | 226 | 230 | 268 |
| 2014 | 435 | 322 | 571 | 1324 | 235 | 207 | 201 | 266 | 255 |
| 2015 | 395 | 327 | 490 | 849 | 211 | 184 | 184 | 263 | 176 |
| **Monthly** | | | | | | | | | |
| 2015 – May | 394 | 326 | 492 | 895 | 215 | 186 | 190 | 266 | 185 |
| 2015 – June | 385 | 327 | 485 | 871 | 213 | 184 | 188 | 265 | 180 |
| 2015 – July | 401 | 321 | 445 | 868 | 211 | 182 | 185 | 265 | 175 |
| 2015 – August | 382 | 324 | 465 | 888 | 210 | 179 | 182 | 267 | 175 |
| 2015 – September | 367 | 316 | 491 | 855 | 206 | 176 | 176 | 266 | 168 |
| 2015 – October | 376 | 323 | 497 | 661 | 199 | 179 | 175 | 251 | 154 |
| 2015 – November | 380 | 329 | 500 | 621 | 196 | 180 | 178 | 244 | 146 |
| 2015 – December | 373 | 332 | 490 | 716 | 197 | 180 | 181 | 242 | 152 |
| 2016 – January | 375 | 331 | 474 | 734 | 195 | 179 | 181 | 240 | 149 |
| 2016 – February | 389 | 339 | 466 | 745 | 197 | 180 | 181 | 244 | 148 |
| 2016 – March | 392 | 343 | 452 | 681 | 196 | 180 | 184 | 242 | 142 |
| 2016 – April | 401 | 351 | 440 | 679 | 195 | 181 | 187 | 236 | 145 |
| 2016 – May | 448 | 355 | 442 | 750 | 199 | 191 | 195 | 230 | 151 |

[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 23: SELECTED INTERNATIONAL PRICES FOR **OILCROP PRODUCTS**

| Period | International prices[1] | | | | | FAO indices[7] | | |
|---|---|---|---|---|---|---|---|---|
| | Soybeans [2] | Soybean oil [3] | Palm oil [4] | Soybean cake [5] | Rapeseed meal [6] | Oilseeds | Vegetable oils | Oilcakes/ meals |
| | (USD per tonne) | | | | | (2002-2004=100) | | |
| **Annual (Oct/Sept)** | | | | | | | | |
| 2005/06 | 259 | 572 | 451 | 202 | 130 | 100 | 107 | 96 |
| 2006/07 | 335 | 772 | 684 | 264 | 184 | 129 | 150 | 128 |
| 2007/08 | 549 | 1325 | 1050 | 445 | 296 | 216 | 246 | 214 |
| 2008/09 | 422 | 826 | 627 | 385 | 196 | 157 | 146 | 179 |
| 2009/10 | 429 | 924 | 806 | 388 | 220 | 162 | 177 | 183 |
| 2010/11 | 549 | 1308 | 1147 | 418 | 279 | 214 | 259 | 200 |
| 2011/12 | 562 | 1235 | 1051 | 461 | 295 | 214 | 232 | 219 |
| 2012/13 | 563 | 1099 | 835 | 539 | 345 | 213 | 193 | 255 |
| 2013/14 | 521 | 949 | 867 | 534 | 324 | 194 | 189 | 253 |
| 2014/15 | 407 | 777 | 658 | 406 | 270 | 155 | 153 | 194 |
| **Monthly** | | | | | | | | |
| 2015 - January | 421 | 789 | 681 | 431 | 279 | 159 | 156 | 206 |
| 2015- February | 407 | 775 | 693 | 412 | 273 | 154 | 157 | 197 |
| 2015 - March | 402 | 748 | 673 | 392 | 262 | 152 | 152 | 188 |
| 2015 - April | 396 | 753 | 657 | 380 | 263 | 151 | 150 | 183 |
| 2015 - May | 385 | 781 | 663 | 371 | 290 | 148 | 154 | 180 |
| 2015 - June | 397 | 800 | 670 | 372 | 282 | 152 | 156 | 180 |
| 2015 - July | 413 | 746 | 635 | 389 | 264 | 157 | 148 | 186 |
| 2015 - August | 375 | 729 | 544 | 371 | 270 | 144 | 135 | 179 |
| 2015 - September | 367 | 725 | 533 | 362 | 256 | 142 | 134 | 174 |
| 2015- October | 377 | 743 | 581 | 351 | 255 | 146 | 143 | 170 |
| 2015 - November | 367 | 726 | 561 | 328 | 232 | 142 | 138 | 159 |
| 2015 - December | 372 | 757 | 568 | 317 | 215 | 144 | 141 | 153 |
| 2016 - January | 368 | 722 | 564 | 316 | 217 | 142 | 139 | 152 |
| 2016- February | 370 | 762 | 639 | 303 | 203 | 142 | 150 | 146 |
| 2016 - March | 379 | 761 | 694 | 301 | 219 | 145 | 160 | 145 |
| 2016 - April | 398 | 797 | 723 | 339 | 242 | 152 | 166 | 163 |
| 2016 - May | 425 | 790 | 708 | 406 | 261 | 160 | 163 | 193 |

[1] Spot prices for nearest forward shipment
[2] Soybeans: US, No.2 yellow, c.i.f. Rotterdam.
[3] Soybean oil: Dutch, fob ex-mill.
[4] Palm oil: Crude, c.i.f. Northwest Europe.
[5] Soybean cake: Pellets, 44/45 percent, Argentina, c.i.f. Rotterdam.
[6] Rapeseed meal: 34 percent, Hamburg, f.o.b. ex-mill.
[7] The FAO indices are based on the international prices of five selected seeds, ten selected oils and five selected cakes and meals. The indices are calculated using the Laspeyres formula; the weights used are the export values of each commodity for the 2002-2004 period.

Sources: FAO and Oil World.

# APPENDIX TABLE 24: SELECTED INTERNATIONAL PRICES FOR **MILK PRODUCTS** AND **DAIRY** PRICE INDEX

| | 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)* ... |
| 2007 | 3 337 | 4 336 | 4 354 | 4 055 | 220 |
| 2008 | 3 701 | 3 251 | 3 891 | 4 633 | 223 |
| 2009 | 2 736 | 2 332 | 2 556 | 2 957 | 150 |
| 2010 | 4 270 | 3 081 | 3 514 | 4 010 | 207 |
| 2011 | 4 876 | 3 556 | 4 018 | 4 310 | 230 |
| 2012 | 3 547 | 3 119 | 3 358 | 3 821 | 194 |
| 2013 | 4 484 | 4 293 | 4 745 | 4 402 | 243 |
| 2014 | 4 010 | 3 647 | 3 868 | 4 456 | 224 |
| 2015 | 3 212 | 2 113 | 2 509 | 3 340 | 160 |
| **Monthly** | | | | | |
| 2015 - May | 3 291 | 2 215 | 2 637 | 3 500 | 167 |
| 2015 - June | 3 138 | 2 032 | 2 455 | 3 425 | 161 |
| 2015 - July | 3 000 | 1 860 | 2 164 | 3 213 | 149 |
| 2015 - August | 2 757 | 1 628 | 1 912 | 2 956 | 136 |
| 2015 - September | 2 882 | 1 838 | 2 148 | 3 000 | 142 |
| 2015 - October | 3 104 | 2 057 | 2 597 | 3 167 | 156 |
| 2015 - November | 2 978 | 1 949 | 2 420 | 3 150 | 151 |
| 2015 - December | 3 069 | 1 859 | 2 279 | 3 150 | 150 |
| 2016 - January | 3 038 | 1 818 | 2 134 | 3 069 | 145 |
| 2016 - February | 3 001 | 1 791 | 2 094 | 2 988 | 142 |
| 2016 - March | 2 742 | 1 740 | 2 058 | 2 650 | 130 |
| 2016 - April | 2 657 | 1 733 | 2 046 | 2 575 | 127 |
| 2016 - May | 2 657 | 1 735 | 2 064 | 2 588 | 128 |

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

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

# APPENDIX TABLE 25: SELECTED INTERNATIONAL **MEAT** PRICES

| | Bovine meat prices (USD/tonne) | | | Ovine meat price (USD/tonne) | Pig meat prices (USD/tonne) | | | Poultry meat prices (USD/tonne) | |
|---|---|---|---|---|---|---|---|---|---|
| Period | Australia | United States | Brazil | New Zealand | United States | Brazil | Germany | United States | Brazil |
| **Annual (Jan/Dec)** | *(USD per tonne)* | | | | | | | | |
| 2007 | 2 544 | 4 023 | 2 367 | 2 498 | 2 117 | 2 200 | 1 907 | 935 | 1 443 |
| 2008 | 3 024 | 4 325 | 3 785 | 2 975 | 2 270 | 3 000 | 2 364 | 997 | 1 896 |
| 2009 | 2 562 | 3 897 | 3 118 | 3 495 | 2 202 | 2 223 | 2 035 | 989 | 1 552 |
| 2010 | 3 272 | 4 378 | 3 919 | 3 662 | 2 454 | 2 747 | 1 913 | 1 032 | 1 781 |
| 2011 | 3 944 | 4 516 | 4 816 | 5 370 | 2 648 | 3 023 | 2 169 | 1 147 | 2 083 |
| 2012 | 4 176 | 4 913 | 4 492 | 4 754 | 2 676 | 2 784 | 2 233 | 1 228 | 1 931 |
| 2013 | 4 009 | 5 535 | 4 326 | 4 130 | 2 717 | 2 872 | 2 311 | 1 229 | 2 014 |
| 2014 | 5 016 | 6 678 | 4 515 | 4 687 | 3 183 | 3 434 | 2 106 | 1 206 | 1 940 |
| 2015 | 4 638 | 6 201 | 4 130 | 3 641 | 2 576 | 2 499 | 1 582 | 1 003 | 1 642 |
| **Monthly** | | | | | | | | | |
| 2015 - May | 4 772 | 6 527 | 3 910 | 3 600 | 2 610 | 2 612 | 1 629 | 1 055 | 1 740 |
| 2015 - June | 4 575 | 5 961 | 4 247 | 3 418 | 2 494 | 2 745 | 1 682 | 991 | 1 721 |
| 2015 - July | 5 155 | 6 208 | 4 454 | 3 382 | 2 437 | 2 739 | 1 584 | 971 | 1 704 |
| 2015 – August | 5 107 | 6 243 | 4 322 | 3 502 | 2 457 | 2 530 | 1 581 | 942 | 1 685 |
| 2015 - September | 4 866 | 5 820 | 4 364 | 3 626 | 2 437 | 2 508 | 1 679 | 946 | 1 587 |
| 2015 - October | 4 066 | 5 484 | 3 939 | 4 017 | 2 328 | 2 471 | 1 634 | 917 | 1 552 |
| 2015 – November | 4 016 | 5 560 | 4 164 | 3 682 | 2 338 | 2 219 | 1 424 | 909 | 1 538 |
| 2015 - December | 3 787 | 5 742 | 3 990 | 3 491 | 2 380 | 1 924 | 1 402 | 866 | 1 484 |
| 2016 - January | 3 796 | 5 476 | 3 722 | 3 228 | 2 310 | 1 823 | 1 447 | 868 | 1 392 |
| 2016 - February | 4 021 | 5 644 | 3 724 | 3 103 | 2 251 | 1 783 | 1 467 | 871 | 1 392 |
| 2016 - March | 3 887 | 5 686 | 3 556 | 3 091 | 2 228 | 1 768 | 1 480 | 892 | 1 413 |
| 2016 – April | 4 001 | 5 680 | 3 721 | 3 188 | 2 220 | 1 904 | 1 496 | 894 | 1 448 |
| 2016 - May | 4 129 | 5 690 | 3 750 | 3 302 | 2 218 | 1 950 | 1 612 | 900 | 1 460 |

**Bovine meat prices:**
**Australia:** Cow 90CL export prices to the USA (FAS)
**USA:** Frozen beef, export unit value
**Brazil:** Frozen beef, export unit value

**Ovine meat prices**
**New Zealand:** Lamb 17.5kg cwt, export price

**Pig meat prices:**
**USA:** Frozen pigmeat, export unit value
**Brazil:** Frozen pigmeat, export unit value
**Germany:** Monthly market price for pig carcase grade E

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

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

# APPENDIX TABLE 26: SELECTED INTERNATIONAL **MEAT** PRICES AND FAO **MEAT** PRICE INDICES

| | FAO indices | | | | |
|---|---|---|---|---|---|
| **Period** | **Total meat** | **Bovine meat** | **Ovine meat** | **Pig meat** | **Poultry meat** |
| **Annual (Jan/Dec)** | *(2002-2004=100)* | | | | |
| 2007 | 131 | 126 | 108 | 125 | 151 |
| 2008 | 161 | 158 | 128 | 152 | 184 |
| 2009 | 141 | 135 | 151 | 131 | 162 |
| 2010 | 158 | 165 | 158 | 138 | 179 |
| 2011 | 183 | 191 | 232 | 153 | 206 |
| 2012 | 182 | 195 | 205 | 153 | 201 |
| 2013 | 184 | 197 | 178 | 157 | 206 |
| 2014 | 198 | 231 | 202 | 164 | 200 |
| 2015 | 168 | 213 | 157 | 126 | 168 |
| **Monthly** | | | | | |
| 2015 - May | 173 | 216 | 155 | 129 | 178 |
| 2015 - June | 169 | 211 | 148 | 131 | 173 |
| 2015 - July | 173 | 227 | 146 | 126 | 170 |
| 2015 – August | 171 | 224 | 151 | 124 | 167 |
| 2015 - September | 168 | 216 | 157 | 127 | 161 |
| 2015 - October | 158 | 192 | 173 | 123 | 157 |
| 2015 – November | 155 | 195 | 159 | 113 | 156 |
| 2015 - December | 150 | 191 | 151 | 110 | 150 |
| 2016 - January | 145 | 184 | 139 | 109 | 144 |
| 2016 - February | 147 | 190 | 134 | 108 | 144 |
| 2016 - March | 146 | 186 | 133 | 108 | 147 |
| 2016 – April | 149 | 190 | 138 | 110 | 149 |
| 2016 - May | 152 | 193 | 143 | 114 | 150 |

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

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

# APPENDIX TABLE 27: **FISH** PRICE INDICES

| Period | Total | Aquaculture | Capture | White fish | Salmon | Shrimp | Pelagic excl. tuna | Tuna | Other fish |
|---|---|---|---|---|---|---|---|---|---|
| **Annual (Jan/Dec)** | | | | | *(2002-2004=100)* | | | | |
| 2006 | 117 | 114 | 119 | 128 | 144 | 100 | 124 | 118 | 120 |
| 2007 | 124 | 115 | 132 | 139 | 147 | 102 | 130 | 135 | 126 |
| 2008 | 136 | 120 | 148 | 151 | 151 | 109 | 148 | 162 | 133 |
| 2009 | 126 | 119 | 131 | 132 | 159 | 98 | 140 | 147 | 128 |
| 2010 | 137 | 137 | 136 | 138 | 187 | 109 | 144 | 146 | 146 |
| 2011 | 154 | 149 | 157 | 151 | 195 | 124 | 173 | 175 | 166 |
| 2012 | 144 | 124 | 157 | 145 | 146 | 107 | 207 | 195 | 176 |
| 2013 | 148 | 141 | 151 | 134 | 157 | 126 | 215 | 190 | 175 |
| 2014 | 157 | 158 | 153 | 142 | 159 | 148 | 210 | 175 | 185 |
| 2015 | 142 | 137 | 146 | 141 | 134 | 129 | 216 | 150 | 196 |
| **Monthly** | | | | | | | | | |
| 2015 - January | 150 | 149 | 151 | 143 | 143 | 139 | 244 | 159 | 198 |
| 2015 - February | 146 | 146 | 146 | 139 | 139 | 132 | 241 | 153 | 208 |
| 2015 - March | 143 | 141 | 145 | 139 | 135 | 128 | 234 | 150 | 196 |
| 2015 - April | 143 | 137 | 149 | 141 | 133 | 125 | 240 | 150 | 208 |
| 2015 - May | 145 | 145 | 146 | 141 | 135 | 132 | 232 | 148 | 208 |
| 2015 - June | 144 | 140 | 147 | 142 | 137 | 129 | 207 | 152 | 202 |
| 2015 - July | 135 | 129 | 139 | 142 | 132 | 115 | 194 | 145 | 195 |
| 2015 - August | 139 | 130 | 146 | 144 | 132 | 123 | 216 | 146 | 194 |
| 2015 - September | 141 | 129 | 151 | 143 | 129 | 128 | 218 | 161 | 179 |
| 2015 - October | 141 | 133 | 147 | 143 | 129 | 133 | 218 | 146 | 188 |
| 2015 - November | 138 | 130 | 142 | 138 | 129 | 134 | 176 | 143 | 182 |
| 2015 - December | 141 | 134 | 144 | 141 | 139 | 131 | 173 | 144 | 197 |
| 2016 - January | 140 | 136 | 141 | 137 | 141 | 126 | 189 | 142 | 193 |
| 2016 - February | 142 | 140 | 142 | 140 | 144 | 123 | 201 | 150 | 191 |

Source= Norwegian Seafood Council (NSC).

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

# APPENDIX TABLE 28: SELECTED INTERNATIONAL COMMODITY PRICES

| | Currency and unit | Effective date | Latest quotation | One month ago | One year ago | Average 2011-2015 |
|---|---|---|---|---|---|---|
| Sugar (ISA daily price) | US cents per lb | 26-05-16 | 17.68 | 15.23 | 13.34 | 19.14 |
| Coffee (ICO daily price) | US cents per lb | 26-05-16 | 117.97 | 117.93 | 123.49 | 153.23 |
| Cocoa (ICCO daily price) | US cents per lb | 26-05-16 | 137.62 | 139.62 | 140.43 | 127.10 |
| Tea (FAO Tea Composite Price) | USD per kg | 29-04-16 | 2.29 | 2.44 | 2.77 | 2.77 |
| Cotton (COTLOOK A index) | US cents per lb | 30-04-16 | 69.28 | 65.46 | 71.70 | 97.60 |
| Jute "BTD" (Fob Bangladesh Port) | USD per tonne | 29-04-16 | 860.00 | 880.00 | 710.00 | 624.58 |

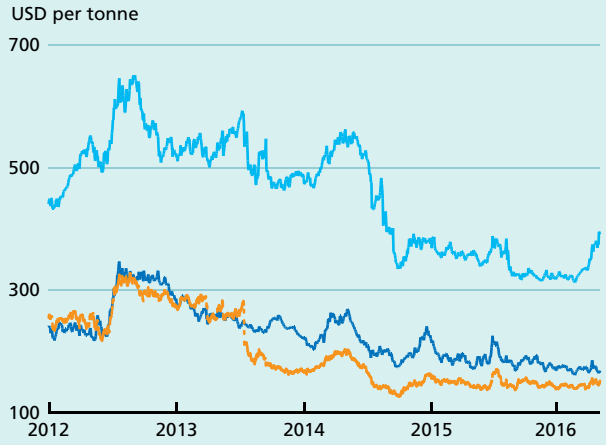
# MARKET INIDCATORS

# Futures markets

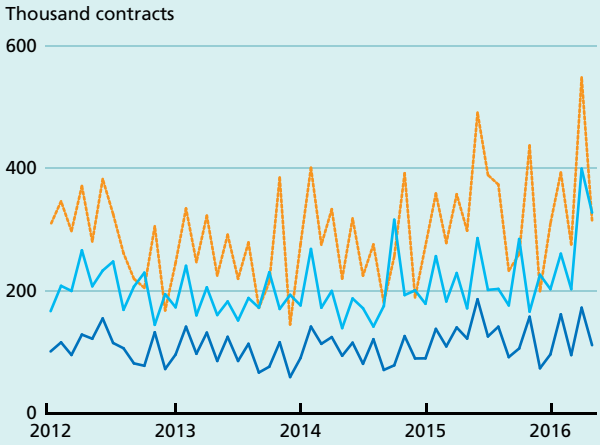
*Contributed by Ann Berg (International Consultant)*

Futures prices for wheat, maize and soybeans were mostly stable for the first five months of 2016, although prices for soybeans and, to a lesser extent, maize took a decided upturn in April. Overall, prices were mostly lower than 2015 values and significantly lower than prices exhibited during 2013 and 2014 when supply concerns were more prominent. Each commodity followed its own price path. The United States wheat values were most impacted by competition from other origins including the EU and, more particularly, the Black Sea region, where currency depreciation vis-à-vis the US dollar was most pronounced. Aggressive selling by other origins pushed the United States into fourth place as a wheat exporter. Maize prices, weighed by ample supplies and cheap crude oil prices, traded at levels at or below cost of US production and rose moderately during April/May on news of the deterioration of South American maize production. Soybean prices reflected low export clearances to China during the January through March period but rose sharply on South American weather concerns and renewed Chinese export demand in April and May. After dropping to a 7-year low in February, the average soybean price of USD 382 in May surpassed any price level attained during 2015. The May

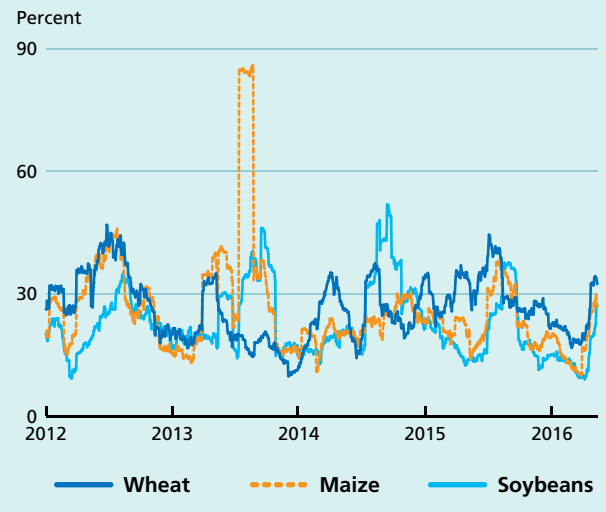
**CME futures prices**



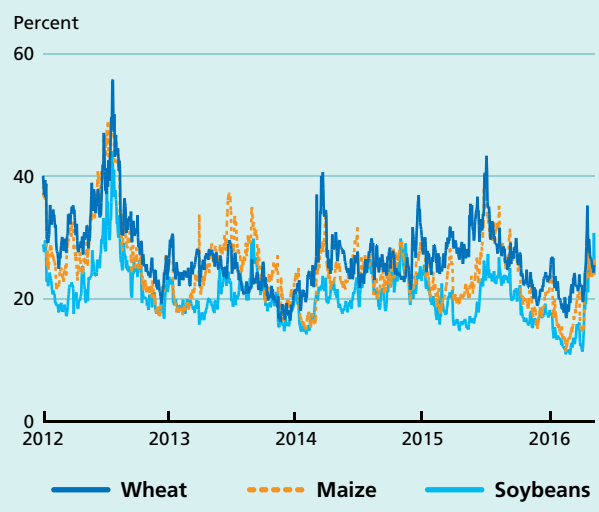

**CME futures volumes**




**Historical volatility (30 days)**




**Implied volatility**



USDA supply-and-demand report added a further bullish surprise to the market, as it projected a sizable – 2.6 million tonne – domestic drawdown of ending soybean stocks in 2016/2017. Although fundamentals were the primary drivers in price formation, a change in sentiment in April and May corresponding with the US dollar retrenchment and a moderate rebound in crude oil and industrial metals helped boost maize and soybean prices.

## FORWARD CURVES

Forward curves displayed upward sloping (contango) price configurations for wheat and maize extending outward to July 2017, with maize exhibiting a much narrower configuration than wheat. The forward curve for soybeans, conversely, switched from upward sloping to downward (backwardation) between the July 2016 and November 2016 contracts (old crop vs new crop) as analysts downgraded supplies in South America and export demand rose. Although an inverted price curve is normally indicative of a short supply situation, commercial support for cash soybeans was not visible. The elevated nearby futures price level prompted barge loading stations along the Illinois River to make relatively large deliveries against the March and May contracts. Deliveries also occurred in wheat and maize indicating plentiful cash supplies. Ordinarily, deliveries tend to suppress forward curves, since the cost of carrying inventories is transferred from the futures seller (short) to the futures buyer (long) upon delivery.

## VOLUMES

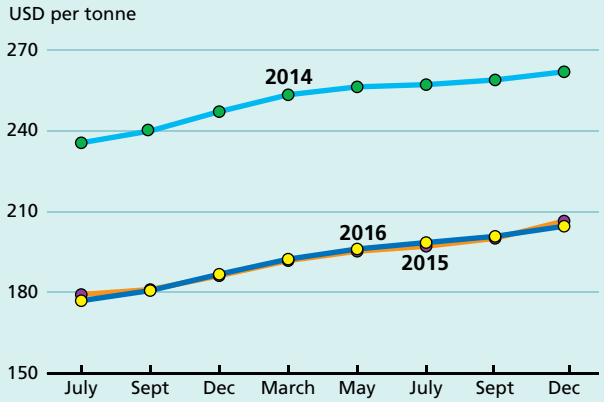
Trade volumes for wheat, maize and soybeans were higher for all three commodities year-on-year. In April, maize and soybean volumes attained all-time record highs, as South American weather lowered harvest prospects for both crops. The CME reported that soybeans experienced a daily record volume of over 1 million contracts (futures and options combined) during April. Wheat volume levels also rose in April, but fell short of the record set in June 2015. Open interest also rose, but not to levels commensurate with the soaring volumes, indicating that the high volumes were mostly short-term directional bets.

## VOLATILITY

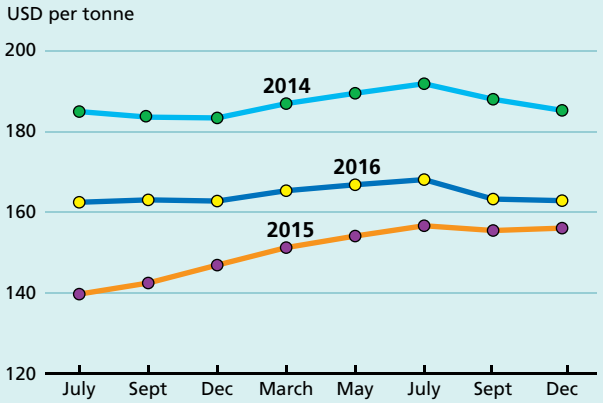
After reaching a low in March, historical volatility (based on 30 days) rebounded sharply during April and May for all three commodities. Maize and soybeans, both dipping to 11 during March, rose to 28 and 23 respectively during May, while wheat rose from 18 to 33. These May levels were

**Forward curves snapshots as of 27 May 2014, 2015 and 2016**

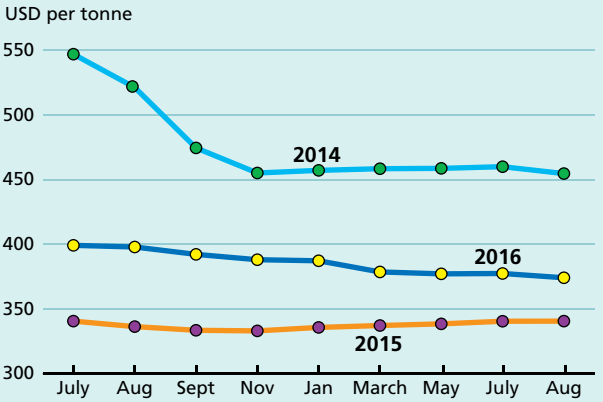
### Wheat




### Maize




### Soybeans

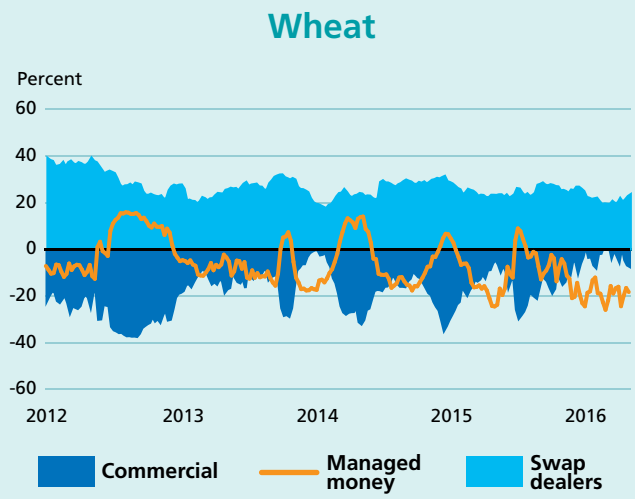


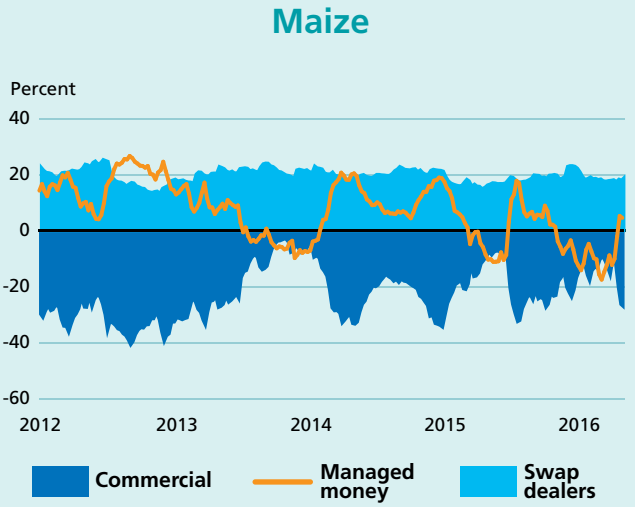
somewhat higher than the previous two years but remained significantly lower than the all-time levels (between 60 and 80) reached during the April/May period of the 2007/2008 food crisis. Implied volatility, which is a forward-looking indicator (calculated by the level of option premiums on underlying futures contracts), reached a low in February (mid-teens) and increased to 25 for all three commodities. Unlike some past years, the rise in grain price volatility was not positively correlated with the volatilities of other commodities or currencies. Crude oil implied volatility, for example, peaked in February 2016 at 80, and declined thereafter, presenting the opposite pattern from grains. Currencies in the major exporting countries also exhibited greater near-term stability than they did during the prior year, when their price movements were characterized by sharp declines against the US dollar.

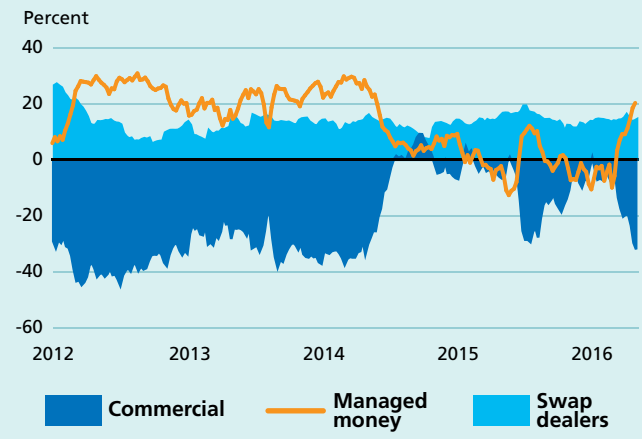
## INVESTMENT FLOWS

For the first time since the U.S. Commodity Futures Trading Commission (CFTC) began publishing its disaggregated Commitment of Traders (COT) report in 2009, managed money and commercial traders both held net short positions in wheat, maize and soybeans as prices made near term lows in February and March. Swaps dealers and other trader categories listed as other "reportables" and "non-reportables" (small speculators) comprised the net long positions. As global crop prospects deteriorated for maize and soybeans, managed money reversed itself to establish net long positions in the two commodities. The COT revealed a record number of contracts exchanging hands during April between managed money and commercials as the latter hedged their increased cash purchases from producers with futures sales. Conversely, in wheat, managed money maintained a solid net short position over a 6-month period, betting on its continued lackluster performance. Despite its trend flowing strategy, managed money involved with agricultural products returned a negative performance of 1.71 percent, (January through April) according to the hedge fund tracker Barclay Hedge. Commodity funds in general fell into the greatest disfavor in January when the S&P Goldman Sachs Commodity Index fund hit a 26-year low. Since then, a few startup funds have managed to attract new investors. Following a 6-year decline of notional amounts invested in index instruments, i.e. the total USD funds invested in passive commodity instruments such as index funds or exchange traded funds (ETFs), the CFTC announced that it was no longer collecting data on this type of investment due to lack of interest.

**CME net-length as % of open interests (January 2012 - May 2016)**



# Ocean freight rates

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

## OCEAN FREIGHT MARKET (MAY 2015 - MAY 2016)

The dry bulk freight market posted modest net gains during the past six months, although the period was characterised by considerable uncertainty and marked volatility at times. In addition, trends were somewhat mixed across the constituent segments, with reduced rates for larger (Capesize) vessels contrasting with moderately firmer values in the grains and oilseeds carrying sectors.

**Summary of freight rates on selected routes**

| USD/t | 10 May 2016 | Changes | |
|---|---|---|---|
| | | 6 months | y/y |
| *US (Gulf) to:* | | % | |
| EU (ARAH) * | 13 | 30.0 | 30.0 |
| China (Dalian) | 26 | -13.3 | -13.3 |
| Japan | 25 | -13.8 | -10.7 |
| Mexico | 14 | -12.5 | 27.3 |
| *Canada (St. Lawrence) to:* | | | |
| EU (ARAH) | 11 | 22.2 | -8.3 |
| China (Dalian) | 32 | -5.9 | -8.6 |
| Japan | 33 | -10.8 | -13.2 |
| *Argentina to:* | | | |
| EU (ARAH) | 13 | -7.1 | 0.0 |
| Mexico | 19 | -13.6 | -9.5 |
| *Brazil to:* | | | |
| EU (ARAH) | 13 | -7.1 | 0.0 |
| China (Dalian) | 15 | -25.0 | ... |
| *EU (France, Rouen) to:* | | | |
| Algeria | 18 | 12.5 | 0.0 |
| Egypt (Mediterranean) | 20 | 17.6 | 17.6 |
| Morocco | 21 | 23.5 | 10.5 |
| *Black sea to:* | | | |
| Egypt (Alexandria) | 12 | 0.0 | 33.3 |
| Tunisia | 15 | -6.3 | 15.4 |
| *Australia (East Coast) to:* | | | |
| China (Dalian) | 9 | -25.0 | -18.2 |
| Yemen | 27 | -10.0 | -6.9 |

* EU (ARAH) refers to Antwerp, Rotterdam, Hamburg

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

Weighed by reduced enquiries against the backdrop of continued excess capacity, dry bulk freight rates fell, with the Baltic Dry Index (BDI), a composite index of activity on benchmark routes, reaching a record low of 290 points in early February, and taking year-on-year (y/y) losses to almost 50 percent. Although steepest declines were recorded in the Capesize sector, Panamax, Supramax and Handysize segments were also significantly lower. Thereafter, improved sentiment pushed values higher through to late-April, as the BDI touched a six-month peak. More recently, however, weaker rates for larger-sized carriers trimmed overall gains. As at 13 May 2016, the BDI was 7 percent higher than six months earlier, but 5 percent lower than a year ago.

**Capesize** vessels are associated with the transportation of coal, iron ore and a range of other heavy raw materials and, as such, are likely to be closely linked to broad economic sentiment. Rates in this segment were significantly volatile since mid-November. Owing to underlying concerns about prospects for world economic growth and trade, coupled with excess supply, values fell heavily through to early March, before an uptick in activity on key routes buoyed optimism. Between early March and late April, the Baltic Capesize sub-Index advanced by more than 600 percent. However, slower demand pressured in the period since as the sub-Index eased. At 798 points, it was 15 percent lower than at the same point of 2015.

In contrast to the Capesize market, Panamax values recorded solid gains in the past six months, also registering a slight y/y increase. Ample tonnage capacity remained a bearish underlying influence throughout the period and, together with falls across the entire shipping sector,

**Summary of freight rates on selected routes**

| | 13 May 2016 | Changes | |
|---|---|---|---|
| | | 6 months | y/y |
| | | % | |
| **Baltic Dry Index (BDI)*** | **600** | 7.1 | -5.4 |
| *Sub-indices:* | | | |
| Capesize | **798** | -1.4 | -15.3 |
| Panamax | **597** | 16.1 | 2.2 |
| Supramax | **553** | 5.7 | -11.4 |
| Handysize | **347** | 14.1 | 6.4 |

Source: Baltic Exchange, * 4 January 1985 = 1000

rates eased through to mid-February. Nevertheless, the sector was insulated from sharper losses by firm demand for shipments from South America, especially of grains and oilseeds, which resulted in congestion and lengthy line-ups at key ports in Brazil. This helped to more than offset pressure from weakness in other regions at times, particularly at the US Gulf and in the Pacific.

Underlining the demand-led uptrend in values at leading southern hemisphere origins, nominal rates for a voyage from Brazil to southern China rose by nearly 60 percent, to US$18/t, between early February and the middle of April. In more recent weeks, quotations on that route and others have retreated as slower demand for shipments from the Americas outweighed some support from an uptick in business volumes in the Pacific region.

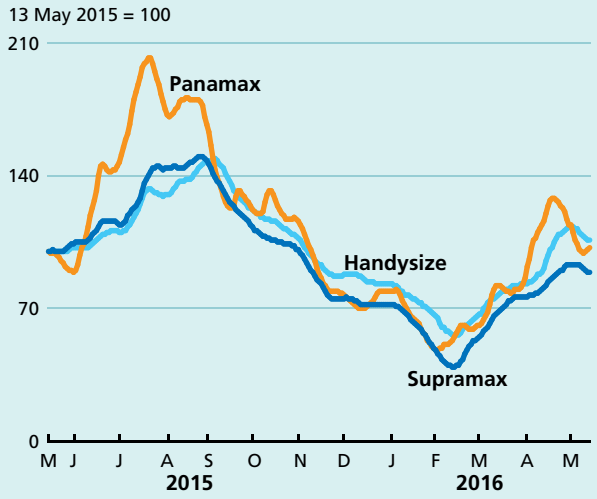
The smaller **Supramax** and **Handysize** segments also succumbed to widespread weakness in shipping markets in late 2015 and the initial stages of 2016, before staging a recovery from mid-February onwards. Strength in the Panamax sector buoyed sentiment, with charterers keen to secure available tonnage to meet demand for exports from South America. Additionally, firmer enquiries for dispatches from the US Gulf and Europe offered support, with good scrap and fertiliser business notable in the latter region. As with other segments, values mostly eased during the first half of May. Compared with a year ago, Baltic sub-Indices for each sector were down by 11 percent and up by 6 percent, respectively.

## Supply-side developments

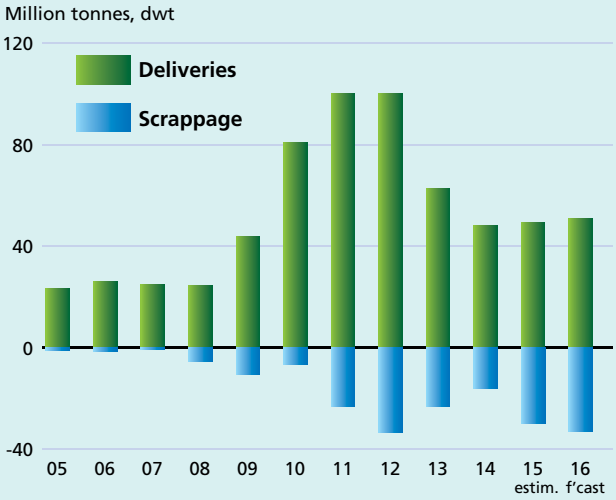
A central feature of the global dry bulk freight sector over many years has been the heavy expansion of the world fleet. Industry data and analysis show that deliveries of new vessels greatly exceeded scrappage, resulting in a significant rise in net tonnage, especially during 2010-2012.

While annual increases have been less pronounced in more recent years, capacity has continued to rise and, coupled with concerns about prospects for economic growth and global trade, has been a sustained source of downward pressure on freight rates.

**Baltic Exchange sub-Indices – Grains and oilseeds carrying sectors 13 May 2015 – 13 May 2016**




**Dry bulk freight markets: Deliveries vs. scrappage 2005-2016 ***




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

# Food import bills

## World food import bill in 2016 falling below the USD 1 trillion mark to a seven-year low

Lower international quotations than in 2015, coupled with downward trending freights are the reasons for the sharp projected fall in this year's import bill. Indeed, the overall decrease in unit costs is set to offset the impact of rising import volumes of foodstuffs in 2016.

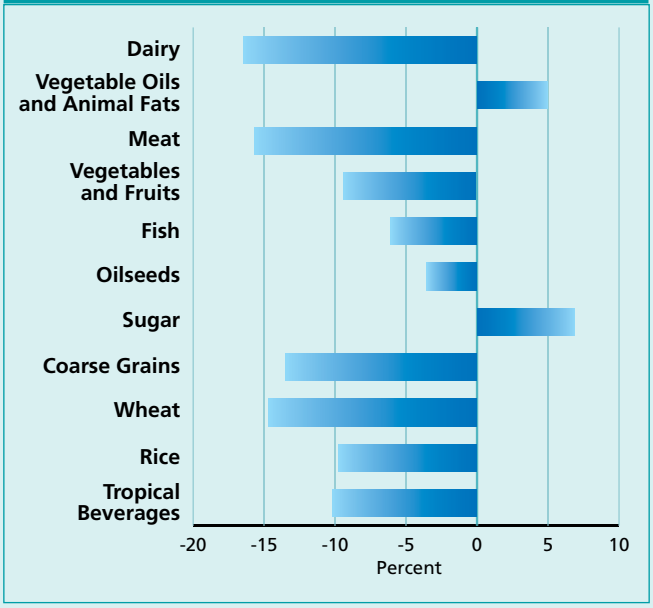
At the product level, almost all commodity import bills are set to fall this year. Among those that are anticipated to register the largest absolute declines are the import bills for livestock products and cereal-based foodstuffs, which could fall by around USD 30 billion, or 16 percent, and USD 19 billion, or 13 percent, respectively. Considerably lower quotations compared to last year, especially in the case of meat, are driving bills of these food groups down, even though import volumes are forecast to remain large, with trade in dairy products expected to reach a record high in 2016. The expected annual decline in world expenditures on fruits and vegetables, at around USD 18 billion, or 9 percent, is also noteworthy, driven again by lower unit import costs.

Commodity bills that could be spared from the year-on-year contractions in 2016 include vegetable oils and sugar, with likely increases of USD 5 billion and USD 2 billion, respectively. International benchmark quotations for both product groups have risen sharply from 2015 levels, as have traded volumes, which are forecast to approach historical highs in 2016.

The tendency at the world level for substantially lower import expenditures in 2016 does not necessarily extend to many of the economically vulnerable nations. The food import bills of Low-Income Food-Deficit Countries (LIFDCs) and of those geographically situated in sub-Saharan Africa (SSA) are forecast to decline by less than the global average, with falls ranging between only 3 to 4 percent for both groups. As for the Least Developed Countries (LDCs), import bills of foodstuffs are anticipated to remain virtually unchanged. For all of these economically disadvantaged countries, higher import volumes of commodities in the oilseed complex, as well as sugar and cereals, particularly maize, are seen to offset the gains from lower import bills of other product groups. In some cases, particularly for countries in Sub-Saharan Africa, higher maize purchases are in response to production shortfalls of the staple.

Despite the general decline of the US dollar-denominated food bills in 2016, a different picture may emerge when estimated in local currencies, given the prevailing strength of the US dollar. Furthermore, as international purchases are often required to be paid in US dollars, the cost of transacting on the international marketplace also carries a severe burden on foreign exchange reserves that tend to be scarce in many economically vulnerable countries.

**Forecast changes in global food import bills by type (2016 over 2015)**



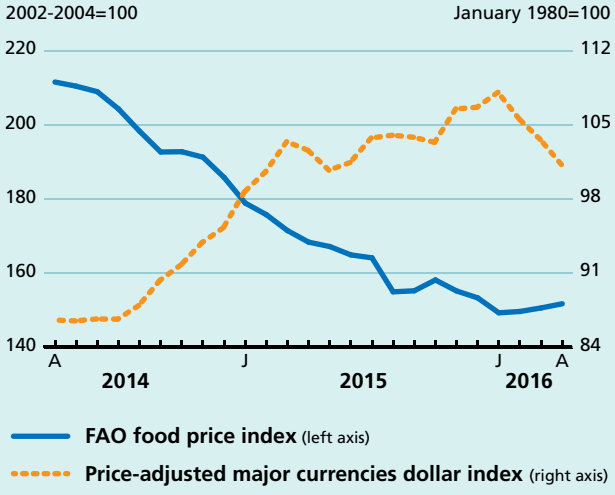

**Contact:**
Adam.Prakash@fao.org

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

| | World | | Developed | | Developing | | LDC | | LIFDC | | Sub-Saharan Africa | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 f'cast | 2015 | 2016 f'cast | 2015 | 2016 f'cast | 2015 | 2016 f'cast | 2015 | 2016 f'cast | 2015 | 2016 f'cast |
| **TOTAL FOOD** | **1 082** | **986** | **644** | **591** | **438** | **395** | **35** | **34** | **74** | **71** | **39** | **37** |
| Vegetables and Fruits | 191 | 173 | 137 | 131 | 55 | 42 | 3 | 3 | 9 | 8 | 3 | 3 |
| Cereals | 144 | 125 | 66 | 58 | 78 | 67 | 10 | 9 | 17 | 15 | 12 | 12 |
| Fish | 131 | 123 | 94 | 89 | 37 | 34 | 1 | 1 | 3 | 3 | 3 | 3 |
| Meat | 139 | 117 | 90 | 75 | 49 | 42 | 2 | 2 | 3 | 3 | 3 | 3 |
| Dairy | 67 | 56 | 41 | 34 | 26 | 22 | 2 | 1 | 4 | 3 | 2 | 2 |
| Vegetable Oils and Animal Fats | 79 | 83 | 33 | 34 | 46 | 48 | 7 | 8 | 20 | 21 | 5 | 6 |
| Oilseeds | 70 | 68 | 19 | 18 | 51 | 50 | 1 | 2 | 3 | 3 | 1 | 1 |
| Sugar | 35 | 38 | 18 | 19 | 17 | 18 | 3 | 3 | 5 | 5 | 3 | 3 |
| Tropical beverages | 93 | 84 | 70 | 63 | 23 | 21 | 2 | 2 | 4 | 3 | 2 | 2 |

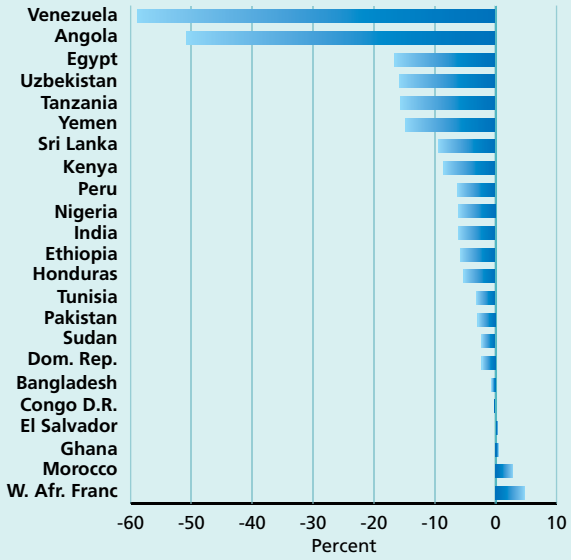
## Exchange rates and food prices

### Strengthening USD and falling food prices




Source: US Federal Reserve

### % changes in the currencies of selected LIFDCs against the USD (April 2015 - April 2016)




The US Dollar relative to major currencies reachied a 13-year high in January 2016r, but since then it has lost some of its strength. All things being equal, a strong dollar tends to render the cost of importing more expensive as most commodity prices are US Dollar-denominated. Gains to importing countries will be influenced by the degree to which their currencies have withstood depreciation. Over the April2015 - April 2016 period, many major food-importing LIFDCs (importing more than USD 1 billion of food annually) incurred currency falls against the US Dollar, with depreciation reaching double-digit figures in many of them.

# FAO price indices[1]

## FAO Global Food Consumption Price Index moving up[2]

The **FAO Global Food Consumption Price Index** tracks changes in the cost of the world food basket. It is weighted by total *calories consumed* of major food items at the global level in contrast to the FAO Food Price Index that is weighted by the *value* of these items in global *trade*.

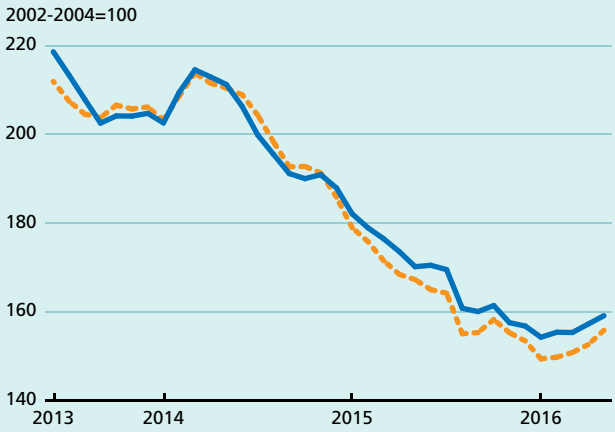
The index has regained much of the ground lost since the last Food Outlook report in October 2015. It reached 159 points in May 2016, up 2 points from April. The increase, while modest, nevertheless represents the largest monthly rise in two years. The month-to-month increase, however, is smaller than that of the FAO Food Price Index. This is because international prices of cereals and oils that carry more importance in consumption have not risen by as much as quotations that carry more weight in trade, notably sugar and meat. Despite the small upturn in the value of the Global Food Consumption Price Index, the average cost of the food basket currently remains low, and is comparable to food costs of 9 years ago.

## The FAO Food Price Index continues to firm[3]

The **FAO Food Price Index** averaged 155.8 points in May 2016, 3.2 points (2.1 percent) higher than in April, but still 7 percent below the corresponding period last year. The May increase marked the fourth consecutive month of rise in the value of the FFPI. The values of all sub-indices moved up in May except for the vegetable oils, which dropped for the first time in four months. Sugar prices surged while meat, cereals and dairy registered some increase.

The **FAO Cereal Price Index** aaveraged 152.3 points in May, up 2.5 points (1.6 percent) from April but down 5.3 percent from May 2015. Among the major cereals, maize prices increased sharply for the second consecutive month, mainly on tight export supplies until the harvesting of new crops in the northern hemisphere later this year. Rice quotations also strengthened, especially for Indica varieties, on rising concerns about availabilities in some major trade sources and firming import demand.

**The FAO global food consumption and food price indices**
**(June 2013 - May 2016)**




Dampened by ample global supplies and good production prospects, the increase in international wheat prices was more modest.

The **FAO Vegetable Oil Price Index** averaged 163.3 points in May, down 3.1 points (1.8 percent) from April. The decline was mainly caused by palm oil, the price of which fell after three months of sharp gains. Weaker than anticipated import demand for palm oil, notably in China, India and the EU, combined with growing export availabilities in Malaysia have weighed on palm oil international quotations, despite negative prospects for global production.

The **FAO Dairy Price Index** averaged nearly 128.0 points in May, up just 0.4 percent from April, but 24 percent below its May 2015 level. During the second-half of May, improved internal prices within the EU and sustained international import demand caused quotations for whole milk powder and butter to rise – cheese from Oceania also rose. Conversely, international quotations for skimmed milk powder remained close to the EU intervention price.

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

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

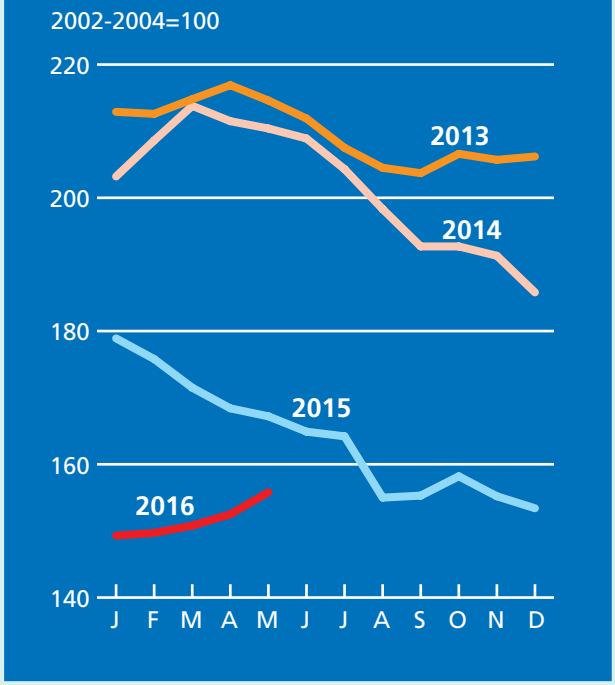
[3] The FAO food price indices are updated on a monthly basis and are available on: http://www.fao.org/worldfoodsituation

The **FAO Meat Price Index**[4] averaged 151.8 points in May, some 3.0 points (2.0 percent) higher than in April. Prices of all categories of meat rose, particularly those of pigmeat and ovine meat, while smaller increases were registered for bovine and poultry meat. Pigmeat quotations from the EU moved up strongly, due to gains in internal prices and continued brisk import demand from Asia. In Oceania, limited supplies of bovine and ovine meat caused export quotations to rise. Meanwhile, poultry meat prices recorded a third month of moderate growth.

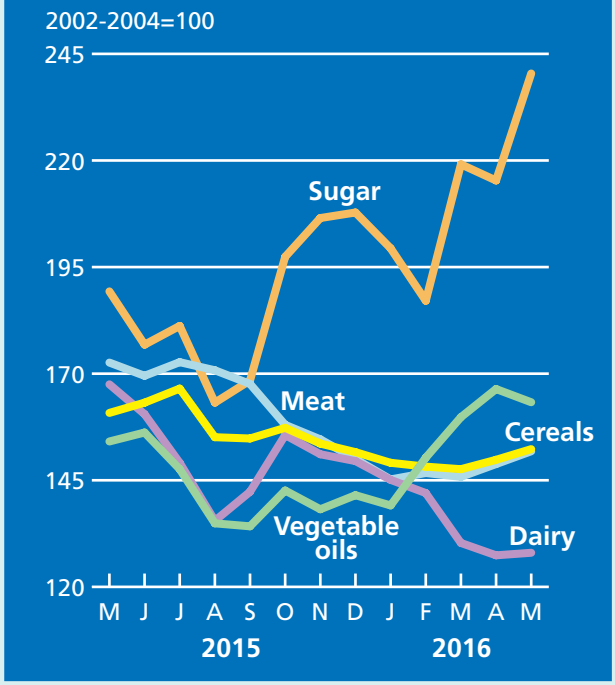
The **FAO Sugar Price Index** averaged 240.4 points in May, up as much as 25.1 points (11.7 percent) from April. The sharp rebound in May sugar prices was driven mostly by deteriorating production prospects in India, the world's second largest sugar producer, as well as lower output in China which raised the expectation of tighter domestic supplies and, hence, higher imports by the country. The latest data showing large export availabilities in Brazil, the world's largest sugar producer and exporter, supported by a bumper crop (second highest on record), kept prices from rising further.

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

## FAO Food Price Index




## FAO Food Commodity Price Indices



## FAO food price index

| | | Food Price Index[1] | Meat[2] | Dairy[3] | Cereals[4] | Vegetable Oils[5] | Sugar[6] |
|---|---|---|---|---|---|---|---|
| 2000 | | 91.1 | 96.5 | 95.3 | 85.8 | 69.5 | 116.1 |
| 2001 | | 94.6 | 100.1 | 105.5 | 86.8 | 67.2 | 122.6 |
| 2002 | | 89.6 | 89.9 | 80.9 | 93.7 | 87.4 | 97.8 |
| 2003 | | 97.7 | 95.9 | 95.6 | 99.2 | 100.6 | 100.6 |
| 2004 | | 112.7 | 114.2 | 123.5 | 107.1 | 111.9 | 101.7 |
| 2005 | | 118.0 | 123.7 | 135.2 | 101.3 | 102.7 | 140.3 |
| 2006 | | 127.2 | 120.9 | 129.7 | 118.9 | 112.7 | 209.6 |
| 2007 | | 161.4 | 130.8 | 219.1 | 163.4 | 172.0 | 143.0 |
| 2008 | | 201.4 | 160.7 | 223.1 | 232.1 | 227.1 | 181.6 |
| 2009 | | 160.3 | 141.3 | 148.6 | 170.2 | 152.8 | 257.3 |
| 2010 | | 188.0 | 158.3 | 206.6 | 179.2 | 197.4 | 302.0 |
| 2011 | | 229.9 | 183.3 | 229.5 | 240.9 | 254.5 | 368.9 |
| 2012 | | 213.3 | 182.0 | 193.6 | 236.1 | 223.9 | 305.7 |
| 2013 | | 209.8 | 184.1 | 242.7 | 219.3 | 193.0 | 251.0 |
| 2014 | | 201.8 | 198.3 | 224.1 | 191.9 | 181.1 | 241.2 |
| 2015 | | 164.0 | 168.1 | 160.3 | 162.4 | 147.0 | 190.7 |
| 2015 | May | 167.2 | 172.6 | 167.5 | 160.8 | 154.1 | 189.3 |
| | June | 164.9 | 169.5 | 160.5 | 163.2 | 156.2 | 176.8 |
| | July | 164.2 | 172.7 | 149.1 | 166.5 | 147.6 | 181.2 |
| | August | 155.0 | 170.8 | 135.5 | 155.1 | 134.9 | 163.2 |
| | September | 155.3 | 167.6 | 142.3 | 154.8 | 134.2 | 168.4 |
| | October | 158.2 | 158.0 | 155.6 | 157.3 | 142.6 | 197.4 |
| | November | 155.2 | 154.6 | 151.1 | 153.6 | 138.2 | 206.5 |
| | December | 153.4 | 150.0 | 149.5 | 151.6 | 141.5 | 207.8 |
| 2016 | January | 149.3 | 145.2 | 145.1 | 149.1 | 139.1 | 199.4 |
| | February | 149.7 | 146.7 | 142.0 | 148.2 | 150.3 | 187.1 |
| | March | 150.6 | 145.5 | 130.3 | 147.6 | 159.8 | 219.1 |
| | April | 151.8 | 146.6 | 127.4 | 149.8 | 166.4 | 215.3 |
| | May | 155.8 | 151.8 | 128.0 | 152.3 | 163.3 | 240.4 |

1 **Food Price Index:** Consists of the average of 5 commodity group price indices mentioned above, weighted with the average export shares of each of the groups for 2002-2004: in total 73 price quotations considered by FAO commodity specialists as representing the international prices of the food commodities are included in the overall index. Each sub-index is a weighted average of the price relatives of the commodities included in the group, with the base period price consisting of the averages for the years 2002-2004.

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

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

4 **Cereals Price Index**: This index is compiled using the International Grains Council (IGC) wheat price index, itself an average of 10 different wheat price quotations, 1 maize export quotation and 16 rice quotations. The rice quotations are combined into three groups consisting of Indica, Japonica and Aromatic rice varieties. Within each variety, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the three varieties are combined by weighting them with their assumed (fixed) trade shares. Subsequently, the IGC wheat price index, after converting it to base 2002-2004, the relative prices of maize and the average relative prices calculated for the rice group as a whole are combined by weighting each commodity with its average export trade share for 2002-2004.

5 **Vegetable Oils Price Index:** Consists of an average of 10 different oils weighted with average export trade shares of each oil product for 2002-2004.

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

At the 68th session of the General Assembly of the United Nations, 2016 was formally declared to be the "International Year of Pulses" (IYP).

The Food and Agriculture Organization of the United Nations has been nominated to implement the IYP 2016 in collaboration with Governments, relevant organizations, non-governmental organizations and all other relevant stakeholders.

> *"The International Year of Pulses will raise awareness about important crops that are essential for sustainable agriculture and nutrition."*
>
> **José Graziano da Silva, FAO Director-General**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#IYP2016

www.fao.org/pulses-2016

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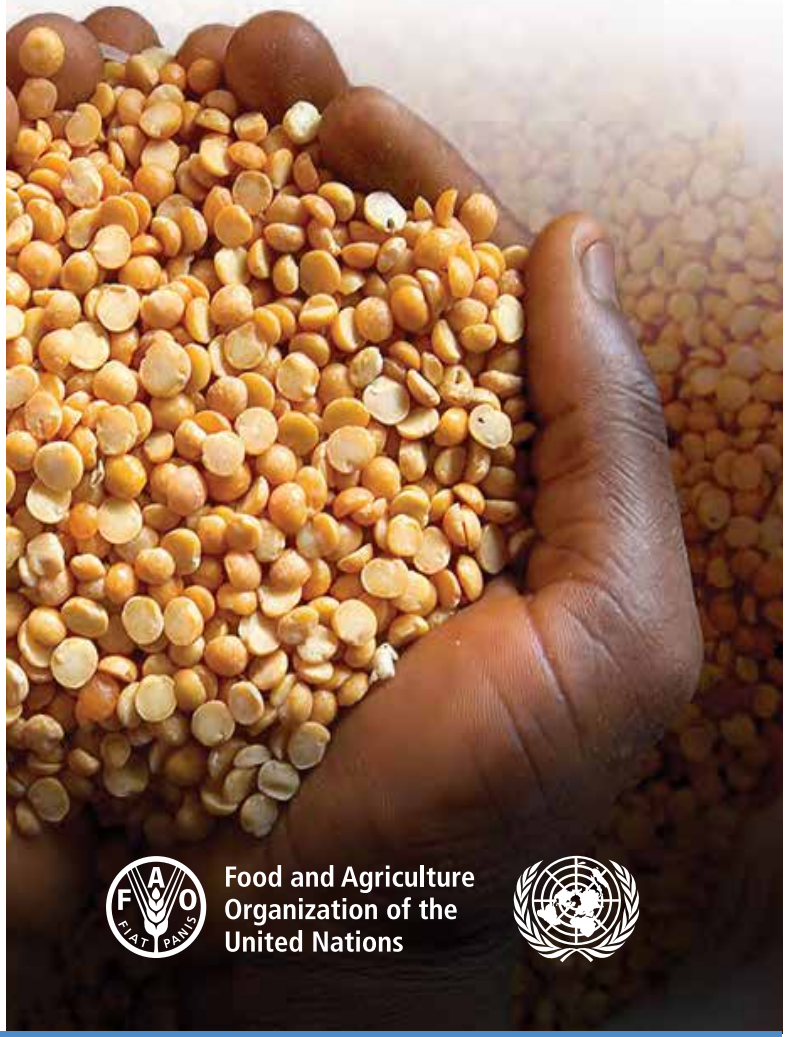
# 2016 INTERNATIONAL YEAR OF PULSES

*nutritious seeds for a sustainable future*



Food and Agriculture Organization of the United Nations

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

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

**This report is based on information available up to late May 2016. The next Food Outlook report will be published in October 2016.**

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