Given the generally good 2019 harvest prospects for wheat, rice and maize, the early outlook for the new season points to comfortably balanced markets for the three AMIS crops in 2019/20. A strong anticipated rebound in wheat production could boost wheat inventory levels, especially among major exporters. While the projected higher maize production may not be sufficient to meet overall demand, the spread of African Swine Fever, especially in China, is anticipated to restrain feed demand growth and keep stocks at high levels. Rice output is likely to hover around the 2018 record and while world rice inventories could decline slightly, they may actually increase among major exporters. As for soybeans, where the first forecast for the new season will be released in June, markets are bracing for even higher supplies in 2018/19 than anticipated earlier.
**Feature article**

**ASF: global challenges call for global collaboration**

The rapid spread of African Swine Fever (ASF) throughout East Asia has started to affect AMIS commodity markets. ASF is now endemic in China; it has recently spread to Viet Nam, Mongolia and Cambodia and is likely to make inroads into other Asian countries.

The [FAO Emergency Prevention System (EMPRES)](https://www.fao.org/empres) monitors the ASF outbreak and provides regular updates on the speed and extent of the spread. In doing so, EMPRES perfectly supplements AMIS, providing early warnings and issuing crisis prevention measures. Together, the two systems offer a powerful and yet underutilised tool to capture - early on - the likely impacts of animal diseases on commodity markets.

The extent and speed of the ASF spread through Asia suggest that the impacts on AMIS commodities will likely be pronounced and prolonged. ASF has already taken a toll on feed use in the region and exerted downward pressure on international soybean and maize prices; further spill over effects on wheat and rice markets are expected, even if they are likely to be much more muted.

Several factors make the current ASF outbreak particularly significant for markets. First of all, the most affected country, China, is the world’s largest producer and consumer of pig meat. As China is also the largest importer of soybeans, any sizeable slump in domestic needs will inevitably affect world markets. In fact, China’s soybean imports have already seen a marked slowdown; in tandem, imports of cassava feed ingredients have fallen precipitously, while purchases of barley and sorghum have almost come to a complete halt. Secondly, many of the ASF affected countries are underequipped to contain the spread of the disease: their biosecurity situation needs to be improved, their feeding and husbandry practices need to change and their infrastructure (slaughterhouses, transportation) needs to be upgraded. This could take years to materialize. Finally, the effects of ASF are compounded by other market distortions. Trade disputes, especially those between the biggest trading partners, have spread almost at the same pace as the disease. They have added to and further exacerbated the effects of ASF; the two forces may even reinforce each other over the course of the new season.

Against this background, supply and demand forecasts for 2019/20 will be even harder to produce than usual. This calls for constant enhancement of AMIS. The secretariats of AMIS and EMPRES are working closely together to make their contribution; they do the utmost to fully exploit available information on the spread of ASF and its ripple effects on AMIS commodity markets. But both secretariats can only work effectively if their member countries feed them with reliable information, fast and effectively. In order to reap the synergies between the two systems and realize the benefits of enhanced market transparency, greater support from all member countries is urgently needed.

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For further information and analysis concerning the recent outbreak of African Swine Fever, please see the feature article on ASF in the May 2019 edition of the FAO Food Outlook.
**World supply-demand outlook**

- **Wheat** production in 2019 to rebound by 5.0 percent from last year’s reduced level with most of the increase in Australia, the EU and the Russian Federation.

- Utilization to increase by 1.3 percent in 2019/20 with food consumption keeping pace with overall population growth and feed use also increasing by 1.4 percent.

- Trade in 2019/20 (July/June) to rise by 1.6 percent, supported by stronger import demand in Asia and Africa while the Russian Federation is seen to retain its position as the world’s largest exporter.

- Stocks (ending in 2020) to increase by 3.7 percent though still below the record of 2017/18 with higher inventories projected for all major exporters except the US.

- **Maize** production in 2019 to increase by 2.3 percent, after a 1.9 percent plunge in 2018, boosted primarily by production recovery in Argentina, Brazil and the US.

- Utilization in 2019/20 expected to exceed the current season’s estimated record level by 1.7 percent, largely reflecting continued growth in feed demand.

- Trade in 2019/20 (July/June) to contract by 1.6 percent, marking the first decline in nearly two decades, but most of the decrease is expected in the EU after record purchases in 2018/19.

- Stocks (ending in 2020) to fall by around 5 percent, with continued drawdowns in China accounting for most of the decrease while inventories are also forecast to decrease in the US.

- **Rice** production in 2019 tentatively forecast to match the 2018 peak, as a modest output expansion in Asia is checked by contractions in most other regions.

- Utilization to grow by 1.4 percent in 2019/20, underpinned by a 1.7 percent rise in food use.

- Trade in 2019 barely changed m/m, as downscaled imports by Indonesia and various West African countries (particularly Nigeria) offset higher expected purchases elsewhere in Africa and Asia.

- Stocks (2019 carry-out) to decline by 1.0 percent, with accumulations in major suppliers (namely India) only partly compensating for drawdowns by importers (particularly China).

- **Soybean** 2018/19 production forecast raised on improved harvest outcomes in a number of countries, notably Argentina and Brazil.

- Utilization forecast for 2018/19 virtually unchanged, with sizeable downward revisions in China (linked to African Swine Fever) compensated by higher crush forecasts for Brazil and several other countries.

- Trade forecast for 2018/19 remains unchanged, confirming the exceptional y/y decline of 2 percent anticipated earlier.

- Stocks (2018/19 carry-out) raised considerably on higher forecasts for China, Brazil and Argentina, reinforcing the y/y surge foreseen in global inventories.

*Data shown in the second rows refer to world aggregates without China; world trade data refer to exports and world trade without China excludes exports to China. Estimates and forecasts may differ across sources for many reasons, including different methodologies. For more information see Explanatory notes on the last page of this report.*
**Crop monitor**

**Crop conditions in AMIS countries (as of 28 April)**

**Synthesis Conditions**

Crop condition map synthesizing information for all four AMIS crops as of 28 April. Crop conditions over the main growing areas for wheat, maize, rice, and soybean are based on a combination of national and regional crop analyst inputs along with earth observation data. Only crops that are in other-than-favourable conditions are displayed on the map with their crop symbol.

**Conditions at a glance**

**Wheat** - In the northern hemisphere, winter wheat is under generally favourable conditions with some areas of dryness in Europe and the Russian Federation. Spring wheat is in early stages of sowing under favourable conditions.

**Maize** - In the southern hemisphere, harvest is ongoing in Argentina, Brazil, and South Africa. In the northern hemisphere, sowing has begun in most regions under favourable conditions. Mexico is harvesting the Autumn-Winter crop with very good yields expected.

**Rice** – In China and India, conditions are favourable. In Southeast Asia, conditions are generally favourable for dry-season rice across the region and the harvesting of wet-season rice in Indonesia.

**Soybeans** - In the southern hemisphere, harvest is ongoing in Brazil and Argentina under favourable to exceptional conditions with above-average yields expected in many areas. In the northern hemisphere, sowing has just begun.

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**El Niño advisory**

Weak-to-moderate El Niño conditions are present and are forecast to continue through the Northern Hemisphere spring and late summer (70 percent chance for May to July and 60 percent chance for July to September).

Associated with this event are increased chances of above normal May to July rainfall in parts of the southern US, Central Asia, and southeastern South America, and increased chances of below normal rainfall in parts of Southeast Asia including the maritime region, Central America, the Caribbean, and northern South America.

For July to September, this event increases chances of below normal rainfall in parts of Indonesia, eastern Australia, Central America, the Caribbean, and northern South America. Forecasts are tending towards a positive Indian Ocean Dipole mode after July. Such conditions tend to increase (suppress) rainfall in parts of East Africa (Australia).
**Wheat**

In the **EU**, winter wheat conditions are mixed as dry soils in southwestern and southeastern Europe impact crops. In **Ukraine**, conditions are favourable with ample rainfall and warm temperatures supporting crop development. In the **Russian Federation**, winter wheat conditions are favourable in the main producing areas of the south, while conditions are somewhat mixed in the Central and Volga districts due to dry conditions. In **China**, winter wheat conditions are generally favourable with most areas having received sufficient snowfall during the winter and experiencing warm spring temperatures. Spring wheat sowing is beginning under favourable conditions. In **India**, conditions are favourable and a good production year is expected owing to lower than average temperatures during the critical development period. In the **US**, winter wheat conditions are mostly favourable with some mild areas of concern in the north and east due to wetter than normal conditions. Spring wheat sowing is beginning under favourable conditions albeit some delays due to excess moisture remaining from heavy snowfall over the winter. In **Canada**, winter wheat conditions are favourable in the main producing eastern provinces, while dry conditions in the central prairies remain a concern.

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**Maize**

In **Brazil**, harvest is wrapping up for the spring-planted crop with average yields and a slight reduction in production expected compared to last year. Conditions are favourable for the summer-planted crop (higher producing season) in the reproductive stage with an increase in total sown area estimated. In **Argentina**, harvest of the spring-planted crop is continuing under exceptional conditions in the main producing areas and a historic production year is expected. Conditions are mostly favourable for the summer-planted crops. In **Mexico**, harvest of the autumn-winter cycle crop is beginning under favourable to exceptional conditions while sowing of the spring-summer crop is continuing under favourable conditions. In **South Africa**, conditions are mixed with a reduction in expected production, owing to a decrease in total sown area as a result of the delayed start of the rainy season in western areas. In **India**, conditions are favourable as the harvesting of the Rabi crop is wrapping up. In **China**, sowing of spring-planted maize is ongoing under favourable conditions with only spot areas of dryness. In the **US**, sowing is beginning across the country under favourable conditions with some delays expected due to excessive winter moisture. In the **EU**, conditions are generally favourable, however dryness in the southwest and southeast are affecting sowing and germination. In the **Russian Federation**, sowing is progressing under generally favourable conditions with some concerns in the northern areas due to dry conditions.

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**Pie chart description**: Each slice represents a country’s share of total AMIS production (5-year average), with the main producing countries (95 percent of production) shown individually and the remaining 5 percent grouped into the “Other AMIS Countries” category. Sections within each country are weighted by the sub-national production statistics (5-year average) of the respective country and accounts for multiple cropping seasons (i.e. spring and winter wheat).

*The late vegetative through to reproductive crop growth stages are generally the most sensitive periods for crop development.*
**Rice**

In **China**, early-crop rice conditions are favourable with plentiful rainfall for irrigation in the south. In **India**, Rabi rice has progressed well throughout the season and is now being harvested under favourable conditions. In **Indonesia**, harvest of wet-season rice continues with yields expected to be close to average. Sowing of dry-season rice is continuing under favourable conditions. In **Viet Nam**, conditions are generally favourable for winter-spring rice (dry-season rice) as sowing wraps up in the north and harvest progresses in the south. Yields are slightly below average due to lack of rainfall during the flowering stage. In **Thailand**, dry-season rice is being harvested under generally favourable conditions with an increase in production expected. Dry conditions remain in the northeastern region. In the **Philippines**, harvest of dry-season rice is ongoing under favourable conditions with a slight reduction in yields expected due to dry conditions during the season, especially in northern and southern Luzon. In **Brazil**, harvest is wrapping up under favourable conditions with exceptional conditions in the North region. A noticeable decrease in production compared to last year is expected due to a reduction in sown area. In the **US**, conditions are favourable along the Mississippi delta region.

**Soybeans**

In **Brazil**, conditions are favourable to exceptional as the harvest nears completion with overall yields near average and above average yields in the northeast region. A small year-on-year reduction in final production is expected due to dry conditions earlier in the season. In **Argentina**, harvest of spring-planted and summer-planted crops is continuing at a good pace with above average yields in most regions. Some concerns in the northeast remain due to heavy rainfall and floods. In the **US**, sowing is just beginning in the south under favourable conditions. In **Ukraine**, sowing has begun earlier than normal due to warm weather and favourable conditions.

**Information on crop conditions in non-AMIS countries can be found in the GEOGLAM Early Warning Crop Monitor, published 9 May 2019**
Policy developments

Wheat
• On 26 April, in an effort to curb imports and offload excess grain from storage units of Food Corporation of India and state agencies, the Ministry of Finance in India increased the import duty on wheat from 30 percent to 40 percent.
• On 5 April, Saudi Arabia announced the acquisition of 200,000 ha of farmland in Western Australia’s wheat belt. Furthermore, the ban on domestic wheat production that had been in place for three years over concerns of depletion of groundwater was revoked.

Maize
• On 15 April, the Ministry of Commerce in China started a review of its anti-dumping tariffs on imports of distiller’s grains from the US that would be completed in a year. From January 2017, the anti-dumping duties were raised to between 42.2 percent and 53.7 percent, while anti-subsidy tariffs have ranged from 11.2 percent to 12 percent.
• On 3 April, the Ministry of Commerce in India allowed imports of feed grade maize at a 15 percent of import duty for poultry and starch producers under a tariff rate quota (TRQ) of 100,000 tonnes, permitted on actual user condition. The poultry sector has requested to separately classify feed grade maize from popcorn grade maize and allow its import under the TRQ.

Rice
• On 1 April, the Philippines adopted the Implementing Rules and Regulations (IRR) of the Republic Act 11203. The IRR outlines guidelines on the President’s powers and enforcement of safeguard measures in emergency situations including price fluctuations. It details the establishment of the Rice Competitiveness Enhancement Fund and how the PHP 10 billion fund from the General Appropriations Act will be transferred directly to implementing agencies. The document also sets the guidelines on allocation of tariff revenues in excess of PHP 10 billion (USD 19.3 million) to provide direct financial assistance to rice farmers affected by the new rice import regime.

Infrastructure/Trade Junctures
• On 6 April, part of a bridge in the Para state of Brazil collapsed, which is expected to affect grain transport from Brazil’s farm country to its northern ports.
• Starting 1 April, major shipping lines transporting grain commodities from India and Pakistan to the EU will face a 25 percent General Rate Increase from around USD 40 per tonne to around USD 50 per tonne. For other destinations including Middle East and Africa, freight rates from Asian ports are expected to increase as well. The rates are usually increased when demand increases or when stricter environmental standards are implemented.

Across the board
• On 17 April, in order to curb inflation, Argentina fixed retailer prices of agricultural products, including rice and wheat flour products, for a six-month period. The newly established prices were set at comparable levels to the prevailing market prices and the Ministry of Internal Trade will monitor retailers’ compliance to the policy.
• On 3 April, Canada notified the WTO of requirements for select feed ingredients imported from countries identified as posing a potential concern with respect to African Swine Fever. The identified products including wheat, rice, maize and soy products, will require an import permit from the specified countries including the EU, Russian Federation, South Africa and Viet Nam. The conditions to be specified include heat treatment and/or hold times designed to mitigate the risk of contamination of these products (G/SPS/N/CAN/1244).
• On 3 April, the EU banned the use of Chlorothalonil fungicide. The ban is expected to enter into force in May.
• On 17 April, the EU published a list of products originating from the US including wheat, rice, maize and soy products which could be subject to additional tariffs in the context of the ongoing Boeing Subsidies Dispute.
• On 8 April, as part of the Farm Bill implementation, the Farm Service Agency (FSA) of the US announced the opportunity until 24 May to obtain buy-up coverage for 2019 and 2020 eligible crops. On 10 April, FSA announced increases in the 2019 Marketing Assistance (national) Loan rates for wheat (USD 3.38 per bushel), maize (USD 2.20 per bushel) and soybean (USD 6.20 per bushel) for each of the 2019-2023 crops.
• On 18 April, the WTO circulated the Panel report in the case brought by the US in “China — Tariff Rate Quotas for Certain Agricultural Products” (DS517). The Panel found that China’s administration of its wheat, rice, and maize TRQs inhibits the filling of these TRQs.

Stop Press
• On 22 March, China suspended all broken rice imports from Myanmar. Myanmar can still export long-grain and short rice, which are subject to a 50-60 percent export tax and permit compliance in China.

AMIS Policy database
Visit the AMIS Policy database at: https://app.amis-outlook.org/#/policy-database
The AMIS Policy database gathers information on trade measures and domestic measures related to the four AMIS crops (wheat, maize, rice, and soybeans) as well as biofuels. The design of this database allows comparisons across countries, across commodities and across policies for selected periods of time. Only AMIS participants are marked in bold.
On 13 March 2019, the European Commission adopted a delegated act on sustainability criteria for determining high indirect land-use change (ILUC)-risk feedstock for biofuels and the criteria for certifying low ILUC-risk biofuels, bioliquids and biomass fuels. The act will become effective after a two-month review period by the Parliament and the Council.

The Ministry of Agriculture in Viet Nam banned both the importation and use of glyphosate-based herbicides, citing concerns over their impact on human health.
International prices

### International Grains Council (IGC) Grains and Oilseeds Index (GOI) and GOI sub-Indices

<table>
<thead>
<tr>
<th></th>
<th>Apr 2019 Average*</th>
<th>% Change M/M</th>
<th>% Change Y/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOI</td>
<td>183</td>
<td>-3.2%</td>
<td>-14.5%</td>
</tr>
<tr>
<td>Wheat</td>
<td>181</td>
<td>-4.2%</td>
<td>-3.9%</td>
</tr>
<tr>
<td>Maize</td>
<td>173</td>
<td>-4.0%</td>
<td>-15.8%</td>
</tr>
<tr>
<td>Rice</td>
<td>161</td>
<td>+1.1%</td>
<td>-8.9%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>168</td>
<td>-3.5%</td>
<td>-21.6%</td>
</tr>
</tbody>
</table>

*Jan 2000=100, derived from daily export quotations

**Wheat**

Weak price sentiment persisted in global export markets during April, with the IGC GOI wheat sub-Index declining by 4 percent. Pressure continued to come from ample nearby supplies and few significant concerns about availabilities next season. Prices in the EU had sustained support from the recent pickup in exports, including from tight logistics in some areas. However, exporter optimism for the rest of the marketing year was tempered by competition from other origins, underscored by recent sales of US wheat to Algeria and Saudi Arabia. Nonetheless, traders in the US remained disappointed about export progress and this contributed to sizeable falls in export values. Expectations for a good harvest weighed on new season prices in Russia.

**Maize**

The IGC maize sub-Index tumbled by 4 percent, to its lowest since December 2017, on bearish supply-side fundamentals and continued strong competition for export business. Pressure stemmed mainly from expectations for larger surpluses in South America, including in Argentina, where farmers reported mostly excellent yields from the first stages of the harvest. Despite background worries about Midwest fieldwork delays and speculation about the possibility of smaller than originally intended acreage, US prices were also lower, easing to five-month lows. In contrast to other leading origins, average quotations in Ukraine held steady, lightly underpinned by currency strength and a robust pace of exports.

**Rice**

Global white and parboiled export quotations were slightly firmer during April, the IGC rice sub-Index up by 1 percent, tied to modest gains in Asia. The market in Thailand was underpinned by concerns that dry weather may harm 2018/19 secondary (off-season) crop prospects, although weak buying interest pressured at times. In Vietnam, where the main winter-spring harvest was complete, fob prices strengthened on demand from regional buyers, including the Philippines, while offers in South Asia were also higher, with sales to East Africa boosting sentiment in Pakistan. In contrast, US milled rice export values eased on outlooks for ample supplies.

**Soybeans**

Reflecting declines at all major origins, average world export prices retreated by 3 percent during April, taking y/y losses to more than one-fifth. Pressure stemmed from outlooks for heavy global availabilities, with improved weather stabilising prospects for Brazil’s crop, threshing of which was in its final stages. Currency movements were also a factor, sometimes amplifying falls in dollar-denominated values in South America, particularly in Argentina. Additionally, ideas that plantings for the 2019/20 US harvest may be larger than anticipated was often a negative influence. Continued concerns about global trade weighed, linked to the prolonged impact of African Swine Fever on soymeal demand in China, while there was lingering uncertainty about the eventual outcome of US-China trade talks.
Selected export prices, currencies and indices

**AMIS Countries' Currencies Against US Dollar**

<table>
<thead>
<tr>
<th>AMIS Countries</th>
<th>Currency</th>
<th>April 2019 Average</th>
<th>Monthly Change</th>
<th>Annual Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>ARS</td>
<td>43.1</td>
<td>-4.2%</td>
<td>-112.9%</td>
</tr>
<tr>
<td>Australia</td>
<td>AUD</td>
<td>1.4</td>
<td>0.4%</td>
<td>-8.0%</td>
</tr>
<tr>
<td>Brazil</td>
<td>BRL</td>
<td>3.9</td>
<td>-1.5%</td>
<td>-14.3%</td>
</tr>
<tr>
<td>Canada</td>
<td>CAD</td>
<td>1.3</td>
<td>-0.1%</td>
<td>-5.1%</td>
</tr>
<tr>
<td>China</td>
<td>CNY</td>
<td>6.7</td>
<td>-0.1%</td>
<td>-6.7%</td>
</tr>
<tr>
<td>Egypt</td>
<td>EGP</td>
<td>17.2</td>
<td>0.7%</td>
<td>2.4%</td>
</tr>
<tr>
<td>EU</td>
<td>EUR</td>
<td>0.9</td>
<td>-0.6%</td>
<td>-9.3%</td>
</tr>
<tr>
<td>India</td>
<td>INR</td>
<td>69.4</td>
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</tr>
<tr>
<td>Indonesia</td>
<td>IDR</td>
<td>14,133.0</td>
<td>0.5%</td>
<td>-2.4%</td>
</tr>
<tr>
<td>Japan</td>
<td>JPY</td>
<td>111.7</td>
<td>0.5%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>KZT</td>
<td>379.3</td>
<td>0.3%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Rep. Korea</td>
<td>KRW</td>
<td>1,141.8</td>
<td>0.9%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Mexico</td>
<td>MXN</td>
<td>18.9</td>
<td>1.5%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>NGN</td>
<td>305.9</td>
<td>0.0%</td>
<td>0.3%</td>
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<tr>
<td>Philippines</td>
<td>PHP</td>
<td>52.0</td>
<td>1.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Russian Fed.</td>
<td>RUB</td>
<td>64.5</td>
<td>0.9%</td>
<td>5.9%</td>
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<td>Saudi Arabia</td>
<td>SAR</td>
<td>3.8</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>South Africa</td>
<td>ZAR</td>
<td>14.1</td>
<td>1.7%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Thailand</td>
<td>THB</td>
<td>31.8</td>
<td>-0.4%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Turkey</td>
<td>TRY</td>
<td>5.8</td>
<td>-5.5%</td>
<td>-41.7%</td>
</tr>
<tr>
<td>UK</td>
<td>GBP</td>
<td>0.8</td>
<td>-1.1%</td>
<td>-8.0%</td>
</tr>
<tr>
<td>Ukraine</td>
<td>UAH</td>
<td>26.7</td>
<td>0.6%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>VND</td>
<td>23,213.9</td>
<td>-0.1%</td>
<td>-1.9%</td>
</tr>
</tbody>
</table>

**FAO Food Price Index**

Apr 2018-Apr 2019

**Nominal Broad Dollar Index**

Apr 2018-Apr 2019

Source: US Federal Reserve
Futures markets

Futures Prices – nearby

<table>
<thead>
<tr>
<th></th>
<th>Apr-19</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>166</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Maize</td>
<td>141</td>
<td>-2.5%</td>
</tr>
<tr>
<td>Rice</td>
<td>232</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>324</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>M/M</th>
<th>Y/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>-5.1%</td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td>-7.2%</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td>-18.1%</td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>-14.9%</td>
<td></td>
</tr>
</tbody>
</table>

Source: CME

Historical Volatility – 30 Days, nearby

<table>
<thead>
<tr>
<th></th>
<th>Apr-19</th>
<th>Mar-19</th>
<th>Apr-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>26.1</td>
<td>28.8</td>
<td>30.1</td>
</tr>
<tr>
<td>Maize</td>
<td>19.8</td>
<td>14.1</td>
<td>17.5</td>
</tr>
<tr>
<td>Rice</td>
<td>16.9</td>
<td>17.7</td>
<td>15.4</td>
</tr>
<tr>
<td>Soybeans</td>
<td>12.2</td>
<td>11.3</td>
<td>17.4</td>
</tr>
</tbody>
</table>


In Iowa, the bids rose m/m to minus USD 8 for maize and minus USD 29 for soybeans (under the respective May futures). In soft red wheat, bids for delivery to northern flour mills showed little change m/m at slightly below May futures prices. Gulf export delivery basis levels for maize, soybeans and soft red wheat were unchanged to slightly firmer m/m, quoted as high as at USD 23, USD 15, and USD 35 (per tonne premium over respective May futures). Flooding over river banks and high water throughout the Mississippi River basin continued from March and April, restricting southbound barge movement and tow sizes. Nonetheless barge freight declined m/m from USD 24 per tonne to USD 19, possibly reflecting a 17 percent decline in wheat, maize and soybean barge traffic for 2019 versus 2018. The USDA reported total exports for all three commodities at 92 percent y/y, with soybeans being the biggest laggard.

Forward curves

Forward curves persisted in contango (upward sloping) m/m with the slope of all three commodities steepening slightly. Moderate quantities of deliveries against May futures short positions occurred in the wheat, maize and soybean contracts, attesting to the surpluses in the market.

Investment flows

Managed money pursued its aggressive bearish strategies from last month, increasing its large net short positions in soybeans and wheat and establishing a record net short position in maize (344 185 contracts, the equivalent of 43.7 tonnes). Conversely, commercials held modest net short positions in wheat and maize and a small net long position in soybeans. Swaps dealers and to a lesser extent Other Reportables (large proprietary traders or speculators) held the dominant long positions in the three commodities.

For information on technical terms please view the Glossary at the following link:

Futures Prices

Prices for wheat, maize, soybeans and rice posted modest declines of 0.6, 2.5, 1.5 and 2.3 respectively m/m, as both domestic and export demand continued in a lackluster pace. In its World Agricultural Supply and Demand Estimates for April, the USDA increased its 2018/19 carry-out projections for both wheat and maize citing reductions in feed, seed and export demand, and in the case of maize – slumping industrial demand, stemming from a slowdown in ethanol production. The USDA also raised the carry-out in rice, cutting its export stemming from a slowdown in ethanol production. The USDA also raised the carry-out in rice, cutting its export demand. In soybeans, the USDA’s projection of record ending stocks, a rebound in South American production estimates and continued stalemate of trade disputes between the US and China weighed on prices. In addition, Chinese soybean demand, which had soared y/y for the past fifteen years was set to decline for 2018/19 and possibly beyond as the Chinese government issued guidelines to lower protein content in animal feed and enforce pig herd culling measures to combat African Swine Fever. Heavy rain and flooding following the wettest winter on record for the contiguous 48 US, may have kept prices from falling further, as maize and soybean planting lagged behind y/y. Exogenous factors, including firm US dollar index and West Texas Intermediate crude oil prices, provided little guidance to agricultural markets. All four agricultural commodities were lower in price y/y, by 5.1, 7.2, 14.9 and 18.1 percent, respectively, for wheat, maize, soybeans and rice.

Volumes and volatility

Trade volumes for wheat, maize and soybeans increased for all three commodities m/m in a typical seasonal pattern but were lower y/y by 8, 6 and 34 percent respectively. Implied volatility fell slightly for all three commodities both m/m and y/y while historical volatility, which remained at low levels showed small mixed m/m and y/y changes.

Basis levels and transport

Domestic basis levels firmed m/m for maize and soybeans, moving in typical seasonal direction. In Illinois, bids to local elevators were quoted minus USD 7 per tonne for maize and minus USD 17 per tonne for soybeans, each under the respective May futures prices.
**Market Indicators**

*Daily quotations from leading exchanges - nearby futures*

**Wheat**

USD per tonne

- EU (France-NYSE Euronext) Milling Wheat
- USA (KCBT) Hard Red Wheat
- SAF (Safex) Wheat

**Maize**

USD per tonne

- EU (NYSE LIFFE) Maize
- USA (CBOT) Maize
- China (DCE) Maize

**Rice**

USD per tonne

- USA (CBOT) Rough Rice
- China (ZCE) Milled Rice

**Soybeans**

USD per tonne

- China (DCE)
- Brazil (BME)
- USA (CBOT)
- Argentina (MATBA)

**CFTC Commitments of Traders - Major Categories Net Length as percentage of Open Interest**

**Wheat**

<table>
<thead>
<tr>
<th>Short (sold)</th>
<th>Long (bought)</th>
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</table>

- Commercials
- Swap Positions
- Managed Money

**Maize**

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<th>Long (bought)</th>
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- Commercials
- Swap Positions
- Managed Money

**Rough Rice**

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- Commercials
- Swap Positions
- Managed Money

**Soybeans**

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<th>Long (bought)</th>
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</table>

- Commercials
- Swap Positions
- Managed Money

*Disaggregated Futures Only. Though not all positions are reflected in the charts, total long positions always equal total short positions.*
Forward Curves

**Wheat**

USD per tonne

- 210
- 190
- 170
- 150
- 130

- Mar-'19
- Apr-'19
- May-'19
- Jun-'19
- Jul-'19
- Aug-'19
- Sep-'19
- Oct-'19
- Nov-'19
- Dec-'19
- Jan-'20
- Feb-'20
- Mar-'20

30-Apr-19
29-Mar-19
28-Feb-19

**Maize**

USD per tonne

- 180
- 160
- 140
- 120
- 100

- Mar-'19
- Apr-'19
- May-'19
- Jun-'19
- Jul-'19
- Aug-'19
- Sep-'19
- Oct-'19
- Nov-'19
- Dec-'19
- Jan-'20
- Feb-'20
- Mar-'20

30-Apr-19
29-Mar-19
28-Feb-19

**Rice**

USD per tonne

- 220
- 210
- 200
- 190

- Mar-'19
- Apr-'19
- May-'19
- Jun-'19
- Jul-'19
- Aug-'19
- Sep-'19
- Oct-'19
- Nov-'19
- Dec-'19
- Jan-'20
- Feb-'20
- Mar-'20

30-Apr-19
29-Mar-19
28-Feb-19

**Soybeans**

USD per tonne

- 360
- 350
- 340
- 330
- 320
- 310
- 300

- Mar-'19
- Apr-'19
- May-'19
- Jun-'19
- Jul-'19
- Aug-'19
- Sep-'19
- Oct-'19
- Nov-'19
- Dec-'19
- Jan-'20
- Feb-'20
- Mar-'20

30-Apr-19
29-Mar-19
28-Feb-19

Historical and Implied Volatilities

**Historical Volatility (30 days)**

- April-18
- June-18
- August-18
- October-18
- December-18
- February-19
- April-19

Soybeans
Maize
Wheat
Rough Rice

**Implied Volatility (Daily)**

- April-18
- June-18
- August-18
- October-18
- December-18
- February-19
- April-19

Soybeans
Maize
Wheat
Rough Rice

Some of the indicators covered in this report are updated regularly on the AMIS website. These, as well as other market indicators, can be found at:
http://www.amis-outlook.org/amis-monitoring/indicators/
**Monthly US ethanol update**

- **Ethanol production** margins remained poor despite flat production levels.
- **Falling maize prices** were offset by falling ethanol prices.
- **Ethanol prices** did not benefit from the recent jumps in gasoline prices and with the latest surge in RBOB gasoline futures, the ethanol futures price actually fell below two thirds of the price of gasoline.

---

**Ethanol production pace, capacity and annual mandate**

**Ethanol and RBOB gasoline**

*Monthly production total: 1,299, 1,307, 1,282*

*Annualized production pace: 15,808, 15,392, 15,602*

*Based on USDA data and private sources*

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*Estimated using available weekly data to date.*

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**Chart and tables description**

**Ethanol Production Margin** (IA, NE, IL/eastern corn belt average)

**Ethanol price vs. maize price** (Spot prices)

**Ethanol Production Margins:** The ethanol margin gives an indication of the profitability of maize-based ethanol production in the United States. It uses current market prices for maize, Dried Distillers Grains (DDGs) and ethanol, with an additional USD 0.55 per gallon of production costs.

**Ethanol Production Pace, Capacity and Mandate:** Overview of the volume of maize-based ethanol production in the United States; it also highlights overall production capacity and the production volume that is mandated by public legislation. Name-plate (i.e. nominal) ethanol production capacity in the US is roughly 14.9 billion gallons per annum, but plants can exceed this level, so the actual capacity is assumed to be 15.2 billion gallons.

**DDGs:** By-product of maize-based biofuel production, commonly used as feedstuff.

**RBOB:** Reformulated Blendstock for Oxygenate Blending, gasoline nearby futures (NYSE).
Fertilizer outlook

- Despite tight inventories, natural gas prices continued to fall due to lower global demand.
- Ammonia prices continued to decrease due to delays in Spring application in the Northern Hemisphere and lower natural gas prices.
- Urea prices rebounded marginally in April as exports from China and North Africa slowed, but remained 15 percent below recent highs seen last fall.
- DAP prices continued their decline due to large supplies in the US and lower seasonal demand from China.
- Potash prices showed a slight decline, particularly in the US Gulf, due to delays in the start of the spring season.

Ammonia and Urea: Overview of nitrogen-based fertilizer prices in the US Gulf, Western Europe and Black Sea. Prices are weekly prices averaged by month.

Potash and Phosphate: Overview of phosphate and potassium-based fertilizer prices in the US Gulf, Baltic and Vancouver. Prices are weekly prices averaged by month.

Ammonia Average and Urea Average: Monthly average prices from Ammonia’s US Gulf NOLA, Middle East, Black Sea and Western Europe were averaged to obtain Ammonia Average prices; monthly average prices from Urea’s US Gulf NOLA, US Gulf Prill, Middle East Prill, Black Sea Prill and Mediterranean were averaged to obtain Urea Average prices.

Natural Gas: Henry Hub Natural Gas Spot Price from ICE up to December 2017 and from Bloomberg (BGAP) from January 2018 onwards. Prices are intraday prices averaged by month. Natural gas is used as major input to produce nitrogen-based fertilizers. DAP: Diammonium Phosphate.

All prices shown are in US dollars.
Source: Own elaboration based on Bloomberg

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<th>April average</th>
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<th>% change last year</th>
<th>12-month high</th>
<th>12-month low</th>
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<td>23.3%</td>
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<td>-3.8%</td>
<td>4.1</td>
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Chart and tables description

Ammonia and Urea: Overview of nitrogen-based fertilizer prices in the US Gulf, Western Europe and Black Sea. Prices are weekly prices averaged by month.
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DAP: Diammonium Phosphate.
• The dry bulk freight market continued to stage a recovery from the early-2019 plunge, with the Baltic Dry Index (BDI) averaging 14 percent higher m/m in April. Nevertheless, with mixed trends across vessel segments, and reflecting a market which faces excessive tonnage availability, the index was almost one-third lower y/y.

• Capesize values rebounded from an all-time low in early-April on resurgent iron ore demand in the Pacific, which countered pressure from reduced cargo flows out of Brazil. Although the corresponding Baltic Index posted solid m/m gains, average earnings are still estimated to be 67 percent below the previous year’s level.

• Average Panamax rates rose by one-fifth after a period of two-sided activity. The market witnessed buoyant fixing in the Atlantic, especially in South America, coupled with firmer minerals trade in the Baltic. However, coal business from Indonesia was said to be limited.

• In contrast, Supramax and Handysize values displayed a weaker tone, with declines reported across most key origins. While brisk fixing was noted in South America and the Indian Ocean, other regions, including the north Atlantic and Europe, reportedly lacked fresh impetus.

Source: International Grains Council

Baltic Dry Index (BDI): A global benchmark indicator issued daily by the London-based Baltic Exchange, providing an assessment of the costs of moving major raw materials on ocean going vessels. The BDI is a composite measure, comprising sub-indices for four carrying segments, representing different vessel sizes: Capesize, Panamax, Supramax and Handysize.

Capesize: The largest vessels included in the BDI with deadweight tonnage (DWT) above 80,000 DWT, primarily transporting coal, iron ore and other heavy raw materials on long-haul routes.

Panamax: Vessels with capacity of 60,000 to 80,000 DWT, which are mostly geared to transporting coal, grains, oilseeds and other bulks, including sugar and cement.

Supramax/Handysize: Vessels with capacity below 60,000 DWT, which account for the majority of the world’s ocean going vessels. They can transport a wide variety of cargos, including grains and oilseeds.
The notions of tightening and easing used in the summary table of “Markets at a glance” reflect judgmental views that take into account market fundamentals, inter alia price developments and short-term trends in demand and supply, especially changes in stocks.

All totals (aggregates) are computed from unrounded data. World supply and demand estimates/forecasts are based on the latest data published by FAO, IGC and USDA. For the former, they also take into account information provided by AMIS focal points (hence the notion “FAO-AMIS”). World estimates and forecasts produced by the three sources may vary due to several reasons, such as varying release dates and different methodologies used in constructing commodity balances. Specifically:

Production: Wheat production data from all three sources refer to production occurring in the first year of the marketing season shown (e.g. crops harvested in 2016 are allocated to the 2016/17 marketing season). Maize and rice production data for FAO-AMIS refer to crops harvested during the first year of the marketing season (e.g. 2016 for the 2016/17 marketing season) in both the northern and southern hemisphere. Rice production data for FAO-AMIS also include northern hemisphere production from secondary crops harvested in the second year of the marketing season (e.g. 2017 for the 2016/17 marketing season). By contrast, rice and maize data for USDA and IGC encompass production in the northern hemisphere occurring during the first year of the season (e.g. 2016 for the 2016/17 marketing season), as well as crops harvested in the southern hemisphere during the second year of the season (e.g. 2017 for the 2016/17 marketing season). For soybeans, the latter approach is used by all three sources.

Supply: Defined as production plus opening stocks by all three sources.

Utilization: For all three sources, wheat, maize and rice utilization includes feed, food and other uses (namely, seeds, industrial uses and post-harvest losses). For soybeans, it comprises crush, food and other uses. However, for all AMIS commodities, the use categories may be grouped differently across sources and may also include residual values.

Trade: Data refer to exports. For wheat and maize, trade is reported on a July/June basis, except for USDA maize trade estimates, which are reported on an October/September basis. Wheat trade data from all three sources includes wheat flour in wheat grain equivalent, while the USDA also considers wheat products. For rice, trade covers shipments from January to December of the second year of the respective marketing season. For soybeans, trade is reported on an October/September basis by FAO-AMIS and the IGC, while USDA data are based on local marketing years except for Argentina and Brazil which are reported on an October/September basis. Trade between European Union member states is excluded.

Stocks: In general, world stocks of AMIS crops refer to the sum of carry-overs at the close of each country’s national marketing year. For soybeans, stock levels reported by the USDA are based on local marketing years, except for Argentina and Brazil, which are adjusted to October/September. For maize and rice, global estimates may vary across sources because of differences in the allocation of production in southern hemisphere countries.

For more information on AMIS Supply and Demand, please view AMIS Supply and Demand Balances Manual.

Main sources:
Bloomberg, CFTC, CME Group, FAO, GEOGLAM, IFPRI, IGC, Reuters, USDA, US Federal Reserve

**AMIS - GEOGLAM Crop Calendar**

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<th>Commodity</th>
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<td>Harvest</td>
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</tbody>
</table>

* Percentages refer to the global share of production (average 2013-15).

- Planting (peak)
- Harvest (peak)
- Weather conditions in this period are critical for yields.
- Growing period

**AMIS Market Monitor Release Dates**
February 7, March 7, April 4, May 9, June 6, July 4, October 3, November 7, December 5

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