Despite record nominal prices, FAO-AMIS expects global production for maize and wheat to fall in 2022. With outputs likely being lower than last year in Australia, Morocco and India (wheat) and in the United States (maize) the loss of production in Ukraine might not be offset by the rest of the world. This will likely keep upward pressure on prices with potentially devastating effects on the global poor. Trade restrictions also remain a concern. At the end of May, 23 countries have implemented export restrictions ranging from outright bans to export taxes affecting almost 18 percent of agricultural exports, on a kilocalorie basis. In this context, AMIS - through a joint statement of the AMIS chairs - is calling on all countries to refrain from implementing trade restrictions, which will prolong the uncertainty in markets and threaten the most vulnerable around the globe.
Feature article

Adding fuel to a fire - the global food security consequences of the war in Ukraine

Food security has been suffering in many parts of the world due to several manmade conflicts, climate shocks, COVID-19 and the rising cost of living. The war in Ukraine, a major breadbasket for the world, risks deepening these challenges on an unparalleled scale.

The effects of the conflict do not unravel in a vacuum. Economic recovery from the COVID-19 pandemic is uneven and disrupted by the spread of new variants of the virus. Household incomes remain depressed, with projections for 2022 suggesting a working-hour deficit equivalent to 52 million full-time jobs. Government resources are severely strained after trillion-dollar support packages to avoid economic collapse. The global debt burden has risen to dangerous levels, especially in the developing world - about 60 percent of low-income countries are now in, or at risk of, debt distress.

After a relentless rise since mid-2020, global food prices have surpassed previous peaks of the 2008-2011 crisis, with the war constituting an additional push to reach these new historical highs. With incomes being low as food prices are soaring, today’s situation is much more worrisome than those past crises. In addition, other key drivers of hunger are intensifying. State-based armed conflicts have roughly doubled between 2010 and 2020; and the number of forcibly displaced people worldwide, who are among the most vulnerable, more than tripled, breaking the 100-million mark. The climate crisis is adding further stress to food security, as evidenced by extreme climate conditions in many parts of the world - including widespread and persistent multi-season drought in East Africa.

Food inflation is alarmingly high in many places, reaching 15 percent or more in 40 countries. This is causing major problems for poor families, who often spend more than half of their incomes on food. The World Food Programme’s (WFP) indicator to detect price spikes currently raises the highest alert for markets in 51 out of 62 countries with sufficient data.1

While early this year, 570 000 people were in famine-like conditions and 44 million just one step away from these, these numbers have grown to 750 000 people in famine-like conditions and 48.9 million people that are one step away - almost 5 million more than three months ago. According to WFP’s near-real time monitoring, food security is at “high risk” or at “moderate risk but deteriorating” in 23 out of 92 countries that are being monitored.2

As the war drags on, the global food security situation is expected to worsen further. Acute hunger is projected to increase by an additional 47 million people in 81 countries with WFP operations, from 276 million to 323 million, which would be a shocking 17-percent jump, with the steepest rises in sub-Saharan Africa.3 Moreover, World Bank research finds that each one-percentage point increase in food prices will throw 10 million people more into extreme poverty.

Escalating food prices are also hampering the efforts of humanitarian agencies, with rising food, fuel and transport prices severely limiting the level of assistance. WFP, for example, projects that food procurement and transport costs will increase by about USD 71 million per month compared to the average in 2019 - a 44 percent rise and enough to feed 3.8 million people with a single food ration per day for a month.

Current food insecurity challenges are predominantly linked to accessibility and affordability issues. However, extreme weather conditions combined with a lack of fertilizer supplies and persistent logistical constraints could easily turn a food access crisis into a crisis in availability, which would further darken the outlook for the world’s most vulnerable.

People facing acute hunger*

<table>
<thead>
<tr>
<th>Year</th>
<th>People Facing Acute Hunger</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>150M</td>
</tr>
<tr>
<td>2020</td>
<td>272M</td>
</tr>
<tr>
<td>2021</td>
<td>283M</td>
</tr>
<tr>
<td>2022</td>
<td>323M</td>
</tr>
</tbody>
</table>

*In 81 countries with WFP operations.

1. WFP Global Market Monitor (accessed 24 May 2022)
2. WFP HungerMap: Global insights and key trends (accessed 24 May 2022)
3. WFP, March 2022, Projected increase in acute food insecurity due to war in Ukraine
World supply-demand outlook

**WHEAT** production in 2022 is forecast to decline for the first time in four years, down 0.8 percent from the 2021 record, mostly reflecting lower expected outputs in Australia, India, Morocco, and Ukraine.

Utilization is seen falling in 2022/23, down 0.4 percent from 2021/22, led by a decline in feed use, as a result of high prices, and, to a lesser extent, industrial use.

Trade in 2022/23 (July/June) is set to contract from the 2021/22 record, mainly reflecting lower exports from Ukraine, due to conflict disruptions, as well as Argentina, Australia, and India, stemming from lower production, on top of an export ban in India.

Stocks (ending in 2023) forecast to rise marginally above opening levels, with increases mostly in China, Russia, and Ukraine outweighing anticipated stock drawdowns in several countries in Africa and Asia.

**MAIZE** production in 2022 is forecast to decline, down 1.6 percent from the 2021 record, led by smaller outputs in Ukraine and in the US. Utilization in 2022/23 is projected to contract by 0.4 percent, almost entirely reflecting lower feed use, especially in Canada, the EU, and the US.

Trade is forecast to fall in 2022/23 (July/June), driven by an expected steep fall in exports from Ukraine, as well as lower export availability in Argentina and the US. On the importer side, smaller purchases are projected for Canada, China, and the EU.

Stocks (ending 2023) are forecast to decline, down 1.1 percent below opening levels. While the largest drawdowns are expected in China and the US, stocks are seen falling at the regional level in Asia, Northern Africa, Africa, Central America, and Europe.

**RICE** production in 2022 forecast to be just short of the 2021 all-time high, as another abundant Asian harvest, as well as larger crops in Africa and Australia, largely compensate for shortages elsewhere.

Utilization in 2022/23 seen little changed from the 2021/22 peak, as continued growth in food intake is largely counterbalanced by a cut in non-food uses.

Trade in 2022 and 2023 predicted to remain on an expansionary trend, although reduced import demand from the Far East to decelerate growth.

Stocks (2022/23 carry-out) seen at their second highest on record, as expected drawdowns, notably in Brazil, Myanmar and Thailand, are mostly offset by accumulations in China and India.

**SOYBEAN** 2022/23 production could rise to a record high, mainly tied to a sharp rebound in productivity levels in Argentina, Brazil and Paraguay, as well as area expansions in the China and the US.

Utilization in 2022/23 to recover moderately from an exceptional contraction estimated for 2021/22, underpinned by a steady consumption growth in China and uptake recoveries in South American countries.

Trade in 2022/23 (Oct/Sept) likely to rebound markedly, largely driven by a forecasted import recovery in China, while major South American exporters are expected to regain market shares.

Stocks (2022/23 carry-out) to replenish from multi-year lows estimated for 2021/22, although the global stocks-to-use ratio would remain below the 5-year average.

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**World Balances**

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.

To review and compare data, by country and commodity, across three main sources, go to [https://app.amis-outlook.org/#/market-database/compare-sources](https://app.amis-outlook.org/#/market-database/compare-sources)

Estimates and forecasts may differ across sources for many reasons, including different methodologies. For more information see [Explanatory notes](#).
Crop monitor

Crop conditions in AMIS countries

Crop condition map synthesizing information for all four AMIS crops as of 28 May. 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, conditions are mixed in western Europe, Ukraine, the US, and Canada. Sowing has begun in the southern hemisphere.

Maize
In the southern hemisphere, harvesting continues in Brazil, Argentina, and South Africa. In the northern hemisphere, sowing is progressing in North America and China while wrapping up in Europe.

Rice
Rabi rice harvest is wrapping up in India. Single-Season and early-season rice development continues in China. In Southeast Asia, sowing of wet-season rice is beginning in the northern countries while dry-season rice sowing is delayed in Indonesia.

Soybeans
In the southern hemisphere, harvesting is ongoing in Argentina under mixed conditions. In the northern hemisphere, sowing is ongoing in the US, Canada, China and Ukraine.

La Niña Advisory and Outlook for a Negative Indian Ocean Dipole

The El Niño-Southern Oscillation (ENSO) is currently in the La Niña phase and is expected to remain as La Niña through at least August (69 percent chance) according to the IRI/CPC. Long-range forecasts through the end of 2022 show higher-than 58 percent chance of La Niña, and very low chances of El Niño.

If La Niña conditions persist or redevelop in late 2022, it would be the third year in a row with a La Nina event, which is uncommon. La Niña could elevate risks of repeated dry conditions in eastern East Africa, southern South America, Central and Southern Asia, and southern North America.

Negative Indian Ocean Dipole (IOD) conditions are forecast to develop in June and last through October or longer. Models indicate that this may be a strong IOD event. Negative IOD conditions often happen in tandem, and severe drought impacts across the Horn of Africa, and heavy rainfall and flooding in Australia and southeast Asia, have occurred during La Niña and negative IOD conditions.
Crop monitor

Summaries by crop

Wheat

In the EU, conditions are generally favourable; however, dry weather is impacting parts of France, Spain, and Portugal. In the United Kingdom, winter wheat conditions are favourable. In Ukraine, weather conditions remain stable; however, the ongoing war continues to bring significant uncertainties, particularly in the south and east regions. In the Russian Federation, conditions are favourable for winter wheat and spring wheat, which is currently sowing. In Turkey, conditions are favourable despite the delays in crop development from the cold and dry weather earlier in season. In China, conditions are favourable for both winter and spring wheat. In the US, long-term dryness in the central and southern Great Plains is expected to have reduced winter wheat yields. Spring wheat sowing is ongoing, albeit delayed in North Dakota and Minnesota due to wet conditions. In Canada, winter wheat conditions remain favourable in Ontario but are mixed in the Prairies. Spring wheat sowing has begun under mixed conditions in the Prairies due to dryness in the west and excess moisture in the east. In Australia, sowing is ongoing under favourable conditions.

Maize

In Argentina, harvesting of the early-planted crop (larger season) and the late-planted crop (smaller season) is continuing slowly. A reduction in yields for the early-planted crop is expected due to previous hot and dry weather. In Brazil, conditions are mixed for the summer-planted crop (larger season) as a lack of rain in the Central-West and Southeast regions is likely to impact yields for later sown crops. There is an increase in sown area compared to last season. In South Africa, harvesting is wrapping up under favourable conditions. In the US, sowing is progressing under favourable conditions after earlier delays in the northern Corn Belt. In Canada, sowing is beginning under favourable conditions in the east and mixed conditions in the Prairies. In Mexico, harvesting is continuing for the autumn-winter crop (smaller season) while sowing begins for the spring-summer season (larger season) under favourable conditions. In the EU, sowing is wrapping up under favourable conditions. In Ukraine, sowing is wrapping up under mixed conditions due to the uncertainties of the ongoing war. In the Russian Federation, conditions are favourable. In China, conditions are favourable for the spring-planted crop as the sowing of the summer-planted crop begins.
Crop monitor

**Conditions**

- Exceptional
- Favourable
- Watch
- Out-of-Season
- Poor
- No Data

**Drivers**

- Wet
- Cool
- Extreme Event
- Conflict
- Socio-Economic

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**Rice**

In **China**, conditions are favourable for both single-season rice and early-season rice. In **India**, harvesting of the Rabi crop is wrapping up under favourable conditions. In Indonesia, harvesting of wet-season rice enters the fifth month with good yields and an increase in harvested area compared to last year. Sowing of dry-season rice is beginning but is limited as farmers wait for ideal conditions. In **Viet Nam**, winter-spring rice (dry-season) is continuing to develop in the north while harvesting in the south. Sowing of summer-autumn rice (wet-season) in the Mekong River Delta is ongoing under favourable conditions. In **Thailand**, dry-season rice harvesting is wrapping up with an increase in total sown area compared to last year. Sowing of wet-season rice is beginning under favourable conditions. In **Argentina**, harvesting is progressing for both the early-planted crop (larger season) and the late-planted crop (smaller season). Dry conditions throughout the growing season have led to mixed yields across the different regions. National yields are still expected to be close to the previous year. In **US**, harvesting is catching up after earlier delays due to cold and wet weather in the northern Corn Belt, however, sowing remains behind in Minnesota and the Dakotas. In **Canada**, sowing is ongoing under favourable conditions in Ontario and Quebec, excess moisture in Manitoba and eastern Saskatchewan as well as dry conditions in western Saskatchewan are of some concern. In **China**, sowing has begun in the northeast under favourable conditions. In **Ukraine**, sowing is continuing under the uncertainties of the ongoing war, while cooler weather in May has slowed crop development.

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**Soybeans**

In **Argentina**, harvesting is progressing for both the early-planted crop (larger season) and the late-planted crop (smaller season). Dry conditions throughout the growing season have led to mixed yields across the different regions. National yields are still expected to be close to the previous year. In **US**, sowing is catching up after earlier delays due to cold and wet weather in the northern Corn Belt, however, sowing remains behind in Minnesota and the Dakotas. In **Canada**, sowing is ongoing under favourable conditions in Ontario and Quebec, excess moisture in Manitoba and eastern Saskatchewan as well as dry conditions in western Saskatchewan are of some concern. In **China**, sowing has begun in the northeast under favourable conditions. In **Ukraine**, sowing is continuing under the uncertainties of the ongoing war, while cooler weather in May has slowed crop development.

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**Information on crop conditions in non-AMIS countries can be found in the GEOGLAM Early Warning Crop Monitor, published 28 May.**

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**Sources and disclaimers**

The Crop Monitor assessment is conducted by GEOGLAM with inputs from the following partners (in alphabetical order): Argentina (Buenos Aires Grains Exchange, INTA), Asia Rice Countries (AFSIS, ASEAN+3 & Asia RICE), Australia (ABARES & CSIRO), Brazil (CONAB & INPE), Canada (AAFC), China (CAS), EU (EC JRC MARS), Indonesia (LAPAN & MOA), International (CIMMYT, FAO, IFPRI & IRRI), Japan (JAXA), Mexico (SIAP), Russian Federation (IKI), South Africa (ARC & GeoTerraImage & SANSA), Thailand (GISTDA & OAE), Ukraine (NASU-NSAU & UHMC), USA (NASA, UMD, USGS - FEWS NET, USDA (FAS, NASS)), Viet Nam (VAST & VIMHEMARD).

The findings and conclusions in this joint multiagency report are consensual statements from the GEOGLAM experts, and do not necessarily reflect those of the individual agencies represented by these experts.

More detailed information on the GEOGLAM crop assessments is available at https://cropmonitor.org.
### Policy developments

#### Wheat

- **On 12 May,** Argentina became the first country to plant genetically modified organism wheat (HB4 seed approved in 2020). The seed is more drought-tolerant and resistant to the herbicide glufosinate-ammonium; there are no immediate plans to commercialize the seed.

- **On 11 May,** the Ministry of Agriculture in Germany petitioned the European Union to postpone the entry into force of a new regulation on crop rotation from 2023 to 2024. The regulation stipulates that crop rotation will be required on all farms of at least 10 hectares, and that crop diversification will only be carried out when this practice contributes to the objective of preserving the soil potential. Germany seeks to increase wheat yields to counteract the effects of the Ukraine war on the global supply situation without further fuelling the climate crisis and fears crop rotation would impair wheat growing in the coming autumn.

- **On 13 May,** faced with domestic food price inflation, the Ministry of Commerce and Industry in India placed an indefinite export ban on wheat, high-protein durum and normal soft bread varieties (Notification Number 06/2015-2020). Exemptions to this ban include cases of shipments where an Irrevocable Letter of Credit has been issued on or before the date of the Notification. Private companies are allowed to meet previous commitments to export almost 4.3 million tonnes of wheat until July. On 16 May, India confirmed it would keep a window open to export wheat to food-deficit countries despite ongoing export restrictions. On 17 May, India allowed a full wheat consignment of 61,500 metric tonnes, which was already under loading at the time of the export ban, to be exported to Egypt.

- **On 4 May 2022,** the Ministry of Consumer Affairs, Food and Public Distribution in India announced revised May-September allocations under the PMGKAY food welfare programme, with the monthly allocation of wheat cut from 1.8 million tonnes to 700,000 tonnes.

#### Rice

- **On 12 May,** India introduced a new support service for the benefit of rice farmers to help them learn modern agricultural practices for the cultivation of water-intensive crops. This involves rising methods used throughout the world to attain good yields utilizing less water, manure, and chemical fertilizer.

- **On 4 May 2022,** the Ministry of Consumer Affairs, Food and Public Distribution in India announced revised May-September allocations under the PMGKAY food welfare programme, with the monthly allocation of rice raised from 2.2 million tonnes to 3.3 million tonnes.

- **On 27 April,** Thailand’s National Rice Policy Committee approved the Rice Insurance Plan which covers damages due to natural disasters for the 2022 season. Under the Plan THB 1.92 billion (USD 55.66 million) will be distributed to rice farmers. The premium varies from THB 107 per rai (USD 18.75 per ha) to THB 234 per rai (USD 46 per ha) depending on the risk areas of the rice fields. The scheme still needs to be approved by the cabinet.

#### Maize

- **On 25 May,** the General Administration of Customs in China as well as the Ministry of Agriculture in Brazil signed a Protocol on Phytosanitary Requirements to allow maize imports from Brazil. This follows China’s strategy in diversifying its import origins in the wake of the conflict in Ukraine.

- **On 2 May,** the Ministry of Commerce in Thailand proposed some measures to boost imports of animal feed ingredients for a three-month period, a move aimed at reinforcing domestic supplies following disruption caused by the conflict in Ukraine. With immediate effect, i) the limit, imposed on feed mills, to purchase at least 3 tonnes of domestically produced maize for each tonne of wheat they import, will be suspended until 31 July; and ii) the tariff-rate quota of maize will be increased from 54,700 tonnes to 600,000 tonnes from now until 31 July and the import tariff on maize will be reduced from 20 percent to zero. The quotas of all raw materials will be increased to 1.2 million tonnes during this period.

#### Soybeans

- **On 24 May,** the Ministry of Commerce and Industry in India through the Notification 10/2015-20 allowed a duty-free tariff-rate quota of crude soybean oil and crude sunflower oil from 2022 to 2024. As a result, India will permit purchases of up to 2 million tons each of the two vegetable oils per annum. This decision aims to control the soaring global prices of vegetable oils.

#### Biofuels

- **On 12 May,** the National Bank for Economic and Social Development in Brazil doubled the resources available to RenovaBio to BRL 2 billion (USD 400 million) by the end of 2022. The assistance is intended to finance power plants and incentivize producers to adopt more sustainable productive practices.
Policy developments

- On 3 May in the European Union, the Ministry of Economics in Latvia temporarily waived the mandatory biofuel blending requirements into gasoline and diesel until the end of 2023.

- On 2 May, Germany outlined plans to cut use of biofuels produced from food and feed crops because of rising food costs. The European Union had agreed on a 7 percent cap for food-based biofuels since 2015 and Germany, whose national limit is already 4.4 percent, is working on a new legislation to reduce it further. The Ministry of Environment pointed out fuel makers could use synthetic and waste-based biofuels, electricity, and green hydrogen as ways to cut CO2 emissions and not solely rely on maize, rapeseed and soy.

- On 18 May, the Union Cabinet in India approved Amendments to the National Policy on Biofuels-2018. The amendment: i) allows more feedstocks for production of biofuels; ii) introduces a set of measures which facilitate the blending target of 20 percent ethanol in petrol; iii) promotes the production of biofuels in the country; and iv) grants permission for the export of biofuels in specific cases, e.g. exports of biofuels from special economic zones and export-oriented units for fuel purposes.

Fertilizers

- On 7 May, the Ministry of Finance in Vietnam proposed a five percent increase in the export tax rate of fertilizers, in an effort to reduce domestic fertilizer prices.

Across the board

Market access

- On 18 May, Canada confirmed it had regained access to export canola seed to China for the first time since March 2019.

Other

- On 21 May, the African Development Bank Group approved a USD 1.5 billion facility to help African countries avert a looming food crisis. According to the lender, the African Emergency Food Production Facility will provide 20 million African smallholder farmers with certified high-quality seeds. It will also increase access to agricultural fertilizers and enable them to rapidly produce 38 million tonnes of food, which would be a USD 12 billion increase in food production in just two years.

- On 3 May, Canada announced an investment of about USD 3.4 million to promote grain exports over two years.

- On 22 May 2022, China provided a one-time subsidy of CNY 10 billion (USD 1.5 billion) to grain growers to help them cope with rising input costs for the current agricultural season.

- On 13 May in the European Union, Slovakia tabled a proposal that would restrict agricultural commodities exports in light of the crisis in Ukraine. The proposal is a draft amendment to the Food Law which would regulate the export of basic food commodities. It mandates that all planned exports of food commodities (mainly cereals and oilseeds) with a volume of over 400 tonnes would have to be reported by the exporter to the Slovak state authorities, who would then assess whether the trade will cause a shortage of domestic food supply.

- On 10 May in the European Union, Ireland implemented a new EUR 1.2 million (USD 1.33 million) scheme that will pay farmers up to EUR 150 (USD 161) per hectare to grow mixes of protein and cereal crops. A minimum payment of EUR 300 (USD 333) per hectare will still be paid for beans, peas and lupins under the Protein Aid scheme. The scheme is part of the response to the cost increases currently facing Irish farmers and follows on from the launch of the Tillage Incentive Scheme in early April.

- On 2 May, India announced it would support the use of drones in agricultural activities. It would provide a maximum of USD 6,454 in subsidies to small and marginal producer groups, as well as women and farmers of north-eastern states, to buy drones. Other farmers would be eligible for financial assistance up to a maximum of USD 5,164. In view of the modernization of the agricultural sector, India is promoting the use of “Kisan Drone” for crop assessment, digitization of land records, spraying of pesticides and nutrients.

- On 17 May, Mexico removed import duties on a range of basic foodstuffs, including wheat, wheat flour, white maize, rice and sorghum for a year. The measure is aimed to help control inflation.

- On 12 May, the Department of Agriculture in the Philippines stated it had amassed PHP 4 billion (USD 76 million) to provide fertilizer subsidies to farmers for wet season planting even as it lobbies for additional budgetary support of PHP 6 billion (USD 114 million) for this initiative.

Stop press

- On 29 April, China announced that it plans to approve two insect- and herbicide-tolerant GMO maize traits (Bt11xMIR162xGA21 and Bt11xGA21).

- On 29 April, Italy proposed to reorient its national strategic plan in implementing the EU’s farming subsidies programme to support strategic agricultural production, in response to
Policy developments

the economic consequences of the war in Ukraine. In particular, Italy plans to review its fund distribution strategy to benefit rural areas urging further measures for precision agriculture and efficiency.

- On 30 April, the Oil Fuel Fund Office (Offo) in Thailand postponed the planned suspension of the biofuel subsidy for two years, in order to give sugar cane, cassava and palm farmers more time to foster the production of environmentally friendly biofuels, reduce dependence on fossil fuels and help farmers increase revenue. Thailand scheduled to stop subsidizing biofuel prices on 30 September, but the law authorizes it to consider postponing the date for two years to 2024, with the possibility of another two-year delay to 2026. The subsidy helped increase palm oil consumption, with 70 percent of the total used to make methyl ester to mix with diesel. Ethanol, which is blended with unleaded gasoline, reduced imports of crude oil by 12 billion litres, worth THB 175 billion (USD 5 million).

- On April 27, Turkey published a new regulation concerning Biosafety Decision approvals for the import of genetically engineered soybean and maize. The Ministry of Agriculture and Forestry also approved the production of an enzyme using Aspergillus oryzae improved by modern biotechnological methods.

- To give businesses in the European Union more time to adapt to post Brexit regime requirements (like pre-notification of Sanitary and Phytosanitary goods, new requirements for Export Health Certificates, phytosanitary certificates and physical checks on SPS goods at Border Control Posts as well as the safety and security declarations on imports), and for ports to build the necessary infrastructure, the United Kingdom on 28 April postponed further checks on imported food and fresh products from the EU until the end of 2023.

- On 28 April, the US Administration approved USD 500 million in food production assistance for U.S. crop farmers as part of a USD 33 billion aid package to address the effects of the conflict in Ukraine. The package would help cope with increasing marketing assistance loan rates for wheat, edible oilseeds including soybeans, and rice to encourage greater supply availability for humanitarian needs or export. Congress has yet to approve loan rates increases on certain commodities for two years, extend the loan terms to 12 months for 2022 crops, and provide a USD 10 per acre incentive paid through crop insurance premiums for farmers to plant a soybean crop after winter wheat 2023.

- On 28 April, the US Administration, within the food production assistance package, allocated USD 8.5 billion for economic assistance to help Ukraine respond to the crisis. With approval from Congress these funds would support small and medium-sized agribusinesses during the fall harvest and for natural gas purchases by the Ukrainian state energy company in order to address critical food security, energy, and other emerging needs in Ukraine. Another USD 3 billion of aid funding is earmarked for global humanitarian assistance, with money going toward direct food support - including wheat and flour - for developing countries facing shortages.

Note

Only AMIS participants are marked in bold.
International Grains Council (IGC) Grains and Oilseeds Index (GOI) and GOI sub-Indices

<table>
<thead>
<tr>
<th></th>
<th>May 2022 Average*</th>
<th>Change</th>
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<tr>
<td></td>
<td></td>
<td>M/M</td>
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<tr>
<td>GOI</td>
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<tr>
<td>Wheat</td>
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<tr>
<td>Maize</td>
<td>348.3</td>
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<tr>
<td>Rice</td>
<td>177.1</td>
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<tr>
<td>Soybeans</td>
<td>332.1</td>
<td>-1.2%</td>
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</table>

*Jan 2000=100, derived from daily export quotations

**Wheat**

World wheat export prices rallied during May. Amid continued hostilities in Ukraine, global supply fears were amplified by unfavorable cropping weather in some major exporters, including the US, Canada, Argentina and parts of the EU. India’s decision to restrict wheat exports propelled markets even higher, lifting the IGC GOI wheat sub-Index to a 14-year peak by mid-month. Even though values retreated more recently against a bearish macroeconomic backdrop and discussions about corridors for Ukraine’s seaborne shipments, the Index averaged 6 percent higher month-on-month and was 56 percent higher compared to a year ago.

**Maize**

Global maize export quotations weakened in May, the IGC GOI sub-Index dropping by an average of 3 percent, as markets consolidated after a recent sharp rally. While global supply concerns offered occasional price support, spillover from declines in financial, equity and crude oil markets contributed to net losses in US values. Seasonal weakness was also observed in Argentina, where new crop supplies began to replenish export pipelines, with traders eager to secure new business. Prices in Brazil were softer overall, but with nearby availabilities thin in the run up to the start of the main harvest.

**Rice**

Average international rice prices were stronger in May, led by gains in Thailand, where sales to Iraq underpinned. Vietnamese offers also ticked higher as Winter/Spring harvesting drew to a close, while tightening availabilities following brisk exports over recent months supported quotations in Pakistan. However, Indian white rice offers were little changed as ample local supplies continued to weigh. Elsewhere, US prices advanced on prospects for a smaller 2022/23 outturn and slow planting progress.

**Soybeans**

Average export values were marginally weaker during May, the IGC GOI sub-Index retreating by around 1 percent. While the backdrop of firm international demand and prospects for continued supply tightness provided modest support, US export quotations were pressed lower by declines in soybean product values, together with recent weakness in other row crops and a downturn in external markets. Signs of improving Midwest crop weather also weighed. In South America, despite a smaller harvest and thin exportable supplies, fob prices in Brazil worked lower on soft export interest and the influence of currency movements.
International prices

Selected export prices, currencies and indices

Daily quotations of selected export prices (USD/tonnes, 2020-2022)

<table>
<thead>
<tr>
<th>AMIS Countries' currencies against US Dollar</th>
<th>FAO Food Price Index May 2021 - May 2022</th>
<th>Nominal Broad Dollar Index May 2021 - May 2022</th>
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<tbody>
<tr>
<td>AMIS Countries</td>
<td>Currency</td>
<td>May 2022 Average</td>
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<tr>
<td>---------------------------------------------</td>
<td>--------------------------------------</td>
<td>---------------------------------------------</td>
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<tr>
<td>Argentina</td>
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<tr>
<td>Japan</td>
<td>JPY</td>
<td>128.8</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>KZT</td>
<td>431.8</td>
</tr>
<tr>
<td>Rep. of Korea</td>
<td>KRW</td>
<td>1268.7</td>
</tr>
<tr>
<td>Mexico</td>
<td>MXN</td>
<td>20.1</td>
</tr>
<tr>
<td>Nigeria</td>
<td>NGN</td>
<td>414.6</td>
</tr>
<tr>
<td>Philippines</td>
<td>PHP</td>
<td>52.4</td>
</tr>
<tr>
<td>Russian Fed.</td>
<td>RUB</td>
<td>63.0</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>SAR</td>
<td>3.8</td>
</tr>
<tr>
<td>South Africa</td>
<td>ZAR</td>
<td>15.9</td>
</tr>
<tr>
<td>Thailand</td>
<td>THB</td>
<td>34.4</td>
</tr>
<tr>
<td>Turkey</td>
<td>TRY</td>
<td>15.5</td>
</tr>
<tr>
<td>UK</td>
<td>GBP</td>
<td>0.8</td>
</tr>
<tr>
<td>Ukraine</td>
<td>UAH</td>
<td>29.5</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>VND</td>
<td>23077.3</td>
</tr>
</tbody>
</table>
Futures markets

Overall market sentiment
- Tight global availabilities have kept grains and oilseed futures prices at high levels, although tensions eased somewhat by the end of the month.
- Volumes remained weak in May in view of high prices and high margins, with markets being more volatile than before the Ukraine conflict.
- Managed money remains at historical highs as investors seek to hedge against global inflation.

MONTHLY PRICE TREND

Futures prices
Wheat futures prices moved up sharply at the beginning of the month after India announced an export ban on wheat, with the Euronext Milling Wheat contract closing at a record high of USD 462 per tonne. Prices have since retreated in response to government-to-government deals signed by India and the possibility of a naval corridor to allow grain shipments out of Ukraine. Market sentiment remains tight for wheat, driven by worsening weather conditions in Western Europe (particularly in France) and the US.

For maize futures, improved weather conditions in the US Corn Belt slightly eased tensions while soybean prices were supported by delayed plantings, bullish prices of oil and oilseed products as well as strong demand from crushers.

Volumes & volatility
The average daily volumes on CME and Euronext futures remained weak last month as high prices and high margins discouraged participants to keep positions open because of lack of cash flow. By contrast, options contracts recorded very high volumes as they provided more cost-effective hedging. Open positions for Chicago Wheat futures reached their lowest level last month since 2009. Market participants seem to be cautious taking positions on the new crop.

Although historical volatility has decreased compared to March, the grains and oilseed markets remain more volatile than before the Ukraine conflict, with some indicators suggesting that the market anticipates the trend of high price fluctuation to continue.

Forward curves
In US futures markets, maize and soybeans both displayed backwardation structures that were less steep than the previous month, possibly in response to recent USDA reports drawing a bleak picture for future supplies. By contrast, the wheat market displayed a contango as logistic constraints eased in the US.

In Europe, the wheat futures market still displayed a backwardation structure although the near futures exhibited a front-end relaxation, reflecting somewhat reduced market tensions. The maize market displayed a slight contango, which could indicate more positive sentiment for this year’s maize crop in France.

Investment flows
On the CME and Euronext market, managed money reduced its net long positions, even touching their lowest level for CME soybean futures since January. Overall, however, managed money remains at historical highs as investors seek to hedge against global inflation. Commercials decreased their positions for all main agricultural commodities traded on Euronext and CME.

Euronext futures volumes and price evolution

<table>
<thead>
<tr>
<th>Average daily volume (1000 tonnes)</th>
<th>May 2022</th>
<th>M/M</th>
<th>Y/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>2 213.6</td>
<td>-5.5%</td>
<td>-13.4%</td>
</tr>
<tr>
<td>Maize</td>
<td>117.2</td>
<td>+33.9%</td>
<td>-29.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prices (USD/t)</th>
<th>May 2022</th>
<th>M/M</th>
<th>Y/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>435.1</td>
<td>+2.7%</td>
<td>+60.9%</td>
</tr>
<tr>
<td>Maize</td>
<td>379.8</td>
<td>+6.3%</td>
<td>+22.6%</td>
</tr>
</tbody>
</table>

CME futures volumes and prices evolution

<table>
<thead>
<tr>
<th>Average daily volume (1000 tonnes)</th>
<th>May 2022</th>
<th>M/M</th>
<th>Y/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>11 446.0</td>
<td>-5.9%</td>
<td>-18.9%</td>
</tr>
<tr>
<td>Maize</td>
<td>31 711.6</td>
<td>-31.5%</td>
<td>-32.9%</td>
</tr>
<tr>
<td>Soybean</td>
<td>20 775.2</td>
<td>-27.8%</td>
<td>-13.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prices (USD/t)</th>
<th>May 2022</th>
<th>M/M</th>
<th>Y/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>421.9</td>
<td>+6.9%</td>
<td>+63.5%</td>
</tr>
<tr>
<td>Maize</td>
<td>309.2</td>
<td>+0.5%</td>
<td>+16.2%</td>
</tr>
<tr>
<td>Soybean</td>
<td>608.9</td>
<td>-0.6%</td>
<td>+6.4%</td>
</tr>
</tbody>
</table>

Graph of the Month
On 17 May, EBM reached USD 462 per tonne at close (new high), SRW equally high for a while but still below its USD 524 per tonne of 7 March.
Market indicators

Daily quotations from leading exchanges - nearby futures

Wheat
USD per tonne

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

Maize
USD per tonne

- EU (NYSE Liffe)
- USA (CBOT)
- South Africa (Safex) Yellow
- China (DCE)

Rice
USD per tonne

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

Soybean
USD per tonne

- USA (CBOT)
- China (Dalian)
- Argentina (MATba)
- Brazil (BMF)

CFTC commitments of traders
Major categories net length as percentage of open interest*

Wheat

<table>
<thead>
<tr>
<th>May 21</th>
<th>Jul 21</th>
<th>Sep 21</th>
<th>Nov 21</th>
<th>Jan 22</th>
<th>Mar 22</th>
<th>May 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long (bought)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short (sold)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Maize

<table>
<thead>
<tr>
<th>May 21</th>
<th>Jul 21</th>
<th>Sep 21</th>
<th>Nov 21</th>
<th>Jan 22</th>
<th>Mar 22</th>
<th>May 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long (bought)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short (sold)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rice

<table>
<thead>
<tr>
<th>May 21</th>
<th>Jul 21</th>
<th>Sep 21</th>
<th>Nov 21</th>
<th>Jan 22</th>
<th>Mar 22</th>
<th>May 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long (bought)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short (sold)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Soybean

<table>
<thead>
<tr>
<th>May 21</th>
<th>Jul 21</th>
<th>Sep 21</th>
<th>Nov 21</th>
<th>Jan 22</th>
<th>Mar 22</th>
<th>May 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long (bought)</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short (sold)</td>
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<td></td>
</tr>
</tbody>
</table>

*Disaggregated futures only. Though not all positions are reflected in the charts, total long positions always equal total short positions.
Market indicators

Forward curves

**Euronext wheat (EBM)**

- **EUR per tonne**
- Data for different months from Sep 22 to Jun 23.

**Euronext maize (EMA)**

- **EUR per tonne**
- Data for different months from Jun 22 to Aug 23.

**CBOT wheat**

- **USD cent per bushel**
- Data for different months from Jul 22 to Aug 23.

**CBOT maize**

- **USD cent per bushel**
- Data for different months from Jul 22 to Aug 23.

**CBOT rice**

- **USD per hundredweight**
- Data for different months from Jul 22 to Aug 23.

**CBOT soybean**

- **USD cent per bushel**
- Data for different months from Jul 22 to Aug 23.

Historical and implied volatilities

**Historical Volatility (30 days)**

- Graph showing volatility for different months with lines for wheat, maize, rough rice, and soybeans.

**Implied Volatility (Daily)**

- Graph showing implied volatility for different months with lines for wheat, maize, rough rice, and soybeans.

**AMIS market indicators**

Several 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/](http://www.amis-outlook.org/amis-monitoring/indicators/)

For more information about forward curves see the feature article in [No. 75 February AMIS Market Monitor 2020](http://www.amis-outlook.org/amis-monitoring/indicators/).
Fertilizer outlook

Prices for most fertilizers moderated in May but remain at high levels compared to last year. Fertilizer prices are likely to stay high in view of ongoing supply uncertainties associated with the Black Sea conflict as well as high natural gas prices. In addition, export restrictions of China continue to limit global supplies.

- **Natural gas** prices increased sharply in May, particularly in the US, in view of continuing supply constraints and growing demand for cooling.
- **Urea** prices decreased in May as demand slowed. For the first time since the outbreak of the Ukraine war, Black Sea quotations resumed at the end of May.
- **Ammonia** prices were down with a reduction in demand as farmers in several regions seem unwilling to pay the record high prices and might switch to less fertilizer-intensive crops.
- **DAP** prices decreased in May, especially in the US, with lower seasonal demand outweighing supply concerns.
- **Potash** prices were down slightly in the US Gulf as the major producer Nutrien announced plans to increase production in response to the reduced supply coming from Belarus and the Russian Federation.

### 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.

**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

---

<table>
<thead>
<tr>
<th>May-22 average</th>
<th>% change last month</th>
<th>% change last year</th>
<th>12 month high</th>
<th>12-month low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia-US Gulf NOLA</td>
<td>1293.0</td>
<td>-7.8</td>
<td>+157.2</td>
<td>1420.2</td>
</tr>
<tr>
<td>Ammonia-Western Europe</td>
<td>1350.0</td>
<td>-16.7</td>
<td>+154.7</td>
<td>1620.0</td>
</tr>
<tr>
<td>Ammonia avg. across regions</td>
<td>1259.8</td>
<td>-11.4</td>
<td>+154.2</td>
<td>1422.4</td>
</tr>
<tr>
<td>Urea-US Gulf</td>
<td>640.0</td>
<td>-20.6</td>
<td>667.1</td>
<td>668.8</td>
</tr>
<tr>
<td>Urea-Black Sea</td>
<td>670.0</td>
<td>-11.4</td>
<td>+92.2</td>
<td>908.0</td>
</tr>
<tr>
<td>Urea avg. across regions</td>
<td>1219.8</td>
<td>-20.7</td>
<td>+101.8</td>
<td>930.0</td>
</tr>
<tr>
<td>DAP-US Gulf</td>
<td>863.3</td>
<td>-11.4</td>
<td>+49.2</td>
<td>974.0</td>
</tr>
<tr>
<td>DAP-Baltic</td>
<td>900.0</td>
<td>+0.0</td>
<td>+56.9</td>
<td>900.0</td>
</tr>
<tr>
<td>Potash-Baltic</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>230.0</td>
</tr>
<tr>
<td>Potash-US Gulf NOLA</td>
<td>806.7</td>
<td>-2.1</td>
<td>+136.0</td>
<td>824.0</td>
</tr>
<tr>
<td>Natural gas</td>
<td>8.0</td>
<td>0.5</td>
<td>+22.1</td>
<td>8.0</td>
</tr>
</tbody>
</table>

All prices shown are in US dollars
Source: Own elaboration based on Bloomberg
*Estimated using available weekly data to date.
Global dry bulk freight markets advanced in May as average Baltic Dry Index (BDI) values jumped by more than one-third month-on-month to reach their highest since the start of 2022. However, the increase was mainly attributed to the Capesize sector, associated with the transportation of iron ore and heavy raw materials.

Continued underpinning to freight rates stemmed from a broad-based increase in journey length and times, especially for Capesize and Panamax carriers, while news that China was on course to ease some COVID-19-related restrictions buoyed market sentiment recently. Ongoing blockages of Ukraine’s deep sea ports and difficulties sourcing supplies from Russia due to sanctions prompted some buyers to search for alternative suppliers. This included a shift in grains and oilseeds purchases from the Black Sea region to other main origins, as well as increased coal deliveries from Australia and South Africa to Europe.

Strong coal imports by India amid tight domestic supplies and power outages generated additional demand for larger-sized bulk deliveries, notably from Australia and Indonesia. However, the recent government’s move to curb wheat exports was expected to have the opposite effect as a number of vessels was set to re-locate to the Atlantic Basin following the decision, thereby potentially exerting downward pressure on freight rates.

Robust grains-related demand from Australia and the northern Pacific, coupled with increased fixing from key origins in the Atlantic, contributed to a net 9 percent rise in Panamax rates. Supramax earnings were buoyed by strong sentiment at the US Gulf and sustained business out of Asia and South America. Handysize values firmed on a flurry of enquiries at the US Gulf and in Australia, as well as persistent congestion at some Chinese ports.

With slightly firmer average bunker costs, the IGC Grains and Oilseeds Freight Index (GOFI) climbed by 5 percent month-on-month and was 30 percent above its level a year ago.
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 food, feed 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.