



Monthly Soybean Oil Report

Prepared on behalf of the U.S. Soybean Export Council

Seoul, Republic of Korea

May 2022



News of soybean output and crushing

World soybean production estimates have been cut



When the USDA in May 2021 prepared its first estimates of the 2021/22 global soybean supply-demand balance and soybean crushing, it forecast substantial growth in production. Its latest estimates in May 2022, as the Sept 2021 – Aug 2022 marketing year nears its end, imply a sharp drop in output and a smaller drop in crushing, with soybeans taken out of stocks by crushers.

The next slide reveals that soybean output was forecast, in May 2021, to rise by 19.3 million metric tons (MMT) in 2021/22. In the latest estimates, it is now expected to fall 16.9 MMT. The main change was a swing from 11.8 MMT growth in Brazil & Argentina in total to a combined 17.2 MMT decline due to the La Niña weather event, which has brought drought to South America and heavy rains to South East Asian oil palm regions.

Soybean crushing was projected in May 2021 to be going to grow 15.9 MMT globally in 2021/22. By May 2022, this had been transformed into a fall of 2.1 MMT, with the drop cushioned by drawing down soybean stocks. Crushing is still expected to have risen in the U.S. and Brazil & Argentina but there has been a sharp turnaround in China, the world's largest soybean crusher, with its crush now forecast to fall 4.0 MMT in 2021/22 as against an initial projection of a rise of 7.0 MMT.

Soybean oil output follows the crushing volumes. Back in May 2021, 2021/22 global soybean oil production was projected to rise 3.0 MMT; this month it was forecast to fall 0.4 MMT.

The first USDA forecasts for 2022/23 predict a recovery of 28.5 MMT in global soybean production and a rise of 13.1 MMT in the crush, yielding an increase of 2.3 MMT in soybean oil availability for the world market in the Sept 2022 – Aug 2023 crop year. Details of the changes in the detailed USDA forecasts of soybean and soybean oil supply-demand over the past 12 months are given in the next two slides.



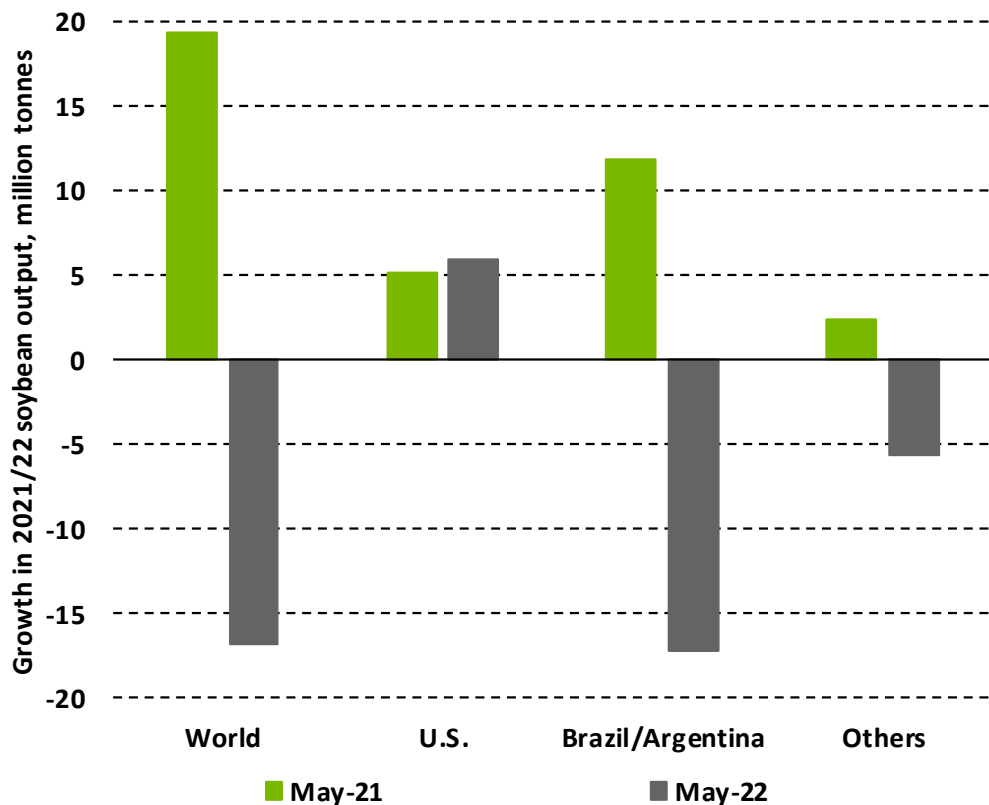
The downgrading of soybean forecasts



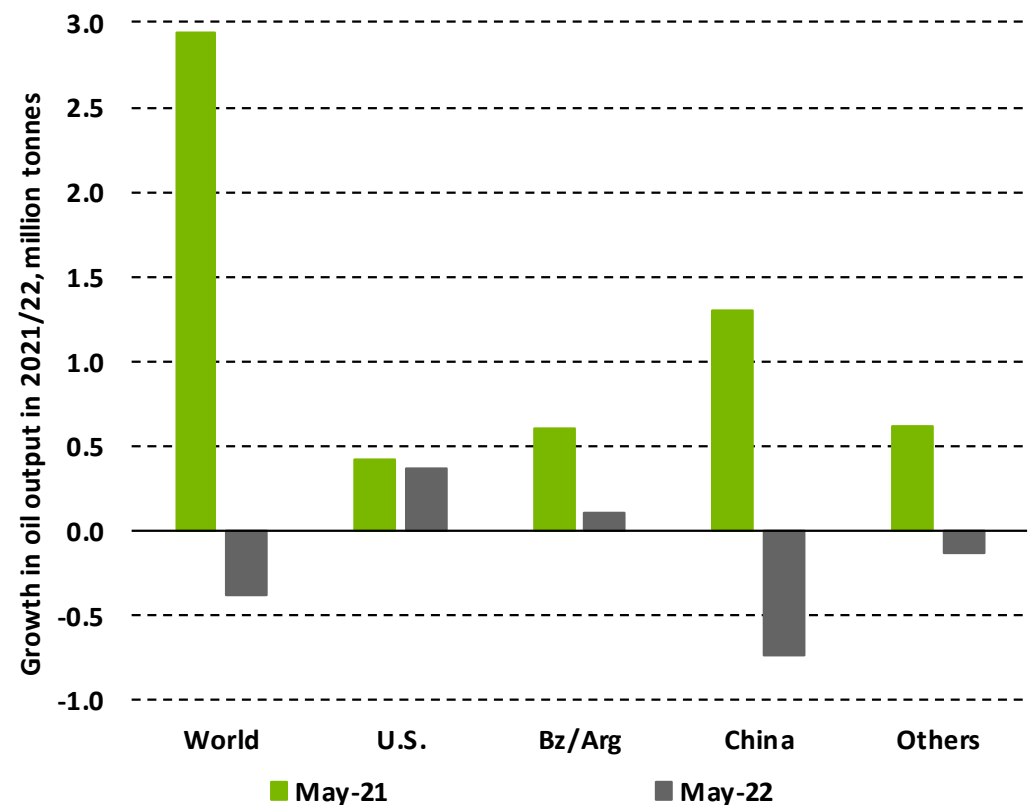
The left diagram illustrates how the USDA has reduced its estimates of worldwide soybean production growth in 2021/22. In its latest May 2022 report, the U.S. is actually forecast to do a bit better than the original projection in May of last year. The big South American producers are performing much worse than was expected last May.

This reduction in output expectations is largely reflected in lower soybean crushing volumes, but the main downgrade in crushing activity is occurring in China due to weak local demand for soybean meal.

USDA 2021/22 growth forecasts for soybean output were lowered between May 2021 and 2022



USDA 2021/22 growth forecasts for soy crushing were also lowered between May 2021 and 2022



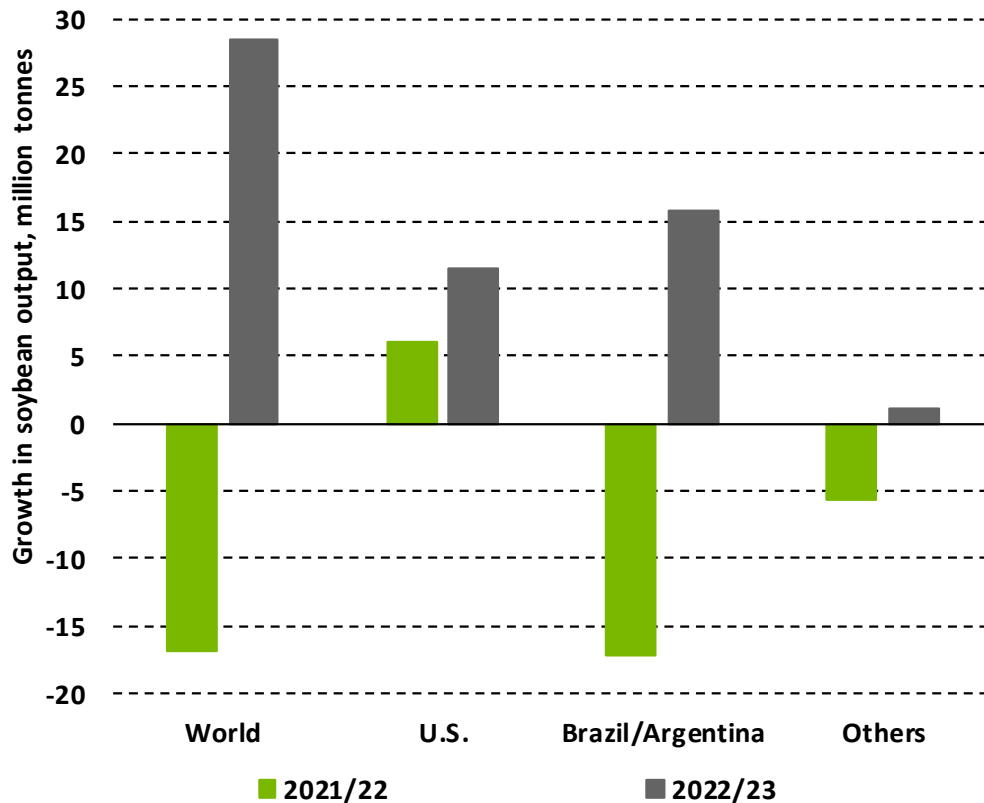
A big recovery is forecast in 2022/23



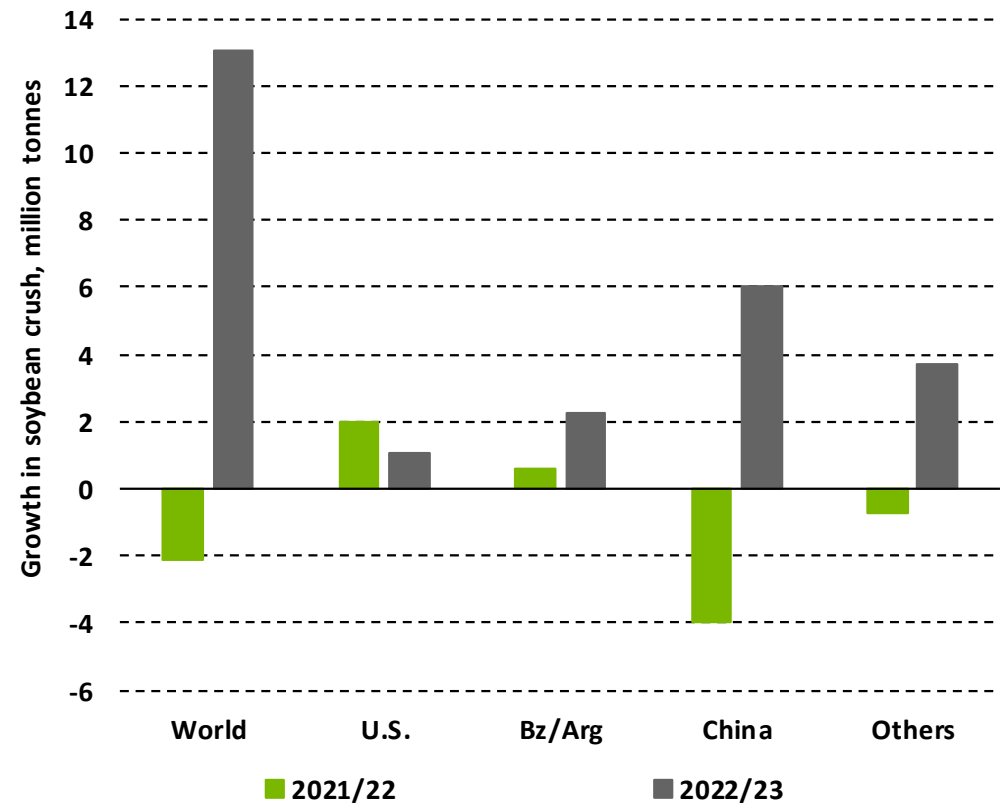
USDA has just published its first estimates of 2022/23 soybean output and crushing. These diagrams contrast the final May 2022 estimate of the growth in production and crushing in 2021/22 with the first forecast, also in May 2022, prepared for 2022/23. It is evident that there is expected to be a recovery in the coming crop year.

Soybean stocks were reduced in 2021/22 to maintain South American crushing throughput. In 2022/23 stocks will be rebuilt. The increase in the global soybean crush will add 2.4 million tonnes to world soy oil output.

Soybean output growth forecasts 2021/22 and 2022/23



Soybean crushing growth forecasts 2021/22 and 2022/23



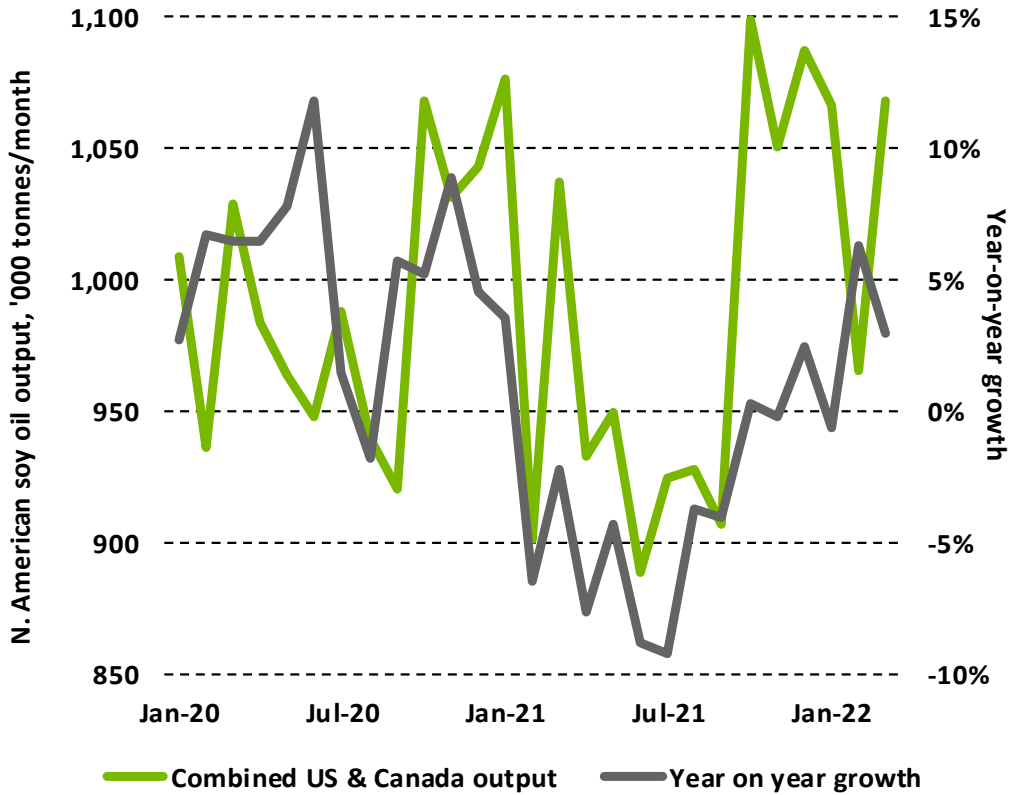


Here we track soy oil output growth

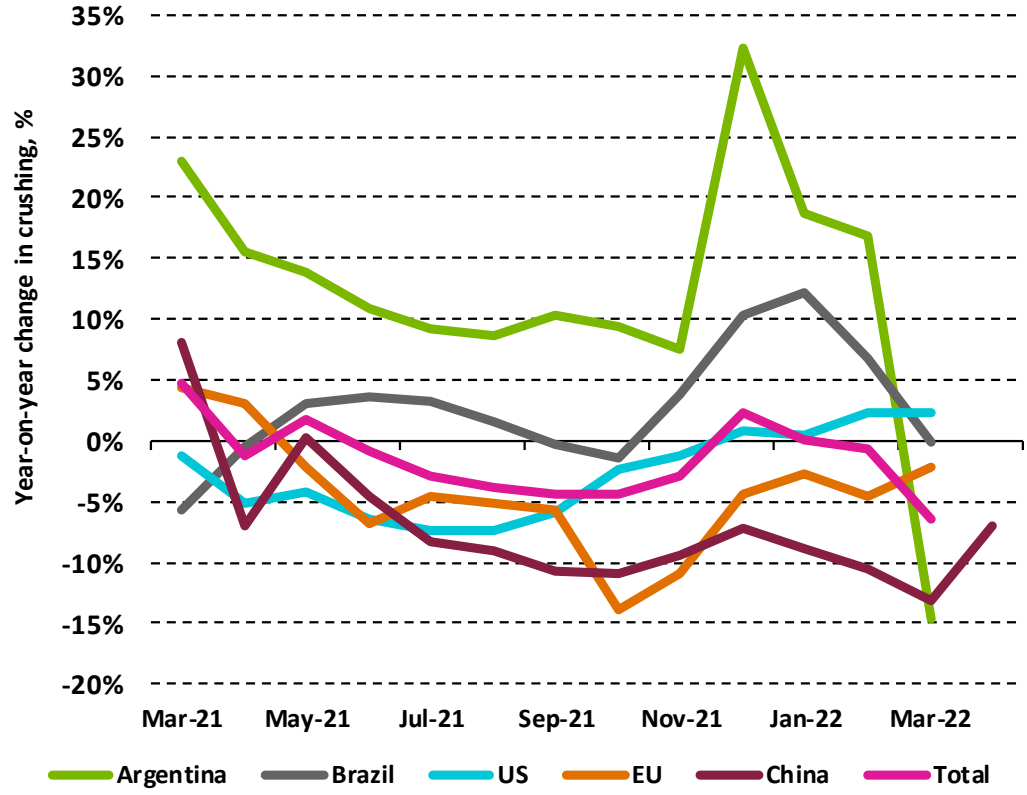
Reports of new U.S. crushing capacity for renewable diesel and sustainable aviation fuel may suggest that the crush is growing. However, the extra biofuel is mainly using UCO and tallow. The left diagram plots the year-on-year growth (i.e., Jan 2022 on Jan 2021; Feb 2022 on Feb 2021; etc.) in monthly North American soybean oil output. The right diagram depicts growth in crushing in the five leading soybean crushing countries.

We see that these five countries' combined crush has been falling below levels of a year earlier nearly every month since March 2021. With a slowdown occurring in Argentina, little overall growth is likely for six months.

North American soybean oil output is barely rising on levels 12 months earlier



Global soybean crush is running below volumes crushed a year earlier





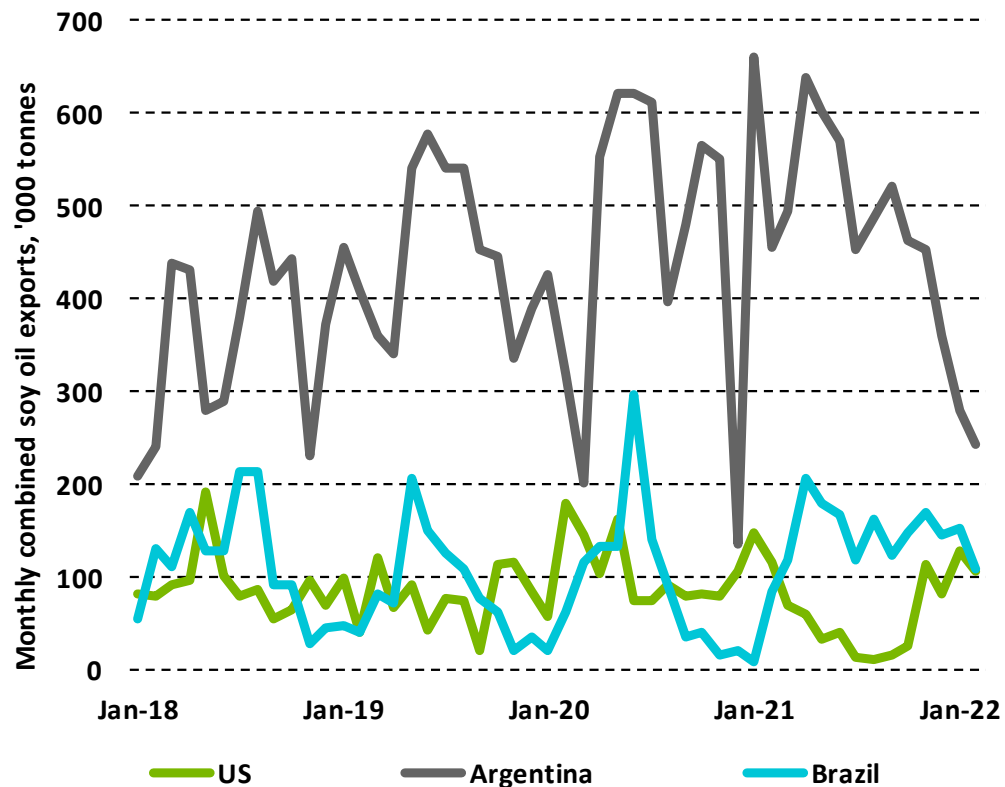
Soybean oil exports and imports

Argentina remains the biggest soybean oil exporter

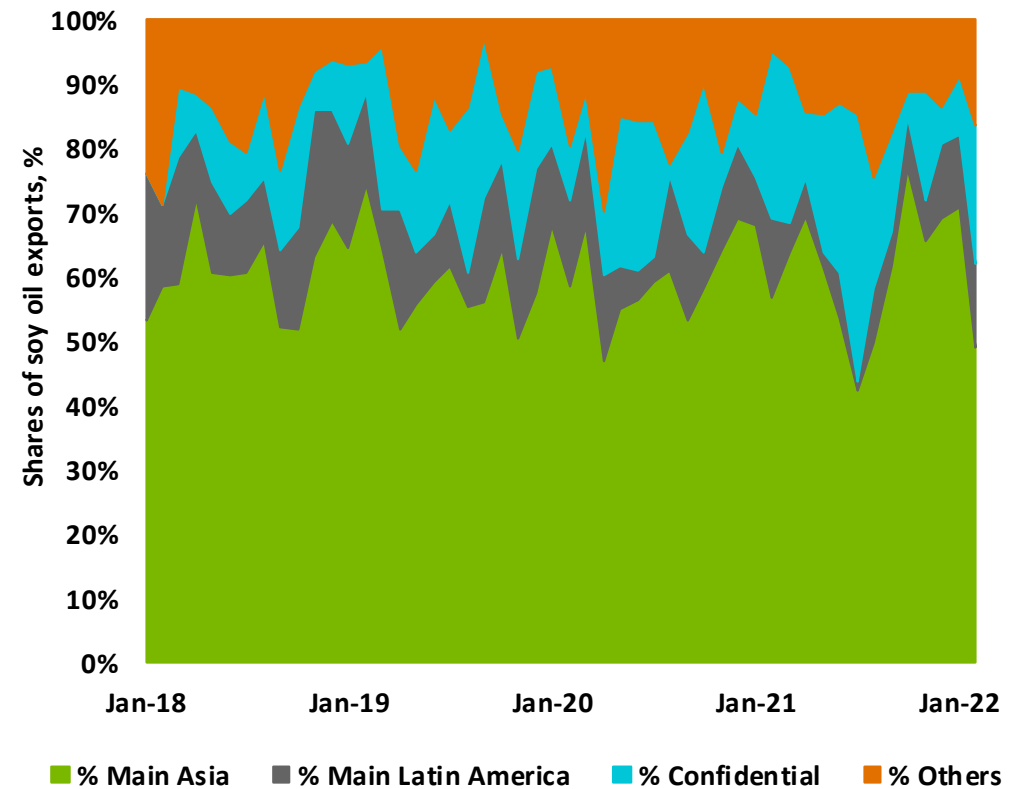


Even though Argentine soybean crushing has been hit by drought, which reduced its soybean crop and lowered river levels, making tanker freight more difficult and costly, the left diagram indicates that Argentina is still by far the largest exporter of soybean oil, with Brazil and the U.S. typically close in size. For these three soybean oil exporting countries, Asia is the dominant regional export market (see right diagram). The share that goes to nearby markets in Latin America is small. There is a category called “Confidential” in Argentine export statistics. This unknown group of export markets has averaged close to 10% of world soybean oil exports in recent years.

Argentine, Brazilian and U.S. monthly soy oil exports



Regional export destinations for the Big Three soybean oil exporters

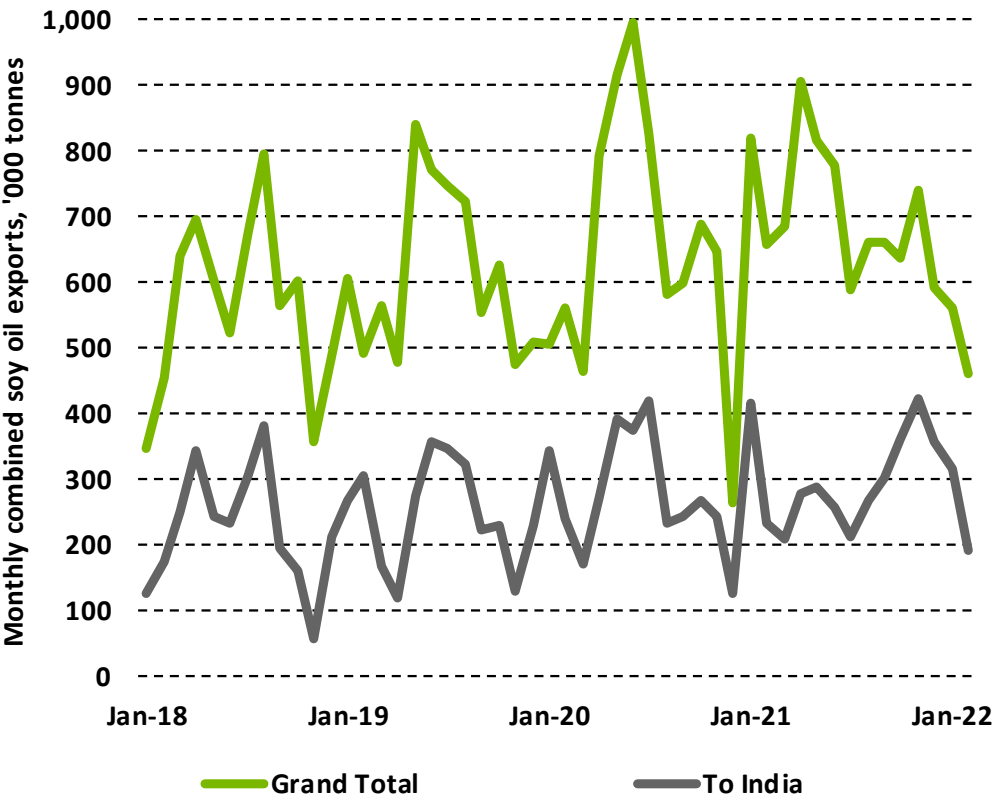




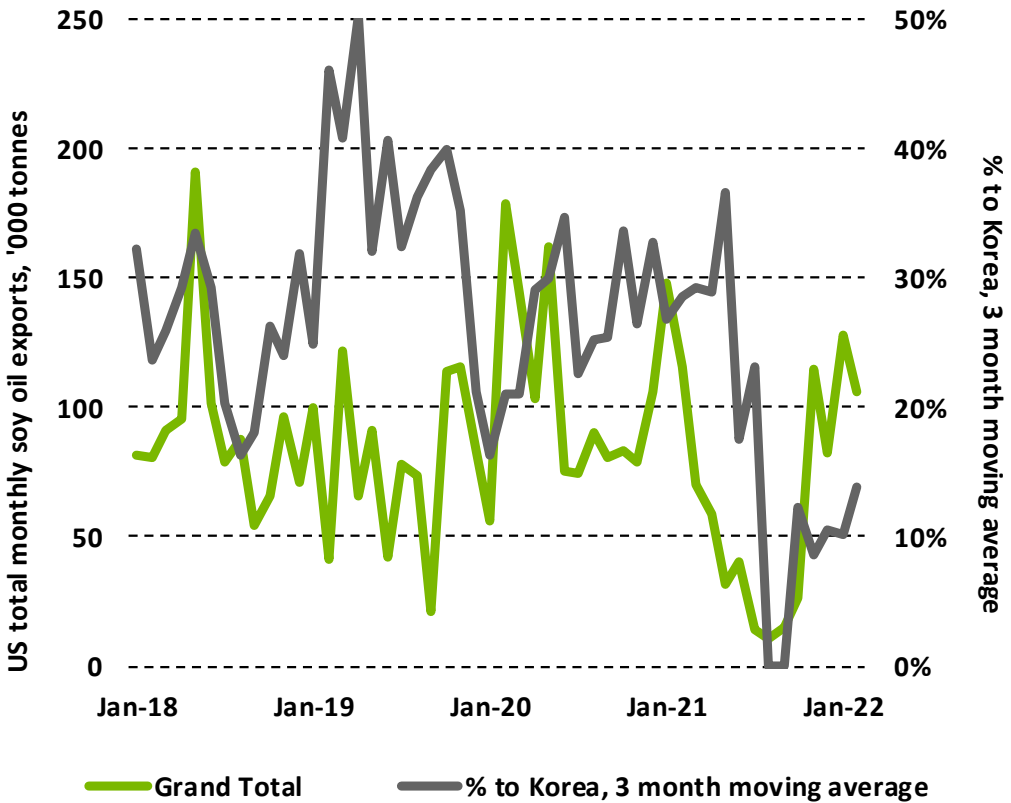
India is the leading soybean oil importer

India is the world's largest importer of all vegetable oils and the largest importer of soybean and palm oils in particular. Total monthly soybean oil exports by the Big Three exporters (Argentina, Brazil and U.S.) have not grown recently. This has also been true for exports to India (left diagram). For the U.S., Korea has been the biggest single export market for soybean oil in recent years, but the proportion sold to the U.S. has been much smaller since mid-2021 (right diagram). This was the period when U.S. soy oil moved to a large premium over Argentine FOB prices, as we shall see in Slide 15.

Combined Big Three soybean oil total exports, of which the exports to India



U.S. monthly soybean oil exports and percentage shipped to Korea





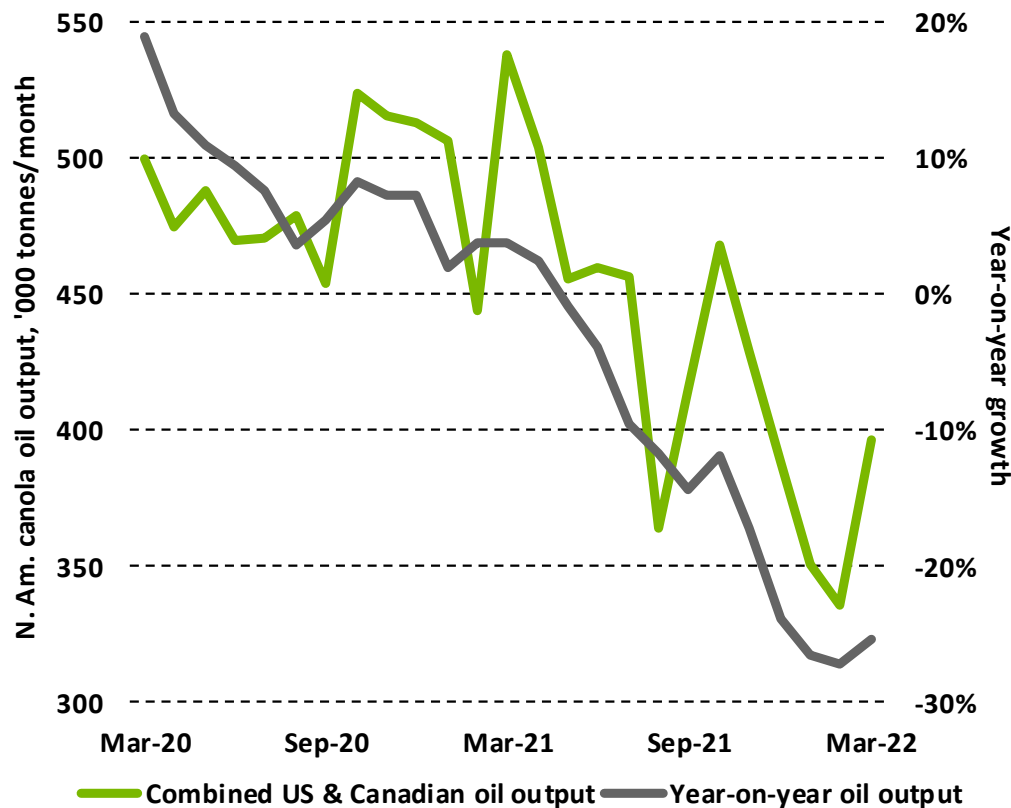
Soybean oil competition with other oils



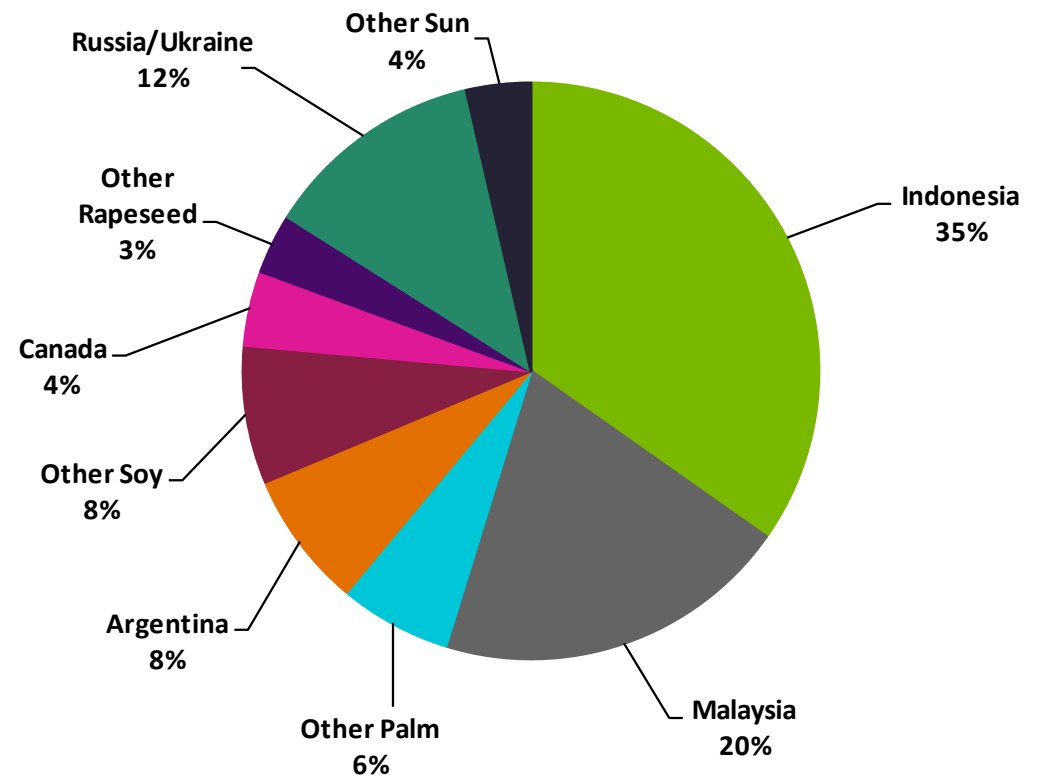
The world export availability of all oils is very tight

Even before Russia's invasion of Ukraine, the global vegetable oils market was tight. As we have seen, soybean oil output was not growing. Record heat in mid-summer cut Canada's canola seed and canola oil output (see the left diagram); and Russia's war has hit sunflower oil supplies badly. The right diagram depicts the shares of the main exporters in world vegetable oil exports before Russia attacked Ukraine. Since then, soybean oil exports have been flat; sunflower oil exports have fallen over 50%; canola oil exports are down; and now Indonesia, with 35% share of all vegetable oil exports, has briefly banned exports to try to force down local cooking oil prices.

The collapse in N. America canola crushing



Distribution of world vegetable oil exports, 2020-21



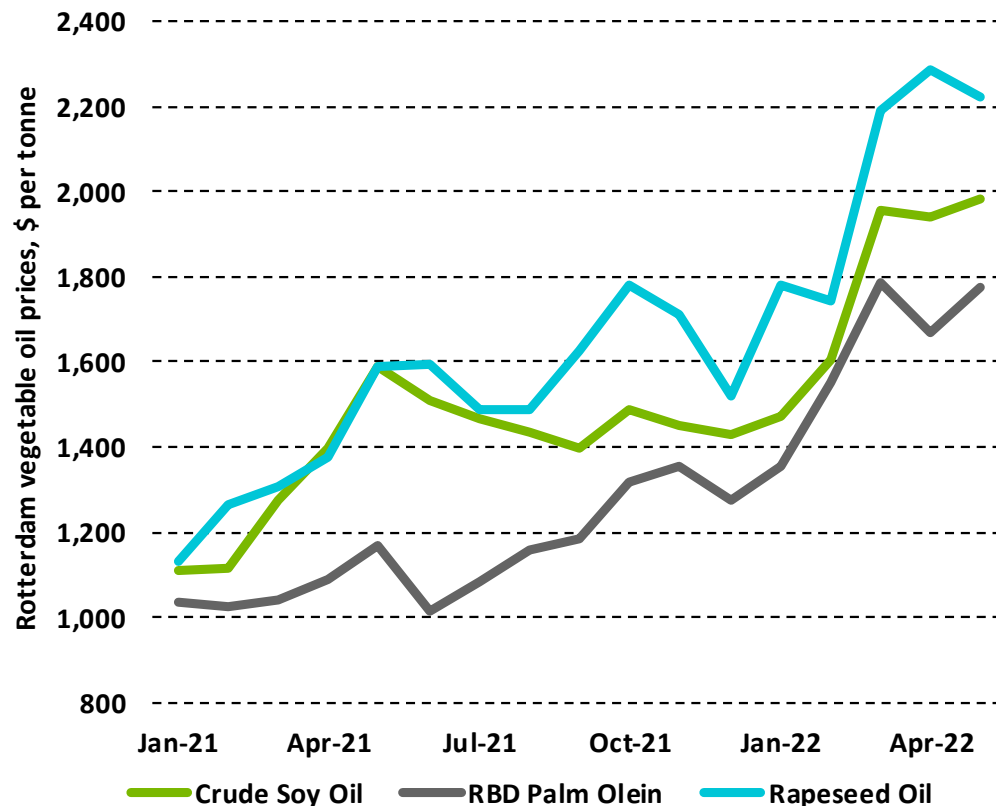
Vegetable oil prices have risen steadily since 2021



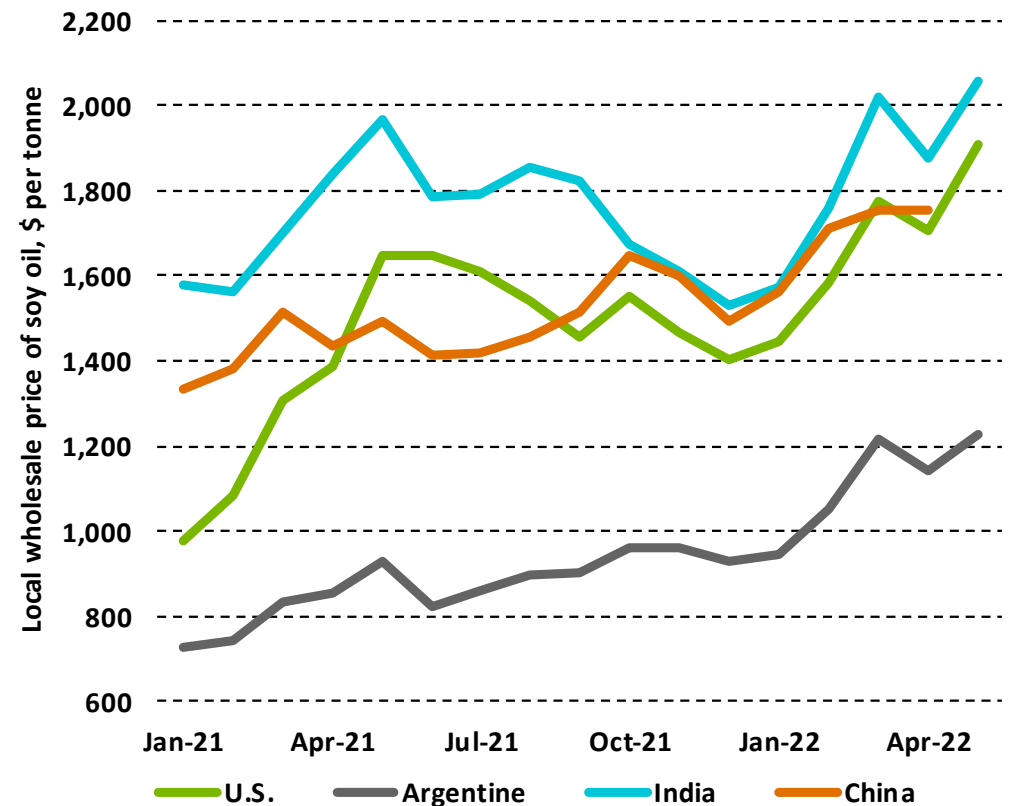
The vegetable oil market has recorded rising prices almost without interruption since early 2021. This is evident in the EU (left diagram), where Rotterdam is viewed as a benchmark for the world market. In the EU, rapeseed oil, the preferred local oil, has seen particularly strong price rises following a poor local crop.

Local soybean oil prices have also risen (right diagram). Argentine domestic prices are pulled down by the export tax, which is currently 33%. India's price rises were moderated by steady reductions in its import tariffs.

EU prices of soybean, rapeseed and palm oils



Local prices of soybean oil in leading countries



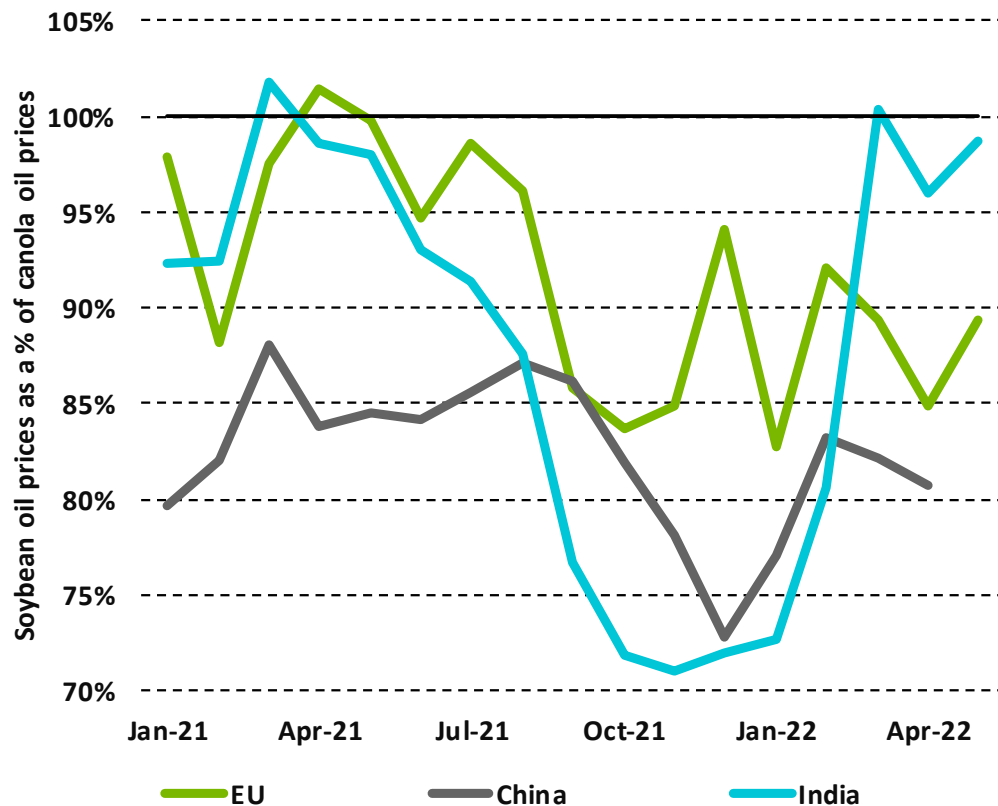


Soybean oil is competitive against its two main rivals

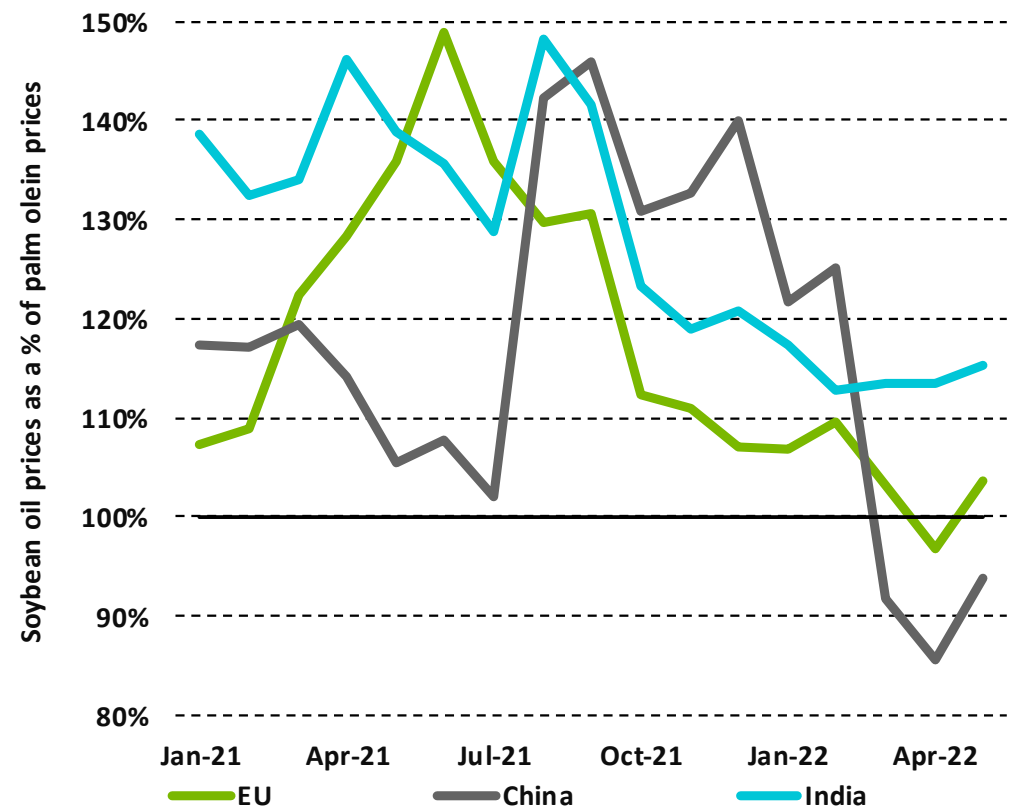
These two diagrams indicate how the competitiveness of soybean oil in three very large national oils markets, namely those of China, India and the EU, has changed since the start of 2021. The left diagram compares soybean oil with canola/rapeseed oil prices and reveals that soybean oil has been cheaper than canola oil for the past 12 months.

The right diagram indicates that soybean oil has become increasingly competitive against RBD palm olein as the ratio of local soybean oil to palm olein prices has fallen significantly since the third calendar quarter of 2021.

Local soybean oil prices as a % of local canola oil



Local soybean oil prices as a % of local palm olein





Influences on US soybean oil prices

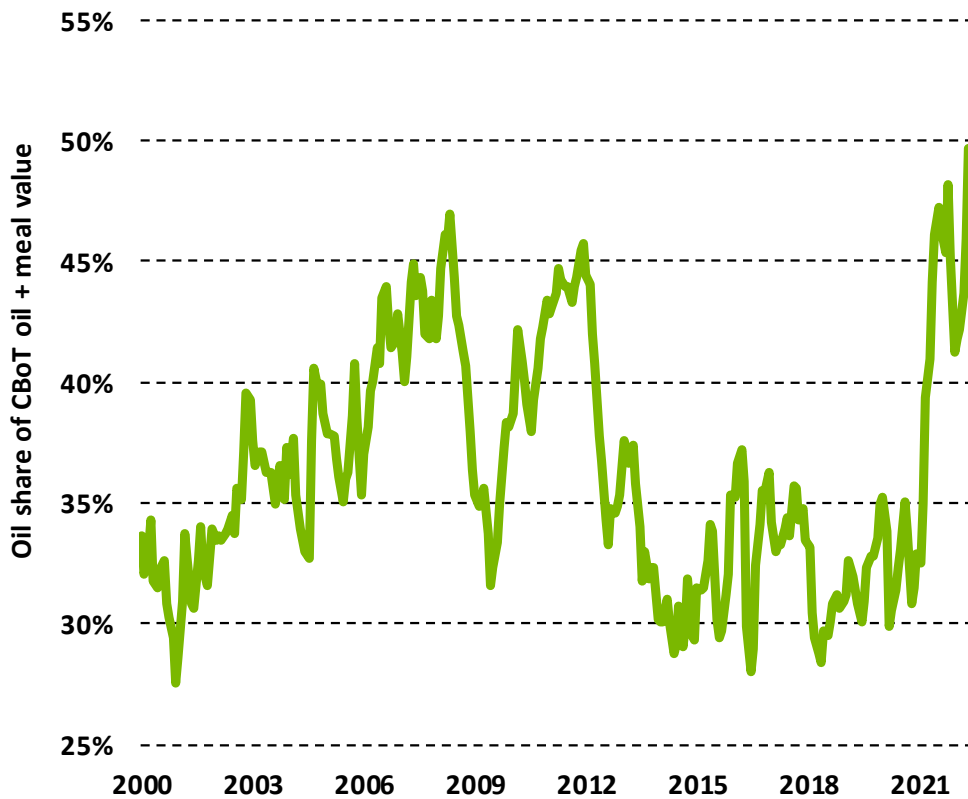


Argentine FOB values fall below U.S. soy oil prices

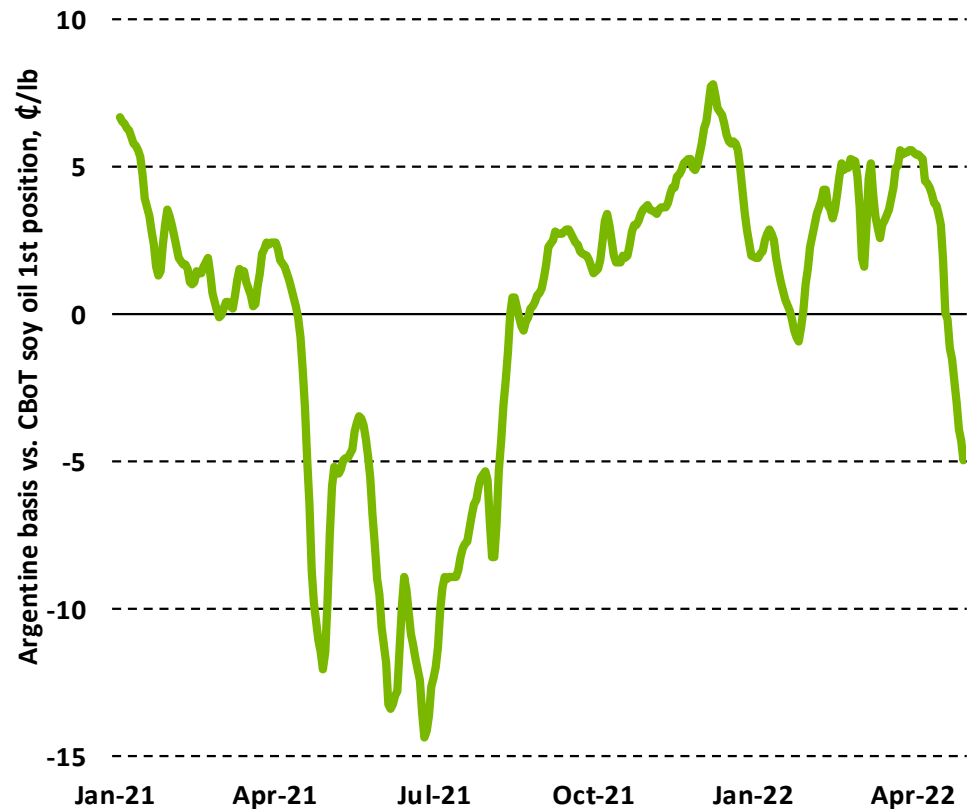
Strong vegetable oil prices pulled the soybean oil share of combined oil and meal revenues from crushing to 50% on the basis of CBoT 1st position oil and meal futures (left diagram).

Usually Argentine FOB prices are above CBoT soy oil. This is because CBoT quotations are for deliveries in Illinois and do not include the costs of freight to U.S. export ports, which are where U.S. oil competes with Argentina for exports. However, in May, as also happened in mid-2021, biodiesel demand has lifted Chicago soybean oil above Argentine FOB prices, even though Argentina is struggling against the impact of drought on its oil exports.

On CBoT, soy oil has reached 50% of output value



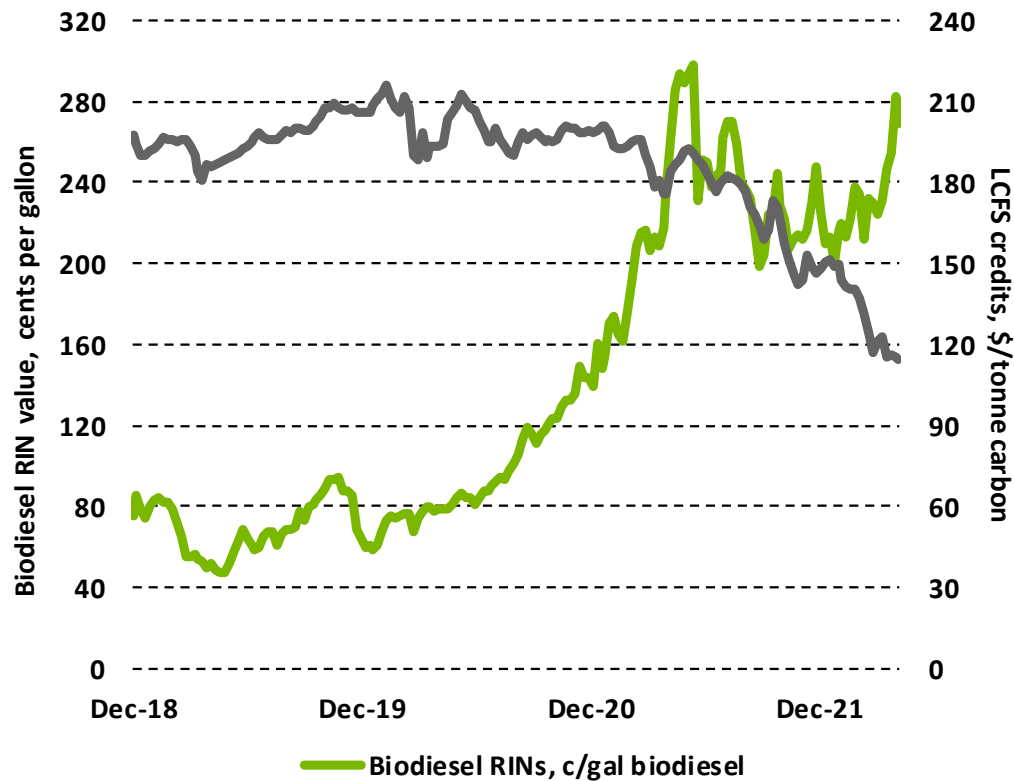
Argentine FOB soy oil basis vs. CBoT futures



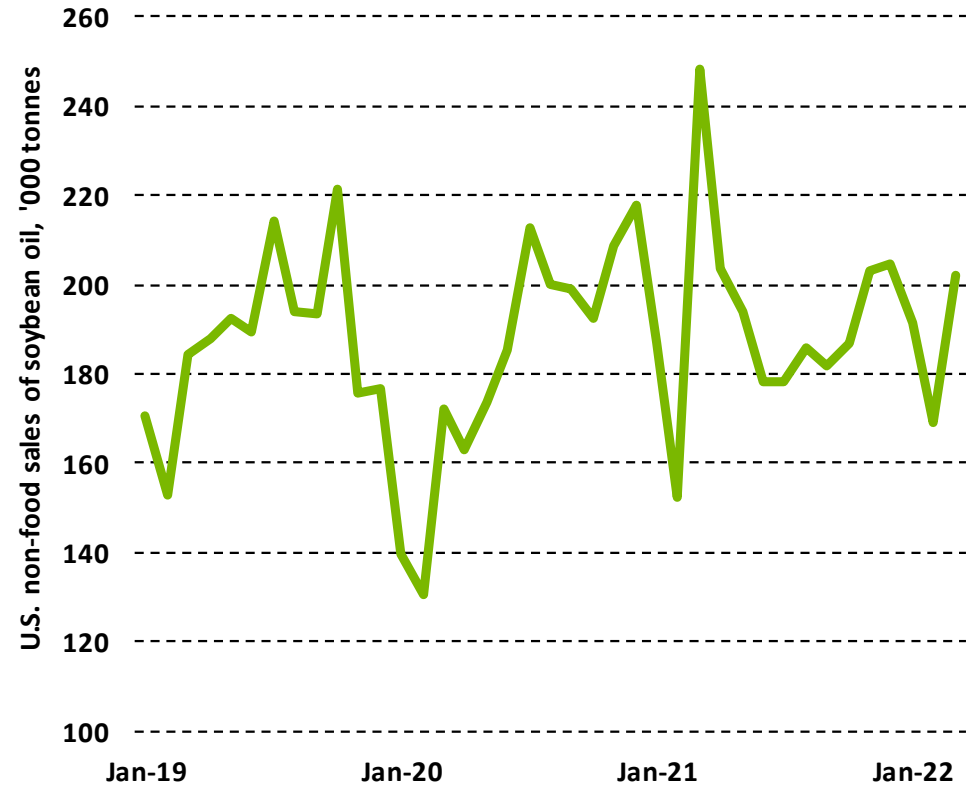
U.S. RIN values and LCFS credits pull in opposite ways

A RIN is the premium paid by blenders who buy biodiesel to meet U.S. Renewable Fuel Standard mandates. RIN prices (left diagram) have been fairly stable since mid-2021. RIN quotations are \$2.80/gal (equal to \$840/MT) today. A blender tax credit of \$1/gal (\$300/MT) gives further support to U.S. soybean oil prices. However, carbon prices in the Californian Low Carbon Fuel Standard have fallen since 2020, due to excess supplies of credits. The right diagram indicates a flat trend in U.S. non-food sales of soy oil, mainly for biodiesel. Renewable diesel is made mainly from tallow and UCO until now with their low carbon intensity, but soybean oil should soon benefit.

The value of U.S. Biodiesel RINs in cents/gallon of biodiesel and LCFS credits, in \$ per MT of carbon



U.S. monthly non-food demand for soybean oil, which is an indicator of soy-based biodiesel output





- 2021/22 has been a disaster for soybean oil supply as droughts hit South American soybean crops. The first projections for 2022/23 imply a strong rebound in both soybean production and crushing, which are forecasts to lift world soybean oil production by 2.4 million tonnes.
- 2021/22 was also a dreadful time for canola output due to exceptional mid-summer heat in Canada.
- Russia's war on Ukraine has cut off most sunflower oil exports, and this has forced up all oils prices.
- Palm oil exports are currently being blocked by Indonesia in order to restrain local cooking oil prices.
- A shortage of sunflower and canola oils and a temporary barrier to palm oil exports mean that soybean oil will have to fill the gap in supplies of seed oils for importers. The market has already given a strong signal to soybean crushers by raising the oil share of oil and meal product value on CBoT per MT of beans to 50%.
- The USDA projections for the full September/August crop year are incorporated into the detailed supply-demand balances for soybean oil in Argentina, Brazil and the U.S. *that are in the accompanying Excel files*, which provide monthly forecasts of the soybean oil output and exports until September. They imply a brief increase in the export tonnages of soybean oil before the arrival of new crop output for other oilseeds and a resumption of Indonesian exports of palm oil combine to help to meet the demand for vegetable oils.
- In the biodiesel sector, we are waiting for clear indications that the California-led growing demand for renewable diesel will lead to higher U.S. demand for soybean oil in biofuels. Until now, so-called low carbon intensity fats and greases, such as animal fats and greases and used cooking oil are preferred as feedstocks in renewable diesel plants.