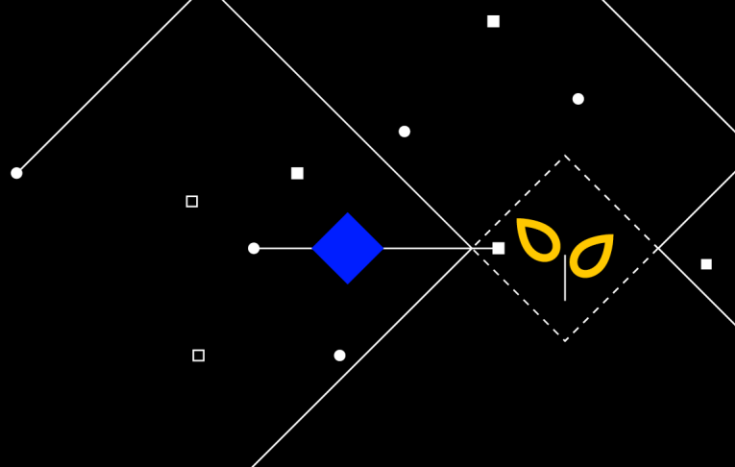


REFINITIV COMMODITIES RESEARCH

AGRICULTURE



Major global supply risks continue to be seen far in advance by Refinitiv

Authored by Tom Walsh (Director of Agriculture & Weather Research), Libin Zhou (Agriculture Research Manager), and Dong Soon Choi (Senior Analyst, Agriculture)

The Agriculture & Weather Research team at Refinitiv, a division of LSEG, has been forecasting global crop production for over 10 years. First starting with the U.S. and South America in the early 2010s, and quickly expanding to dozens of countries and 7 individual crops since then. The team, formerly known as Lanworth, is familiar with holding viewpoints on crop production well outside of market expectations. This has happened many times in the past and has come with some scrutiny, like Argentina's massive 2015 soybean crop and 2017/18 U.S. corn and soybean crops (see both reports [HERE](#)) when the markets gradually gravitated towards the team's estimates after weeks and months of different viewpoints.

The team's methodology (well documented [HERE](#)) blends together decades-long historical data (weather and satellite imagery data, economic data, as well as area, yield, production data) with weather forecast data to produce objective yield and production estimates at least every two weeks or most crops the team covers. Additionally, engagement with market participants via calls to grain elevators and fieldwork have played an important role in the past. The COVID-19 pandemic has limited some of this engagement, but the core focus on the data continues to prove successful.

In 2021 and early 2022, WAOB made several significant moves that shock the market, resulting in major price movements. Refinitiv's Agriculture Research team (and Refinitiv's clients) were well prepared. Below is a summary of the major changes and our performance:

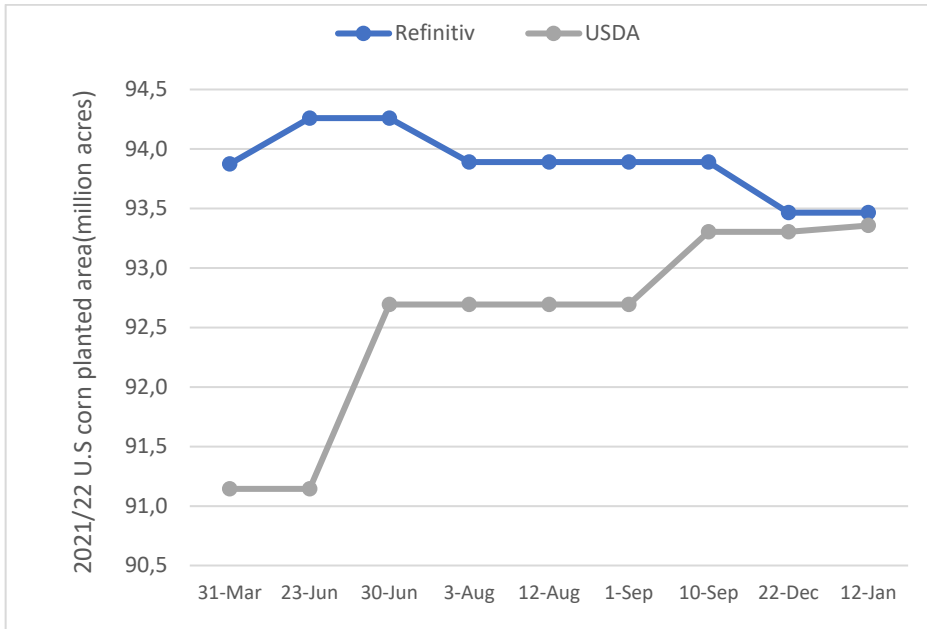
United States corn and soybeans

The complexity of socio-economic conditions, corn/soybean rotation and uncertainties in planting weather challenged U.S. corn and soybean area forecast. Predictions of U.S. corn and soybean plantings could be erroneous. Yield forecast is another challenge affecting the accuracy of corn and soybean production estimates.

Over this past season, analysts at Refinitiv Agriculture Research had correctly predicted the 5-year high corn plantings since the beginning of the season when the market was expecting a similar size of corn crop as the prior season (Figure 1). Advanced technologies were applied by Refinitiv to model corn and soybean area and yields with inputs of socio-economic data, planting progress, weather, soil moisture, satellite imagery and crop

condition scores. When USDA raised U.S. corn plantings substantially in its June Acreage report and September Crop Production report, corn prices went down by over 30% during the period amid the optimistic outlook of U.S. corn production and supply. We had also correctly predicted U.S. soybean production over the past season.

Refinitiv will release its first outlook for 2022/23 U.S. corn and soybean production in late March, 2022.



Brazil corn

2020/21 Brazil second crop corn suffered from a historic drought, resulting in almost 25% production losses. Refinitiv crop analysts worked closely with in-house meteorologists and correctly foresaw the severe drought damage, by integrating short-term and long-term weather outlooks into crop production analysis. This is shown clearly in the chart below (Figure 2), where official estimates from USDA trailed Refinitiv’s estimates throughout the season.

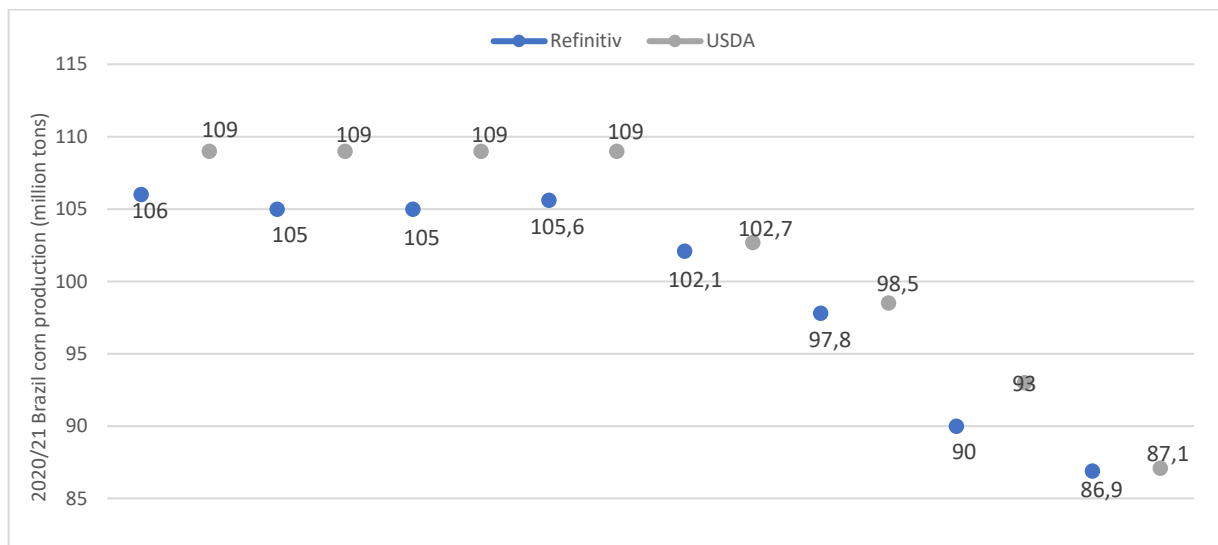


Figure2: 2020/21 Brazil corn production estimates by Refinitiv and USDA since January 2021.

Refinitiv continued its success in warning potential crop damage caused by extreme weather in advance over the 2021/22 season. Refinitiv meteorologists and crop analysts had foreseen the development of La Niña and its negative impacts on crop production in South America. Figure 3 shows Refinitiv’s forecasts for 2021/22 Brazil corn production from October to present and comparisons with USDA and Conab’s projections. As Argentina corn and Brazil second crop corn are still in the field, Refinitiv will closely monitor short- and long-term weather outlooks and updated satellite imagery and continue to provide timely and accurate forecasts of crop production in the region.

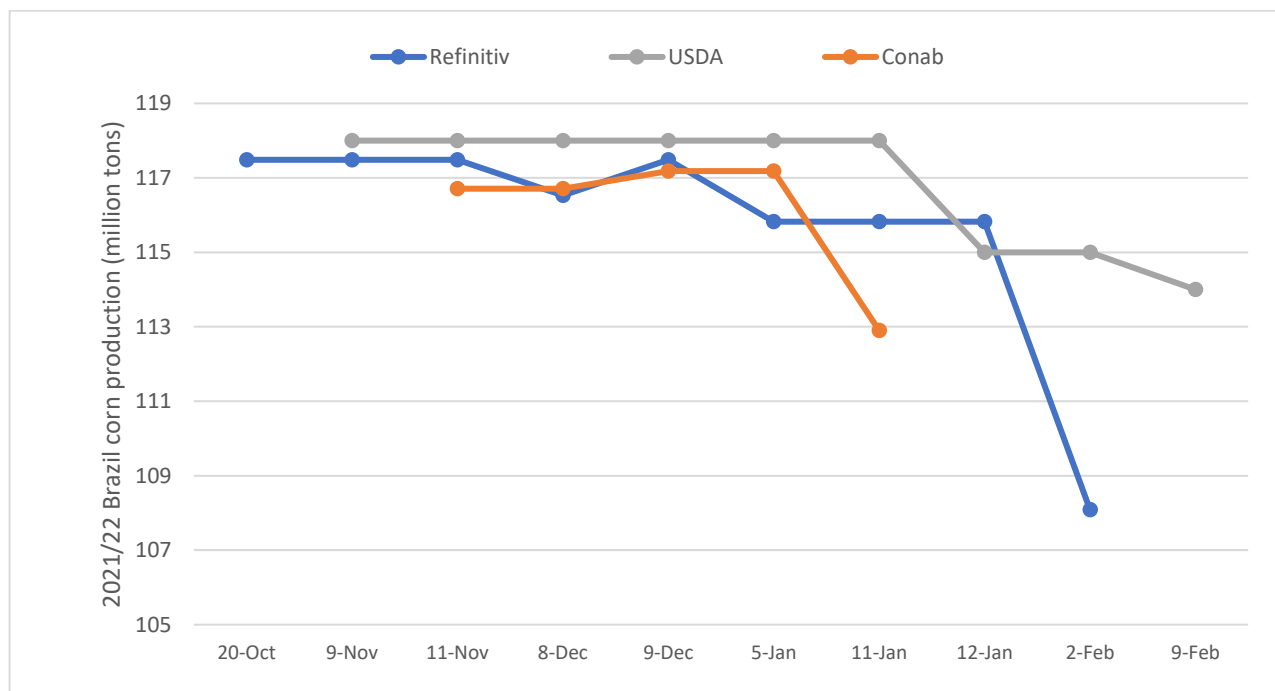


Figure3: 2021/22 Brazil corn production estimates by Refinitiv, USDA and Conab.

Russia wheat

Over the past year, Refinitiv production models had warned about Russia wheat production losses associated with harsh winter conditions since early 2021 when the market was looking forward to a bumper crop. The harvest reports confirmed our view of disappointing Russia wheat yields and production. The below figure shows our Russia wheat production forecasts, as well as other agencies’ forecasts over time. This year, we are expecting a large increase in Russia wheat production amid favourably mild winter conditions. But yield variation will depend on the weather in the spring and summer. We will closely watch forward weather and crop conditions and update our forecasts timely.

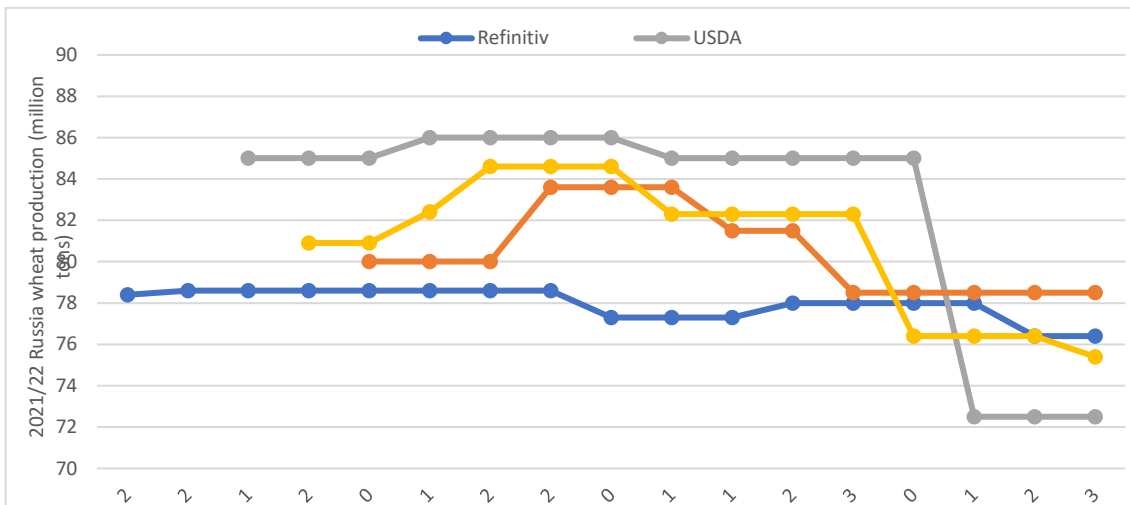


Figure 4: 2021/22 Russia wheat production estimates by Refinitiv, USDA and other local agencies since January 2021.

Except for above crops, Refinitiv’s Agriculture teams are forecasting production of six field crops (corn, soybean, wheat, rapeseed, palm oil, sugarbeet/sugarcane) over the major crop producing countries/regions, including South America, North America, Europe, Black Sea region, South-east Asia, South Asia and East Asia. Follow along with our global supply and demand coverage [HERE](#).

Refinitiv is one of the world's largest providers of financial markets data and infrastructure, serving over 40,000 institutions in approximately 190 countries. It provides leading data and insights, trading platforms, and open data and technology platforms that connect a thriving global financial markets community – driving performance in trading, investment, wealth management, regulatory compliance, market data management, enterprise risk and fighting financial crime.