

Q3 2023 REPORTS

Soybean Production and Demand Are Up in the Air

By Matt Roberts, Ph.D.

Tight ending inventories from last year and extreme weather uncertainty have led to big rallies in soybean prices so far this summer. Take advantage of these rallies, as the market will have to come to grips with lowered demand from renewable diesel. This year, the market is facing significant demand-side volatility in addition to the typical weather risk.

Mild spring weather provided excellent conditions to plant the 2023 soybean crop. While North Dakota started very cold, wet and slowly, a warm and dry late May and early June allowed catching up. As June progressed, the central corn belt remained very dry in the transition to an El Nino weather pattern. The question is how long the pattern will stretch and how much damage has been done. From a pricing perspective, the difficulty is that the dryness is relatively concentrated but in the most productive portions of the corn belt — Iowa, Southern Minnesota and Northern Illinois.

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With increased wheat abandonment in the Plains, the moisture in the western corn belt and the South could lead to larger-than-normal double-crop soybean plantings, further complicating the analysis of this year's production. If we ignore this potential acreage

boost, keeping inventories similar to this year will require a yield of 47 bu./ac. or below.

The demand picture is equally complicated and just as important. The market has spent the early part of the summer worrying about the renewable volume obligations for biodiesel usage to be issued by the Environmental Protection Agency. Since 2013, the Renewable Fuel Standard of 2008 has given wide discretion to the EPA in setting bio-based diesel mandates. In response, the EPA had largely increased these mandates in line with the bio-based diesel industry's production capacity.

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Based on this trend and increasing demand for renewable diesel and sustainable aviation fuel, the soybean processing industry has announced over 30 new or expanded crushing facilities to be built in the next four years. Many of these are paired with new or existing refining complexes to produce biofuels from the resulting soy oil.

In December 2022, the EPA released a Notice of Proposed Rulemaking with preliminary obligations for 2023, 2024 and 2025. Contrary to industry expectations, the EPA expanded bio-based diesel obligations much less than expected. The Energy Information Administration estimates that by the end of 2024, the U.S. could have as much as 5.3 billion gallons of renewable diesel capacity in addition to more than 2 billion gallons of conventional biodiesel capacity. The EPA mandate for bio-based diesel (which includes both conventional biodiesel and renewable diesel) is only 4.03 billion gallons in 2024. When these obligations

were released, the soybean oil market immediately traded limit down. It has since recovered, but much of its advance has been built on renewable diesel demand growth that is unlikely to materialize.

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Soybean exports have continued to weaken because of Brazilian competition. In June, the USDA again reduced estimated U.S. exports for the 2022/2023 marketing year, to a total of 2 billion bushels, down from 2.155 billion bushels last August. Projections for new crop exports are even lower, at 1.975 billion bushels. With the U.S. economy remaining resilient to interest rate hikes thus far, interest rates will hold steady or increase, providing even more strength to the U.S. dollar and further hurting competitiveness of U.S. exports. The difference between the level of exports in 2021/2022 and 2022/2023 is 158 million bushels, or 3.7% of total production. Historically, a 3.7% change in ending stocks would be associated with a price change of \$1 or more per bushel at these inventory levels.

From a marketing standpoint, the goal of the third quarter is to accurately assess actual production as we move toward harvest by assessing the effects of weather, double-cropped acreage, and shifts in acreage location. Supplies in the U.S. are tight enough that a total harvest below 4 billion bushels, approximately 46 bu./ac., would start to push harvest futures prices above \$15/bu., which should be very appealing for producers who have bushels to sell.

