



**Rabobank**

# The Mighty US Crop Markets Through 2030

*Our Long-term Outlook for Corn, Soybeans, and Wheat*

## **RaboResearch**

Food & Agribusiness  
far.rabobank.com

### Andrick Payen

Senior Analyst – Grains & Oilseeds  
+1 212-808-6806

### Al Griffin

Senior Data Analyst  
+1 314-317-8201

### Owen Wagner

Senior Analyst – Grains & Oilseeds  
+1 919-480-4903

### Steve Nicholson

Global Strategist – Grains & Oilseeds, Farm Inputs  
+1 314-317-8278

### Pablo Sherwell

Lead of F&A Data Analytics – North America  
+1 212-808-6822

## Summary

This paper summarizes our long-term outlook for the three major US crops: corn, soybeans, and wheat. We identify potential changes in trends that may have long-term consequences for the US grain and oilseed sector from the 2023/24 season through 2029/30.

Here are some takeaways from the outlook:

- In 2023/24, corn will continue to be king when it comes to area planted, though we expect soybeans to steal the throne in the coming years in order to meet future soybean oil demand for renewable diesel.
- In 2023/24, farmgate prices are expected to ease from their 2021 to mid-2022 highs due to several factors, including Russia's invasion of Ukraine. Nonetheless, the future price trend may move higher in the coming cycles, driven primarily by new soybean crushing demand and the fight for acres.
- The gradual expansion of new soybean crushing plants could represent an additional 600m+ bushels by 2026/27 if all the announced crushing facilities become operational.
- In the years to come, domestic demand's share of the total use of corn, soybeans, and wheat should continue to show positive growth. The baseline is showing an increase in combined domestic demand for the three major crops when compared to exports.
- Through the end of the decade, stock levels should marginally recover but remain relatively low compared to historical levels.
- The US share of global export markets will likely decrease due to growing domestic demand, especially for soybeans.

At the end of this report, we also present three additional scenarios after "shocking" the baseline model with 1) below-trend soybean yields, 2) a less robust expansion of soybean crushing facilities resulting in profound impacts on price, and 3) lower-than-expected corn yields.

## A Note on Our Model

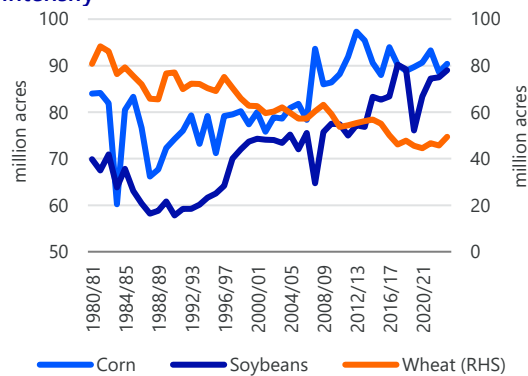
Our US grain and oilseed outlook comes from Rabobank's baseline model, which incorporates the views and insights of RaboResearch sector analysts and experts. The baseline is not a forecast, but rather a projection of long-term trends given certain conditions and assumptions. These include factors such as weather, trade, the macroeconomic environment, and more. The projections shown in this report represent our internal consensus of a base-case scenario that we call "baseline." Our long-term projections run from 2023/24 to 2029/30.

## Supply: Crop Area Constraint Continues

Farm economics and current agronomic conditions continue to favor corn over soybeans. Our baseline estimates for 2023/24 show corn acres could reach around 90.4 million acres versus 89m acres of soybeans (see Figure 1). If this projection is realized, it will reflect corn and soybeans' chronic struggle to break 180m acres combined and soybeans' continued struggle to surpass 90m acres.

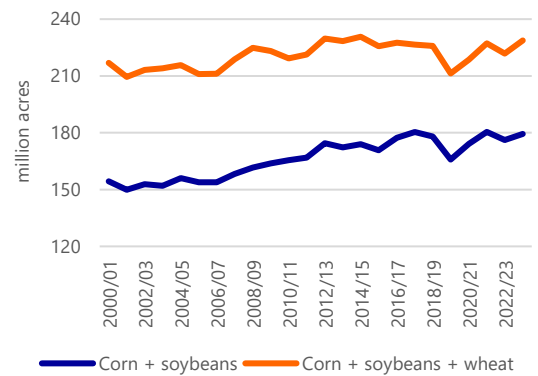
Adding wheat to the mix, we find something similar. Planted wheat area is expected to reach 49.3m acres in 2023/24 (up from 45m acres in 2022/23). Still, the three combined crops struggle to break the historical record of 230m acres (see Figure 2).

**Figure 1: Corn area to lead this year, but the acreage battle against soybeans is likely to intensify**



Source: USDA, Rabobank baseline 2023

**Figure 2: Combined acreage remains constrained**

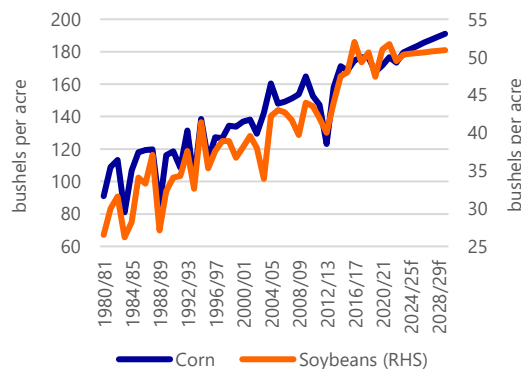


Source: USDA, Rabobank baseline 2023

The three crops' failure to surpass this acreage threshold is concerning, especially at a time of historically higher commodity prices. Without planted area growth, the only growth component left is yields. Acres appear to be maxed out under current conditions, meaning the battle for acres will intensify, particularly if and when new demand emerges.

## Yield Increases Are Needed To Expand Production

**Figure 3: Corn and soybean yields, 1980/81-2029/30f**



Source: USDA, Rabobank baseline 2023

Historical crop yield growth in the US has performed extremely well. From 1980 (and even decades before) to recent years, yields for corn, soybeans, and wheat (among other crops) have increased at positive and steady average rates, with yields nearly doubling over this period. During the last few years, however, yields struggled to reach trend. Weather has been the major factor behind this constraint. While we use trend line yields in our baseline, it should be noted that weather forecasters are projecting a transition from La Niña to El Niño conditions during the 2023 growing season, which may create less stable growing

conditions in various US geographies in the upcoming cycle. If this is correct, then we are cautious about achieving trend line yields again in 2023. From the 2024/25 season onward, we assume yields may start a slow and gradual return to the trend line, making up for little to no acreage growth.

## Demand: It Has Been Resilient, but Will It Continue To Hold This Year?

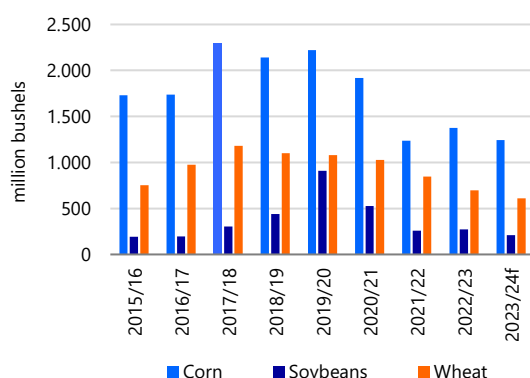
Over the last four years, demand for grains and oilseeds has shown resilience despite an immense list of challenges affecting markets, including disrupted supply chains, the pandemic, animal diseases, market volatility, higher prices, a challenging macroeconomic environment, and more.

While domestic demand has been solid, export markets have been more challenging for US crops. This is the result of ever-increasing crops in South America, large Russian wheat production, and high US prices compared to export competitors. We expect global market uncertainty to be a constant against relatively stable and potentially increasing domestic demand. Perhaps there should be some concern about the future of ethanol, but overall the baseline is not identifying any cracks.

The combined share of domestic demand for corn, soybeans, and wheat compared to these crops' exports continues to show positive growth. We believe domestic demand is becoming less elastic or less sensitive to prices. Moreover, the three major crops combined are showing an increase in domestic demand when compared to exports. Moving forward, however, the expansion of soybean crush capacity will be key to sustaining crop prices, as we discuss in the next section.

## After Nearly Three Years of Record-high Prices and Low Stocks... Now What?

**Figure 4: US stocks have declined and remain tight**



Source: USDA, Rabobank 2023

Over the last three years, the US crop sector has seen a gradual reduction in its domestic stocks as demand grew faster than production, as shown in the declining stocks-to-use ratio and corresponding rise in prices. Farmgate prices have eased from their 2022 highs in recent months due to expectations of higher production in the US and globally and to recession fears harming demand. Still, our baseline is showing farmgate prices above historical averages.

Ultimately, the ability of the US to replenish stocks will greatly depend on weather and yields. Weather has impacted yields over the

last four years, resulting in production shortfalls and declining stocks. Current stocks remain relatively low – particularly for corn and soybeans – and any issues with weather, and ultimately yields, and could potentially push prices higher than our baseline outlook.

## Structural Changes Driving the Outlook

Many drivers and forces will shape the sector's path in the years to come. However, we believe one of the main factors likely to structurally change and direct the sector, particularly from 2024 onward, is new US soybean crushing capacity to meet future soybean oil demand for renewable diesel. We have included the increase in US soybean crush capacity in our baseline scenario, as its impact will be felt across multiple geographies and crops.

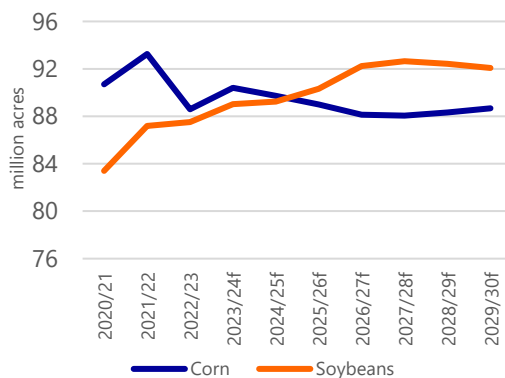
## New Soybean Crushing Capacity Will Be the Main Driver in US Crop Markets

While soybean crush capacity has been expanding in earnest since 2021, the majority of the expansion will take place in the 2023/24 to 2026/27 crop years, approximately 620m bushels. This expansion will happen over several years, and our model assumes capacity utilization will be diluted as new plants come on line, resulting in a smaller increase in crush than announced. Still, important questions remain to be answered.

### Can This New Demand Be Fulfilled, and What Needs To Happen on the Soybean Supply Side?

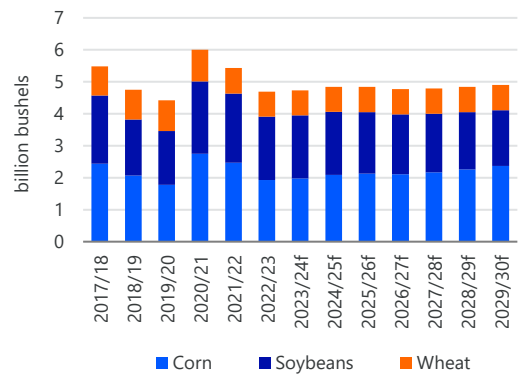
On the supply side, if we assume soybean yields stay above 50.5 bushels per acre, we believe acres could move to around 92.2m acres by 2026/27 (see Figure 5). Despite this increase, our model estimates that soybean exports would need to decline to around 1.7bn to 1.8bn bushels by 2026/27 in order to meet domestic demand (see Figure 6). In addition, the increase in soybean acres would likely take acres from other crops, particularly corn. We estimate corn acres may decline to around 88m acres.

**Figure 5: US soybean acres could surpass corn in 2024/25**



Source: USDA, Rabobank 2023

**Figure 6: Combined exports likely to be below 5bn bushels**



Source: USDA, Rabobank 2023

## This Expansion Affects the Whole Value Chain

Operators throughout the grain and oilseed value chain – and those in related sectors as well – will feel the effects of increased crush capacity. These include:

### Soybean Exporters

Increasing soybean crush and domestic demand will remove volume from export channels as crushers compete for soybeans. Exporters' margins will be squeezed as they compete for business. This will support interior basis values and cash prices for soybeans.

### Processors

With crush capacity likely expanding faster than soybean production and new crush facilities competing against already existing plants, processors will be bidding up soybean prices in order to secure supplies. We could potentially see average soybean farmgate prices at around USD 15.50 per bushel (see Figures 9 and 10). After the expansion is complete in 2026/27, soybean crushers will likely need to adjust crush rates and potentially shutter older facilities in order to maintain profitable crush margins. This would be a direct result of increased supplies of soy meal and declining meal prices.

## Grain Originators

Increased crush capacity, particularly in the northwest Corn Belt, will demand more equipment capable of handling and storing soybeans. Robust domestic demand and fewer exports will change the focus of grain merchandisers, handlers, and originators toward interior markets. Truck and rail transport will take on added importance. In the event that higher domestic crush demand drives exports lower, barge loading facilities, inland ports, and export terminals will operate at decreased capacity utilization rates.

## Crop Farmers

The expansion of soybean acres needed to fulfill demand will pressure other crops, given the area constraint discussed above. For example, our model indicates that if soybean acres were to increase from 89m acres in 2023/24 to above 92m acres by 2026/27, corn area would decline from 90.4m acres to around 88m acres. However, we expect this area substitution to accelerate between the 2024/25 and 2027/28 cycles, with soybean acres potentially surpassing corn acres by 2025/26 (see Figure 5).

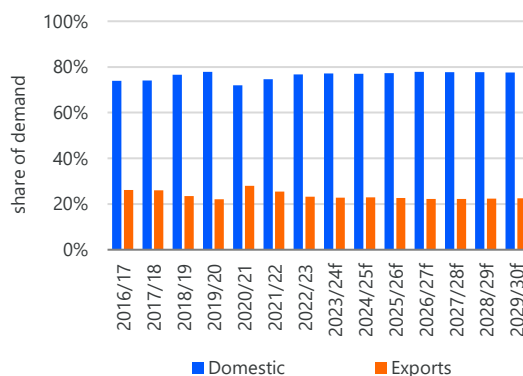
Other crops are also likely to lose acres to soybeans. Thus, the intensification of the battle for acres could start adding pressure to crop prices starting in 2024/25. Despite higher commodity prices, margins are likely to be squeezed, as land values and farm input costs will follow commodity prices higher.

## The Livestock Sector

Generally, livestock producers will continue to deal with elevated feed prices. However, increased crush will bring increased soymeal supply. This is particularly beneficial to poultry and swine producers.

## Where Is Crop Demand Going in the Long Run?

**Figure 7: Domestic demand's share of total US corn, soybean, and wheat use is likely to remain firm**

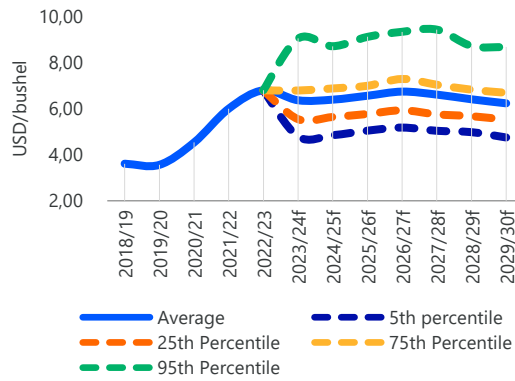


Source: USDA, Rabobank 2023

As alluded to above, our baseline shows US domestic demand for the major crops seeing slower but positive growth over the span of our outlook. In addition, domestic demand's share of total use of corn, soybeans, and wheat will continue to show positive growth. The three major crops combined will continue to show an increase in domestic demand when compared to exports. More specifically, the decline in exports is mainly driven by an increase in domestic soybean demand as new crush capacity comes on line. The outlook calls for an increase in domestic use of corn and soybeans while wheat will remain relatively flat. Exports' share of total demand will continue to decline. Conversely, domestic demand's share will increase (see Figure 7).

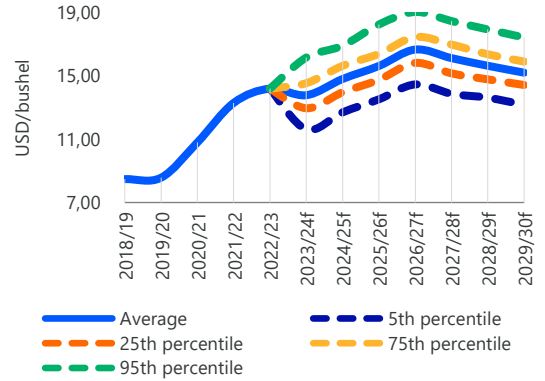
Higher domestic demand for grains and oilseeds will have several consequences for domestic and export markets. As demand for grains and oilseeds continues to grow domestically, prices will remain supported over the outlook period, remaining higher than the 10-year average but below the 2022/23 peak. Global markets are likely to buy less from the US due to high domestic demand and the resulting high domestic prices, which will likely be uncompetitive in the global export markets.

**Figure 8: Corn farmgate price range, 2018/19-2029/30f**



Source: USDA, Rabobank 2023

**Figure 9: Soybean farmgate price range, 2018/19-2029/30f**



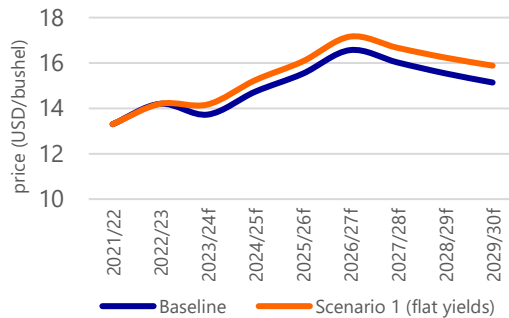
Source: USDA, Rabobank 2023

## Scenario Analysis

We also ran three additional scenarios, “shocking” the baseline model with the possibility of 1) below-trend soybean yields, 2) a less robust expansion of soybean crushing facilities resulting in profound impacts on price, or 3) lower-than-expected corn yields. These scenarios show a set of possible outcomes that could show a change in the trend of the baseline.

### Scenario 1: What If Soybean Yields Stay Below 50 Bushels per Acre?

**Figure 10: If soybean yields remain flat, prices would push even higher**

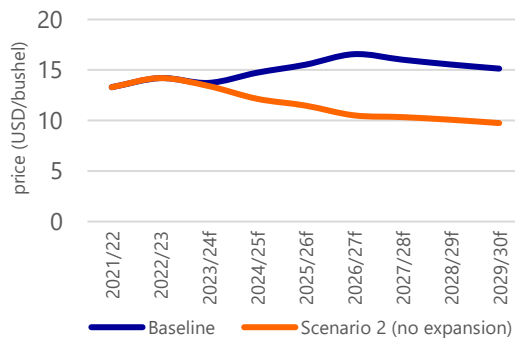


Source: USDA, Rabobank 2023

Our baseline scenario assumes that soybean yields will grow close to the trend line from 2024 to 2030. However, if we assume yields remain below 50 bushels per acre in the years to come, prices would move to even higher levels than the baseline (see Figure 10). Under this scenario, soybean exports would drop to even lower levels (to around 1.7bn bushels or below) and more acres would be needed to fulfill crushing demand – reaching more than 93m acres in certain years and taking away acres from other crops.

### Scenario 2: What If Soybean Crushing Expansion Never Happens?

**Figure 11: Prices would move lower if new expansion never happens**



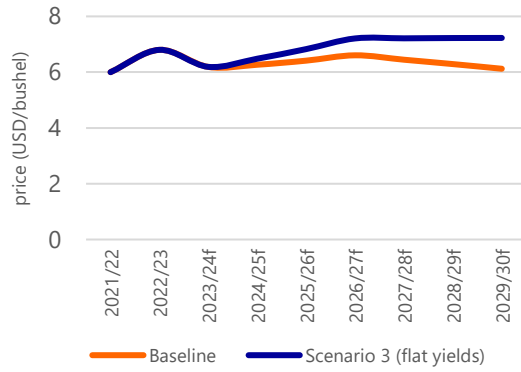
Source: USDA, Rabobank Baseline 2023

If the expected new soybean crushing capacity does not occur and capacity stays at current levels, our model indicates that US prices would likely lose some ground in the years to come (rather than increase, as in our baseline scenario). US soybeans would return to USD 10 per bushel (see Figure 11). Stocks would gradually be able to recover, and some gains in exports could be achieved.

Corn prices would break USD 5 and settle in the USD 4.50 range toward the later end of our analysis.

### Scenario 3. What If Corn Yields Remain at 180 Bushels per Acre Through 2030?

Figure 12: Corn prices are likely to stay above USD 7 per bushel if yields do not increase along the trend line



Source: USDA, Rabobank baseline 2023

Our baseline projection assumes that corn yields will move to their trend line in 2024/25 and onward. However, all else being equal, if we assume corn yields stay flat at 180 bushels per acre throughout our long-term projection, our model projects that corn prices would likely stay above USD 7 per bushel.

# Imprint

## **RaboResearch**

Food & Agribusiness

far.rabobank.com

Andrick Payen	Senior Analyst – Grains & Oilseeds	andrick.payen@rabobank.com +1 212-808-6806
Al Griffin	Senior Data Analyst	al.griffin@rabobank.com +1 314-317-8201
Owen Wagner	Senior Analyst – Grains & Oilseeds	owen.wagner@rabobank.com +1 919-480-4903
Steve Nicholson	Global Strategist – Grains & Oilseeds, Farm Inputs	steve.nicholson@rabobank.com +1 314-317-8278
Pablo Sherwell	Lead of F&A Data Analytics – North America	pablo.sherwell@rabobank.com +1 212-808-6822

© 2023 – All rights reserved

---

This document is meant exclusively for you and does not carry any right of publication or disclosure other than to Coöperatieve Rabobank U.A. ("Rabobank"), registered in Amsterdam. Neither this document nor any of its contents may be distributed, reproduced, or used for any other purpose without the prior written consent of Rabobank. The information in this document reflects prevailing market conditions and our judgement as of this date, all of which may be subject to change. This document is based on public information. The information and opinions contained in this document have been compiled or derived from sources believed to be reliable; however, Rabobank does not guarantee the correctness or completeness of this document, and does not accept any liability in this respect. The information and opinions contained in this document are indicative and for discussion purposes only. No rights may be derived from any potential offers, transactions, commercial ideas, et cetera contained in this document. This document does not constitute an offer, invitation, or recommendation. This document shall not form the basis of, or cannot be relied upon in connection with, any contract or commitment whatsoever. The information in this document is not intended, and may not be understood, as an advice (including, without limitation, an advice within the meaning of article 1:1 and article 4:23 of the Dutch Financial Supervision Act). This document is governed by Dutch law. The competent court in Amsterdam, the Netherlands has exclusive jurisdiction to settle any dispute which may arise out of, or in connection with, this document and/or any discussions or negotiations based on it. This report has been published in line with Rabobank's long-term commitment to international food and agribusiness. It is one of a series of publications undertaken by the global department of RaboResearch Food & Agribusiness.