

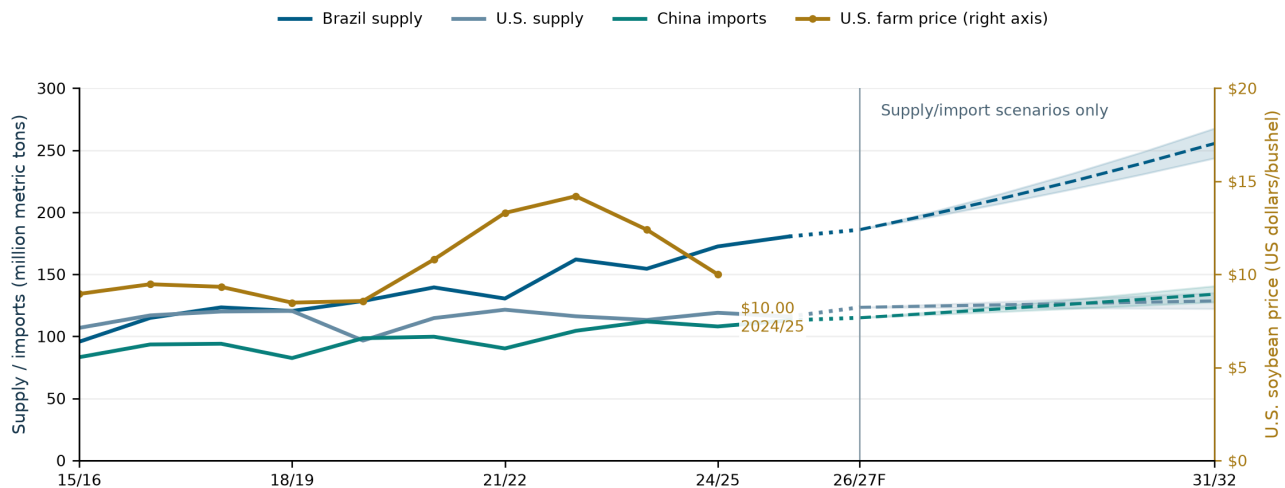


SOY DEMAND / WHO BUYS THE NEXT BUSHEL?

Super Intelligence? What about Super Charging Soy Demand!

Brazil supply has outpaced U.S. production and China imports. Now the September 30 report adds a near-term twist: corn stocks rose 35% to 2.095B bushels; soy stocks fell 3% to 315M. Soy still sold off alongside corn. Tighter U.S. stocks do not settle the longer-term demand question. [19,20]

SUPPLY + IMPORT HISTORY / FIVE-YEAR CAGR SENSITIVITY



Supply/imports: solid through 2025/26 estimates; dotted 2026/27 USDA forecast; dashed CAGR scenarios with chosen sensitivity bands, not confidence intervals. [4] Gold: U.S. annual farm price, September-August Marketing Years through 2024/25; USDA ERS Table 3. No price forecast or current spot quote. [15]

6.55%

Brazil production CAGR

0.82%

U.S. production CAGR

3.11%

China import CAGR

CAGR uses 2015/16-2025/26 endpoints over 10 years. Scenarios start at the USDA 2026/27 forecast and compound for 5 years at CAGR +/-1 percentage point. This repeats historical growth; it does not model slowing China demand. Different measures and country calendars: no implied surplus.

ALUVIAL SIGNAL

Corn pressure can reach soy through prices and next-season acreage choices. If relative returns favor soy, the familiar rotation can sustain supply. Domestic fuel adds oil demand, but the additional meal still needs a paying customer. Follow the combined return to the farm bid.



THE WHOLE BEAN / PRODUCTIVITY, PROCESSING AND CUSTOMERS

One bean. Two products. More than one market.

U.S. AVERAGE SOYBEAN YIELD / BU PER HARVESTED ACRE

48.0

2015

53.0

2025 estimate

52.8

2026 forecast

NASS history; September 2026 USDA forecast. Yield x harvested acres drives production. National averages do not describe a county or a field. [11,7]

U.S. WHOLE SOYBEAN

Higher productivity can add supply; acres and weather still matter.

EXPORT THE WHOLE BEAN

Overseas crushing or food use.
Established buyers include China, Mexico and the European Union. [10]

CRUSH IN THE UNITED STATES

Oil + meal, sold separately.
Food and fuel buy the oil. Feed users buy most of the meal.

FROM U.S. CRUSH: OIL

Food uses; biodiesel and renewable diesel; exports. These outlets compete for oil already produced.

FROM U.S. CRUSH: MEAL

U.S. poultry, livestock and aquaculture feed; overseas feed buyers. Additional oil-led crush needs additional meal sales.

Existing export scale, Marketing Year 2024/25: 51.2 MMT whole beans; 16.3 MMT meal. Major meal destinations included the **Philippines, Mexico, Colombia and Canada**. These are established customers, not commitments to absorb new supply. [12]
Reporting periods differ: U.S. whole beans: September-August; soybean oil and meal: October-September. Thus the 2024/25 totals cover different 12-month windows.

ALUVIAL SIGNAL

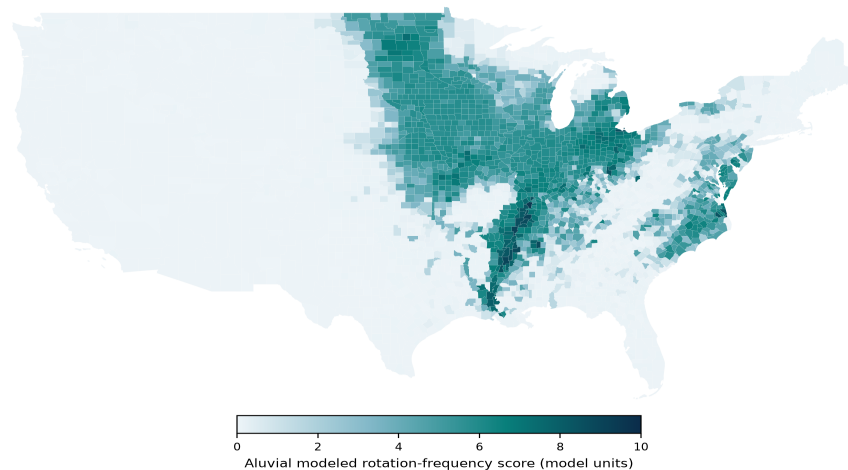
Fuel uses the oil, not the whole bean. More domestic processing moves the selling task into two markets. The meal must earn a place in a feed ration at a delivered price that covers the processor's economics.



AGRONOMIC FOUNDATIONS / SOY IS PART OF THE CORN SYSTEM

Changing acres is easier than changing the rotation.

Soy is a core rotational crop in the Corn Belt. Its place beside corn reflects established farming habits and know-how, equipment and buyers, plus the agronomic work the rotation performs. A weaker soybean bid does not make a replacement crop equally practical.



ALUVIAL MODELED ROTATION | CORE BELT MEDIAN 5.61 VS. 2.75*

Weeds and nutrients. Alternating corn and soy changes crop biology and management options. Corn following soy generally needs less fertilizer N than continuous corn. Weed control still depends on effective practices; a two-crop rotation alone does not solve herbicide resistance.

Replacing the broadleaf slot. Another crop must fit climate, soils, herbicide carryover, planting and harvest windows, equipment and a paying market. Dry beans, sunflower or other broadleaf crops can work in suitable regions, but are not universal substitutes. These hurdles can slow a sustained move away from soy.

*Defined state groups; county model v26.07.29, not observed crop sequences. Score units/time window need confirmation; not years. The map locates questions, not adoption speed. [13] Agronomy: UMN Extension, Small grain crop rotations; Adding alfalfa benefits corn-soybean rotations. Aluvial interpretation on adoption.

ALUVIAL SIGNAL

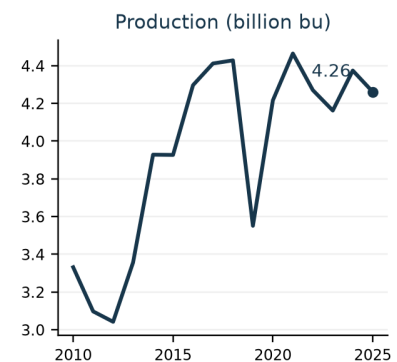
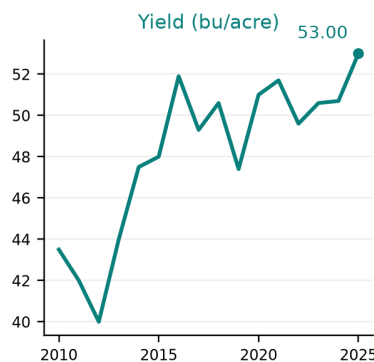
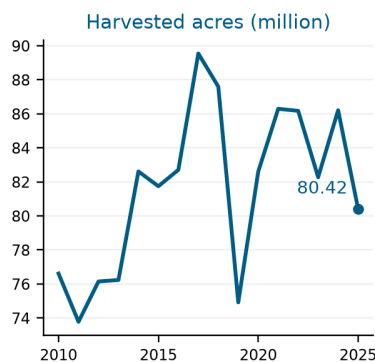
Corn and soy acres can trade places while the underlying system persists. Alternatives must work agronomically and commercially before they can displace soy at scale. That makes better-paying oil and meal demand central to the outlook; county-level models can test where alternatives fit.



OBSERVED USDA EVIDENCE / FEWER ACRES, PARTLY OFFSET BY YIELD

Acres moved. Yield softened the production decline.

Annual acreage flexibility can coexist with an established corn-soy system. In 2025, fewer harvested soybean acres were partly offset by record yield. These national totals show a supply response; they do not identify which rotations changed or which crops replaced soy.



-6.7%

Harvested acres
86.21M to 80.42M

+4.5%

Yield per harvested acre
50.7 to 53.0 bu

-2.6%

Soybean production
4.37B to 4.26B bu

2024 to 2025; USDA NASS history with September 30 revisions to 2025: 80.417M harvested acres, 53.0 bu/acre, 4.261B bushels. Rounded changes remain -6.7%, +4.5% and -2.6%. National averages conceal local losses. [14,19]

The 2027 budget test: if corn returns weaken relative to soy, farmers may favor soybean acres within the familiar system. Compare 2027 crop prices, local basis, yields and input costs; the September 30 December-2026 corn close alone cannot settle that choice.

ALUVIAL SIGNAL

A shift toward soy can be easier than a shift out of corn-soy farming. Weaker corn economics could support soybean acreage without creating new demand. Weather, harvest results and the next WASDE can still change the margin comparison and the supply outlook.



TRADE / WIN THE CUSTOMER, THEN EXECUTE THE SALE

Winning back a cargo is only one part of the answer.

China matters. So does the distinction between selling more U.S. beans to China and increasing total Chinese consumption. A change in origin can help U.S. basis while leaving the global demand total unchanged.

THE NEAR-TERM ACCESS TEST

ASA says the remaining 10% retaliatory duty constrains private importers. Relief could widen the buyer pool, but U.S. offers still have to compete on delivered cost and timing. A purchase pledge does not establish private buying margins. [3]

10.17 MMT

China commitments for U.S. beans, Marketing Year 2026/27, as of Sep 17.

Includes shipped exports plus outstanding sales. This is a dated demand indicator, not a current shipment total. [1]

KEEP THE TWO CLOCKS SEPARATE

The 25 MMT annual pledge for 2026-2028 and a September-August U.S. marketing-year commitment total do not share an accounting period. Subtracting one from the other does not establish a delivery shortfall. [1,2]

WHAT WOULD CHANGE THE VIEW?

Look for sustained net sales and shipments, not one strong week. The September stocks surprise supports the near-term U.S. balance, but does not establish new global consumption. Faster total China imports would challenge the slower-growth thesis; a change of supplier mainly changes market share. [19]

Product-specific tariff coverage and exemptions require current customs verification. Do not assume seed, meal, oil and commercial whole beans receive identical treatment.

ALUVIAL SIGNAL

Separate three outcomes: better access, a larger U.S. share and greater total demand. Each can matter to price, but they are not interchangeable. The strongest trade story is one that survives the shipment and local-bid test.



DOMESTIC DEMAND / THE FUEL OPPORTUNITY HAS CONDITIONS

Can fuel buy more beans? Yes. Capacity alone cannot.

High diesel prices make the question timely. More profitable biodiesel and renewable diesel output could support soybean oil demand. The investment test is whether plants can sell fuel, buy feedstock and keep running through the price cycle.

EXISTING U.S. CAPACITY / JANUARY 1, 2026

Biodiesel



128 thousand b/d

Renewable diesel + other biofuels



324 thousand b/d

EIA capacity, released Sep 24. Second category includes jet and other fuels; it is not all road diesel. Capacity is not output or available spare capacity. [5]

START WITH ACTUAL RUNS AND FEEDSTOCK CHOICE

EIA reports 1.556 billion lb of soybean oil used in biofuels in June 2026, versus 0.978 billion in January. That is evidence of use, not a forecast or proof of seasonally adjusted growth. Other oils and fats compete for the same plants. [6]

A HIGH DIESEL PRICE IS ONLY ONE SIDE OF THE MARGIN

Feedstock, energy, finance, policy credits and contracted fuel sales determine whether utilization or new capacity pays. Renewable diesel is a drop-in fuel; biodiesel has different blending requirements. Both can create oil demand, with different operating economics. [8]

More domestic fuel supply could ease pressure at the margin. It does not establish a pump-price reduction or lower soy volatility: petroleum prices, refining and distribution still matter, while soy gains new exposure to energy and policy. [9; Aluvial interpretation]

ALUVIAL SIGNAL

Measure additional fuel output using U.S. soybean oil before celebrating new nameplate capacity. Diversifying demand can reduce reliance on one export buyer, but it changes the risk mix. It does not remove price risk.



NEW OUTLETS / SELL BOTH PARTS OF THE BEAN

An oil customer helps. The meal needs a buyer too.

Crushing for fuel also produces protein. A stronger oil value can support the bean, but added meal must clear through livestock feed, aquaculture or exports. That second market can strengthen or limit the crush margin. [10]

ILLUSTRATIVE SCALE / ADDITIONAL OIL FROM NEW CRUSH

1 MMT

Additional soybean oil

5 MMT

Beans processed

3.9 MMT

Meal to find a home

Mass-balance illustration assumes 20% oil and 78% meal yields; 2% other/loss. Not a plant specification or a net-demand forecast. Oil diverted from existing food/export use would require less additional crush.

WHERE DOES THE ADDITIONAL MEAL GO?

Domestic feed: animal numbers and ration economics determine absorption.

Exports: compete for buyers such as the Philippines, Mexico, Colombia and Canada, alongside other origins and feed ingredients. [12]

If buyers do not clear it: meal values or crush margins weaken, stocks build, or processors slow runs. Capacity does not guarantee demand.

THE SCALE OF THE SELLING TASK

If all 3.9 MMT of this illustrative extra meal went abroad, it would equal about 24% of 2024/25 U.S. meal exports. That is a scale comparison, not a forecast. More oil demand may also draw from existing uses without new crush. [12; Aluvial calculation]

USDA already forecasts 2.78 billion bushels of 2026/27 crush. Do not count that expected demand twice. At the farm, compare processor and export bids after haul costs before changing the 2027 rotation budget. [7]

ALUVIAL SIGNAL

The next customer may buy oil, meal or beans. The durable opportunity is profitable demand for the whole crush package. Track where additional use becomes a stronger local bid before adding it to the farm budget.



U.S. PROCESSING / CAPACITY NEEDS A PAYING MARKET

America can crush more beans. Can both products pay for the run?

Domestic processing is already expanding. The next question is how much additional capacity can run profitably when oil and meal values, bean costs and delivery economics are considered together.

U.S. SOYBEAN CRUSH / BILLION BUSHEL PER MARKETING YEAR



Historical crush: USDA ERS March 2026 Yearbook, Table 3. F = September 2026 USDA forecast. 2024/25 is a historical estimate. These bars show throughput, not capacity. [15,7]

2.9-3.2 BILLION BU / ESTIMATED ANNUAL CAPACITY

ERS April 2026 inference from observed daily crush, assumed utilization and operating days. It is a dated analytical range, not a plant-by-plant nameplate census or a 2026/27 capacity forecast. [17]

EXPANSION IS REAL. UTILIZATION IS THE COMMERCIAL TEST.

Crush rose about 30% from 2015/16 to 2024/25; the 2026/27 forecast is 47% above 2015/16. ERS had estimated 2.8-3.1 billion bushels of capacity entering 2025/26. Different assumptions prevent treating the later range as a precise construction tally. [15,7,18]

Do not extrapolate announced plants as operating capacity. A five-year capacity outlook needs verified commissioning, closures, ramp-up and utilization assumptions; it is not supplied by a crush-volume CAGR.

ALUVIAL SIGNAL

The U.S. is building the ability to process more beans. The farmer benefits when oil and meal customers keep those plants bidding and running. More capacity is an opportunity; a profitable combined product margin turns it into demand.

MEAL DEMAND + PRICES / OIL CANNOT CARRY EVERY BUSHEL

More fuel needs oil. More crush still needs protein buyers.

2025/26 SOYBEAN MEAL USE / USDA PSD ESTIMATES

288.7 MMT

World domestic consumption

39.7 MMT

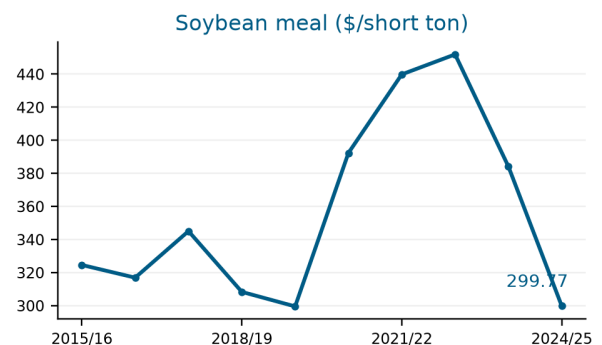
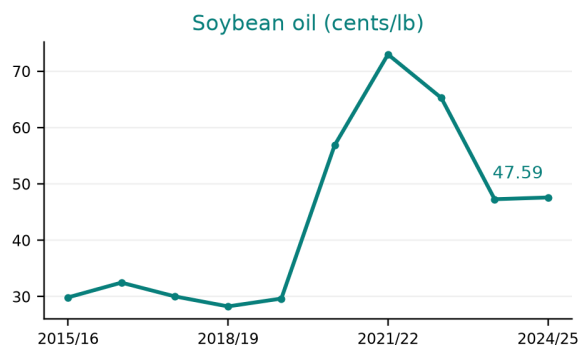
U.S. domestic consumption

18.6 MMT

U.S. exports

U.S. use is part of the world total. Exports are a trade flow, not extra world consumption. No reliable species-share breakdown is asserted here. [4]

Demand drivers: poultry and eggs, pork, dairy and other livestock; fed aquaculture also uses soy protein. Rising incomes and animal-protein diets can expand feed demand. But feed conversion, amino-acid formulation, competing proteins and species-specific inclusion limits can reduce meal needed per unit of output. [16]



USDA ERS annual nominal prices, Oct-Sep marketing years, 2015/16-2024/25 (latest estimated in March 2026 yearbook). Meal: 48% protein, Decatur IL solvent; oil: USDA annual price series. Separate units/axes; not futures or current quotes. [15]

The farmer needs a combined value: oil revenue + meal revenue, less bean, processing and delivery costs. More meal may clear at a lower price, helping feeders while offsetting some of the oil gain. Price history shows exposure; it does not prove biofuels caused a price move.

ALUVIAL SIGNAL

Growing protein diets create customers, not an unlimited price floor. Track meal consumption, exports and delivered prices alongside fuel demand. More tons sold can coexist with weaker meal value and a tighter crush margin.



ALUVIAL WATCH / WHAT WOULD PROVE THE DEMAND STORY?

Follow the paying customer. Then follow the local margin.

Watch total China imports, U.S. share, Brazil's crop, actual fuel output, soybean oil use and meal outlets together. Stronger consumption or a supply setback could change the outlook. Plant announcements alone do not.

Bring one Decision: region + outlet + delivery window.

Where does new demand improve your soybean return?

aluvial.ai/goal-session

Aluvial can connect policy, crop conditions and processing economics with county or sub-county budgets where data support that resolution. National averages frame the question; paid local analysis tests whether the opportunity reaches your operation.

SOURCE REGISTER / CLICK TO OPEN

- [1] USDA AMS GTR, Sep 24: commitments (Sep 17) and Iowa-Gulf spreads.
- [2] White House, Nov 1, 2025: annual soybean purchase pledge.
- [3] ASA, Sep 28, 2026: remaining duty and commercial-access assessment.
- [4] USDA PSD oilseeds dataset, downloaded Sep 30, 2026; Aluvial calculations.
- [5] EIA plant capacity, Jan 1, 2026; released Sep 24, 2026.
- [6] EIA biofuel feedstocks, Jan-Jun 2026; released Aug 31, 2026.
- [7] USDA ERS market outlook, updated Sep 18, 2026: U.S. crush forecast.
- [8] U.S. DOE Alternative Fuels Data Center: renewable diesel characteristics.
- [9] EIA: What goes into diesel prices? September 2026.
- [10] USDA ERS sector overview: oil/meal use and export-market structure.
- [11] USDA NASS soybean yield chart, Jan 12, 2026: 2015 and 2025 yields.
- [12] USSEC, Jan 20, 2026: Marketing Year 2024/25 export volumes and meal destinations.
- [13] Aluvial county model v26.07.29; regional definitions and limitations in review notes.
- [14] USDA NASS 2025 Summary; K2 historical-series extract, 2010-2025.
- [15] USDA ERS Oil Crops Yearbook, March 2026; Tables 3-5: crush and product prices.
- [16] OECD-FAO Agricultural Outlook 2025-2034: oilseeds and protein-meal demand.
- [17] USDA ERS April 2026 Outlook: capacity inference, operating-day/utilization assumptions.
- [18] USDA ERS July 2025 Outlook: capacity estimate entering 2025/26.
- [19] USDA NASS Grain Stocks, Sep 30, 2026: stocks and revised 2025 soybean crop.
- [20] Pro Farmer, Sep 30, 2026: closing futures and cross-grain market interpretation.

Charts show marketing years, not calendar-year customs totals. USDA country marketing-year calendars differ. Official PSD series is used consistently; overseas Post estimates can differ. Policy and market observations retain their own dates. Page 1 retains the September 30 PSD download vintage.

ALUVIAL SIGNAL

The test is additional use at a price that works. Aluvial follows the connection from global supply through oil and meal demand to the farmer's margin. That is where a demand story becomes a decision.