

Projected Profitability Update from the November USDA Reports

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Executive Summary

- USDA projects 2024 U.S. corn and soybean yields of 183.1 and 51.7 bushels per acre, respectively. Indiana's 2024 corn and soybean yields are pegged at a record 209 and 62 bushels per acre, respectively. The U.S. corn yield would be a record if realized.
- The 2024 Indiana soybean crop would be a record at 358.4 million bushels.
- USDA projected 2024 corn ending stocks 3% lower than the October projections but reduced soybean stocks by 14.5% from October.
- USDA projects that 2024-25, corn and soybean stocks will increase to their largest inventories relative to projected use since 2019.
- The increase in stocks will cause a headwind in price potential. USDA projects the 2024 U.S. corn price at \$4.10 a bushel and the soybean price at \$10.80 per bushel. If realized, the 2024 average corn and soybean prices will be \$2.44 and \$3.40 a bushel, respectively, lower than the average price received in 2022.
- Profit margins continue to be squeezed, especially for farmers renting a substantial proportion of their land base. To meet liquidity problems, farmers may need to use working capital or increase operating debt.

The U.S. Department of Agriculture (USDA) updated the projected size of the 2024 corn and soybean crops on November 8 based on farmer surveys and measurements within the corn and soybean fields. USDA reduced the average U.S. corn yield by 0.7 bushels per acre and trimmed the average soybean yield by 1.4 bushels from the October report for estimated yields of 183.1 and 51.7 bushels per acre, respectively. If realized, the 2024 U.S. corn yield will be a record and 4% larger than 2023. In addition, the 2024 U.S. corn and soybean crops would be the second largest on record, continuing the stocks rebuilding process from 2022.

USDA's November report also increased Indiana's corn and soybean average yields by 7 and 2 bushels per acre to a record 209 and 62 bushels per acre, respectively. USDA is projecting the Indiana soybean crop to reach a record 358 million bushels.

The November World Agricultural Supply and Demand Estimates (WASDE) trimmed the projected corn supply but kept corn demand unchanged from the October estimates. The net effect of these adjustments is a 3% reduction in 2024, ending corn stocks to a projected carry-out of 1.94 billion bushels, a positive sign for the corn market. USDA kept the projected average 2024 U.S. farm price unchanged from the October projections, waiting for further signs of reduced supply or increased demand.

The story in the corn market is the continued rebuilding of inventory since the 2022 crop. USDA projects corn stocks to increase by about 580 million bushels from the 2022 crop. If realized, the 2024 corn ending stocks would be the largest quantity of stocks relative to use since the 2019 marketing year. The larger corn inventory will limit price potential, with the U.S. average farm price projected at \$4.10 per bushel, a \$0.45-bushel reduction from the 2023 corn crop but a \$2.44 bushel below the average farm price for the 2022 crop.

USDA currently projects the 2024 soybean supply to increase by 8% from last year; however, total use is projected to grow by only 6%. USDA is projecting both crush demand and export demand to increase from last year but not at a pace that offsets the increase in supply.

Like corn, the soybean market has been blessed with large crops, which has allowed stocks to rebuild from 2022. USDA projects 2024's ending soybean stocks at 470 million bushels, a 37% increase from 2023 and a 78% increase since 2022. The stock increase has lowered the projected U.S. soybean farm price to \$10.80 a bushel. If realized, this would be \$1.60 less than the average price in 2023 and \$3.40 per bushel below the 2022 average farm price.

USDA projects the soybean ending stock-to-use ratio at 10.8%, the largest relative soybean inventory to demand since 2019. This large relative inventory will be a headwind for higher soybean prices without an increase in domestic demand or the threat of reduced production from South America.

2024 Budgeted Corn and Soybean Profitability Update

Table 1 provides an updated estimate of the profitability of an Indiana corn and soybean farm, assuming the state average yields from the November *Crop Production* report combined with the average costs from the 2024 *Purdue University Crop Enterprise Budgets*. The harvest cash price is the 2024 harvest price for the revenue protection crop insurance program adjusted by the expected harvest basis. The state average corn and soybean yields of 209 bushels of corn and 62 bushels of soybeans are assumed in this budget to provide a harvest revenue of \$817 and \$600 per acre for corn and soybeans, respectively. The 2024 total variable costs for rotation corn and soybeans are \$627 and \$337 per acre. The average yielding corn-soybean rotation's return over variable costs is budgeted at \$227 per acre.

The lower portion of Table 1 compares three land-tenure scenarios: renting 0%, renting 50%, and renting 100% of the land base. The cash rental rate of \$253 is from the July 2023 *Purdue University Cash Rent Survey*. The machinery overhead and family living expenses for a 1,000-acre farm are budgeted at \$139 and \$64 per acre, respectively.

The potential for harvesting record corn and soybean yields will improve the likelihood of covering rent, overhead, and family living expenses, depending on the land-tenure scenario. A farm that owns 100% of the land base would have a \$24 per acre return over total budgeted costs. Farms renting 50% of the land base would lose \$103/acre, while those farmers renting a larger proportion of their land base would have a larger budgeted loss.

You may wonder why the budget does not show crop insurance indemnities, ARC and PLC payments. Those risk management tools are excluded from the budget because they are not likely to trigger payments for the 2024 corn and soybean crops. The record corn and soybean yields would offset the lower harvest price used in calculating crop insurance indemnities. Similarly, county corn and soybean yields will be too large to start triggering any ARC-County payments even with lower marketing-year average prices. PLC only requires the marketing-year average price to fall below the Effective Reference Price of \$4.01 and \$9.26 a bushel for corn and soybeans, respectively. The November WASDE projected marketing-year average prices are currently higher than the price that would trigger a PLC payment.

There is discussion of an emergency disaster program administered through FSA that would pay corn and soybean producers per planted acre to compensate for negative profit margins from low commodity prices and high production costs. The payment would be \$100 per acre for corn and \$50 per soybean acre. For the example land tenure in Table 1, the FARM payment would add \$75 per acre for the rotation.

If the FARM program is signed, payments would improve farmer liquidity but not eliminate the budgeted loss for those farms renting a considerable proportion of their land base. However, the \$75 per acre payment would also support cash rental rates and will be included in the Department of Local Government Finance agricultural land value base rate calculation.

Table 1. 2024 Budgeted Profitability for a 1,000 Acre Indiana Corn-Soybean Farm.

	2024 Budgeted Returns		
	-- November Reports --		
	Corn	Soybeans	
RP Harvest Cash Price (\$/bu)	\$3.91	\$9.68	
IN Harvest Yield (bu/acre)	209	62	
Harvest Revenue (\$/acre)	\$817	\$600	
Total Variable Costs (\$/acre)	\$627	\$337	
Return over Variable Costs (\$/acre)	\$190	\$263	
Rotation Return over Variable Costs (\$/acre)	\$227		
	-- 50% Corn - 50% Soybean 1,000 acre Farm --		
	Percentage of Land Cash Rented		
	0%	50%	100%
Return over Variable Costs & Land (\$/acre)	\$227	\$100	-\$26
Return over Overhead and Family Living (\$/acre)	\$24	-\$103	-\$229
	Cash Rent \$253		
	Overhead \$139		
	Family Living and Labor \$64		

Sources: 2024 Purdue University *Crop Enterprise Budgets*, November 2024 USDA: NASS *Crop Production Report*, USDA: RMA 2024 *Crop RP Crop Insurance Harvest Price*.

Take-Away Message

Profit margins continue to tighten, and farmers may need to use working capital or increase operating debt to meet liquidity problems. As farmers update their crop enterprise and cash flow budgets, it may be an excellent opportunity to talk with your lender about your profitability expectations for 2024 and your plans for managing any cash flow problems. If you typically combine your household finances with the farm business finances, including family members in this conversation may be beneficial.