

# Costs to Produce Corn and Soybeans in Illinois-2024

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In 2024, the total of all economic costs per acre for growing corn in Illinois averaged \$1,206 in the northern section, \$1,251 in the central section for farmland with "high" soil ratings, \$1,222 in the central section for farmland with "low" soil ratings, and \$1,154 in the southern section. Soybean costs per acre were \$890, \$931, \$885 and \$863, respectively (see Table 1). Costs were lower in southern Illinois primarily because of lower land costs. The total of all economic costs per bushel in the different sections of the state ranged from \$5.09 to \$5.86 for corn and from \$12.42 to \$15.41 for soybeans. Variations in these costs were related to weather, yields, and land quality.

These figures were obtained from farm business records kept by farmers enrolled in the Illinois Farm Business Farm Management Association. The samples included only farms with more than 500 acres of productive and nearly level soils in each area of the state; these are farms without livestock. Farms located in the 22 counties north and northwest of the Illinois River are included in the sample for northern Illinois. Farms from 36 counties below a line from about Mattoon to Alton are in the sample for southern Illinois. The remaining 44 counties make up the sample for central Illinois. The sample farms averaged 1,725 tillable acres in northern Illinois, 1,621 acres in the central section with high soil ratings, 1,652 acres in the central section with lower soil ratings, and 1,807 acres in southern Illinois. This economic analysis includes some factors in the cost of doing business that nonagricultural businesses may not include. These factors are not used as expense items on income tax returns. Examples include the charge for labor performed by the farm operator, a rental charge for the use of owned and rented land, and an interest charge on equity in machinery and inventories of grain and livestock. In the short run, farm operators may continue to produce without covering these total economic costs of production. However, if returns do not equal the total economic cost of production, in the long run, it will be difficult to maintain the same level of resources in the farm business. Also, producers will be challenged to lower their cost of production or increase volume as profit margins remain narrow.

#### **Nonland Costs**

Soil fertility costs for soybeans were allocated on the basis of phosphorus, potassium, and lime removal, with the residual cost allocated to corn. The costs of fuel, machine hire, and machinery repairs were reduced by income received from custom work. Labor costs included the cash value of hired labor, plus a charge for available unpaid labor at a rate of \$4,400 per month. This rate represents a charge for only the physical labor input, not including a charge for management. Building and storage costs were for repairs and depreciation only. The nonland interest rate in 2024 was set at 8.0 percent. This figure was then multiplied by the sum of half the average inventory value of crops at the beginning and the end of the year, the remaining economic depreciation value of machinery and buildings, and half the total operating expenses. The result is the total nonland interest charge. Overhead costs included insurance, utilities, the farm share of light vehicle

expenses, and miscellaneous items. As mentioned above, no charge has been made in this analysis for management, but it may normally be about 7 percent of the total cost per bushel or 38 cents for corn and 97 cents per bushel for soybeans.

# Land Costs

Land costs were the weighted average of owned, crop share and cash rent costs. Owned land costs include real estate taxes and an interest charge on owned land. For 2024, the land interest charge was 1.90 percent. The land cost for crop shared acres is the labor and equipment charges needed to produce a crop on non-revenue acres (acres the operator does not receive production from). Cash rent costs are the amounts paid to cash rent landlords. Caution is needed in interpreting differences in land costs between areas.

## **Cost Per Bushel and Acre**

Costs **per bushel** of corn in 2024 as compared to 2023 were lower in all regions of the state. Costs per bushel were lower due to higher yields, less fertility, power costs, and land costs. Costs per bushel were 59 cents lower in northern Illinois, 66 cents lower in central Illinois with the higher rated soils, 61 cents lower in central Illinois with the lower rated soils and 56 cents lower in southern Illinois.

The average corn yield in 2024 was 8 bushel per acre higher than 2023 in northern Illinois, 12 to 13 bushel higher in central Illinois and 8 bushels higher than 2023 in southern Illinois. The 2024 average corn yield in the different geographical locations ranged from 2 bushel higher to 19 bushels per acre higher than the five-year average from 2020 to 2024.

Costs **per acre** for corn were lower in all the different geographic regions in Illinois compared to 2023. Across the state, total costs per acre to produce corn decreased from 5 to 7 percent. Fertility costs decreased the most statewide.

Production costs **per bushel** of soybeans in 2024 in Illinois compared to 2023 decreased across the state except for southern Illinois due to lower yields. Costs per bushel decreased due to yields staying similar to 2023, but with the same cost decreasing as for corn. Soybean yields ranged from 5 bushels less to 2 bushels per acre higher in 2024 compared to 2023. Changes in costs per bushel ranged from 78 cents lower in northern Illinois to 98 cents higher in southern Illinois.

Total costs **per acre** for soybeans decreased in Illinois when compared to 2023. Costs decreased \$26 per acre in northern Illinois, \$36 per acre in central Illinois with the higher rated soils, \$20 per acre in central Illinois with the lower rated soils and \$17 per acre in southern Illinois when compared to 2023. Average soybean yields in the different areas ranged from 3 bushel lower to 4 bushel higher per acre when comparing to the five-year average from 2020 to 2024.

## **State Averages**

Total costs to produce corn for all combined areas of the state were \$1,221 per acre. This is \$82 per acre lower than 2023. Variable costs decreased \$86 per acre or 13 percent, other nonland costs increased \$11 per acre, and land costs decreased \$7 per acre. In 2024, cash costs accounted for 46 percent of the total cost of production for corn, other nonland costs were 31 percent, and land costs were 23 percent. The average corn yield for all combined areas of the state was 235 bushels per

acre resulting in a total cost of production of \$5.20 per bushel. The average corn yield in 2024 was the highest on record and 7 bushels to the acre greater than the previous record year of 2022. Total costs per acre were the second highest on record while total costs per bushel were the third highest on record with 2012 being the highest.

Total cost per acre to produce soybeans decreased, from \$929 per acre in 2023 to \$903 per acre in 2024. Variable cash costs accounted for 33 percent of the total cost of production for soybeans, other nonland costs 37 percent and land costs 31 percent. The average soybean yield for all combined areas of the state was 70 bushels per acre resulting in a total cost of production of \$12.90 per bushel. The cost per bushel to raise soybeans the last five years averaged \$11.85 per bushel.

## **Cost Comparison**

Average variable costs per bushel of corn for the five-year period 2020 through 2024 ranged from \$2.35 in northern Illinois to \$2.64 in southern Illinois. Total costs per bushel ranged from \$4.92 in central Illinois with the lower rated soils to \$5.29 in southern Illinois. Total costs per bushel were higher in southern Illinois due to lower yields over the five-year period from 2020 through 2024.

Average variable costs per bushel of soybeans for the five-year period 2020 through 2024 ranged from \$3.83 in central Illinois with higher rated soils to \$4.77 in southern Illinois. Total costs per bushel varied from \$11.48 in central Illinois with the higher rated soils to \$12.96 in southern Illinois. Like for corn, soybeans total cost per bushel were higher in southern Illinois due to lower yields during the most recent five-year period.

## 2025 Forecast

Forecasts for Illinois production costs in 2025 look to decrease using the Department of Agricultural and Consumer Economics at the University of Illinois's 2025 crop budgets and the USDA's Cost-of-Production Forecasts as a guide. For corn, 2025 variable costs are projected to decrease 4 percent, mainly due to lower soil fertility costs. For 2025, soybeans have a similar projected percentage decrease of variable costs of 4 percent. This decrease is also primarily due to lower soil fertility costs. These decreases coupled with slightly higher overhead costs, lower interest and land costs have the possibility to lead to lower costs, but not enough to offset currently lower projected grain prices for 2025.

#### Acknowledgment

The author would like to acknowledge that data used in this study comes from Illinois Farm Business Farm Management (FBFM) Associations across the state. Without their cooperation, information as comprehensive and accurate as this would not be available for educational purposes. FBFM, which consists of 4,900 plus farmers and 70 plus professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM field staff provide on-farm counsel with recordkeeping, farm financial management, business entity planning and income tax management. For more information, please contact the State FBFM Office located at the University of Illinois Department of Agricultural and Consumer Economics at 217-333-8346 or visit the FBFM website at www.fbfm.org.





	Corn				Soybeans			
	Northern	Central <sup>1</sup> High	Central <sup>2</sup> Low	Southern	Northern	Central <sup>1</sup> High	Central <sup>2</sup> Low	Southern
Number of Farms	313	525	270	171	313	525	270	171
Acres in crop	973	811	846	683	707	786	768	922
NONLAND COSTS								
Variable Costs:								
Soil Fertility	\$197	\$218	\$219	\$210	\$58	\$65	\$64	\$69
Pesticides	100	118	116	110	63	71	72	72
Seed	128	127	136	120	80	81	71	73
Drying	15	19	15	8	-	-	1	-
Repairs, fuel and hire	<u>101</u>	<u>92</u>	<u>93</u>	<u>96</u>	<u>88</u>	79	<u>84</u>	<u>86</u>
Total variable costs	\$542	\$574	\$579	\$543	\$289	\$297	\$293	\$300
Percent change from 2023	-15%	-13%	-12%	-13%	-7%	-9%	-9%	-8%
Other nonland costs								
Labor	\$55	\$55	\$59	\$70	\$49	\$52	\$57	\$63
Buildings	30	23	26	28	15	19	18	17
Storage	10	16	12	8	4	9	5	6
Machinery depreciation	85	87	83	102	73	76	71	87
Nonland interest	127	134	127	129	105	120	111	121
Overhead	<u>66</u>	65	<u>69</u>	<u>69</u>	<u>64</u>	61	<u>64</u>	<u>63</u>
Total, other costs	. \$373	\$380	\$377	\$406	\$310	\$336	\$327	\$358
Total, nonland costs	\$915	\$953	\$956	\$949	\$599	\$633	\$619	\$658
Percent change from 2023	-9%	-8%	-7%	-5%	-3%	-4%	-3%	-1%
LAND COSTS								
Total land costs <sup>3</sup>	\$291	\$298	\$266	\$205	\$291	\$298	\$266	\$205
TOTAL all costs	\$1 206	\$1 251	\$1 222	\$1 154	\$890	\$931	\$885	\$863
Percent change from 2023	-7%	-7%	-5%	-5%	-3%	-4%	-2%	-2%
	007	244	007	107	60	75	70	50
2024 yields, bushels per acre	237	244	237	197	00	75	70	50
Nonland costs per bushel	\$3.86	\$3.91	\$4.03	\$4.82	\$8.81	\$8.44	\$8.85	\$11.75
Total, all costs per bushel	. \$5.09	\$5.13	\$5.15	\$5.86	\$13.09	\$12.42	\$12.65	\$15.41
2020-2024 average yield	221	229	218	195	65	72	66	59
Nonland costs per bushel	\$4.13	\$4.16	\$4.38	\$4.86	\$9.19	\$8.82	\$9.36	\$11.12
Total, all costs per bushel	. \$5.45	\$5.46	\$5.59	\$5.91	\$13.65	\$12.97	\$13.38	\$14.58

#### Table 1. Cost Per Acre for Growing Corn and Soybeans on Illinois Grain Farms Without Livestock in 2024

Note: The last two lines of the table are costs based on 2020-2024 average yields

<sup>1</sup> Soil productivity ratings of 86 to 100

<sup>2</sup> Soil productivity ratings of 56 to 85

<sup>3</sup> Weighted average of owned, crop share and cash rent land costs