



Cost to Produce Corn and Soybeans in Illinois—2021

Bradley Zwilling

Illinois FBFM Association and Department of Agricultural and Consumer Economics
University of Illinois

April 15, 2022

farmdoc daily (12): 52

Recommended citation format: Zwilling, B. “[Cost to Produce Corn and Soybeans in Illinois—2021](https://farmdocdaily.illinois.edu/2022/04/cost-to-produce-corn-and-soybeans-in-illinois-2021.html).” *farmdoc daily* (12): 52, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 15, 2022.

Permalink: <https://farmdocdaily.illinois.edu/2022/04/cost-to-produce-corn-and-soybeans-in-illinois-2021.html>

In 2021, the total of all economic costs per acre for growing corn in Illinois averaged \$952 in the northern section, \$960 in the central section for farmland with “high” soil ratings, \$908 in the central section for farmland with “low” soil ratings, and \$876 in the southern section. Soybean costs per acre were \$704, \$716, \$660 and \$668, 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 \$4.19 to \$4.51 for corn and from \$9.94 to \$10.67 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 1,625 tillable acres in northern Illinois, 1,550 acres in the central section with high soil ratings, 1,511 acres in the central section with lower soil ratings, and 1,885 acres in southern Illinois.

Cost of Production For Corn Compared to 2020

Costs per bushel of corn in 2021 as compared to 2020 were higher in all regions of the state besides southern Illinois. Costs were lower in southern Illinois due to much higher yields. Costs per bushel were increased even with higher yields due to greater fertility, pesticides, overhead costs as well as machinery repairs, fuel and machine hire costs. Costs per bushel were 17 cents higher in northern Illinois, 17 cents higher in central Illinois with the higher rated soils, 16 cents higher in central Illinois with the lower rated soils and 20 cents lower in southern Illinois.

The average corn yield in 2021 was 11 bushels per acre higher than 2020 in northern Illinois, 6 bushels to 7 bushel higher in central Illinois and 25 bushels higher than 2020 in southern Illinois. The 2021 average corn yield in the different geographical locations ranged from one bushel lower to 25 bushels per acre higher than the five-year average from 2017 to 2021.

We request all readers, electronic media and others follow our citation guidelines when re-posting articles from farmdoc daily. Guidelines are available [here](#). The farmdoc daily website falls under University of Illinois copyright and intellectual property rights. For a detailed statement, please see the University of Illinois Copyright Information and Policies [here](#).

Costs per acre for corn were higher in all the different geographic regions in Illinois compared to 2020. Across the state, total costs per acre to produce corn increased from 7 to 10 percent. Land and pesticide costs increased the most statewide.

Cost of Production For Soybeans Compared to 2020

Production costs per bushel of soybeans in 2021 in Illinois compared to 2020 varied across the state. Costs per bushel increased in northern Illinois because of higher seed costs and in the central section of Illinois with lower soil ratings due to less of an increase in yields. Costs were lower in central Illinois with higher soil ratings and southern Illinois due to a higher increase in yields. Soybean yields ranged from 5 to 7 bushels per acre higher in 2021 compared to 2020. Changes in costs per bushel ranged from 23 cents lower in southern Illinois to 14 cents higher in northern Illinois.

Total costs per acre for soybeans increased in Illinois when compared to 2020. Costs increased \$72 per acre in northern Illinois, \$56 per acre in central Illinois with the higher rated soils, \$53 per acre in central Illinois with the lower rated soils and \$60 per acre in southern Illinois when compared to 2020. Average soybean yields in the different areas ranged from 3 to 7 bushel higher per acre when comparing to the five-year average from 2017 to 2021.

State Averages

Total costs to produce corn for all combined areas of the state were \$937 per acre. This is \$69 per acre higher than 2020. Variable costs increased \$34 per acre or 8 percent, other nonland costs increased \$14 per acre, and land costs increased \$21 per acre. In 2021, cash costs accounted for 47 percent of the total cost of production for corn, other nonland costs were 27 percent, and land costs were 26 percent. The average corn yield for all combined areas of the state was 213 bushels per acre resulting in a total cost of production of \$4.40 per bushel. The average corn yield in 2021 was the highest in the last 3 years and 10 bushels to the acre more than 2020. Total costs per acre were the highest since 2013 while total costs per bushel were the second highest in the last five years.

Total cost per acre to produce soybeans increased, from \$635 per acre in 2020 to \$693 per acre in 2021. Variable cash costs accounted for 33 percent of the total cost of production for soybeans, other nonland costs 32 percent and land costs 35 percent. The average soybean yield for all combined areas of the state was 68 bushels per acre resulting in a total cost of production of \$10.19 per bushel. The cost per bushel to raise soybeans the last five years averaged \$10.23 per bushel.

Forecasts for Illinois production costs in 2022 look to increase using Gary Schnitkey's [2022 Crop Budgets](#) and the USDA's Cost-of-Production Forecasts as a guide. For corn, 2022 variable costs are projected to increase 39 percent, mainly due to soil fertility costs. However, this increase could be more depending on when fertilizer was purchased. For 2022, soybeans have a larger projected percentage increase of variable costs of 46 percent. This increase is also primarily due to soil fertility costs. These increases coupled with monitoring overhead and land costs have the possibility to be offset with currently higher projected grain prices for 2022.

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 5,500 plus farmers and 60 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.

A more complete discussion of how some of the costs are calculated can be found under Illinois Farm Management Handbook in the management section of *farmdoc*:

<https://farmdoc.illinois.edu/handbook/cost-to-produce-corn-and-soybeans-in-illinois>

Table 1. Cost Per Acre for Growing Corn and Soybeans on Illinois Grain Farms Without Livestock in 2021

	Corn				Soybeans			
	Northern	Central ¹	Central ²	Southern	Northern	Central ¹	Central ²	Southern
		High	Low			High	Low	
Number of Farms	333	530	284	168	333	530	284	168
Acres in crop	937	780	767	784	643	753	712	910
NONLAND COSTS								
Variable Costs:								
Soil Fertility	\$141	\$154	\$151	\$148	\$38	\$45	\$42	\$50
Pesticides	79	90	87	80	47	54	54	55
Seed	116	114	114	101	71	72	60	65
Drying	16	20	14	11	-	-	1	-
Repairs, fuel and hire	91	74	73	86	78	64	65	74
Total variable costs.....	\$443	\$452	\$439	\$426	\$234	\$235	\$222	\$244
Percent change from 2020	11%	7%	6%	10%	16%	9%	9%	14%
Other nonland costs								
Labor	\$50	\$50	\$51	\$62	\$44	\$47	\$48	\$57
Buildings	25	18	20	24	13	15	14	14
Storage	3	6	5	4	1	3	2	3
Machinery depreciation	67	69	67	69	58	60	58	66
Nonland interest	46	47	44	43	38	42	38	41
Overhead	62	59	59	60	60	55	55	55
Total, other costs.....	\$253	\$249	\$246	\$262	\$214	\$222	\$215	\$236
Total, nonland costs	\$696	\$701	\$685	\$688	\$448	\$457	\$437	\$480
Percent change from 2020....	11%	7%	6%	6%	15%	7%	8%	8%
LAND COSTS								
Total land costs ³	\$256	\$259	\$223	\$188	\$256	\$259	\$223	\$188
TOTAL, all costs	\$952	\$960	\$908	\$876	\$704	\$716	\$660	\$668
Percent change from 2020.....	10%	8%	7%	8%	12%	9%	9%	10%
2021 yields, bushels per acre	211	221	205	209	66	72	65	64
Nonland costs per bushel	\$3.30	\$3.17	\$3.34	\$3.29	\$6.79	\$6.35	\$6.72	\$7.50
Total, all costs per bushel	\$4.51	\$4.34	\$4.43	\$4.19	\$10.67	\$9.94	\$10.15	\$10.44
2017-2021 average yield	207	221	206	184	62	69	62	57
Nonland costs per bushel	\$3.36	\$3.17	\$3.33	\$3.73	\$7.23	\$6.64	\$7.09	\$8.39
Total, all costs per bushel	\$4.60	\$4.34	\$4.41	\$4.75	\$11.35	\$10.41	\$10.71	\$11.68

Note: The last two lines of the table are costs based on 2017-2021 average yields

¹ Soil productivity ratings of 86 to 100

² Soil productivity ratings of 56 to 85

³ Weighted average of owned, crop share and cash rent land costs

farmdocDAILY

References

Schnitkey, G. "Crop Budgets, Illinois, 2022." Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 12, 2022.

USDA. "Cost-of-Production Forecasts for U.S. Major Field Crops, 2021F-2022F." https://www.ers.usda.gov/webdocs/DataFiles/47913/cop_forecast.xlsx?v=2929.1