



Cost to Produce Corn and Soybeans in Illinois—2020

Bradley Zwilling

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

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In 2020, the total of all economic costs per acre for growing corn in Illinois averaged \$869 in the northern section, \$893 in the central section for farmland with “high” soil ratings, \$850 in the central section for farmland with “low” soil ratings, and \$808 in the southern section. Soybean costs per acre were \$632, \$661, \$607 and \$608, 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 \$4.17 to \$4.39 for corn and from \$10.02 to \$10.67 for soybeans. Variations in this cost 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 1,692 tillable acres in northern Illinois, 1,516 acres in the central section with high soil ratings, 1,461 acres in the central section with lower soil ratings, and 1,660 acres in southern Illinois.

Cost of Production for Corn Compared to 2019

Costs per bushel of corn in 2020 as compared to 2019 were lower in all regions of the state. Costs per bushel were lower due to higher yields and lower nonland interest costs. Costs per bushel were 25 cents lower in northern Illinois, 21 cents lower in central Illinois with the higher rated soils, 47 cents lower in central Illinois with the lower rated soils and 43 cents higher in southern Illinois.

The average corn yield in 2020 was 9 bushels per acre higher than 2019 in northern Illinois, 6 bushels to 12 bushel higher in central Illinois and 12 bushels higher than 2019 in southern Illinois. The 2020 average corn yield in the different geographical locations ranged from 10 bushels lower to 9 bushel per acre higher than the five-year average from 2016 to 2020.

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Costs per acre for corn were lower in all the different geographic regions in Illinois compared to 2019. Across the state, total costs per acre to produce corn varied from 1 to 4 percent decrease. Nonland interest decreased the most statewide, while some areas experienced decreases in drying and fertility costs.

Cost of Production for Soybeans Compared to 2019

Production costs per bushel of soybeans in 2020 decreased in Illinois in comparison to 2019. Costs per bushel decreased due to higher yields and lower nonland interest costs. Soybean yields ranged from 2 to 3 bushels per acre higher in 2020 compared to 2019. Changes in costs per bushel ranged from \$1.45 lower in southern Illinois to 33 cents lower in northern Illinois.

Total costs per acre mostly decreased in Illinois when compared to 2019. Costs increased \$2 per acre in northern Illinois, decreased \$12 per acre in central Illinois with the higher rated soils, decreased \$21 per acre in central Illinois with the lower rated soils and decreased \$21 per acre in southern Illinois when compared to 2019. Average soybean yields in the different areas ranged from 2 bushels lower to 1 bushel higher per acre when comparing to the five-year average from 2016 to 2020.

State Averages

Total costs to produce corn for all combined areas of the state were \$868 per acre. This is \$20 per acre lower than 2019. Variable costs decreased \$10 per acre or 2 percent, other nonland costs decreases \$14 per acre, and land costs increased \$4 per acre. In 2020, cash costs accounted for 47 percent of the total cost of production for corn, other nonland costs were 27 percent, and land costs were 25 percent. The average corn yield for all combined areas of the state was 203 bushels per acre resulting in a total cost of production of \$4.28 per bushel. The average corn yield in 2020 was the second lowest in the last 5 years, but 9 bushels to the acre more than 2019. Total costs per acre were the second highest in the last five years while total costs per bushel were the second highest in the last five years as well.

Total cost per acre to produce soybeans decreased, from \$648 per acre in 2019 to \$635 per acre in 2020. Nonland interest accounted for most of the decrease. 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 62 bushels per acre resulting in a total cost of production of \$10.24 per bushel. The cost per bushel to raise soybeans the last five years averaged \$10.14 per bushel.

Forecasts for Illinois production costs in 2021 look to increase using Gary Schnitkey's 2021 crop budgets and the USDA's Cost-of-Production Forecasts as a guide. For corn, 2021 variable costs are projected to increase 1 percent, mainly due to soil fertility costs. However, this increase will greatly depend on when fertilizer was purchased. For 2021, soybeans have a larger projected percentage increase of variable costs of 5 percent. This increase is also primarily due to soil fertility costs. These increases coupled with monitoring overhead and land costs will be offset with currently higher projected grain prices for 2021.

The author would like to acknowledge that data used in this study comes from the local Farm Business Farm Management (FBFM) Associations across the State of Illinois. 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 computerized 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 2020

	Corn				Soybeans			
	Northern	Central ¹ High	Central ² Low	Southern	Northern	Central ¹ High	Central ² Low	Southern
Number of Farms	337	510	282	173	337	510	282	173
Acres in crop	1,042	770	749	738	603	723	685	780
NONLAND COSTS								
Variable Costs:								
Soil Fertility	\$132	\$143	\$144	\$133	\$34	\$42	\$40	\$39
Pesticides	59	78	75	70	35	47	46	48
Seed	109	112	116	104	64	71	61	64
Drying	18	22	18	10	-	-	1	-
Repairs, fuel and hire	<u>81</u>	<u>66</u>	<u>63</u>	<u>71</u>	<u>69</u>	<u>57</u>	<u>56</u>	<u>63</u>
Total variable costs.....	\$399	\$421	\$416	\$388	\$202	\$217	\$204	\$214
Percent change from 2019	-1%	-3%	-3%	-1%	3%	-2%	-2%	-4%
Other nonland costs								
Labor	\$46	\$48	\$48	\$64	\$40	\$45	\$46	\$59
Buildings	23	19	19	25	12	16	13	14
Storage	9	10	9	5	4	5	3	4
Machinery depreciation	58	65	63	71	50	56	55	68
Nonland interest	45	48	45	43	37	43	39	41
Overhead	<u>48</u>	<u>48</u>	<u>46</u>	<u>50</u>	<u>46</u>	<u>45</u>	<u>43</u>	<u>46</u>
Total, other costs.....	\$229	\$238	\$230	\$258	\$189	\$210	\$199	\$232
Total, nonland costs	\$628	\$659	\$646	\$646	\$391	\$427	\$403	\$446
Percent change from 2019....	-2%	-4%	-5%	-3%	-1%	-4%	-4%	-4%
LAND COSTS								
Total land costs ³	\$241	\$234	\$204	\$162	\$241	\$234	\$204	\$162
TOTAL, all costs	\$869	\$893	\$850	\$808	\$632	\$661	\$607	\$608
Percent change from 2019.....	-1%	-2%	-4%	-2%	0%	-2%	-3%	-3%
2020 yields, bushels per acre	200	214	199	184	60	66	60	57
Nonland costs per bushel	\$3.14	\$3.08	\$3.25	\$3.51	\$6.52	\$6.47	\$6.72	\$7.82
Total, all costs per bushel	\$4.35	\$4.17	\$4.27	\$4.39	\$10.53	\$10.02	\$10.12	\$10.67
2016-2020 average yield	209	223	209	175	62	69	61	56
Nonland costs per bushel	\$3.00	\$2.96	\$3.10	\$3.69	\$6.31	\$6.22	\$6.58	\$8.02
Total, all costs per bushel	\$4.15	\$4.01	\$4.07	\$4.61	\$10.19	\$9.64	\$9.92	\$10.94

Note: The last two lines of the table are costs based on 2016-2020 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

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