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## **COST TO PRODUCE CORN AND SOYBEANS IN ILLINOIS—2003**

In 2003 the total of all economic costs per acre for growing corn in Illinois averaged \$405 in the northern section, \$407 in the central section for farmland with “high” soil ratings, \$383 in the central section for farmland with “low” soil ratings, and \$345 in the southern section. Soybean costs per acre were \$330, \$333, \$305 and \$273, respectively (see Table 1). Costs were lower in the 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 \$2.19 to \$2.57 for corn and from \$7.00 to \$9.43 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 which had no livestock and had more than 260 acres of productive and nearly level soils in each area of the state. 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 930 tillable acres in northern Illinois, 1,025 acres in the central section with high soil ratings, 1,068 acres in the central section with lower soil ratings, and 1,246 acres in southern Illinois.

### **COST OF PRODUCTION FOR CORN COMPARED TO 2002**

Costs **per bushel** of corn in 2003 were lower for all areas of the state compared to 2002 mainly due to above average yields. Costs per bushel were 34 cents lower in northern Illinois, 38 cents lower in central Illinois with the lower rated soils, 55 cents lower in central Illinois with the higher rated soils and \$1.04 lower in southern Illinois.

The average corn yield in 2003 was 20 bushels per acre higher than 2002 in northern Illinois, 22 to 34 bushels higher in central Illinois and 37 bushels per acre higher in southern Illinois. The 2003 average corn yield in the different geographical locations ranged from 1 to 20 bushels per acre higher than the four-year average from 2000 to 2003.

Costs **per acre** were slightly lower in all the different geographic regions in Illinois compared to 2002. Across the state total costs per acre to produce corn ranged from a 1 percent to a 2 percent decrease. The main reason for the drop in costs per acre was due to lower machinery and building depreciation costs. These costs declined due to a change in the method used for calculating depreciation. Instead of depreciating machinery and buildings based on Internal Revenue Service tax guidelines, a method was used that more closely reflects the actual decline in the value of the machinery and buildings. The new

method does not utilize the additional bonus depreciation or expense election write-off in the year of purchase, uses a slightly longer life and lower rate than the IRS allowed methods for tax depreciation. While depreciation per acre decreased, variable costs (fertilizer, pesticides, seed, etc.) increased for all areas of the state.

## **COST OF PRODUCTION FOR SOYBEANS COMPARED TO 2002**

Production costs **per bushel** of soybeans increased in all areas of the state except southern Illinois compared to 2002. Costs per bushel increased due to lower yields. Southern Illinois was the only area where yields were higher compared to the year before. Soybean yields ranged from 14 bushels per acre lower to 5 bushels per acre higher in 2003 as compared to 2002. Changes in costs per bushel ranged from a \$1.09 decrease in southern Illinois to a \$2.26 increase in northern Illinois.

Like corn, total costs **per acre** decreased in all geographic regions of the state compared to 2002. Costs decreased \$8 per acre in central Illinois with the higher rated soils, \$7 per acre in northern Illinois and central Illinois with the lower rated soils and \$2 per acre in southern Illinois. Average soybean yields in the different areas ranged from 9 bushels per acre below to 2 bushels per acre higher than the four-year average from 2000 to 2003.

## **STATE AVERAGES**

Total costs to produce corn for all combined areas of the state were \$393 per acre. This figure decreased 2 percent compared to the year before. Variable costs increased \$7 per acre, or 4 percent, other nonland costs decreased \$15 per acre with the majority of the decrease due to lower machinery depreciation costs. In 2003, cash costs accounted for 43 percent of the total cost of production for corn, other nonland costs were 28 percent, and land costs were 29 percent. The average corn yield for all combined areas of the state was 174 bushels per acre resulting in a total cost of production of \$2.26 per bushel. The average corn yield was the highest on record. The previous high was 170 bushels per acre in 1994. Total costs per acre were the lowest since 1994 when they were \$359 per acre. Total costs per bushel were the lowest since 1994 when they were \$2.11.

Total cost per acre to produce soybeans decreased, from \$325 per acre in 2002 to \$320 per acre in 2003. Generally speaking, the same expenses that increased and decreased for corn also increased and decreased for soybeans. Variable costs accounted for 34 percent of the total cost of production for soybeans, other nonland costs 30 percent and land costs 36 percent. The average soybean yield for all combined areas of the state was 38 bushels per acre resulting in a total cost of production of \$8.42 per bushel. Total costs per acre were the lowest since 1995. The average soybean yield was the lowest since 1988 when the average yield was 28 bushels per acre. The cost per bushel of \$8.42 was the highest since \$8.46 in 1983.

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 6,000 plus farmers and 62 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 217-333-5511 or visit the FBFM website at [www.fbfm.org](http://www.fbfm.org).

A more complete discussion of how some of the costs are calculated can be found under enterprise costs in the management section of *farmdoc*.

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Table 1. Cost Per Acre of Growing Corn and Soybeans on Illinois Grain Farms Without Livestock in 2003.

	Corn				Soybeans			
	North	Central <sup>1</sup>	Central <sup>2</sup>	South	North	Central <sup>1</sup>	Central <sup>2</sup>	South
Number of farms.....	543	738	383	212	543	738	383	212
Acres in crop.....	523	525	552	503	389	481	478	576
<b>Nonland Costs</b>								
Variable costs:								
Soil fertility .....	\$ 53	\$ 57	\$ 59	\$ 58	\$ 19	\$ 20	\$ 20	\$ 22
Pesticides .....	37	35	36	31	33	32	33	26
Seed .....	37	36	36	37	26	25	25	24
Drying.....	11	9	8	5	3	3	2	2
Repairs, fuel, and hire .....	<u>36</u>	<u>30</u>	<u>32</u>	<u>33</u>	<u>30</u>	<u>26</u>	<u>27</u>	<u>32</u>
Total, variable costs .....	\$ 174	\$ 167	\$ 171	\$ 164	\$ 111	\$ 106	\$107	\$ 106
Percent change from 2002.....	5	3	6	4	6	3	6	4
Other nonland costs:								
Labor .....	\$ 33	\$ 36	\$ 35	\$ 41	\$ 32	\$ 34	\$ 33	\$ 39
Buildings.....	9	7	8	7	5	4	5	3
Storage.....	3	5	4	2	2	2	2	1
Machinery depreciation.....	18	18	19	18	15	16	16	16
Nonland interest.....	22	23	21	16	19	21	18	13
Overhead .....	<u>24</u>	<u>21</u>	<u>20</u>	<u>22</u>	<u>24</u>	<u>20</u>	<u>19</u>	<u>20</u>
Total, other costs .....	\$ 109	\$ 110	\$ 107	\$ 106	\$ 97	\$ 97	\$ 93	\$ 92
Total, nonland costs.....	\$ 283	\$ 277	\$ 278	\$ 270	\$ 208	\$ 203	\$ 200	\$ 198
Percent change from 2002.....	-2	-3	-3	-4	-4	-4	-3	-3
<b>Land costs</b>								
Taxes .....	\$ 26	\$ 25	\$ 21	\$ 13	\$ 26	\$ 25	\$ 21	\$ 13
Annually adjusted net rent.....	<u>96</u>	<u>105</u>	<u>84</u>	<u>62</u>	<u>96</u>	<u>105</u>	<u>84</u>	<u>62</u>
Total land cost.....	\$ 122	\$ 130	\$ 105	\$ 75	\$ 122	\$ 130	\$ 105	\$ 75
<b>Total, all costs</b> .....	\$ 405	\$ 407	\$ 383	\$ 345	\$ 330	\$ 333	\$ 305	\$ 273
Percent change from 2002.....	-1	-2	-2	-1	-2	-2	-2	-1
2003 yields, bushels per acre.....	174	186	173	134	35	41	36	39
Nonland cost per bushel .....	\$1.63	\$1.49	\$1.61	\$2.01	\$5.94	\$4.95	\$5.56	\$5.08
Total, all costs per bushel.....	\$2.33	\$2.19	\$2.21	\$2.57	\$9.43	\$8.12	\$8.47	\$7.00
2000-2003 average yield.....	161	168	159	133	44	48	45	41
Nonland cost per bushel.....	\$1.76	\$1.65	\$1.75	\$2.03	\$4.73	\$4.23	\$4.44	\$4.83
Total, all costs per bushel.....	\$2.52	\$2.42	\$2.41	\$2.59	\$7.50	\$6.94	\$6.78	\$6.66

Note: The last two lines of the table are costs based on 2000-2003 average yields.

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

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

