

**June 1, 2006****FEFO 06-09****Costs to Produce Corn and Soybeans in Illinois -- 2005**

In 2005 the total of all economic costs per acre for growing corn in Illinois averaged \$465 in the northern section, \$472 in the central section for farmland with “high” soil ratings, \$448 in the central section for farmland with “low” soil ratings, and \$417 in the southern section (see Table 1). Soybean costs per acre were \$360, \$367, \$341 and \$313, respectively (see Table 2). 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 \$2.95 to \$3.21 for corn and from \$6.39 to \$7.35 for soybeans. Variations in this cost were related to weather, yields, and land quality.

Costs 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 500 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 1,136 tillable acres in northern Illinois, 1,167 acres in the central section with high soil ratings, 1,251 acres in the central section with lower soil ratings, and 1,503 acres in southern Illinois.

**Cost to Produce Corn Compared to 2004**

Costs **per bushel** of corn in 2005 were significantly higher for all geographic areas of the state as compared to 2004. Costs per bushel were higher due to higher per acre costs and lower corn yields. Costs per bushel were 81 cents higher in northern Illinois, 78 cents higher in central Illinois with the lower rated soils, 67 cents higher in central Illinois with the higher rated soils and 82 cents higher in southern Illinois.

The average corn yield in 2005 was 40 bushels per acre lower than 2004 in northern Illinois, 30 to 34 bushels lower in central Illinois and 32 bushels per acre lower in southern Illinois. The 2005 average corn yield in the different geographical locations ranged from 3 bushels per acre higher to 20 bushels per acre lower than the four-year average from 2002 to 2005.

Costs **per acre** were higher in all the different geographic regions in Illinois compared to 2004. Across the state total, costs per acre to produce corn increased 5 to 11 percent. Higher crop (fertilizer, seed and pesticides) and fuel costs were the main contributors to total cost increases, although interest and land costs also increased in 2005.



## Costs to Produce Soybeans Compared to 2004

Similar to corn, production costs **per bushel** of soybeans increased significantly in all areas of the state compared to 2004. Costs per bushel increased mainly due to higher per acre costs. Soybean yields were only slightly less than the year before. Soybean yields ranged from 1 to 3 bushels per acre lower in 2005 as compared to 2004. Increases in costs per bushel ranged from 54 cents in central Illinois with the higher rated soils to 80 cents in central Illinois with the lower rated soils.

Like corn, total costs **per acre** increased in all geographic regions of the state compared to 2004. Costs increased \$11 per acre in northern Illinois, \$24 per acre in central Illinois with the higher rated soils, \$22 per acre in central Illinois with the lower rated soils and \$24 per acre in southern Illinois. Fertilizer, fuel, and interest were some of the costs that increased. Average soybean yields in the different areas ranged from 3 to 6 bushels per acre higher than the four-year average from 2002 to 2005.

### State Averages

Total costs to produce corn for all combined areas of the state were \$458 per acre. This figure increased 8 percent compared to the year before. Variable costs increased \$19 per acre, or 10 percent, other nonland costs increased \$9 per acre and land costs increased \$4 per acre. In 2005, cash costs accounted for 46 percent of the total cost of production for corn, other nonland costs were 27 percent, and land costs were 27 percent. The average corn yield for all combined areas of the state was 150 bushels per acre resulting in a total cost of production of \$3.05 per bushel. The average corn yield was the lowest since 2002 and the second lowest since 1998. Total costs per acre were the highest on record. Total costs per bushel were the fourth highest since 1981. The highest cost per bushel during that time period was \$4.35 in 1983. Corn yields during that year averaged only 86 bushels per acre.

Total cost per acre to produce soybeans increased, from \$333 per acre in 2004 to \$351 per acre in 2005. Generally speaking, the same expenses that increased for corn also increased for soybeans. Variable costs accounted for 34 percent of the total cost of production for soybeans, other nonland costs 31 percent and land costs 35 percent. The average soybean yield for all combined areas of the state was 52 bushels per acre resulting in a total cost of production of \$6.75 per bushel. The average soybean yield was the second highest on record. The previous high yield of 54 bushels per acre was recorded in 2004. The cost per bushel to raise soybeans the last five years averaged \$7.01 per bushel.

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 60 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 on Illinois Grain Farms Without Livestock in 2005.**

	Corn			
	North	Central <sup>1</sup>	Central <sup>2</sup>	South
Number of farms .....	410	621	336	198
Acres in crop.....	718	631	674	712
<b>Nonland Costs</b>				
Variable costs:				
Soil fertility .....	\$ 74	\$ 78	\$ 78	\$ 77
Pesticides .....	43	43	41	41
Seed.....	43	43	43	44
Drying.....	11	9	7	4
Repairs, fuel, and hire .....	<u>43</u>	<u>36</u>	<u>39</u>	<u>41</u>
Total, variable costs .....	\$ 214	\$ 209	\$ 208	\$ 207
Percent change from 2004.....	7	12	12	16
Other nonland costs:				
Labor .....	\$ 31	\$ 35	\$ 34	\$ 34
Buildings.....	10	7	9	10
Storage.....	5	9	8	3
Machinery depreciation.....	19	20	20	23
Nonland interest.....	30	32	30	28
Overhead .....	<u>27</u>	<u>23</u>	<u>24</u>	<u>22</u>
Total, other costs .....	\$ 122	\$ 126	\$ 125	\$ 120
Total, nonland costs.....	\$ 336	\$ 335	\$ 333	\$ 327
Percent change from 2004 .....	6	11	11	13
<b>Land costs</b>				
Taxes .....	\$ 24	\$ 25	\$ 21	\$ 14
Annually adjusted net rent.....	<u>105</u>	<u>112</u>	<u>94</u>	<u>76</u>
Total land cost.....	\$ 129	\$ 137	\$ 115	\$ 90
<b>Total, all costs</b> .....	\$ 465	\$ 472	\$ 448	\$ 417
Percent change from 2004.....	5	9	9	11
2005 yields, bushels per acre.....	145	160	147	138
Nonland cost per bushel .....	\$2.32	\$2.09	\$2.27	\$2.37
Total, all costs per bushel.....	\$3.21	\$2.95	\$3.05	\$3.02
2002-2005 average yield.....	165	172	163	135
Nonland cost per bushel.....	\$2.04	\$1.95	\$2.04	\$2.42
Total, all costs per bushel.....	\$2.82	\$2.74	\$2.75	\$3.09

Note: The last two lines of the table are costs based on 2002-2005 average yields.

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

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

**Table2. Cost Per Acre of Growing Soybeans on Illinois Grain Farms Without Livestock in 2005.**

	Soybeans			
	North	Central <sup>1</sup>	Central <sup>2</sup>	South
Number of farms .....	410	621	336	198
Acres in crop.....	395	509	532	669
<b>Nonland Costs</b>				
Variable costs:				
Soil fertility .....	\$ 23	\$ 25	\$ 25	\$ 23
Pesticides .....	31	32	31	29
Seed.....	29	30	30	28
Drying.....	3	2	2	2
Repairs, fuel, and hire .....	<u>37</u>	<u>31</u>	<u>32</u>	<u>39</u>
Total, variable costs .....	\$ 123	\$ 120	\$ 120	\$ 121
Percent change from 2004.....	5	10	10	10
Other nonland costs:				
Labor.....	\$ 29	\$ 33	\$ 32	\$ 32
Buildings.....	6	5	5	5
Storage.....	3	4	3	1
Machinery depreciation.....	16	17	17	19
Nonland interest.....	27	29	26	24
Overhead .....	<u>27</u>	<u>22</u>	<u>23</u>	<u>21</u>
Total, other costs .....	\$ 108	\$ 110	\$ 106	\$ 102
Total, nonland costs.....	\$ 231	\$ 230	\$ 226	\$ 223
Percent change from 2004.....	4	8	8	9
<b>Land costs</b>				
Taxes .....	\$ 24	\$ 25	\$ 21	\$ 14
Annually adjusted net rent.....	<u>105</u>	<u>112</u>	<u>94</u>	<u>76</u>
Total land cost.....	\$ 129	\$ 137	\$ 115	\$ 90
<b>Total, all costs</b> .....	\$ 360	\$ 367	\$ 341	\$ 313
Percent change from 2004.....	3	7	7	8
2005 yields, bushels per acre.....	49	55	50	49
Nonland cost per bushel .....	\$ 4.71	\$4.18	\$4.52	\$4.55
Total, all costs per bushel.....	\$ 7.35	\$6.67	\$6.82	\$6.39
2002-2005 average yield.....	46	51	47	43
Nonland cost per bushel.....	\$ 5.02	\$4.51	\$4.81	\$5.19
Total, all costs per bushel.....	\$ 7.83	\$7.20	\$7.26	\$7.28

Note: The last two lines of the table are costs based on 2002-2005 average yields.

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

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