In 2014, the total of all economic costs per acre for growing corn in Illinois averaged $1,045 in the northern section, $1,002 in the central section for farmland with “high” soil ratings, $955 in the central section for farmland with “low” soil ratings, and $895 in the southern section. Soybean costs per acre were $745, $758, $685 and $664, 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 $4.34 to $5.10 for corn and from $11.23 to $12.21 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 1,356 tillable acres in northern Illinois, 1,316 acres in the central section with high soil ratings, 1,356 acres in the central section with lower soil ratings, and 1,702 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 firm. In addition, 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 repair were reduced for 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 $3,850 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 2014 was set at 4.0 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 economic depreciated 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 30 cents for corn and 70 cents per bushel for soybeans.

**Land Costs**

Land costs included the adjusted net rent and the real estate taxes. Net rent was represented as the estimated average rent received by crop-share landlords on record-keeping farms for the period 2010 to 2013. Caution is needed in interpreting differences in land costs between areas. In the long run, the net rent residual return to landowners should tend to equalize the total cost of production.

**Cost Per Bushel and Acre**

Costs per bushel of corn in 2014 as compared to 2013 were lower for all geographic areas of the state, except northern Illinois. Costs per bushel were lower due to higher yields and lower costs. Costs per bushel were 4 cents higher in northern Illinois, 56 cents lower in central Illinois with the higher rated soils, 76 cents lower in central Illinois with the lower rated soils and 55 cents lower in southern Illinois.

The average corn yield in 2014 was one bushel per acre higher than 2013 in northern Illinois, 32 to 34 bushels higher in central Illinois and 25 bushels per acre higher in southern Illinois. The 2014 average corn yield in the different geographical locations ranged from 24 to 54 bushels per acre higher than the five-year average from 2010 to 2014.

Costs per acre were mostly higher in all the different geographic regions in Illinois compared to 2013. Across the state, total costs per acre to produce corn increased zero to four percent. Many costs increased, including seed, drying, repairs, machinery depreciation and adjusted net rent. Soil fertility decreased in all areas of the state.

Production costs per bushel of soybeans in 2014 decreased in all areas of the state as compared to 2013. Costs per bushel decreased mainly due to higher yields. Soybean yields were higher in every region of Illinois when compared to the year before. Soybean yields ranged from 3 to 8 bushels per acre higher in 2014 compared to 2013. Decreases in costs per bushel ranged from 11 cents in northern Illinois to $1.47 in central Illinois with lower rated soils.

Total costs per acre increased in all geographic regions of the state when compared to 2013. Costs increased $18 per acre in northern Illinois, $43 per acre in central Illinois with the higher rated soils, $12 per acre in central Illinois with the lower rated soils and $33 per acre in southern Illinois. Average soybean yields in the different areas ranged from 4 to 8 bushels per acre higher than the five-year average from 2010 to 2014.

**State Averages**

Total costs to produce corn for all combined areas of the state were $989 per acre. This figure increased two percent compared to the year before. Variable costs decreased $11 per acre or 2 percent, other nonland costs increased $8 per acre and land costs increased $27 per acre. In 2014, cash costs accounted for 47 percent of the total cost of production for corn, other nonland costs were 25 percent, and land costs were 28 percent. The average corn yield for all
combined areas of the state was 217 bushels per acre resulting in a total cost of production of $4.56 per bushel. The average corn yield was the highest on record. Total costs per acre were the highest on record and total costs per bushel were the lowest in the last four years.

Total cost per acre to produce soybeans increased, from $697 per acre in 2013 to $727 per acre in 2014. Generally speaking, the same expenses that increased for corn also increased for soybeans. Variable costs accounted for 32 percent of the total cost of production for soybeans, other nonland costs 30 percent and land costs 38 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 $11.73 per bushel. The average soybean yield was the highest on record. The cost per bushel to raise soybeans the last five years averaged $11.54 per bushel.

**Cost Comparison**

Average variable costs per bushel of corn for the five-year period 2010 through 2014 ranged from $2.38 in central Illinois with the higher rated soils to $3.55 in southern Illinois. Total costs per bushel ranged from $5.08 in central Illinois with the higher rated soils to $6.63 in southern Illinois. Total costs per bushel were higher in southern Illinois due to low yields in 2012 because of the drought.

Average variable costs per bushel of soybeans ranged from $3.55 in northern Illinois to $4.62 in southern Illinois. Total costs per bushel varied from $11.41 in northern Illinois to $11.98 in southern Illinois. Like for corn, soybeans total cost per bushel were higher in southern Illinois due to low yields in 2012.

**Acknowledgement**

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 5,700 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.
Figure 1. Total Costs Per Acre To Grow Corn On Illinois Grain Farms

Figure 2. Total Costs Per Acre To Grow Soybeans On Illinois Grain Farms
Table 1. Cost Per Acre for Growing Corn and Soybeans on Illinois Grain Farms Without Livestock in 2014

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Northern</td>
<td>Central 1</td>
</tr>
<tr>
<td>Number of Farms</td>
<td>380</td>
<td>679</td>
</tr>
<tr>
<td>Acres in crop</td>
<td>860</td>
<td>703</td>
</tr>
</tbody>
</table>

**NONLAND COSTS**

Variable Costs:
- Soil Fertility ............................................ $174 $171 $171 $170
- Pesticides .............................................. 65 67 66 67
- Seed ....................................................... 123 120 122 116
- Drying ..................................................... 34 28 26 19
- Repairs, fuel and hire .................... 87 67 69 76

Total variable costs..................................... $483 $453 $454 $448
Percent change from 2013 ........................................... -1% -2% -5% -4%
Other nonland costs
- Labor ........................................................ $50 $49 $50 $62
- Buildings .................................................... 28 17 18 25
- Storage ...................................................... 7 12 11 6
- Machinery depreciation .............................. 74 65 65 71
- Nonland interest ........................................ 55 52 49 49
- Overhead ................................................... 54 48 48 50

Total, other costs........................................ $268 $243 $241 $263
Total, nonland costs .................................. $751 $696 $695 $711
Percent change from 2013 ........................................... 1% 0% -5% -4%

**LAND COSTS**

Taxes ......................................................... $43 $45 $33 $20
Annually adjusted net rent .............................. $251 $261 $227 $164

Total land costs .......................................... $294 $306 $260 $184

TOTAL, all costs ......................................... $1,045 $1,002 $955 $895
Percent change from 2013 ........................................... 1% 4% 0% 3%

2014 yields, bushels per acre ...................... 205 231 215 194

Nonland costs per bushel ...................... $3.66 $3.01 $3.23 $3.66
Total, all costs per bushel ....................... $5.10 $4.34 $4.44 $4.61

2010-2014 average yield ......................... 182 182 168 140
Nonland costs per bushel ...................... $4.13 $3.82 $4.14 $5.08
Total, all costs per bushel ....................... $5.74 $5.51 $5.68 $6.39

Note: The last two lines of the table are costs based on 2010-2014 average yields

1 Soil productivity ratings of 86 to 100
2 Soil productivity ratings of 56 to 85