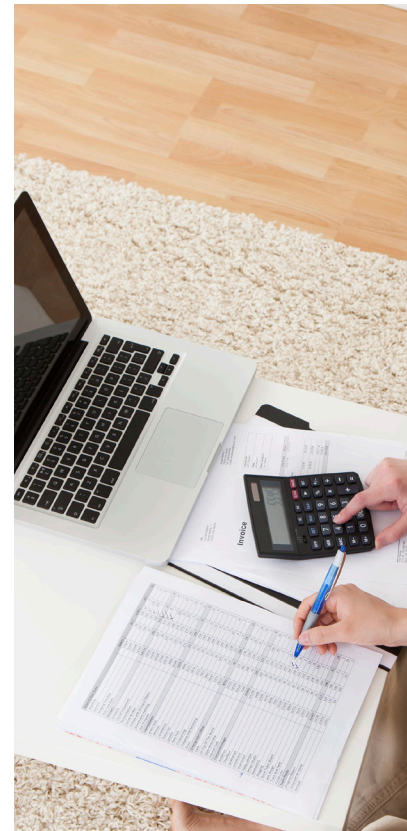


2017



93rd ANNUAL SUMMARY OF ILLINOIS FARM BUSINESS RECORDS

Commercial Farms
Production Costs
Income
Investment

I ILLINOIS
Extension
COLLEGE OF AGRICULTURAL, CONSUMER
& ENVIRONMENTAL SCIENCES

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SOURCE OF DATA

This report is based on data obtained from farm business records on almost 5,700 Illinois farms. It is the 93rd annual summary of such records obtained from farmers cooperating with University of Illinois Extension, the Department of Agricultural and Consumer Economics, and the Illinois Farm Business Farm Management (FBFM) Association.

At present, about one out of every five Illinois commercial farms with over 1,000 acres or total farm sales over \$250,000 is enrolled in this service. Except for 1988, 2000, and 2015, enrollment has declined slightly each year since 1982. One factor contributing to this decline has been the continued decline in the number of farms in the state. In 2017, 102 counties were being served by 62 full-time field staff specialists. Participation in this farm business analysis program is voluntary; cooperating farmers pay a fee for the educational services. The program's development since 1940 is shown below.

Year	Associa- tions	Counties involved	Field staff employed	Farmers involved
1940.....	3	23	3	680
1950.....	8	59	15	2,760
1960.....	10	100	33	5,494
1970.....	10	102	42	6,553
1980.....	10	102	67	8,205
1990.....	10	102	70	7,192
2000.....	9	102	66	6,647
2010.....	9	102	61	5,775

Estimates for 2017 indicate that over 95 percent of the farms covered in this report have total sales over \$100,000. In the 2012 Census of Agriculture, farms selling \$100,000 or more accounted for 96 percent of all sales from Illinois farms.

The segment of Illinois agriculture that includes farms with more than \$100,000 in total sales is often referred to as "commercial farming." In 2012, there were 24,809 farms in Illinois with sales of \$100,000 or more. The figures that follow, taken from the 2012 Census of Agriculture, show that these farms represented about 60 percent of the 40,946 farms with more than \$10,000 in sales. These farms produced more almost 96 percent of the agricultural products sold from Illinois farms.

Total farm sales (\$)	% of all farms, \$10,000+ sales	% of census farms enrolled	No. of farms enrolled
10,000–99,999	39.4	1.4	225
100,000–249,999	21.1	5.5	473
250,000–499,900	16.2	12.1	806
500,000+	23.3	31.4	2,993

Most of the 2017 recordkeeping farms covered in this report are within the larger groups. There were 16,172 farms identified by the census with more than \$250,000 total sales in 2012. About a fourth of these farms (23.4 percent) were

enrolled in the Illinois FBFM Association. Of the 8,637 farms in the group having from \$100,000 to \$249,999 in total sales, only 5.5 percent participated in the farm record program. Only about 1 percent of the farms enrolled in FBFM had less than \$100,000 in sales. The average acreage size of all farms larger than 180 acres enrolled in FBFM in 2017 was 1,209 acres, compared with an average of 851 acres for all Illinois farms sorted similarly.

This report presents only the operator's share of income and expenses for the farm business. The group averages are identified by size of business, type of farm, and quality of soil found on the farm. Where segments of Illinois agriculture are identified by these criteria, the data from recordkeeping farms may be used with reasonable confidence, even though the recordkeeping farms as a group do not represent a cross section of all commercial farms in the state.

USES FOR THIS REPORT

The management of a modern commercial farm involves decision making in the application of technology, choosing a proper combination of crop and livestock enterprises, and effective business administration of the farming operations. A basic analysis of a farm business involves a careful study of past performance to detect problems and strengths in the farming operation. Also involved is the process of planning and developing future operations to realize the full potential of the land, labor, and capital resources available and to improve the economic efficiency of the farm business.

The farm business summaries contained in this report are used by individual farmers to analyze their business operations and to develop plans for future farming operations. This report summarizes the information so that specialists involved in agricultural extension, research, teaching, and agribusiness activities may use the data to help them perform their duties effectively. The definition of terms and accounting measures on the following pages will be of assistance in using the data.

The first part of the report (Tables 1 to 8) summarizes selected recent changes in farm income on Illinois farms. It also identifies economic forces and factors that contribute to these changing trends. Some of the data used in the text are drawn from previous issues of this report.

The second section (Tables 9 to 18) presents data on livestock enterprises. This information is the total of operator and landlord data. The comprehensive and detailed information contained in this section is a valuable resource for anyone interested in livestock production. Because part of the feed grains and roughages produced on Illinois farms is marketed through livestock, the margins of income from livestock enterprises are important in interpreting the economic results of some farming operations.

The third section (Tables 19 to 23a) discusses costs, returns, financial summaries, land use, and crop yields for different sizes and types of farms in northern, central, and southern Illinois. This section contains only the operator data. It reports on the 33 percent of grain farms that received the highest return to management per dollar of cost and the 33 percent that received the lowest return.

TERMS AND ACCOUNTING METHODS

Soil productivity rating

This rating is an average index representing the inherent productivity of all tillable land on the farm. Individual soil types on each farm are assigned an index ranging downward from 100. All ratings were revised in 1971 to reflect a basic level of management as outlined in University of Illinois Extension Circular 1156, *Soil Productivity in Illinois*. New land values were assigned in 1980. The adjustment of land values brings them to current market levels.

Operator(s)

This is the person providing labor and management to the active farming operation. If months of operator labor are 12 or less, then there is one operator for the farm. If months of operator labor are more than 12, then the number of operators is determined by dividing the months of operator labor by 12.

Hay equivalents, tons

To get the equivalents, we took the total of 1.0 multiplied by the pounds of hay, 0.45 multiplied by the pounds of hay silage, 0.33 multiplied by the pounds of corn silage, and 24 multiplied by the pasture days per feed unit (which are also multiplied by the total feed units per cow). This total was then divided by 2,000.

Sampling technique

Data from all records certified usable for analysis by field staff were aggregated by size (acres or number of livestock), type of farm, value of feed fed, and soil productivity rating.

Type of farm

Grain farms are farms where the value of the feed fed was less than 40 percent of the crop returns and where the value of feed fed to dairy or poultry was not more than one-sixth of the crop returns. Since 1973, farms with livestock have been essentially excluded from the sample of grain farms in northern and central Illinois in Table 19; since 1978, from the grain farm sample in Table 20; and since 1982, from the grain farm sample in Table 6.

Hog or beef farms are farms where the value of feed fed was more than 40 percent of crop returns and where either the hog or beef-cattle enterprise received more than one-half the value of feed fed.

Dairy farms are farms where the value of feed fed was more than 40 percent of crop returns and where the dairy enterprise received more than one-third the value of feed fed.

Cost items

The **value of feed fed** includes on-the-farm grains with the following average prices per bushel: corn, \$3.41; oats, \$2.54; and wheat, \$4.25. Commercial feeds were priced at actual cost, hay and silage at farm values, and pasture at 40 cents per animal unit per pasture day. A "pasture day" represents an intake of about 20 to 25 pounds of dry matter, defined as 16 pounds of total digestible nutrients (TDN) from the pasture used.

Cash operating expenses include the annual cash outlays for the following nondepreciable items:

- Fertilizer
- Pesticides
- Seeds (including homegrown seeds)
- Machinery repairs
- Machine hire and lease
- Fuel and oil
- Farm share of electricity, telephone, and light vehicle expenses
- Building repairs and rents
- Drying and storage
- Hired labor
- Livestock expenses
- Taxes
- Insurance
- Miscellaneous expenses

Purchased feed, grain, and livestock are not included because they have been deducted from gross receipts in computing the value of farm production. The interest paid is not included because an interest charge is made on the operator's total farm investment. But the total interest paid by the operator on all debt—operating debt plus longer-term debt—is listed separately in Tables 19 to 23a under "Selected returns and costs per operator tillable acre."

Power and equipment includes depreciation, repairs, machine hire and lease, fuel and oil, and the farm share of expenses for electricity, telephone, and light vehicles.

Labor includes hired labor plus family and operator's labor, charged in 2017 at \$3,950 per month.

A change in the method of calculating the **depreciation deduction** for machinery and buildings was adapted in 2003 and continued to be used in 2017. Until 2003, the depreciation deduction was based on Internal Revenue Service guidelines; the depreciation expense used for analysis purposes was the same as that used for completing the tax return. As changes in tax law allowed larger and larger write-offs in the year machinery and buildings were purchased, the depreciation method used for analysis was changed to more closely reflect the actual decline in value of machinery and buildings. The new method does not use the additional bonus depreciation or expense election write-off in the year of purchase; it uses instead a slightly longer life and a lower rate than the IRS-allowed methods

for tax depreciation. The change in methods does not increase or decrease the total amount of depreciation that can be claimed on an item; it is simply an issue of timing as to when the depreciation is deducted.

Interest on nonland capital covers the interest charged at 4.5 percent on the sum of one-half the average of the January 1 and December 31 inventory values of grain, plus the average of the January 1 and December 31 inventories of remaining capital investment in livestock, machinery and light vehicles, buildings, and soil fertility, plus one-half the cash operating expense, exclusive of interest paid. In Tables 6 and 8, this charge is combined with the land charge or net rent and labeled “interest charge on capital.” The average cash interest paid per farm by all farm operators was \$30,137.

Land charge or net rent is the bare land priced at current land values multiplied by 1.95 percent to reflect net rents received by the landlord.

Total nonfeed costs include cash operating expenses, adjustments for accrued expenses and farm produced inputs, depreciation, and charges for unpaid labor and interest including land charge. Purchased feeds and livestock are omitted.

The **basic value of land** (the **current basis**) is adjusted each year according to the index of land prices in Illinois as reported by the United States Department of Agriculture (USDA). The land value index for 2017, using a base earning value of 1979 = 100, was 356.

The **capital account adjustment** includes the gain or loss on capital items sold, less amortization deduction.

Return items

Crop returns are the sum of grain, seed, and feed sales; the value of homegrown seed used; the value of all feed fed (except milk); government farm program payments received and accrued; crop insurance payments received and accrued; and the change in value for feed and grain inventories, less the value of feed and grain purchased.

The **total value of farm production** is the cash and accrued value of sales of products and services, less the cost of purchased feed, grain, and livestock, plus the change in inventory values for grain and livestock, plus the value of farm products used.

Net farm income is the value of farm production, less total operating expenses and depreciation, plus gain or loss on machinery or buildings sold. Net farm income includes the return to the farm and family for unpaid labor, the interest on all invested capital, and the returns to management.

Labor and management income per operator is total net farm income, less the value of family labor and the interest—including net rent—charged on all capital invested. This figure, as the residual return to all unpaid operators’ labor and management efforts, is divided by the months of unpaid operator labor and multiplied by 12 to reflect income for one operator on multiple-operator farms.

Capital and management earnings are net farm income, less a charge for all unpaid labor. **Management return** is the residual surplus after a charge for unpaid labor and the interest or land charge on capital are deducted from net farm income.

Farm production per man year is the value of farm production, including the landlord’s share of value of farm production divided by the outcome of total months of labor divided by 12. If total months of labor are less than 12, then the divisor is equal to one.

FARM BUSINESS TRENDS IN 2017

Illinois agriculture is based largely on crop production, especially corn and soybeans. In 2017, Illinois ranked first in the nation in soybean production and second in corn production when measured in dollars. The total value of corn produced on Illinois farms was 15 percent of total U.S. production, while the total value of soybeans produced on Illinois farms was 14 percent of total U.S. production.

Crop production

Year-to year variations in net income are related to the growing season, crop yields, grain prices, and acres in high-cash-value crops. A wetter-than-normal beginning to April led to a slower start to planting, with 6 percent of the corn crop planted by April 16. However, with warmer and drier weather the last half of April, 63 percent of the corn crop was planted by April 30, which was above the 5-year average of 47 percent, but equal to the 2016 average of 63%. Ninety-three percent of the corn was planted by May 28, compared to 93 percent the year before and 96 percent for the 5-year average. Soybeans were reported 93 percent planted by June 11, compared with 89 percent in 2016 and 88 percent for the 5-year average. Average temperatures and rainfall during the growing season led to regular crop development. A slightly warmer fall with below-normal precipitation during August and September allowed corn and soybeans to mature. A wetter October led to a slower harvest than 2016 and slower for corn than the 5-year average.

Crop yields. With average temperatures and precipitation throughout the growing season, yields were higher for corn and lower for soybeans across the state. The average corn yield for Illinois farms reported by the Illinois Crop Reporting Service was 201 bushels per acre, 4 bushels above the previous year’s yield. The average for 2013 through 2017 was 190 bushels per acre. Farmers participating in the Illinois FBFM program averaged 215 bushels of corn per acre in 2017, which ties for the highest on record. The 2017 corn yield was the same as the year before.

Soybean yields for all Illinois farms were reported at 58 bushels per acre in 2017. This was 1 bushel lower than

in 2016 as well as 2 bushels more than the 5-year average. FBFM recordkeeping farms averaged 62 bushels of soybeans per acre in 2017, 2 bushels above their 5-year average. Crop yields on the recordkeeping farms covered in this report averaged about 7 percent above the average for all Illinois farms.

Grain prices. Sales for corn and soybeans have been divided between old and new crop sales. The prices received for old-crop soybeans sold during the year averaged 55 cents to 59 cents per bushel above 2016 prices (Table 1). Old-crop corn prices received in 2017 averaged 19 cents to 20 cents below those received in 2016. New-crop prices received were mostly lower for corn and soybeans compared to the year before. The price received for new-crop corn averaged 10 cents to 11 cents lower than the year before, and new-crop soybeans averaged 10 cents lower. Wheat sold for 33 cents to 36 cents higher per bushel during the year. Prices received for old-crop corn and soybean sold in 2017 were above their inventory prices, resulting in a positive marketing margin. The year-end, new-crop inventory price for corn was 10 cents lower than the year before; for soybeans it was 70 cents lower.

Crop production. Corn production totaled 2.201 billion bushels in 2017, 55 million bushels less than the previous year. The final yield was 201 bushels per acre, which was 4 bushels above the previous year's yield. The yield for the 2017 soybean crop was 58 bushels per acre, 1 bushel below the 2016 yield. Production totaled 612 million bushels, 3 percent above the previous year.

The 2017 yield for sorghum for grain was 83 bushels per acre, 10 bushels below the yield in 2016. Sorghum production, at 1.2 million bushels, was down 16 percent from the previous year. The yield for the 2017 winter wheat crop was 76 bushels per acre, which is 2 bushels above the previous year. Total production was 35.7 million bushels, 3 percent above the 2016 production of 34.8 million bushels. The oats yield, at 79 bushels per acre, was 2 bushels below 2016. Production of all hay in 2017 was 1.63 million tons, 9 percent above 2016. Alfalfa hay production was up 3 percent, to 924,000 tons. All other hay production increased to 702,000 tons. The alfalfa yield increased from 3.9 to 4.2 tons per acre, while all other hay yields increased from 2.4 to 2.6 tons per acre.

Livestock production

Two major determinants in farm income are the price farmers receive for livestock and livestock products and the value of feed fed in producing livestock. Gross returns to all livestock enterprises were higher in 2017 compared to 2016. With much higher gross returns, returns above feed cost were higher for all livestock enterprises. In 2017 the average prices received by farm record-keepers in the Illinois FBFM Association were 6 percent higher for hogs,

Table 1. Average Prices Received and Paid by Farm Recordkeepers for Grain, Livestock, and Milk

	2017		2016	
	Northern & central	South-ern	Northern & central	South-ern
Grain prices per bushel				
Sold				
Corn, old crop	\$ 3.48	\$ 3.69	\$ 3.68	\$ 3.88
Corn, new crop	3.36	3.44	3.46	3.55
Soybeans, old crop	9.96	10.13	9.37	9.58
Soybeans, new crop	9.59	9.58	9.69	9.68
Wheat	4.39	4.82	4.06	4.46
Livestock prices per cwt				
Hogs, all weights	\$ 51.22		\$ 48.22	
Fed cattle, all weights	117.25		120.52	
Feeder cattle, all weights, prices paid	143.93		144.16	
Dairy cattle, all weights	63.60		74.47	
Milk per cwt	18.43		16.27	

3 percent lower for fed cattle, and 13 percent higher for milk than they were in 2016 (Table 1). The prices paid for all weights of feeder cattle purchases averaged 15 percent below the 2016 price for feeder cattle, and feeder pigs weighing below 20 pounds averaged 2 percent above 2016 price paid per pig. Higher returns resulted in returns above feed and purchased animals for feeder cattle enterprises increasing from a \$16.70 per hundredweight produced to \$43.56 (Table 10). This is above the 5-year average of \$29.14. Mainly due to higher prices, returns above feed costs for farrow-to-finish hog producers increased to \$20.98 per hundredweight produced in 2017. This was above 2016 and above the 5-year average. Higher milk prices caused dairy returns above feed cost per cow to increase from \$1,936 in 2016 to \$2,283 in 2017. This is 18 percent above 2016, but below the 5-year average. Returns for beef cow herds with calves sold increased to \$102, which is below the 5-year average of \$197, but well above the last two years.

Labor and management income

The average operator's share of labor and management income for the 5-year period from 2013 through 2017 on all northern Illinois grain farms (located north of a line from Kankakee to Moline) was a *negative* \$5,040 (Table 2). Operators on about 1,300 grain farms in central Illinois had 5-year average earnings of \$15,069. Central Illinois occupies the area between the Kankakee–Moline line in the north and the Mattoon–Alton line in the south. Better growing conditions and higher prices in the beginning of this 5-year period have led to larger earnings from crops in Central Illinois.

The grain farms in northern Illinois averaged 1,166 tillable acres per farm, compared with an average of 1,415 tillable acres on grain farms in central Illinois. The figure for

labor and management income varies considerably with the location and type of farm. For the period from 2013 through 2017, grain farm operators in southern Illinois averaged a *negative* \$2,473 for labor and management. This average decreased by \$34,975 compared with the average for the 5-year period from 2012 through 2016.

When the average earnings on Illinois grain farms for the 5-year period from 2013 through 2017 are compared with the earnings from 2012 through 2016, earnings decreased in all areas of the state. The average for the 5-year period from 2013 through 2017 decreased 109 percent in northern Illinois, 75 percent in central Illinois, and 108 percent in southern Illinois as compared to the 5-year period 2012 through 2016. The 2017 return to operator's labor and management was lower in all parts of the state than the 2016 earnings, and all areas were below the 2013–2017 5-year average. The year dropped from the 5-year average, 2012, averaged about \$225,000 lower earnings than in 2017.

When average earnings on Illinois livestock farms for the 5-year period from 2013 through 2017 are compared with the earnings from 2012 through 2016, earnings decreased for all enterprises. The average for the 5-year period from 2013 through 2017 decreased 54 percent for hog farms, less than one percent for beef farms, and 50 percent for dairy farms as compared to the 5-year period 2012 through 2016.

In 2017, the labor and management income for all areas of Illinois averaged a *negative* \$16,530 per farm. This figure is \$44,227 below the 2016 state average. Returns to labor and management for 2017 averaged \$25,794 below the average for the 5-year period 2013 through 2017. Lower prices were the main reasons for the lower incomes in 2017.

Corn yields were the same as recorded the year before. The average corn yield on the 2,335 farms in 2017 was 215 bushels per acre. The average soybean yield in 2017 was 62 bushels per acre, 2 bushels below the 2016 yield. Corn and soybean yields were generally highest in the north-central parts of the state. Average temperatures and precipitation during July and August led to good growing conditions for crops.

Year-end inventory price for the 2017 corn crop of \$3.20 per bushel was 10 cents per bushel lower than a year earlier. Soybeans were inventoried at \$9.10 per bushel, 70 cents lower than December 31, 2016. The average sales price received for the 2016 corn and soybean crop sold in 2017 was above the inventory price, resulting in a positive marketing margin. Crop returns averaged \$688 per tillable acre, \$57 per acre lower than the 2016 crop returns.

The income or salary of the farm operator, whether tenant or part-owner, is the return for the labor and management provided by the operator. The level of income received is a measure of overall farming efficiency and includes compensation for the risk involved. The income includes the operator's gross sales and the net change in inventory.

Table 2. Operator's 5-Year Average Share of Labor and Management Income by Size and Type of Farm, 2013 Through 2017

	Number of acres per farm ^a			
	Under 800	800 to 1,199	1,200+	All
Northern Illinois				
Tillable acres	483	991	2,153	1,096
Labor and management earnings by type of farm				
Grain.....	-\$12,392	-\$736	\$3,943	-\$5,040
Central Illinois				
Tillable acres	519	574	1,983	1,166
Labor and management earnings by type of farm				
Grain ^b	\$5,225	\$14,376	\$45,773	\$24,647
Grain ^c	1,243	3,510	18,026	6,091
All.....	3,567	9,743	30,906	15,069
Southern Illinois				
Tillable acres	493	985	2,243	1,415
Labor and management earnings by type of farm				
Grain.....	-\$12,749	-\$11,804	\$9,054	-\$2,473
Illinois livestock				
Labor and management earnings by type of farm				
Hog.....	.. ^d	.. ^d	.. ^d	\$17,113
Beef.....	.. ^d	.. ^d	.. ^d	-16,644
Dairy.....	.. ^d	.. ^d	.. ^d	13,263

^aTillable acres.

^bHighly productive soils, with soil productivity ratings from 86 to 100.

^cHeavy-till and transition soils, with soil productivity ratings from 56 to 85.

^dData not available.

This income is reduced by operating expenses, depreciation, a charge for unpaid family labor, 4.5 percent interest on nonland investment, and a land-use charge equivalent to the average net rent received by landowners for crop-share leases from 2013 to 2016.

Whenever the income figures in Table 2 fall below the amounts required for living expenses and income and Social Security taxes, operators must use the charges deducted for interest on equity capital to pay these expenses. If we assume that \$70,000 is needed to pay living expenses and income and Social Security taxes, figures for the lowest of the 5-year average labor and management incomes indicate that the average farm operator's family uses up to \$86,644 of the return for equity capital, depending on location and type of farm. None of the average labor and management incomes were high enough that the operator did not need to use any of the return for equity capital to meet living expenses. Using part of the return to equity to pay family living expenses indicates that farm operators are not receiving a competitive return for either their labor and management or their equity in the business. Off-farm income could be used to pay for some living expenses.

Financial characteristics

The Farm Financial Standards Council has identified several key measures to analyze the financial strength of a farm business. These measures are in the areas of liquidity, solvency, profitability, and financial efficiency. The averages for these key measures for 2,407 Illinois farms can be found in Table 3. These measures are also calculated by farm type. Due to the effects that weather and other outside factors may have on a farm business for any one year, it is better to monitor these measures over time and to identify trends than it is to rely too heavily on these measures for any one year when making business decisions. More detail and in-depth analysis of these financial characteristics can be found in *Financial Characteristics of Illinois Farms*, published by the Department of Agricultural and Consumer Economics at the University of Illinois.

Liquidity is an assessment of a farm’s ability to meet current cash-flow needs. The amount of working capital and the current ratio (current assets divided by current liabilities) are two measures of liquidity. The average amount of working capital as of December 31 for the 2,407 farms was \$220,535, down 2 percent from \$235,343 a year earlier. Grain farms had the greatest working capital, averaging \$227,002, while dairy farms had the least, averaging \$22,139. Most of the assets of a dairy farm—the dairy herd, buildings, and land—are noncurrent assets. The average current ratio for all the farms was 1.96, down from 2.10 a year ago. Grain farms recorded the highest (most healthy) current ratio, and dairy farms the lowest. The 2016 current ratio was the second lowest since 2006.

Solvency is a measure of the farm’s overall financial strength and risk-taking ability. The average net worth of

the 2,407 farms at the end of 2017 was \$3,059,916, up from \$2,949,711 the year before. Average farm and nonfarm incomes in 2017 were above family living requirements, thus enabling net worth increases. Grain farms had the highest net worth, followed by hog farms, with dairy farms recording the lowest. The **debt-to-farm equity** and **debt-to-farm asset** indicators show how debt capital is combined with equity capital. This is useful in looking at the risk exposure of the business. The average debt-to-farm asset percentage for all farms was 20.4. The debt-to-farm asset percentage ranged from 20.2 for grain farms to 35.6 for hog farms.

A measure of a farm’s **profitability** is useful in examining its ability to meet family living demands and retire term debt. It is also useful in measuring the farm’s ability to utilize assets and equity to generate income. The average return on farm assets for the 2,407 farms was 0.2 percent, down from 1.5 percent a year earlier. Hog farms recorded the highest returns, averaging 1.1 percent, while beef farms recorded the lowest, averaging a *negative* 0.6 percent. Return on farm equity in 2017 ranged from a *negative* 0.4 percent for beef farms to a *negative* 2.6 percent for dairy farms. The average was a *negative* 0.6 percent, down from 0.9 percent in 2016.

The interest, operating, and depreciation expense ratios relate these various expense categories as a percentage of the value of farm production. The farm operating income ratio measures the return to labor, capital, and management as a percentage of the value of farm production. These measures can be used to evaluate the financial efficiency of the farm business. The interest–expense ratio averaged 3.2 percent for the 2,407 farms, ranging from 3.1 percent for grain farms to 7.5 percent for dairy farms. The 3.2 percent was up from 3.0 in 2016. The farm operating income ratio

Table 3. Financial Characteristics of Illinois Farms for 2017 by Type of Farm

	All farms	Grain farms	Hog farms	Dairy farms	Beef farms
Number of farms.....	2,407	2,312	30	44	20
Liquidity					
Working capital.....	\$220,535	\$227,002	\$151,462	\$22,139	\$107,822
Current ratio.....	1.96	1.98	1.34	1.33	1.46
Solvency					
Net worth (market).....	\$3,059,916	\$3,094,685	\$2,736,125	\$1,915,437	\$2,187,863
Debt-farm equity (%).....	25.6	25.3	55.3	51.1	31.4
Debt-farm asset (%).....	20.4	20.2	35.6	33.8	23.9
Profitability					
Farm operating income.....	\$34,800	\$35,008	\$35,845	\$24,866	\$39,649
Return on farm assets (%).....	0.2	0.2	1.1	0.0	-0.6
Return on farm equity (%).....	-0.6	-0.6	-1.0	-2.6	-0.4
Financial efficiency					
Interest expense ratio (%).....	3.2	3.1	5.5	7.5	4.4
Operating expense ratio (%).....	75.6	75.6	76.8	77.0	71.7
Depreciation expense ratio (%)..	12.6	12.7	10.5	12.3	13.0
Farm operating income ratio (%)	6.8	6.8	7.3	2.5	13.1
Asset turnover ratio.....	0.19	0.19	0.22	0.20	0.17

ranged from a high of 13.1 percent for beef farms to 2.5 percent for dairy farms. The average for all farms in 2017 was 6.8 percent, down from 13 percent in 2016. The 2013 through 2017 5-year average farm operating income ratio is 10.5 percent. The 2017 farm operating income ratio was below the 5-year average.

Family living expenditures

Total cash living expenditures for a sample of 1,219 Illinois sole-proprietor, farm-operator families in 2017 averaged \$79,798 (Table 4). This figure is 4 percent higher than the 2016 average. Capital purchases for family living expenses of \$5,744 include the family’s share of the auto, plus items that exceed \$250 and will last more than 1 year. Capital purchases for family living were 7.7 percent of the total cash outlay for all family living expenditures in 2017.

The average farmer in this sample paid \$26,753 in interest in 2017 on operating, machinery, and long-term real estate debts. This interest expense was 5 percent of total operating expense (including interest paid) and 4 percent

of total farm receipts. The average amount of interest paid in 2017 was \$817 more than the amount paid in 2016. Here are the most significant financial facts about 2017:

- Net farm income plus net nonfarm income was \$30,481 less than the sum of family living capital purchases, total living expenses, and payments for income and Social Security taxes. This compares to the 5-year average of total income averaging \$13,026 less than family living expense and taxes for the period 2013 through 2017.
- Net nonfarm income averaged \$40,032. This was \$4,471 less than the 2016 figure of \$44,503. The 2016 income was the highest amount since this study began.
- Capital farm purchases were \$64,165, compared to \$60,026 in 2016, or 6.9 percent more. They were \$17,249 lower than the average for 2013 through 2017 and were at their highest level ever in 2013.
- Money borrowed exceeded principal payments by \$26,861. For the 2013 through 2017 time period, money borrowed has exceeded principal payments by an average of \$30,598.

Table 4. Average Sources and Uses of Funds Over a 4-Year Period and by Noncapital Living Expenses for Selected Illinois Farms

	All records, average per farm				Family of 3 to 5, 2016 ^a	
	2017	2016	2015	2014	High-third	Low-third
Number of farms.....	1,219	1,333	1,377	1,350	119	119
Age of operator.....	57	57	57	56	50	46
Number in family.....	2.7	2.6	2.7	2.7	4.1	3.8
Net farm income	\$43,464	\$77,700	\$5,188	\$95,885	\$97,072	\$45,471
Source of dollars						
Net nonfarm income	\$ 40,032	\$ 44,503	\$ 40,662	\$ 39,676	\$ 44,668	\$ 29,514
Money borrowed.....	436,668	436,713	449,744	439,315	722,024	364,822
Farm receipts.....	<u>629,765</u>	<u>641,771</u>	<u>665,466</u>	<u>715,621</u>	<u>928,547</u>	<u>541,372</u>
Total sources	\$1,106,465	\$1,122,987	\$1,155,872	\$1,194,612	\$1,695,239	\$935,708
Use of dollars						
Interest paid.....	\$ 26,753	\$ 25,936	\$ 23,961	\$ 21,266	\$ 39,397	\$ 24,265
Cash operating expenses.....	465,386	468,061	494,496	519,618	691,460	403,444
Capital farm purchases.....	64,165	60,026	63,852	89,020	102,734	66,606
Payments on principal	409,807	438,474	423,513	390,179	658,093	329,909
Income and Social Security taxes	28,435	25,512	32,438	38,801	35,272	16,054
Net new savings and investments.....	26,377	22,717	32,833	46,792	31,088	35,980
Contributions	3,575	3,471	3,537	3,698	4,303	1,624
Medical expenses.....	12,007	11,115	11,102	11,213	17,964	6,466
Life insurance	4,945	4,946	4,627	4,626	6,772	2,515
Expendables.....	<u>59,271</u>	<u>57,385</u>	<u>59,272</u>	<u>62,174</u>	<u>102,372</u>	<u>42,955</u>
Total living expenses	(\$ 79,798)	(\$ 76,917)	(\$ 78,538)	(\$ 81,711)	(\$ 131,411)	(\$ 53,560)
Living—capital purchases.....	<u>5,744</u>	<u>5,344</u>	<u>6,241</u>	<u>7,225</u>	<u>5,784</u>	<u>5,890</u>
Total uses	\$1,106,465	\$1,122,987	\$1,155,872	\$1,194,612	\$1,695,239	\$935,708

^aRecords were sorted into thirds according to total noncapital living expenses.

- Of the total living expenses—excluding family capital purchases—charitable contributions accounted for 5 percent, life insurance 6 percent, medical expenses 15 percent, and family living expendables the remaining 74 percent.
- Income and Social Security taxes paid increased by \$2,923, and the total amount of taxes paid, \$28,435, was \$4,668 below the 5-year average for the period 2013 through 2017.
- Medical expenses averaged \$12,007, \$836 more than the five-year average from 2013 to 2017. Expenses were 8 percent higher than the year before.

The 2017 records from 3- to 5-member families were sorted into high one-third and low one-third groups according to total living expenses (Table 4). The total cash living expenses for the high-third group averaged \$131,411, compared with \$53,560 for the low-third group. The high-third group had gross farm receipts of \$928,547, compared to \$541,372 for the low-third group. The results indicate that the high-third group had more nonfarm taxable income and a higher net farm income. When net farm income is added to net nonfarm income, and total family living expenses (including capital purchases for family living) and payments for income and Social Security tax are subtracted, the low-third group had \$30,208 more remaining than the high-third group. The high-third group had a balance remaining of a *negative* \$30,727 compared to a *negative* \$519 for the low-third group.

Living expenses included cash expenditures for food, operating expenses, clothing, personal items, recreation, entertainment, education, transportation, life insurance, contributions, and medical expenses.

The sample of 1,219 represents slightly smaller farms than the average size of all recordkeeping farms in the state. Management was considered slightly above average. In view of these factors, average total living expenses for

all recordkeeping families (excluding capital purchases) are estimated to be between \$63,800 and \$67,800, or 15 to 20 percent below the average total living expenses of these 1,219 Illinois farms. When the \$40,032 net nonfarm income for 2017 is used for living expenses, the remaining \$45,510 must be generated from the farm business to pay the \$85,542 used for total living expenses, including family living capital purchases. The figure of \$45,510 amounts to 7.2 percent of total farm receipts.

Income changes on Illinois farms

The average operator’s net farm income for all farms in 2017 was \$45,142; it was \$86,731 in 2016 (Table 5). The 2012 net farm income was the highest for any year out of at least the last 10 years. Generally, operator net farm incomes decrease steadily as a higher percent of gross farm returns is used to pay interest. Frequently, when more than 15 percent of the gross farm return is used to pay interest, the operator’s net farm income is usually negative. Interest paid as a part of gross farm returns for all operators averaged 4.2 percent in 2017, 3.9 percent in 2016, 4.2 percent in 2015, 3.0 percent in 2014, and 2.8 percent in 2013.

Comparative costs and returns between years and among major types of farming operations are reported in Tables 6 and 8. The sample consisted of grain farms having between 800 and 1,199 acres, or an average of 981 tillable acres. It also includes hog, beef, and dairy farms with 180 or more acres. Labor available on farms of this size averaged 15 months on grain farms, 35 months on hog farms, 23 months on beef farms, and 46 months on dairy farms. These tables contain only operator data; landlord data are not included.

Size of farm, type of farm, and managerial inputs have been held reasonably constant by the sampling procedure used in selecting farms in each category. Variations among figures for 2017 are due to changes in farm prices and to costs, weather, and internal farming adjustments. The data in Tables 6 and 8 are particularly helpful for comparing types

Table 5. Percent of Illinois Farms and Operator Net Farm Income by Interest Paid as a Percent of Gross Farm Returns, 2013 Through 2017

	Interest paid as a percent of gross farm returns						All
	Under 1	1–4.9	5–9.9	10–14.9	15–19.9	20+	
Percent of farms							
2013	36	46	14	3	1	.. .a	100
2014	33	48	15	3	1	.. .a	100
2015	29	41	21	6	2	1	100
2016	30	43	20	5	2	1	100
2017	29	40	22	6	2	1	100
Net farm income							
2013	144,794	135,286	83,677	65,677	(37,411)	(64,720)	127,664
2014	128,273	109,973	76,491	34,470	(11,703)	(23,508)	107,290
2015	37,764	7,585	(45,493)	(67,679)	(80,735)	(180,879)	(2,971)
2016	108,927	104,247	53,163	18,422	(9,101)	(151,119)	86,731
2017	66,907	59,873	21,138	(20,195)	(43,237)	(119,622)	45,142

^aLess than 1 percent.

of farming and for evaluating changes in farm costs and returns for a particular size and kind of farm. The data do not reflect overall farming adjustments due to the enlargement of farms or to major changes in the use of resources.

The figure for net farm income comprises returns to the farm family for all unpaid labor, interest on all invested capital, and the managerial inputs used in farming. Changes in the value of farm inventories and the value of consumed farm products are included as income. Net farm income is calculated by accounting methods comparable to the accrual method used in calculating taxable farm income for the federal income tax except for using economic depreciation. An important difference in the accrual method of income tax accounting should be noted: the inclusion of interest paid as a farm expense. The operator's share of net farm income has the interest expense deducted from it.

The figures for net farm income are the amounts available from the farm business for living costs, income and Social Security taxes, debts, new investments, and savings. New capital investments for the farm business have been included with total cash expenditures. Although the cash balance reflects the cash position of the farm business, the figure is influenced by purchases and sales of feed and livestock and by changes in liabilities and borrowed funds.

Grain farms. The operator's net farm income for Illinois grain farms having 800 to 1,199 acres and no livestock averaged \$39,660 in 2017 (Table 6). This income was \$36,604 below that of 2016 and \$22,704 below the 5-year average income for 2013 through 2017. The value of farm production averaged \$558,311, which was \$48,543 below 2016 and \$39,918 below the 2013 through 2017 average. The value of farm production included a \$9,497 decrease in inventory values compared to 2016, when the inventory value increased by \$41,376. Net cash operating income (adjusted gross) was \$570,015, \$48,422 lower than the 5-year average. Total cash operating expenses were \$5,140 lower than the year before, while depreciation of \$72,418 was 4 percent lower than the year before and 1 percent higher than the 2013 through 2017 average. Total cash operating expenses for 2014 were the highest on record.

Incomes were lower on these farms in 2017 compared to 2016. Lower prices were the main factors for the lower incomes. The average soybean yield on these farms in 2017 was 62 bushels per acre, compared to 64 the year before. The average corn yield was 214 bushels per acre, compared to 216 the previous year. Corn was inventoried 10 cents lower at the end of 2017 compared to the beginning; soybeans were inventoried 70 cents lower. The lower prices in ending inventory caused the value of inventories to decrease \$9,497 at the end of the year compared to the beginning. Crop returns averaged \$676 per tillable acre in 2017 compared to \$737 in 2016. Crop expenses per acre decreased 4.4 percent. This was the fourth year for the Agriculture

Risk Coverage (ARC) and Price Loss Coverage (PLC) Program. The producer had to make a one-time election for either ARC or PLC. For the ARC program, producers would receive a payment the following year after the year of production if the county trigger or farm trigger was met (depending if the producer selected county or individual). For the PLC program, producers receive a payment the following year after the year of production if the effective price is less than the reference price. It is estimated there will be very few counties in Illinois that will see a county ARC payment for 2017. All of these receipts are included in net farm income and crop returns. Total tillable land planted to corn and soybeans in 2017 was 97 percent, compared to 96.3 percent in 2016. Corn acres decreased slightly from 51.9 percent of tillable acres in 2016 to 49.6 percent in 2017, while soybean acres increased from 44.4 to 47.4 percent.

The average prices received in 2017 for new-crop corn and soybeans of \$3.36 and \$9.64, respectively, were lower

Table 6. Averages for Selected Total Farm Items on 800- to 1,199-Acre Illinois Grain Farms

	2017	2016	2013-17 average
Number of farms	527	540	554
Total acres	1,027	1,038	1,027
Soil-productivity rating	82	82	82
Percent land owned.....	20	20	19
Percent land crop-shared	40	39	41
Percent land cash-rented	41	41	41
Cash operating income.....	\$578,452	\$589,835	\$630,849
Less purch. feed, livestock ..	<u>8,438</u>	<u>8,999</u>	<u>12,412</u>
Net cash operating income..	\$570,015	\$580,836	\$618,437
Accounts receivable chg.....	(2,207)	(15,358)	(12,442)
Inventory change	<u>(9,497)</u>	<u>41,376</u>	<u>(7,766)</u>
Value of farm prod	\$558,311	\$606,854	\$598,229
Total cash op. expenses.....	\$439,404	\$444,543	\$456,164
Prepaid-unpaid change	6,830	10,645	7,813
Annual depreciation.....	<u>72,418</u>	<u>75,401</u>	<u>71,888</u>
Net farm income	\$39,660	\$76,264	\$62,364
Net farm inc. per operator....	\$38,580	\$72,095	\$59,268
Unpaid labor charge	45,316	43,984	43,900
Returns to capital & mgmt ...	(5,657)	32,281	18,464
Interest charge on capital	<u>54,077</u>	<u>54,324</u>	<u>57,260</u>
Management returns	(\$59,734)	(\$22,044)	(\$38,796)
Total cash income ^a	\$570,015	\$580,836	\$618,437
Total cash expenditures ^a	<u>506,014</u>	<u>505,134</u>	<u>538,777</u>
Cash balance.....	\$ 64,001	\$ 75,702	\$ 79,660
Capital purchases.....	66,610	60,591	82,613

^aIncludes sales or purchases of capital items.

for corn and soybeans than in the previous year. The average prices received for old-crop corn and soybeans, \$3.49 and \$9.96, respectively, were lower than the year before for corn and higher for soybeans. Capital purchases of \$66,610 in 2017 were \$6,020 more than in 2016 and \$16,003 below the 2013 through 2017 average. Capital purchases of \$137,226 were the highest in 2013 of any year during the last 10 years.

While accrual net farm incomes averaged \$39,660, management returns were a *negative* \$59,734 in 2017, compared to a *negative* \$22,044 in 2016 and the 2013 through 2017 average of a *negative* \$38,796. The value of farm production per man year was highest for any type of farm in Tables 6 and 8. Operators for these farms owned 20 percent of the land they farmed, crop-shared 39 percent, and cash-rented 41 percent. Of the total labor of 14.6 months, only 3.1 months were hired labor. The total months of labor used on these grain farms was the lowest for any type of farm.

A study of the cost to grow corn and soybeans on central Illinois farms is summarized in Table 7. These farms had a soil productivity index ranging from 86 to 100. The farms used 98.7 percent of their tillable land to grow corn and soybeans, with 50.7 percent of the acres in corn and 48.0 percent in soybeans. The table compares 2017 costs per acre with 2016 costs. In 2017, the total cost per acre averaged \$870 for corn and \$656 for soybeans. From 2016 to 2017, the total cost per acre decreased 0.07 percent for corn and 1 percent for soybeans.

Nonland costs of \$2.83 per bushel for corn and \$6.32 for soybeans in 2017 are the most relevant costs for continuing production in the short run, especially where land is free of debt. Total cost to produce a bushel increased for corn and soybeans from 2016 to 2017. Costs per bushel for corn increased due primarily to lower yields and higher nonland interest. Total costs per bushel decreased 2 cents for corn and 20 cents for soybeans. If the 2017 yield for corn had been 214 bushels, the same as the average for the period from 2014 through 2017, the total cost per bushel would have been \$4.06. These costs do not include a charge for management.

The cost of fertility for soybeans was allocated on the basis of phosphorus, potassium, and lime removals, with the residual allocated to corn. The total unpaid labor charge was based on the labor available. The nonland interest rate was 4 percent of one-half the average of the beginning- and end-of-year inventory values for the crops on hand, plus one-half the cash operating expenses (excluding interest paid), plus the depreciated value of machinery and buildings. The land cost is the weighted average of owned, crop-shared, and cash-rented land costs.

Hog farms. The operator's net farm income in 2017 for Illinois hog farms having 180 acres or more averaged \$72,955 (Table 8). Net incomes were \$79,789 higher than net incomes in 2016 and \$37,054 lower than the average for the 5-year period from 2013 through 2017. The cash balance

on these farms of \$46,253 was \$49,980 more than in 2016 and \$22,080 below the average for the 5-year period from 2013 through 2017. Inventories on these farms increased \$49,355 in 2017, following a \$43,581 increase in 2016. The value of farm production of \$1,118,232 was \$49,343 more than in 2016 and \$48,325 lower than the average for the 5-year period from 2013 through 2017. Farm production per man year was \$419,359. Incomes on hog farms increased in 2017 due to higher pork prices. Depreciation of \$89,514 was \$7,243 lower than in 2016.

Management returns were a *negative* \$43,964 in 2017 compared to a *negative* \$111,866 in 2016. Management returns were \$67,902 more than in 2016 and \$34,945 below the average for 2013 through 2017. Capital purchases were \$86,678, which was \$2,254 lower than in 2016 and \$44,011 lower than the average for 2013 through 2017. Farm production per one dollar of nonfeed costs was 94 cents. Purchased feed and livestock for this group totaled \$763,249, \$127,517 less than in 2016. The average interest paid on these farms was \$50,792. That was the second

Table 7. Average Cost per Tillable Acre to Grow Corn and Soybeans on Central Illinois Grain Farms with No Livestock

	Corn		Soybeans	
	2017	2016	2017	2016
Number of farms.....	588	615	588	615
Acres grown per farm.....	710	722	673	617
Yield per acre, bu.....	227	228	68	69
Variable nonland costs				
Soil fertility.....	\$135	\$154	\$ 44	\$ 49
Pesticides.....	73	66	44	40
Seed.....	115	116	73	74
Drying and storage.....	31	27	9	9
Machinery repairs, fuel, and hire.....	58	55	50	48
Total, variable costs.....	\$412	\$418	\$220	\$220
Other nonland costs				
Labor.....	\$ 49	\$ 48	\$ 46	\$ 46
Buildings.....	17	16	15	14
Machinery depreciation..	64	66	56	58
Nonland interest.....	53	48	48	43
Overhead.....	47	44	44	42
Total, other costs.....	\$231	\$222	\$209	\$203
Total, nonland costs.....	\$643	\$640	\$430	\$423
Land costs				
Total land costs ^a	\$226	\$229	\$226	\$229
Total, all costs.....	\$870	\$869	\$656	\$652
Nonland cost per bu.....	\$2.83	\$2.81	\$6.32	\$ 6.13
Total, all costs per bu.....	\$3.83	\$3.81	\$9.65	\$9.45

Average yield, past 4 yrs ...	214	189	64	60
Total, all costs per bu.....	\$4.06	\$4.60	\$10.25	\$10.87

^aWeighted average of owned, crop-shared, and cash-rented land costs.

highest for any type of farm in Table 8. Farm operators in this group owned 18 percent of the land they farmed, crop-shared 17 percent, and cash-rented 65 percent. Total labor was 34.6 months, 21.7 months of which was hired. Corn was planted on 60.2 percent of the acres and soybeans on 35.7 percent. The average corn yield was 223 bushels per acre and the average soybean yield 63 bushels per acre.

Beef farms. The operator's net farm income for Illinois beef farms having 180 acres or more averaged \$185,846 in 2017 (Table 8). This figure was \$248,142 higher than the 2016 figure and \$131,829 higher than the average from 2013 through 2017. Higher beef returns contributed to the higher earnings. Net farm income for these farms was the highest of any type of livestock farm in the sort. Feed cost per hundredweight produced decreased 8 percent, while the average price received for market cattle increased 5 percent in 2017 compared to 2016. The price paid for feeder cattle went down less than 1 percent from the year before. The value of farm production for this group of farms averaged

\$845,120, or \$326,142 more than in 2016. Cash operating income averaged \$2,220,378, purchased feed and livestock totaled \$1,335,407, and net cash operating income averaged \$884,971.

Management returns of \$55,264 in 2017 for these farms were the highest for any type of livestock farm in the study. Management returns averaged a *negative* \$75,604 for the period 2013 through 2017. Capital purchases were \$92,745 in 2017, compared to \$69,897 in 2016 and \$92,949 in 2015. The 2013 through 2017 average was \$103,699. Depreciation of \$61,079 was \$18,221 below 2016. Cash operating expenses, excluding purchases of feed and livestock, totaled \$581,338. The net cash balance for these farms was \$210,888.

Costs and returns to produce beef from 2014 through 2017, based on a detailed breakdown of individual costs from a selected sample of beef farms, are shown in Table 14. Total returns exceeded total costs only in 2014 and 2017, but in the other years, total costs exceeded total returns. An

Table 8. Averages for Selected Total Farm Items on Illinois Hog, Beef, and Dairy Farms

	Hog farms			Beef farms			Dairy farms		
	2017	2016	2013–17 average	2017	2016	2013–17 average	2017	2016	2013–17 average
Number of farms	38	39	40	19	18	24	41	42	49
Total acres	1,038	1,058	1,048	851	727	697	557	601	588
Soil-productivity rating	85	84	81	70	68	68	66	70	69
Percent land owned.....	18	16	20	30	46	40	39	30	36
Percent land crop shared	17	19	17	8	3	15	8	3	4
Percent land cash rented.....	65	65	62	62	51	45	53	67	60
Cash operating income.....	\$1,838,231	\$1,933,851	\$2,097,381	\$2,220,378	\$1,977,097	\$1,637,695	\$999,821	\$1,101,361	\$1,076,941
Less purch. feed, livestock	<u>763,249</u>	<u>890,766</u>	<u>936,926</u>	<u>1,335,407</u>	<u>1,291,727</u>	<u>1,046,392</u>	<u>218,633</u>	<u>250,418</u>	<u>249,555</u>
Net cash oper. income.....	\$1,074,982	\$1,043,085	\$1,160,455	\$884,971	\$685,370	\$591,303	\$781,187	\$850,943	\$827,387
Accounts receivable change..	(6,106)	(17,777)	(17,803)	(1,448)	(3,182)	(14,606)	(7,707)	(8,828)	(10,676)
Inventory change.....	<u>49,355</u>	<u>43,581</u>	<u>23,905</u>	<u>(38,402)</u>	<u>(163,210)</u>	<u>(8,590)</u>	<u>(32,034)</u>	<u>(13,157)</u>	<u>6,050</u>
Value of farm prod	\$1,118,232	\$1,068,889	\$1,166,557	\$845,120	\$518,978	\$568,107	\$741,446	\$828,958	\$822,761
Total cash oper. expenses	\$942,051	\$957,880	\$961,433	\$581,338	\$487,284	\$444,772	\$641,359	\$691,871	\$651,901
Prepaid-unpaid change	13,711	21,085	7,078	16,858	14,690	6,148	288	13,943	3,542
Annual depreciation.....	<u>89,514</u>	<u>96,757</u>	<u>88,037</u>	<u>61,079</u>	<u>79,300</u>	<u>63,171</u>	<u>85,382</u>	<u>97,302</u>	<u>84,502</u>
Net farm income	\$72,955	(\$6,834)	\$110,009	(\$185,846)	(\$62,296)	\$54,016	\$14,418	\$25,842	\$82,816
Net farm inc. per operator.....	\$59,932	(\$4,913)	\$74,468	(\$144,828)	(\$63,147)	\$42,286	\$15,093	\$38,063	\$60,694
Unpaid labor charge	50,778	47,295	47,853	54,718	67,070	52,992	62,333	57,814	57,713
Returns to capital & mgmt.....	22,177	(54,129)	62,156	131,128	(129,366)	1,024	(47,915)	(31,972)	25,103
Interest charge on capital	<u>66,141</u>	<u>57,737</u>	<u>71,176</u>	<u>75,863</u>	<u>80,945</u>	<u>76,628</u>	<u>55,286</u>	<u>60,184</u>	<u>58,363</u>
Management returns	(\$43,964)	(\$111,866)	(\$9,019)	\$55,264	(\$209,861)	(\$75,604)	(\$103,201)	(\$92,156)	(\$33,260)
Total cash income ^a	\$1,074,982	\$1,043,085	\$1,160,455	\$884,971	\$685,370	\$591,303	\$781,187	\$850,943	\$827,387
Total cash expenditures ^a	<u>1,028,729</u>	<u>1,046,812</u>	<u>1,092,122</u>	<u>674,083</u>	<u>557,181</u>	<u>548,470</u>	<u>778,413</u>	<u>782,850</u>	<u>786,509</u>
Cash balance.....	\$46,253	(\$ 3,727)	\$ 68,333	\$210,888	\$128,169	\$ 42,833	\$ 2,775	\$68,093	\$ 40,877
Capital purchases.....	86,678	88,932	130,689	92,745	69,897	103,699	137,054	90,979	134,608

^aIncludes sales or purchases of capital items.

analysis of feeder cattle enterprises is discussed in detail under the livestock section.

Farm operators in this group owned 30 percent of the land they farmed. They crop-shared 8 percent and cash-rented 62 percent. The amount of interest paid was \$55,860, the highest of any livestock group in Table 8. They planted 62.2 percent of their tillable land to corn or corn silage. They also had 11.7 percent of their tillable land in hay and pasture. These farms used 23.1 months of total labor, with 9.2 of that hired labor. The average corn yield on these farms was 218 bushels per acre, and the average soybean yield was 63 bushels per acre. In 2016, corn and soybeans yields on these farms averaged 222 and 67 bushels per acre, respectively.

Farms where beef cattle are raised or fed continue to compete for resources in Illinois where nonmarketable resources—such as roughage, labor, and buildings—or very high levels of management are available. In recent years, this type of farm has survived primarily where large amounts of debt-free capital have been combined with very high levels of management. Higher crop returns have helped them endure the volatile, cyclical nature of the cattle enterprise.

Dairy farms. The operator's net farm income for Illinois dairy farms having 180 acres or more averaged \$14,418 in 2017 (Table 8). This figure was \$11,424 below the 2016 figure and \$68,398 below the 5-year average from 2013 through 2017. The highest income was recorded in 2014. The farms averaged 41,250 hundredweight of milk produced.

The main factor for the decrease in earnings was lower crop prices. The value of farm production was \$741,446. This was \$87,512 lower than 2016 and \$30,921 lower than the 2013 through 2017 average. The value of inventory decreased by \$32,034, while cash operating income decreased by \$101,540, 9.2 percent less than in 2016. (A detailed breakdown of the cost of producing milk is given in Table 16.) Management returns of a *negative* \$103,201 were \$11,044 lower than the 2016 figure and \$69,941 lower than the 5-year average from 2013 through 2017. Capital purchases increased to \$137,054 in 2017, compared to \$90,979 in 2016 and \$131,147 in 2015. The 2013 through 2017 average was \$134,608, and 2013 was the highest amount of capital purchases ever for these types of farms. Annual depreciation on these farms averaged \$85,382. These farms used 45.7 months of total labor, 29.9 months of which was hired labor. The total labor used was the highest for any type of livestock farm in the state. The average interest expense paid by these operators was \$45,755, the lowest for any livestock group in this study.

Farm operators in this group owned 39 percent of the land they farmed. They crop-shared 8 percent and cash-rented 53 percent. 7.5 percent of the land they farmed was in hay ground; 49.5 percent was in corn and corn silage. Over 119 percent of the value of crop produced was fed to livestock. The average corn yield was 196 bushels per acre for these farms, which is 7 bushels per acre less than

in 2016. The average price received for milk in 2017 was 13 percent higher than the average price received in 2016.

LIVESTOCK ENTERPRISES

The returns per \$100 of feed fed from various livestock enterprises and the price of corn during each of the past 15 years are given in Table 9. This table also shows 15-year and 5-year averages. The difference between the average return figure and a feed cost of \$100 represents the margin available for cash expenses other than feed, labor, depreciation on equipment, interest on investment, and profit.

The margin needed to cover nonfeed costs varies with the kind of livestock and depends on the proportion of total production costs represented by feed. The 15-year averages from 2003 through 2017 represent the approximate level of return at which farmers have been willing to maintain livestock production. The average may not represent a breakeven return on all farms because some farmers may discount market prices for some of the resources used in producing livestock. If farmers already have facilities for livestock, they need only to cover direct operating costs to continue production. However, when livestock production is a new or a long-term enterprise, farmers hope to cover all fixed and variable costs. Otherwise, they should not undertake the enterprise.

Patterns and fluctuations

As individual farmers try to increase profits, they tend to curtail livestock production when the return per \$100 of feed fed is below the 15-year average. This tendency on the part of producers causes supplies of livestock products to fluctuate.

In farrow-to-finish hog production, returns tend to follow a noticeably cyclical pattern (Table 9). They tend to exceed the 5-year average for 1 or 2 years and then drop below this average for 1 or 2 years. Returns per \$100 of feed fed of \$169 in 2017 were more than the most recent 5-year average. The 2017 return was above the 2003 through 2017 average. The 2004 and 2005 returns of \$216 were the highest for any year during the last 15 years.

The returns from feeder cattle vary greatly from year to year. The long-run averages shown in Table 9 indicate that the cattle-feeding business has not been paying average market rates for all resources used by the enterprise, although the 2003 through 2005 time period, as well as 2014 and 2017, resulted in some of the better returns on record. Table 9 shows the return of \$151 per \$100 of feed fed for the most recent 5-year period (2013 through 2017) to be above the previous 5-year period and the 15-year average of \$147. The 2017 return of \$191 per \$100 of feed fed was \$40 above the most recent 5-year average. Above-average skills are needed in buying, selling, and feeding to meet the competition from other uses for time and money on farms

with feeder cattle. Identifying cyclical income movements over a 15-year period in the beef-cattle industry is difficult because this industry is more complex and adjusts more slowly than other livestock enterprises.

The average return above feed and purchased animal costs for dairy enterprises of \$2,283 per cow in 2017 was \$110 below the 5-year average of \$2,393 (Table 10). These returns indicate that the average dairy enterprise has covered the total estimated cost of production of \$2,312 per cow from 2012 through 2016. The 2017 return per \$100 of feed fed of \$198 was above the past 5-year average of \$190.

For the beef-herd enterprise, the average returns above the cost of feed and purchased animals for the period from 2013 through 2017 showed great volatility. Historically, the beef-herd enterprises generate enough returns to cover cash costs but not total nonfeed costs (Table 10). The implication is that the beef enterprise competes most favorably on farms where the resources of labor, capital, and management are plentiful and have few alternate uses. This enterprise is most commonly found on farms with nontillable pasture that has limited alternative uses. In the beef-cow enterprise, returns above the cost of feed per cow were \$197 during the past 5 years. The 2017 return of \$102 did cover feed costs but not total nonfeed costs, estimated at \$316 per cow.

Raising livestock has become more competitive and specialized. Average profit margins are narrow. Fewer farmers are willing to stay in business, because returns in

some enterprises barely cover direct operating costs. As an alternative, more producers are specializing in a certain phase of livestock production and entering contractual arrangements to guarantee a certain return. While these contracts may limit upside potential, they can also reduce risk during times of low prices. Expansion plans that require large investments for new facilities should be based on an estimated return high enough to cover all costs. Fluctuations in livestock returns can involve a risk in low-return years.

Hog enterprises

The information on farrow-to-finish enterprises in Table 11 is based on a sample of 21 enterprises farrowing 10 litters or more a year. Farms were omitted from the sample if the number of hogs purchased exceeded 10 percent of pigs weaned, which eliminated farms with combined farrowing and feeder-pig operations. (Information on feeder-pig finishing enterprises is given in Table 13.) The average size of farrow-to-finish enterprises on all recordkeeping farms in 2017 was 433 litters. Average pigs weaned per litter, 9.84, was below the 2016 figure of 9.88. The 2,609 pounds of pork produced per litter was 22 pounds above 2016. The 2017 records summarized here for the “all farms” group show that the return of \$20.98 above feed costs per 100 pounds of pork produced was \$6.60 above the 2016 return of \$14.38. The 2017 return was above the 5-year average.

The 5-year average return above feed costs per 100 pounds produced was \$20.54 (Table 10). Even the 5-year average can vary significantly because of wide fluctuations

Table 9. Returns per \$100 of Feed Fed to Different Classes of Livestock

	Farrow-to-finish hogs (\$)	Feeder pig finishing (\$)	Feeder cattle bought (\$)	Dairy cow herds (\$)	Beef cow herds (\$)	Native sheep raised (\$)	Yearly price of corn (\$)
2003	168	132	200	202	148	165	2.30
2004.....	216	158	165	222	178	161	2.49
2005.....	216	143	167	245	170	111	2.02
2006.....	183	121	124	192	137	117	2.41
2007.....	138	136	142	218	111	134	3.42
2008.....	115	131	102	172	86	106	4.70
2009.....	123	104	126	138	109	75	3.76
2010.....	156	127	163	168	135	139	3.86
2011.....	146	153	153	181	145	173	6.15
2012.....	120	127	117	146	125	79	6.74
2013.....	138	133	125	156	131	.. . ^a	6.07
2014.....	196	187	215	228	260	122	4.14
2015.....	136	122	90	188	101	79	3.70
2016.....	147	132	132	181	104	63	3.55
2017.....	169	155	191	198	164	128	3.41
Averages							
2003–2017.....	158	137	147	189	140	.. . ^a	3.91
2003–2007.....	184	138	160	216	149	138	2.53
2008–2012.....	132	128	132	161	120	114	5.04
2013–2017.....	157	146	151	190	152	.. . ^a	4.17

^aData not available.

Table 10. Variations in Returns to Livestock Enterprise Units, 2013 Through 2017

	Hogs (per cwt)	Feeder-pig finishing (per cwt)	Feeder cattle (per cwt)	Dairy cattle (per cow)	Beef herd: calves sold (per cow) ^a
Return above cost of feed and purchased animals					
2013.....	\$ 18.33	\$13.09	\$21.12	\$1,846	\$169
2014.....	37.12	29.37	70.06	3,734	842
2015.....	11.87	6.20	-5.75	2,167	-34
2016.....	14.38	8.64	16.70	1,936	-94
2017.....	<u>20.98</u>	<u>15.13</u>	<u>43.56</u>	<u>2,283</u>	<u>102</u>
Five-year average.....	\$20.54	\$14.49	\$29.14	\$2,393	\$197
Nonfeed costs, 2012 through 2016^b					
Direct cash.....	\$11.30	\$ 7.13	\$19.23	\$1,701	\$191
Other costs.....	<u>8.68</u>	<u>4.02</u>	<u>15.52</u>	<u>611</u>	<u>124</u>
Total.....	\$19.98	\$11.15	\$34.76	\$2,312	\$316

^aThe feed cost for beef herds includes up to \$60 of hay equivalent from salvage roughage.

^bEstimates of annual nonfeed costs are based on enterprise cost studies of operative units.

in returns from year to year. Detailed records show that an average farmer with existing facilities needed a return above feed costs of \$19.98 per 100 pounds to pay for all nonfeed costs in the 2012 through 2016 time period. The return above all costs during this 5-year period of 56 cents (\$20.54 minus \$19.98) has led to very little expansion but some increase in pork production. Pork production increased from 2015 to 2016 by 1.8 percent and increased 2.3 percent from 2016 to 2017. Fortunately, strong export demand is expected to continue to support pork prices. Pork production is expected to increase about 4.4 percent in 2018 due to higher exports (6.0% in 2018) and lower feed costs.

The large producers paid less per hundredweight for concentrates and had a lower feed conversion. The average price received for hogs sold by large producers, or the net at the farm, was 98 cents less than the average net received by all producers.

A substantial profit margin is required to compensate for the risk and detailed management involved in hog production compared with other resource uses. Large-scale hog production in modern confinement facilities requires high capital investment. The future recovery of this investment is uncertain. The salvage value of confinement hog facilities is low. In addition, acquiring the managerial skills for the large-scale production of hogs in confinement may discourage any rapid expansion of large hog-producing units. Pork production in 2017 increased 2.3 percent. Pork production in 2018 is expected to increase compared to 2017. Hog prices should move higher due to greater demand, but with a 4.4 percent increase in production, prices are projected lower. Lower feed costs have decreased the cost of production, and exports are expected to increase.

The data on hog enterprises in Table 12 show a detailed breakdown of costs and returns from a group of specialized commercial hog farms for 2014, 2015, 2016, and 2017. The value of the feed fed to hogs was more than 40 percent of the crop returns produced on these farms. This intensity

of livestock feeding indicates a commitment of major resources to the hog enterprise. The producers in this group probably exercise a higher level of management.

The cost data reported in Table 12 have been divided into two categories: cash costs and other costs. This classification of production costs is important when short-term management decisions are being made concerning the volume of production, particularly during periods of low prices.

As reported in Table 12, cash costs of production in 2017 were \$40.49 per 100 pounds of pork produced. Feed is included as a cash cost, although for some producers a share of the grain is raised on the farm. The readily available alternative cash market for grain makes raised feed the same as cash.

The other category of costs includes depreciation, labor, and an interest charge on all capital. Part of the labor and interest charge is a cash cost on most farms. The proportion of labor that is hired depends largely on the size of the farm. Feed costs increased 2 percent as one compared 2017 to 2016. Total nonfeed costs decreased 76 cents per 100 pounds of pork produced, with maintenance and power costs and livestock expenses representing most of the decrease. Total cost of production decreased from 2016 to 2017 by 30 cents (1 percent) per 100 pounds of pork produced.

From 2014 through 2017, the return above all costs averaged \$1.59 cents per 100 pounds of pork produced. Management practices, such as the choice of building systems, type of market used, and on- versus off-farm systems for feed processing affect the individual cost items reported in Table 12. But the return above all costs should accurately reflect the relative efficiency of the of hog enterprises.

Feeder cattle and feeder pig finishing enterprises

Data for 2017 on the feeder cattle and feeder pig finishing enterprises are presented in Tables 13 and 14. These enterprise summaries include weights and values on partly finished animals purchased in previous years and on animals

purchased during the current year.

The average amount of pork produced per farm from feeder pig enterprises was 1,684,844 pounds in 2017 (Table 13). At 240 pounds of gain per head, this figure amounted to 7,020 head fed per farm in 2017. These feeder pig enterprises represent those that buy weaner pigs and finish them.

The return above the cost of feed and purchased animals from 2013 through 2017 averaged \$14.49 per 100 pounds of gain. This return was \$3.34 above the \$11.15 of all nonfeed costs for the period 2012 through 2016 (Table 10). The 2017 return of \$15.13 was \$6.49 above the 2016 return and 64 cents above the 2013 through 2017 return. Higher pig prices were the main reason for the higher returns.

Given that a 475-pound unit of gain equals one head of feeder cattle, the average of 385,311 pounds of beef produced per farm in 2017 (Table 13) equals 811 head of feeder cattle per farm. That figure is higher than the year before. The return per \$100 of feed for feeder cattle enterprises was \$191 in 2017, in comparison with a 5-year average of \$151 and a 15-year average of \$147 (Table 9).

The price paid for feeders was 23 cents per 100 pounds lower in 2017 than it was in 2016; the price received for cattle sold in 2017 was \$3.27 lower per 100 pounds than the price received in 2016. The average weight of purchased animals was 726 pounds; the average weight of animals sold was 1,368 pounds. Feed costs were \$47.95 per 100 pounds produced in 2017; they were \$51.87 in 2016. Feed

Table 11. Hog Enterprises, 2017 Averages per Farm

	All farms	Farrow-to-finish enterprises ^a
Number of farms.....	21	7
Pork produced, lbs.....	1,129,475	2,557,004
Pork prod. per litter, lbs.....	2,609	2,651
Total returns.....	\$580,640	\$1,291,756
Value of feed fed.....	\$343,709	\$752,823
Returns per \$100 feed fed.....	\$169	\$172
Number litters farrowed.....	433	965
Pigs farrowed per litter.....	11.96	12.31
Pigs weaned per litter.....	9.84	10.07
Litters per female year.....	1.76	1.81
Pigs weaned per female year...	15.75	15.55
Number pigs weaned.....	4,261	9,718
Death loss, % lbs produced.....	3.2	3.3
Wt per market hog sold, lbs.....	275	276
----- per cwt produced -----		
Price received—market.....	\$51.81	\$50.83
Total returns.....	51.41	50.52
Feed costs.....	<u>30.43</u>	<u>29.44</u>
Return above feed.....	\$20.98	\$21.08
Farm grains/complete feed, lbs	219	220
Commercial feed, lbs.....	<u>82</u>	<u>79</u>
Total concentrates, lbs.....	302	299
Cost per cwt supplement.....	\$20.71	\$20.36
Cost per cwt concentrates.....	\$10.07	\$9.85

^a350 or more litters per farm.

Table 12. Average Costs and Returns for Farrow-to-Finish Hog Enterprises, 2014 Through 2017

	2017	2016	2015	2014	2014–17 average
Number of farms.....	13	10	13	12	12
Tillable acres.....	554	632	398	553	534
Number of litters.....	619	492	583	494	547
Total returns.....	\$50.26	\$46.63	\$46.96	\$74.52	\$54.59
----- per cwt pork produced -----					
Cash costs					
Feed.....	\$30.00	\$29.54	\$31.71	\$38.59	\$32.46
Operating expenses:					
Maintenance and power ^a	\$ 4.48	\$ 5.17	\$ 4.55	\$ 6.10	\$ 5.08
Livestock expenses.....	4.77	5.21	4.63	5.28	4.97
Insurance, taxes, and overhead.....	<u>1.24</u>	<u>1.47</u>	<u>1.40</u>	<u>1.18</u>	<u>1.32</u>
Total operating expenses.....	\$10.49	\$11.85	\$10.59	\$12.56	\$11.37
Total cash costs.....	\$40.49	\$41.39	\$42.30	\$51.15	\$43.83
Other costs					
Depreciation ^b	\$1.66	\$1.75	\$1.38	\$1.74	\$1.63
Labor.....	6.44	6.05	5.94	5.49	5.98
Interest charge on all capital.....	<u>1.81</u>	<u>1.51</u>	<u>1.34</u>	<u>1.59</u>	<u>1.56</u>
Total other costs.....	\$9.91	\$9.31	\$8.66	\$8.82	\$9.18
Total nonfeed costs.....	\$20.40	\$21.16	\$19.25	\$21.38	\$20.55
Total all costs.....	\$50.70	\$50.70	\$50.96	\$59.97	\$53.01
Return above all costs.....	(\$0.14)	(\$4.07)	(\$4.00)	\$14.55	\$ 1.59

^aIncludes utilities, machinery, equipment and building repairs, machine hire, and fuel.

^bIncludes machinery, equipment, and building depreciation.

costs decreased in 2017 and were below the last 5-year average of \$60.89. Smaller differences in the price paid and received for market cattle as well as lower feed costs resulted in higher returns above feed in 2017.

Each 100 pounds of beef produced required 670 pounds of concentrates and 30 pounds of hay. The amount of corn silage used in 2017 averaged 74 pounds; other silage averaged 21 pounds, for a total of 95 pounds. Silage use by the feeder cattle enterprise had been decreasing slightly in the prior 10 years, except for 2015 and 2016; the 10-year average for the period 1998 through 2007 was 415 pounds per 100 pounds of beef produced, compared to 262 pounds for the period 2008 through 2017. The use of 95 pounds of silage per 100 pounds of beef produced in 2017 was the lowest amount fed on record. The high initial investment required for many silage feeding operations may denote more reliance on higher concentrate and dry roughage facilities.

This data does not show the wide variation in profits among cattle-feeding programs. The data on Illinois feeder cattle enterprises in Tables 9, 10, and 13 reflect the composite results of all qualities and ages of cattle fed. The data are heavily weighted, with good to choice calves and yearlings as the predominant cattle feeding system. Most farmers feed more than one drove of cattle each year to better utilize their fixed investments in mechanized feedlots.

The return above the cost of feed and purchased animals averaged \$29.14 per 100 pounds of beef produced from 2013 through 2017 (Table 10). During this period, returns ranged from a *negative* \$5.75 in 2015 to \$70.06 in 2014. The 5-year average returns above feed costs are below the estimated cost of \$34.76 per 100 pounds produced required to pay for all nonfeed costs for the average cattle feeder for the past 5 years. The returns above feed costs are higher than in 2016 because of the lower feed costs and smaller difference between purchase and received prices.

The data in Table 14 show a detailed breakdown for the period from 2014 through 2017 on costs and returns to produce beef on beef-feeding farms. The farms included had no other livestock. All costs were accounted for, either in crops or in the beef-feeding enterprise. The figure for feed costs is based on the assumption that all the grain and roughage fed was produced on the farm and was marketable.

The data shows that these farms were finishing an average of 1,407 feeders each year from 2014 through 2017. The 4-year average total cash cost including feed and interest charged on cattle, was \$77.47 per 100 pounds of beef produced. The average total returns of \$85.89 for the same period was more than total cash costs by \$8.42 per 100 pounds produced, or about \$60.62 per feeder.

Some feeders may be able to discount some of these cash costs for roughage fed and for interest on cattle if they had no market for the roughage or were able to use their own money to invest in cattle without paying interest. Total other costs of \$12.52 per 100 pounds of beef produced, or \$90 per

feeder (\$12.52 multiplied by 7.20 hundredweight of gain per feeder), include depreciation, labor, and interest. Adding the other costs to cash costs results in total costs of \$90.00 per hundredweight over the 4-year period. This was \$4.11 per hundredweight more than the average total returns of \$85.89.

A number of cattle feeders in Illinois apparently will feed cattle as long as their return covers feed and cash costs even if it falls short of paying market rates for some nonmarketable roughage and fixed and overhead costs; however, this number is declining.

Farmers' values, goals, and attitudes have been important in maintaining production, but the dictates of the market, technological changes, and shifts in the basic factors of supply and demand continue to cause changes. The return reflected in these averages for the feeder-cattle enterprise suggests that to be profitable, farmers must produce the kind of beef consumers want at the lowest possible cost. Even though farms may have nonmarketable feeds, unemployed labor, or fixed capital investments in facilities, these data indicate returns are not consistently high enough to justify building new facilities.

Dairy enterprises

The average herd size on recordkeeping farms increased steadily at an average of 1.8 cows per year, from 42 in 1970 to 63 in 1982. Herd size remained steady, between 63 and

Table 13. Feeder Cattle and Feeder Pig Finishing Enterprises, 2017 Averages per Farm

	Feeder cattle	Feeder-pig finishing ^a
Number of farms.....	49	26
Total lbs produced	385,311	1,684,844
Total returns.....	\$352,598	\$683,714
Value of feed fed.....	\$184,762	\$428,741
Returns per \$100 of feed fed.....	\$191	\$159
Death loss, % lbs produced.....	2.8	1.6
Average weight purchased.....	726	14
Price paid per 100 lbs.....	\$143.93	\$279.82
Price received per 100 lbs.....	\$117.25	\$ 51.93
Average weight sold.....	1,368	281
	-- per cwt produced --	
Total returns.....	\$91.51	\$40.58
Feed costs.....	<u>47.95</u>	<u>25.45</u>
Return above feed.....	\$43.56	\$15.13
Farm grains/complete feed, lbs....	614	160
Supplement, lbs.....	<u>57</u>	<u>93</u>
Total concentrates, lbs.....	670	253
Hay, lbs.....	30	.. . ^b
Corn silage, lbs.....	74	.. . ^b
Other silage, lbs.....	21	.. . ^b
Hay equivalent, lbs.....	80	.. . ^b

^aPurchase weight of 20 lbs and less.

^bData not available.

70 cows, up to 1994. From 1994 until 2004, herd size had been between 75 and 85 cows. From 2004 through 2009, herd size was around 100 cows. From 2012 until 2015, the herd size has averaged around 140 cows. Since 2016, average herd size is about 160 cows. The 2017 average herd size is 160.2. There continues to be fewer and fewer dairy herds in Illinois. A few dairy producers have decided to expand their herds and make a long-term commitment to the dairy industry.

The return per \$100 of feed fed to dairy cattle in 2017 was \$198. The average for the period from 2013 through 2017 was \$190 (Table 9). In 2017, milk prices per hundredweight increased from \$16.27 to \$18.43. From 2016 to 2017, beef prices for market animals sold decreased \$36.90 per hundred pounds, while feed costs increased 36 cents per milk equivalent. Milk production per cow in 2017 of 23,292 pounds was down 677 pounds from 2016.

Dairy farmers have reduced the amounts of pasture and dry hay and increased the amounts of grain and silage fed

over the past two decades. Pasture days per animal unit dropped from 145 in 1960, to 50 in 1970, to 3 in 2017. This shift indicates that significant pasture days are a thing of the past on nearly all dairy farms in this sample. However, some producers are beginning to experiment again with intensive rotational grazing as a means of lowering costs.

The herds in Table 15 were divided into groups based on size: the two groups had 40 to 79 cows and 150+ cows. The larger herds averaged 346 cows, and the smaller herds averaged 71 cows. The return above feed costs per cow was higher for the larger herds, at \$2,556, compared to a return of \$1,628 for the smaller herds. The larger herds averaged 24,762 pounds of milk produced per cow, compared to 20,949 pounds for the smaller herds. Feed cost per milk equivalent was lower for the larger herds, at \$9.15, compared to \$11.33 for the smaller herds.

The average return above feed costs per cow for all dairy herds was \$2,283 in 2017 (Table 15). This figure compares with the recent 5-year average of \$2,393 per cow (Table 10). For the years 2012 through 2016, the 5-year average

Table 14. Average Costs and Returns for Beef-Feeding Enterprises, 2014 Through 2017

	2017	2016	2015	2014	2014–17 average
Number of farms.....	11	9	12	15	12
Average per farm					
Tillable acres.....	749	458	575	570	588
Hundredweight beef produced	10,873	4,082	5,929	5,843	6,682
Number head at 475-lb gain equivalents.....	2,289	859	1,248	1,230	1,407
Average weight purchased, lbs.....	543	652	650	635	620
Average weight sold, lbs.....	1,346	1,341	1,348	1,324	1,340
Price received per 100 lbs sold	\$113.01	\$118.53	\$149.47	\$147.19	\$132.05
Price paid per 100 lbs purchased.....	\$131.60	\$149.69	\$210.69	\$206.98	\$174.74
----- per cwt beef produced -----					
Cash costs					
Feed	\$50.52	\$53.16	\$58.25	\$61.32	\$55.81
Operating expenses					
Maintenance and power ^b	\$ 7.86	\$ 8.41	\$ 8.68	\$ 8.61	\$ 8.39
Livestock expense	4.00	5.43	7.88	6.20	5.88
Insurance, taxes, and overhead	1.46	2.44	1.23	0.85	1.50
Interest on cattle ^c	<u>5.49</u>	<u>4.76</u>	<u>7.11</u>	<u>6.23</u>	<u>5.90</u>
Total operating expenses.....	\$18.81	\$21.04	\$24.90	\$21.89	\$21.66
Total cash costs.....	\$69.33	\$74.20	\$83.15	\$83.21	\$77.47
Other costs					
Depreciation ^d	\$ 3.57	\$ 4.72	\$ 3.93	\$ 3.64	\$ 3.97
Labor	5.55	6.11	6.09	5.88	5.91
Interest on other capital.....	<u>1.20</u>	<u>4.01</u>	<u>2.78</u>	<u>2.61</u>	<u>2.65</u>
Total other costs	\$ 10.32	\$ 14.84	\$ 12.81	\$ 12.13	\$ 12.52
Total all costs.....	\$ 79.65	\$ 89.04	\$ 95.96	\$ 95.34	\$ 90.00
Total returns ^e	\$ 92.93	\$ 68.79	\$ 50.67	\$131.16	\$ 85.99
Return above all costs.....	\$13.28	(\$20.25)	(\$45.29)	\$ 35.82	(\$4.11)

^aAll grain fed was priced at the average market price for the year. Market values were used for roughage fed, while protein and minerals were charged at cost. All the feed fed is assumed to have been marketable.

^bIncludes utilities, machinery, equipment and building repairs, machine hire, and fuel.

^cInterest is a charge on the average value of beginning- and end-of-year inventories on hand. The rate was 4.0% for 2014 to 2016 and 4.5% for 2017.

^dIncludes machinery, equipment, and building depreciation.

^eSales less cost of purchased animals, plus or minus inventory value change. No credit has been calculated for reduced fertility cost when manure is applied to crops.

return above feed costs required to pay market prices for all nonfeed costs is estimated to be about \$2,312 per cow. Although the number of dairy herds has decreased, their size and efficiency have increased, and they have continued to increase the milk supply. Normal depreciation and wear-and-tear will soon require the reinvestment of greater amounts of capital in some of these businesses.

The data in Table 16 on dairy enterprises show a detailed breakdown of milk production costs and returns for dairy farms by the number of cows in the herd from 2015 through 2017. The farms included had no other livestock. All costs were accounted for either in crops or in the dairy enterprise. The total costs for the dairy enterprise were reduced by the amount of income derived from an inventory increase in the pounds of beef produced or sold, which was valued at the average price received for all weights of dairy animals sold from 2013 through 2017. The residual costs, amounting to about 88 percent of the total enterprise costs, were then considered the net cost of producing milk.

The differences between the herds with 40 to 79 cows and those with 80 or more for the period from 2015 through 2017 is a combination of lower feed costs and lower other costs for the larger herds. For the 3-year period, the milk price for the larger herds is 26 cents per 100 pounds lower than that for the smaller herds, while feed costs per 100 pounds of milk sold for the larger herds were \$1.28 lower than for the smaller herds. Total nonfeed costs were 36 cents lower for the larger herds.

In 2017, feed costs per 100 pounds of milk produced increased for small herds (98 cents) and for large herds (15 cents). The cost of feed averaged about 48 percent of total production costs in Illinois dairy enterprises. Compared with 2016, total nonfeed costs increased 8 percent for the large herds and decreased 7 percent for the small herds. The total cost of producing 100 pounds of milk in 2017 was \$19.78 for the small herds and \$18.68 for the large herds. The average price received for milk in 2017 increased for both groups of dairy enterprises. With higher milk prices, returns still were not able to cover total production costs for either group in 2017. Returns were a *negative* 92 cents per 100 pounds of milk produced for the small herds and a *negative* 13 cents for the large herds. The returns above all costs per 100 pounds of milk produced had averaged \$1.90 more for the large group than the small group from 2015 through 2017. Margin Protection Program for Dairy Producers (MPP-Dairy) payments from the Farm Service Agency and patronage returns related to the dairy enterprise were not included in returns. This would add about 39 cents per 100 pounds of milk produced to returns.

Beef-cow herds

The minimum size for a beef-cow herd included in Table 17 was 10 cows. Farms combining cow herds and purchased

Table 15. Dairy Cattle Enterprises, 2017 Averages per Farm

	All farms	40-79 cows	150+ cows
Number of farms.....	51	8	14
Number of cows.....	160.2	70.6	345.5
Milk cows dry, %	12.2	15.3	11.4
Animal units in herd.....	293	141	636
Total returns.....	\$739,890	\$291,873	\$1,704,504
Value of feed fed.....	\$374,190	\$176,597	\$821,584
Return per \$100 of feed fed	\$198	\$165	\$207
Return above feed per cow .	\$2,283	\$1,628	\$2,556
Total milk produced, cwt	37,314	14,832	85,552
Lbs of milk per cow.....	23,292	20,949	24,762
Lbs of butterfat per cow.....	890	821	946
Total beef produced, lbs	100,466	59,382	211,012
Pounds of beef per cow.....	627	839	611
Death loss, % lbs produced.	15.7	16.1	15.0
Price received for:			
cwt milk.....	\$18.43	\$18.51	\$18.65
cwt beef	\$92.13	\$59.90	\$104.01
Per cwt milk equivalent ^a			
Feed cost.....	\$9.52	\$11.33	\$9.15
Grain/complete feed, lbs....	29	30	31
Protein and minerals, lbs...	24	21	27
Total concentrates, lbs.....	53	51	58
Hay and dry roughage, lbs	14	25	8
Corn silage, lbs.....	93	99	92
Other silage, lbs.....	47	56	47
Pasture days per animal unit	3	0	0
Hay equivalent per cow, tons	8.0	8.8	7.7
Concentrates per cow, lbs ...	13,012	11,235	14,993

^aMilk equivalent equals value of beef produced divided by average price received per cwt milk plus cwt of milk produced.

feeder cattle were not included. From 1956 through 1969, the average size of the herd on all farms ranged from 25 to 30 cows. From 1970 to 1973, the average grew to about 40 cows per herd and remained stable through 1989. Since 2001, the herd size has been about 50 to 60 cows. The herd size was 64 cows in 2017, 1 less than in 2016. Most Illinois farmers who maintain a beef-cow herd do so as a supplemental enterprise to market nonsalable feeds and labor.

The return per \$100 of feed fed to beef-cow herds where the calves are sold averaged \$164 in 2017. The returns for the 5-year period from 2013 through 2017 averaged \$152, which is above the 15-year average of \$140 for the period from 2003 through 2017 (Table 9). Beef prices received in 2017 averaged \$134.31 per hundredweight, a decrease of 87 cents from prices in 2016. Feed costs per 100 pounds of beef produced decreased by \$3.80 to \$70.65 in 2017.

In addition to all farms, Table 17 gives an analysis of cow herds in which calves were sold at weaning time, comparing them with cow herds in which calves were finished to slaughter weights. Comparing the two groups, there are 63 cows in the calves-sold group and 50 cows in the calves-

Table 16. Average Milk Production Costs and Returns by Size of Herd, 2015 through 2017

	40–79 cows in herd			80 or more cows in herd		
	2017	2016	2015	2017	2016	2015
Number of farms	5	7	7	24	28	29
Tillable acres	243	140	182	511	490	475
Number of cows.....	52.7	61.7	57.4	232.5	230.3	210.0
Milk per cow, lbs.....	22,589	21,680	20,299	20,299	24,528	24,092
	----- per 100 lbs of milk produced -----					
Price received.....	\$18.86	\$16.22	\$16.79	\$18.55	\$16.30	\$17.48
Cash costs						
Feed	\$10.38	\$9.40	\$10.70	\$8.81	\$8.66	\$9.09
Operating expenses						
Maintenance and power ^a	1.87	2.39	2.84	2.47	2.25	2.40
Livestock expense.....	2.60	2.80	2.52	2.73	2.53	2.68
Insurance, taxes, and overhead	0.32	0.19	0.09	0.24	0.24	0.24
Total operating expenses.....	\$ 4.79	\$ 5.38	\$ 5.46	\$ 5.44	\$ 5.02	\$ 5.32
Total cash costs.....	\$15.17	\$14.78	\$16.16	\$14.25	\$13.68	\$14.41
Other costs						
Depreciation ^b	\$ 0.71	\$ 0.89	\$ 0.96	\$ 0.87	\$ 0.87	\$ 0.96
Labor	3.43	3.09	2.90	2.56	2.44	2.58
Interest charge on all capital.....	0.47	0.75	0.77	1.00	0.81	0.83
Total other costs	\$ 4.61	\$ 4.73	\$ 4.63	\$ 4.43	\$ 4.12	\$ 4.37
Total nonfeed costs.....	\$9.40	\$10.11	\$10.09	\$ 9.87	\$ 9.14	\$ 9.69
Total all costs.....	\$19.78	\$19.51	\$20.79	\$18.68	\$17.80	\$18.78
Return above all costs.....	(\$0.92)	(\$3.29)	(\$4.00)	(\$0.13)	(\$1.50)	(\$1.30)

^aIncludes utilities, machinery, equipment and building repairs, machine hire, and fuel.

^bIncludes machinery, equipment, and building depreciation.

fed-out group. The value of feed fed for the calves-fed-out group was \$6,742 higher than for the calves-sold group, but the feed cost per hundredweight produced is \$33.37 less. More hay and dry roughages are fed to the calves-sold group, 693 pounds per hundredweight produced more than the calves-fed-out group, and the total silage fed is 18 pounds less per hundredweight produced.

Since 2013, the difference in returns above feed costs per cow for the average farmer to feed out calves rather than sell them at weaning has been about \$325 per cow. Additional returns are needed for the added costs of labor, buildings, and capital required to feed out the calves. In 2017, the return above feed costs per cow for feeding calves to market weight was \$551 more than selling them at weaning.

Sheep enterprises

Sheep production is a minor enterprise on Illinois record-keeping farms. The minimum size of enterprise in Table 18 is 3 animal units. One animal unit of sheep is defined as 750 pounds, liveweight. The return per \$100 of feed fed in 2017 was \$128 for native flocks. The average return for the 4-year period from 2014 through 2017 is \$98 per \$100 feed fed (Table 9). The pounds of wool and mutton produced per farm have remained fairly constant for the past 10 years. The price received for sheep decreased from \$215.30 per hundredweight in 2016 to \$163.55 in 2017, while feed

Table 17. Beef-Cow Enterprises, 2017 Averages per Farm

	All farms	Calves sold	Calves fed out
Number of farms.....	137	41	37
Number of cows in herd.....	64	63	50
Animal units in herd.....	103	93	95
Total lbs produced	48,517	30,946	58,196
Beef per cow, lbs	757	493	1,155
Total returns.....	\$56,360	\$36,124	\$69,354
Value of feed fed.....	\$34,279	\$29,711	\$36,453
Return per \$100 feed fed.....	\$164	\$122	\$190
Return above feed per cow	\$345	\$102	\$653
Death loss, lbs	2,240	2,324	2,107
% lbs produced.....	4.6	7.5	3.6
Weight per animal sold, lbs	766	582	1,144
Price per cwt sold—market.....	\$134.31	\$143.29	\$124.10
	----- per cwt produced -----		
Feed costs.....	\$70.65	\$96.01	\$62.64
Grain/complete feed, lbs.....	198	195	264
Protein and minerals, lbs.....	70	107	54
Total concentrates, lbs.....	269	303	318
Hay and dry roughage, lbs	634	1,106	413
Corn silage, lbs.....	394	260	385
Other silage, lbs.....	139	153	46
Pasture days.....	28	51	22
Pasture days per animal unit...	133	170	134
Hay equivalent per cow, tons...	5.6	5.9	6.4

^aInsufficient data.

costs per hundredweight produced decreased by \$29.84 to \$100.38, or 23 percent. Most Illinois farmers who keep sheep do so as a supplemental enterprise in order to market nonsalable feeds and labor.

Table 18. Sheep Enterprises, 2017 Averages per Farm (Native Flocks)

Number of farms.....	4
Number of ewes in flock.....	64
Wool and mutton produced, lbs.....	14,573
Total returns.....	\$18,774
Value of feed fed.....	\$14,628
Return per \$100 of feed fed.....	\$128
Percent lamb crop.....	189
Death loss, lbs.....	314
Percent lbs produced.....	2.2
Weight per market animal sold, lbs.....	117
----- per cwt produced -----	
Price received—market.....	\$163.55
Feed costs.....	\$100.38
Concentrates, lbs.....	427
Hay, lbs.....	820
Pasture days.....	25
Hay equivalent, lbs.....	1,340

Appendix A

Costs, returns, financial summaries, investments, land use, and crop yields for different sizes and types of Illinois farms are reported in Tables 19 through 23a.

Table 19. 2017 Operator Average Returns, Costs, and Financial Summary by Size and by Management Returns for Northern and Central Illinois Grain Farms with Soil Ratings from 86 to 100

Range in size (total tillable acres)	180-799	800-1,199	1,200-1,999	> 1,999	Your farm	All farms	Low 33%	800-1,199	High 33%
Management returns	359	225	241	137		962	74	74	74
Number of farms									
Total acres in farm	534	1,014	1,559	3,497		1,325	993	993	1,013
Acres of tillable land	513	982	1,521	3,438		1,292	968	968	984
Operator tillable acres	417	770	1,192	3,000		1,062	789	789	763
Soil rating on tillable land	91	91	91	91		91	91	91	91
Percent land owned	24	16	12	11		14	21	21	10
Percent land crop shared	38	43	43	26		35	37	37	44
Percent land cash rented	38	42	45	63		50	42	42	45
Months of hired labor	1.4	3.0	7.2	21.7		6.1	3.4	3.4	1.7
Total months labor	10.0	14.0	18.6	37.4		17.0	14.8	14.8	12.8
Dollar returns									
Crop returns	288,790	551,290	864,295	2,253,007		774,088	544,072	544,072	569,071
Livestock returns above feed	126	-36	277	850		229	-345	-345	233
Custom work	4,528	10,400	12,398	62,453		16,122	8,681	8,681	13,950
Other farm receipts	5,061	12,181	19,418	40,628		15,388	12,416	12,416	15,161
Value of farm production	298,505	573,835	896,388	2,356,938		805,828	564,824	564,824	598,416
Dollar costs									
Crop expenses	101,326	190,758	292,216	683,995		253,044	210,412	210,412	172,046
Power and equipment	62,098	103,448	154,509	417,532		145,538	123,069	123,069	86,423
Building and fence	18,366	31,851	44,404	118,619		42,320	41,944	41,944	24,974
Labor	31,326	44,278	58,749	129,068		55,145	47,299	47,299	40,328
Insurance and miscellaneous	16,786	29,745	45,708	118,619		41,565	33,740	33,740	26,545
Livestock services and supplies	173	452	812	1,015		518	502	502	399
Interest on nonland capital	20,603	38,066	59,832	148,871		52,782	43,557	43,557	33,601
Real estate taxes	7,463	9,398	11,887	23,998		11,379	12,060	12,060	5,811
Cash rent	45,250	100,306	173,140	612,140		170,897	101,312	101,312	107,694
Other land charges	49,594	73,413	97,382	168,130		84,018	86,110	86,110	58,410
Total nonfeed costs	352,986	621,714	938,639	2,421,986		857,205	700,006	700,006	556,232
Capital account adjustment	3,679	3,664	4,774	4,950		4,131	4,462	4,462	1,588
Management returns	-50,802	-44,215	-37,476	-60,099		-47,247	-130,720	-130,720	43,771
Farm production per \$1.00 of nonfeed costs	0.85	0.92	0.95	0.97		0.94	0.81	0.81	1.08
Farm production per man	342,040	626,501	782,280	967,750		607,970	574,356	574,356	691,411
Financial summary									
Cash operating income	310,464	586,652	903,055	2,305,076		807,573	600,096	600,096	595,131
Inventory change	-9,939	-9,653	-88	75,303		4,735	-31,988	-31,988	5,123
Accts. receivable (net change)	-1,884	-1,704	-3,889	-3,267		-2,541	-684	-684	-1,127
Less purchased feed	44	347	2,147	767		745	517	517	329
Less purchased livestock	91	305	364	3,770		733	736	736	131
Gross farm returns	298,505	574,644	896,566	2,372,575		808,288	566,171	566,171	598,667
Cash operating expenses	234,297	446,461	709,286	1,942,669		646,206	482,160	482,160	429,258
Prepaid expenses (- if increased)	5,262	2,631	2,017	-356		3,034	6,971	6,971	-7,590
Accts. payable (+ if increased)	495	2,924	-1,288	31,161		4,983	6,694	6,694	-1,754
Total operating expenses	240,054	452,016	710,016	1,973,473		654,223	495,825	495,825	419,914
Income before depreciation	58,451	122,629	186,551	399,102		154,065	70,345	70,345	178,753
Less depreciation	40,021	73,917	113,939	258,033		97,514	90,805	90,805	56,669
Capital account adjustment	3,679	3,664	4,774	4,950		4,131	4,462	4,462	1,588
Net farm income	22,108	52,376	77,386	146,019		60,682	-15,997	-15,997	123,672
Net farm income per operator	21,467	51,117	72,435	103,658		52,875	-13,840	-13,840	118,531
Labor & mgt. income per operator	-17,303	430	11,686	-3,502		-3,928	-81,294	-81,294	84,651

Note: Variations in totals due to rounding to the nearest dollar. Farms with soil ratings from 86 to 100 are those with nearly level, well-drained prairie soils.

Table 19a. 2017 Operator Average Operating Costs, Land Use, Yields, and Prices Received by Size and by Management Returns for Northern and Central Illinois Grain Farms with Soil Ratings from 86 to 100

Range in size (total tillable acres)	180-799		800-1,199		1,200-1,999		> 1,999		All farms	
	359	225	241	137	962	Low 33%	High 33%			
Management returns						74	74			
Number of farms										
Selected returns and costs per operator tillable acre										
Crop returns	691.71	716.26	725.35	750.94	729.17			689.15		746.14
Livestock returns above feed	0.30	-0.05	0.23	0.28	0.22			-0.44		0.31
Custom work, other receipts	22.97	29.34	26.70	34.36	29.68			26.72		38.17
Value of farm production	714.98	745.55	752.29	785.58	759.07			715.43		784.61
Soil fertility	88.67	93.94	92.68	87.38	90.17			103.85		85.68
Pesticides	59.41	58.38	58.06	51.40	55.63			61.43		52.65
Seed and other crop expense	94.62	95.52	94.50	89.20	92.56			101.23		87.25
Crop total	242.70	247.84	245.24	227.98	238.36			266.52		225.58
Light vehicle and utilities	11.89	8.86	6.65	6.77	7.84			9.64		8.63
Machinery repairs, supplies	32.63	27.81	26.67	25.17	27.13			32.36		23.52
Machinery hire, lease	19.02	14.64	13.26	28.23	20.37			16.08		15.54
Fuel and oil	16.40	15.83	16.53	19.54	17.60			16.85		14.60
Machinery depreciation	68.80	67.26	66.55	59.45	64.14			80.94		51.02
Power and equipment total	148.74	134.40	129.67	139.17	137.09			155.88		113.31
Drying and storage	25.63	26.59	21.15	18.09	21.50			32.48		22.64
Building repair and rent	6.23	4.91	5.03	5.61	5.42			7.12		2.72
Building depreciation	12.13	9.88	11.08	15.84	12.95			13.53		7.39
Building total	43.99	41.38	37.27	39.54	39.86			53.13		32.74
Labor, unpaid	65.29	44.18	29.21	17.32	32.26			46.21		44.23
Labor, paid	9.74	13.34	20.10	25.70	19.69			13.70		8.64
Labor total	75.03	57.53	49.30	43.02	51.95			59.91		52.88
Insurance and miscellaneous	40.21	38.65	38.36	39.54	39.15			42.74		34.80
Livestock services and supplies	0.42	0.59	0.68	0.34	0.49			0.64		0.52
Interest on nonland capital	49.35	49.46	50.21	49.62	49.72			55.17		44.06
Other costs total	89.97	88.69	89.25	89.49	89.36			98.54		79.38
Land charge	245.05	237.91	237.01	268.07	250.41			252.67		225.41
Total nonfeed costs	845.48	807.76	787.74	807.26	807.47			886.66		729.30
Capital account adjustment	8.81	4.76	4.01	1.65	3.89			5.65		2.08
Management returns	-121.68	-57.44	-31.45	-20.03	-44.51			-165.58		57.39
Percent crop returns fed	0.01	0.02	0.02	0.03	0.02			0.02		0.02
Capital purchases	27,555	60,119	95,015	250,571	83,832			65,646		57,665
Interest paid	10,680	18,997	32,559	87,508	29,047			19,350		19,879
Percent tillable land in										
Corn and corn silage	50.4	50.6	52.9	54.8	52.8			50.3		50.5
Soybeans	47.8	47.7	45.9	43.1	45.4			48.8		47.5
Wheat	0.4	0.1	0.1	0.1	0.2			0.3		0.0
Other small grains	0.0	0.0	0.0	0.0	0.0			0.0		0.0
CRP acres	0.3	0.3	0.2	0.1	0.2			0.3		0.2
All hay and pasture	0.1	0.0	0.1	0.0	0.0			0.1		0.0
Crop yields, bushels per acre										
Corn	226	226	227	224	226			222		227
Soybeans	65	66	66	67	66			65		67
Wheat	91	99	91	88	91			102		0
Prices received										
Corn (old crop)	3.45	3.47	3.50	3.53	3.50			3.43		3.53
Corn (new crop)	3.27	3.36	3.33	3.44	3.37			3.25		3.51
Soybeans (old crop)	9.90	9.97	10.00	10.16	10.04			9.83		10.12
Soybeans (new crop)	9.58	9.68	9.56	9.89	9.72			9.79		9.74

Note: Variations in totals due to rounding to the nearest dollar. Farms with soil ratings from 86 to 100 are those with nearly level, well-drained prairie soils.

Table 20. 2017 Operator Average Returns, Costs, and Financial Summary by Size and by Management Returns for Northern and Central Illinois Grain Farms with Soil Ratings from 56 to 85

Range in size (total tillable acres)	180-799	800-1,199	1,200-1,999	> 1,999	Your farm	All farms	Low 33%	800-1,199	High 33%
Management returns	306	165	156	78		705	54	54	54
Number of farms	516	1,019	1,617	3,047		1,158	1,036	1,036	1,004
Total acres in farm	491	973	1,555	2,968		1,113	970	966	966
Acres of tillable land	421	797	1,311	2,575		944	846	846	768
Operator tillable acres	77	78	78	79		77	77	77	78
Soil rating on tillable land	28	20	20	15		20	31	31	12
Percent land owned	30	36	31	26		30	26	26	40
Percent land crop shared	43	44	48	59		50	43	43	48
Percent land cash rented	0.9	2.0	6.2	17.1		4.1	3.1	3.1	0.8
Months of hired labor	9.8	13.7	19.2	32.5		15.3	15.2	15.2	12.3
Total months labor									
Dollar returns									
Crop returns	277,795	531,279	885,121	1,785,046		638,268	532,749	544,490	544,490
Livestock returns above feed	196	276	-433	195		75	15	15	409
Livestock returns above feed	4,443	8,698	15,483	30,668		10,783	6,333	6,333	11,931
Custom work	4,516	8,241	22,873	34,001		12,712	7,056	7,056	10,005
Other farm receipts									
Value of farm production	286,951	548,494	923,044	1,849,911		661,839	546,153	546,153	566,835
Dollar costs									
Crop expenses	102,374	187,854	311,646	635,223		227,641	212,637	175,722	175,722
Power and equipment	64,329	113,959	183,550	339,601		132,781	140,529	140,529	91,474
Building and fence	16,529	28,382	47,278	95,929		34,892	34,439	34,439	22,405
Labor	33,215	43,554	63,630	114,275		51,333	50,424	50,424	39,865
Insurance and miscellaneous	16,910	30,919	47,621	97,986		35,954	35,197	35,197	26,043
Livestock services and supplies	289	530	862	539		500	925	925	485
Interest on nonland capital	19,299	38,520	63,261	119,103		44,568	46,047	46,047	32,050
Real estate taxes	6,075	8,281	13,676	19,988		9,813	12,530	12,530	4,569
Cash rent	41,965	90,997	171,134	430,529		125,013	88,144	88,144	98,949
Other land charges	40,276	71,899	103,118	141,369		72,768	90,450	90,450	48,879
Total nonfeed costs	341,262	614,896	1,005,776	1,994,543		735,261	711,321	711,321	540,440
Capital account adjustment	1,489	4,535	6,727	6,663		3,933	5,496	5,496	3,497
Management returns	-52,822	-61,867	-76,005	-137,968		-69,489	-159,671	-159,671	29,892
Farm production per \$1.00 of nonfeed costs	0.84	0.89	0.92	0.93		0.90	0.77	0.77	1.05
Farm production per man	318,191	581,998	748,376	856,149		534,641	516,650	649,075	649,075
Financial summary									
Cash operating income	299,616	563,050	940,051	1,868,391		676,550	586,111	554,076	554,076
Inventory change	-9,046	-10,279	-10,585	11,190		-7,436	-31,118	13,750	13,750
Accts. receivable (net change)	-2,132	-1,195	-2,619	-21,109		-4,120	-1,186	185	185
Less purchased feed	59	283	601	291		257	492	234	234
Less purchased livestock	393	726	721	638		571	1,265	507	507
Gross farm returns	287,987	550,566	925,525	1,857,544		664,167	552,050	567,270	567,270
Cash operating expenses	233,394	432,999	723,878	1,584,741		538,154	472,415	412,092	412,092
Prepaid expenses (- if increased)	2,160	3,886	16,235	14,083		6,998	16,009	-6,342	-6,342
Accts. payable (+ if increased)	55	2,823	3,317	1,103		1,541	4,062	894	894
Total operating expenses	235,609	439,709	743,430	1,599,927		546,692	492,486	406,644	406,644
Income before depreciation	52,379	110,858	182,095	257,617		117,475	59,565	160,626	160,626
Less depreciation	37,207	76,676	129,840	217,507		86,890	94,940	57,256	57,256
Capital account adjustment	1,489	4,535	6,727	6,663		3,933	5,496	3,497	3,497
Net farm income	16,661	38,717	58,982	46,774		34,519	-29,879	106,867	106,867
Net farm income per operator	16,334	37,016	54,213	49,533		33,229	-27,360	101,528	101,528
Labor & mgt. income per operator	-17,314	-14,056	-22,269	-51,339		-21,412	-104,252	71,845	71,845

Note: Variations in totals due to rounding to the nearest dollar. Farms with soil ratings from 56 to 85 are those with poorly drained, heavy-til, and timber soils.

Table 20a. 2017 Operator Average Operating Costs, Land Use, Yields, and Prices Received by Size and by Management Returns for Northern and Central Illinois Grain Farms with Soil Ratings from 56 to 85

Management returns	180-799		800-1,199		1,200-1,999		> 1,999		All farms	
	306	165	156	78	705	Low 33%	High 33%			
Range in size (total tillable acres)	306	165	156	78	705	54	54			
Number of farms	306	165	156	78	705	54	54			
Selected returns and costs										
per operator tillable acre										
Crop returns	659.47	666.66	675.28	693.09	675.89	629.67	708.53			
Livestock returns above feed	0.47	0.35	-0.33	0.08	0.08	0.02	0.53			
Custom work, other receipts	21.27	21.26	29.26	25.11	24.88	15.82	28.54			
Value of farm production	681.20	688.27	704.21	718.28	700.85	645.51	737.60			
Soil fertility	90.51	87.57	88.42	93.02	90.05	90.96	89.37			
Pesticides	56.91	56.57	55.65	59.89	57.36	62.99	53.52			
Seed and other crop expense	95.60	91.59	93.69	93.73	93.66	97.37	85.78			
Crop total	243.03	235.73	237.76	246.64	241.06	251.32	228.66			
Light vehicle and utilities	12.97	9.97	8.00	7.68	9.25	10.93	8.42			
Machinery repairs, supplies	34.10	33.25	28.14	26.61	29.84	40.11	25.15			
Machinery hire, lease	21.69	14.98	14.02	16.66	16.49	13.61	16.95			
Fuel and oil	16.35	16.29	17.96	18.58	17.51	18.54	14.95			
Machinery depreciation	67.60	68.50	71.92	62.33	67.51	82.91	53.55			
Power and equipment total	152.71	143.00	140.03	131.86	140.61	166.10	119.03			
Drying and storage	22.07	18.97	16.85	18.91	18.90	19.08	18.20			
Building repair and rent	6.29	4.73	5.21	5.18	5.32	4.75	3.73			
Building depreciation	10.87	11.92	14.01	13.15	12.73	16.88	7.23			
Building total	39.24	35.61	36.07	37.25	36.95	40.70	29.15			
Labor, unpaid	72.58	47.01	32.59	20.58	39.56	48.69	47.16			
Labor, paid	6.27	7.64	15.95	23.79	14.80	10.90	4.72			
Labor total	78.85	54.65	48.54	44.37	54.36	59.60	51.88			
Insurance and miscellaneous	40.14	38.80	36.33	38.05	38.07	41.60	33.89			
Livestock services and supplies	0.69	0.67	0.66	0.21	0.53	1.09	0.63			
Interest on nonland capital	45.82	48.34	48.26	46.25	47.19	54.42	41.71			
Other costs total	86.64	87.80	85.25	84.50	85.80	97.12	76.22			
Land charge	209.66	214.80	219.67	229.82	219.83	225.89	198.31			
Total nonfeed costs	810.13	771.59	767.33	774.44	778.60	840.73	703.26			
Capital account adjustment	3.53	5.69	5.13	2.59	4.17	6.50	4.55			
Management returns	-125.40	-77.63	-57.99	-53.57	-73.59	-188.72	38.90			
Percent crop returns fed	0.02	0.03	0.03	0.02	0.02	0.03	0.03			
Capital purchases	27,331	75,489	113,900	223,061	79,413	84,333	68,005			
Interest paid	11,789	21,071	38,812	74,776	26,910	24,402	19,608			
Percent tillable land in										
Corn and corn silage	53.6	51.0	52.5	54.4	53.0	53.1	51.0			
Soybeans	44.3	47.2	44.6	42.3	44.4	44.1	47.9			
Wheat	0.4	0.3	0.5	0.4	0.4	0.7	0.2			
Other small grains	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
CRP acres	0.6	0.5	0.4	1.1	0.6	0.6	0.4			
All hay and pasture	0.2	0.2	0.1	0.1	0.1	0.2	0.3			
Crop yields, bushels per acre										
Corn	217	215	219	220	218	208	221			
Soybeans	60	60	60	61	60	58	63			
Wheat	68	70	81	91	79	71	64			
Prices received										
Corn (old crop)	3.42	3.49	3.49	3.53	3.49	3.46	3.58			
Corn (new crop)	3.30	3.34	3.30	3.38	3.34	3.23	3.43			
Soybeans (old crop)	9.80	9.88	9.94	10.05	9.93	9.77	9.99			
Soybeans (new crop)	9.44	9.70	9.52	9.74	9.61	9.51	9.86			

Note: Variations in totals due to rounding to the nearest dollar. Farms with soil ratings from 56 to 85 are those with poorly drained, heavy-til, and timber soils.

Table 21. 2017 Operator Average Returns, Costs, and Financial Summary by Size and by Management Returns for Southern Illinois Grain Farms with Soil Ratings from 36 to 85

Range in size (total tillable acres)	180-799		800-1,199		1,200-1,999		> 1,999		All farms	
	79	68	78	48	78	48	273	Low 33%	High 33%	
Management returns								1,042	1,075	
Number of farms	527	1,050	1,610	3,421	1,476	1,476	1,390	1,006	998	
Total acres in farm	487	1,576	1,349	2,758	1,205	1,205	836	61	58	
Acres of tillable land	431	844	58	59	29	24	44	27	36	
Operator tillable acres	59	27	19	20	33	36	44	8.1	4.2	
Soil rating on tillable land	35	39	40	48	42	41	27	19.2	16.0	
Percent land owned	32	34	41	22.3	8.9	8.9	8.1			
Percent land crop shared	1.8	5.4	10.8	42.0	21.8	21.8				
Percent land cash rented	11.3	17.3	23.9							
Months of hired labor										
Total months labor										
Dollar returns										
Crop returns	236,747	490,963	812,891	1,707,039	723,194	723,194	9,362	435,216	572,097	
Livestock returns above feed	3,432	831	5,308	37,793	9,362	9,362	4,201	1,092	0	
Custom work	3,466	5,228	17,708	39,542	14,317	14,317	8,403	4,201	5,825	
Other farm receipts	5,740	9,522	20,673	50,092	18,747	18,747	8,403	8,403	15,578	
Value of farm production	249,386	506,545	856,581	1,834,466	765,620	765,620	448,911	448,911	593,501	
Dollar costs										
Crop expenses	97,642	191,008	309,188	619,245	273,050	273,050	207,383	207,383	185,306	
Power and equipment	74,011	125,470	208,132	398,910	182,274	182,274	145,602	145,602	110,644	
Building and fence	10,408	16,898	29,860	76,884	29,270	29,270	21,579	21,579	14,321	
Labor	37,330	56,474	82,419	159,588	76,477	76,477	60,812	60,812	53,810	
Insurance and miscellaneous	17,706	31,189	53,815	95,882	45,127	45,127	32,521	32,521	29,051	
Livestock services and supplies	1,126	1,636	1,495	6,383	2,283	2,283	3,855	3,855	181	
Interest on nonland capital	19,748	37,759	61,562	129,036	55,397	55,397	45,512	45,512	33,173	
Real estate taxes	3,577	5,953	8,788	17,631	8,129	8,129	5,829	5,829	6,760	
Cash rent	19,336	48,796	97,433	239,128	87,632	87,632	38,807	38,807	66,111	
Other land charges	42,738	74,494	109,456	183,348	94,433	94,433	89,718	89,718	64,215	
Total nonfeed costs	323,622	589,677	962,150	1,926,036	854,072	854,072	651,618	651,618	563,572	
Capital account adjustment	3,572	5,807	4,797	15,769	6,623	6,623	13,005	13,005	872	
Management returns	-70,663	-77,325	-100,772	-75,800	-81,828	-81,828	-189,702	-189,702	30,802	
Farm production per \$1.00 of nonfeed costs	0.77	0.86	0.89	0.95	0.90	0.90	0.69	0.69	1.05	
Farm production per man	288,209	446,180	540,392	630,099	449,921	449,921	376,901	376,901	533,144	
Financial summary										
Cash operating income	264,369	541,813	894,984	1,815,505	786,379	786,379	566,009	566,009	549,559	
Inventory change	-10,169	-13,175	1,254	98,663	11,481	11,481	-72,533	-72,533	49,970	
Accts. receivable (net change)	-1,237	-6,963	-12,050	-11,535	-7,563	-7,563	-7,375	-7,375	-4,227	
Less purchased feed	1,447	7,307	24,536	58,178	19,478	19,478	14,953	14,953	2,130	
Less purchased livestock	2,294	5,314	2,031	5,978	3,619	3,619	13,818	13,818	0	
Gross farm returns	249,221	509,053	857,622	1,838,478	767,200	767,200	457,330	457,330	593,173	
Cash operating expenses	204,633	404,594	703,631	1,423,664	611,346	611,346	434,506	434,506	406,380	
Prepaid expenses (- if increased)	4,090	3,062	8,413	20,650	7,981	7,981	3,670	3,670	-1,730	
Accts. payable (+ if increased)	1,852	5,220	2,267	15,168	5,151	5,151	8,615	8,615	4,265	
Total operating expenses	210,574	412,875	714,312	1,459,482	624,477	624,477	446,791	446,791	408,915	
Income before depreciation	38,647	96,178	143,311	378,996	142,723	142,723	10,538	10,538	184,258	
Less depreciation	43,663	78,452	134,344	263,425	116,877	116,877	97,844	97,844	64,534	
Capital account adjustment	3,572	5,807	4,797	15,769	6,623	6,623	13,005	13,005	872	
Net farm income	-1,444	23,534	13,763	131,340	32,469	32,469	-74,301	-74,301	120,597	
Net farm income per operator	-794	22,176	6,376	86,109	22,256	22,256	-71,170	-71,170	113,466	
Labor & mgt. income per operator	-32,006	-30,882	-49,400	-8,446	-32,548	-32,548	-143,613	-143,613	72,723	

Note: Variations in totals due to rounding to the nearest dollar.

Table 21a. 2017 Operator Average Operating Costs, Land Use, Yields, and Prices Received by Size and by Management Returns for Southern Illinois Grain Farms with Soil Ratings from 36 to 85

Range in size (total tillable acres)	800-1,199			1,200-1,999			> 1,999		All farms	
	180-799	800-1,199	1,200-1,999	1,200-1,999	78	48	273	Low 33%	High 33%	
Number of farms	79	68	78	48	78	48	273	22	22	
Selected returns and costs										
per operator tillable acre										
Crop returns	548.77	581.68	602.77	618.92			599.99	520.42	658.72	
Livestock returns above feed	7.96	0.98	3.94	13.70			7.77	1.31	0.00	
Custom work, other receipts	21.34	17.48	28.46	32.50			27.43	15.07	24.64	
Value of farm production	578.06	600.14	635.16	665.12			635.19	536.80	683.36	
Soil fertility	81.02	81.84	86.72	87.44			85.57	92.08	76.99	
Pesticides	60.20	60.23	60.98	58.24			59.67	67.83	56.66	
Seed and other crop expense	85.11	84.23	81.56	78.84			81.30	88.07	79.71	
Crop total	226.33	226.30	229.27	224.52			226.53	247.98	213.36	
Light vehicle and utilities	12.53	9.17	9.25	8.91			9.44	10.13	9.00	
Machinery repairs, supplies	39.41	32.47	33.46	26.37			31.05	35.94	26.53	
Machinery hire, lease	18.82	13.26	15.14	18.33			16.48	15.15	12.50	
Fuel and oil	21.04	20.79	21.30	20.72			20.95	22.41	20.74	
Machinery depreciation	79.75	72.97	75.18	70.30			73.31	90.48	58.63	
Power and equipment total	171.55	148.65	154.33	144.63			151.22	174.11	127.40	
Drying and storage	4.97	6.88	4.82	4.90			5.23	7.23	5.73	
Building repair and rent	7.25	4.07	5.63	6.67			5.94	6.41	2.78	
Building depreciation	11.91	9.07	11.69	16.31			13.11	12.16	7.99	
Building total	24.13	20.02	22.14	27.88			24.28	25.80	16.49	
Labor, unpaid	76.84	47.85	32.95	24.75			36.80	44.03	46.99	
Labor, paid	9.69	19.05	28.17	33.11			26.65	28.69	14.96	
Labor total	86.53	66.91	61.11	57.86			63.45	72.72	61.96	
Insurance and miscellaneous	41.04	36.95	39.90	34.76			37.44	38.89	33.45	
Livestock services and supplies	2.61	1.94	1.11	2.31			1.89	4.61	0.21	
Interest on nonland capital	45.77	44.74	45.65	46.78			45.96	54.42	38.20	
Other costs total	89.43	83.63	86.66	83.86			85.29	97.92	71.85	
Land charge	152.18	153.12	159.93	159.57			157.79	160.66	157.84	
Total nonfeed costs	750.14	698.63	713.44	698.32			708.57	779.19	648.90	
Capital account adjustment	8.28	6.88	3.56	5.72			5.49	15.55	1.00	
Management returns	-163.79	-91.61	-74.72	-27.48			-67.89	-226.84	35.47	
Percent crop returns fed	2.07	1.85	1.21	0.65			1.52	3.77	0.00	
Capital purchases	31,412	61,333	96,216	230,934			92,461	73,350	50,600	
Interest paid	11,661	19,951	41,366	87,509			35,549	16,896	21,303	
Percent tillable land in										
Corn and corn silage	41.0	42.2	42.5	42.4			42.2	40.4	43.7	
Soybeans	50.8	49.7	49.3	48.3			49.1	50.0	50.0	
Wheat	6.1	6.4	4.9	7.6			6.4	7.6	6.2	
Other small grains	0.0	0.0	0.0	0.0			0.0	0.0	0.0	
CRP acres	0.1	0.1	0.7	0.0			0.3	0.1	0.1	
All hay and pasture	1.0	1.0	1.5	0.2			0.9	1.1	0.0	
Crop yields, bushels per acre										
Corn	157	163	167	169			166	151	177	
Soybeans	51	54	55	52			53	50	58	
Wheat	70	83	82	86			83	83	84	
Prices received										
Corn (old crop)	3.52	3.56	3.68	3.72			3.66	3.53	3.59	
Corn (new crop)	3.31	3.41	3.47	3.43			3.43	3.47	3.46	
Soybeans (old crop)	10.06	10.10	10.12	10.14			10.12	10.07	10.22	
Soybeans (new crop)	9.51	9.41	9.60	9.82			9.64	9.26	9.57	

Note: Variations in totals due to rounding to the nearest dollar.

Table 22. 2017 Operator Average Returns, Costs, and Financial Summary by Size and by Cwt of Pork Produced for Illinois Hog Farms

Range in size (total tillable acres) Cwt of pork produced	60-799		> 799		Your farm		All farms		Cwt. of pork produced			
	22	19	19	19			41		< 6,000 cwt	4	> 6,000 cwt	9
Number of farms												
Total acres in farm	465	1,568					976		448			755
Acres of tillable land	446	1,541					953		400			732
Operator tillable acres	387	1,439					875		306			604
Soil rating on tillable land	84	84					84		74			83
Percent land owned	32	14					18		27			17
Percent land crop shared	27	14					17		47			36
Percent land cash rented	42	72					65		26			47
Months of hired labor	10.4	31.8					20.3		2.4			17.5
Total months labor	22.1	45.0					32.7		13.0			33.6
Dollar returns												
Crop returns	267,509	1,040,240					625,604		152,628			423,828
Livestock returns above feed	215,457	602,233					394,694		67,152			230,678
Custom work	9,068	14,051					11,377		7,787			3,173
Other farm receipts	6,737	18,437					12,159		6,622			16,263
Value of farm production	498,771	1,674,961					1,043,835		234,188			673,941
Dollar costs												
Crop expenses	86,932	322,337					196,022		58,577			124,427
Power and equipment	102,513	320,960					203,745		63,065			133,124
Building and fence	45,864	205,527					119,854		18,564			51,575
Labor	80,481	201,375					136,505		45,959			115,822
Insurance and miscellaneous	19,819	72,802					44,372		14,479			31,112
Livestock services and supplies	36,034	105,784					68,357		20,632			64,335
Interest on nonland capital	35,233	119,621					74,340		18,325			50,575
Real estate taxes	9,729	18,880					13,970		5,091			10,736
Cash rent	43,793	314,106					169,060		13,508			80,722
Other land charges	53,658	71,785					62,058		50,480			61,747
Total nonfeed costs	514,057	1,753,176					1,088,282		308,678			724,176
Capital account adjustment	3,267	2,103					2,728		102			8,811
Management returns	-12,019	-76,111					-41,720		-74,388			-41,423
Farm production per \$1.00 of nonfeed costs	0.97	0.96					0.96		0.76			0.93
Farm production per man	287,315	531,341					400,400		251,338			290,666
Financial summary												
Cash operating income	773,911	2,823,602					1,723,768		350,556			924,703
Inventory change	39,605	49,259					44,079		-38,727			37,948
Accts. receivable (net change)	-2,202	-9,759					-5,704		-24			-7,294
Less purchased feed	208,188	679,878					426,776		72,088			229,969
Less purchased livestock	104,356	498,981					287,231		5,529			51,447
Gross farm returns	498,770	1,684,243					1,048,136		234,188			673,941
Cash operating expenses	365,882	1,477,666					881,099		197,531			562,875
Prepaid expenses (- if increased)	4,423	7,820					5,997		-3,123			-23,693
Accts. payable (+ if increased)	2,107	12,887					7,103		5,063			5,659
Total operating expenses	372,412	1,498,373					894,199		199,471			544,841
Income before depreciation	126,358	185,870					153,937		34,717			129,100
Less depreciation	50,088	128,446					86,400		35,333			70,292
Capital account adjustment	3,267	2,103					2,728		102			8,811
Net farm income	79,538	59,527					70,264		-514			67,620
Net farm income per operator	72,493	41,638					58,194		-514			56,162
Labor & mgt. income per operator	31,603	5,901					19,692		-32,913			19,849

Note: Variations in totals due to rounding to the nearest dollar.

Table 22a. 2017 Operator Average Operating Costs, Land Use, Yields, and Prices Received by Size and by Cwt of Pork Produced for Illinois Hog Farms

Range in size (total tillable acres)	60-799		> 799		Your farm		All farms	
	Cwt of pork produced < 6,000 cwt		Cwt of pork produced > 6,000 cwt					
Number of farms	22		19		41		9	
Selected returns and costs per operator tillable acre								
Crop returns	690.43	722.65	715.00	499.19	701.83			
Livestock returns above feed	556.08	418.37	451.09	219.63	381.99			
Custom work, other receipts	40.79	22.57	26.90	47.13	32.18			
Value of farm production	1287.30	1163.59	1192.99	765.95	1116.00			
Soil fertility	69.59	74.27	73.16	54.27	63.99			
Pesticides	55.52	50.94	52.03	52.47	37.62			
Seed and other crop expense	99.26	98.72	98.84	83.85	104.43			
Crop total	224.37	223.93	224.03	191.58	206.04			
Light vehicle and utilities	43.68	20.75	26.20	35.06	36.66			
Machinery repairs, supplies	54.08	38.40	42.12	53.49	53.40			
Machinery hire, lease	47.37	73.95	67.63	16.99	30.29			
Fuel and oil	31.02	30.80	30.85	22.06	30.97			
Machinery depreciation	88.43	59.08	66.05	78.65	69.13			
Power and equipment total	264.58	222.97	232.86	206.26	220.45			
Drying and storage	15.76	19.81	18.84	39.78	31.16			
Building repair and rent	78.69	96.78	92.48	8.00	17.94			
Building depreciation	23.92	26.19	25.65	12.94	36.30			
Building total	118.37	142.78	136.98	60.71	85.40			
Labor, unpaid	106.91	33.51	50.95	114.44	89.92			
Labor, paid	100.80	106.39	105.06	35.88	101.87			
Labor total	207.72	139.89	156.01	150.31	191.79			
Insurance and miscellaneous	51.15	50.58	50.71	47.36	51.52			
Livestock services and supplies	93.00	73.49	78.12	67.48	106.53			
Interest on nonland capital	90.93	83.10	84.96	59.93	83.75			
Other costs total	235.09	207.16	213.80	174.77	241.80			
Land charge	276.63	281.19	280.11	225.93	253.70			
Total nonfeed costs	1326.75	1217.93	1243.79	1009.58	1199.19			
Capital account adjustment	8.43	1.46	3.12	0.33	14.59			
Management returns	-31.02	-52.87	-47.68	-243.30	-68.59			
Percent crop returns fed	160.69	83.87	125.09	278.30	127.87			
Capital purchases	54,401	118,527	84,118	38,574	114,772			
Interest paid	19,391	80,623	47,767	11,410	28,812			
Percent tillable land in								
Corn and corn silage	56.9	61.1	60.0	43.5	67.9			
Soybeans	37.1	35.2	35.7	41.7	27.0			
Wheat	3.2	2.1	2.4	8.3	3.4			
Other small grains	0.0	0.0	0.0	0.0	0.0			
CRP acres	0.0	0.0	0.0	0.0	0.0			
All hay and pasture	1.1	0.1	0.3	5.9	0.5			
Crop yields, bushels per acre								
Corn	217	225	223	178	219			
Soybeans	67	62	63	45	60			
Wheat	90	87	88	73	85			
Prices received								
Corn (old crop)	3.52	3.52	3.52	3.33	3.43			
Corn (new crop)	3.28	3.45	3.41	3.10	3.43			
Soybeans (old crop)	9.87	9.97	9.94	9.86	10.45			
Soybeans (new crop)	9.86	9.56	9.64	9.12	10.03			

Note: Variations in totals due to rounding to the nearest dollar.

Table 23. 2017 Operator Average Returns, Costs, and Financial Summary for Illinois Dairy and Beef Farms

Type of Farm	Dairy (by Number of Cows in Herd)			Beef (by Size)			
	10-79	> 79	All farms	180-799	> 799	Your farm	All farms
Number of cows in herd	7	36	43	13	6		19
Range in size (total tillable acres)							
Number of farms							
Total acres in farm	379	551	523	528	1,551		851
Acres of tillable land	346	523	494	434	1,413		743
Operator tillable acres	346	499	474	432	1,329		715
Soil rating on tillable land	78	65	67	67	75		70
Percent land owned	33	39	38	47	19		30
Percent land crop shared	0	9	8	1	12		8
Percent land cash rented	67	52	53	52	69		62
Months of hired labor	2.2	33.6	28.5	3.0	22.8		9.2
Total months labor	19.4	48.7	43.9	16.9	36.5		23.1
Dollar returns							
Crop returns	193,746	337,889	314,424	242,399	1,007,955		484,154
Livestock returns above feed	110,695	399,737	352,683	152,255	725,268		333,206
Custom work	0	4,095	3,428	1,700	36,969		12,837
Other farm receipts	3,712	14,876	13,058	6,916	32,271		14,923
Value of farm production	308,152	756,597	683,594	403,270	1,802,463		845,120
Dollar costs							
Crop expenses	57,620	104,523	96,888	90,217	272,785		147,870
Power and equipment	92,729	217,736	197,386	97,400	277,242		154,192
Building and fence	15,508	43,724	39,131	29,222	170,054		73,695
Labor	78,288	164,322	150,317	62,307	134,533		85,115
Insurance and miscellaneous	17,103	29,121	27,165	22,636	85,295		42,423
Livestock services and supplies	42,631	127,151	113,392	19,561	73,787		36,685
Interest on nonland capital	25,029	70,563	63,150	42,991	181,260		86,655
Real estate taxes	8,966	10,995	10,665	7,285	17,362		10,468
Cash rent	45,824	50,639	49,855	41,665	253,975		108,710
Other land charges	25,249	41,056	38,483	43,398	70,916		52,088
Total nonfeed costs	408,948	859,831	786,432	456,683	1,537,208		797,901
Capital account adjustment	5,163	3,779	4,005	440	24,525		8,046
Management returns	-95,634	-99,455	-98,833	-52,973	289,779		55,264
Farm production per \$1.00							
of nonfeed costs	0.75	0.88	0.87	0.88	1.17		1.06
Farm production per man	187,202	210,006	206,294	297,793	584,127		388,214
Financial summary							
Cash operating income	388,445	1,049,337	941,750	911,666	5,055,920		2,220,378
Inventory change	-16,189	-27,356	-25,538	34,444	-196,235		-38,402
Accts. receivable (net change)	-4,814	-7,428	-7,002	-1,654	-1,003		-1,448
Less purchased feed	57,647	223,243	196,286	110,206	384,116		196,704
Less purchased livestock	1,643	14,271	12,215	430,980	2,672,103		1,138,703
Gross farm returns	308,152	777,039	700,709	403,270	1,802,463		845,120
Cash operating expenses	270,419	666,069	601,661	291,316	1,209,719		581,338
Prepaid expenses (- if increased)	-1,170	-1,182	-1,180	6,104	31,411		14,096
Accts. payable (+ if increased)	305	5,933	5,017	557	7,539		2,762
Total operating expenses	269,553	670,821	605,498	297,977	1,248,669		598,196
Income before depreciation	38,599	106,218	95,211	105,292	553,795		246,924
Less depreciation	37,515	92,258	83,347	44,697	122,052		69,125
Capital account adjustment	5,163	3,779	4,005	440	24,525		8,046
Net farm income	6,247	17,739	15,868	61,035	456,268		185,845
Net farm income per operator	4,295	18,887	16,512	48,993	352,470		144,828
Labor & mgmt. income per operator	-19,997	-25,502	-24,606	-5,297	279,919		84,771

Note: Variations in totals due to rounding to the nearest dollar.

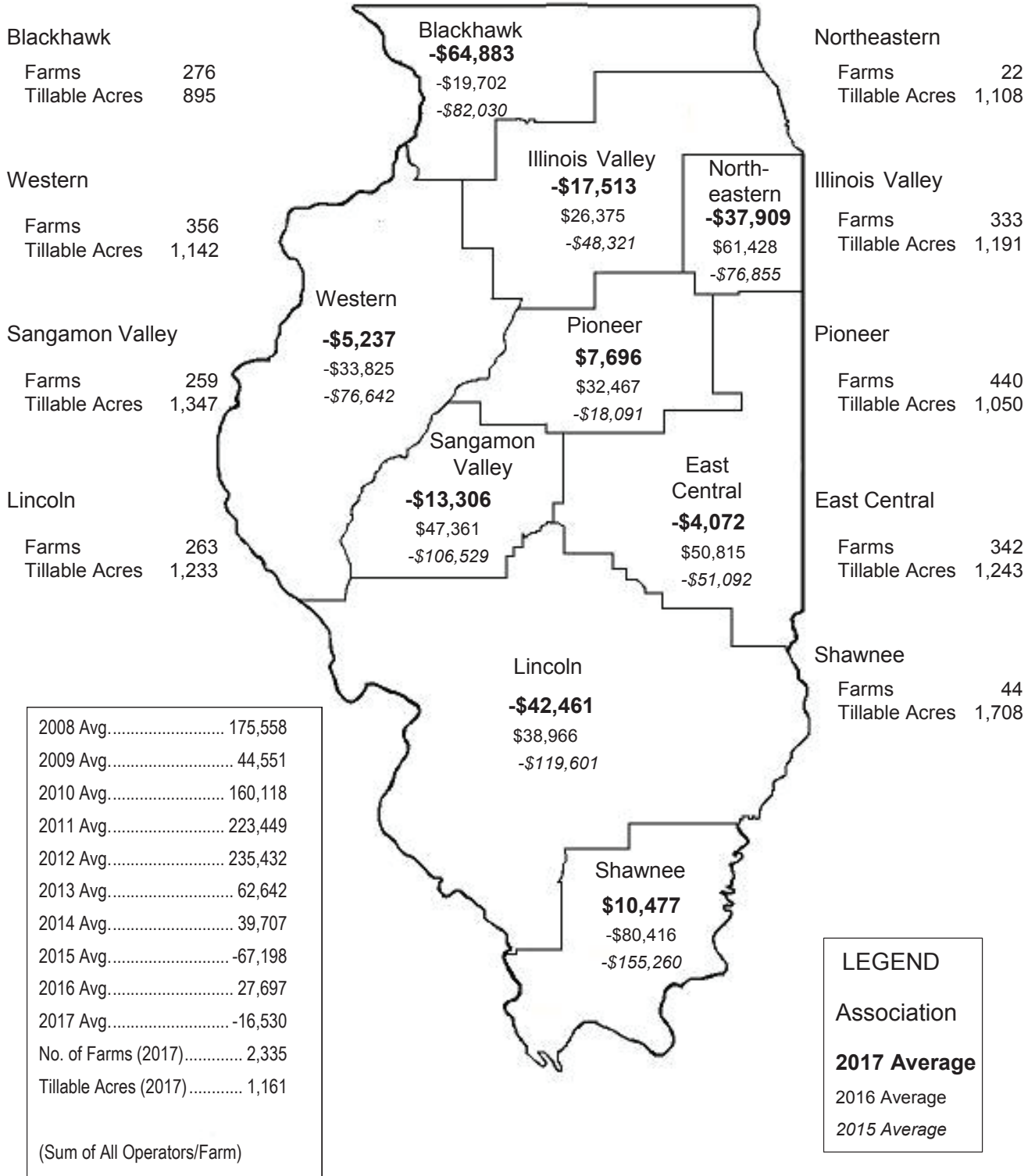
Table 23a. 2017 Operator Average Operating Costs, Land Use, Yields, and Prices Received for Illinois Dairy and Beef Farms

Type of Farm	Daily (by Number of Cows in Herd)			Beef (by Size)		
	10-79	> 79	All farms	180-799	> 799	All farms
Number of cows in herd	7	36	43	13	6	19
Range in size (total acres)						
Number of farms						
Selected returns and costs						
per operator tillable acre						
Crop returns	560.19	677.74	663.77	560.51	758.62	676.69
Livestock returns above feed	320.06	801.79	744.53	352.07	545.86	465.71
Custom work, other receipts	10.73	38.05	34.80	19.92	52.11	38.80
Value of farm production	890.98	1,517.58	1,443.10	932.50	1,356.60	1,181.20
Soil fertility	51.69	70.37	68.15	82.13	72.05	76.22
Pesticides	32.40	48.64	46.71	41.15	45.36	43.62
Seed and other crop expense	82.52	90.64	89.68	85.33	87.89	86.83
Crop total	166.60	209.65	204.53	208.61	205.31	206.67
Light vehicle and utilities	39.56	54.59	52.81	14.64	13.79	14.14
Machinery repairs, supplies	54.24	87.67	83.70	46.30	52.73	50.07
Machinery hire, lease	52.81	114.77	107.40	49.49	32.98	39.81
Fuel and oil	28.91	48.94	46.56	26.19	43.05	36.08
Machinery depreciation	92.59	130.76	126.22	88.60	66.10	75.41
Power and equipment total	268.11	436.73	416.69	225.22	208.66	215.51
Drying and storage	9.81	10.78	10.66	11.04	37.80	26.73
Building repair and rent	19.14	26.86	25.95	41.97	68.28	57.40
Building depreciation	15.88	50.06	46.00	14.56	21.91	18.87
Building total	44.84	87.70	82.61	67.57	127.99	103.00
Labor, unpaid	195.79	116.48	125.91	126.84	38.03	74.76
Labor, paid	30.57	213.12	191.42	17.24	63.22	44.20
Labor total	226.36	329.60	317.33	144.08	101.25	118.96
Insurance and miscellaneous	49.45	58.41	57.35	52.34	64.20	59.29
Livestock services and supplies	123.26	255.04	239.38	45.23	55.53	51.27
Interest on nonland capital	72.37	141.53	133.31	99.41	136.42	121.12
Other costs total	245.08	454.98	430.04	196.99	256.15	231.68
Land charge	231.42	205.98	209.00	213.54	257.59	239.37
Total nonfeed costs	1182.42	1724.65	1660.20	1056.01	1156.96	1115.21
Capital account adjustment	14.93	7.58	8.45	1.02	18.46	11.25
Management returns	-276.51	-199.49	-208.64	-122.49	218.10	77.24
Percent crop returns fed	90.10	127.82	121.68	134.62	72.96	115.15
Capital purchases	31,404	149,522	130,294	45,681	194,718	92,745
Interest paid	16,112	46,411	41,479	27,000	118,390	55,860
Percent tillable land in						
Corn and corn silage	44.3	49.3	48.8	53.2	68.1	62.2
Soybeans	31.4	24.0	24.8	17.6	21.3	19.8
Wheat	4.2	4.9	4.9	0.7	2.3	1.7
Other small grains	0.0	0.4	0.4	0.1	0.0	0.0
CRP acres	0.0	0.0	0.0	0.5	0.0	0.2
All hay and pasture	17.4	6.6	7.8	20.5	5.8	11.7
Crop yields, bushels per acre						
Corn	198	192	193	202	226	218
Soybeans	53	54	54	64	63	63
Wheat	85	91	90	93	88	89
Prices received						
Corn (old crop)	3.05	3.42	3.36	3.42	3.12	3.25
Corn (new crop)	2.83	3.22	3.15	3.36	3.44	3.41
Soybeans (old crop)	9.58	9.82	9.79	9.74	9.48	9.54
Soybeans (new crop)	9.15	9.36	9.33	9.18	9.44	9.35

Note: Variations in totals due to rounding to the nearest dollar.

Illinois FBFM Association

Operators' Share of Labor and Management Income per Farm---2015, 2016, and 2017
(Sum of All Operators/Farm)



Financial Characteristics of Illinois FBFM Grain Farms

	2017	2016	2015	2014	4-Year Average	My Farm
Number of Farms	2,312	2,372	2,462	2,532	2,420	
Liquidity						
Working Capital	\$227,002	\$238,873	\$241,637	\$295,956	\$250,867	
Current Ratio						
Upper Quartile	NA	5.61	5.84	5.79	5.75	
Median	1.98	2.12	2.05	2.32	2.12	
Solvency						
Net Worth (Market)	\$3,094,685	\$2,988,907	\$2,993,163	\$2,973,330	\$3,012,521	
Debt/Equity Ratio (%)						
Upper Quartile	NA	7.9	7.9	8.5	8.1	
Median	25.3	25.6	25.5	23.5	25.0	
Debt/Total Asset Ratio (%)						
Upper Quartile	NA	7.4	7.4	7.8	7.5	
Median	20.2	20.4	20.4	19.0	20.0	
Profitability						
Net Farm Income	\$35,008	\$75,479	\$3,694	\$79,348	\$48,382	
Return on Farm Assets (%)						
Upper Quartile	NA	3.9	1.3	3.9	3.0	
Median	0.2	1.6	(0.7)	1.6	0.7	
Return on Farm Equity (%)						
Upper Quartile	NA	4.2	0.8	4.2	3.1	
Median	(0.6)	1.1	(1.7)	1.2	0.0	
Repayment Capacity						
Debt/Farm Operating Income	23.48	8.34	60.34	7.78	24.98	
Financial Efficiency (as a % of Gross Farm Returns)						
Interest Expense Ratio						
Upper Quartile	NA	0.8	0.8	0.6	0.7	
Median	3.1	2.9	2.9	2.3	2.8	
Operating Expense Ratio						
Upper Quartile	NA	61.7	70.3	61.9	64.6	
Median	75.6	70.6	80.6	71.7	74.6	
Depreciation Expense Ratio						
Upper Quartile	NA	8.0	9.2	7.6	8.3	
Median	12.7	11.8	13.2	11.0	12.2	
Farm Operating Income Ratio						
Upper Quartile	NA	22.9	13.5	24.5	20.3	
Median	6.8	13.6	2.5	14.2	9.3	
Asset Turnover Ratio						
Upper Quartile	NA	0.34	0.30	0.35	0.33	
Median	0.19	0.21	0.18	0.22	0.20	

NA = not available yet.

Recently Retired

Dan Doan was raised on a farm in Richland County near Claremont. After finishing high school, Dan enrolled at Southern Illinois University, graduating in 1973 with a bachelor's degree in animal industries.

Dan began his professional career in June of 1973. He worked in various agricultural sales positions until he began farming full-time in March of 1976, raising hogs and row crops. In August of 1987, Dan began working for the Lincoln FBFM Association. His area was primarily in Effingham county. Dan used his expertise in agriculture to communicate with cooperators and help them in their farm business.

Dan is involved in his community and church. He enjoys spending time with his family, gardening, and playing bluegrass. Dan retired from FBFM in the winter of 2017 after 30 years of dedicated service.



Jim Cullison was raised on a farm in Macon County near Forsyth. After finishing high school, Jim enrolled at the University of Illinois, graduating in 1975 with a bachelor's degree in agricultural education.

Jim began his professional career in 1976 as a vocational agricultural teacher in the Atwood-Hammond School district. While teaching, he also pursued a Master's degree in education at the University of Illinois, which he obtained in 1978. In July of 1980, Jim began working for the East Central FBFM Association. His area primarily included Douglas and Moultrie counties. Jim used his expertise in agricultural education to communicate with cooperators and help them in their farm business. In the winter of 1995, Jim became the Executive Field Staff for the East Central FBFM Association and served in this capacity for over 21 years.

Jim is involved in his community and church. He retired from FBFM in the winter of 2017 after 37 years of dedicated service.



Illinois Farm Business Farm Management Association

FBFM is a cooperative educational-service program designed to assist farmers with management decision making. It is available to all farm operators in Illinois. There are nine local not-for-profit associations organized to provide services throughout the state. The FBFM program provides:

- Financial and production business analysis reports.
- Experienced Farm Analysis Specialist to help interpret analysis reports and counsel on management problems.
- Computer-assisted record-processing options—on-farm or service center.
- Assistance with business and family records.
- Assistance with income tax management.

To find out more about FBFM, contact the Illinois FBFM Association state office or a regional operations manager listed below.

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[**http://www.farmdoc.illinois.edu**](http://www.farmdoc.illinois.edu)
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*Cooperating with University of Illinois Extension and the University of Illinois
Department of Agricultural and Consumer Economics*