FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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HISTORICAL CROPPING PATTERNS ON ILLINOIS GRAIN FARMS

The 2002 Farm Bill adjusted loan rates for the two primary crops grown in Illinois, corn and soybeans. The loan rate increased for corn and decreased for soybeans. This change along with the long term prospect of lower soybean prices due to increased production in South America has spurred discussion of a potential shift to more corn and less soybean acreage in Illinois. Other agronomic and economic factors along with the relative price of corn and soybeans will be taken into consideration by producers if and when adjustments are made in their cropping rotations.

This paper examines historic cropping patterns for northern, central and southern Illinois pure grain farms from 1993 through 2002 (Table 1). Farms in the study are enrolled in the Illinois Farm Business Farm Management (FBFM) Association record keeping and business analysis program. Farms in northern Illinois are generally located north of Interstate 80. Farms in southern Illinois are generally located south of Interstate 70. Central Illinois farms are located between the two Interstates. Farms in central Illinois are further divided between higher and lower soil productivity (SPR) levels.

NORTHERN ILLINOIS

Northern Illinois farms historically have had the highest percentage of land in corn than any other area in the state. During the 1993 through 2002 time period, at least 50 percent of the tillable land in these farms each year has been in corn. The highest was 55.8 percent in 1997 and the lowest was 51.8 percent in 1993. These farms have been trending towards a corn/soybean rotation with soybean acres slowly increasing and corn acres decreasing. However, in 2002, the percentage of corn acreage was the highest and soybean acreage the lowest since 1997. Less than 1 percent of the tillable land on these farms in any year has been planted to wheat. The percentage of tillable land in set aside or CRP was higher in 1993 and 1995 due to requirements for participating in the farm program. Producers were required to set aside 10 percent of their corn base in 1993 and 7.5 percent in 1995.

CENTRAL ILLINOIS

During the last ten years, farms in central Illinois have shown very little variance in their crop rotation. These farms have been the closest to a 50/50 corn/soybean rotation as compared to the other areas in the state. Farms in central Illinois with the higher soil ratings have varied only from 47.3 percent of their land in corn in 1993 to 51.0 percent in 1994. Soybean acreage has varied from 46.1 percent in 1993 to 48.9 percent in 1999. Only one year, 1999, has soybean acreage been more than corn acreage, and that by only .1 percent. Like farms in northern Illinois, these farms had a modest increase in corn acreage in 2002 relative to soybean acreage. These farms set aside 5.1 percent of their land in 1993 and 3.7 percent in 1995.

Farms in central Illinois with the lower productivity soils were similar in terms of cropping patterns to those in central Illinois with the higher productivity soils. Generally, they planted between 45 and 50 percent of their land in both corn and soybeans. In only one year, 1995, did they plant more soybeans than corn. Although these farms had slightly more wheat acreage than the other central Illinois farms, it still was insignificant.

SOUTHERN ILLINOIS

Crop rotations in southern Illinois have historically varied from central and northern Illinois primarily due to differences in soil types and climate. Soils in this region are subject to significant yield loss in dry weather conditions. Partly because of this factor, southern Illinois has tended to raise more wheat and more soybeans relative to corn. Wheat and soybeans tend to perform better in adverse weather conditions. Producers can also take advantage of double cropping soybeans after the wheat is harvested. However, cropping patterns seem to be shifting towards more of a corn/soybean rotation. The percentage of land planted to corn has varied from 36.2 percent in 1998 to 45.5 percent in 1994. Acreage planted to soybeans has ranged between 40.1 percent in 1993 to 48.2 percent in 2002. Acres planted to wheat have varied from 13.5 percent in 1998 to 5.9 percent in 2002. The general trend has been to more corn and soybeans and less wheat. There is more fluctuation in cropping patterns in southern Illinois as compared to other regions of the state due to the effect of wet weather. Soils in this area of the state take a longer time to dry out and extended wet weather during planting can result in more year to year variances in cropping patterns.

SUMMARY

Although there has been more discussion about potential changes in cropping patterns for Illinois grain farms, history would suggest that these changes will be minor from year to year and insignificant in the short run. Both northern and southern Illinois seem to be shifting to more of a corn/soybean rotation like central Illinois. An extended period of economic conditions that considerably favor one crop compared to another will be needed before we see a significant shift from the standard corn/soybean rotation.

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Table 1. Percentage of tillable land in corn, soybeans, wheat and set aside for northern, central and southern Illinois pure grain farms, 1993 - 2002.

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Northern										
Corn/corn silage	51.8	55.7	52.4	54.2	55.8	53.4	54.0	52.9	52.6	54.3
Soybeans	37.5	40.4	40.2	42.2	41.2	43.4	43.1	43.8	44.1	42.9
Wheat	1.0	0.4	0.7	0.3	0.5	0.6	0.5	0.5	0.4	0.3
Set Aside/CRP	6.0	0.1	4.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Central (high SPR)										
Corn/corn silage	47.3	51.0	47.5	50.9	49.1	49.2	48.8	49.5	49.0	50.9
Soybeans	46.1	47.3	47.0	47.2	48.5	48.5	48.9	48.1	48.8	47.0
Wheat	0.5	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.2
Set Aside/CRP	5.1	0.1	3.7	0.1	0.2	0.2	0.2	0.3	0.3	0.4
Central (low SPR)										
Corn/corn silage	45.9	50.0	44.5	48.6	48.7	48.6	49.2	48.5	49.4	49.0
Soybeans	44.7	45.4	46.6	47.5	46.9	46.7	47.2	47.6	47.1	47.5
Wheat	2.0	1.4	1.7	1.2	1.3	1.5	0.9	0.9	0.6	0.6
Set Aside/CRP	5.7	0.9	4.1	0.5	0.5	0.9	0.7	0.8	0.9	0.8
Southern										
Corn/corn silage	38.2	45.5	36.6	38.4	40.4	36.2	40.8	42.6	43.1	40.1
Soybeans	40.1	43.4	41.8	46.8	45.8	45.8	46.4	45.8	46.2	48.2
Wheat	12.5	7.0	13.4	9.8	10.9	13.5	8.8	7.5	7.1	5.9
Set Aside/CRP	4.1	1.2	3.7	0.8	0.9	0.8	0.6	0.9	0.9	1.1

Source: Illinois FBFM Association and the University of Illinois at Champaign/Urbana.