

PATTERNS OF AGRICULTURAL CHANGE IN ILLINOIS

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The center of cropland harvested (Fig. 1) was located in 1930, and remained in 1954, near the geographical center of the state. The cropland center has shown practically no movement in the past 25 years. (Centers are determined by the method used by the Census Bureau.) From that relative lack of movement, it is evident that any changes in Illinois agricultural patterns are not changes in total cropland or in distribution of cropland. Nor does the behavior of this center show evidence of the much-discussed phenomenon of farm abandonment in the southern part of the state. In fact, the slight movement of the center since 1930 has been southward. (Also, there were 17 counties in Illinois harvesting fewer acres of cropland in 1954 than in 1930, and only 4 of these counties lay in the southern part of the state.) If any changes have occurred in Illinois agricultural patterns, they must, therefore, be changes in agricultural emphasis, reflecting differences in the comparative advantages of producing various crops.

CENTERS OF PRODUCTION OR DISTRIBUTION

However, an examination of the centers of production of most of the important crops and livestock specialties (Census Agric. data) shows that in most of these, as in the distribution of cropland, there was rela-

tively little movement between 1930 and 1950 (Fig. 1). Thus it would seem that after a period which included a major economic depression and World War II, and during which there was constant technical progress in agriculture, the gross distributions of agricultural land, crops, and specialties are little altered. The findings of Case and Myers (1934) are still substantially correct, although they need a few important amendments.

There is an interesting concentration of the centers of production of various crops and livestock specialties near, but slightly north of, the geographical center of the state. The fact that this clustering occurs to the north of the geographical center simply emphasizes the greater agricultural output of the northern counties. The fact that the clustering occurs so near the geographical center implies one of three things: 1) an even spread of all types of agriculture over the state; 2) the concentration of all types of agriculture in the center of the state; or 3) balancing or offsetting areas of particular types of agriculture in various directions from the center.

The last of these three possibilities, offsetting areas in different directions from the center, is the basis for the clustering and the lack of movement of the centers of various crops as shown on Figure 1 and illustrated by the land-use maps in Case and Myers (1934). There are, how-

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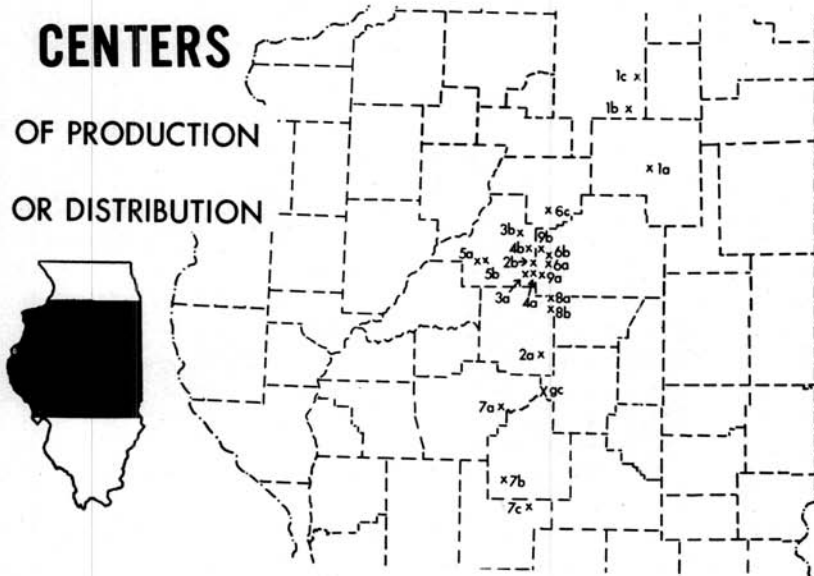


FIG. 1.—Centers of production or distribution:

1—vegetables for sale; 2—hay crops; 3—domestic animals; 4—cattle on farms; 5—swine on farms; 6—corn harvested for grain; 7—winter wheat; 8—crop land harvested; 9—value all products sold; *gc*—geographical center; *a*—1930; *b*—1950; *c*—1954.

ever, two kinds of exceptions to the clustering and stability of the centers. These exceptions illustrate significant changes in the patterns of agriculture in Illinois. Two centers, those of winter wheat and of vegetable production, are exceptional in their position, lying well outside the general cluster. Thus it is evident that production of these two crops is concentrated in one part of the state without balancing areas of production elsewhere. Wheat and vegetables, as well as domestic animals and hay crops, are also exceptional in that they showed distinct movements of their centers from 1930 to 1950. These movements are indicative of active changes in the patterns of agricultural land use. It may al-

so be noted that while the center of corn production showed no movement between 1930 and 1950, the much-discussed northward movement of corn-growing made possible by hybridization shows up by 1954 as a result of the vast increase in the use of this type of corn since World War II.

PERCENTAGE CHANGES IN PRODUCTION BY COUNTIES

The only major southward movement among the mapped centers of production was that of winter wheat. The changes in crop patterns responsible for this movement are clearly shown on the 1930-1950 percentage of change map for this crop

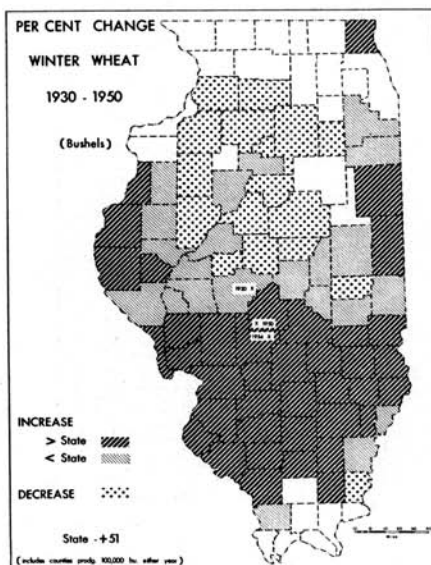


FIG. 2.—Per cent change in production of winter wheat (bushels).

(Fig. 2). Nearly all of the counties in the southern half of Illinois showed an increase in the production of winter wheat during this period. Most of the counties in the northern half of the state were areas either of decreasing production or where significant production had already ceased by 1950. An examination of recently available statistics for 1954 shows a continuation of these changes. In the 1950-1954 period there were three significant changes in the pattern of wheat production. Increases in east-central counties and decreases in southwestern counties moved the center of production eastward. Declines in a tier of counties just north of the center of the state resulted in a southward movement of the center. The net result of the changes over the past 25 years is a considerable movement of the center southeastward. It moved due

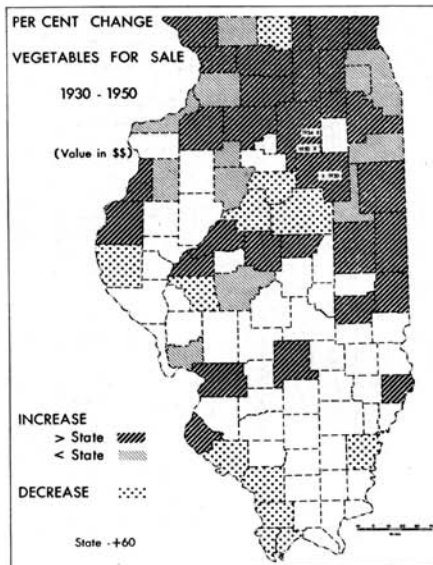


FIG. 3.—Per cent change in production of vegetables for sale (dollars).

south between 1930 and 1950, and to the southeast between 1950 and 1954.

All three of the other mapped centers exhibiting significant movement shifted to the north. The one which moved the greatest distance was the center of vegetable production. This specialty is obviously not as significant as many of the others in total acreage or even in value. It is, however, of particular interest because of its intensity, accompanying high land value, and traditional intimate relationship to urban areas. The major area showing an increase in the importance of vegetable production (Fig. 3) is a group of counties lying west of Chicago (Cook County). There is, however, no comparable area of increase surrounding Rock Island, Peoria, or East St. Louis (St. Clair County). The general increase in vegetable production in the north-

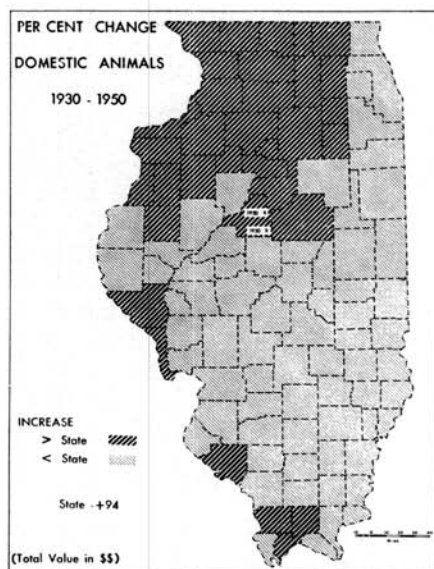


FIG. 4.—Per cent change in domestic animals on farms.

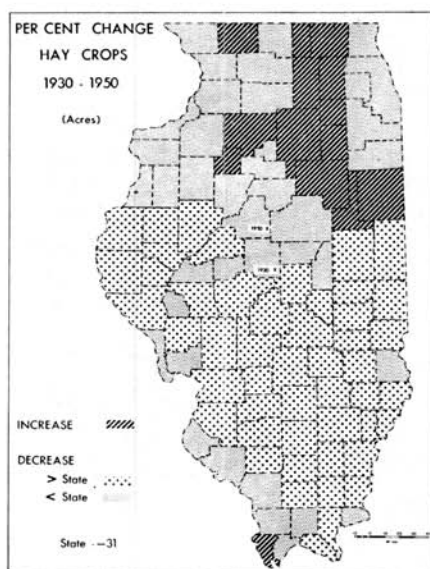


FIG. 5.—Per cent change in hay crops (acres).

ern one-third of the state accounted for the northward movement of the center. It seems apparent that easy access to the Chicago market is an outstanding factor. From 1950 to 1954 the center of vegetable production continued to move north and also shifted slightly east, reflecting the continuing pull of Chicago. There were noticeable decreases by 1954 in the western tier of counties in the north. Particularly noticeable since 1950 is the break of the old tie between truck gardening and the secondary urban centers of the state. All the counties surrounding East St. Louis decreased in production; similar decreases occurred around Rock Island; and the counties of east-central Illinois containing the cities of Champaign (Champaign County), Decatur (Macon County), and Mattoon (Coles County) also

showed marked decreases in vegetable production.

The other two mapped centers which moved northward show changes in specialties which seem to have an obvious relationship—domestic animals and hay crops. The centers of these two distributions were much nearer together in 1950 than they were in 1930. The movement of the center of domestic animal distribution may be somewhat misleading since the only data available for both years are value figures. Changes in the general level of prices during the period 1930-1950 make it probable that the average state increase of 94.5% may actually mask a slight decrease in numbers of animals (Fig. 4). The movement of the center of hay production was accompanied by a sharp decrease in output, averaging 31% for the state

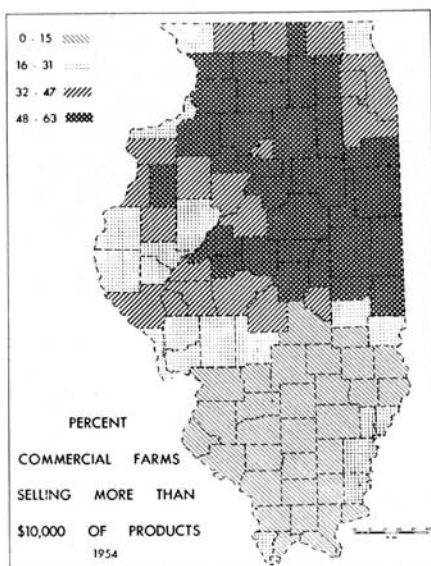


FIG. 6.—Per cent of commercial farms selling more than \$10,000 of products in 1954.

(Fig. 5). These different rates of change lead to the conclusion that although the two agricultural items seem functionally related and their centers are close together, they are obviously not acted upon by the same forces in the same way. There was a greater-than-average increase in domestic animals in the whole northern third of the state with the exception of the eastern tier of counties. It is probable, however, that this general increase in the north reflects growth in two distinct activities—dairy cattle in those counties immediately west of the Chicago metropolitan area, and feeder cattle for meat production in the northwestern counties.

The general lack of movement of the mapped centers of most crops and livestock specialties indicates stability in gross agricultural pat-

terns. The lack of movement suggests also that there has been no significant breakdown of the traditional distinction between commercial agriculture in the northern part of the state and a great deal of subsistence agriculture in the southern part of the state. In fact, of the four centers of commercial crops which moved significantly, three shifted northward. There may be, therefore, an increasing differential between the northern and southern sections of the state in commercial agricultural significance.

SUMMARY MEASURES OF CHANGE

Two further measures—value of all farm products sold and the distribution of the most productive commercial farms—are particularly indicative of the constant or increasing distinction between the agricultural economies of the northern and southern sections of the state. The center based on value of all farm products sold moved due northward, although the movement was not great (Fig. 1). Therefore, the three previously mentioned northward-moving crops or specialties more than offset in value the one southward-moving commercial crop, winter wheat. The increasing production of winter wheat in the south was not sufficient to affect materially the farm economy of the southern areas of low-value or subsistence agriculture. The other summary measure, illustrated by Figure 6 which shows the most productive commercial farms, again emphasizes the north-south contrasts within the state. Only in the northern half are farms selling more than \$10,000 worth of products dominant among all farms.

By the same measure the farms of the southern portion of the state are dominantly non-commercial or at least produce a relatively low total value of product. (There is no direct correlation between average farm-size and average farm-productivity.)

CONCLUSION

The general patterns of agriculture in Illinois were much the same in 1950, and even in 1954, as they were in 1930. There was no major movement of the center of cropland harvested, and the centers of most crops and livestock specialties showed little movement, remaining clustered near the geographic center of the state. The only significant changes were in domestic animals, hay crops, vegetables, and winter wheat. In all of these except winter

wheat, the areas of increase lay in the northern part of the state, and their centers of production moved northward. Examination of the center based on value of all farm products sold and of the distribution of commercial farms producing high values of products reinforces the idea of a sharp differentiation between predominantly large-scale commercial agriculture in the north and widespread subsistence agriculture or the production of less valuable products in southern Illinois.

LITERATURE CITED

- CASE, H. C. M., and K. H. MYERS. 1934. Types of farming in Illinois. Univ. Ill. Agric. Exper. Sta. Bull. 403: 97-226.
- UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS. 1930, 1950, 1954. Census of agriculture, 1930, 1950, 1954 (preliminary). Wash., Gov't. Print. Office.