

Regional Contrasts in the Characteristics of the Agricultural Labour Force of the Corn Belt

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It is perhaps too readily assumed, abroad to a greater degree than in the United States, that the Corn Belt of the Middle West represents a homogeneous unit from the point of view of the characteristics of its agriculture. A more detailed study reveals that despite an undeniable distinctiveness in the basic rural economy, the Corn Belt is more realistically considered as constituting an agglomeration of socio-economic environments, contrasted with respect to each other and to adjoining areas outside the Corn Belt. It is the purpose of this paper to examine the degree of regional variation in one selected criterion, the agricultural labour force. The agricultural labour force was deliberately selected as being the human element with the closest direct link with the farming economy and therefore the population group most sensitive in response to variations in the type of farming. In order to clarify description of spatial contrasts in the agricultural labour force, Figs. 1 and 2 provide a reference framework which has been consistently adhered to in the text. Fig. 1 indicates the

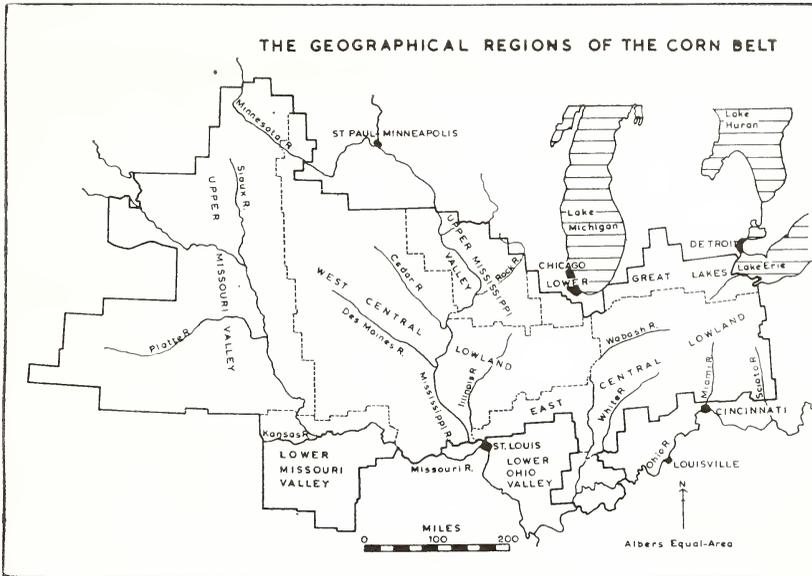


Fig. 1

setting of the Corn Belt and suggested regional components based on the major geographical contrasts. Fig. 2 illustrates the sub-division of the Corn Belt into "Type of Farming" areas proposed by the United States Department of Agriculture.¹ (Figs. 1 and 2)

The Detailed Variation in the Dominance of Agricultural Employment

The agricultural labour force of the Corn Belt is overwhelmingly rural farm in residence. In Nebraska, the most purely agricultural of the Corn Belt states, the proportion of the agricultural labour force which

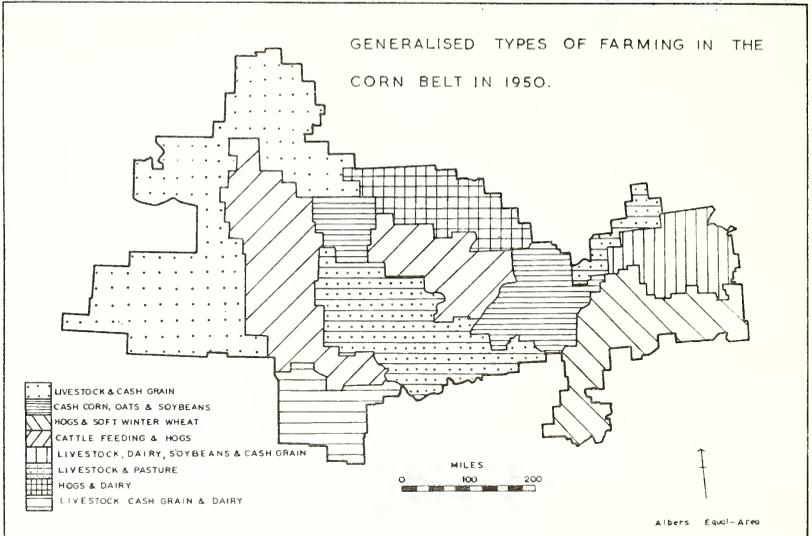


Fig. 2

was rural non-farm in residence in 1950 was only 11%. Fig. 3 indicates the detailed relative distribution of the labour force employed in agriculture on a county basis for the year 1950 (Fig. 3). This map indicates that the major contrasts in relative distribution occurred east and west of the Mississippi River. East of the Mississippi the proportion of the labour force employed in agriculture did not exceed 34% in any county and in at

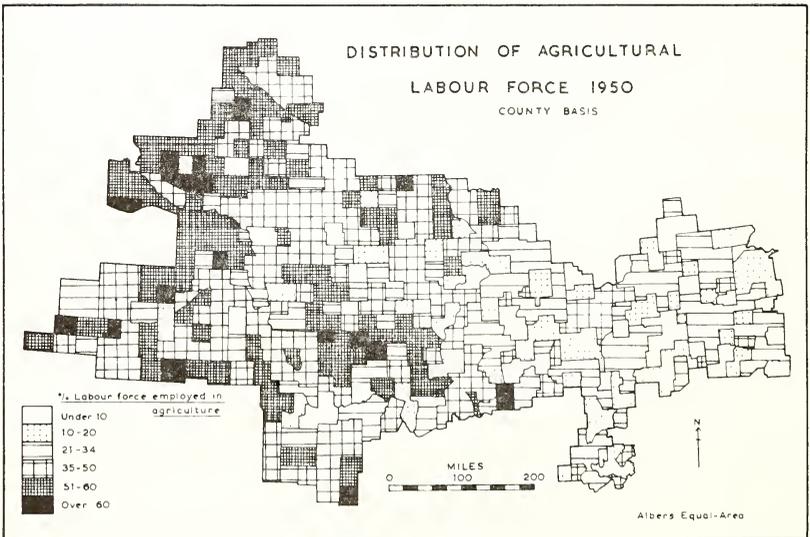


Fig. 3

least half of the counties did not exceed 20%. West of the Mississippi River the agricultural proportion was universally over 35% and in widespread areas exceeded 51% of the total labour force. It is necessary that account be taken of overall variation in population density. Although the proportion engaged in agriculture was much higher in the Central and Western Corn Belt, since the total population density was much lower than in the Eastern Corn Belt, this involved fewer actual workers. Essentially Fig. 3 therefore indicates the intensity of agricultural employment, that is, the degree to which agriculture dominated the economy in terms of employment opportunities. In this latter context it is possible to define two major areas of the Corn Belt of predominantly agricultural employment with over 51% of the total labour force employed in agriculture in 1950.

1. The Upper Missouri Valley

The Upper Missouri Valley had the largest concentration of counties in which the agricultural labour force exceeded 51% of the total. More-over this concentration coincided closely with the distribution of the Livestock and Cash Grain type of farming. This coincidence was therefore one with an area of low population density, few towns, extensive form of agriculture and consequently little variety in economic activity or infrastructure.

2. The Iowa-Missouri Border

This concentration coincided even more directly with the distribution of the Livestock and Pasture type of farming, in which grazing was of greater significance than cropping and concentrated feeding. Again this was a coincidence with an area of low population density, an absence of even moderate-sized towns and a lack of complexity in the economic base.

It is impossible to suggest detailed relationships between type of farming and the characteristics of the agricultural labour force without reference to the contrasts in the absolute distribution. This is attempted in Fig. 4 which illustrates the density of persons engaged in agriculture per square mile of cropland. This ratio has been selected as being more realistic in the analysis of the agricultural labour force rather than the density per square mile since it eliminates land uses unrelated to agricultural functions. ("Cropland" included cropland harvested, cropland used only for pasture, and cropland not harvested and not pastured. The category therefore included all the potentially productive cropland. It included land in the Soil Bank or withdrawn from cultivation for conservation purposes, but did not include woodland or wasteland. For further details of definition, *vide* U. S. Census of Agriculture 1954, Vol. 1. Introduction XV, Washington, D. C. 1956.)

Fig. 4 indicates a remarkable uniformity in that throughout the Corn Belt the range of this density was from 5 to 12 persons per square mile of cropland and over the majority was in the range 5 to 7.9 persons. Lower densities than 5 occurred chiefly in the Livestock and Cash Grain area of the western fringe in the area of largest farm size and most extensive system. Higher densities than 8 occurred especially in three distinct types of farming areas.

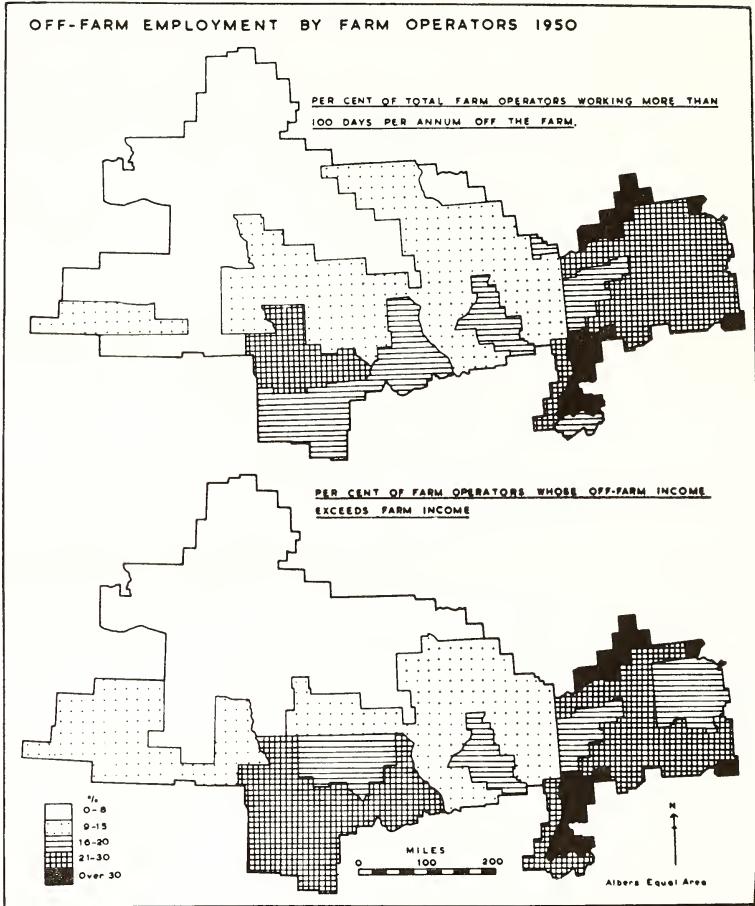


Fig. 4

1. Livestock, Dairy, Soybeans and Cash Grain

In this area of Northern Indiana and North Western Ohio the proximity to large urban concentrations has encouraged whole milk production in combination with pig rearing in an area of the smallest farm size in the Corn Belt.

2. Hogs and Soft Winter Wheat

Similarly in this area, immediately to the south of the Livestock, Dairy, Soybeans and Cash Grain region, the decrease in farm size as compared with the Central and Western Corn Belt contributed towards a higher agricultural density. Moreover, it will be indicated that the small farm size, together with the proximity of urban centres in the industrial zone of the East Central Lowland offering alternative employment, greatly increased the incidence of part-time farming by farm operators.

3. Hogs and Dairy

In this area of North West Illinois and Northern Iowa the emphasis on dairy production with its higher per acre labour input than mechanised cropping increased the agricultural density of the labour force above that of the Corn Belt average.

Elsewhere in the Corn Belt higher densities than 8 persons per square mile of cropland were relatively restricted. However an additional vital consideration may be indicated which tends to blur a simple distinction between agricultural and non-agricultural functions and offers further evidence of regional contrasts in the Corn Belt labour force. This is the distribution of part-time farming of farm operators.

Regional Variations in Off-Farm Employment by Farm Operators

Fig. 5 indicates the distribution of part-time farming by farm operators who devoted part of their time and derived part of their income off the farm. In Fig. 5 the significance of part-time farming has been meas-

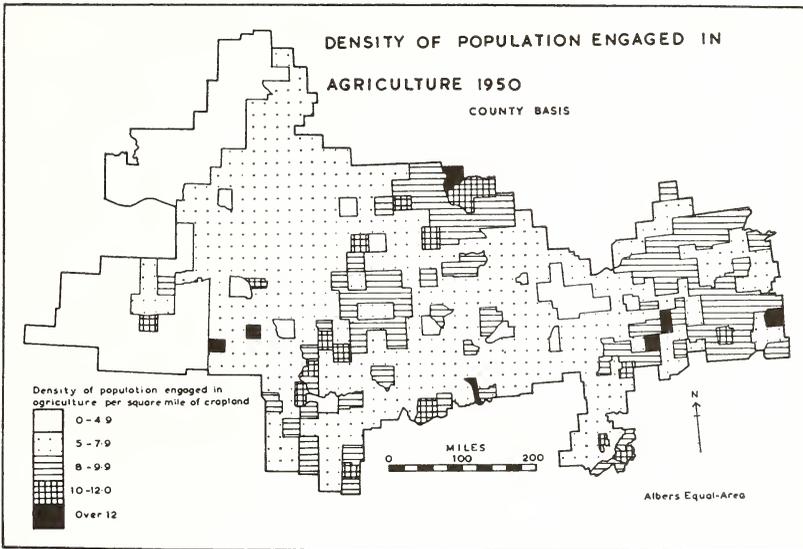


Fig. 5

ured by two indices. Firstly the proportion of the total farm operators working more than 100 days off the farm was plotted and secondly the proportion of farmers whose farm income was exceeded by their earnings off the farm was indicated. On this basis it is apparent that part-time farming varied in significance spatially both in the nature of alternative employment and in the motives involved. (Fig. 5.)

Off-farm work was insignificant, less than 15% of the total farm operators, in two major areas. In the heart of the Corn Belt the low incidence may be related to the predominance of family farm commercial enterprises in which the farm tends to be an individual social and economic unit on a family basis. In these circumstances the opportunity for employment outside the demands of the farm is consequently restricted. Secondly,

in the case of the Western Corn Belt the low incidence coincided with a system of large farms and a concentration on corn and livestock requiring labour at all seasons. Moreover in this overwhelmingly rural area the opportunities of alternative forms of employment are absent and the high loss of rural farm population by migration, which is prevalent throughout the western fringe of the Corn Belt, suggests that surplus rural labour had to leave the area altogether to find employment.

Fig. 5 indicates that in two areas of the Corn Belt part-time farming is of considerable importance. In the Lower Missouri Valley the deterioration in the quality of soils and the smaller size of farm results in a substantial reduction in the cash returns. In this area off-farm work accounted for more than half the income of over 21% of the farm operators. The nature of off-farm work was varied, involving part-time industrial employment, especially in Kansas City and St. Louis, custom work on other farms in the area, and even seasonal employment in agriculture outside the Corn Belt. In this case of the Lower Missouri Valley the increased significance of part-time farming may be seen as a desire to supplement a low farm income.

Finally, the urbanised section of the Corn Belt involving the eastern portion of the East Central Lowland together with the Lower Great Lakes region had the most important incidence of part-time farming. In this area of small farms and increased mechanisation, labour input per farm unit has been reduced. The importance of off-farm work was moreover related to the proximity of urban centres offering industrial and tertiary employment opportunities and especially commuting was involved. It may further be argued that the high incidence of part-time farming also reflected a contrasted social environment from that prevalent elsewhere in the Corn Belt. In this section high school attendance was the highest in the Corn Belt and rural life was more open to urban influence, with a consequent weakening of the family farm as an economic and cultural unit and an attraction towards urban employment.

Summary

(1) The relative significance of the agricultural labour force was shown to vary considerably spatially, and the degree to which agriculture predominated the employment composition varied substantially, in part according to the type of farming, but more particularly with the distribution of urban centres.

(2) The lesser significance of agricultural employment in the Eastern Corn Belt was relative only. In fact the density of agricultural workers indicated that numerically the labour force was concentrated overwhelmingly east of the Mississippi.

(3) The density of agricultural workers per square mile of cropland revealed a remarkable uniformity with from 5-7.9 per square mile throughout the great majority of the Corn Belt counties. However, significant variations above and below this mean coincided spatially with contrasts in farming economy and a functional relationship may be proposed. It is suggested that the overall distribution of agricultural population is responsible for the high degree of uniformity in total population distribution and density in the Corn Belt and that the major contrasts arise through the much more irregular distribution of population employed in

secondary and tertiary industry, superimposed on this agricultural, rural basis.

(4) The significance of part-time farming suggested further contrasts within the Corn Belt in relation to distribution, character of alternative employment and motives.

(5) This paper has been presented to illustrate, by reference to a single criterion, the agricultural labour force, that the term "Corn Belt" is essentially a generalisation of extremely contrasted socio-economic components, and suggests that clear relationships exist between contrasts in rural economy and contrasts in population geography that are worthy of more detailed research.

Literature Cited

1. ELLIOTT, F. F. 1950. Generalized types of farming in the United States. Agric. Inf. Bull. No. 3, U. S. Dept. of Agric., Washington, D. C.