

CHAPTER VI

VARIATION IN ORGANIZATION ON FARMS OF A GIVEN TYPE

In the discussion up to this point we have shown how the agriculture of the United States can be classified into different types of farming and how these types of farming tend to be restricted to certain geographic regions or areas because of peculiar physical and economic conditions. We, furthermore, have shown that within each of these regions there is to be found a certain amount of dispersion in type, no one type being found to the entire exclusion of all other types. We need now to carry the discussion a step farther and show that even within the same type a certain amount of variation is to be found. The nature of this variation and its significance from the standpoint of a proper understanding of the agricultural problem is the primary problem with which we shall be concerned in this and the concluding chapter to follow.

Factors associated with or determining variations within types.—Many factors have contributed to the variation in the crop and livestock combinations handled by different farmers following the same general type of farming. Probably the most important of these is the variation in physical conditions with respect to soil, topography, and drainage, on farms in the same locality. Although conditions within a given area may be quite uniform, in specific localities and on particular farms a great deal of variation is possible. Different soil types may be found, the drainage may be poor, or the topography different. Any one of these may force the farm operator to adopt a crop and livestock organization which may vary considerably from what the majority of the farmers in the region follow.

A second factor has to do with availability of capital. A farmer, due to limitations of capital or credit, may be unable to expand his business, or to produce as intensively as he otherwise would were capital not a limiting factor. Variations in family labor supply also cause differences in crop and livestock combinations. Farmers with available family labor oftentimes will add supplementary enterprises to their business in order to utilize such labor and render it more productive.

Still other factors are the tenure of the farm operator and his degree of encumbrance. It usually happens that tenant operators do not have complete freedom of choice as to the operation of the farm. Probably, in most cases, what is finally done is determined as much or more by the landlord as by the tenant. Usually having possession of the farm for but a limited period of time, the tenant does not feel that he can afford to make improvements, add fertilizer, and adopt a definite crop rotation unless he is compensated for such outlays.

The amount of mortgage debt, likewise, may cause farmers to adopt a system of farming which is different from what they would handle were they not encumbered. The encumbered farmer is more likely to work harder, to push his resources to the limit of profitableness in an attempt to make the farm yield as much as possible. Farmers who are free from financial pressure, however, are not as interested in pushing themselves or their resources to such extremes.

Then, finally, the personal likes or dislikes and aptitudes of farmers play a part. Some farmers are more alert to their economic opportunities than are others. They respond more readily to a change in economic conditions and attempt to take advantage of every new situation. Other farmers are less "price sensitive" and are influenced more by custom and established ways of doing things. These farmers, therefore, make changes very slowly in their organizations and practices.

Apart from the factors just discussed there is another one to which attention should be called. This has no connection with physical or economic conditions but is of a mechanical nature arising from the method used in the classification. It will be recalled, that farms were classified under a particular type of farm, if they received 40 per cent or more of their income from a particular source. This means that farms could be classified as dairy farms, for example, which receive an income from dairy products and dairy animals ranging from 40 per cent of the total value of all products of the farm, up to 100 per cent of such value. Obviously, the higher the percentage which the value of dairy products bears to the total value of all products, the smaller the percentage which will be obtained from supplementary sources. Thus, it would be expected that dairy farms receiving only 40 per cent of their income from dairy products would have a different crop and livestock combination from those receiving a much higher proportion of their income from dairy sources.

The way in which the farms of a given type vary in the same locality as well as in different parts of the country, is illustrated by the following series of frequency tables showing selected types of farms classified according to various criteria.

In Table 8 are shown cash-grain farms in Swisher County, Tex., and Roberts County, S. Dak., classified by size of farm and by acreage in wheat harvested per farm in 1929. In Texas the wheat is winter wheat while in South Dakota it is durum and other spring wheat. An examination of this table will reveal rather wide differences in the acreage of wheat harvested per farm. This reflects differences in size of farm, as well as in the importance of the wheat enterprise. For example, approximately 30 per cent of the 280 to 309 acre farms in Swisher County, Tex., had 180 to 229 acres of wheat; whereas, in Roberts County, S. Dak., only 1 farm of a total of 144 farms of this size had this much wheat. In the latter county only 15 farms out of a total of 615, in the sample, had as much as 230 acres or more of wheat. In Swisher County, on the other hand, 265 farms out of 732 farms had this much wheat.

In Table 9 is shown another frequency distribution of cash-grain farms. These are located in Hettinger County, N. Dak. The farms are classified by size of farm and by acreage in flax and spring wheat, other than durum or macaroni, harvested per farm in 1929. This table considered in conjunction with Table 10, which shows cash-grain farms in Fillmore County, Nebr., classified by size of farm, by acreage of corn and winter wheat harvested per farm in 1929, illustrates the way in which wheat varies in combination with other crops in different parts of the country. Flax, for example, is a very important crop in parts of North Dakota, but is of little importance in Nebraska. Corn, on the other hand, is of a great deal of importance in Fillmore County, Nebr., occupying with wheat the major portion of the crop, whereas, in Hettinger County, N. Dak., corn is but little grown largely because of lack of favorable physical conditions for corn production.

Similar variations in organizations on farms of a particular type are illustrated by Tables 11, 12, and 13. These tables show fruit farms classified by various criteria. The farms comprising the different frequencies are located in the grape area of Chautauqua County, N. Y., the strawberry area of White County, Ark., and the peach area of Camden and Atlantic Counties, N. J.

In Tables 14, 15, 16, and 17 are shown crop-specialty farms classified in a similar way by various criteria. Thus in Scotts Bluff County, Nebr., the classification is based on size of farm and acres of sugar beets and potatoes harvested per farm. In Cameron County, Tex., the basis of classification is size of farm by acres in truck crops and potatoes harvested per farm. In Yellowstone County, Mont., the classification is by size of farm, by acres in sugar beets harvested per farm, and in Santa Barbara County, Calif., the classification is by size of farm and by acreage of ripe field beans harvested alone or in combination with hay, per farm. These tables illustrate again how farms of the same type vary from region to region.

In Tables 18 and 19 other crop-specialty farms are shown classified by tenure of farm operator, by size of farm and by acres of tobacco harvested per farm. These are shown for Fayette County, Ky., in the Burley tobacco district; in Christian County, Ky., the dark fire-cured tobacco district; and in Pitt County, N. C., in the flue-cured tobacco district.

Although these tables show the acreage of tobacco harvested per farm for different tenure groups they do not show, satisfactorily, the prevailing crop combinations on tobacco farms in the areas mentioned. This is particularly true of the cropper farms. These cropper farms are really a part of a larger farm organization. To show adequately the way in which the organization of these farms fits into the larger farm organization of which they are a part, involves a great deal of work because of the way in which the census enumeration is made. In the census classification each cropper is considered as an independent operator. To show the way the organization fits into the larger organization it would be necessary to match up the schedules of the croppers renting land from the same landlord to the landlord schedule and consider the whole as one farm. This has been done for cotton farms in selected counties in the Mississippi Delta as will be indicated presently, but has not been done for the tobacco farms. Although the frequencies shown in Table 18 fail to reflect the entire organization they are of value in showing the most common acreages of tobacco handled per farm by the different tenure groups.

Then finally there are two other tables which illustrate the variations in organizations found on farms of a particular type. One of these, Table 20, shows poultry farms in Sonoma County, Calif., classified by size of farm by chickens raised per farm, 1929, and by number of chickens over 3 months old on hand, April 1, 1930, per farm. The other Table (21), shows all the stock-ranches in the 25 or more counties in the Edwards Plateau grazing area of Texas, classified by number of sheep shorn and Angora goats clipped in 1929, by number of cows and heifers 2-year old and over on hand, April 1, 1930. In this area the common practice is to handle sheep, cattle, and goats on the same ranch. The table shows clearly the prevailing combinations, indicating the most common as well as the extremes.

For other illustrations the reader is referred to the list of tables in the appendix. In these tables will be found represented samples of most all of the important types of farms in the United States, classified by size of farm and by the more important crop combinations found on each. In selecting the counties an attempt was made to choose those in which each type of farm was best typified.

The above illustrations have been given with a twofold purpose in view. We sought first to show the extent to which the major enterprises on given types of farms vary both in magnitude and in proportion to other enterprises. This circumstance is probably lost sight of more frequently than any other by those advising the farmer. Too many agencies are prone to make blanket recommendations and generalize from all farms of a given type, a given locality, or even for the entire United States.

Recommendations urging a horizontal cut of 20 per cent on wheat and cotton acreage, or reducing these crops to a domestic basis come in this category. Such recommendations overlook the tremendous variation in the acreage of these crops handled by different farmers and even more important, the crops which are grown in combination with them or which could be substituted for them in case the adjustment were made. It must be obvious from the above illustrations that what would be advantageous for one farmer, growing 50 per cent or more of his farm area in wheat, for example, would not necessarily be advantageous for another farmer growing only 10 per cent of his farm area in the same crop. From this it follows that any agricultural policy which seeks to help the farmer must take cognizance of this fact and seek to reach the various groups affected.

The second reason for presenting the frequency tables showing variations in type has to do with this latter phase of the problem. In this we seek to show that by proper analysis it is possible to differentiate these various groups and determine, in some measure at least, how a given policy will affect them.

Typical farming systems.—An analysis of the farming systems in a particular area usually will disclose considerable variation in the proportion in which various crops and livestock are combined. The amount of the most important enterprise or enterprises grown on a particular type of farm, for example, may vary from as low as 25 per cent of the total farm area to as high as 75 or even 100 per cent of the total. Although such extreme variations are found, closer examination will reveal that these extremes apply only to a relatively few farms. For the vast majority of the farms the amount of the enterprise handled on each will be found to fluctuate within very narrow limits.

This characteristic of farming systems to exhibit a strong central tendency with respect to the enterprises handled provides a basis for classification which is of great value in testing out adjustments in production and in interpreting the effect which changing economic conditions will have upon particular groups. Instead of throwing all sizes and types of farms together and striking an average for them they are first sorted by size of farm and then subsorted by the amounts or proportions of the more important enterprises. These various sorts get together not only the farms of the same size and type but also those which are handling about the same amounts or proportions of the different crops and livestock. By taking an average (either mode or arithmetic mean) of these groups we obtain an organization which will typify what the majority of the farmers in the group are doing. These organizations we call typical organizations for the particular types of farms to which they apply.

In addition to the modal or typical organizations, other organizations showing variations from the mode should be set up to show the range in combinations found. By such a scheme of sorting, subsorting, and tabulating the prevailing crop and livestock combinations can be shown for any area or for any size or type of farm; also the proportion of the total farmers in each area which handle any particular combination. Obviously such a detailed picture of farming systems in the United States will be very helpful in developing agricultural programs or in testing out possible or desirable agricultural adjustments.

In the following tables are shown typical organizations on a few selected types of farms in the United States. These will serve to illustrate the range in organizations found on dominant farms of the same type.

In Table 22 the typical organizations shown are for dairy farms in representative dairy areas in the United States. The organizations shown for each county are the most common organizations found on the dominant size of dairy farms in such counties. An examination of these tables will reveal that typical dairy farms in New England and the Middle Atlantic States, on the whole, are somewhat smaller in size and have a lower investment in land and buildings than those found farther west in Minnesota, Wisconsin, and Illinois. They also have

fewer cows and less crop land and the kind and proportion of the crops differ somewhat from those farther west. The nature of the variation in the other important phases of the organization may be observed by a study of the table.

In Tables 23 to 26 typical organizations are shown for the more important sizes of cash-grain farms in the important cash-grain areas of the United States. Reference to these tables will show quite a wide variation in the crop and livestock combinations in different parts of the country. In the Columbia Basin region of Washington and Oregon it will be observed that the farming systems followed are very simple. Wheat is the principal crop grown and summer fallow makes up most of the remaining crop land except for a small acreage devoted to grain hay. As is well known, the prevailing practice in this region is to alternate wheat with summer fallow. The moisture available is not sufficient to grow a wheat crop every year so through a system of summer fallow—two years moisture are conserved for the one year's crop. This means that alternatives to wheat production in this region are practically nil.

Coming from west to east we note that in Judith Basin and Roosevelt Counties, Mont., the organizations on the cash-grain farms are likewise very simple, wheat being alternated with summer fallow. The land in summer fallow, however, does not comprise quite so high a proportion of the crop land as is found in the Columbia Basin. (See Tables 23 and 24.)

Proceeding eastward still farther we note that in Roberts County, S. Dak., and Fillmore County, Nebr., a decided difference in organizations on the cash-grain farms begin to appear. The size of farm is much smaller and the crop and livestock combinations on these farms also are very different. Instead of wheat being alternated with summer fallow it is found grown in combination with corn, oats, barley, and hay—and hogs and dairy cattle are of more importance. Obviously in these areas the farmers have more alternatives to which they may turn in case wheat prices get out of line.

Much the same situation is found in the typical organizations shown for the selected counties in North Dakota. (See Table 25.) The size of farm, however, is larger than found in the South Dakota and Nebraska counties just discussed. The corn acreage is also smaller and the hog enterprise of less importance relatively.

Still another situation is shown in Kansas particularly in Grant County. (See Table 26.) In this county it will be noted that the entire farm with the exception of a small acreage in pasture and other land is in wheat. In Stafford County the situation is similar but not so extreme. In Sherman County in the northwestern part of the State, however, a different cropping system is found. About one-half of the crop land is put in wheat and the other half in corn and barley. Pasture land also makes up a higher proportion of the total land.

Still other situations would be observed if we were to present typical organizations for cash-grain farms in the Panhandles of Texas and Oklahoma. In these areas wheat and grain sorghums are the principal crops found on cash-grain farms. The illustrations given are sufficient to show how different are the organizations on cash-grain farms in our important wheat regions. Obviously the cash-grain farmers in these different areas will not be affected in the same way by a given economic situation. In the Columbia Basin, most of Montana, and western Kansas it is very difficult for the wheat farmers to find an alternative to which they can turn when wheat prices are low. This is the reason why they are likely to look askance at any proposal which recommends a substantial curtailment of wheat acreage.

In Table 27 is illustrated another type of crop and livestock combination. Typical organizations are shown for livestock farms on the prevailing sizes of farms in selected counties in the Corn Belt States. These livestock farms illustrate the more common practices followed in the Corn Belt. To those familiar with the agriculture in this area it is well known that the prevailing practice on most of the farms is to feed most or at least a large part of the corn raised to hogs farrowed on the same farm. Variations from this may take the form of feeding both cattle and hogs, feeding cattle and no hogs, buying hogs and feeding grain either raised or purchased, feeding hogs alone or with cattle and selling some grain or selling grain entirely and feeding no livestock. These probably are the more common practices followed but the variations from them are almost infinite.

The typical organizations shown illustrate some of the more important of these practices. The nature of these combinations in the selected counties in different parts of the Corn Belt may be observed by studying the table.

Plantation organizations in the Mississippi-Arkansas Delta.—The organizations just presented represent the crop and livestock combinations found on individual proprietorship units found in the selected areas shown. When we attempt to show analogous organizations for cotton farms we immediately run up against the plantation type of organization which is entirely different.

Due to the Census practice of considering every cropper or share tenant unit an individual operator it is impossible to show the prevailing proprietorship unit without going to a great deal of labor. An attempt has been made, however, to show such organizations for selected counties in the Yazoo-Mississippi Delta. The census general farm schedule called for the name and address of the owner of the farm from whom the tenant or cropper rented his land. This permitted the matching up of the tenant or cropper schedules to the landlord schedule thereby providing a basis for getting together all of the tenants renting land from the same landlord.

In Table 28 is shown an approximate count of plantations with or without home farms in selected counties in Arkansas and Mississippi classified by the number of croppers per plantation. No attempt was made to classify units having less than three croppers. This count is only approximate as it was found impossible to match all croppers to their parent schedule, and it consequently should not be taken as complete. In Table 29 the classification is carried a step farther to show the number of proprietorship units in the same counties. A proprietorship unit is considered to include any unit in which the operator exercises full managerial control or function. It is interesting to note that under this method of classification the number of farm units considered as operator units in the census classification reduces to approximately one-fifth as many proprietorship units.

The classification is carried still another step farther in Table 30 to show typical organizations for medium and large-scale plantations for selected counties. A classification such as this unquestionably shows the prevailing proprietorship set-up more accurately than does the mere count of farms in which the cropper is considered an independent operator. That the material in this form will be much more usable is also hardly open to question. Farm-management workers in the Southern States have always had difficulty in using census data because of the way the data are reported.