UNIVERSITY OF IDAHO
AGRICULTURAL EXPERIMENT STATION
Department of Agricultural Economics

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Bureau of Agricultural Economics
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Types of Farming in Idaho

PART II

The Type of Farming Areas

By
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Part II The Type of Farming Areas

by

NEIL W. JOHNSON AND HAROLD A. VOGEL*

PART I of the Idaho Type of Farming Series, *Agricultural Resources and Factors Affecting Their Use*[1] presented the ownership and uses of the land resources in Idaho with special reference to their effect on the development of the agricultural industry of the state. The more general aspects of Idaho agriculture were set forth and the factors which influence the development of different types of farming were discussed.

This Bulletin, Part II of the series, sets up a basis for classification of farms by types and determines the relative importance of various types throughout the state. It shows the geographic distribution of the different types of farming and discusses the main characteristics of each type as they are related to the more important local influences which have shaped and are shaping the agriculture of the area.

The information presented is drawn largely from published and unpublished data of the Bureau of the Census, from the annual reports of the county agricultural agents to the directors of the extension service, and from personal observations of the authors in the field.

In addition to the usual data on agriculture, the fifteenth U. S. census included for the first time statistics on types of farming for the counties of each state.[2] These data make possible an understanding of the relative importance of the major lines of agricultural endeavor in each state and make available considerable information on the organization of farms of different types. These census data refer to April 1, 1930, and to the crop year, 1929.

The annual reports of the county agents were found particularly valuable in understanding the historical background of each area and the physical, biological, and economic factors which were most significant in shaping the agriculture of the county from year to year.

This study attempts a presentation of statistical material for all 44 Idaho counties. To summarize the many tabluations into a form more easily grasped by the reader most of the data are presented graphically. Wherever possible, a map showing the state line and county boundaries is used as a background properly to relate the sub-

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1 Idaho Agricultural Experiment Station Bulletin No. 207.

2 Fifteenth Census of the United States; 1930. Third Series; Type of Farm, Statistics by Counties for Idaho.

ject matter of the chart to its geographic setting. The text of this bulletin will be confined for the most part to an explanation of the relationships which should become apparent from the study of each chart, leaving the reader to make such county to county comparisons as shall be of value to him.

BASIS OF TYPE DETERMINATION AND DEFINITIONS OF TYPE

Source of income has been used as the basis for classifying farms by type. For eight of the ten major types: cash-grain, crop-specialty, fruit, truck, dairy, animal-specialty, stock ranch, and poultry farms, the classification was made on the basis of 40 per cent or more of the total value of all farm products coming from that particular source. Where diversification was practiced to the extent that no one product supplied as much as 40 per cent of the gross income or where each of two enterprises furnished 40 per cent or more, the farm was classed as a "general" farm. "Self-sufficing" farms were those where 50 per cent or more of the total value of all farm products were consumed by the family. Besides these 10 main types, one of the sub-types under classification of "abnormal" farms is of interest. This is the "part-time" farm in which the operator spent 150 or more days per year in other than farm work or reported an occupation other than farming, provided the gross value of all products did not exceed $750. For more detailed definitions of these types the reader is referred to the census publication on type of farming (see footnote page 3) and in subsequent discussions in this text.

While source of income is without doubt the logical basis for classification of farms by type, the results obtained may be in some cases open to question when confined to the income of a single year, as is the case with the census data for 1929. For the highly specialized types such as cash-grain, fruit, or truck farms where the income is largely derived from a single source, no difficulty is presented. In the more diversified types having both important crop and livestock enterprises, it is apparent that abnormalities in prices received or production obtained in a given year may change the classification of a farm from that of normal years. Thus an irrigated farm in southern Idaho which usually derived 30 per cent of its income from potatoes and 45 per cent from dairy products might have obtained 50 per cent of its income from potatoes and only 30 per cent from dairying in 1929 due to receiving an abnormally high price for the potato crop. This farm which previously was classed in the dairy category would for 1929 be called a crop-specialty farm. Data obtained for several successive years would tend to offset the abnormalties of a single year.

Fortunately 1929 was quite similar to the immediately preceding years both with respect to yield and to price relationships for all the

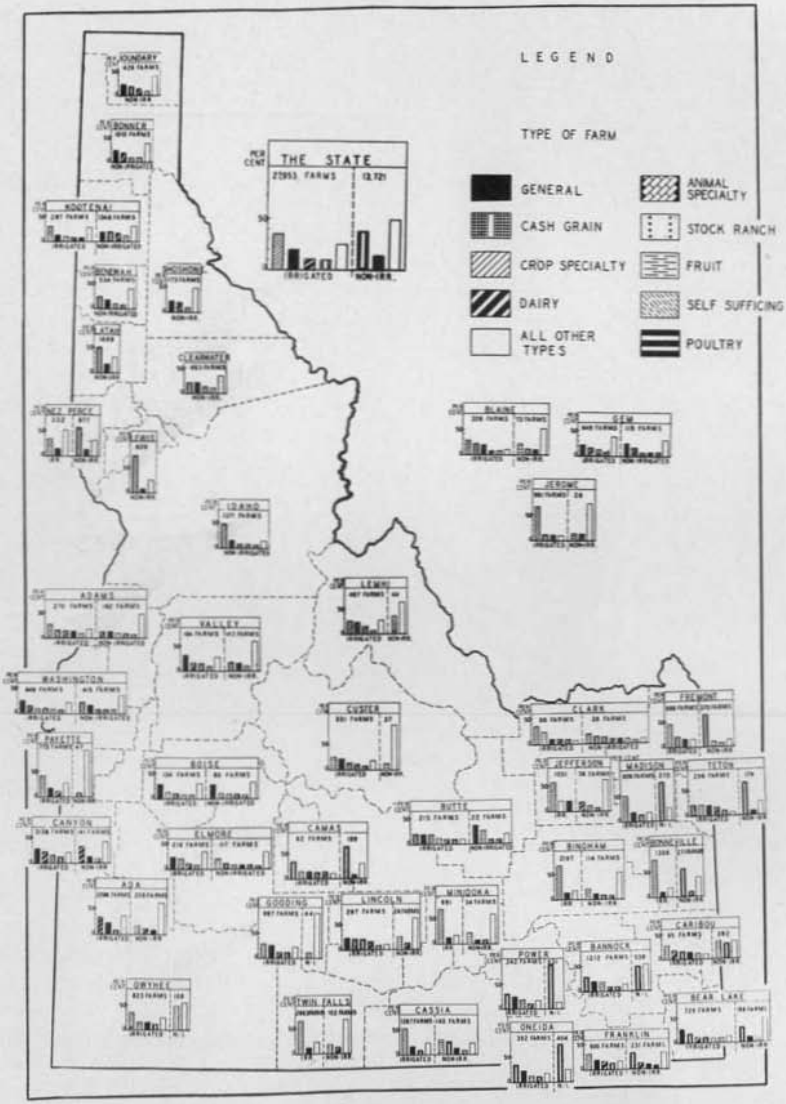

Fig. 1.—PERCENTAGE DISTRIBUTION NUMBER OF FARMS BY TYPE, IRRIGATED AND NON-IRRIGATED AREAS OF IDAHO COUNTIES, 1929. Of the 270 irrigated farms in Adams county, 28 per cent are fruit farms, 16 per cent animal-specialty farms, etc. Data on non-irrigated farms are interpreted in the same way.

major farm products of Idaho farms except potatoes. The farm price of number one Idaho Russet potatoes at Idaho Falls was $2.02 per cwt. in 1929 compared to 55 cents in 1928 and was the highest price received since 1925. This extremely high return was partially offset in the main producing areas by an early fall frost which caused some reduction in yield. Consideration has been given in this study to the effect this abnormally high potato price may have had on classification of farms by type in the potato producing centers of southern Idaho.

No one type of farming is equally important in every county of the State. All types representing less than five per cent of the farms in a county have therefore been omitted to avoid presenting unimportant detail. In the case of fruit farms a tolerance of 4 per cent was permitted since the number of farms alone is an inadequate basis for judging the relative importance of this type.

Truck farming as the major source of income is of little significance in Idaho and is omitted from the study. Because of its supplemental nature, poultry farming is considered in connection with other farming types rather than as a separate enterprise. The position of poultry farming in Idaho is set forth in Part I of this series.

RELATIVE IMPORTANCE OF VARIOUS TYPES OF FARMING IN IDAHO

No one factor is inclusive enough to determine accurately the relative importance of different types of Idaho farms. In the four maps which follow, comparisons are drawn within each county on the basis of the contribution of each type to the total number of irrigated or non-irrigated farms, to the utilization of the entire farmed area, to the total valuation of land and buildings, and to the total value of 1929 farm produce.

Considering irrigated and non-irrigated farms separately Fig. 1 presents one measure of the relative importance of different types of farms.

In general Figure 1 shows a predominance of crop-specialty farms on the irrigated areas and cash-grain farms in the non-irrigated sections of south central and southeastern Idaho. The more important of the counties in southwestern Idaho show relatively more dairy, general, or fruit farms, while the mountainous areas in central Idaho are devoted more to stock ranches, animal-specialty farms and general farms. The lower half of the Idaho panhandle is mainly a non-irrigated cash-grain area except for the irrigated fruit districts in Nez Perce county. In the cut-over and diked[1] lands of northern Idaho general farms and dairy farms are most numerous.

[1] Reclaimed river bottom land.

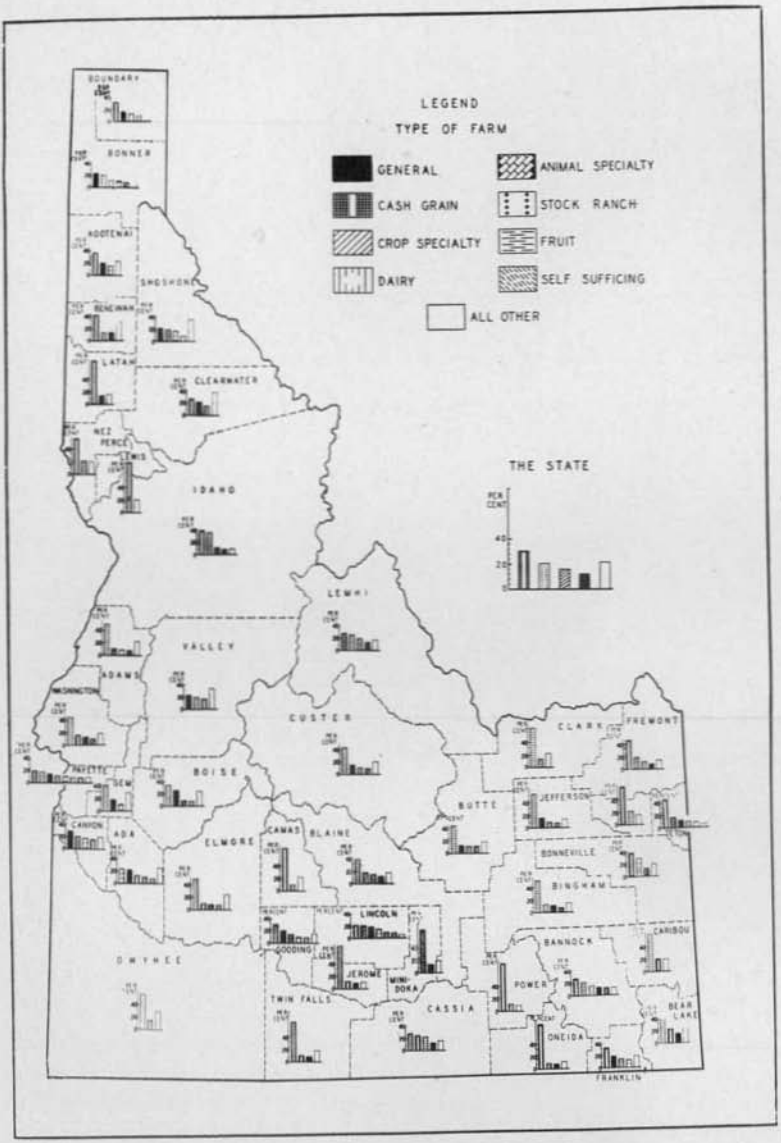

Fig. 2.—PROPORTION OF THE FARM AREA DEVOTED TO EACH TYPE OF FARMING, IDAHO COUNTIES, 1929. Of the 666,146 acres in farm land in Idaho county, for example, 38 per cent is in cash-grain farms, 36 per cent in stock ranches, 10 per cent in general farms, etc.

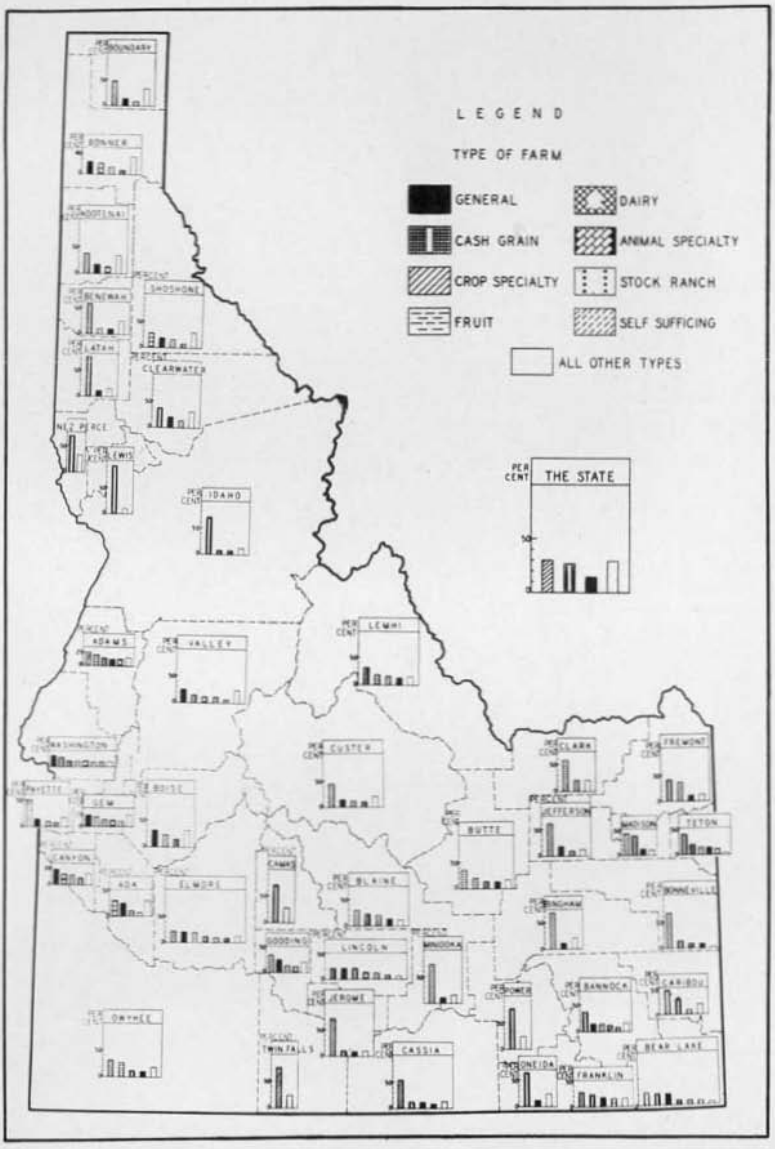

Fig. 3.—PROPORTION OF THE 1930 VALUATION OF LAND AND BUILDINGS ATTRIBUTED TO FARMS OF EACH TYPE IN IDAHO COUNTIES. Farm real estate in Boundary county was valued at nearly three and one-half million dollars in 1930. Of this amount 46 per cent represented values in cash-grain farms, 14 per cent on general farms, etc.

In Figure 2 the relative importance of farming types is measured by the percentage of the total farm area in the county devoted to each type.

In this, as in Figures 3and 4, it was impossible to separate irrigated and non-irrigated farming. In Idaho a large portion of the non-irrigated farming is wheat land which tends to be farmed on an increasingly extensive scale. Hence, in those counties which have considerable non-irrigated farm land the importance of cash-grain farming is given much more emphasis in Figure 2 than when measured on the basis of numbers of farms as in Figure 1. The wide variations which exist in the productivity of this wheat land in various parts of the state have been recognized in Part I of this type of farming series.[1] The same types of farming stand out as important in each county in both Figure 1 and Figure 2, despite the shift in emphasis.

Relative importance is measured on the basis of the 1930 values of land and buildings in each type of farming in Figure 3.

Real estate values in Idaho in 1930 had not yet begun to reflect the downward movement in the prices of farm products which became serious after that date. Neither had there been any great discrimination in prices against the products of one particular type of farm for sustained periods. Consequently, it is felt that the relationships shown in Figure 3 are fairly normal.

In Figure 4 the contribution of each type to the 1929 value of all farm produce in each county is set forth.

The representativeness of value as a measure of the importance of a crop is of course influenced by the normality of production and the prices received for individual farm commodities during 1929. The importance of crop-specialty farms, particularly in south-central and southeastern Idaho, is undoubtedly over-emphasized due to the unusually high returns received for the 1929 potato crop. Prices for other farm products in Idaho in 1929 were for the most part quite similar to those prevalent in the immediately preceding years. While each of the measures of importance in Figures 1 to 4 gives varying emphasis to the different farming types, the more prominent types in each county maintain their relative positions throughout the series of comparisons.

Figure 5 presents the areas where one type of farming predominates.

The shading in Figure 5 is confined to the agricultural lands within the State. This was accomplished by shading on tracing paper as an overlay of the map showing irrigated and non-irrigated farming land which is reproduced as Figure 3 in Part I of this series. Figure 5 is based on the relative importance of the different types as indicated by the estimated percentage of the number of farms of each type in each election precinct. Unpublished data of the Bureau of

[1] Idaho Agricultural Experiment Station Bulletin No. 207.

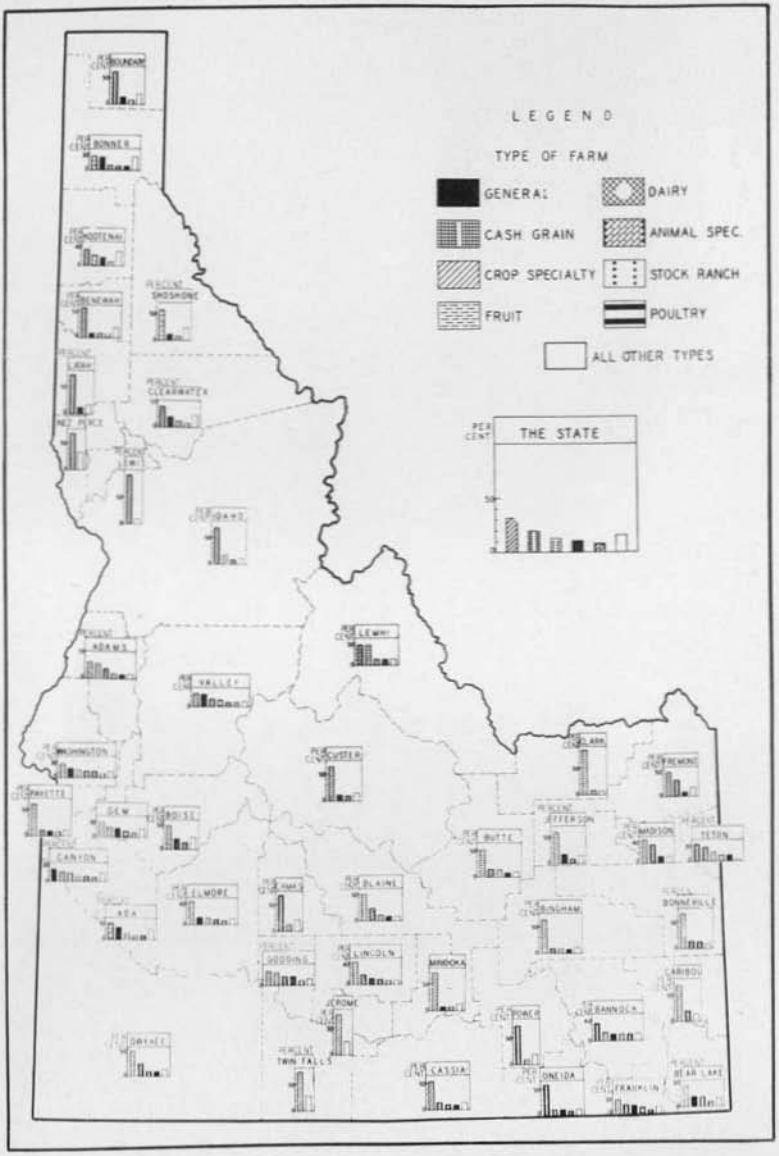

Fig. 4.—PROPORTION OF THE 1929 VALUE OF ALL FARM PRODUCE CONTRIBUTED BY FARMS OF EACH TYPE IN IDAHO COUNTIES. In Owyhee county, for example, farm products were valued at nearly three million dollars in 1929. Of this amount 47 per cent was contributed by stock-ranches, and 23 per cent by crop-specialty farms.

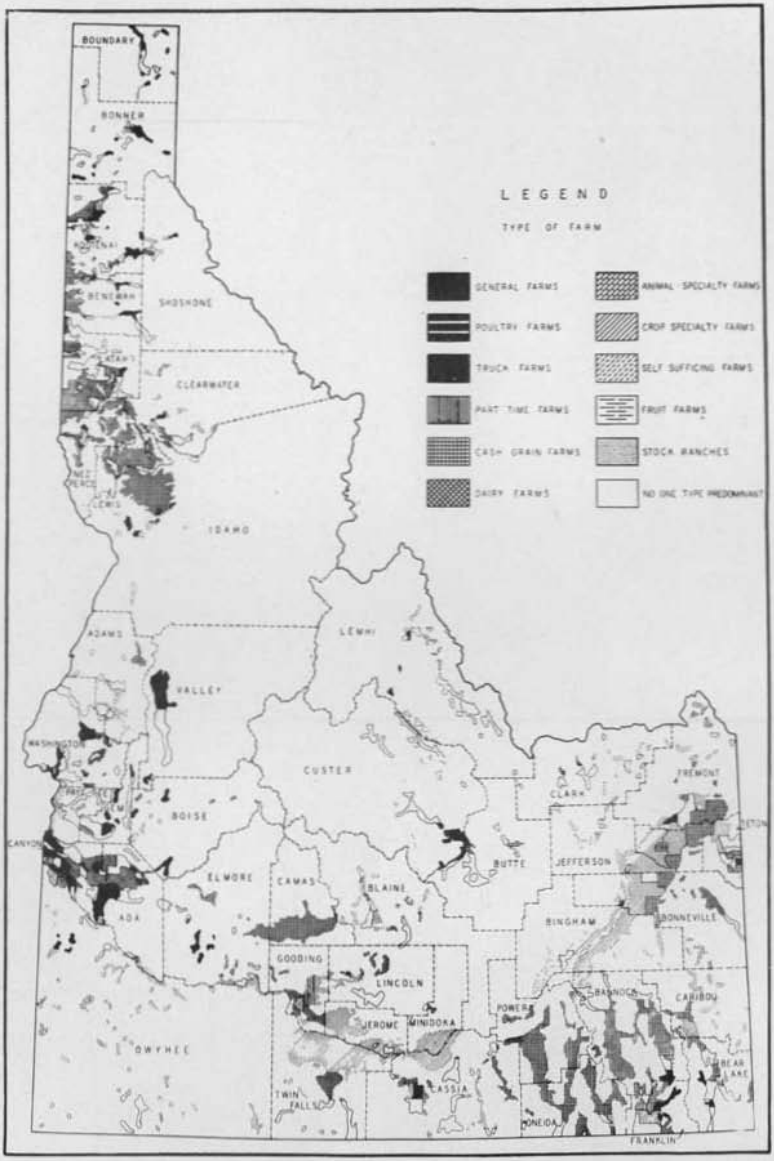

Fig. 5.—TYPE OF FARMING AREAS IN IDAHO, 1929. Shaded portions represent areas where one type of farming is predominant over all others. Unshaded but outlined portions represent areas where more than one type is significant.

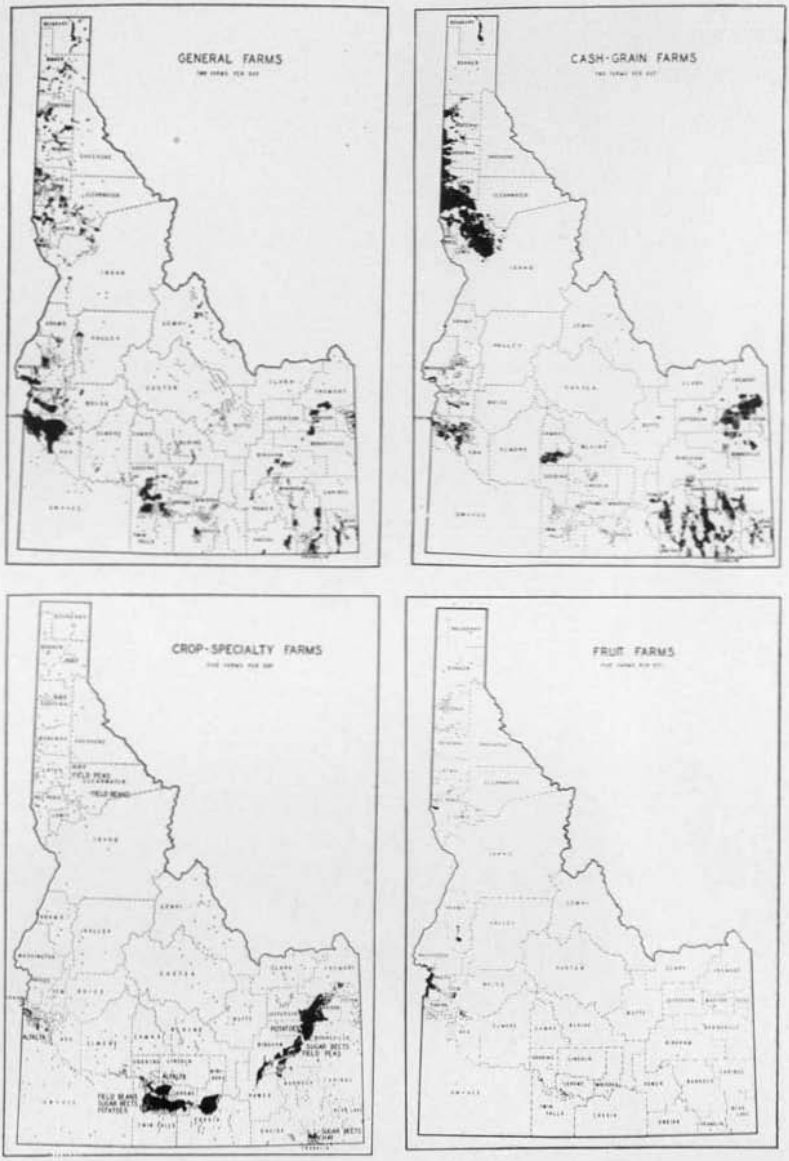

Fig. 6.—GEOGRAPHIC DISTRIBUTION OF VARIOUS TYPES OF FARMS IN IDAHO, 1930. Note that the number of farms represented by one dot is not the same for each type of farm.

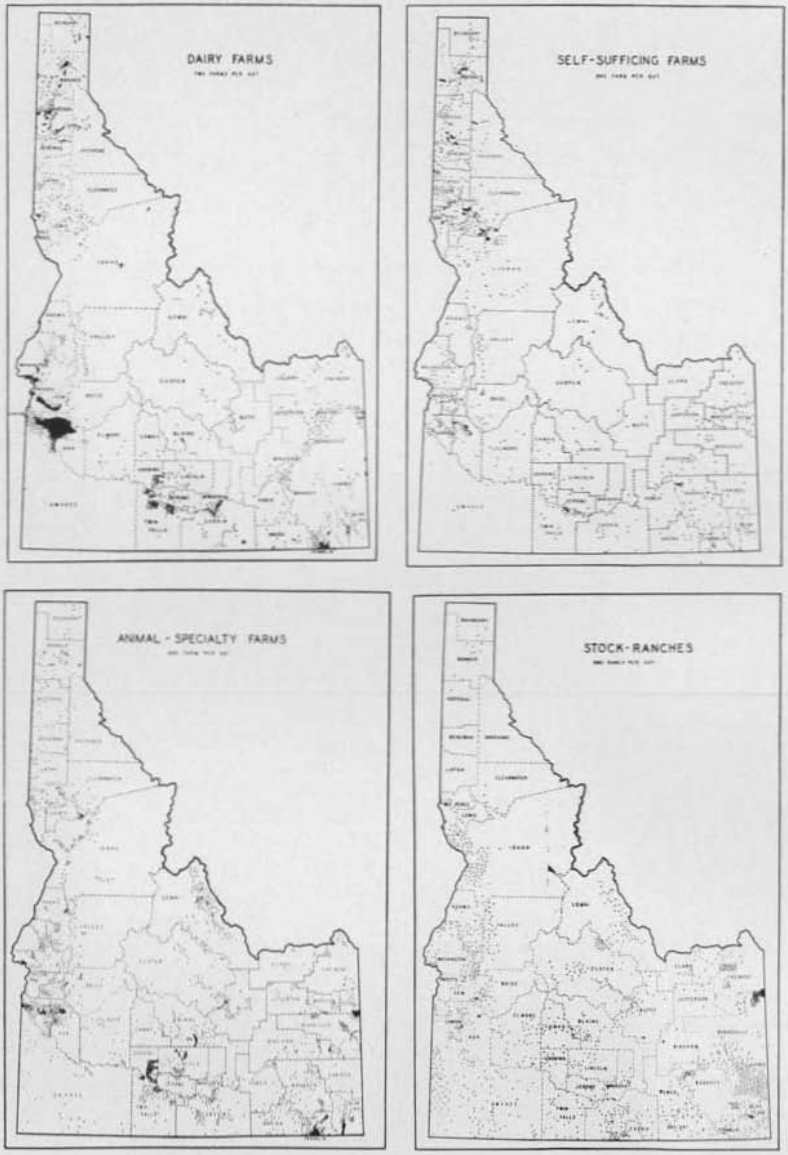

Fig. 7.—GEOGRAPHIC DISTRIBUTION OF VARIOUS TYPES OF FARMS IN IDAHO, 1930. Note that the number of farms represented by one dot is not the same for each type of farm.

the Census furnished the statistical background for the approximation. A judgment basis was used to determine the predominance of individual types and only those areas were recognized where one type was clearly more important than other competing types. Agricultural areas where no one type predominated are outlined on the map but left unshaded.

Because of the diverse nature of Idaho agriculture, particularly under irrigated conditions, Figure 5 was thought to be the nearest approach to a definite outlining of Idaho type of farming areas with the material at hand. Detailed descriptions of these types of farming areas are reserved for a later section of this bulletin.

LOCATION AND CHARACTERISTICS OF VARIOUS TYPES OF FARMING IN IDAHO

Geographic Distribution. The distribution of farms of a specific type in any well established area is not a matter of accident but the result of a definite response to the economic, biological, and physical environment in which farms are located. The pioneers in a new agricultural region with a background of diverse farm experiences bear the brunt of the trial and error process which gradually results in the elimination of unsuitable farming types and the entrenchment and development of those found most profitable.

Figures 6 and 7 present the distribution of Idaho farms by type and show that there is a tendency for most types to concentrate in rather limited areas where conditions are most favorable for their development.

The factors which are usually significant in determining types of farming have been given consideration in Part I of this series. In the pages immediately following the characteristics of each type will be discussed and sufficient detail presented to give some understanding of the major forces which have been and still are operating in the development of types of farming in Idaho.

CHARACTERISTICS OF FARMING TYPES

General Farms. General farms may be rather loosely identified with what is more commonly called diversified farming. The income is usually derived from a combination of several crop and livestock enterprises. Forty per cent of the 1929 value of the farm produce of general farms in Idaho came from crops and 46 per cent from livestock and livestock products. An examination of those counties where livestock production is relatively unimportant showed that general farms derived an important part of their income from this source.

General farms, as shown in Figure 6, are quite widely distributed throughout the agricultural areas of the State. The greatest con-

centration is found in Canyon and Ada counties where dairying is a major enterprise. A high degree of relationship is indicated over much of the State between important general farm areas as shown in Figure 6 and the main dairy farm regions as shown in Figure 7.

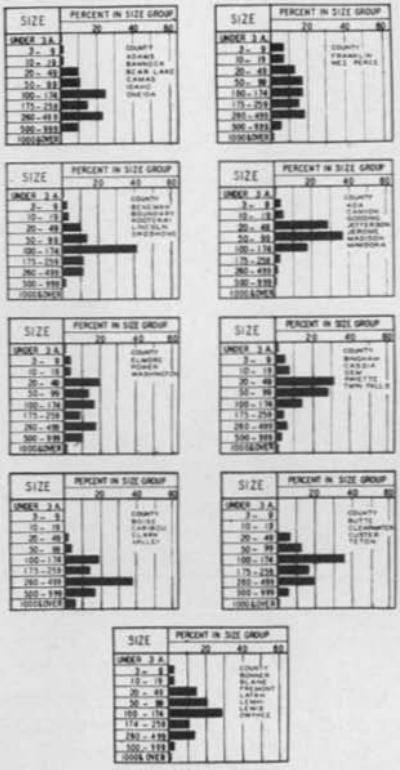

Fig. 8.—VARIATION IN SIZE OF GENERAL FARMS IN IDAHO IN 1930. Counties showing similar size characteristics have been grouped together.

A dairy enterprise is usually well suited to the organization of general farms. It provides a steady source of cash income; furnishes a market outlet for home-grown hays and grains; utilizes available pasture land; distributes the farm labor more evenly through the year, and manures obtained help maintain soil fertility.

Considerable variation is found in the organization of general farms in different parts of the State. Counties showing similar tendencies with respect to size of farm have been grouped for analysis in Figure 8. No attempt was made in the grouping process to throw counties of the same geographic location together. In many cases, however, a number of contiguous counties occur in the same graph, indicating that factors influencing size of farm in one county are likely to be operative in adjacent counties or where similar conditions exist.

The size of general farms is probably less influenced by the demand of any particular crop or livestock enterprise than is the case with the more specialized of Idaho farming types. For this reason the effect of external influences such as the homestead laws is quite apparent in Figure 8.

From 1841 to the present time various laws have been in effect permitting the appropriation of public lands. The usual grant to an individual was 160 acres although 320- and 640-acre grants were made in some of the western states to compensate for poor land or to encourage the stock raising industry. The largest amount of land permitted under irrigated conditions was 160 acres under the Carey Act but on projects developed under the federal reclamation service this maximum was later reduced to 40 or 80 acres.

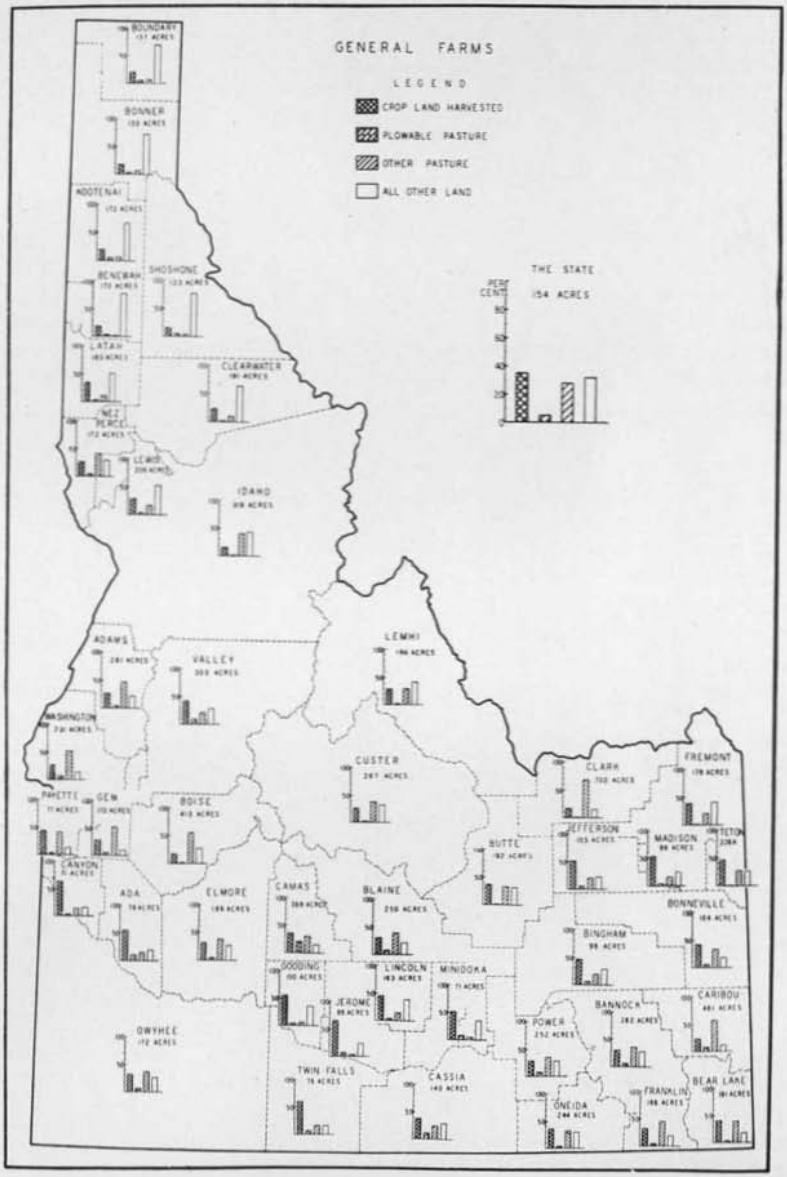

Fig. 9.—AVERAGE SIZE OF GENERAL FARMS AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

Where local conditions were unsuited to the original holdings, the size of farm was adjusted by purchasing the holdings of adjacent homesteaders if more land was desired, or by sale of a portion if the farm was already too large. In many of the graphs in Figure 8 a tendency toward concentration of the farms into those classes containing 40-, 80-, 160-, and 320-acre farms is exhibited, in response to the factors just explained.

Where all the land in a 160-acre homestead is equally desirable from the standpoint of soil fertility, native cover, topography, and water supply, conditions are right for a fairly rapid adjustment to the size best adapted to local and individual conditions. Thus in many of the irrigated counties of southern Idaho a number of sizes are of considerable importance in spite of the tendency of 40- and 80-acre tracts to be the most prevalent. In the timbered or cut-over sections of the State these adjustments are less feasible and farms tend to retain the size of the original homestead.

From size of general farms we turn to an examination of how the land is used on farms of this type in Idaho. The census classification on use of land by type of farm furnishes data on the acreage in farms, crop land harvested, plowable pasture, and other pasture, excluding that of woodland. This leaves idle or fallow crop land, acres in crop failure, and all woodland pastured or unpastured to be thrown together in the "All other land" grouping as shown by the unshaded bar in Figure 9.

This map indicates greatest utilization of farm land for harvested crops in the southern Idaho counties, particularly in the irrigated and non-timbered areas along the Snake river. Counties in which 50 per cent or more of the general farm land was in "All other land" were confined to northern Idaho, largely in the cut-over areas where stumps and standing timber have retarded land clearing operations.

Plowable pasture is of relatively minor importance on general farms in Idaho. Livestock depend for the most part on the hays and grains raised on the farm or such by-products of cash-crop production as beet tops and bean or pea vines. Counties in which the "Other pasture" classification is prominent are those where the average farm contains land too rough, too dry, too wet, or otherwise unfit for crop production. The carrying capacity of such land as pasture is generally very low.

Considerable variation is found in the 1930 valuation of the average general farm in various counties of the State. Figure 10 shows the highest per-acre values in the irrigated counties of southern Idaho.

The construction, maintenance, and drainage of the average irrigation project is a comparatively expensive undertaking. The indebtedness thus assumed by the farmer together with those capital outlays necessary to prepare his own tract for irrigation result in land

values which make necessary the growth of the more intensive and highly valued crops.

The per-acre values of general farms show considerable variation between counties. The local environment of the general farmer largely determines whether he will obtain his living by farming relatively small acreages of highly valued land by intensive methods or larger acreages of cheaper land cultivated extensively. For comparable returns, the capital investment in farming by either method is likely to be quite similar. Reference to the average size of general farms in each county as given in Figure 9 will aid in explaining differences in value per farm as shown in Figure 10.

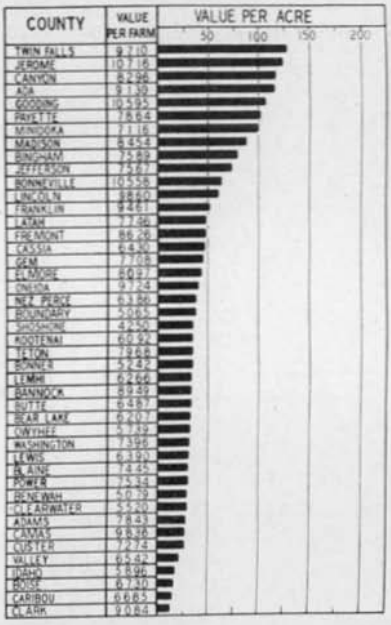

Fig. 10.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON GENERAL FARMS IN IDAHO COUNTIES, 1930.

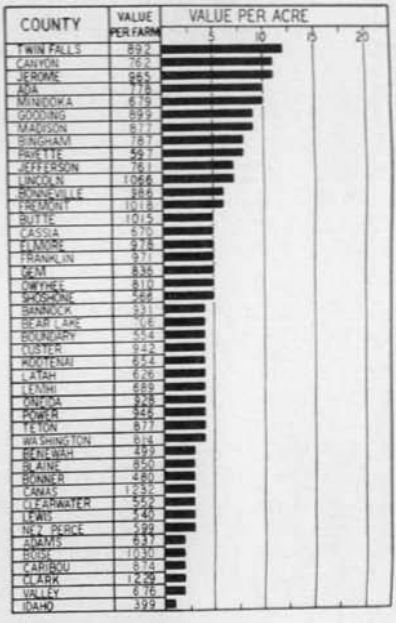

Fig. 11.—VARIATION IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON GENERAL FARMS IN IDAHO COUNTIES, 1930.

Figure 11 shows general farms in Idaho to have a range in average investment in implements and machinery from about $400 to $1,200. Variations in per-acre investments range from $1.00 to $12.00. Highest per-acre investments are in the irrigated areas of southern Idaho. This area is adapted, under irrigation, to a large number of crop and livestock enterprises. Essential equipment,

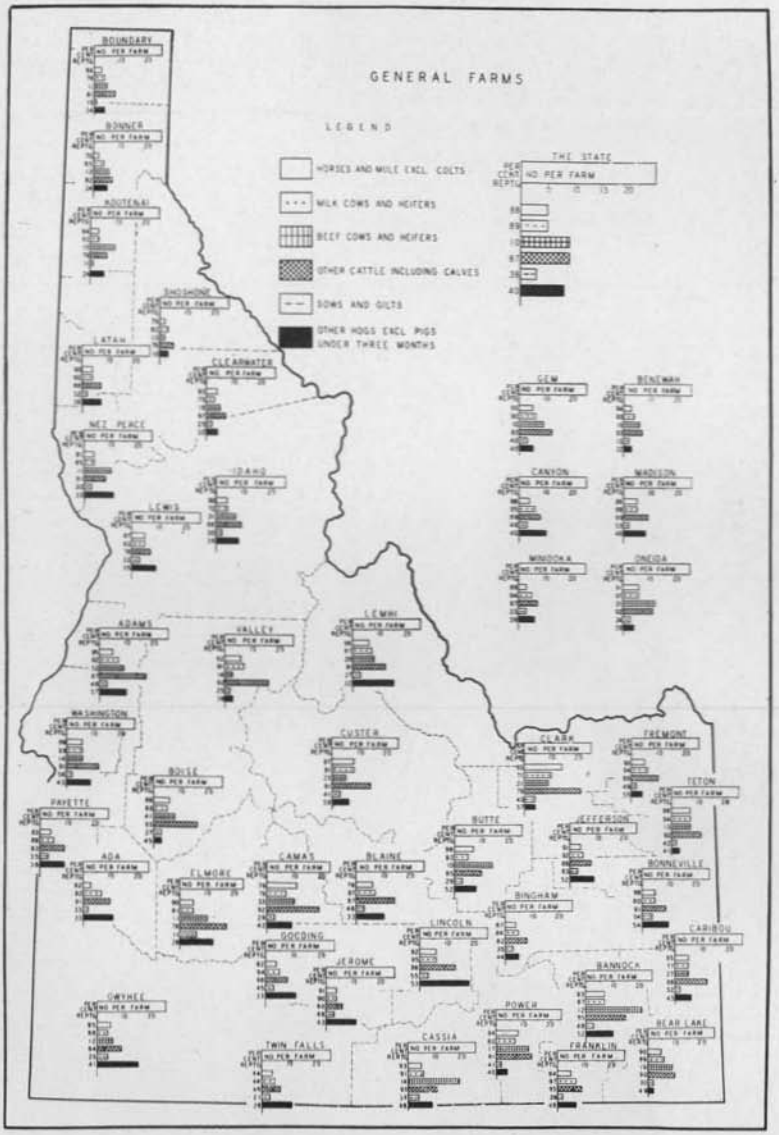

Fig. 12.—PER CENT OF GENERAL FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING, IDAHO COUNTIES, 1930.

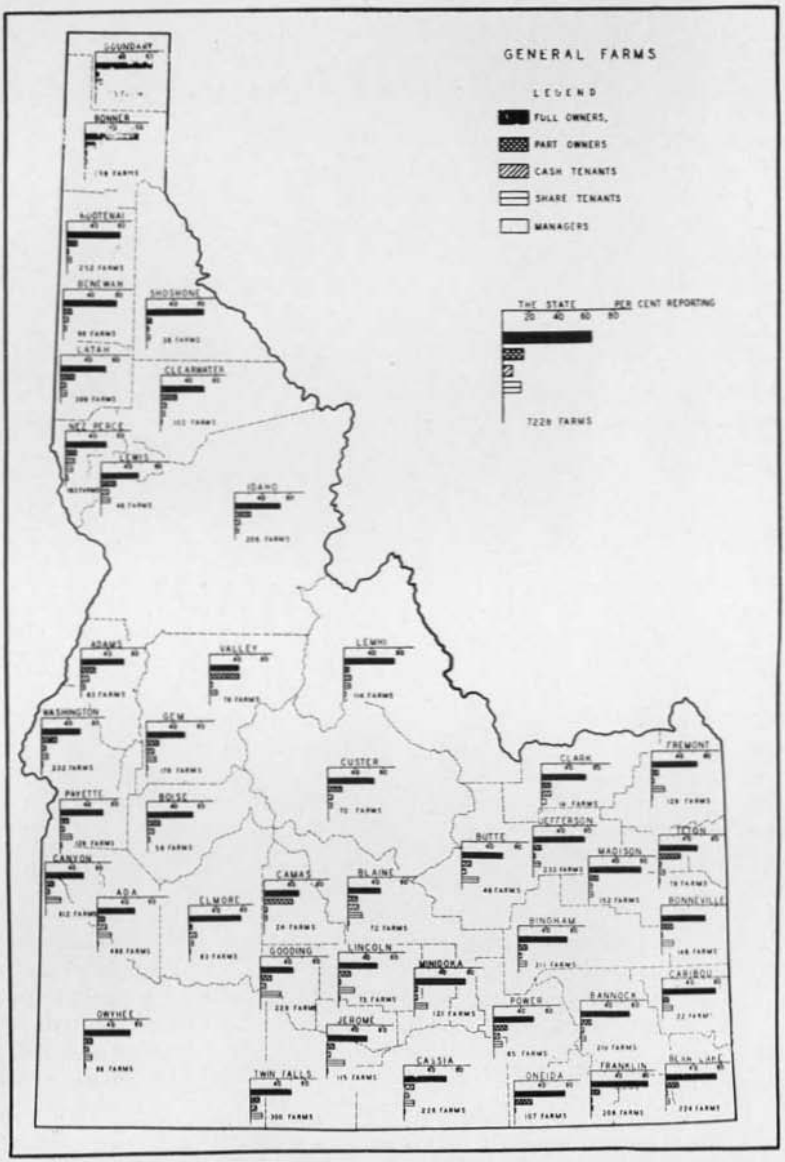

Fig. 13.—NUMBER OF GENERAL FARMS IN EACH COUNTY AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

therefore, includes many items of specialized machinery which are not needed in those regions having less choice in the number of available farm enterprises.

Figure 12 presents the importance for Idaho counties of various classes of livestock on general farms on April 1, 1930. The significance of each bar is measured by the number immediately preceding it. The longest bar in Bannock county is that representing beef cows and heifers, yet only 12 per cent of the general farms in that county report this class of livestock. A uniformly high percentage of the farms report horses or mules, with number per general farm ranging from 2 in Bonner and Shoshone counties to 14 in Clark county. Milk cows and heifers are found on nearly all general farms in herds ranging from 3 to 10 head per farm. In only five counties do as many as 25 per cent of the general farms report beef cows and heifers; numbers varying from 2 to 21 head per farm. In 4 counties 50 per cent or more of the general farms report sows and gilts while in nine counties more than 50 per cent report other hogs over three months old. Sows and gilts range from 1 to 6 head for general farms, with other hogs varying from 2 to 18 head on April 1.

But few extremes are indicated in the organization of general farms with respect to livestock. The adaptation of certain areas to special classes of livestock is emphasized much more in similar maps in subsequent discussions of dairy and animal-specialty farms and stock ranches.

Nearly two-thirds of the 7,228 general farms in the State are run by men who own all the land they operate and in only three counties are less than 50 per cent of the general farms owner-operated. Figure 13 shows the predominance of full owners per county. A part owner is defined by the census as one who owns part of the land he operates and rents the balance. Fifteen per cent of the general farms in the State have this form of tenure. Elements of stability and permanence are incorporated in the organization of general farms. In periods of serious depression this type of farm is more easily self-sufficient than more specialized types. Its greater number of alternative enterprises permits easy emphasis of those lines which appear to offer the greatest opportunity for profit. The operator of a general farm is usually one who is building a permanent farm home with the expectation of obtaining a modest but secure living rather than high cash returns for some specialty crop. Therefore the high percentage of full and part owners as shown in Figure 13 is to be expected.

Cash-Grain Farms. Cash-grain farms in Idaho are devoted almost exclusively to the production of wheat. Eighty-one per cent of the acreage planted to grain and forage crops in 1929 was wheat land.

Most of these cash-grain farms are less than 500 acres in size. In a few areas of fairly level topography where limited precipitation

usually prohibits high yields, larger farms are more prevalent. Figure 14 shows most of such areas to be in the counties of southeastern Idaho. Some counties are shown to have a considerable number of cash-grain farms under 100 acres in size. Most of these farms are on irrigated land where high yields compensate for smaller acreages. The influence of the homestead laws is reflected in the importance of the size groups containing 160 and 320 acre farms. Figure 14 presents a cross-section picture for conditions in 1930. The introduction of tractors and large-scale equipment into counties where cash-grain farms are operated under non-irrigated conditions has resulted in a very definite trend toward larger farm units (See Fig. 9, Part I, of this series). This trend was most pronounced between 1925 and 1930 and has probably been somewhat retarded by poor prices of recent years.

Fig. 14.—VARIATIONS IN SIZE OF CASH-GRAIN FARMS IN IDAHO IN 1930. Counties showing similar size characteristics have been grouped together. Data are omitted for counties in which cash-grain farms represented less than 5 per cent of all farms in the county.

As indicated in Figure 15 cash-grain farms were largely typified by having 30 to 50 per cent of the farm in harvested crop land in 1929, and 20 to 30 per cent in the "All other land" category. Fallow land is included with "All other land" in Figure 15 since census classifications do not permit a segregation of all crop land by type of farm. Most of the non-irrigated cash-grain farms in Idaho use the summer fallow system with one-third to one-half of the cultivated land lying fallow each year. The amount of plowable pasture is negligible on most cash-grain farms. In a few of the southern and southeastern counties where portions of the land are too rough or too wet to farm, the classification of "Other pasture" (excluding woodland) is of some importance. Where physical conditions permit, cash-grain farms tend to make rather full use of their land resources in crop production. The adaptation of equipment for hillside farming has resulted in the cultivation of almost unbelievably steep slopes.

Valuations of land and buildings on cash grain farms in 1930 varied from $4 to $110 per acre and from slightly over $2,000 to over $22,000 per farm, as shown in Figure 16. The variation in values

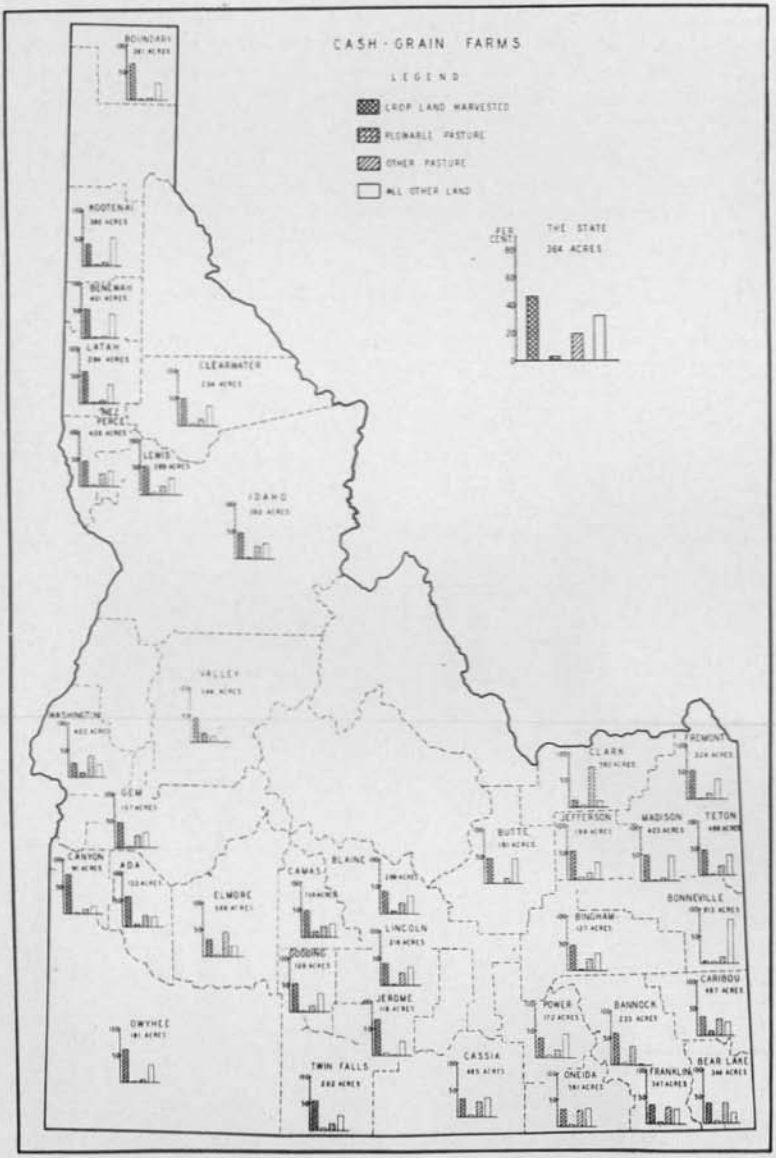

Fig. 15.—AVERAGE SIZE OF CASH-GRAIN FARMS IN COUNTIES WHERE THIS TYPE IS SIGNIFICANT, AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

indicates the wide range of conditions under which cash-grain farming is conducted (See Fig. 6). High values per acre are confined to the irrigated areas of southern Idaho and to those non-irrigated regions in northern Idaho where precipitation is sufficient to insure satisfactory yields. Low values per acre are associated in many instances with low values for the entire farm (Fig. 16). Inadequate moisture supplies, shallow and drouthy soils, relatively small areas of tillable land in one piece, and poor transportation facilities are some of the factors responsible for this condition. Small grains have a wider adaptation to extremes of soil and climate than most other crops. Under the stimulus of war-time prices many areas were broken which were suitable only for grazing lands. Most of these farms were subsequently abandoned but too much distinctly submarginal wheat land is still in cultivation.

Variation in investment in implements and machinery on cash-grain farms in Figure 17 is not as extreme as that shown for land and buildings. More equipment is necessary for the care of other crops on irrigated cash-grain farms, resulting in higher per-acre values. The investment is greater in rolling country than that where level land makes less demand on the power supply. Wheat growers

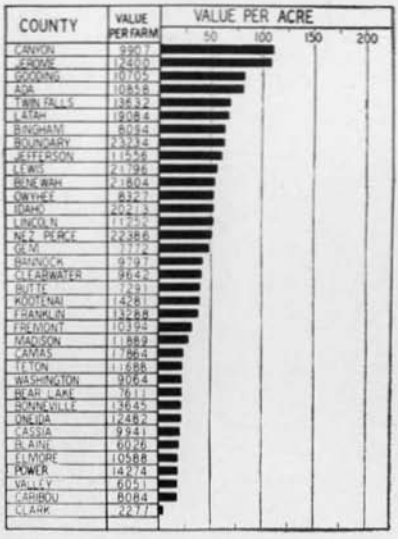

Fig. 16.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON CASH-GRAIN FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS IMPORTANT, 1930.

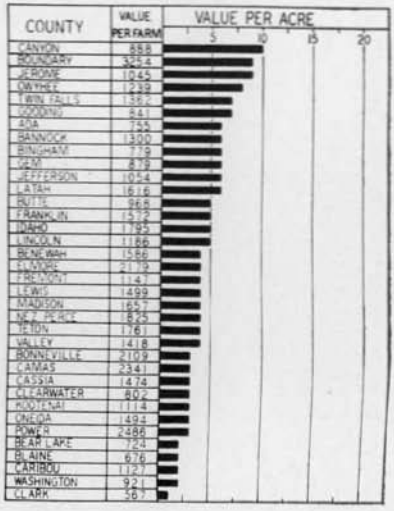

Fig. 17.—VARIATION IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON CASH-GRAIN FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS IMPORTANT, 1930.

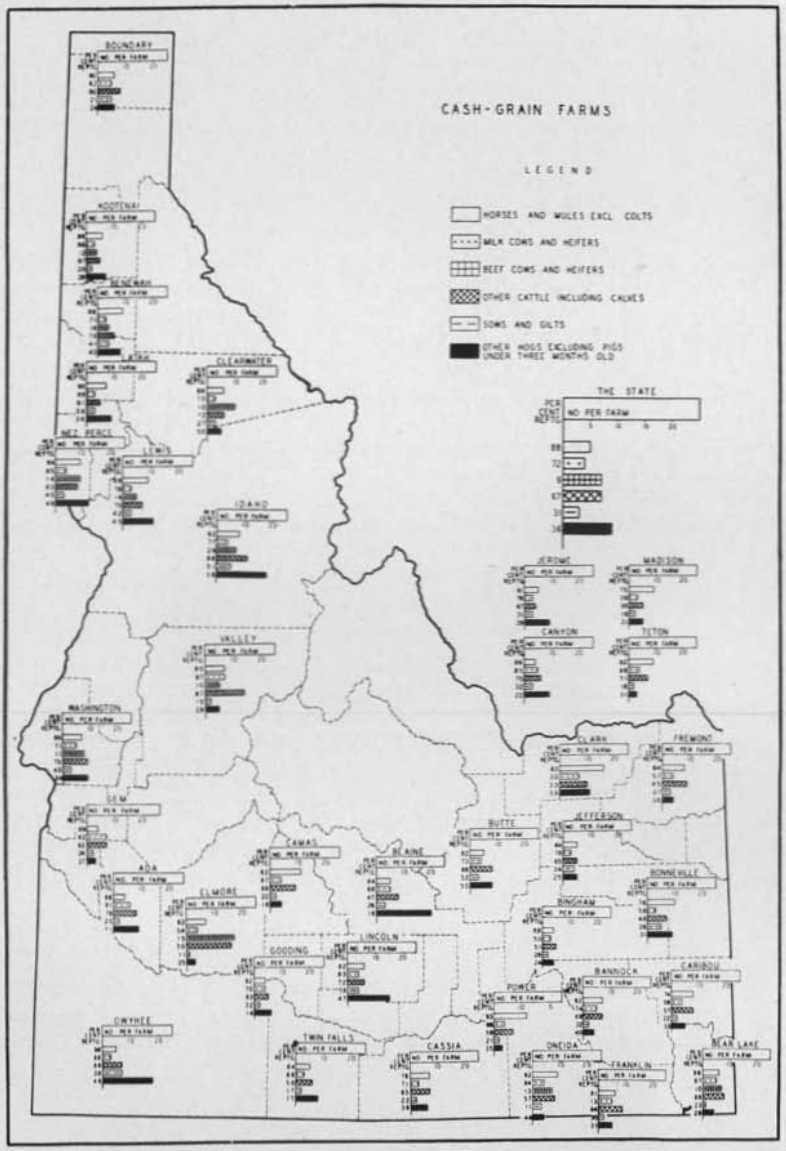

Fig. 18.—PER CENT OF CASH-GRAIN FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING IN 1930. Data are shown only for those counties in which cash-grain farming is important.

in the more favored regions tend to invest in the latest and best equipment while those on sub-marginal land are forced to use poor and inefficient implements long after they should have been junked. On the larger cash-grain farms the change from horse to tractor equipment in recent years has contributed materially to increased investments.

Most of the cash-grain farms report work stock in amounts ranging from 4 to 16 head per farm. Figure 18 shows about two-thirds reporting milk cows and heifers but seldom are more kept than those necessary to supply family needs. In a few instances beef cattle are raised for feed but hogs appear to be the most popular supplementary enterprise. About 36 per cent of the cash-grain farms report hogs, the average number on farms April 1, 1930, being three sows and nine other hogs over three months old. Hogs glean the grain fields after harvest, much of their gains being made on low-grade grains or those that would otherwise be wasted.

Cash grain farms have a comparatively simple organization which makes them readily adapted to a system of tenant farming. In many of the counties shown in Figure 19 the proportion of cash-grain farms operated by tenants is as great if not greater than the proportion operated by full owners. Cash tenancy is much less important than share tenancy. Where yields or returns are uncertain and ready cash hard to obtain, farmers prefer the lesser risk involved in farming for a portion of the crop. The relative importance of part-owners in a number of counties reflects the tendency of cash-grain farms to increase in size where conditions permit.

Crop-Specialty Farms. A crop-specialty farm as defined by the census for Idaho would obtain 40 per cent or more of the value of all farm produce from one or more of the following crops: sugar beets, soybeans, ripe field peas and beans, hay, white potatoes, and other minor field crops. Figure 6 shows crop-specialty farms to be largely concentrated in the irrigation projects of the Snake River valley in southern Idaho. In the Upper Snake River valley (Bingham, Bonneville, Jefferson, Madison, and Fremont counties) greatest emphasis among cash crops on irrigated farms is placed on the production of potatoes, sugar beets, and seed peas in the order named. In the central valley of the Snake River (Cassia, Twin Falls, Minidoka, Jerome, and Gooding counties) the most popular cash crops are wheat, field beans, potatoes, clover seed, and sugar beets.

In 1929, 19 per cent of the combined cropped acreage of the Big Wood, Minidoka, Twin Falls North Side, and Twin Falls South Side irrigation projects was devoted to wheat, 17 per cent to field beans, 5 per cent to potatoes, 5 per cent to clover seed, and 3 per cent to sugar beets. The 1929 acreage in these crops was about normal, except that of potatoes was low. Probably 8 or 9 per cent of the cropped acreage of these projects is normally in potatoes. A portion of the wheat is produced as a nurse crop for alfalfa and some

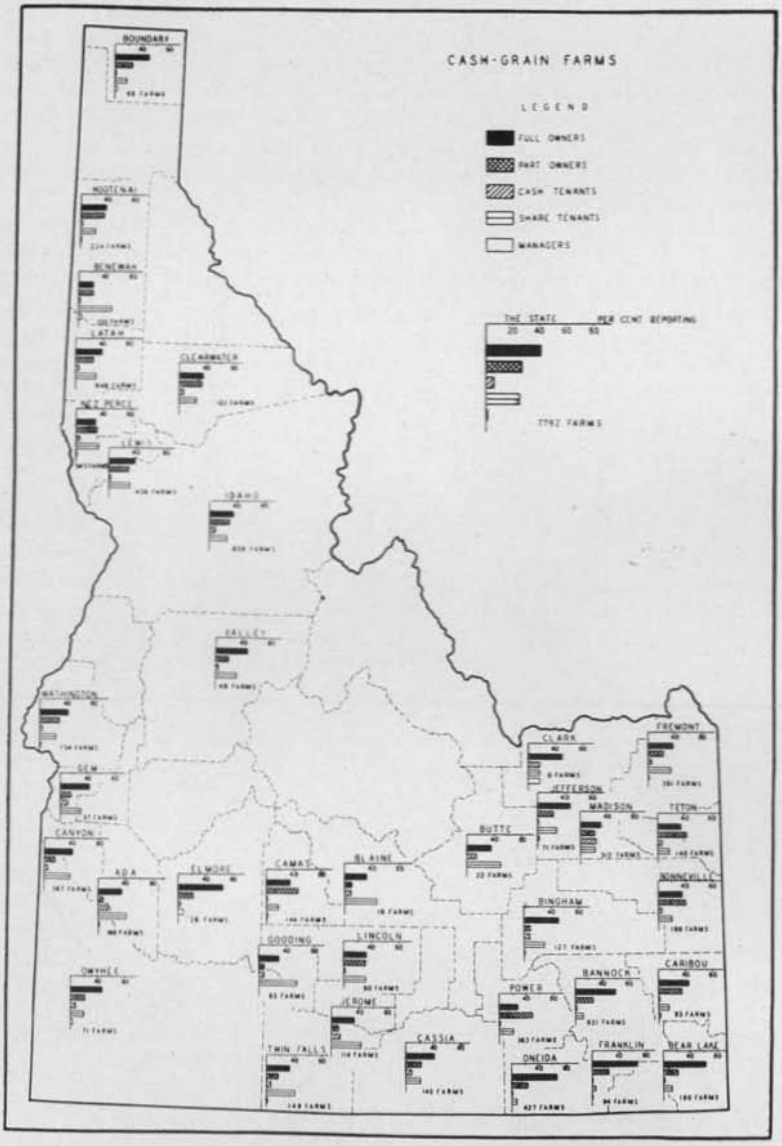

Fig. 19.—NUMBER OF CASH-GRAIN FARMS IN EACH COUNTY WHERE THIS TYPE OF FARMING IS SIGNIFICANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

of it is fed on the farms. Sufficient volume is sold, however, to call wheat a cash crop in this area. Most rotations on irrigated land in southern Idaho maintain soil fertility by keeping at least a fourth or a third of the cropped acreage in alfalfa each year. Consequently, the alfalfa acreage is larger than that of any strictly cash crop over most of this area. Part of the tonnage is sold to stock and sheep men and part consumed by the farm livestock.

Size of crop-specialty farms is largely influenced by the nature of the main crops grown and by the amount of land permitted the original settlers under the homestead laws and their modifications for irrigated lands. Forty-, 80-, 120-, and 160-acre farms are undoubtedly the most common sizes in the first four size classes of the graphs shown in Figure 20. In the Central and Upper Snake River valleys the 80-acre tract appears most popular, with the 40-acre size of second importance in the Upper Valley and the 120- and 160-acre sizes holding second place in the Central Valley. Sixty per cent of the irrigated farms in these two valleys are crop-specialty farms. The relative importance of farms of various sizes for these two valleys as shown in Figure 20 should be fairly typical of the majority of irrigated farms in the same area. Counties showing concentrations of farms in sizes larger than 160 acres are usually those where crop-specialty farms are devoted mostly to the production of the various hay crops. Trends in size of irrigated farms are discussed in Part I of this series.

Fig. 20.—VARIATIONS IN SIZE OF CROP-SPECIALTY FARMS IN IDAHO IN 1930. Counties showing similar size characteristics have been grouped together. Data are omitted for counties in which crop-specialty farms represented less than 5 per cent of all farms in the county.

In the main irrigated sections of southern Idaho the average crop-specialty farm is characterized by utilizing most of the farm land for crop production, with relatively small amounts in pasture or waste. This is particularly true in areas where high land values force more intensive use of the farm resources and where waste land is held to a minimum by the absence of scab rock outcroppings or meandering mountain streams. Figure 21 indicates that relatively

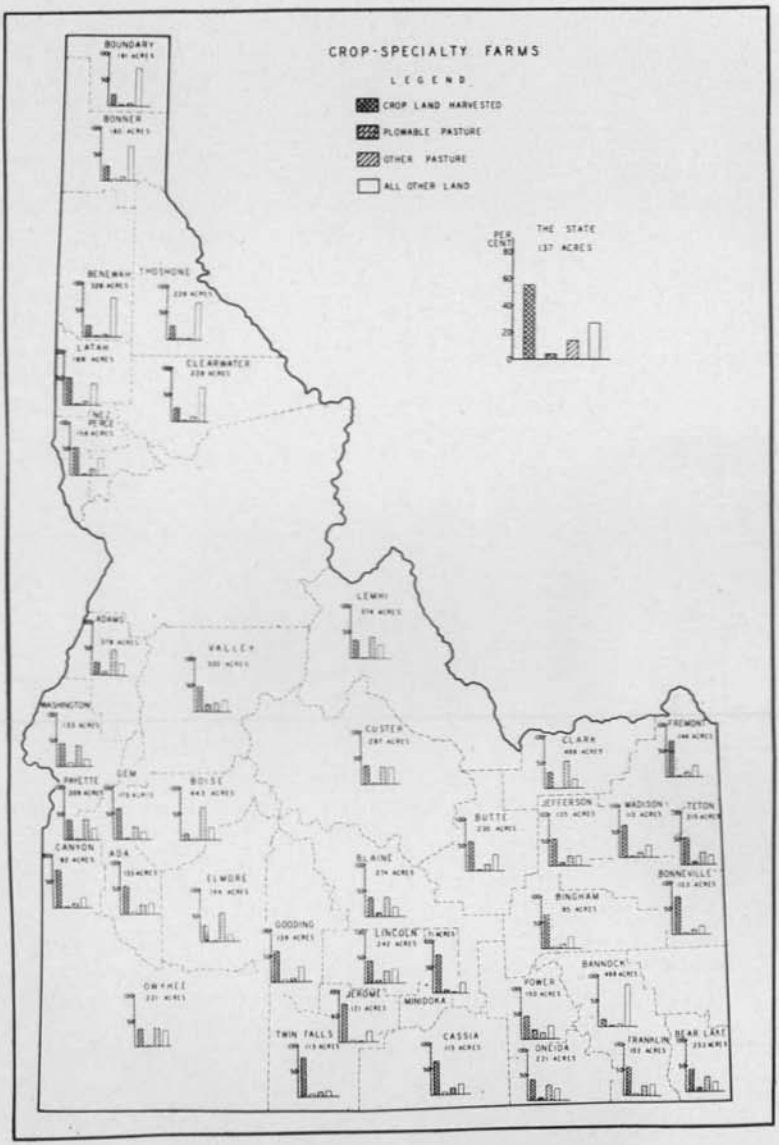

Fig. 21.—AVERAGE SIZE OF CROP-SPECIALTY FARMS IN COUNTIES WHERE THIS TYPE IS IMPORTANT AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

less of the average crop-specialty farm is cropped in the mountainous areas of central and northern Idaho. The timber cover of the land and its extremes in topography will always preclude the tillage of considerable portions of many of these farms.

Crop trends on the irrigation projects. An annual water-users' census is taken on most of the irrigation projects in southern Idaho. The acreage devoted to each crop and the numbers of each kind of livestock are recorded for each farm. Over a period of years these data make an important contribution toward understanding the development of various types of farming. The data for all projects are presented in connection with the discussion of crop-specialty farms because this type is especially significant in irrigation farming.

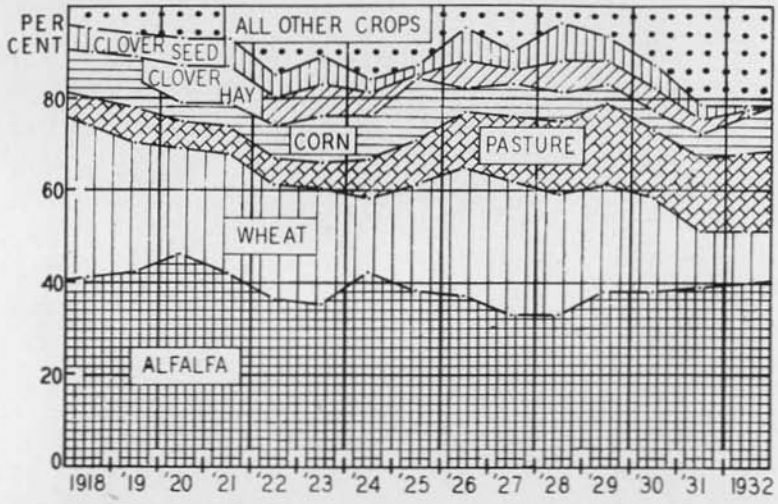

Fig. 22.—PROPORTION OF CROPPED AREA DEVOTED TO VARIOUS CROPS BY YEARS. BOISE IRRIGATION PROJECT; PORTIONS OF ADA, CANYON, GEM, AND PAYETTE COUNTIES, 1918 TO 1932. The acreage in crops increased from 91,000 in 1918 to 142,000 in 1932.

Crop data for the Boise project are shown in Figure 22. The most interesting features of this graph are a noticeable checking of a downward tendency in alfalfa acreage and increasing importance in late years of the acreage in pasture, corn, and "All other crops." The alfalfa, corn, and pasture expansions may be directly attributed to a rather phenomenal development in the dairy industry of this area as described in the first bulletin of this series. Barley and oats are crops of minor importance which have increased in acreage. Wheat, clover hay, and clover seed show decreased importance in response to unfavorable prices in competition with other crops grown in this area.

Figure 23 shows an extremely high percentage of the cropped acreage on the King Hill project in alfalfa up to 1920. This is typical of nearly all irrigated areas when water is first available. Such projects are almost always located in arid regions where the rainfall has been insufficient to produce enough native vegetation to build up any reserve of organic matter in the soil. Alfalfa acreage decreases as soils are built up and as cash crops prove more attractive. Figure 23 shows most significant changes in crops since 1929 to be in beans and corn. Beans were tried experimentally and appeared to do well, but various diseases and ravages of the white fly were so discouraging that after a short period of popularity they began to fade from the picture. The increased corn

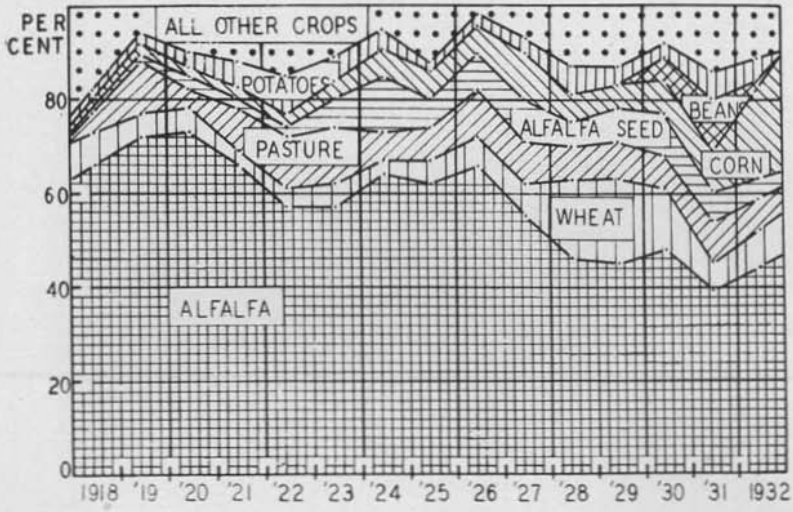

Fig. 23. PROPORTION OF CROPPED AREA DEVOTED TO VARIOUS CROPS BY YEARS, KING HILL IRRIGATION PROJECT, ELMORE AND TWIN FALLS COUNTIES, 1918 to 1932. The cropped acreage increased from about 1,700 acres in 1918 to nearly 7,000 in 1932.

acreage comes as a response to more favorable prices and to the introduction of better varieties. Where climatic or disease conditions are inactive, variations in the acreage of annual crops may be attributed to the farmers' response to changing price relationships among competing crops. Clover hay, barley, and apples are the most important of the miscellaneous crops. Apple orchards decreased from 560 acres in 1921 to 180 acres ten years later.

Until 1932 the water supply of the Big Wood project was very uncertain, with four successive years of seriously reduced crops during 1928 to 1931. Water shortages were predictable in advance depending on the supply being stored in mountain reservoirs Def-

inite crop rotations were not feasible since the choice of crops was frequently limited to those which would mature early. Water was usually used on alfalfa, small grains, and pasture to provide sufficient feed to carry farm livestock through the winter. A new canal from the American Falls reservoir delivered additional water in the latter part of 1931 for the first time. A good water supply is now assured and greater diversity in crop production will be possible.

Because of the continuous water shortage, land on this project has sold more cheaply than on adjoining tracts. The low overhead thus obtained places Big Wood farmers in a favorable position, now

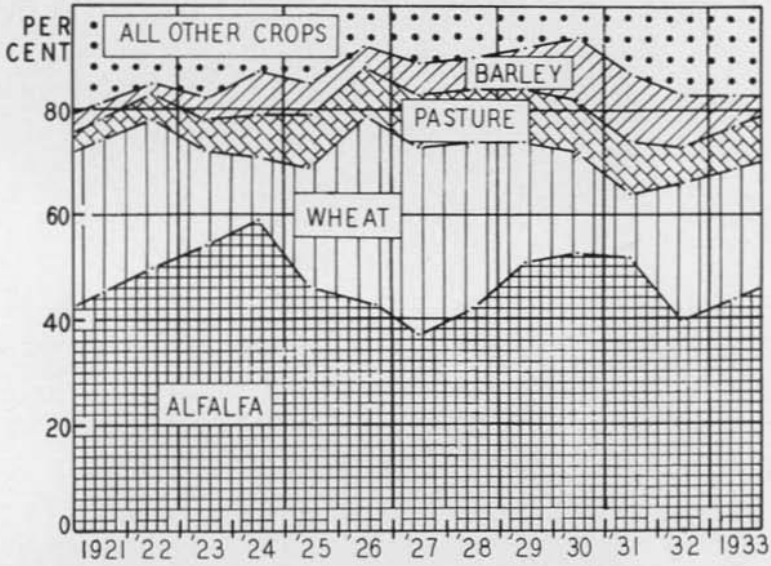

Fig. 24.—PROPORTION OF CROPPED AREA DEVOTED TO VARIOUS CROPS BY YEARS, BIG WOODS IRRIGATION PROJECT, GOODING AND LINCOLN COUNTIES, 1921 to 1933. The acreage in crops averaged 56,500 acres during this 13-year period.

that the water supply is adequate. The high percentage of alfalfa shown in Figure 24 is due to the livestock enterprises in the area. Most important crops other than those graphed individually are oats, clover, potatoes and corn. The increase in "All other crops" since 1931 indicates the tendency toward greater diversity with an assured water supply.

Shifts in the popularity of crops on the Twin Falls North Side project are shown in Figure 25. A dwindling acreage in alfalfa has characterized most of the irrigation projects during the years of high returns on cash crops. This is especially true in the Twin Falls area.

The large wheat acreage during the war years is plainly indicated, as is the subsequent decline in this crop in favor of others offering greater returns. Beans began to assume importance in 1922, and by 1927 a rapid expansion was under way which lasted through the 1931 season. The 1931 farm price of beans was $1.16 per cwt. compared with an average of $5.18 per cwt for the 1922-29 period. This drop to less than one-fourth the former price level no doubt was a large factor in the sharply reduced acreage, as indicated in Figure 25 for 1932. Increases since 1930 in miscellaneous crops may be attributed largely to corn, potatoes, and beets. Corn acreage increased from 3,800 acres in 1930 to 7,300 acres in 1932; potatoes

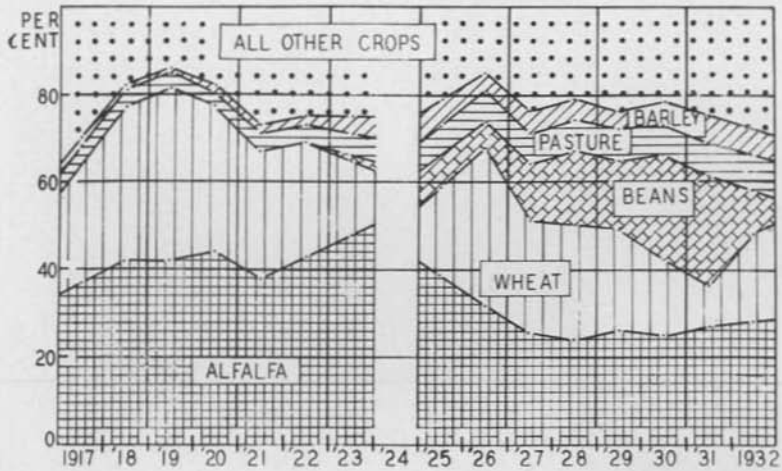

Fig. 25.—PROPORTION OF CROPPED AREA DEVOTED TO VARIOUS CROPS BY YEARS, TWIN FALLS NORTH SIDE IRRIGATION PROJECT, JEROME COUNTY, 1917 to 1932. The acreage in crops ranged from 88,000 in 1917 to 128,000 acres in 1932. (No data available for the year 1924).

from 4,400 acres to 8,100 acres; and sugar beets from 391 acres in 1931 to 2,596 acres in 1932. The system of contracting beet acreage in advance always appeals to growers when returns from other crops appear uncertain. The hard winter of 1931-32 kept down the white fly, which also favored an increase in acreage of this crop.

The Snake river separates the Twin Falls North and South Side projects. While only a few miles apart, differences are apparent in the emphasis placed on various crops in the two areas. The most significant feature of Figure 26 is the tremendous expansion in the acreage of field beans as a cash crop. The county agent of Twin Falls county reported that nearly half the entire South Side project was planted to beans in 1930. Figure 26 indicates that most of the bean

acreage has displaced land formerly in alfalfa and wheat. Water first reached this project in 1905 and the period of enforced soil building with a large proportion of the project in alfalfa has passed. A pronounced swing to the extreme of specialization in cash crops is evidenced, with the alfalfa acreage for the project as a whole reduced below that necessary to maintain soil fertility. The acreage in pasture on the project is showing slow but steady growth, and an increasing number of dairy cows may provide a supplemental source of fertility. In 1929 sugar beets were grown on 4 per cent of the cropped acreage (6,553 acres), while in 1928 only 217 acres were grown.

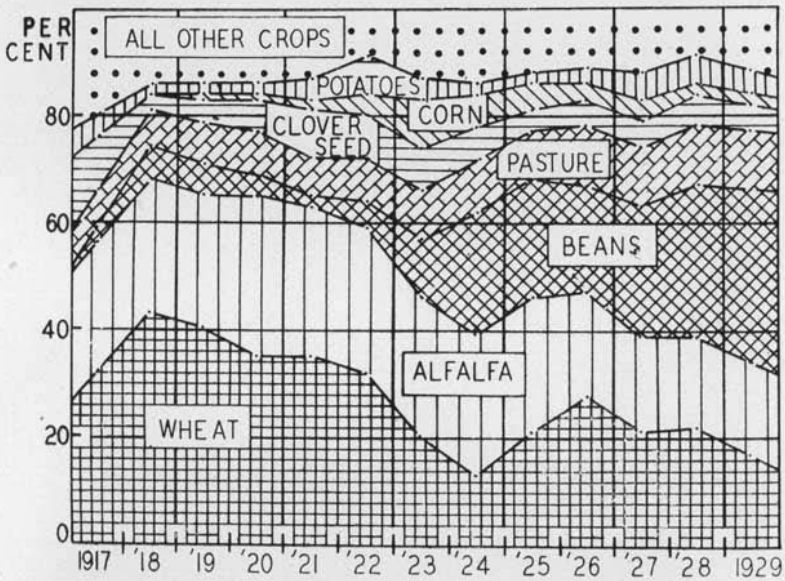

Fig. 26.—PROPORTION OF CROPPED AREA DEVOTED TO VARIOUS CROPS BY YEARS, TWIN FALLS SOUTH SIDE IRRIGATION PROJECT, TWIN FALLS COUNTY, 1917 to 1929. The acreage in crops ranged from 168,000 to 188,000 acres during this 13-year period. Water users census not taken after 1929.

Forecasts as to the probable ravages of the white fly cause violent fluctuations in this crop. About 1,000 cars of apples are shipped annually from 2,000 acres in apple orchards.

Potatoes on the Minidoka project are shown in Figure 27 to be of relatively greater importance than on any other of the irrigation projects in the Central Snake River valley. A fairly steady growth in the potato crop since 1926 is evidenced with a corresponding decrease in the alfalfa acreage. Miscellaneous crops which appear most likely to gain prominence are clover hay, barley, corn, and

field beans. An erratic movement in the beet acreage is indicated, due to the ravages of the beet leafhopper or white fly. This insect normally feeds on desert vegetation but in dry years moves in onto farm crops. It has been found possible to forecast with a fair degree of accuracy the probability of serious damage from this source before the crop is planted. This prediction, together with the contract price offered by the sugar companies, has a direct bearing on the acreage planted to beets each year. The low and uncertain prices of most cash crops in the last few years have favored beet production and the 1933 season showed a continuation of the tendency for this crop to increase in importance, as shown in Figure 27 for 1931 and 1932.

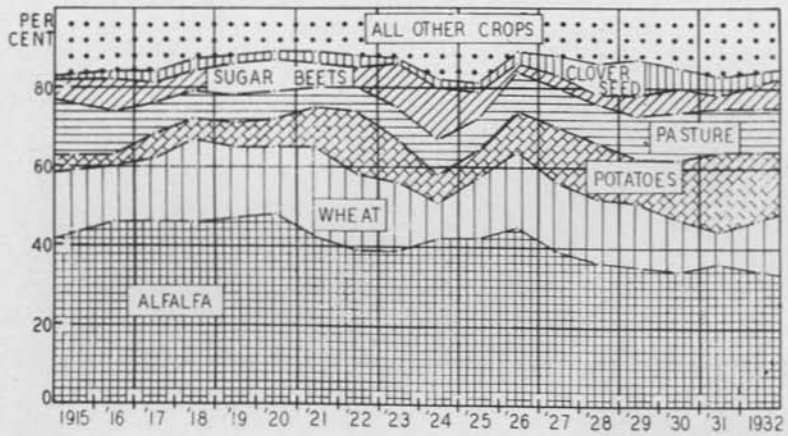

Fig. 27.—PROPORTION OF CROPPED AREA DEVOTED TO VARIOUS CROPS BY YEARS, MINIDOKA IRRIGATION PROJECT, MINIDOKA, JEROME AND CASSIA COUNTIES, 1915 to 1932. The cropped acreage increased from 77,000 acres in 1915 to 100,000 acres in 1932.

The preceding paragraphs have discussed the most common sizes of crop-specialty farms, the ways in which they utilize the land and the emphasis given to various crops on the irrigation projects where crop-specialty farms are of greatest importance. Variations in per-acre and per-farm valuations of land and buildings on crop-specialty farms in 1930 are presented in Figure 28. Per-acre as well as per-farm values appear to be highest in those counties where irrigation farming has made necessary relatively greater investments in the land with a correspondingly greater return from the more intensive farm enterprises which have been undertaken.

Of the 10 counties showing highest per-acre valuations for land and buildings, 9 placed among the 10 showing highest per-acre values of implements and machinery, as shown in Figure 29. The investment

in equipment is governed largely by the requirements of the various crops grown, the size of farm, the amount of available cash, and the personal whims of the operator. The sales of implements and machinery after a season of high returns from potatoes or beans testify to the importance of the two last named factors.

Figure 30 shows the great majority of crop-specialty farms reporting an acreage of about five head of work stock per farm. About three-fourths report dairy cows and heifers, the herd varying from two to six head per farm but usually being sufficiently large to care for the family needs and permit the sale of a small surplus. Beef

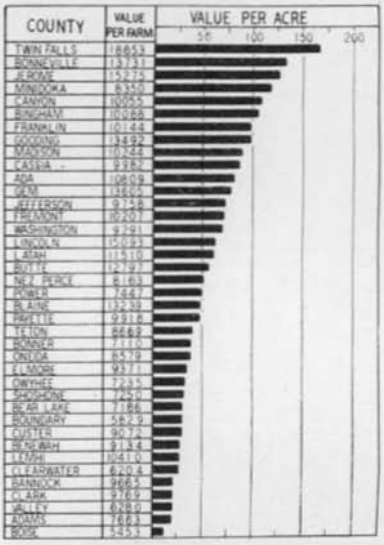

Fig. 28.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON CROP-SPECIALTY FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS IMPORTANT, 1930.

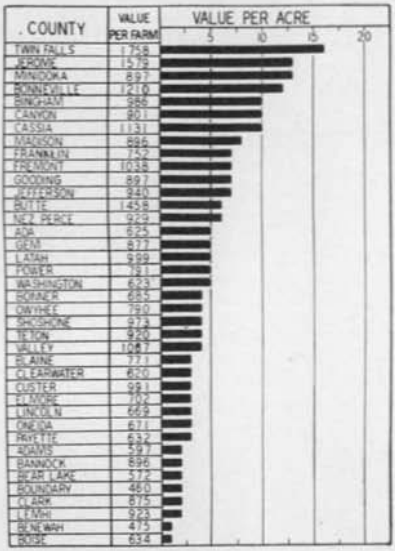

Fig. 29.—VARIATION IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM and PER ACRE ON CROP-SPECIALTY FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS IMPORTANT, 1930.

cattle are of but little significance on crop-specialty farms except those feeders which are utilized during winter months to furnish a market for surplus hay and farm by-products. Less than a third of the crop-specialty farms keep hogs but these farms make this rather an important sideline, marketing the offspring of two or three sows each year. Crop-specialty farms in Butte, Bonneville, Cassia, and Jefferson counties give somewhat more emphasis to swine production. Some crop-specialty farmers will have nothing to do with livestock production. Others take advantage of periods of low prices

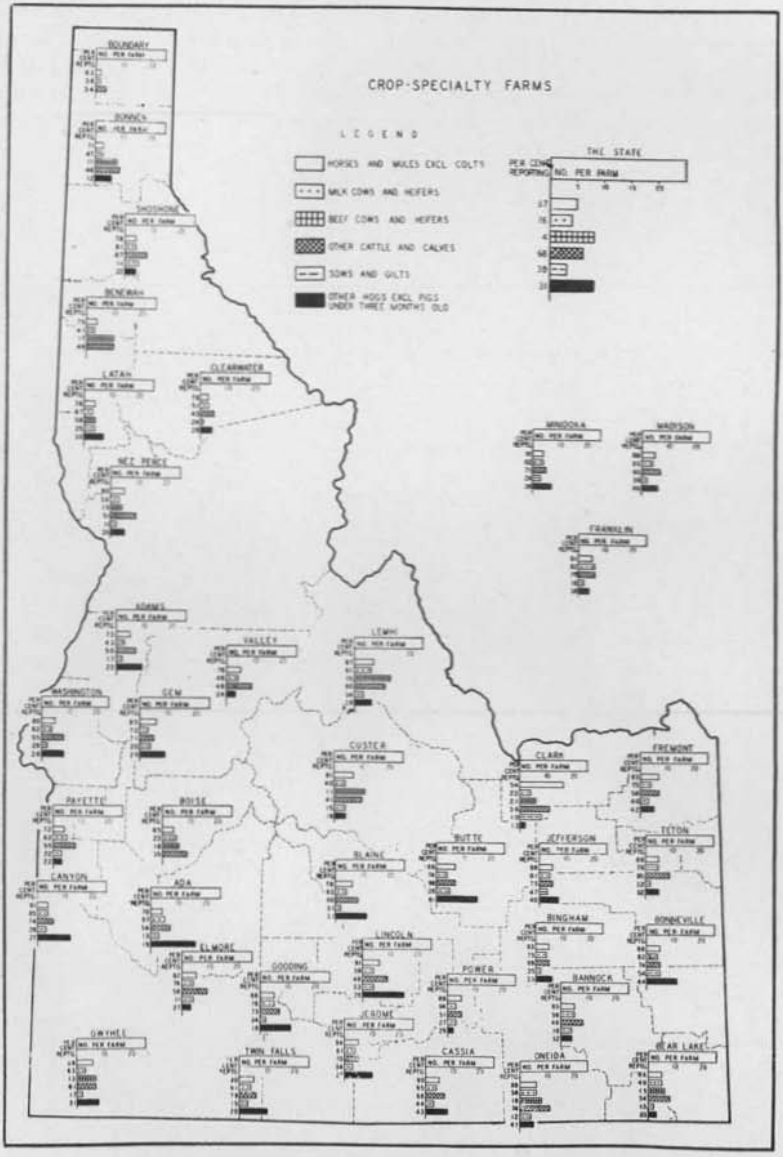

Fig. 30.—PER CENT OF CROP-SPECIALTY FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING IN 1930.

for cash crops to build up the soil by putting relatively more of their land into alfalfa with limited amounts of livestock to take care of the surplus hay. When prices for cash crops again appear attractive livestock are largely sold off and full attention given to cash-crop production. The importance of livestock on crop-specialty farms thus tends to vary at different periods and does not hold the stable place that it enjoys in the organization of general farms.

Livestock trends on the irrigation projects. Data by years on numbers of livestock were available from the water users' census for four irrigation projects in southern Idaho. Through the years these projects have increased in size and in numbers of farms. Livestock numbers therefore have been related to the acreage in crops each year in order to properly measure changes that have taken place. Actual numbers were converted to an animal unit basis[1] to obtain some idea of the relative importance of various classes of livestock.

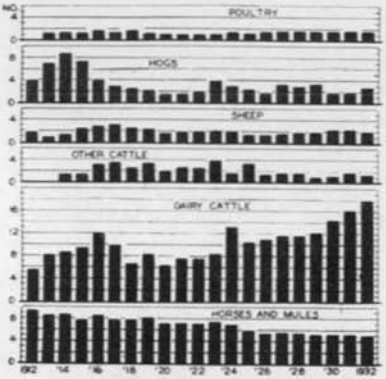

Fig. 31.—NUMBER OF ANIMAL UNITS PER 100 ACRES OF CROPPED LAND FOR VARIOUS CLASSES OF LIVESTOCK ON THE BOISE IRRIGATION PROJECT; PORTIONS OF ADA, CANYON, GEM, AND PAYETTE COUNTIES, 1912 to 1932.

Figure 31 shows a rather steady decline on the Boise project in numbers of work stock per 100 acres of crops till 1926, with a much more moderate rate of decrease since that year. At various times since 1912 beef cattle, sheep, swine, and poultry have enjoyed short cycles of popularity and all appear to have a definite if minor place on the project. The most significant change is indicated for dairy cattle which have displayed a rather rapid increase in numbers since 1920. The availability of credit for the purchase of livestock, the development of better marketing agencies, and the natural adaptation of this area to the dairy enterprise have combined to stimulate growth.

The most pronounced trend indicated in Figure 32 for the Twin Falls North Side project is toward decreased numbers of range sheep fed. This is partially accounted for by a reduced supply of alfalfa hay as this crop gave way to make room for increased acreages of cash crops. Prior to the war, livestock farming was of considerable significance on the North Side project. After the war cash-crop farming held sway till the post-war deflation of the early twenties

[1] An animal unit is one head of work stock, one head of dairy or other cattle, 7 sheep, 5 hogs, or 100 chickens.

when interest was again revived in livestock production, particularly dairy cattle, swine, and farm flocks of sheep. A much higher degree of competition for use of the land exists between cash-crop and livestock enterprises in the Twin Falls area than is found on the Boise project.

Figure 33 shows dairy cattle as the most important type of livestock on the Twin Falls South Side project. Rather rapid growth was experienced until 1923. Later years have shown a tendency toward maintained herds with but moderate increases. Hogs tend to increase on the irrigation projects when feed prices are low. Figures 32 and 33 show rapid growth in swine production from 1921 to 1923 while farm prices were influenced by post-war deflation. The fairly satisfactory crop returns of 1923-29 resulted in a gradual reduction in hog numbers through 1930. By 1932 hogs were again on the increase as feed prices turned downward. The feeding of beef cattle and range sheep has always been of considerable importance on this project; beet pulp, bean straw, silage, and alfalfa being the cheap feeds used. Seventy-five thousand lambs were fattened on farms in this area in 1932. The yearly volume of feeding operations is sharply influenced by current price prospects and by local factors such as the withdrawal in 1931 of a large packing company which formerly fed large flocks of sheep on the project. Owners of farm flocks pool their shipments of lambs and wool. Ten cars of lambs were pooled in 1930, 10 cars in 1931, and 24 cars in 1932. Egg production and turkey raising are important sidelines with many growers on this project. As much as 20,000 cases of eggs and 60,000 pounds of dressed turkeys have been marketed cooperatively in a year. Poultry, together with all other livestock enterprises in this area, is adversely affected by favorable price prospects for cash crops.

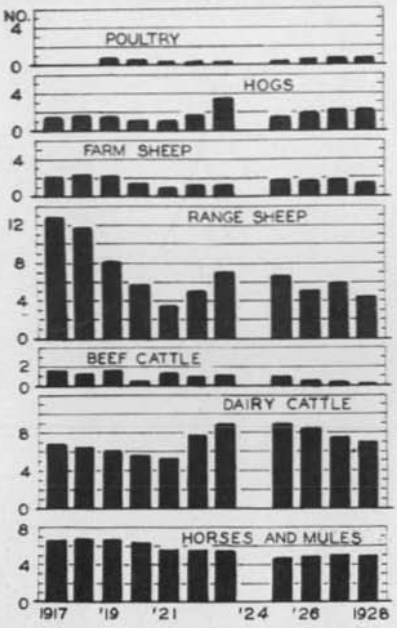

Fig. 32.—NUMBER OF ANIMAL UNITS PER 100 ACRES OF CROPPED LAND FOR VARIOUS CLASSES OF LIVESTOCK ON THE TWIN FALLS NORTH NORTH SIDE IRRIGATION PROJECT; JEROME COUNTY, 1917 to 1928.

The most significant livestock enterprises on the Minidoka project are dairy cattle and sheep. Both federal and private credit

were made available in the early twenties for the purchase of dairy cattle. Since 1927 the industry has maintained its position but rapid growth is not indicated. Farm flocks of sheep doubled in the four years 1927 to 1930. In 1930, 227 farmers pooled 179,000 pounds of wool. By 1933 only two-thirds as many sheep were kept and the wool pool had dropped to 106,000 pounds. With poor prices farmers failed to keep their ewe lambs or to replace losses. Around 60,000 head of range sheep and 25,000 feeder lambs were being wintered on this project in 1930. Factors of price relationships and the competition of cash crops are reflected in Figure 34 in much the same manner as are shown previously for other irrigation projects in this central valley area.

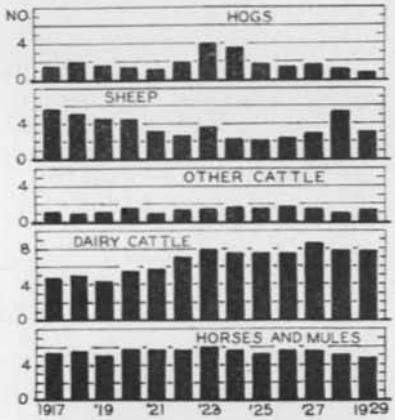

Fig. 33.—NUMBER OF ANIMAL UNITS PER 100 ACRES OF CROPPED LAND FOR VARIOUS CLASSES OF LIVESTOCK ON THE TWIN FALLS SOUTH SIDE IRRIGATION PROJECT; TWIN FALLS COUNTY, 1917 to 1929.

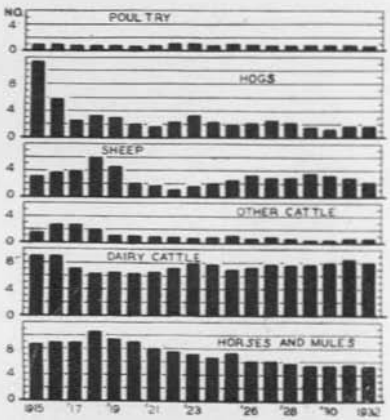

Fig. 34.—NUMBER OF ANIMAL UNITS PER 100 ACRES OF CROPPED LAND FOR VARIOUS CLASSES OF LIVESTOCK ON THE MINIDOKA IRRIGATION PROJECT; MINIDOKA, JEROME, AND CASSIA COUNTIES, 1915 to 1932.

Returning to a more specific consideration of the characteristics of crop-specialty farms, Figure 35 shows the various forms of tenure most popular in Idaho counties. In northern and central Idaho full owners and part owners are most prominent. This condition also prevails in the counties of southeastern Idaho. In those counties along the Snake river in southern Idaho share tenancy is of considerable significance. In Lincoln, Gooding, Canyon, Power, and Blaine counties share tenancy is close to and in some cases exceeds the proportion of farms operated by full owners. Crop-specialty farms are largely devoted to annual crops. These lend themselves readily to tenant farming. Irrigation projects usually undergo at

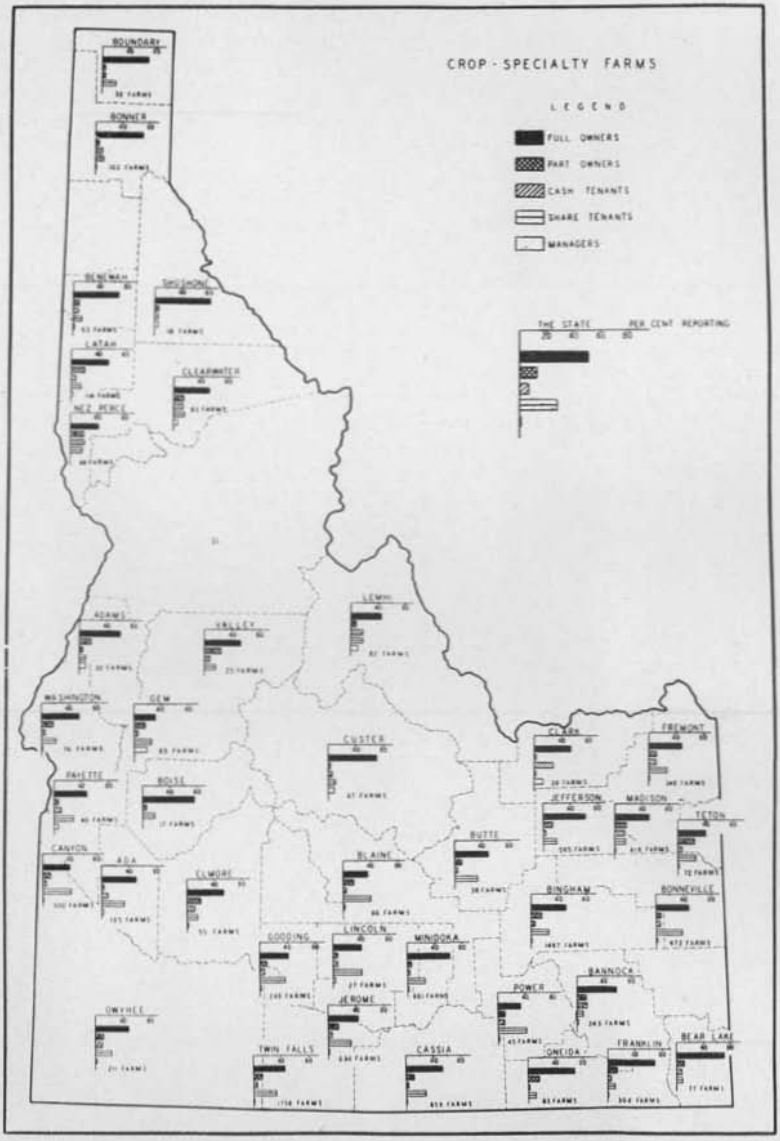

Fig. 35.—NUMBER OF CROP-SPECIALTY FARMS IN EACH COUNTY WHERE THIS TYPE OF FARMING IS SIGNIFICANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

least one "boom" period. Land is purchased and held by men who expect to "cash-in" on the rising land values. Absentee landlordism accounts in part for the degree of tenancy in some counties.

Fruit Farms. Family orchards are widely distributed through the farming districts of the State. Bona fide fruit farms, which obtain 40 per cent or more of the income from fruit, are relatively few in number and concentrated in very limited areas (Fig. 6). In 1929 fruit farms represented but 3 per cent of all farms in the State. but their contribution to the wealth of Idaho is relatively greater than that of other less intensively cultivated types of farms. About four-fifths of the acreage in bearing fruit trees in Adams, Kootenai,

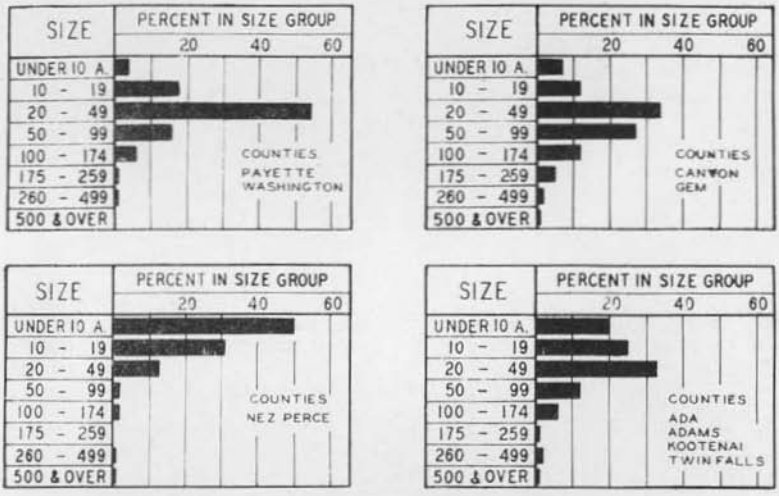

Fig. 36.—VARIATIONS IN SIZE OF FRUIT FARMS IN IDAHO IN 1930. Counties showing similar size characteristics have been averaged together. Data are omitted for counties in which fruit farms represented less than 4 per cent of all farms in the county.

Payette, Twin Falls, and Washington counties is devoted to apple production. Over half the bearing fruit acreage in Ada county and about a third of that in Canyon and Gem counties are producing prunes. Nez Perce county devotes about 40 per cent to sweet cherries and 14 per cent to prunes. Peaches are of greatest importance in Gem, Adams, and Nez Perce counties where 10, 7, and 6 per cent, respectively, of each county's bearing tree fruit acreage is devoted to this crop. Pear production is negligible in Idaho.

The majority of fruit farms range between 20 and 50 acres in size with farms of less than 20 acres being more numerous than those over 50 acres (Fig. 36). The high proportion of farms under 10 acres in Nez Perce county may be largely attributed to those farms pro-

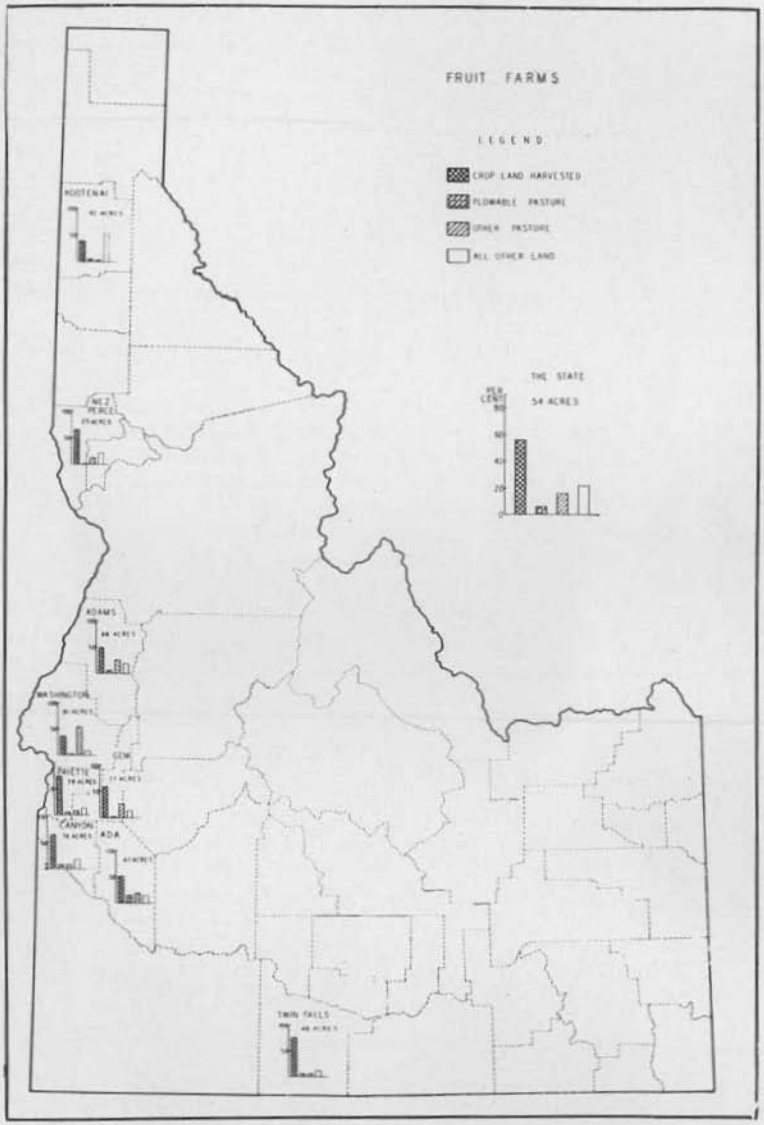

Fig. 37.—AVERAGE SIZE OF FRUIT FARMS IN COUNTIES WHERE THIS TYPE IS IMPORTANT AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

ducing sweet cherries. The high value of the product makes small farms feasible.

Fruit land usually carries rather high valuations per acre. Consequently as much of the land is cultivated as local conditions permit. The few counties shown in Figure 37 which have large amounts of the average fruit farm in pasture or "All other land" are located in mountainous regions where portions of these farms are fit only for pasture and farm wood-lots.

Per-acre values of land and buildings for Twin Falls and Payette counties, as shown in Figure 38, are typical valuations of the better producing apple orchards of the State in 1930. The higher value of fruit land in Nez Perce county is associated with the large acreage

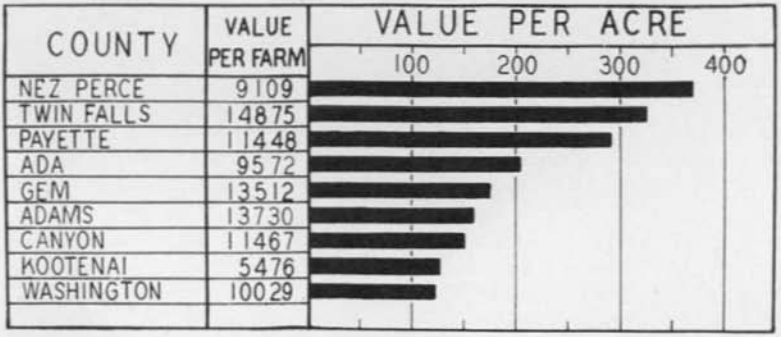

Fig. 38.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON FRUIT FARMS IN IDAHO COUNTIES WHERE THIS TYPE OF FARMING IS IMPORTANT, 1930.

of sweet cherries included in the acreage. With the exception of Kootenai county in northern Idaho but little variation exists in the average per-farm valuation of fruit farms in various sections of the State. These values are as large if not larger than those shown in Figure 16 for the average cash-grain farm in many Idaho counties.

Per-acre values of implements and machinery on fruit farms are nearly double those on the crop-specialty farms shown in Figure 29, while average investments per farm are fully as great. Per-acre values in Nez Perce county are moderate and per-farm values low compared to other important fruit producing areas as shown in Figure 39. This again may be attributed to the cherry enterprise. Sweet cherries are less subject to the ravages of insect pests than are apples. A dormant spray may be the only requirement and little if any pruning is done. The spray may be satisfactorily applied with equipment wholly inadequate to provide the pressure necessary to successfully combat the codling moth on apples.

Livestock on fruit farms is a negligible factor. Fertility is maintained in most cases by the use of leguminous cover crops and limited

applications of commercial fertilizers. Figure 40 shows about two-thirds of these farms keeping a team and enough cows for the family milk supply. In the dairy area of southern Idaho a limited income from dairy products is frequently supplied by keeping slightly more cows than are needed for family use. Particular attention should be paid to the per cent of fruit farmers reporting various classes of livestock in Figure 40 before attaching too much significance to the number of head kept per farm.

Fruit farms are for the most part operated by full or part owners with little tenant farming. An orchard planting may be easily ruined or at least thrown into serious cycles of alternate bearing by a single year of poor pruning. The owner of an orchard which has

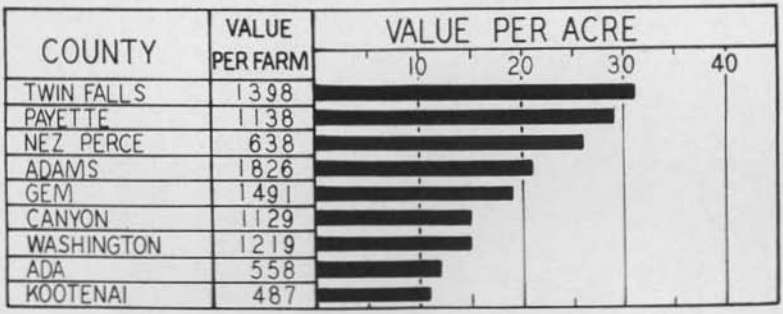

Fig. 39.—VARIATION IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON FRUIT FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS IMPORTANT, 1930.

been skillfully guided into full production through years of painstaking effort can ill afford the risk involved in the tenant system. Well-trained managers are employed when the owner is unable to look after the property himself. Managers are shown in Figure 41 to be relatively more important in Adams, Gem, and Canyon counties.

Dairy Farms. While dairy farms are widely distributed throughout the State greatest concentrations are shown in Figure 7 to occur in the Boise valley and adjacent territory in southwestern Idaho. Franklin and Bear Lake counties of southeastern Idaho show important concentrations, as do the northern counties of the Idaho panhandle. In all these main producing regions bottom lands along rivers or other low wet lands provide considerable amounts of pasture. Dairy farms in Figure 7 are noticeably few in number in the Upper Snake River valley. This area runs heavily to the production of potatoes and sugar beets. In normal years, however, some farmers in each county derive 40 per cent or more of their income from the sale of dairy products. The extremely high returns from potatoes in 1929 were responsible for throwing some farms which would

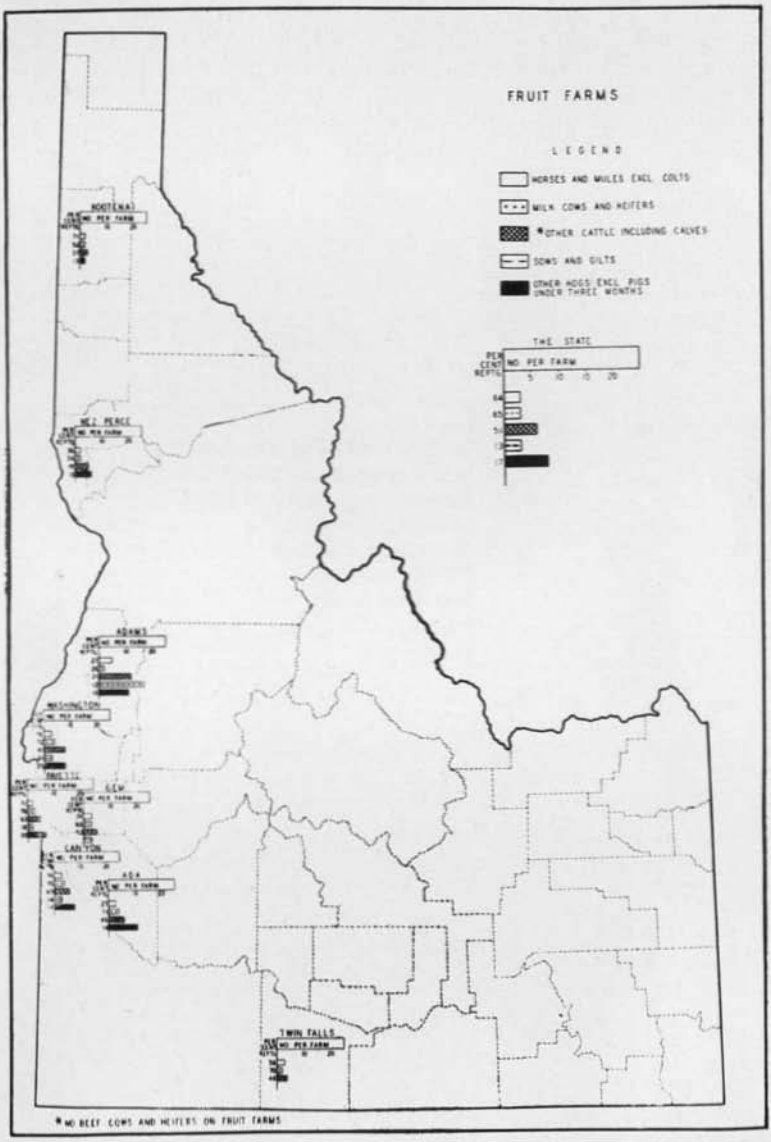

Fig. 40.—PER CENT OF FRUIT FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING IN 1930. Data are omitted for counties in which this type of farming is unimportant.

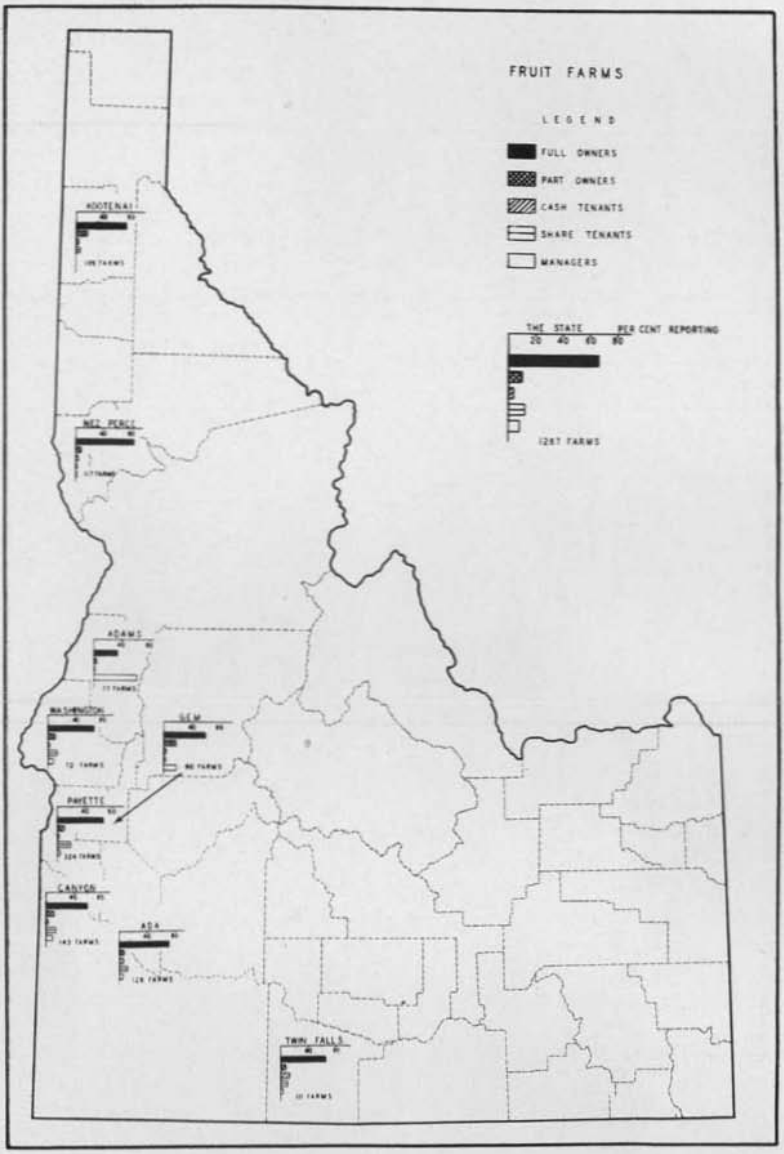

Fig. 41.—NUMBER OF FRUIT FARMS IN EACH COUNTY WHERE THIS TYPE IS SIGNIFICANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

normally classify as dairy farms into the crop-specialty classification. As a side-line enterprise dairying is of sufficient importance so that creameries and cheese factories may be found in most of the larger towns of this area.

In the non-timbered areas of southern Idaho dairy farms are shown in Figure 42 to fall largely in the classes of 20 to 50, or 50 to 100, acres in size. Where dairying is conducted in timbered and more mountainous regions the 160-acre farms and larger sizes predominate. In the more inaccessible areas where suitable dairy land is limited, the marketing of milk in the form of sour cream or cheese is important. In the main dairy areas of the State sweet cream butter is produced and surplus milk goes to the condensaries.

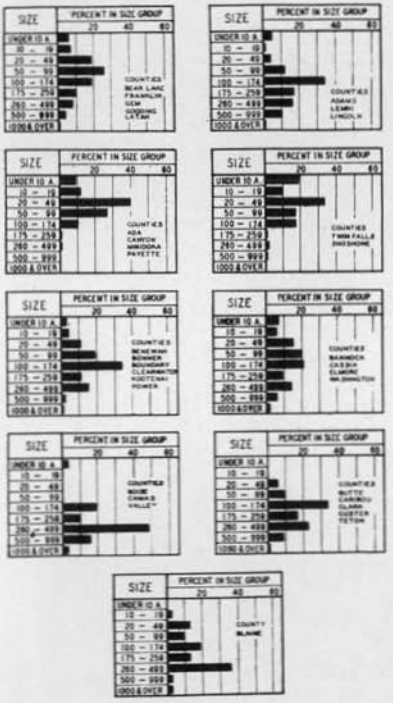

Fig. 42.—VARIATIONS IN SIZE OF DAIRY FARMS IN IDAHO IN 1920. Counties showing similar size characteristics have been grouped together. Data are omitted for counties in which dairy farms represented less than 5 per cent of all farms in the county.

Counties showing dairy farms in the larger sizes in Figure 42 are shown in Figure 43 to have large proportions of this land in non-plowable pasture or in waste. All through northern Idaho the "All other land" bar of Figure 43 is particularly prominent. This represents fallow land for wheat production or timbered or cut-over land which is unfit for pasture. In southern Idaho the bar representing "Other pasture excluding woodland" predominates. This is in most cases non-irrigated land whose desert vegetation furnishes pasture only during the early spring months. Southern Idaho dairy farms are nearly all conducted under irrigated conditions and show relatively greater use of the land for crops and plowable pasture. Dairy farming in northern Idaho is limited by the amount of cleared land on which forage crops may be grown. In recent years land-clearing operations have been retarded because farmers have been unable to purchase powder.

Figure 44 indicates that most of the dairy farms in Idaho valued their land and buildings between $5,000 and $8,000 per farm in

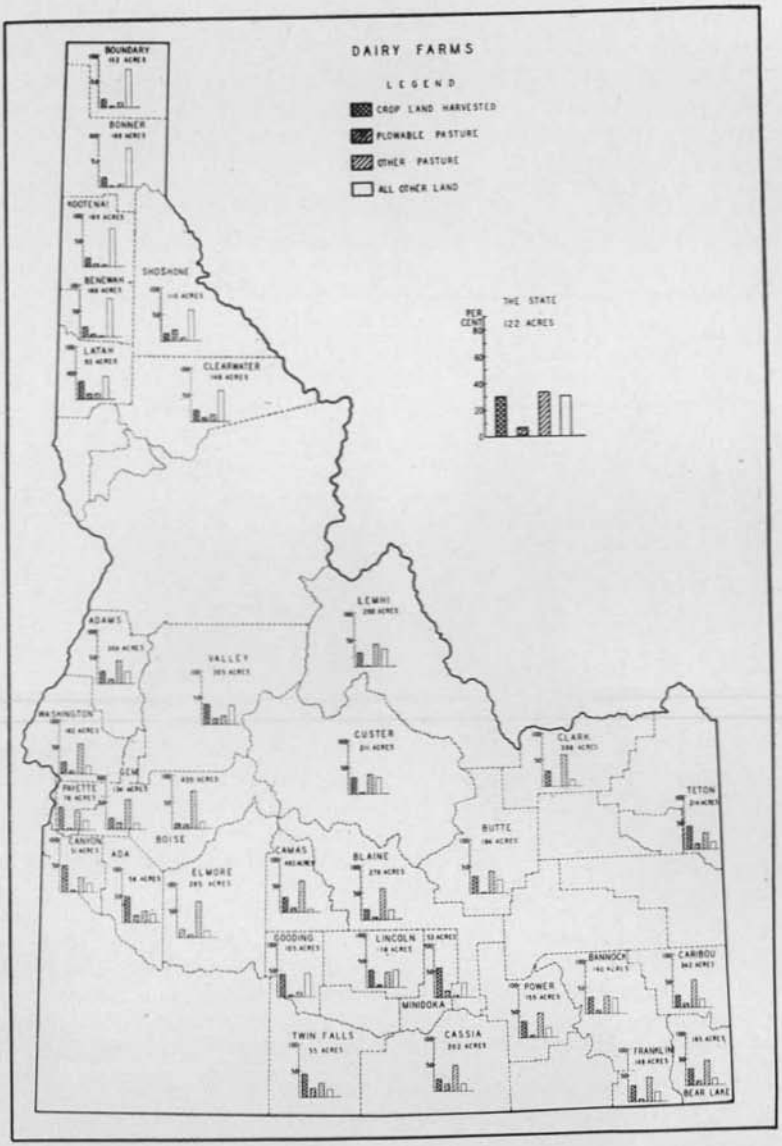

Fig. 43.—AVERAGE SIZE OF DAIRY FARMS IN COUNTIES WHERE THIS TYPE IS IMPORTANT AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

1930. These valuations are lower than the average for most types studied previously. Where per-acre values are shown to be high, dairy farms average smaller in size. Thus dairy farms in the four counties having land valued at more than $100 per acre listed in Figure 44 ranged between an average of 50 and 60 acres in size, while in the four counties where dairy lands were valued at $20 per acre or less the range was between an average of 340 and 480 acres per farm.

In 1929 the value of all farm products on 43 per cent of the dairy farms in the State averaged less than $1,500 per farm, while on 71 per cent of the dairy farms this average did not exceed $2,500. On

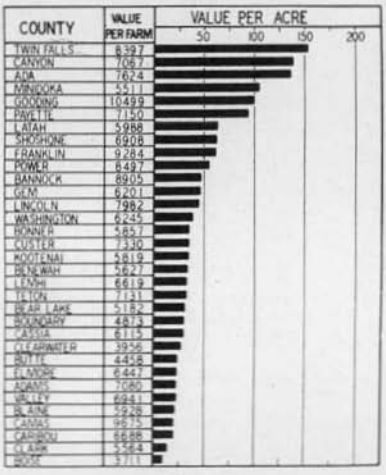

Fig. 44.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON DAIRY FARMS IN IDAHO COUNTIES WHERE THIS TYPE OF FARMING IS IMPORTANT, 1930.

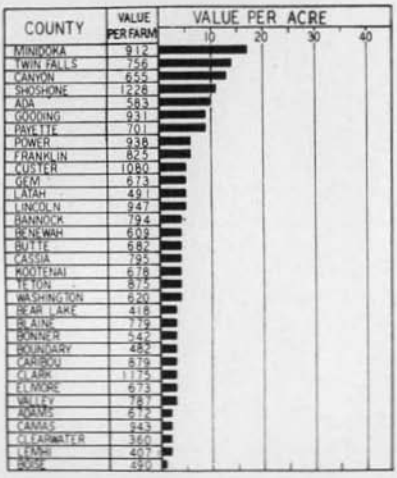

Fig. 45.—VARIATION IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON DAIRY FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS SIGNIFICANT, 1930.

only 9 per cent were the products valued at more than an average of $4,000. The volume of business exceeds the State average on most of the farms in the main dairy areas of southern Idaho and is less than the State average in northern Idaho where the limited area of cleared land in many instances prohibits raising feed for large herds. Because of the predominance of dairy farms of the moderate sizes, investments in implements and machinery are also low in comparison with farms of other types. In some areas tillage implements are limited to those necessary in the raising of hay and forage crops, while milking machines and other types of special dairy equipment are found only where herds are large.

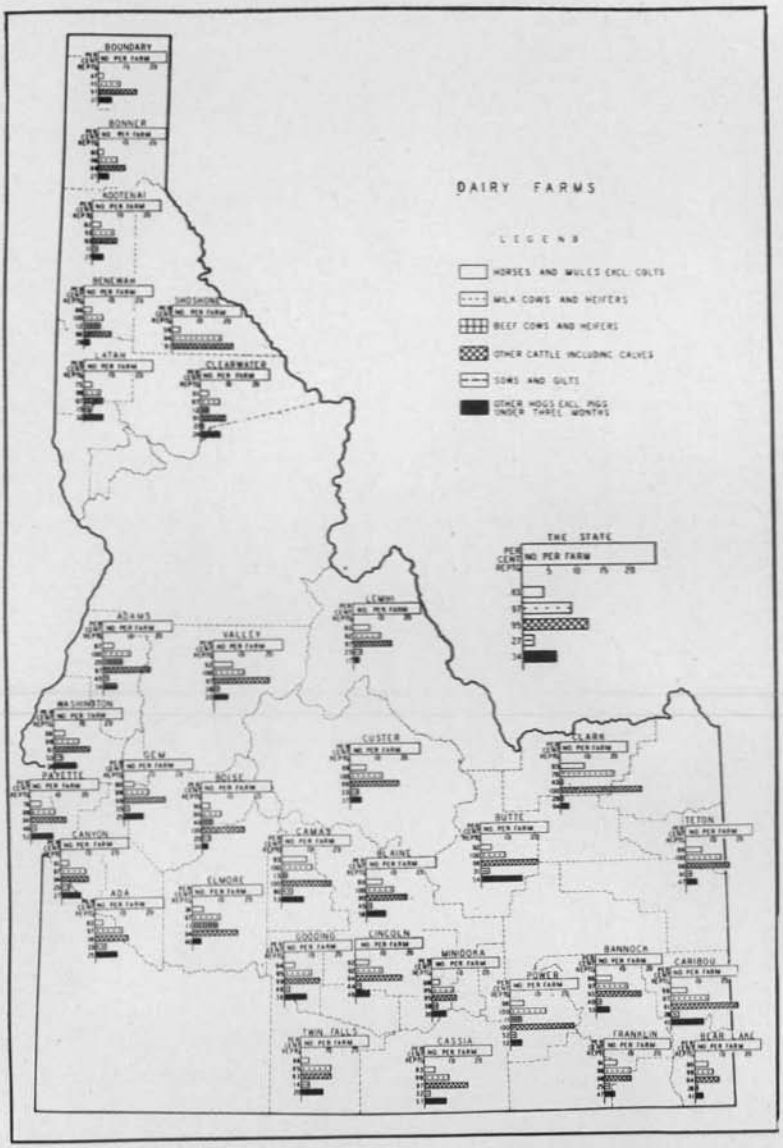

Fig. 46.—PER CENT OF DAIRY FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING IN 1930. Data are omitted for counties in which this type of farming is unimportant.

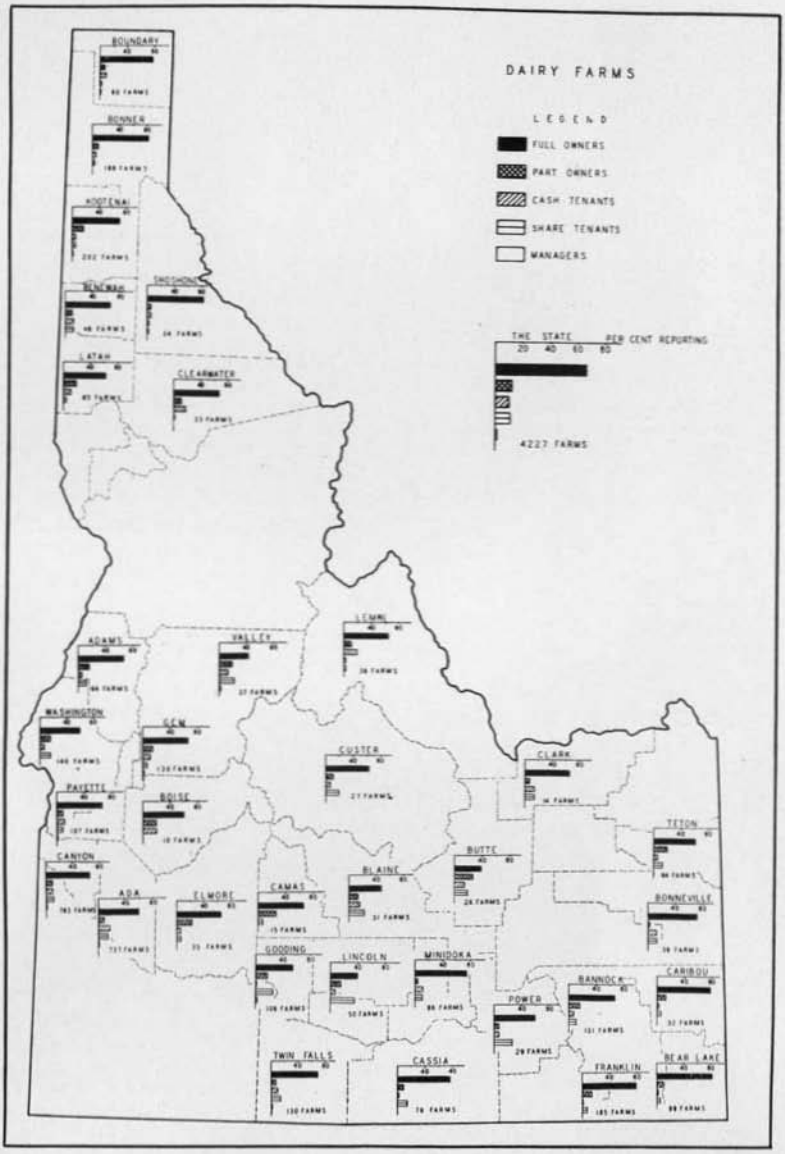

Fig. 47.—NUMBER OF DAIRY FARMS IN EACH COUNTY WHERE THIS TYPE IS IMPORTANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

What has previously been said about volume of business on dairy farms in various sections of the State is further emphasized by a study of Figure 46. Most of the dairy farms in northern Idaho had seven or eight milk cows and heifers per farm in 1930. Dairy farms over most of southern Idaho had nine to eleven head of milk stock per head. Swine production on dairy farms is shown to have a subordinate place, with only between a fourth and a third of the farms reporting sows and gilts or other hogs. Beef cattle are negligible on most Idaho dairy farms.

Fig. 48.—VARATIONS IN SIZE OF ANIMAL-SPECIALTY FARMS IN IDAHO IN 1930. Counties showing similar size characteristics have been grouped together. Data are omitted for counties in which animal-specialty farms represented less than five per cent of all farms in the county.

Dairy farms are usually run by men who plan to make their permanent homes on the land they operate. Consequently the most prominent form of tenure is full ownership, as shown in Figure 47. Share tenancy is most significant in Gooding, Lincoln, Power, Blaine, and Custer counties in southern Idaho. The frequency of water shortages in this area in past years produced an unstable condition in the livestock industry. Frequently stock were sold because feed was too scarce to last until spring. Other farmers went into debt to save their stock and were later forced into liquidation. These forced changes in ownership have probably increased the number of tenants on this land. With an assured water supply brought about in 1931 by water delivered through a new canal from the American Falls reservoir, tenant farming may decrease on the dairy farms of much of this area.

Animal-Specialty Farms. Animal-specialty farms are defined by the census as those where the sale of all classes of beef cattle, sheep, hogs, wool, mohair, and slaughtered animals provides 40 per cent or more of the value of all farm products, with the stock being produced primarily on farm feeds and farm pastures. The acreage in pasture on these farms must be less than ten times the acreage in crops. The intent in separating animal-specialty farms from stock ranches was to make a distinction between stock produced by farm *feeding* and those produced largely by *grazing* methods. Animal-

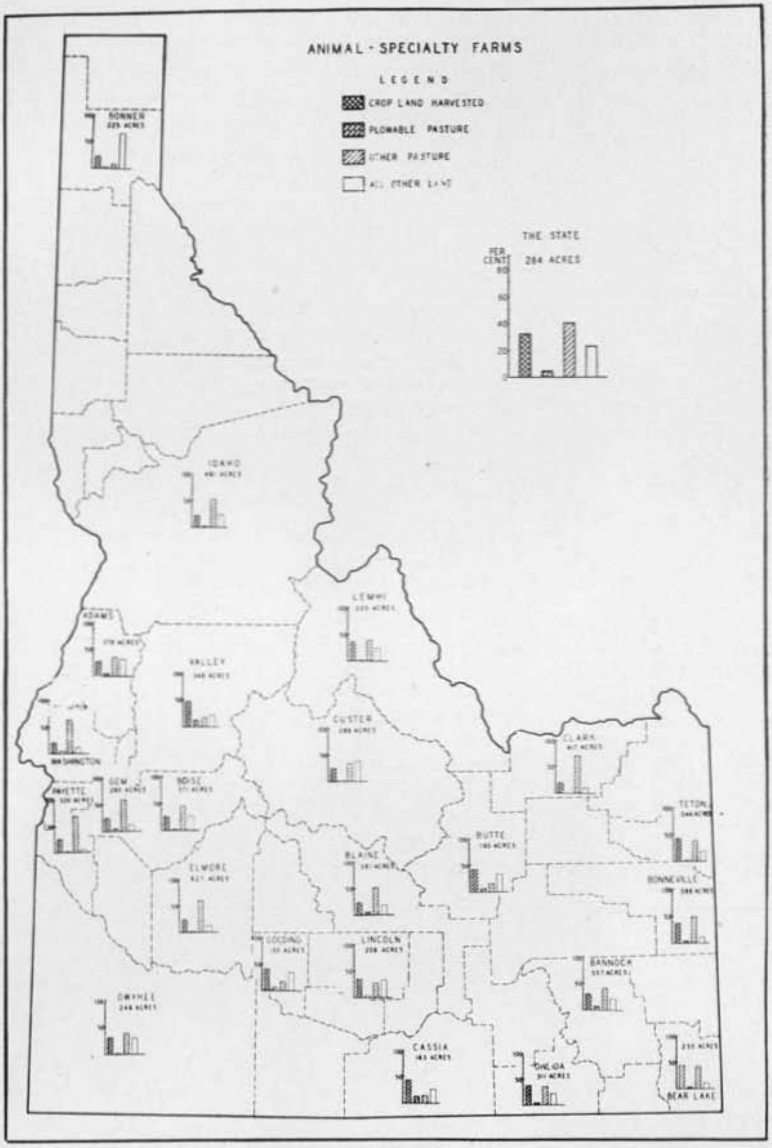

Fig. 49.—AVERAGE SIZE OF ANIMAL-SPECIALTY FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS SIGNIFICANT AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

specialty farms are shown in Figure 7 to be most prevalent in the counties of central and southern Idaho.

Counties having animal-specialty farms of similar size tendencies are shown in Figure 48. In some counties farms of less than 175 acres appear most prominent while in others much larger farms are common. Nearly 80 per cent of all animal-specialty farms are irrigated. The higher value of land on the large irrigation projects,

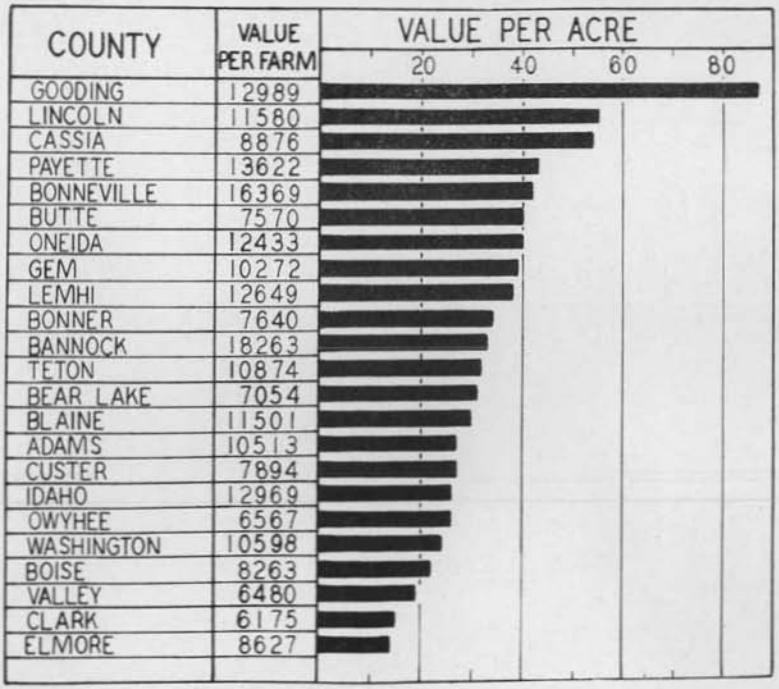

Fig. 50.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON ANIMAL-SPECIALTY FARMS IN IDAHO COUNTIES WHERE THIS TYPE OF FARMING IS IMPORTANT, 1930.

with their small proportion of waste and their greater productive capacity, tends to keep the average animal-specialty farm to sizes under 175 acres. In the mountain valleys where much of the farm land can never be cultivated and where irrigation is confined to limited areas along small streams, land values are much lower and animal-specialty farms average much larger in size.

The use of farm land in counties where animal-specialty farms are of most importance is shown in Figure 49. The predominance of the bar representing pastures other than plowable or woodland

pasture indicates the presence of large areas of untillable land on animal-specialty farms in many locations.

Further evidence as to the less intensive use of the land on animal-specialty farms is given in the average valuations of land and buildings for 1930 as shown in Figure 50. Per-acre valuations average lower than on any type of farms previously studied. Per-farm values, however, are comparable with those of other major types of farming in the State.

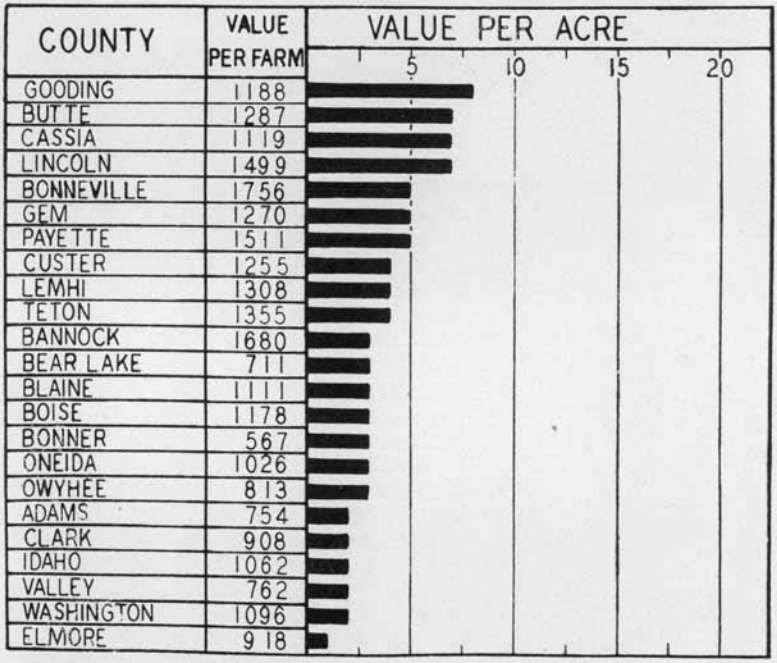

Fig. 51.—VARIATION IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON ANIMAL-SPECIALTY FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS SIGNIFICANT, 1930.

Investments in implements and machinery are relatively low per farm and very modest when considered on a per-acre basis. Animal-specialty farms showing per-acre valuations of $5 or more per acre (Fig. 51) are located in areas where additional tillage implements are purchased to permit the growth of cash as well as feed crops.

Complete data on numbers of sheep on farms of different types are not tabulated in the census. This is unfortunate since sheep are probably of at least equal importance with beef cattle and hogs on animal-specialty farms in Idaho. In Lincoln county 99 farms other than

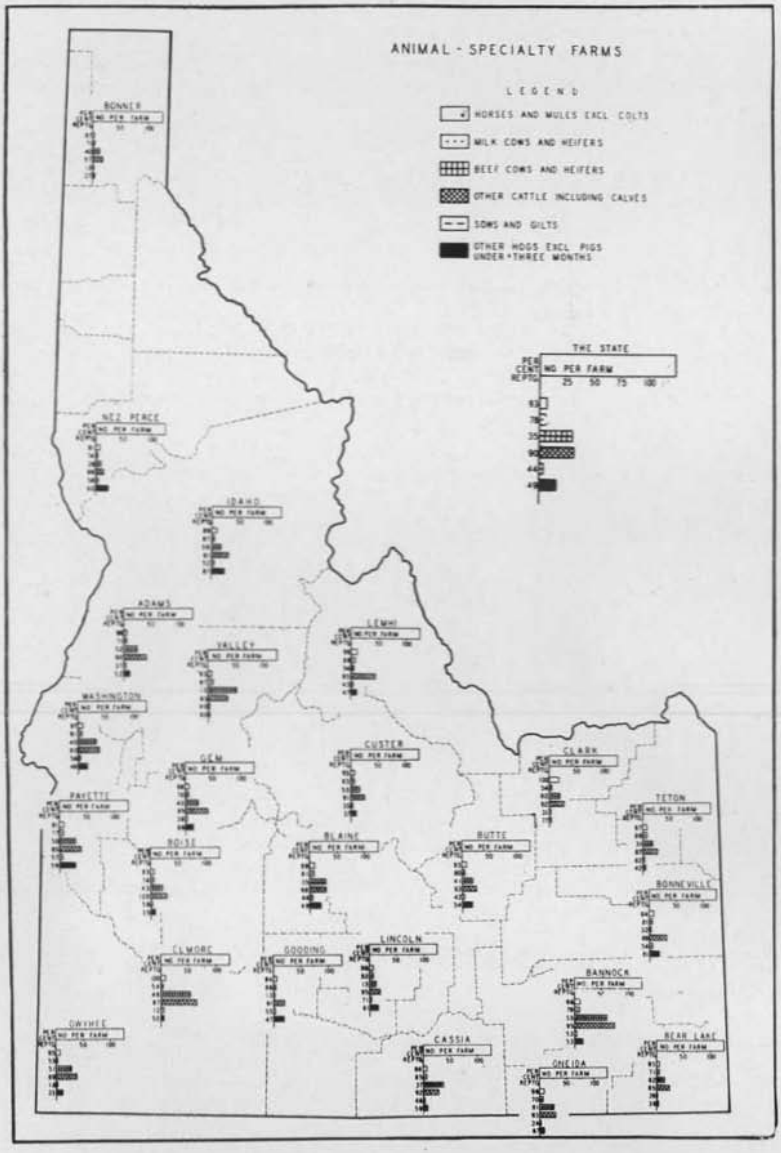

Fig. 52—PER CENT OF ANIMAL SPECIALTY FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING IN 1930. Data are omitted for counties in which this type of farming is unimportant.

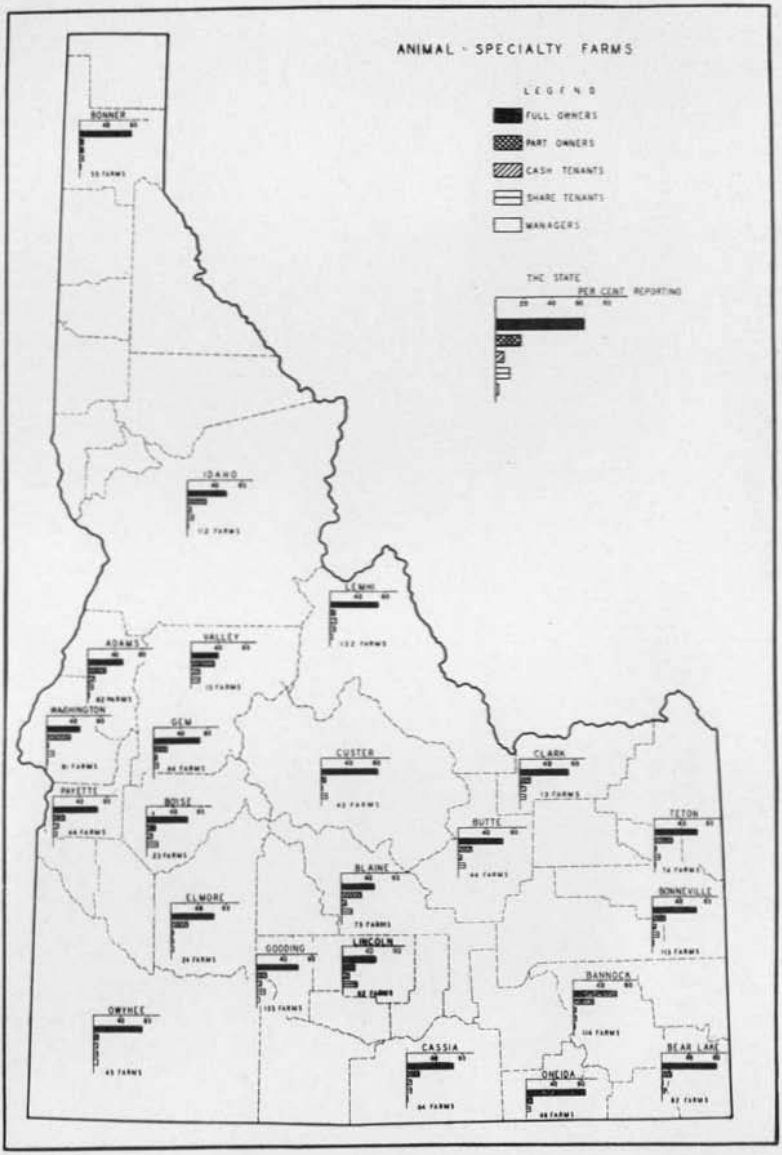

Fig. 53.—NUMBER OF ANIMAL-SPECIALTY FARMS IN EACH COUNTY WHERE THE TYPE IS IMPORTANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

stock ranches reported an average of 208 head of sheep exclusive of lambs on April 1, 1930. In Gooding county 210 farms reported an average of 149 head per farm. Those reporting were not all animal-specialty farms since farm flocks are found on various types of farms in this area. Figure 52 presents data on numbers of all classes of livestock except sheep for animal-specialty farms. More farmers report hogs, and larger numbers per farm are kept in those areas where wheat is a major crop. Beef cattle, on the other hand, appear more prominent in the rougher counties of central and southwestern Idaho where more of the average farm is in pasture land and hay.

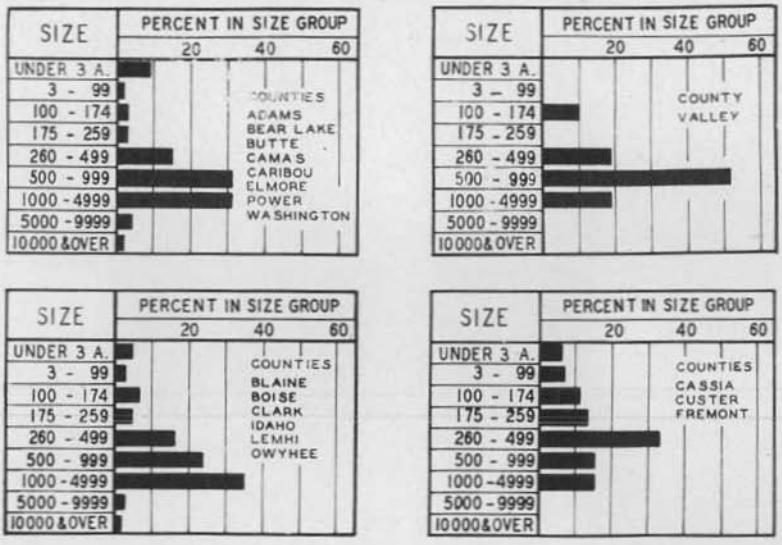

Fig. 54.—VARIATIONS IN SIZE OF STOCK RANCHES IN IDAHO IN 1930. Counties showing similar size characteristcs have been grouped together. Data are omitted for counties in which stock ranches represented less than 5 per cent of all farms in the county.

The majority of animal-specialty farms are operated by full or part owners (Fig. 53). Managers are negligible and cash tenants occur less frequently than share tenants. Livestock farms are but little better adapted to operation by tenants than fruit farms.

Stock Ranches. Stock ranches are shown in Figure 7 to be located mostly in central and southern Idaho with but little concentration on the main irrigation projects. For the most part, sheltered mountain valleys having a good water supply and adjacent to range on the public domain or in the national forests form the base for operations. The acreage in pasture on stock ranches is greater than 10 times the acreage in crops, and grazing is depended on for a large portion of the feed.

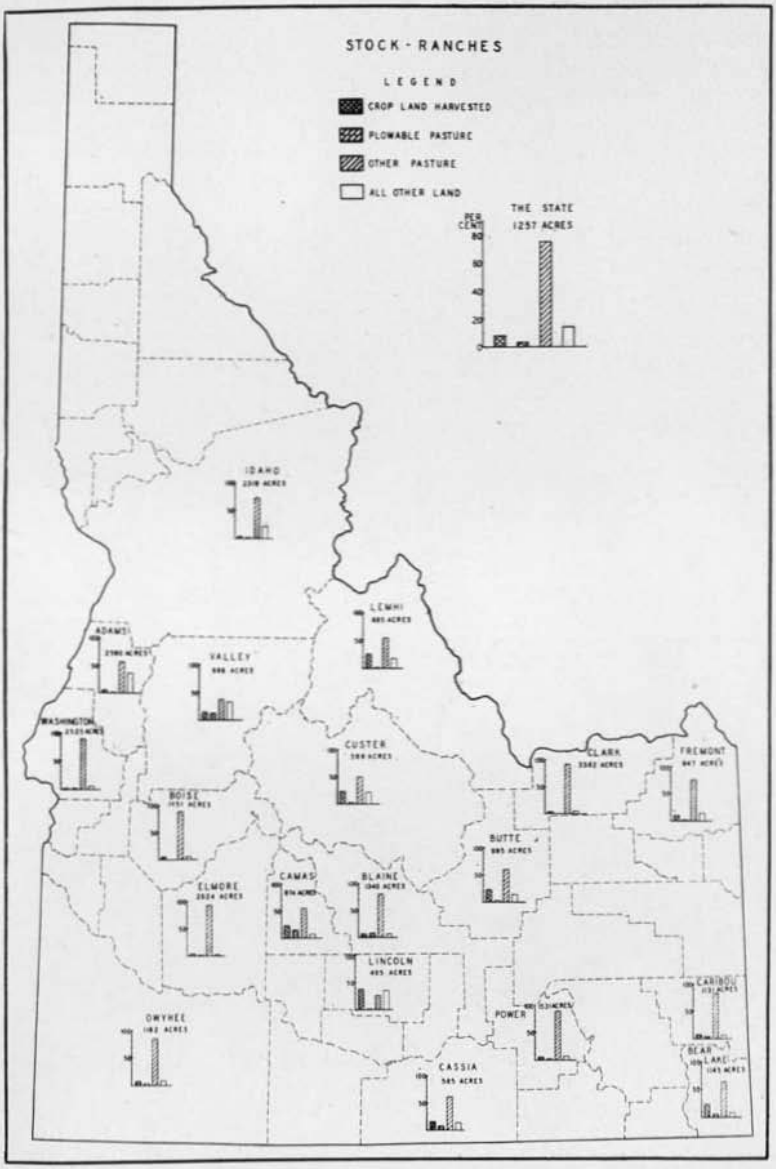

Fig. 55.—AVERAGE SIZE OF STOCK RANCHES IN COUNTIES WHERE THIS TYPE IS SIGNIFICANT AND PROPORTION OF THE FARM LAND DEVOTED TO VARIOUS USES, 1929.

Figure 54, showing the most common sizes of stock ranches, and Figure 55, giving the average size per county, indicate a land holding much larger than that studied for other farm types. Stock ranches in early days were frequently built to their present size through the cooperation of the cow hands of the outfit. Each would file on a homestead adjacent to the home ranch, later selling his land to his employer. Some of the smaller holdings classified by the census as stock ranches in Figure 54 are merely winter feeding grounds and lambing quarters on the main irrigation projects.

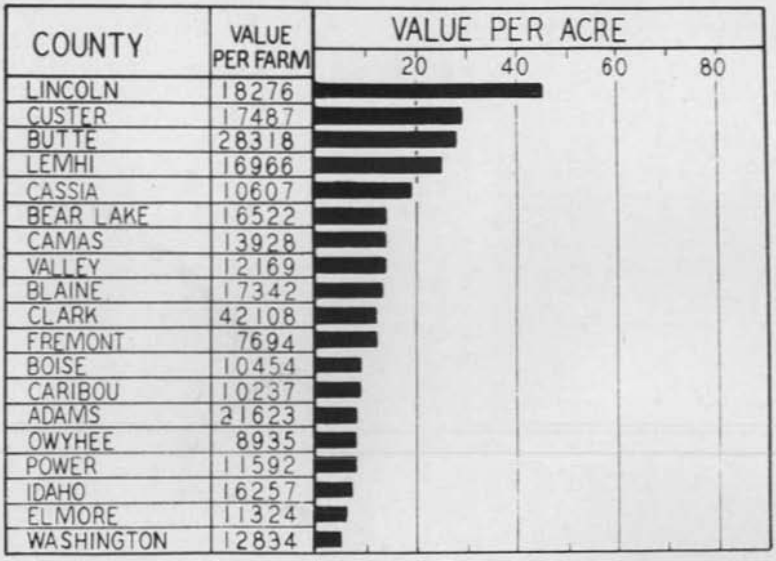

Fig. 56.—VARIATION IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON STOCK RANCHES IN IDAHO COUNTIES WHERE THIS TYPE OF FARMING IS IMPORTANT, 1930.

The importance of the range to stock ranching is indicated in Figure 55 by the length of the "Other pasture" (excluding woodland) bar. In some areas stockmen endeavor to raise enough feed to see their stock through the winter; other operators depend entirely on utilizing the surplus hay and low grade products of cash crop farmers on the nearby irrigation projects.

Per-acre valuations of land and buildings on stock ranches in 1930 were low, particularly in those areas where irrigation was confined to raising a limited acreage of hay by diverting the flow of small mountain streams to private use. Due to the large size of most stock ranches, per-farm valuations average larger than those of most other farm types in Idaho.

Implements and machinery range in valuation from 35 cents to 5 dollars per acre. These are the lowest values reported for any but self-sufficing farms. These values remain relatively low even when considered on a per-farm basis. The negligible amount of cropping which is done, makes investments in large amounts of implements and machinery unnecessary.

Figure 58 indicates the relative importance of various classes of livestock on stock ranches in Idaho. Work stock are limited to the ranch requirements, and frequently dairy cattle fall far short of this goal. Swine production is negligible thus leaving stock ranches pri-

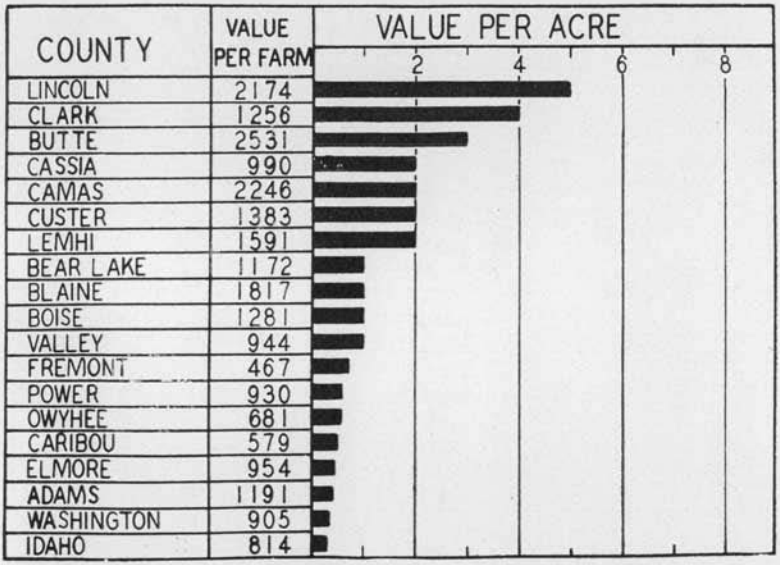

Fig. 57.—VARIATIONS IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON STOCK RANCHES IN IDAHO COUNTIES WHERE THIS TYPE IS SIGNIFICANT, 1930.

marily concerned with beef cattle or sheep enterprises. Idaho counties are so large and embrace such a wide range of physical conditions that it is almost impossible to single out counties which produce beef cattle to the exclusion of sheep, and vice versa. Idaho sheep are usually trailed only far enough into the mountains to insure summer pasture, while beef cattle seek more rank growing forage of the high mountain valleys at distances farther from the home base. On April 1, 1930, 820 out of a total of 1,535 stock ranches reported an average of 1,706 sheep per farm, exclusive of lambs. Fifty per cent or more of the stock ranches reported sheep in flocks exceeding 1,000 head per ranch in Blaine, Butte, Caribou, Lincoln,

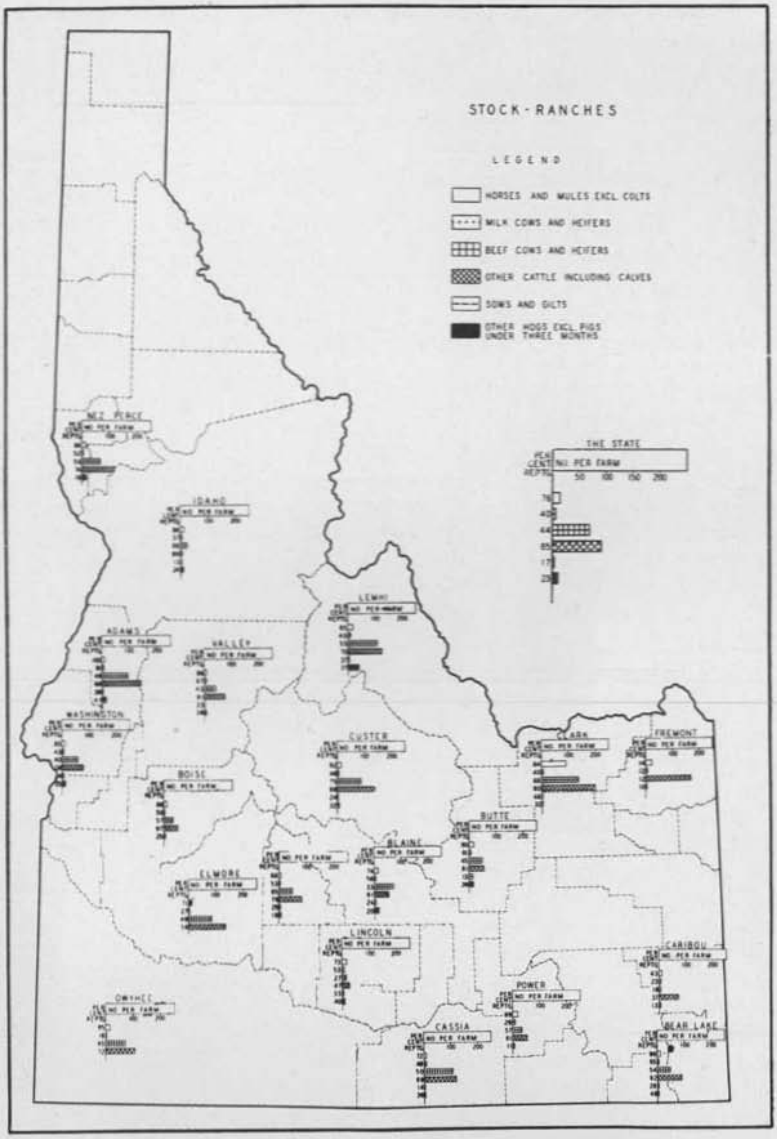

Fig. 58.—PER CENT OF STOCK RANCHES REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER RANCH REPORTING IN 1930. Data are omitted for counties in which this type of farming is unimportant.

Power, and Washington counties. In Bear Lake, Camas, Cassia, Idaho, and Lemhi counties over 50 per cent of the stock ranches reported sheep, but flocks on April 1 were somewhat smaller, ranging between 800 and 1,000 head per ranch. The January 1 Idaho farm price of lambs varied between $10.80 and $11.90 per head during the five years ending with 1929. This amount of variation is hardly sufficient to produce an abnormal influence on the numbers of sheep on farms April 1, 1930.

Figure 59 shows that stock ranches are operated mainly by owners and part owners, with but relatively few cash or share tenants. Some of the larger ranches in the more remote mountain valleys are operated by managers.

In the early days the range country in Idaho was so excellent that stockmen gave but little though to feed for their cattle at any time of the year. Herds increased tremendously and over-grazing soon seriously reduced the carrying capacity of the range. Stockmen who survived the changed conditions were forced to raise hay for winter feeding and the Forest Service began to place restrictions on the use of their lands to prevent further over-grazing. Subsequent years, such as 1918 and 1919, when drouths caused the failure of crops, forced many stockmen heavily into debt for feeds purchased to bring their stock through the winter. A repetition of this situation from time to time when coupled with low prices has resulted in the liquidation of many old time cattle ranches. Nevertheless the present importance of the range industry in Idaho in the production of both cattle and sheep is seldom appreciated because most of the activity occurs in the more remote parts of Idaho, somewhat divorced from the areas ordinarily associated with agricultural endeavor.

Self-Sufficing Farms. There were 1,311 farms in Idaho in 1930 on which 50 per cent or more of the total value of all farm products was used by the operator's family. These self-sufficing farms are found in greatest numbers in the timbered or cut-over areas of the northern Idaho panhandle and in Ada, Canyon, Gem, and Twin Falls counties in southern Idaho (Fig. 7). Where physical conditions permit it is possible, by embracing a sufficient number of crop and livestock enterprises, to make a farm nearly self-sufficient. This is less feasible, however, in areas where land values are high and such items as taxes and water charges necessitate the expenditure of considerable amounts of cash. The personal factor also enters in, since many operators of self-sufficient farms through choice or necessity undertake to live "the simple life" with a somewhat lower standard of living than is found in types of farming where cash is more readily available.

Figure 60 shows the 160-acre homestead to be a common size for self-sufficing farms with more farms of smaller sizes than those exceeding the 160-acre size. The smaller sized farms have in many

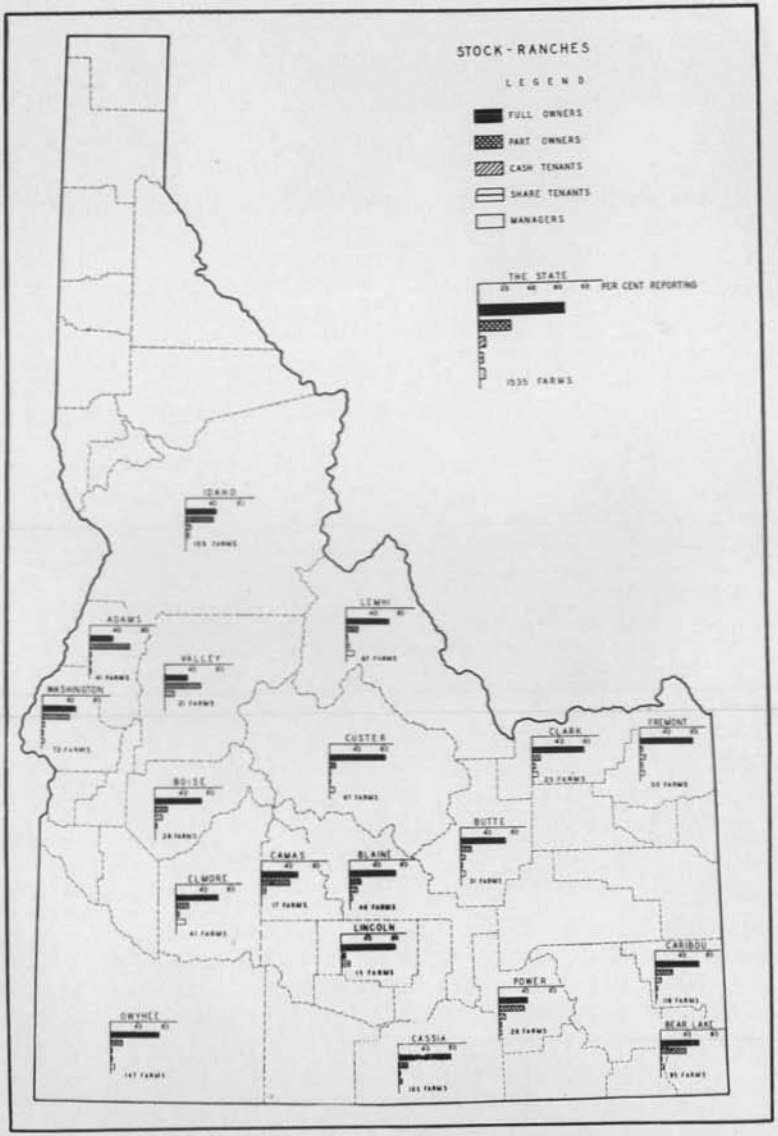

Fig. 59.—NUMBER OF STOCK RANCHES IN EACH COUNTY WHERE THIS TYPE IS IMPORTANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

cases been purchased from logging companies or other interests where homesteading was never permitted or where the privilege has been withdrawn.

The average self-sufficing farm has a relatively small percentage of tillable land, the balance being in stumps or timber in most of northern Idaho or in arid pasture in some sections of the southern part of the State. Figure 61 shows the average size of self-sufficing farms in each county where this type is significant and indicates the land use on these farms.

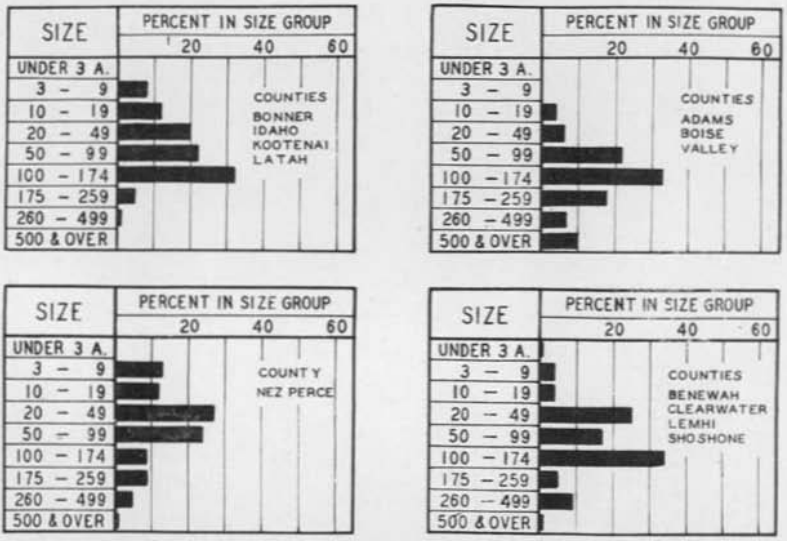

Fig. 60.—VARIATIONS IN THE SIZE OF SELF-SUFFICING FARMS IN IDAHO IN 1930. Counties showing similar size characteristics have been grouped together. Data are omitted for counties in which self-sufficing farms represented less than 5 per cent of all farms in the county.

Figures 62 and 63 presenting valuations of land and buildings and implements and machinery on self-sufficing farms needs but little explanation. Both per-acre and per-farm values of farm real estate and equipment are lower than those of any other major farm type in Idaho. Sixty-five per cent of the self-sufficing farms are non-irrigated, and a large portion of those classed as irrigated are probably private projects from mountain streams. These factors, together with extremes in topography, inaccessibility, and nature of the land cover, go far in explaining the low values recorded. The small degree of variation in per-farm values of real estate and equipment per county bear testimony to a degree of uniformity in these farms which is lacking in other types of farming in Idaho.

Livestock on self-sufficing farms are seldom more than necessary to supply family needs. Two or three horses, two cows, a few head

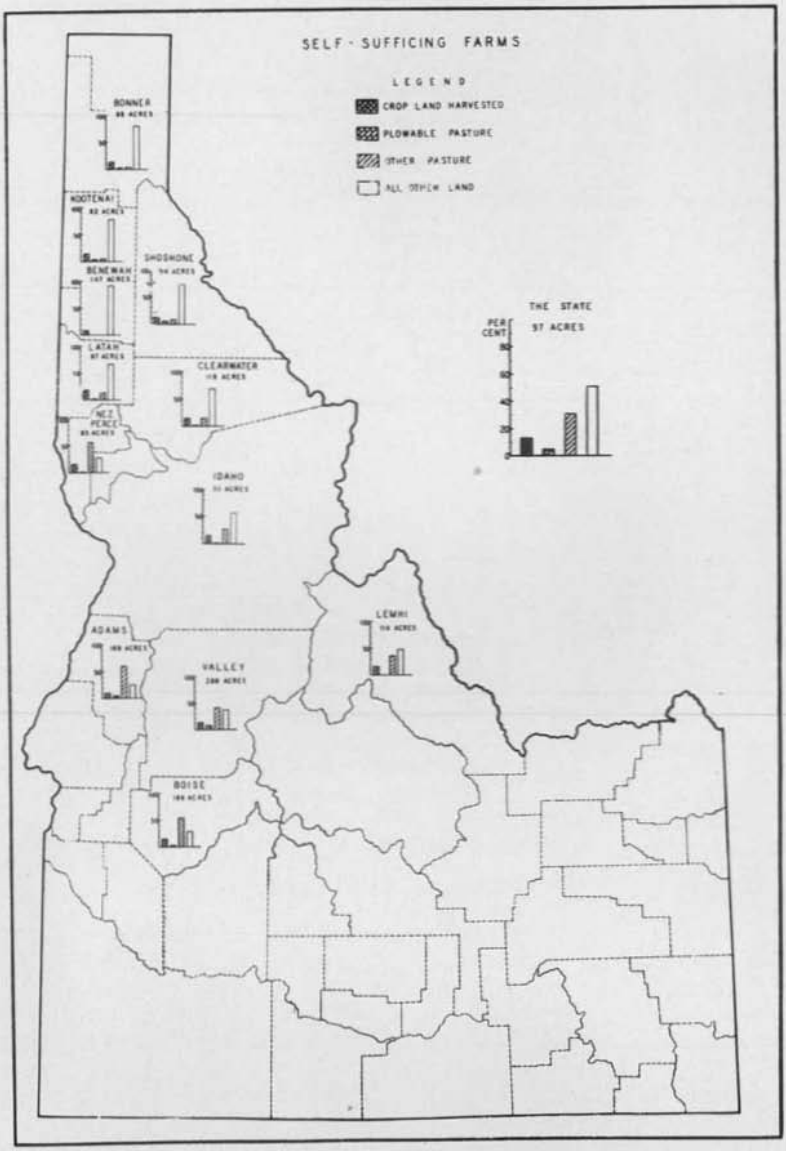

Fig. 61.—AVERAGE SIZE OF SELF-SUFFICING FARMS IN COUNTIES WHERE THIS TYPE IS SIGNIFICANT AND PROPORTION OF FARM LAND DEVOTED TO VARIOUS USES, 1929.

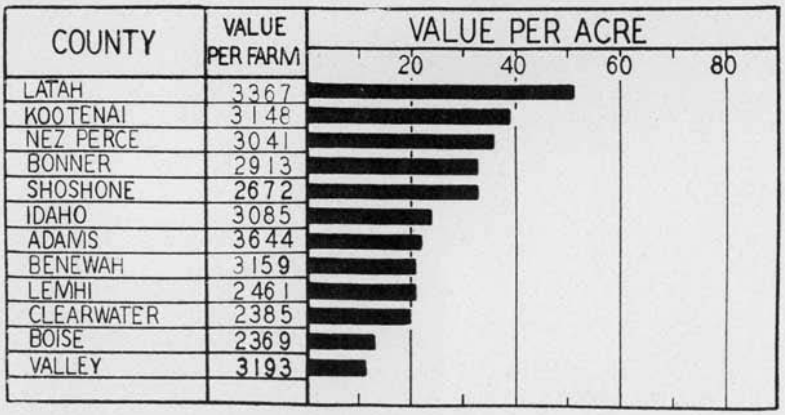

Fig. 62.—VARIATIONS IN AVERAGE VALUE OF LAND AND BUILDINGS PER FARM AND PER ACRE ON SELF-SUFFICING FARMS IN IDAHO COUNTIES WHERE THIS TYPE OF FARMING IS IMPORTANT, 1930.

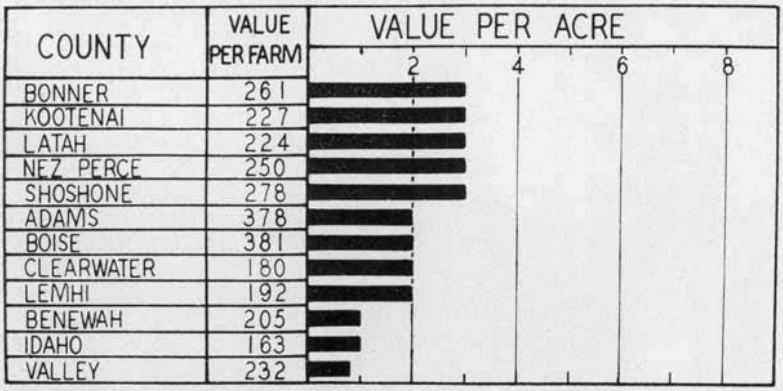

Fig. 63.—VARIATIONS IN AVERAGE VALUE OF IMPLEMENTS AND MACHINERY PER FARM AND PER ACRE ON SELF-SUFFICING FARMS IN IDAHO COUNTIES WHERE THIS TYPE IS SIGNIFICANT, 1930.

of young stock, and, less frequently, a pig or two, about tells the story in Figure 64. Livestock numbers are limited by the acreage which can be devoted to hay and grain and by the disinclination of many self-sufficing farmers to bother with production much beyond the family needs.

Figure 65 indicates that most self-sufficing farms are operated by full owners. This is to be expected when one considers the relatively small amounts of capital involved and the motives which

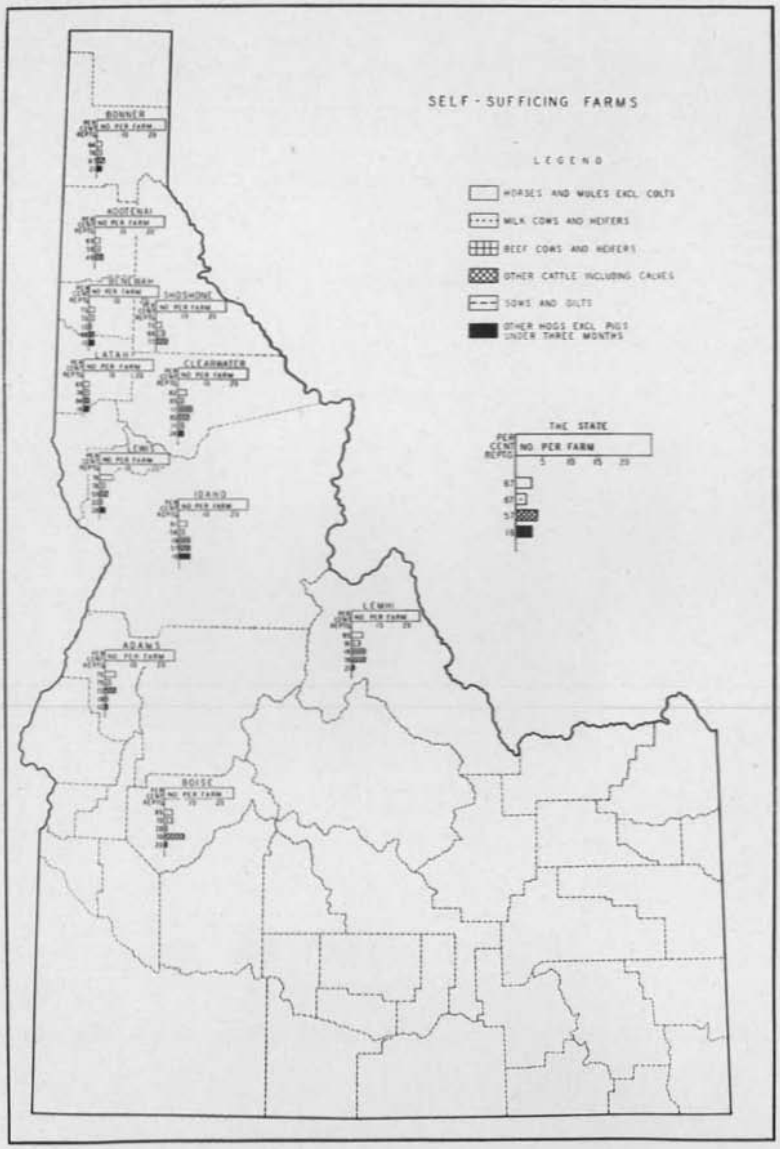

Fig. 64.—PER CENT OF SELF-SUFFICING FARMS REPORTING VARIOUS CLASSES OF LIVESTOCK AND AVERAGE NUMBER OF HEAD PER FARM REPORTING IN 1930. Data are omitted for counties in which this type of farming is unimportant.

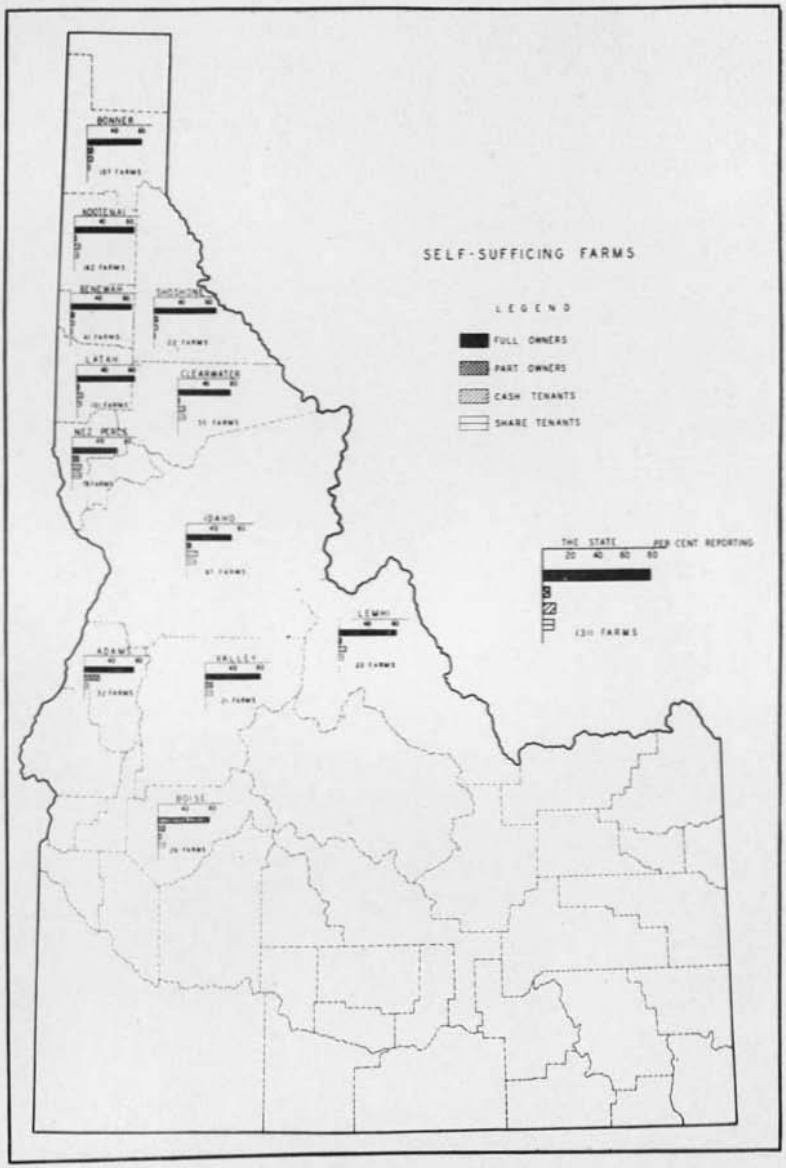

Fig. 65.—NUMBER OF SELF-SUFFICING FARMS IN EACH COUNTY WHERE THIS TYPE IS IMPORTANT AND PER CENT REPORTING VARIOUS TYPES OF TENURE, 1930.

Fig. 66.—GEOGRAPHIC DISTRIBUTION OF PART-TIME FARMS IN IDAHO, 1930. Note the concentration around Idaho towns.

prompt people to choose this type of farming. Operators of these farms are frequently men who have accumulated a limited amount of capital in some line of industrial work and who through age, disability, or unemployment have decided to seek independence on a small farm home.

Part-time Farms. The number and distribution of those farms where the operator spent 150 days or more off the farm in other than farm work, or reported an occupation other than farmer are shown in Figure 66. On none of these farms did the value of farm products exceed $750. These farms are especially prevalent near areas where logging enterprises are under way as well as in the vicinity of most of the larger Idaho towns. The 2,570 part-time farms in Idaho represent but 6 per cent of the total farms in the State. This type of farm has greater significance in states having large cities and a highly developed industrial life. Near the cities these farms tend to reflect abnormally high per-acre values due to their worth as sites for suburban homes. Where they have sprung up accompanying the logging industry, size of farm, values of land, and farm organization are likely to be quite similar to that of self-sufficing farms in the same area.

Resume of the Characteristics of Idaho Farm Types. Because of the prevalence of irrigated and non-irrigated farming in the same county and rather wide variations in farm organization and practice in the irrigated districts, Idaho agriculture does not lend itself readily to statistical analysis by definite type of farming areas. For those forced to deal with the problems of specific areas a brief description of the outstanding characteristics of various areas is presented.

Northern Idaho Cut-Over Area. (Boundary, Bonner, Kootenai, northern half of Benewah, and Shoshone counties). Mountainous area—farming confined to river valleys and more gentle cut-over upland slopes—non-irrigated except for fruit area near Coeur d'Alene—annual precipitation 20 to 30 inches—river valleys subject to floods and reclaimed by dyking—general, dairy and self-sufficient farms most prevalent—relatively small proportion of average farm cleared, quarter section most common size—land clearing retarded because of cost of explosives—expansion of livestock industry limited by amount of cleared land on which to grow feed crops—a relatively new agricultural area left in the wake of comparatively recent logging operations.

Northern Idaho Cash-Grain Area. (Southern Benewah, Latah, Nez Perce, Lewis, western Clearwater, and northwestern Idaho counties). Timbered area containing general and self-sufficing farms—small tree fruit district near Lewiston—balance of the land in cash-grain farms—majority of cash-grain farms range between 260 and 500 acres in size—bulk of land tillable—northern portion of area 20 to

30 inches precipitation, southern part 10 to 20 inches—fertile soils high average yields—crop failures seldom experienced particularly in region of 20 to 30 inches precipitation—land values for wheat land justifiably high.

Idaho Tree Fruit Area. (Southern Washington, Gem, and Payette counties). Irrigated orchard lands in mountain valleys of Snake, Boise, Payette and Weiser rivers—general and dairy farms also of some importance—bulk of fruit farms range from 20 to 50 acres in size—high proportion of farm land cultivated—land values ranged from $150 to $300 per acre in 1930—apples the main crop—precipitation, 10 to 20 inches—climate mild—elevation 2,000 to 2,500 feet—limited amounts of livestock kept—most farms owner-operated.

Central Idaho Mountain Area. (Most of Idaho, Adams, Valley, Boise, Custer, Lemhi, and northern Camas, and Blaine counties). Limited areas of agricultural land in foothills of high range country on National Forests—stock ranches, animal-specialty and general farms prevail—mountain streams diverted to produce irrigated hay and grain for winter feeding by resident stockmen—local herds and flocks limited by amount of winter feed which can be provided—most ranches well over 500 acres in size with but limited areas of tillable land—land values low—the adjacent range on National Forests is summer feeding quarters for many bands of sheep and herds of cattle which winter further south on the irrigation projects—western portion of area gets 20 to 30 inches precipitation, eastern area from less than 10 to 20 inches.

Lower Snake River Valley. (Principally Ada and Canyon counties). An area of low precipitation, mild climate and irrigated lands—considerable river bottom pasture along Snake and its tributaries—dairy farming of first importance, some general farms and animal-specialty farms, with poultry a significant sideline enterprise—dairy herds average over 10 cows and heifers per farm reporting—average size of dairy farm from 50 to 60 acres with 20 to 30 per cent of land in pasture—average value of investment in 1930, $7,000 to $8,000—farms largely owner-operated—cooperative marketing agencies produce a high quality of sweet cream butter—condensaries process surplus milk supply—Boise and Caldwell provide local outlet for a portion of the product.

Central Snake River Valley. (Twin Falls, Gooding, Lincoln, Jerome, Minidoka, and Cassia counties). Irrigated area of low precipitation—majority are crop-specialty farms and some general farms—greatest emphasis placed on cash-crop production particularly field beans, sugar beets, and potatoes produced in rotation with alfalfa as the soil building crop—alfalfa surplus consumed by feeder cattle and sheep and by herds and flocks of range breeding stock wintered in the valley—expansion in farm livestock limited to periods of low prices for cash-crops, except portions of Gooding and Lincoln

counties, where a series of water shortages in the past made cash-crop production less feasible and hays and grains were raised and fed on the farm—80 and 120 acre crop-specialty farms are common on the Twin Falls and Minidoka projects with a high proportion of the average farm under cultivation.

Upper Snake River Valley. (Fremont, Bingham, Jefferson, Madison, Teton, Bonneville, and northern Bannock counties). An irrigated area similar to central Snake River Valley but with much greater emphasis on potato production—crop-specialty farms predominate with potatoes, sugar beets and seed peas most important in the order named—considerable cash-grain farming on non-irrigated foothills adjacent to the valley with much lower average yields than in the northern Idaho cash-grain area of higher average precipitation—40, 80, and 120 acre crop-specialty farms are common—livestock production limited to hogs and cows sufficient for family needs with an occasional farmer expanding production for local markets—while livestock production is distinctly subordinate to cash-crops, it is probably of somewhat greater importance here than in the central Snake River Valley—an abundant supply of irrigation water is available at reasonable prices.

Southeastern Diversified Area. (Power, Oneida, southern Bannock, Caribou, Bear Lake, and Franklin counties). Caribou county largely stock ranches—balance of area devoted to cash-grain, general, and animal-specialty farms—a northern extension of the irrigated valleys of northern Utah—Oneida and Power counties on the west mainly cash-grain farming, Caribou and Bear Lake on the east largely devoted to livestock and cash-grain with southern Bannock and Franklin counties producing hays, grains, sugar beets, poultry, and dairy cows—farms average larger than in Snake River Valley, particularly where cash-grain farming and stock raising are the main farming types—elevation 4,000 feet and over with comparatively short growing season.

The following table briefly summarizes many of the salient features which characterize different types of farming in Idaho and facilitates comparisons between types:

TYPE OF FARM

ITEM		GENERAL		CASH-GRAIN		CROP-SPECIALTY		FRUIT		DAIRY		ANIMAL SPECIALTY		STOCK RANCHES		SELF-SUFFICING	
Location of areas of greatest Concentration		Northern and Southwestern Idaho		Northern and Southeastern Idaho		Irrigation projects of Southern Idaho		Southwestern counties and Nez Perce County		Northern and-Southwestern Idaho		Central and Southern Idaho		Mountain valleys of Central and Southern Idaho		Northern and Southwestern Idaho	
Number of farms of each type		7,228		7,792		10,627		1,287		4,227		2,343		1,535		1,311	
Per cent of all farms in each farm type		17%		19%		26%		3%		10%		6%		4%		3%	
Average size of farm		154 acres		364 acres		137 acres		54 acres		122 acres		284 acres		1257 acres		97 acres	
Proportion of farm land in crops and plowable pasture		40%		46%[1]		59%		60%		37%		37%		11%		18%	
Average value of land and buildings:	per farm	$7,805		$14,482		$11,938		$10,646		$6,991		$11,567		$14,876		$3,100	
	per acre	51		40		87		197		57		41		12		32	
Average value of implements and machinery:	per farm	$ 767		$ 1,482		$ 1,114		$ 1,015		$ 668		$ 1,160		$ 1,028		$ 248	
	per acre	5		4		8		19		5		4		1		3	
Most common crops grown		small-grains alfalfa		small-grains		potatoes field beans sugar beets field peas alfalfa		apples prunes sweet-cherries		small-grains alfalfa		small-grains alfalfa		alfalfa timothy clover small-grains		alfalfa small-grains	
Average livestock organization:		%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
(Per cent of farms reporting and number head per farm reporting)	Work stock	88	5	88	5[2]	87	5	64	3	83	4	93	7	76	14	69	3
	Dairy cows	89	5	72	4	76	4	65	3	97	9	78	6	40	6	67	2
	Beef cows	10	9	9	7	4	8	2	8	4	6	35	31	44	69	8	4
	Sows	36	3	31	3	30	3	13	3	27	2	44	4	17	3	8	1
	Sheep[3]													53	1706		
Tenure of operators	Full owners	64%		41%		51%		66%		66%		64%		64%		78%	
	Part owners	15%		27%		13%		10%		12%		18%		24%		5%	
	Tenants	20%		31%		35%		16%		21%		18%		8%		17%	

1 Does not include land in summer fallow.
2 Varied from 4 to 16 head; average is low because tractors replace horses on many grain farms.
3 Data on sheep given separately only for stock ranches.