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INTER-RELATIONSHIPS AMONG FARMS IN A COMMUNITY'

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INTRODUCTION

The farmers of a community are dependent upon each other in many ways. They cooperate in doing work, they buy and sell feed among themselves, they borrow and lend and hire the use of machinery, and in many other ways they are dependent upon each other. Recognition of these inter-relationships is essential in any proposals for the betterment of farming. The study here reported was undertaken to determine the extent and significance of these relationships in typical farming communities. Also, it was desired to determine the adequacy of the various farming units found in typical communities of eastern Kansas.

The results of studies of three communities in eastern Kansas have been combined to determine the inter-relationships between farms and farm operators for typical farm communities of eastern Kansas. Other studies have been made in communities to determine such characteristics as type of farming, size of farm, tenure of operator and return for labor and management on selected farms, but few studies have been

1. Contribution No. 127 from the Department of Agricultural Economics.
 2. Credit is due W. H. Pine for assisting with the study of farms in the Holton area and in preparing the report on that study. The Bureau of Agricultural Economics of the United States Department of Agriculture cooperated in making the study of the Frankfort area. Charles Butler and Henry J. Meenen did much of the field work in this study and prepared the preliminary report. The study in southeastern Kansas also was in cooperation with the Bureau of Agricultural Economics. Galen S. Quantic was in charge of this study for the bureau.

made to determine how combinations of these factors are related to land use and livestock numbers, age of operator, size and composition of family, exchange of labor and farm equipment, custom work hired, and other factors.

Two of these studies were conducted in Kansas communities to obtain information in regard to the association of farms and the resulting inter-relationships among the farms in these communities. The first of these studies was conducted in an area 12 miles square, with Holton as the center. The second study covered an area around Frankfort in Marshall county. The results of a third and older study for southeastern Kansas also were used in this study.

These communities were selected because they were considered to be relatively mature in their development and, though there will be change, the general pattern of farms is expected to remain relatively constant. On the assumption that communities do reach maturity, these studies were planned to determine what pattern of farms exists as to size, type and tenure, and to ascertain variations in these characteristics and their relationship to the age of operator, farm family composition, labor and feed exchanged between farms, and the custom work hired by the different operators.

Changes within a community and between communities are often affected by influences such as changes in farming techniques, development of specialized markets, changes in managerial abilities of operators, inheritance of farms, retiring of operators, and new operators starting into business. It is hoped that a study of the effect of these influences and the resulting changes in the community will help to adapt future farm programs to varying community patterns.

The following is a brief summary of the objectives of the three studies: (1) To describe the organization of farms and the combination of farms in a mature community in eastern Kansas; (2) To determine the use and needed adjustments of farms too small to furnish an adequate return for an average farm family; (3) To study forces which determine adjustments in inter-farm relationships; (4) To determine the most profitable sizes of units and combinations of enterprises for the area and to determine the use and exchange of resources as they are affected by size, type and tenure of farms, the age of operator, the composition of the farm family, and other factors.

In this attempt to combine these studies, the purpose was to determine how consistently variations in size, type and tenure of farms, the age of operators, and the composition of the farm family tend to affect the use and exchange of resources; also, how these variations tend to result in the formation of a uniform pattern of farms in different communities which possess similar characteristics of climate, soils, topography, and markets.

METHOD OF PROCEDURE

Data in all of these studies were obtained through the farm survey method. The farms to be surveyed in the Holton area were selected by a random sampling procedure.³ The entire area studied was divided into nine areas of equal size and a sample equal to 20 percent of the farms was drawn in each of these sub-areas. Detailed schedules were obtained on farms of 120 acres and less while on the larger farms less detailed data were obtained. A total of 174 schedules were completed for the Holton area.

A similar method was used in sampling the Frankfort area except that the area was stratified on the basis of size of farm rather than area. As was true in taking schedules in the Holton area, both detailed and semi-detailed records were obtained, but the size of farm did not determine which records would be detailed except that an attempt was made to take some detailed records in each size group. One hundred seventy-seven schedules were obtained in this area. In both areas sufficient data were obtained on the detailed schedules to arrive at a net income figure for the farms. Data on the less detailed schedules were sufficient to determine size, type, and tenure of farms. Gross income was determined for all farms in the Frankfort area. Additional information relative to inter-relationships among farms was obtained on all schedules taken in both areas.

Detailed farm survey schedules were obtained in the area in southeastern Kansas. A different method of analysis was used from that used in the other areas mentioned. Because of this difference, the data from southeastern Kansas were used only to a minor extent in this study.

DESCRIPTION OF THE AREAS

The Holton and Frankfort communities are located in northeastern Kansas where settlement took place early. The forces which tend to cause a community to mature have been at work for many years in these communities and their influence probably has reached its peak. Neither of these communities has been influenced in its development by industries other than agriculture. They were selected for study because of these characteristics.

Jackson county, of which Holton is the county seat, is located on the western border of type-of-farming area 4, which is the corn-belt section of Kansas. Marshall county, in which Frankfort is located, is type-of-farming area 8, just west of area 4. Marshall county might be called the transition county in going from the corn-belt section of the state to the central part, which is not so well adapted to corn. A large

3. For more detailed procedure see "A Study of Farming Systems for Small Acreages in Jackson County, Kansas," unpublished thesis, Kansas State College, by Merton L. Otto.

acreage of corn usually is grown in both Jackson and Marshall counties. Recently the trend in crop production has been toward increased acreages of soil-conserving crops because of the rolling topography of much of the cropland.

The average rainfall is slightly lower for Marshall county than it is for Jackson county. The average annual rainfall in both counties is approximately 30 to 35 inches. Approximately 75 percent of the rainfall occurs during the six-month growing season. The average growing season is approximately 175 days in length and is long enough to mature all crops adapted to the area.

Most of Jackson county soils are glacial in origin, but in many areas serious erosion has resulted in the washing away of the glacial material, exposing residual soil and parent material. Portions of Marshall county are derived from glacial material but other portions are from residual limestone and shale.

A large portion of the upland soils in both the Holton and Frankfort areas is shallow, and special practices must be followed to avoid serious erosion. Most of the soils respond to good management, including the use of commercial fertilizers and lime on certain soils and for certain crops.

The area in southeastern Kansas has a longer growing season with more rainfall but the general fertility of the cultivated land is not so high as that of the Holton and Frankfort areas.

SIZE OF FARMS

The distribution of farms on the basis of size (Table 1) shows that the group containing the 160-acre farms was the modal size group in each of the areas. Another point of similarity is that approximately 17 to 18 percent of the farms were less than 100 acres in size and, as is discussed more fully later, these smaller farms were largely subsistence or part-time farms. The operators of many of them were older than the average operator and many were retiring from larger-scale operations.

Table 1. Percentage distribution of farms by size in the Holton and Frankfort areas in 1940 and the southeastern Kansas area in 1938.

Area	Acres in farms						Total
	10-99	100-174	175-259	260-499	500 and more		
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Holton	17.4	35.0	20.8	19.6	7.2		100
Southeastern Kansas	18.5	29.6	20.6	27.3	4.0		100
	0-99	100-199	200-299	300-399	400-699	700 and more	Total
Frankfort	17.0	37.0	23.0	13.0	8.0	2.0	100

Table 2. Percentage distribution of farms by type of farming in the Holton and Frankfort areas in 1940.

Area	Type of farming										Total	Number of farms
	General	Hog	Beef cattle	Dairy	Poultry	Cash grain	Wheat	Feed crops	Dairy cash-grain	Subsistence		
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Holton	45	18	4	10	2	42			2	2	100	177
Frankfort	20	4	4	25	1		8	13			100	168

The southeastern Kansas area had a more uniform distribution of farms in the various size groups, with a higher percentage of farms in the group just less than 500 acres in size. It is possible that this reflects a tendency toward larger farms because of lower productive capacity of the land in that area, requiring more land for profitable production and the introduction of power machinery on a large scale.

In the southeastern Kansas area, 157 farmers were asked what, in their opinion, was the minimum acreage needed to make a good living for a farm family. Eighty-two percent of these farmers indicated that 160 acres or more was needed. Budgets prepared for farms of 80 acres and larger in both the Holton area and the southeastern Kansas area indicated that the 80-acre unit would not provide enough income for an average farm family except where the farm was highly specialized and the operator was above average in managerial ability. These budgets showed that 160 acres or more was needed to provide the necessary income for the average farm family. In the Holton area it was found that many of the smaller farms were operated by older than average operators. The requirements of their families were low and, in many cases, such farmers had outside income so that their demands upon the farm were not so great. Under these conditions a certain percentage of the farms in a community might well be used on a subsistence basis for these families of older operators who are "tapering off" in their farming operations.

A different range in size groups was used in the Frankfort area (Table 1). In this area the average size of farm was slightly larger than in the Holton area and the tendency was toward larger farms, but the pattern in size of farm was fairly uniform for the three areas.

TYPE OF FARMING

The farms were classified as to type⁴ in both the Holton and Frankfort areas (Table 2). These areas were not entirely uniform in the distribution of farms by type. A large proportion of the farms in the Holton area were general or hog farms while a large proportion of the farms in the Frankfort area were cash-grain and dairy types. This tendency toward cash-grain farming probably was due to a somewhat less rolling topography, slightly larger farms, and also to a somewhat less rainfall than in the Holton area. Type of farming was not established on the farms in the southeastern Kansas area.

4. The basis of classification of farms as to type was the percent of gross income resulting from any one enterprise on the farm. If any one enterprise yielded 40 percent or more of the gross farm income, that enterprise determined the type of farm. Farms were classified as general farms when none of the enterprises contributed as much as 40 percent of the gross income. Subsistence farms were an exception to this rule, being those on which the value of home-used products was 50 percent or more of the gross income.

Table 3. Percentage distribution of farms by type of farming for each size group in the Frankfort and Holton areas in 1940.

Size of farm	Number of farms in each size group	Type of farm*									
		General	Hog	Beef cattle	Dairy	Poultry	Cash-grain	Wheat	Feed crops	Dairy cash-grain	Subsistence
		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Holton area											
10. to 49	4	25	50		25						100
50 to 99	25	36	24		12	8		16	4		100
100 to 174	59	44	19		15	2		5	15		100
175 to 259	35	45	17	6	6			6	20		100
260 to 499	33	64	9	12				6	9		100
500 and more	12	33	25	8				17	17		100
Total	168										
Frankfort area											
0 to 99	28	14	4	4	46		18			4	100
100 to 199	40	22	8		28	2	38			2	100
200 to 299	44	19	4		23		52				100
300 to 399	28	21		11	15		53				100
400 to 699	30	21		13	3		63				100
700 and more	7	20		14			57				100
Total	177										

*The basis for determining type of farming was the same in each of these areas but the method of procedure and the types designated vary to some extent so that they are not entirely comparable.

In spite of the variation in the percentage of farms in the various type groups in the two areas, there were several points of similarity. Table 3 shows that a large percentage of the farms in all size groups were general farms. The hog farms tended to be confined more to the farms of medium to small acreages. This also was true of the dairy farms. The cash-grain and wheat farms tended to be fairly well distributed through the various size groups but were more numerous in the large sizes. This is not so true of the Holton area, where a large percentage of the farms of 50 to 99 acres were wheat farms. In practically all cases the beef-cattle farms were above average in acreage, the large percentage being 300 acres or more. Poultry farms were much below average in size. Those farms in the Holton area which chiefly produced feed crops were in the medium-size groups.

Table 4 shows that owner-operators and part-owners had the larger percentages of livestock farms such as hog and beef cattle and poultry while the tenant operators had the larger proportion of grain and feed-crop farms. Exceptions to this were dairy farms, which were quite evenly distributed between owners and tenants. Not many of the dairy farms were operated by part-owners. This may have been due to the fact that the part-owner farms were larger than average and the tendency was for dairying to be followed on the smaller acreages. Operators of general farms were evenly distributed among the tenure groups. The uncertain tenure of many tenants probably accounted for more tenants being crop farmers. Another influence was that many landlords insisted on large acreages of readily salable crops, leaving little acreage for pasture and feed-crop production. These factors tended to keep tenant farmers from balancing their farming programs with larger livestock enterprises.

TENURE OF FARM OPERATORS

Table 5 shows the tenancy situation in each of the areas compared with the county in which the area is located and for the state as a whole. Approximately 40 percent of the farm operators in each of the areas were tenant farmers. No satisfactory explanation can be given as to why the percentage was so much lower in each of the areas than for the county or for the state as a whole. Likewise, the increase in the percentage of part-owners cannot be explained except that it is possible that these areas do not correctly reflect the larger area or, that in spending more time in getting information on these farms, the interviewer obtained more definite information than was obtained for the United States census. The higher percentage of part-owners in the areas compared with the county or state probably was due to field-rented tracts that were leased on short notice.

Table 4. Percentage distribution of farms by type of farming for each tenure group in the Holton and Frankfort areas in 1940.

Tenure status	Number of farms in each tenure group	Type of farm									
		General	Hog	Beef cattle	Dairy	Poultry	Cash-grain	Wheat	Feed crops	Dairy cash-grain	Subsistence
		Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Holton area											
Owner-operator	52	28	45	29	40	67		38	10		
Part-owner	54	36	29	57	13	33		24	31		
Tenant	62	36	26	14	47			38	59		
Total	168	100	100	100	100	100		100	100		
Frankfort area											
Owner-operator	39*	37	69	60	42	100		33			67
Part-owner	19*	22		32	13			23			33
Tenant	41*	41	31	8	45			44		100	
Total	99*	100	100	100	100	100		100		100	100

*Selected operators

Table 5. Percentage distribution of farm operators by tenure for the Holton and Frankfort areas compared to the counties in which these areas are located and with Kansas for 1941.

Area	Tenure status				
	Owner-operator	Part-owner	Tenant	Manager	Total
Percent					
Holton area	31.0	32.0	37.0		100
Jackson county*	35.0	18.0	47.0		100
Frankfort area	39.4	19.4	41.2		100
Marshall county*	35.9	15.6	48.1	0.4	100
Southeastern Kansas area	28.0	32.0	40.0		100
Kansas*	33.5	21.1	44.9	0.5	100

*Source: Sixteenth Census of the United States, 1940.

In eastern Kansas the part-owner operators operated the largest farms, on the average. In the Holton area a large percentage of the part-owner farms were operated by father-son combinations. When the son came into the farming program it was necessary to add more land to the unit. At first this was done by renting additional land either as field-rented tracts or as complete units, but in either case the entire acreage was farmed as a unit.

The owner-operated farms were smallest (Table 6). In the Frankfort area the part-owner units averaged more than twice as large as the owner-operated units; the tenant-operated units ranged about midway between the two extremes. In the Holton area there was the same general relationship between size of farms and tenure but the variations in average size were not so great. The comparatively small size of the owner-operated farms was influenced by the farms operated on a subsistence basis. A large percentage of these farms were owned by their operators and, without exception,

Table 6. Relationship of size of farm to tenure of operator for the Holton and Frankfort areas for 1940.

Tenure status	Number of farms in each group	Average size of farm (acres)
Holton area		
Owner-operator	52	163
Part-owner	54	285
Tenant	62	220
Total	168	
Frankfort area		
Owner-operator	37*	210
Part-owner	21*	438
Tenant	38*	302
Total	96	

*Selected farms.

were small in acreage. Farms operated on a part-time basis also were operated largely by owners and usually were small in acreage.

AGE OF OPERATORS

Age of operator in relationship to size, type, and tenure of farms apparently has a great influence on the community pattern of farms. Table 7 shows that 60 percent or more of the operators on farms of less than 100 acres were more than 50 years old. The percentage of operators more than 50 years old was somewhat lower in the group of medium-size farms but in some cases there was a tendency for operators on the larger farms to be older. This tendency may also reflect the father-son combination where the father was considered the operator. In the Holton area approximately 35 percent of all farms of 175 acres and more were operated by father-son combinations.

The owner-operators and the part-owners were older, on the average, than the tenants. The owner-operators operated the smallest farms, the part-owners operated the largest farms, and the tenants operated the medium-size farms. This accounts to some extent for the youngest operators on the groups of medium-size farms. In the Holton area the tenant operators averaged approximately 13 years younger than the owner-operators and nine years younger than the part-owners.

Table 7. Number of farms within each size group and percentage of operators more than 50 years of age in the Holton, Frankfort, and southeastern Kansas areas.

Size group (acres per farm)	Number of farms	Percent of operators more than 50 years of age
Holton area:		
0 to 99	29	65
100 to 174	59	57
175 to 259	35	60
260 to 499	33	60
500 and more	12	54
Frankfort area:		
0 to 99	28	60
100 to 199	40	55
200 to 299	44	50
300 to 399	28	32
400 to 699	30	63
700 and more	7	28
Southeastern Kansas area:		
0 to 99	32	60
100 to 179	51	31
180 to 259	36	30
260 to 499	47	27
500 and more	7	43

EXCHANGE OF LABOR AND CUSTOM WORK

The exchange of labor and custom work by farmers in a given community is of importance in determining the pattern of farms but it was difficult to obtain accurate data concerning these inter-relationships. Table 8 shows the results of the analysis of the data obtained on hired labor and exchanged and custom work in the Frankfort and Holton areas.

Table 8 shows that type of farming did not have much influence on the percentage of farms hiring labor. Even though there was considerable variation within the various types in the percentage of farms hiring labor, this variation was in direct relationship to size of farm (Table 9).

Table 8 shows that a relatively larger percentage of operators of hog, dairy, and cash-grain farms exchanged labor than was true of the other types with the exception of operators of beef farms. On beef type farms there was a variation between areas in the relative percentage of operators exchanging labor. In the Holton area tenants exchanged labor

Table 8. Percentage of farms in each type-of-farming group reporting labor hired, labor exchanged and custom work hired in the Holton and Frankfort areas in 1940.

Kind of service	Type of farming									
	General	Hog	Beef cattle	Dairy	Poultry*	Cash-grain	Wheat	Feed crops	Dairy cash-grain	Subsistence
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Holton area										
Labor hired	69	64	85	53	33		46	50		
Labor exchanged	14	16	14	20	33		8	18		
Custom work hired	21	16			33		38	4		
Frankfort area										
Labor hired	69	50	80	54	100	63			50	
Labor exchanged	71	83	90	79		84			33	50
Custom work hired	74	100	90	90	100	76			100	67

*Sample too small to consider results representative for this type of farming.

Source: Custom work in this area was confined to the more specialized work such as combining, plowing, etc., and did not include such work as threshing and silo filling, which, in most cases, was on a community exchange basis. In the Frankfort area all of these items were considered custom work.

more often than the other two types of operators. This is consistent with data in Table 9 which show that in the medium-size groups operated more frequently by tenants a relatively high percentage of farmers exchanged labor.

There was a difference between areas in custom work hired (Table 8). Differing ideas as to what is considered custom work may account for some of this difference. A large percentage of the operators of livestock specialty farms hired such work as threshing, silo filling, and wood sawing on a custom basis because they less frequently had equipment for some of these operations than did the operators of wheat and feed-crop farms. In the Holton area only certain custom work such as combining, plowing and binding was considered as custom work hired and operators of the crop farms hired more of such custom work. This was especially true of several wheat farms which were part-time farms on small acreages where equipment for such work was not a sound economic investment.

Table 9 shows that a relatively large percentage of the farms hiring custom work were in the groups containing the small and medium-size farms. This was more pronounced in the Holton area than in the Frankfort area.

The average number of days work hired per farm gives a more accurate picture of the demand for labor than does the percentage of farms hiring labor. Tables 10 and 11 show these data on the basis of size and type of farming. The average number of days labor hired increased directly with the size of farm but not in direct proportion to increase in size. This relationship between farms was approximately the same for both areas, but the average number of days hired was higher in the Holton area than in the Frankfort area. The large number of days labor hired on farms of 500 acres and more in the Holton area was influenced by a few extremely large farms which depended to a large extent on hired labor.

Table 9. Percentage of farms within each size-of-farm group reporting labor hired, labor exchanged and custom work hired in the Holton and Frankfort areas in 1940.

Type of service	Holton area (acres per farm)				
	0-99 (29 farms)	100-174 (59 farms)	175-259 (35 farms)	260-499 (33 farms)	500 and more (12 farms)
Hiring labor	38	50	62	85	91
Exchanging labor	14	25	17	6	0
Hiring custom work	34	23	5	3	8
Operators working off farms	44	22	14	18	8

Type of service	Frankfort area (acres per farm)					
	0-99	100-199	200-299	300-399	400-699	700 and more
Hiring labor	25	60	59	75	83	86
Exchanging labor	57	80	84	82	93	83
Hiring custom work	79	88	84	79	77	57

INTER-RELATIONSHIPS AMONG FARMS

Table 11 shows that the livestock-specialty farms required more days of labor on the average than did the other types of farms, probably because of the additional enterprises on

Table 10. Average number of days of labor hired per farm in the various size groups in the Holton and Frankfort areas in 1940.

Size of farm	Number of farms in each size group	Number of farms hiring labor	Number of days of labor hired*
Holton area			
0 to 99	29	11	17
100 to 174	59	30	40
175 to 259	35	22	56
260 to 499	33	28	86
500 and more	12	11	290
Frankfort area			
0 to 99	28	7	6
100 to 199	40	24	46
200 to 299	44	26	57
300 to 399	28	21	61
400 to 699	30	25	83
700 and more	7	6	122

*Average number of days hired is the average for all farms in the group and not for just those reporting labor hired.

Table 11. Average number of days labor hired per farm in each type-of-farming group in the Holton and Frankfort areas in 1940.

Type of farm	Number of farms in each type group	Number of farms reporting hired labor	Average days of labor hired*
Holton area			
Wheat	13	6	38
Dairy	15	8	45
General	77	47	78
Beef-cattle	7	6	84
Hog	31	20	58
Poultry	3	1	2
Feed-crop	22	11	27
All farms	168	99	60
Frankfort area			
Cash-grain	81	51	55
Dairy	39	21	70
General	35	24	63
Beef-cattle	10	8	123
Hog	6	3	146
Dairy cash-grain	2	1	16
Poultry	1	1	3

*Days labor hired is average days per farm for all farms in the group in the Holton area but is the average number of days hired per farm for only the farms reporting hired labor in the Frankfort area.

these farms, but size of farm also had its influence on the beef-cattle and hog farms. Dairy farms used a relatively large quantity of labor in relation to size of farm.

EXCHANGE OF FEED BY SALE AND PURCHASE

Table 12 shows that in practically allsize groups in the Holton area a larger percentage of operators sold corn than bought corn, the exceptions being farms with less than 50 acres. In the group with 500 acres and more 42 percent of the farm operators purchased corn and 25 percent sold corn. This condition existed in the exchange of oats except that a larger percentage of operators of farms larger than 260 acres purchased rather than sold oats. In this community the supply of grain for sale could have balanced the demand for grain for purchase in 1940 except for large quantities of both oats and corn purchased by operators of a few large livestock farms. The figures showing purchase and sale of grain do not include mixed feeds purchased.

Farms in the communities studied were quite self-sufficient as far as alfalfa and other roughages were concerned. A small percentage of the operators of medium-size farms sold or purchased some roughages. The roughages exchanged consisted largely of alfalfa and prairie hay.

Table 13 shows that by far the largest percentage of the operators of feed-crop farms sold grains and roughages and a small percentage purchased feed. Operators of hog farms most frequently purchased feed grains and few of them had feed for sale. Approximately an equal percentage of operators of general farms bought or sold feed, with a slight advantage on the buying side. A larger percentage of wheat farmers bought feed than sold it and the beef and poultry farms were largely self-sufficient in feed.

A large percentage of the tenant farmers sold feed, but a relatively small percentage purchased feed (Table 14). A relatively large percentage of the owners purchased feed and few sold any. The part-owners more nearly balanced in the number selling and purchasing. A larger percentage of the tenants operated crop farms while owner-operators were more prevalent on the livestock farms, the part-owners being more equally distributed among all types of farms. In some cases lack of credit and short tenure forced tenants into a cash-crop program rather than a livestock program.

The Frankfort area study shows that most farmers raised nearly all the roughages needed, prairie hay and alfalfa being purchased more than other types of roughages. Farmers on the smallest and the largest farms raised a smaller percentage of their grain requirements than did those operating farms of medium size. Farmers in this area raised nearly all their requirements for sorghum grain but a smaller percentage of their normal requirements of corn than of any of the other grain feeds. Oats was a close second in this respect.

Table 12. Relationship of farms selling and buying farm-raised feed to type of farming near Holton, Kansas, 1940.

Type of farming	Total number of farms	Number of farms				Percent of farms			
		Corn	Oats	Alfalfa	Roughages	Corn	Oats	Alfalfa	Roughages
Selling									
General	77	18	12	6	1	23	16	8	1
Hog	31	4	4	3	0	13	13	10	0
Feed-crop	22	11	6	0	2	50	27	0	9
Dairy	15	2	2	0	0	13	13	0	0
Wheat	13	2	2	0	1	15	15	0	8
Beef-cattle	7	0	0	0	0	0	0	0	0
Poultry	3	1	0	0	0	33	0	0	0
Buying									
General		19	13	6	2	25	17	3	3
Hog		9	7	1	1	29	22	3	3
Feed-crop		0	1	1	0	0	4	4	0
Dairy		1	1	1	0	7	7	7	0
Wheat		3	1	1	2	23	8	3	15
Beef-cattle		0	0	0	0	0	0	0	0
Poultry		0	0	0	0	0	0	0	0

INTER-RELATIONSHIPS AMONG FARMS

Table 13. Relationship of farms selling and buying farm-raised feeds to size of farm near Holton, Kansas, 1940.

Acres in farm	Total number of farms	Number of farms				Percent of farms			
		Corn	Oats	Alfalfa	Roughages	Corn	Oats	Alfalfa	Roughages
Selling									
10 to 49	4	0	0	1	0	0	0	25	0
50 to 99	25	6	4	2	0	24	16	8	0
100 to 174	59	16	12	2	4	27	20	3	7
175 to 259	35	8	5	2	1	23	14	6	3
260 to 499	33	5	4	2	1	15	12	6	3
500 and more	12	3	1	1	0	25	8	8	0
Buying									
10 to 49		1	1	0	0	25	25	0	0
50 to 99		5	2	2	1	20	8	8	4
100 to 174		12	7	2	1	20	12	3	2
175 to 259		5	5	3	0	14	14	9	0
260 to 499		4	6	2	2	12	18	6	6
500 and more		5	2	0	0	42	17	0	0

Table 14. Percentage of farms buying and selling farm-raised feed by tenure of operators near Holton, Kansas, 1940.

Tenure status	Number of farms	Percent buying				Percent selling			
		Corn	Oats	Alfalfa	Roughages	Corn	Oats	Alfalfa	Roughages
Owner	53	19	19	4	6	8	8	6	2
Part-owner	54	30	16	6	4	26	6	2	2
Tenant	62	10	10	6	0	33	32	8	5

In the Frankfort area cash-grain farms were most self-sufficient in grain feeds and, as in the Holton area, the hog farms were the least self-sufficient. Dairy, cash-grain, and poultry farms were entirely self-sufficient but the sample was so small for these groups that results may not be representative.

COMPOSITION OF THE FARM FAMILY

In the Frankfort area farm families ranged in size from one to nine. The most frequent size of family was two (the operator and his wife), 28 percent of the farm families being of this size. Nearly as many farm families in this area had three members and a slightly smaller number had four members. Only a few families had more than six members, the average size being three and one-half members per family. This average included only those members considered as living at home. Many families had children away from home. Farm operators averaged 51 years of age in this area.

The number of children at home is important in the community pattern because they are a potential supply of labor for their home farms and neighboring farms. Those families reporting children at home averaged 1.3 boys and 0.9 girl. The boys averaged 17.9 years old while the girls were 16.7 years of age. Forty-seven percent of the children were more than 14 years old and 18 percent were from 10 to 14 years.

In the Holton area the average age of the farm operators was 53 years and the families averaged 3.1 persons per family. Detailed information regarding sex and ages of children in these families was not obtained for the Holton area. Size of family at home tended to correlate closely with size of farm but did not correlate directly with the change in average age of operator. The families on the smallest farms averaged smallest in numbers. This was influenced by age of operator because the oldest operators were on these farms.

On the basis of tenure of operator, age of the farm operators and the size of family were closely related. The owner-operators' families averaged 2.4 persons and the operators averaged 59 years old, compared with an average of 3.2 persons in part-owners' families and an average of 55 for the operators and an average of 3.7 persons in tenant families and an average age of 46 years for the tenant operators.

ORGANIZATION OF CROPS AND LIVESTOCK

The Frankfort area had a slightly lower percentage in cropland with a correspondingly higher percentage of permanent pasture than was true of the Holton area (Table 15). For all farms in the two areas approximately 60 percent of the land in farms was in cropland and 30 percent was in permanent pasture, with farmstead, waste and meadow accounting for the remaining 10 percent.

Table 15. Percentage of land in each of the major uses on the basis of type and tenure in the Frankfort and Holton areas in 1940.

Classification	Frankfort area						Holton area					
	Average size of farm	Crop-land	Per-manent pasture	Farmstead and waste	Meadow	Total	Average size of farm	Crop-land	Per-manent pasture	Farmstead and waste	Meadow	Total
	Acres	Percent	Percent	Percent	Percent	Percent	Acres	Percent	Percent	Percent	Percent	Percent
Type of farm:												
Hog	120.0	64	30	6	0	100	228.5	55	33	11	1	100
Wheat							224.5	63	25	11	1	100
Feed-crop							211.8	71	15	11	3	100
Dairy	133.5	56	34	8	2	100	131.6	50	37	12	1	100
General	327.4	54	34	10	2	100	240.6	58	32	9	1	100
Beef-cattle	394.0	44	46	5	5	100	344.4	57	38	4	1	100
Poultry	160.0	64	14	6	16	100	31.3	60	27	13	0	100
Cash-grain	379.3	61	27	9	3	100						
Subsistence	38.7	66	25	5	4	100						
Dairy cash-grain												
All farms	29.6	57	32	8	3	100	224.0	60	30	9	1	100
Tenure of operator:												
Owner-operator	210.2	56	34	6	4	100	163.0	58	31	10	1	100
Part-owner	437.6	56	33	9	2	100	287.5	59	29	10	2	100
Tenant	301.8	59	29	9	3	100	220.5	59	30	10	1	100

In both the Holton and Frankfort areas the crop farms such as those growing cash grain and feed crops had a higher than average percentage of the land in cultivation and a smaller percentage in permanent pasture. This also was true for the hog and poultry farms, especially in the Frankfort area. General farms had less than the average percentage of the acreage in cultivation, as did the beef-cattle farms, a more extensive type of farming.

The percentage of land in farmstead, waste and meadow varied between types but this variation was not significant.

Table 16. Percentage of land in each of the major uses by size of farm in the Frankfort and Holton areas in 1940.

Size of farm	Size of farm	Crop-land	Per- manent pasture	Farm- stead and waste	Meadow	Total
	Acres	Percent	Percent	Percent	Percent	Percent
Frankfort area:						
0 to 99	72.2	68	23	9		100
100 to 199	145.4	65	25	8	2	100
200 to 299	232.5	64	25	9	2	100
300 to 399	336.0	62	25	9	4	100
400 to 699	483.0	52	33	9	6	100
700 and more	960.0	49	43	7	1	100
All farms	296.0	57	32	8	3	100
Holton area:						
10 to 49	30.0	55	37	8	0	100
50 to 99	74.7	63	20	12	0	100
100 to 174	138.5	65	24	10	1	100
175 to 259	214.2	60	23	10	2	100
260 to 499	334.6	56	34	9	1	100
500 and more	747.6	54	34	9	3	100
All farms	224.0	60	30	9	1	100

Table 16 shows that the percentage of the farm in crop land tended to be higher on the smaller farms, with a result in lower percentage in permanent pasture on the smaller farms and a higher percentage in pasture on the larger farms. The percentage of land in meadow tended to increase slightly as the acreage in the farms increased but the percentage of land in farmstead and waste tended to remain about the same as size of farm changed although this percentage was slightly higher for the medium-size farms.

The tenure of farm operator had little effect on the percentage of land in the farm that was used as cropland except that in both areas the highest percentage of cropland was on ten, ant-operated farms (Table 15). In the Holton area there was only one percent less land in crops on the owner-operated farms than on the tenant farms while the part-owner farm had the same percentage in cropland as on the tenant farms. In the Frankfort area tenant farms had three percent more land in cultivation than did the owners and part-owners.

Table 17. Percentage of cropland used for various crops by type of farming in the Frankfort and Holton areas in 1940.

Type of farming	Cropland	Corn	Wheat	Oats	Alfalfa	Sweet clover	Forage sorghum	Grain sorghum	All other*	Total
	Acres	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Frankfort area										
Hog		63	5	13	3	3	1	9	3	100
Dairy		36	14	9	9	6	7	6	13	100
General		32	26	7	7	6	6	2	14	100
Beef-cattle		40	12	11	13	10	7	2	5	100
Poultry		13	26	17	0	4	23	0	17	100
Cash-grain		26	42	6	5	5	3	4	9	100
Subsistence		38	30	9	10	0	5	8	0	100
Dairy cash-grain										
All farms	169.0	31	31	7	6	6	5	4	10	100
Holton area										
Hog	123.8	28	15	12	11	11	4	3	16	100
Wheat	141.7	14	62	12	2	0	3	2	5	100
Feed-crop	150.6	33	22	14	5	12	6	3	5	100
Dairy	66.0	31	12	11	16	10	11	0	9	100
General	139.1	26	27	14	8	7	7	2	9	100
Beef-cattle	194.7	24	21	12	11	9	7	0	16	100
Poultry	48.3	40	4	17	7	5	4	3	20	100
All farms	133.0	26	26	13	8	8	6	2	11	100

*Includes barley, soybeans, sudan, and miscellaneous legumes and temporary pasture crops.

This may be a result of tenants operating more crop and cash-grain farms.

The influence of type on the use of the cropland on farms in the areas studied is shown in Tables 17 and 18. Table 17 shows that, in both areas, a higher than average percentage of the cropland was used for corn on hog and dairy farms. General and beef cattle farms also ranked high in percentage of the acreage in corn in the Frankfort area while the feed-crop farms ranked highest in this respect in the Holton area. The comparatively low percentage of the acreage in corn in the Holton area may be explained by the fact that many pigs are raised in this area but in many cases they are sold as feeder pigs to go into adjoining areas where corn can be produced to better advantage. Also, the Holton area has much rolling land not well adapted to row crops.

As might be expected, the cash-grain and wheat farms had the largest percentage of cropland in wheat. In the Holton area, the percentage of cropland seeded to wheat on farms was twice the average percentage of cropland seeded to wheat on all farms in both areas. In each of the areas the same percentage of cropland was used for corn as for wheat, but a higher percentage of the cropland was used for each of these crops in the Frankfort area than in the Holton area.

Table 17 shows that the percentage of cropland used for oats in the Holton area was about one-half as large as that used for corn or wheat, but in the Frankfort area the percentage of cropland in oats was only about one-fourth that used for corn or oats.

Each of the groups of beef-cattle, dairy and hog farms in the Holton area had an average of 20 percent or more of the cropland in alfalfa and sweet clover. In the Frankfort area beef-cattle farms alone averaged more than 20 percent of the cropland in these two important legume crops. The dairy farms were second in this respect, with 15 percent of the cropland in these crops. Within each of the areas the same percentage of the cropland was devoted to alfalfa and to sweet clover. In the Frankfort area the combined acreage of the two crops was 12 percent of the cropland and in the Holton area they were grown on 16 percent of the cropland. Efforts to control erosion and to improve the fertility of the rolling land in the Holton area have been an influence in the seeding of more legume crops.

Higher than average percentages of forage sorghums were grown on dairy, general, beef-cattle, and poultry farms in the Frankfort area. Because of the small sample, this probably is not representative of poultry farms. With the exception of poultry farms, this also was true of the farms in the Holton area. The percentage of the cropland in grain sorghums was larger on hog, dairy, and subsistence farms than the av-

Table 18. Percentage of cropland used for various crops by size of farm in the Frankfort and Holton areas in 1940.

Size of farm	Cropland	Corn	Wheat	Oats	Alfalfa	Sweet clover	Forage sorghum	Grain sorghum	All other*	Total
	Acres	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Frankfort area										
0 to 99		33	21	3	5	6	9	7	16	100
100 to 199		36	21	11	7	2	8	4	11	100
200 to 299		30	34	6	5	6	3	6	10	100
300 to 399		33	26	8	8	7	5	3	10	100
400 to 699		31	27	8	7	6	5	5	11	100
700 and more		24	46	5	7	5	3	1	9	100
All farms	169.0	31	31	7	6	6	5	4	10	100
Holton area										
10 to 49	16.3	6	25	6	42	13	0	5	3	100
50 to 99	51.1	26	25	14	9	3	7	3	13	100
100 to 174	89.7	32	18	11	10	9	8	2	10	100
175 to 259	128.7	31	23	15	8	6	6	2	9	100
260 to 499	188.8	24	29	14	7	9	5	2	10	100
500 and more	403.9	21	34	13	7	9	5	2	9	100
All farms	133.0	26	26	13	8	8	6	2	11	100

*Includes barley, soybeans, sudan, and miscellaneous legumes and temporary pasture crops.

erage on all farms in the Frankfort area. This also was true for hog, feed-crop, and poultry farms in the Holton area. All sorghum crops were grown on 13 percent of the cropland in the Frankfort area and 8 percent in the Holton area.

Table 19 shows that on the average the tenants used a larger percentage of the cropland on their farms for grains such as corn and wheat that might be used as cash-grain crops than did the owner-operators. The percentage grown by part-owners ranged between the two or, in some cases, exceeded the acreage of these crops grown by tenants. Tenants also tended to devote a higher percentage of their cropland to other grain crops and a lower percentage to forage than did the owner-operators.

One rather striking comparison is that in the Frankfort area owner-operators used 15 percent of their cropland for soil-improving crops such as sweet clover and alfalfa compared to 9 percent of the cropland used for these crops on tenant farms. In the Holton area corresponding percentages are 21 percent for owners and 14 percent for tenants. Legume crop acreages probably could be increased on the tenant farms through more favorable leasing arrangements such as long-term leases and compensation to the tenant for increasing acreages in legume crops.

LIVESTOCK NUMBERS ON FARMS IN THE HOLTON AND FRANKFORT AREAS

As pointed out in the discussion of type of farming, the owner-operators tended to operate livestock farms in preference to crop farms while the opposite was true of tenants. This would seem contradictory when the data on average livestock numbers kept by the tenure groups shown in Tables 20 and 21 are considered. However, this apparent contradiction may be explained by the fact that owner-operated farms averaged smaller than the other tenure groups, and many of these farms were less than 100 acres in size. On these small farms the number of livestock was not as great as on the larger farms but the income from the livestock on the small farms contributed a higher percentage of the income to those farms than did the larger number of livestock on the larger farms. Thus, the small farm might be classified as some kind of livestock farm while the larger farm might be a general or crop farm. In the Holton and the Frankfort areas the part-owner operators had the highest average number of nearly all kinds of livestock. Owner-operators had fewer dairy cattle than tenants but had approximately the same or a slightly higher number of beef cattle. Owner-operators had more sheep and hens in both areas than did the tenants but the number of hogs varied between areas, being considerably higher for owners in the Holton area and slightly lower in

Table 19. Percentage of cropland used for various crops by tenure of operator in the Frankfort and Holton areas in 1940.

Tenure status	Cropland	Corn	Wheat	Oats	Alfalfa	Sweet clover	Forage sorghum	Grain sorghum	All other	Total
	Acres	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Frankfort area										
Owner	117.3	27	29	7	7	8	7	3	12	100
Part-owner	245.6	33	29	8	8	6	4	3	9	100
Tenant	177.5	32	33	8	5	4	4	5	9	100
Holton area										
Owner	95.3	26	23	13	11	10	5	2	10	100
Part-owner	170.1	24	28	12	8	8	7	2	11	100
Tenant	130.3	29	26	15	7	7	6	3	7	100

the Frankfort area. A comparison of numbers of livestock between areas cannot be made without taking into consideration that numbers were not obtained on the same basis. In the Holton area the numbers represent average numbers handled or raised during the year while in the Frankfort area the basis is number on hand December 31, 1940. Therefore, numbers in the Frankfort area tended to stress breeding livestock and tended not to show livestock raised for market, such as pigs, lambs, and calves.

As would be expected, average numbers of livestock tended to be higher on the livestock farms; this was especially true of the kind of livestock which determined the type of farming. For instance, the average number of hens was highest on poultry farms, beef cattle on beef farms, and dairy cattle on dairy farms. However, in the Frankfort area the hog farms did not show any sows but they did have the highest average number of pigs. This lack of sows on these farms probably was due to the time of year that numbers were taken and the tendency to get out of the hog business because of low prices and a poor corn crop in 1940.

On the basis of size of farm the average number of livestock kept tended to be comparatively high on the smaller farms in the Holton area, but this was not so noticeable in the Frankfort area.

With the exception of dairy cows, the numbers of dairy cattle tended to be high on small farms and increase in numbers up to the larger farm groups, in which they showed a decrease. Beef cattle increased in number with each increase in size of farm, this increase in number being quite rapid in farms of 400 acres or more.

Sheep numbers were comparatively high on small farms, with increasing numbers in the middle-size farms and a tapering off on the larger-size farms in the Holton area but with a large increase on the largest farms in the Frankfort area.

Sows tended to increase in number from small to large farms and number of pigs followed a similar trend except for a large number on the small farms in the Holton area. The largest numbers of hens were found on the largest farms in the Holton area and the largest farms in the Frankfort area had next to the largest average number of hens. Apparently the number of hens did not follow any definite trend on the basis of size of farm.

Table 20. Average number per farm of the various kinds of livestock kept or raised during 1940 in the Holton area.

Classification	Number of farms	Work stock	Milk cows	Dairy heifers and calves	Beef cows	Other beef cattle	Sheep	Sows	Pigs	Hens
Tenure:										
Owner-operators	52	3.2	4.2	5.2	2.5	6.1	10.4	1.9	34.0	117.4
Part-owners	54	4.2	6.1	7.5	6.1	13.9	7.3	2.8	38.7	136.2
Tenants	62	3.5	5.5	7.4	3.1	5.2	6.4	2.4	28.9	99.4
Type of farm:										
General	77	4.0	5.7	7.0	4.4	6.5	9.0	2.8	31.4	123.6
Beef-cattle	7	4.3	3.1	3.1	19.3	76.0	29.7	2.0	23.3	123.6
Poultry	3	2.3	3.7	4.0				0.3	2.7	178.3
Hog	31	3.8	5.6	7.2	3.8	7.4	8.0	4.0	82.8	115.5
Wheat	13	2.4	3.2	3.4	2.7	7.5	6.7	1.0	13.2	92.7
Feed-crop	22	3.2	3.2	3.6	1.1	1.1	1.2	0.6	5.2	105.5
Dairy	15	3.7	8.4	14.2	0.0	0.0	4.7	1.3	14.2	78.7
Size of farm (acres):										
10 to 49	4	0.5	3.2	1.0	0.0	0.0	7.4	0.5	37.2	101.0
50 to 99	25	2.0	3.0	3.7	0.4	0.5	4.4	1.6	17.5	76.0
100 to 174	59	3.6	5.6	7.8	0.5	1.2	5.1	1.6	24.5	117.0
175 to 259	35	4.0	5.2	8.2	2.3	10.5	10.5	2.7	28.7	123.3
260 to 499	33	3.8	6.0	6.8	9.9	9.9	12.8	2.6	35.7	114.3
500 and more	12	6.6	6.6	6.7	17.3	51.3	9.0	6.9	120.0	178.3
All farms		3.7	5.3	6.8	3.9	8.3	8.0	2.4	33.7	116.8

Table 21. Average number per farm of the various kinds of livestock on hand on farms in the Frankfort area on December 31, 1940.

Classification	Number of farms	Work stock	Milk cows	Dairy heifers and calves	Beef cows	Other beef cattle	Sheep	Sows	Pigs	Hens
Tenure:										
Owner-operators	37	3	4	3	6	5	5		8	137
Part-owners	21	3	6	6	10	11	18	2	6	139
Tenants	38	3	6	5	4	4	2	1	10	111
Type of farm:										
General	19	3	5	3	8	9	22	1	4	141
Beef-cattle	8	5	2	2	27	18		1	19	112
Poultry	1	5	4	13			3	1	7	250
Hog	3	3	5	5	1	2			25	65
Cash-grain	33	3	5	4	5	7	4	1	9	120
Dairy	27	4	8	7	1	1	2		6	147
Subsistence	3	1	1	2			2			51
Size of farm (acres):										
0 to 99	17	2	3	3					3	110
100 to 199	22	3	5	6	1				4	111
200 to 299	18	3	6	4	2	3	3		7	133
300 to 399	16	4	8	7	6	7	3	2	10	168
400 to 699	16	5	6	4	14	13	3		13	117
700 and more	7	3	4	2	29	28	66	5	22	160
All farms*	96	3.3	5.4	4.4	6.2	6.5	6.5	0.9	8.6	128.8

*Numbers of livestock computed from averages shown in the various groups will vary between groups and from totals computed by using averages for all farms due to the rounding procedure and also due to a slight variation in the number of sample farms in one of the groups.

SUMMARY

In the older agricultural areas of Kansas certain characteristics of farm communities are the result of forces which operate to bring about maturity. As a result, there is wide variation in size of farm, type of farming, tenure, age of operator, and composition of the farm family. The purpose of this study was to describe how these varying characteristics affect each other and the inter-farm relationships that finally result in a rather definite pattern for the relatively mature community. Characteristics of climate, physical resources, topography, marketing facilities and other factors must be uniform before communities will develop closely similar patterns.

Data for this study were taken from farm surveys made in three communities in Kansas: (1) An area around Holton in Jackson county, (2) an area near Frankfort in Marshall county, and (3) a southeastern Kansas area containing portions of several counties. Data gathered in these areas furnished the background for the following picture of a relatively mature community in the eastern one-third of Kansas.

Approximately 18 percent of the operators were on farms of less than 100 acres. The largest percentage (approximately 30 to 35 percent) of the operators operated farms in the group containing 160-acre farms. The number of operators gradually declined in the larger farm groups, with only 5 to 7 percent of the operators operating farms of more than 500 acres.

Farms of less than 100 acres had the highest percentage of the total acreage in cropland. The percentage in cropland gradually decreased as size increased. For all sizes of farms approximately 60 percent of the land was cropland and 30 percent permanent pasture.

Farm operators on the medium-size farms had the highest percentage of their cropland in corn while the operators on the largest farms had the highest percentage in wheat. For all farms in the community the approximate percentage of the cropland in these crops was 25 to 30 percent. Other crops varied widely in the percentage of cropland on which they were grown in the various size groups, but for all farms about 10 percent of the cropland was in oats, 12 to 15 percent in legume crops, and 8 to 10 percent in sorghums.

The number of livestock kept on the farms increased as size of farm increased. This was more nearly true of beef cattle and hogs than it was of sheep and dairy cattle, which reached their maximum numbers on the medium-size farms. Livestock numbers were relatively high on the smallest farms. This was especially true of dairy cows, poultry, and pigs.

The percentage of farm operators hiring labor increased as size of farm increased and the average number of days of

labor hired also increased with size of farm. Approximately 35 percent of the operators on farms of less than 100 acres hired labor and 90 percent or more on farms of more than 500 acres hired labor. All operators hired an average of 70 man-days of labor per farm per year.

Operators on the smallest and the largest farms bought grain and feed crops produced by operators on the medium-size farms.

The picture was not so definite in regard to type of farm as it was regarding size; but a relatively high percentage of the farms were either general, cash-grain, or feed-crop farms. The highest percentage of livestock farms were either dairy or hog farms. A few of the largest farms were beef-cattle farms and a few (not more than 2 percent) of the smallest farms were poultry farms. Dairy farms were small in size while feed-crop, general, and hogs farms averaged medium or slightly larger. The cash-grain and wheat farms were more evenly distributed through all size groups. However, they had a tendency to be somewhat larger than average.

Operators of livestock and general farms hired the greatest number of days of labor per farm throughout the year. Eighty to 85 percent of the operators on beef-cattle farms hired labor compared to only 50 percent of the operators on dairy, wheat, feed-crop and hog farms. Operators on general farms were midway between these two extremes. General, beef-cattle and hog farm operators hired more than the average number of days of labor hired by all operators while the operators of other type farms hired much less than the average.

Except for the needs of a few large farms that fed unusually large quantities of corn and oats, under average conditions the supply of grain and roughage could fill the demand for such feeds within the community.

Hog farm operators bought the largest quantities of grain feeds and feed-crop farm operators sold the largest quantities of these feeds. General farms were well balanced in sales and purchases. Wheat and dairy farm operators bought slightly more feed than they sold.

Communities varied somewhat in the percentage of operators that were in the various tenure groups. Approximately 40 percent of the operators were tenants, 30 to 35 percent were owners, and 25 to 30 percent were part-owners.

Owner-operators lived on the smallest farms, part-owners lived on the largest farms, and tenants lived on farms of medium size. Many owner-operated farms were operated on a subsistence basis. Owners operated a higher percentage of livestock farms while tenants operated more of the cash-grain and crop farms, although tenants operated many of the dairy farms. Part-owner farms were well distributed throughout the various type groups.

Tenants had a slightly higher percentage of their farms in cropland. Tenants also exchanged more labor and owners and part-owners hired more labor and custom work. The tenants sold more grain and roughage and the owners purchased more feeds. The part-owners sales and purchases of feeds more nearly balanced.

The average age of all operators was slightly more than 50 years. Owner-operators averaged five to six years older than the average for all operators and tenants were about five to six years younger than the average. Part-owner operators were slightly older than the average.

Sixty to 65 percent of the operators on farms of less than 100 acres were 50 years or more in age. Operators on the medium-size farms were younger but there was a tendency for the operators on some of the larger farms to be older than those on the middle-size farms.

Approximately 30 percent of the families living on the farms in these communities consisted only of the operator and his wife. A slightly smaller percentage of the families had one child at home. Families having two children at home were fewer in number than those having one child at home. The average size of family at home was approximately 3.5 persons.

Seventy percent of the children were 10 years of age or older. There were more boys than girls at home and the boys who were at home averaged older than the girls. The number of persons in the families on tenant-operated farms was higher than average for all operators but families on owner-operated farms were much smaller than the average. Part-owner operators families were near average in size.