

PLANNING THE FARMING BUSINESS BY THE BUDGET METHOD

by

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METHOD TIME

Farming today, as in the past, is one of the few vocations which involve the entire family--the father, the mother, and all the children. Not many centuries ago, in the early stages of the handicraft economic system, the family was a self-sufficing economic unit. That is, the father contracted for unfinished goods which were brought home and worked up into finished products by the entire family. Gradually this system developed into the factory system which characterizes the present state of capitalism. Under this system although all the members of the family may work, they do so, not in their homes, but in workshops owned by others.

This development in manufacturing, however, did not find a corresponding development in agriculture where the family remains more nearly a self-sufficing economic unit. The farm is, consequently more than a business; it is at the same time a home, a place to invest savings, an insurance program, and an ideal training ground for children. All of these needs are incorporated in a common term - "farming." Farming is a life-time program for the farmer, his wife, and their children; among the objectives are the greatest possible long-time income for the support of the farm family, and the providing of a wholesome atmosphere for the rearing of children. It is with these objectives in mind that this thesis is being written. A farm budget

comes as near to correlating the home and business aspects of the farm as any other known method.

A budget, in its broader sense, is an organized record of past operations, and an estimate of future operations. Upon the basis of the experience of past years is built a systematic plan for the future using, spending, and conserving of time, effort, money, and materials. Budgeting, in some degree, is done by everyone in every walk of life, from the newsboy who keeps out so many pennies for his sales every night to buy his next evening's quota of papers, to the comptroller of a giant corporation who deals in millions. Some individuals budget their income, some their time, while others budget both. Some persons plan their budgets for years ahead; others plan only from hour to hour. Some budgets are complete to every detail; some are merely outlines of principal items of income and outgo.

Consciously or unconsciously, however, the same purposes are present in each instance--those of improving the use of resources at hand, and of increasing the individual's efficiency. Since it deals with possibilities of the future, no budget can be perfect. Yet the value of a well-kept budget with its planned economy has been proved by experience and is not likely to be overestimated.

In farming, there are various factors of production, which taken together, yield the farmer his income. A farm budget is merely an application of principles, which have been found valuable in other

industries, to the agricultural industry; and may be definitively characterized as a plan for the use and conservation of land, of human, animal, and mechanical power, of equipment, of money, and of other resources. Farm budgeting has been carried out by business farmers in this and other countries for many years.

The purpose of this study is to show how general recommendations for adjustments of farm enterprises may be applied and how the Agricultural Conservation program may be utilized to advantage on the individual farms.

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PLANNING A FARMING SYSTEM

Selection of the Enterprises

In the selection of the enterprises for a farm, a large number of factors should be considered. Adaptation of soil, rainfall, topography, and climate to the production of crops and livestock are of major importance but other factors must be considered in the selection of the enterprises. In most areas and on most farms where a fairly definite system of farming has been established for a generation or more, most of these factors have been considered by the operators when planning the uses to which their acres are put. The selection of uses has been largely a process of trial and error--of learning through experience the crops and the animals and the farming systems that are adapted to the regions, and the ones that are not. For the purpose and completeness of this thesis they are summarized and briefly explained here.

Soil, the basis of all crop production, will be considered first. Soils range from the coarser gravels and stony particles containing little food from which plant life is supported, to the mealy black masses of organic matter rich in plant food elements. This study is not here concerned with such extremes in textures; it is with the intermediate soils most common in Kansas and ranging from the coarser sand to the clays that this thesis deals.

The coarser the soil, in general, the lower is its content of

essential plant-food elements. Offsetting this lack, however, is the easier accessibility and availability of the elements to the growing plants. Likewise, the coarser soils have a relatively high porousness with a consequent relatively high ability to absorb moisture readily, and to make it available to the growing plants. Because of these characteristics, especially the ability to liberate moisture to the maturing plants, the coarser soils are adapted to the growing of row crops, such as corn and the sorghums.

On the other hand, the heavier, or finer, soils which in many sections are called "the hard lands" contain a higher percentage of plant-food elements and have a tendency to retain the plant-food elements more closely. Because the soil particles are fine, such soils do not have the ability of coarser soils to absorb, and to make available for plant growth, the moisture which falls. In general, therefore, the heavier soils are best for the growing of the small grains--wheat, oats, rye, and barley.

Farm crops secure their food supply from varying depths. Some plants grow abundantly with their roots reaching a depth of only a few inches into the top-soil; others thrive best with a root penetration of as much as twenty feet or more.

Some soils are under-lain with hard formations such as shale, stone, or other formations which are impervious to water or plant root growth.

Those soils which have but a few inches adapted to the growth of plant root systems are known as shallow soils. The shallow soils are primarily adapted to the growing of small grains and grasses, whereas, the deeper soils are better adapted to the production of row crops and alfalfa.

By topography is meant the physical description of the land with reference to streams, gullies, and degree of slope. Some lands may contain every soil requirement for the growing of cultivated field crops, but due to the gullied condition, intensity of the slope, or presence of small streams, cannot conveniently be used for field crop production. Soils which are subject to severe wind or water erosion are usually considered to be better adapted to the growing of cover crops, such as the grasses and legumes.

Soil drainage is an important factor in crop production. In general, the lighter, deeper soils usually are well drained, whereas, the shallow, heavy soils usually are poorly drained. It is a combination of the topography and type of soil together with other factors which determine the soil drainage. Outside factors, such as the over-flow of streams or the surface over-flow from higher lands and the amount of rainfall, must be considered in soil drainage. Some of the best soils are poorly drained because of the lack of slope. In considering these factors, there are certain types of crops which grow more abundantly than others on the more poorly drained soils. Some of the tame or native grasses will grow readily on soils that are wet a considerable part of

the growing season, while field crops may not be grown on the same soils at all. Field crops, it may be noted, vary in their ability to produce on poorly drained soils.

Rainfall is one of the outstanding factors which must be considered in the planning of a farming system. Rainfall records are available for a period of years for the county seats of most Kansas counties. The total rainfall is usually first considered. The average rainfall in Kansas varies from approximately fifteen to forty-two inches. In considering the annual rainfall a study should be made of its distribution, both as to geographical location and as to time of year with reference to the growing season. From the last killing frost in the spring until the first killing frost in the fall is considered the growing season. In general, the rainfall during the crop season from April until September has greater bearing upon the crop production than the rainfall which occurs during the winter months.

Evaporation is also an important factor. Crops can be grown in certain sections of the Northern Great Plains area with an average rainfall of less than fifteen inches; the rainfall occurs principally during the growing season and the evaporation is comparatively low. High evaporation tends to increase the rainfall requirements for crop production. For example, the evaporation from a free water surface at Manhattan, Kansas, averaged 39.08 inches (1916-1929)* a year, whereas the evaporation at the branch Experiment Station at Garden City was

*Eleven year average omitting 1918, 1924, and 1925.

52.12 inches (1909-1924) during the average growing season. Consequently, other factors being equal, the rainfall required for satisfactory crop production was much greater in the region around Garden City than in the region around Manhattan.

The character of the rainfall, in so far as its velocity is concerned, is also an important consideration. Rains of less than one-half inch may be of little value in crop production, and most rainfall in excess of two inches in any twenty-four hour period is not of material benefit to crop production.

Climate, with particular reference to the extremes in temperature, is important in the planing of a farming system. The climate of Kansas is, in large part, responsible for Kansas's reputation as a great wheat growing state. The winters in Kansas are usually sufficiently mild to permit the more widely adapted varieties of wheat to live through the winter, thus permitting winter wheat production. The summers, as a rule, are mild with the exception of July and August at which time the temperatures are frequently in excess of 100° F. The evaporation is usually high during those months. Crop production in Kansas by necessity has been planned in accordance with what may be expected of the climate. Winter wheat, being sowed usually in September and October, is harvested the latter part of June or early July, thus, escaping the hot season in July and August. Corn production is reduced materially because the months of July and August are

critical months for corn production, which materially reduces the chances for a profitable corn crop. Kafir or sorghum crops are increasingly being substituted for corn, due primarily to their ability to remain dormant during periods of excessive heat or drought.

In most areas where the farming system has been established for a period of years, the crops grown are those which are able to withstand the climate of the area with a reasonable chance of surviving and producing a profitable crop.

In addition to the adaptation of soil, rainfall, topography, and climate to the production of crops and livestock other factors are important in planning the farm business. Among these are the labor and materials available and required, the use of fixed assets, the rates of turnover of the investments in the farm enterprises, prices and price stability, and the storage facilities for materials and supplies. These factors are more or less the result of, and responsive to, human forces and activities, and consequently more flexible than the natural factors already discussed.

These factors likewise vary from farm to farm and from locality to locality, and modifications in them may cause important changes in the farm organization. For example prices and their stability over a period of years exert a great influence upon the selection of the enterprises. To decide, intelligently, the crops to be raised, the practices to be carried out, and the livestock to be produced, the individual farmer

must have some idea of the income reasonably to be expected from these different products. This requires a knowledge of prices, and price behavior for the different products.

The individual farmer should also know conditions in the labor market, should be familiar with seasonal needs on his own farm and the labor supply from which he will fill these needs. He should understand investment principles well enough to insure that there will be a correlation between the supply and use of the fixed and other equipment of his farm; that is, that his equipment will be utilized to the maximum degree. On certain types of farms, he must have assurance of adequate storage facilities. For example, on fruit farms, cellar space may be necessary. Finally, the enterprises of a farm should be diversified as to rates of turnover, and the recurring times over which the income will be spread. In this way, a fairly even flow of revenue will be the result over a twelve-months period, and will more nearly match the ordinary running expenses of the farm and home.

After the farm enterprises, i.e., sources of income, have been tentatively decided upon the next major problem is that of selecting the proper combination of enterprises. Excluding the efficiency of the farm operator as a factor, the returns a farmer secures will depend upon the wisdom he displays in selecting the commodities he will place upon the market.

In choosing his enterprises the farmer will find that, because of certain economies and savings which are realized through diversification of farm enterprises, he should produce several commodities rather than one or two only. An economy of materials is one result of a multiple selection of enterprises. Again, in a diversified system of farming, the demand for men and machines is more evenly spread throughout the same farm. In their adaptability to crops and types of livestock, some diversification is practically necessary if all the acres of the farm are to be used. Finally, diversification is a means of insurance--a method by which risks may be scattered with a resulting more stable income. The idea of diversification is present in every grocery store, butcher shop, and store that handles goods; it is the policy of most successful farmers as well.

In farm management studies, enterprise combinations are grouped as complementary, supplementary, and competitive, and these types of relations among enterprises and the ways in which they are applied to individual farms to achieve the most profitable results must be considered in selecting the farm enterprises. The operator of a well organized farm will so balance its enterprises among these types as to utilize the land, labor, and equipment available. The principle of a well balanced farm organization is illustrated by the McTherson County budget.

The selection of enterprises becomes somewhat less complicated if

the number that are to be selected can be reduced. There are several general principles in farm management, which, when applied will tend to reduce the number of enterprises. They are briefly given. The optimum diversity should provide for one or two cash incomes from crops and one or two cash incomes from livestock. Until the capacity of the farm for an enterprise has been reached, an additional enterprise should not be added. A desirable combination would be the maximum number of complementary and supplementary relations of enterprises with avoidance of severe competitive relations.

APPLICATION OF PRINCIPLES

In the adaptation of the budgeting principles to a given farm the total acreage of the farm and the division of the acreages such as pasture and cultivated land are given. However, in this study the modal size is used, the modal size being the size of farm occurring most frequently in the area. In eastern Kansas the one hundred sixty acre farm is common. In the central and western part of the state there three hundred twenty, four hundred eighty, six hundred forty, and twelve hundred eighty acre farms occur, the size most frequently occurring is used as a basis for this study. A modal farm as used has reference to the size of the farm as expressed in acres. The size of farm most frequently occurring is termed the modal farm for the area.

For the purpose of illustrating the principles as stated, a

central Kansas wheat farm is used. The growing of wheat only provides for an income from crops but meets no other requirement. Wheat growing and beef cattle production provide for a cash crop and cash from livestock; provides for a supplementary enterprise; and distributes labor, and income. Growing of forage sorghums would be a complementary enterprise, supporting the beef cattle enterprise. Wheat growing, beef cattle production and corn production include the above requirements and add corn as a cash or feed crop. Poultry could be added to supply another source of income and to give wider income distribution.

The principle of not adding an additional enterprise until the capacity has been reached could be well applied.

Capacity refers to the ability of any one factor in production to use other factors in production and is a quantitative consideration. Efficiency is measured by the relationship between the input and output at maximum capacity and is a qualitative consideration.

In farming we usually consider productivity or the ability to produce at any degree and not just at capacity.

An illustration will make these points clear. If, for example, on the Central Kansas wheat farm, the farmer possesses a tractor, a combined harvester, and other wheat machinery that could properly farm two hundred acres of wheat but the operator only farms one hundred acres, then the enterprise has not been developed to capacity. Therefore, there would not be any particular advantage in adding an

additional enterprise until the capacity of the enterprises now used were expanded fully. Farmers using a larger number of enterprises, few if any of which, are used to capacity are not uncommon and application of the named farm management principles, together with a study of the actual successful farmers in a community will assist materially in arriving at the nearest ideal combination of enterprises realizing that the proper combination of enterprises is something to strive for, but probably never exactly reached.

TESTING THE ORGANIZATION BY THE BUDGET METHOD

Before any test can be made, a number of standards must be developed which can be used in testing.

Information Needed In Making A Budget

The returns actually obtained in farming probably will not be the same as those budgeted unless the production, the feed requirements and prices all have been accurately estimated. The fact that it is practically impossible to make such an estimate, however, does not mean that an effort should not be made to do so.

In making a budget, the individual farmer's best judgment should be used in estimating each and every item. Two classes of information are available for budget work; one class relating to prices; the other, to production. These are helpful in guiding the individual farmer's

judgment.

Price information available for long-time budgeting: In budgeting one deals in the future with only the past as a guide. The following lists of prices are suggested for use in long-time budgeting (for the next ten to twenty years).

The ten-year average price is used in an attempt to overcome minor monetary fluctuations and seasonal disturbances. The years 1924 to 1935 were selected because they were most easily obtainable and contained some of the lowest prices in history and some of the highest excluding the recent war periods. Also, the period appeared logical because it is not too far removed from the present. The following prices have been used for this study.

Table 1. Average Kansas farm prices 1925-1934 in dollars.

Crop or Kind of Livestock	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	Total	10 yr. Ave.
Wheat, per bu.	1.467	1.193	1.23	.955	.99	.63	.33	.33	.71	.88	8.175	.871
Rye, per bu.	.940	.89	.93	.80	.84	.56	.32	.25	.59	.85	6.970	.697
Corn, per bu.	.67	.77	.72	.71	.70	.52	.38	.27	.44	1.03	6.110	.611
Oats, per bu.	.45	.43	.47	.43	.44	.34	.19	.16	.33	.48	3.72	.372
Barley, per bu.	.62	.63	.61	.50	.43	.42	.22	.15	.39	.70	4.72	.472
Grain Sorghum, per bu.	.71	.60	.68	.62	.63	.48	.24	.18	.38	.67	5.19	.519
Flax seed, per bu.	2.04	1.96	1.90	1.76	2.16	1.61	1.12	.75	1.43	1.52	16.32	1.632
Soybeans, per bu.	2.80	2.00	1.85	1.90	2.10	1.54	.61	.73	1.12	1.50	16.20	1.620
Cowpeas, per bu.	2.00	2.65	2.40	2.20	2.40	1.93	1.14	1.10	1.75	2.20	20.22	2.022
Alfalfa seed, per bu.	9.60	8.80	9.30	10.70	10.90	8.90	6.10	4.60	5.00	7.90	81.60	8.160
Red Clover seed per bu.	12.60	15.30	14.40	14.40	11.20	10.50	6.90	4.30	5.60	9.80	106.00	10.600
Timothy seed, per bu.	8.30	2.80	2.30	3.00	2.10	*2.02	*1.46	-.99	*2.01	*6.63	26.11	2.611
Sweet Sorghum forage, per ton	4.47	8.90	5.08	4.4	5.20	5.10	3.10	2.50	3.00	8.70	51.64	5.164
Eroom Corn, per ton	120.00	85.00	96.00	96.00	108.00	52.00	30.00	34.00	99.00	175.00	904.00	90.40
Potatoes, per bu.	1.63	1.72	1.64	.66	1.24	.30	.62	.41	1.14	.83	13.73	1.073
Apples, per bu.	1.52	1.30	1.44	1.44	1.50	1.66	.85	.97	.88	1.25	12.81	1.281
Hogs, per cwt.	11.00	11.80	9.60	8.60	9.40	8.30	6.00	3.15	3.40	3.95	75.50	7.550
Beef cattle, per cwt.	7.30	7.46	8.54	10.46	10.30	8.30	3.90	4.40	3.85	4.30	70.81	7.081
Veal calves, per cwt.	8.20	9.10	9.80	11.50	11.70	9.30	6.60	4.60	4.30	4.35	79.45	7.945
Sheep, per cwt.	7.72	6.98	6.89	7.31	6.79	4.30	2.80	2.20	2.30	3.05	50.34	5.034
Lambs, per cwt.	12.75	12.20	11.60	12.40	12.00	8.90	6.80	4.70	5.00	6.80	92.60	9.260
Wool, per lb.	*.362	*.310	*.280	.36	.29	.17	.12	.078	.17	.19	2.330	.233
Horses, per head	*63.26	*60.20	*63.44	63.00	60.00	46.00	44.00	49.00	65.00	73.00	585.90	58.590
Mules, per head	*89.54	*81.49	*84.98	86.00	80.00	64.00	58.00	60.00	81.00	92.00	783.01	78.301
Chickens	.158	.169	.159	.169	.171	.149	.127	.089	.063	.081	1.335	.133
Eggs, per doz.	.253	.244	.202	.239	.251	.186	.133	.102	.099	.150	1.839	.184
Butter, per lb.	*.336	*.400	*.412	*.426	.44	.75	.26	.20	.19	.22	3.294	.329
Butterfat, per lb.	*.373	*.368	*.389	*.406	.42	.30	.23	.15	.10	.20	2.996	.300
Milk, retail, per ct.	*.098	*.099	*.098	.09	.102	.100	.095	.076	.068	.079	.814	.081

* Estimates, based on United States farm prices for same years.

Source- Division of Crop and Livestock Estimates, Bureau of Agricultural Economics, U.S.D.A.

Sources of price information for use in planning the short-time or annual budget: The following are the principal sources of information on prices:

- (1) Market reports of the Federal market news service and distributed by mail, radio, and through the farm newspapers.
- (2) Crops and Markets, the monthly periodical issued by the United States Department of Agriculture.
- (3) Special commodity price studies issued by the United States Department of Agriculture.
- (4) The Agricultural Situation, a monthly publication issued by the United States Department of Agriculture and similar reports issued by several of the state colleges of agriculture and extension services.
- (5) Year books of the United States Department of Agriculture; year books of State departments of agriculture and State agricultural statisticians.
- (6) Annual agricultural outlook reports issued by the United States Department of Agriculture, and outlook reports issued by state colleges of agriculture and extension services in many states.
- (7) Statistical bulletins issued by the United States Department of Agriculture.
- (8) Kansas Agricultural Situation available to Kansas farmers through the county agent's office.
- (9) Semi-annual outlook meetings.

All publications excepting the Kansas Agricultural Situation give prices and relative price situation together with production information. The Kansas Agricultural Situation gives monthly forecasts. Forecasts are given for six months ahead of the semi-annual outlook meetings held in February and August each year by the Economics and Sociology Department

cooperating with the Kansas Extension Service. Forecasts are made for the major commodities of Kansas.

Unless the individual has had special training and spends considerable time in study, it is generally believed that the recommendations or forecast of Kansas State College of Agriculture and Applied Science will be more accurate than the estimates of the individual.

In the event the individual is especially interested, all the above publications may be of interest together with commercial forecasts of various types which are available.

Production standards: The best production standards would be those of the individual farm. The farmer knows more about the average yields of wheat on his farm, more about the average livestock requirements and their probable production, than any other person. However, as a basis of estimates for the experienced farmer, or as a premise for the younger farmer, or for the purpose of expanding production of either livestock or crops, the budget standards may be of material benefit. Therefore, they are presented as a part of the budget study.

The production requirements and expected production standards for livestock have been developed by the Kansas Agricultural Experiment Station, in cooperation with the Agricultural Adjustment Administration. They were developed in 1935 and are included, in part, in Tables 71 to 80 inclusive. Further information may be secured from the Department of Economics and Sociology of Kansas State College.

Yield standards: The yield standards were secured from the Kansas State Board of Agriculture reports which are perhaps the most complete and reliable available. It appears that the period chosen is sufficiently long to give a reliable average to be used as a standard for future production for a period from ten to twenty years. Yields are given by counties, and summarized by areas in Tables 81 to 95 inclusive.

Crop production standards applied to a nodal farm: There have been two bases for the computation of average yields in the respective areas and their counties. First, yields have been taken from a schedule of yields prepared by the Kansas State Board of Agriculture over a period of years. Second, where rotation practices have justified it, these yields have been increased. Thus, in McPherson County, yields have been increased twenty-five per cent over the county average yield because twenty per cent of the crop land is to be kept in soil-improving crops.*

In other areas the yields have been increased in proportion to the legume acreage or to practices in rotation.**

* Authority for this statement is contained in a letter from R. I. Throckmorton, Head of the Department of Agronomy of Kansas State College, dated May, 1937.

** Authority: Farm Organization Recommendations and Schedules, Kansas Experiment Station, 1935.

Long-Time Budget

The long-time budget has a large number of practical purposes, a few of which will be described.

In the first place, the budget gives the farm operator a fair analysis of the income expectancy of the farm over a period of years. From it, the operator and his family immediately gain an idea of what a given farm organization will supply the family in the way of an income for living, and what part of that income, on the average, the family must spend on the development of their home.

A long-time budget will tend to cause the family to conserve their income during good years and will have an encouraging effect on the family during the years of low income. The budget may point out desirable changes in the farm organization. If the long-time budget shows a lower income than the family feels it needs to maintain or increase its standard of living, then there will be a tendency to increase the farming business.

A long-time budget has a direct and important application in estimating the value of farm lands. It provides an accurate record of the farm's earning capacity upon which the farm's worth is based. Again, for similar reasons, the budget is helpful in obtaining and planning long-time farm financing. And lastly a budget tends to teach the farm family business principles in farming, farm management, and

Table 2. McPherson County long-time budget. Production and disposal of crops.

County McPherson
 Size of Farm 240

Crop land	156
Pasture	70
Woodland	2
Other uses	12

Crop	Production			Disposal					
	Acres	Yield	Quantity	Feed	Seed	Quantity	Price	Value	
Wheat	84	10.4 bu.	1645 bu.		105 bu.	1440 bu.	\$0.87	\$1252.80	
Corn	16	20.5 bu.	328 bu.	203 bu.	3 bu.	42 bu.	.61	25.62	
Grain									
Stover									
Silage									
Oats	10	32.9 bu.	329 bu.	304 bu.	25 bu.	---		---	
Barley									
Grain Sorghums	4								
Grain		23.9 bu.	95 bu.	94 bu.	1 bu.	---		---	
Stover									
Silage		8.0 T.	32 T.	32 T.	*				
Sweet Sorghums	9								
Forage	(7)	3.0 T.	21 T.	21 T.					
Silage	(2)	10.0 T.	20 T.	6 T.	#				
Alfalfa	15	2.3 T.	34 T.	10 T.		24 T.	6.00	144.00	
Sweet Clover	7		/						
Fallow	8								
List of Other Crops									
Brome Grass	3		/						
TOTALS	166							\$1422.42	

* Seed -- Field selected.

Excess used to reduce pasture requirements.

/ Used for pasture.

farm operation. It is not intended to take the place of the year-to-year or short-time budget for the two are supplementary.

Due to annual price fluctuations and fluctuations in production it is believed that many farmers have not given serious consideration to farm budgeting. However, with an explanation of the types of budgeting, it is believed that many farmers will use the long-time budgets on their farms.

In Tables 2 to 5, inclusive, a long-time budget for McPherson County has been developed. The acreages in the respective crops and the numbers of the different kinds of livestock used in the budget are based on the recommendations of the County Planning Committee of three farmers in a county chosen by the Agricultural Extension organizations of the county. Usually this committee is composed of the president of the County Farm Bureau, the president of the County Agricultural Conservation Association, and one additional farmer.

In Table 2, average yield standards as given for McPherson County in Table 57, have been increased in accordance with soil-conserving and crop-rotation practices carried out, and these revised yields have been used as a basis for the calculation of the quantities of crops produced by the given acreages. From the total quantity of each crop produced are subtracted the quantities to be used for feed and seed, and the remainder is the quantity which is for sale at the price for the commodity as shown in Table 1. The sum of the amounts received for the individual crops makes up the total expected crops income. The

quantities of the respective crops used for feed are calculated by applying the feed requirement standards found in Table 75, and are shown in Table 4. The quantities used for seed have been estimated based on knowledge of seed requirements for the different areas.

The production standards for the livestock as found in Table 74 were applied to the McPherson county farm to find the total livestock products. This calculation is given in Table 3. From this total production are subtracted the products used in the home, and the remainder is expected to be sold at the price for the product as shown in Table 1. The value of all livestock and livestock products sold is calculated by adding the values of the individual livestock and livestock products sold.

In Table 5 is summarized the total net income for the farm. To the total cash livestock income are added the total cash crops income and whatever miscellaneous receipts there are, to arrive at the total cash receipts for the farm. The total expenses of the farm are estimated on the average as being sixty-seven and one-half per cent of the total cash receipts, with a lower limit of sixty per cent and a higher limit of seventy-five per cent. The difference between the total cash receipts and the estimated expenses represents the cash net income for the farm. To this is added the income in kind which is estimated as being \$400.00*.

* Summary of Kansas Farm Bureau Management Association for 1935 shows the farm furnished the home with \$404.00 in food, fuel, house rent, etc.

Table 4. McPherson County long-time budget. Livestock feed requirements.

County McPherson
 Size of farm 220

Crop land	150
Pasture	70
Woodland	2
Other uses	18

Livestock	Number	Roughage Required			Grain Required	
		Legumes	Non-legumes	Silage	Corn and Sorghum	Oats and Barley
Beef Cattle	12	3 T.	9 T.	30 T.		37 bu.
Milk Cows	4	6 T.	4 T.	8 T.		37 bu.
Horses	3	1 T.	8 T.		27 bu.	141 bu.
Hogs*	15				149 bu.	69 bu.
Sheep						
Chickens	150				201 bu.	
TOTAL		10 T.	21 T.	38 T.	377 bu.	304 bu.

* Two acres sweet clover needed for hog and brood sow pasturage.

The total result, or \$1157.04 is the estimated average annual net income for the McPherson county farm.

In addition, such enterprises as pure seed production, pure-bred livestock enterprises, or specialized fruit or vegetable production might be used provided there was sufficient interest and labor available. However, these specialized enterprises are in addition to the regular long-time budget and should not be given serious consideration as a long-time source of income. The specialized enterprises are, as a rule, hazardous and may or may not return a net income.

The County Planning Committee's suggestions are used as a premise for each modal farm. The modal farm in this instance has reference to both the most frequent size of farm as measured in acres, and the most frequent type of farm organization.

The budget standards are applied to the suggested farm organization to show whether the farm is well organized. It is suggested on this particular McPherson county farm that a silo be used because the pasture requirements are higher than the grazing capacity. The standard requirements for sixteen head of cattle and three horses would be one hundred fourteen acres of grass and the farm furnishes but seventy acres of grass. By the use of the silo, extra months of lot feeding could be secured with the same feed crop acreage. The native pasture requirements can be reduced further by the grazing of the sweet clover acreage.

The fallow acreage is suggested primarily for the establishment of

Table 5. McPherson county long-time budget. Computation of net farm income.

County McPherson
 Size of Farm 240

Crop land	156
Pasture	70
Woodland	2
Other uses	12

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$1422.42	Total costs based on per cent of gross income of		
Cash sale of livestock produce	906.92			
Miscellaneous receipts		60%	67½%	75%
Total Receipts		\$2329.34	\$2529.34	\$2529.34
Gross Expenses				
Estimated 60% of gross income		1397.60		
Estimated 67½% of gross income			1572.80	
Estimated 75% of gross income				1747.00
Total Expenses		\$1597.60	\$1572.80	\$1747.00
Cash Net Income expectancy		\$831.74	\$957.04	\$782.34
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.G.I. payment				
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$1331.74	\$1157.04	\$982.34

alfalfa. If fifteen acres of alfalfa is to be maintained on the farm in the rotation system, the seeding of eight acres every other year would suffice to maintain that acreage. During the alternate years, an additional eight acres could be seeded to sweet clover. The sweet sorghum stubble makes an excellent crop to precede sweet clover.

With a farm organization plan like the one suggested, there are a number of additional possibilities. If modern wheat machinery is used, an additional eighty to one hundred acres of wheat could be seeded without any material changes in the organization, provided, of course, that the land was available. Purchasing of additional land is not being considered at this time.

If additional choro labor is available, such as that done by sons of high school age, the dairy and poultry enterprises could be materially increased with little additional capital.

Table 5a
Comparison of McPherson County's principal crops:

<u>Crop</u>	<u>Yield (1)</u>	<u>Long-time Price (2)</u>	<u>Gross Income per acre</u>	<u>Coefficient of variability</u>
Wheat	19.4 bu.	\$0.87	\$16.01	23.2
Corn	20.5 bu.	.61	12.50	55.4
Oats	32.9 bu.	.57	12.17	21.4
Barley	27.2 bu.	.47	12.78	23.2
Grain				
Sorghums	25.9 bu.	.52	12.43	29.4
Cane Hay-				
Forage	3.0 T.	5.16	15.48	15.8
Alfalfa	2.3 T.	6.00	13.80	24.2
Prairie Hay	1.1 T.			26.8

(1) Average 1911-1932. State Board of Agriculture Reports. Average yield increased twenty-five per cent due to legumes in rotation. See page 16. (2) Average prices 1925-1934. Further explanation see page 16.

"Coefficient of crop yield variability" is a mathematical expression of the consistency of crop yields. Leaving out technical and scientific explanations, the coefficient of variability simply is a means of numerically pointing out the degree to which crops vary in their annual yields from the average yield over a period of years: the smaller the index number, the less deviation in any one year from the average for a number of years. Or, in contrast, the crop which is most erratic in its annual yields, will have a high coefficient of variability. For example, in the above table, the crops would rank in their ability to produce nearly constant average annual yields as follows: cane hay, oats, wheat, barley, alfalfa, prairie hay, grain sorghums, and corn.

This information, coupled with the value of the average crop yield per acre, also shown in the table, and other factors, such as the ease with which the crop fits into a rotation system, the adaptability of the crop to machinery on hand, and the uses made of the crop, assist the farm operator in selecting the farm crops and the acreages of each crop.

In the illustrative county -- McPherson -- eighty-four acres, out of each one hundred fifty-six crop acres, are used for the growing of wheat. This selection appears wise from the standpoint of returns per crop acre, variability of the crop yields, adaptability to machinery, and the ease with which the crop may be placed in rotation. Likewise, the selection of alfalfa as a soil-improving as well as a hay crop, appears intelligent from the standpoint of variability of yield and value of

the crop per acre. A larger acreage in alfalfa, however, does not seem advisable, for a material increase in number of acres in this crop, probably would necessitate extra labor or extra equipment. Then again, a greater production of alfalfa in McPherson county would place this crop in a cash crop classification, and since alfalfa has high transportation costs, it does not lend itself well to production primarily for sale. Forage sorghums, for somewhat similar reasons, are likewise grown only for farm consumption. Sorghums are, it is true, one of the most consistent crops from the standpoint of yield variability but in most years in McPherson County they have little cash value. Consequently, forage sorghum acreage is kept to limits set by the feed requirements of the livestock. Grain sorghums are included primarily because they have one of the most consistent yields of the spring-planted crops, and are a substitute for corn as livestock feed. The acreages for sorghums as a class (including kafir, milo, feterita, cane, sweet sorghums, and sudan) are limited somewhat by the difficulty of working them into a rotation system without lowering the yields of crops immediately following. Sorghums may best be followed in rotation by other sorghums, corn, sweet clover, or fallow. Wheat and oats following sorghums in rotation will, as a rule, yield materially lower. Corn is a much desired crop because of its ease of planting and harvesting, its popularity as a feed crop, and its suitability to rotation systems. Its inconsistent and relatively low yields prevent a larger corn acreage in McPherson County.

Cost of farm operations: The total operating costs of a group of farms vary widely from farm to farm, and from year to year, depending upon a large number of factors affecting current and fixed costs.

Fixed costs, such as taxes, depreciation, and interest rates, as major items of total expenses are relatively inflexible for individual farms and their annual variations are relatively low. The greater part of the farmer's tax bill is spent locally for purely local purposes and on purely local enterprises; consequently, taxes as a part of operating costs will depend upon the improvements in the community, its social progressiveness, its existing indebtedness, and the comparative wealth of the locality. Interest rates are to some extent affected by the money and investment markets within the district and cannot be arbitrarily stated unless specific information concerning the supply of and the demand for credit in a particular area is known. Similarly, costs for equipment and its depreciation will depend upon the system of farming which prevails within definite regions.

Likewise, the current operating costs are much more responsive to current and changing conditions and cannot be scientifically estimated without reference to the individual farm. The cost of growing an acre of wheat, for example, is dependant upon such factors as the type of machinery used, the method of seed-bed preparation, the quantity of fertilizer used, the method of harvesting, and the weather conditions at harvest time. It is difficult to arrive at the cost of a

single operation on the farm, such as the seeding of an acre of wheat, because the operations of the farm are so interwoven. A tractor is used for wheat seed-bed preparation, for silo-filling, terracing, feed grinding, and stump-pulling, and its cost must be applied in some proportion to these different uses and, finally, to the different products. The cost of labor may be illustrated in a like manner. Cost accounting is not the province of this thesis. Specific costs per acre and per livestock unit would require a discussion and application of cost accounting principles and would lead to mathematical and statistical details that would soon lose all meaning for the average person.

For these reasons, in lieu of specific unit costs, a total operating cost estimate, expressed in percentages and based on the gross income will be used. This estimate has been based on an analysis of approximately one thousand Kansas farm records during the past ten years, together with wide experience and knowledge in calculating costs of farm operations in the state. For the purposes of this study, then, the gross cost of operating the farm is being considered as between sixty and seventy-five per cent of the gross income over a long period of time.

The cost thus calculated includes the total cost of operating the farm, such as feeds purchased, maintenance of inventory, general machinery and equipment expense, auto expense, tractor expense, truck expense, labor, insurance, and depreciation of machinery and permanent improvements. The cost does not include any interest on the operator's equity in the land or equipment, nor any salary for the operator's

management and labor.

It must be kept in mind, however, that there will be years when even on the well-organized and efficiently operated farm costs will exceed the gross income. On the other hand, there will be years in which, due to factors beyond the control of the individual farmer, the costs will be a smaller portion of the gross income. Such variations in income and expense will necessarily occur because the farmer is working with nature--with climate, plants, animal diseases, and physical phenomena which cannot be standardized and over which man may have little influence. Changes in prices and cost factors will materially affect the operating ratio. These reasons, if no others existed, point out the desirability of a carefully kept and well planned long-time budget: such an outline of income and expenditures, through good years and through bad, shows the need for conserving funds when farm profits are high, and indicate the reserves to be drawn upon when farm losses occur.

The 1937 or Short-Time Budget

In the short-time budget it is expected that the operator will adjust his farm business in so far as practicable to existing conditions and conditions that seem probable in the immediate future. If prospects for a profitable wheat crop are bright, if good moisture and fertility conditions are present, together with prospects for good wheat prices, it would appear logical to increase the wheat acreage. If livestock prices are lower than feed prices and the farmer has little feed due to

drought or other causes, it is expected that the livestock numbers will be reduced in an attempt to meet this situation.

There are, however, limits to adjustments beyond which most successful farmers do not care to go. For example, if conditions are such that a profit in wheat does not appear likely, according to the logic of the immediate situation, wheat acreages should be put in other uses. Yet this does not seem so advisable when viewed from a long-time standpoint. In the first place, future demands, yields, and prices cannot be accurately determined. Hence, it happens that unforeseen circumstances may completely upset carefully laid plans and forecasts. Such a situation has occurred in agriculture in this state within the past ten years. For illustration, in 1927 wheat was selling at \$1.25 and farmers wherever possible and with no fore knowledge of the ruinous prices of depression years following, were seeding large wheat acreages. Five years later wheat was selling at \$0.35, and many wheat farmers were caught with wheat on hand. But once more the pendulum of wheat prices swung and undreamed of in 1932, prices soared to \$1.35 in 1936, and this time, many farmers, having taken wheat lands out of production, were caught short. A more intelligent program would have dictated merely revisions and shifts in the farm organization and acreages, and not wholesale abandonment. The same principle holds true in livestock production. It frequently appears advisable to vary the numbers kept

but is seldom advisable to discontinue livestock production. For, if a farmer has a good herd of cattle and disposes of it entirely when the outlook is dark, it may be both difficult and expensive to replace the herd when prospects are brighter and a herd is needed.

Another limitation to the frequent shifting of farm acreages and abandonments of farm enterprises is the relatively large amount of fixed capital which must be invested in the various enterprises of the farm. This capital, whether it is in the form of combines, tractors, cattle sheds, or silos, is constantly depreciating whether in use or not in use. The cost of the depreciation will go on and remains relatively fixed for the farm, consequently, it should be distributed over as many units of output as possible. To make this clearer, perhaps, it may be helpful to visualize an elaborate farm plant for the production of beef. The total depreciation cost for the cattle barns, pens, etc. will amount to approximately the same whether ten beeves or five hundred beeves are marketed. However, simple mathematics will show that if the total cost is distributed over the lesser number, the cost per hundred weight of beef will be higher than the same total cost would be if divided by the larger number of animals.

The "in and out" is the farmer who discontinues an enterprise when conditions look unfavorable and begins an enterprise when conditions appear favorable. He seldom proves to be successful.

In the long-time budget illustration of McPherson County no mention was made of a source of income due to affiliation with any of the various governmental programs now being offered to the farmer.

In the area budgets which follow, the income from affiliation with the Soil Conservation Program is considered in the long-time budget. The income is calculated both with and without the Soil Conservation Program as a source of income. It is left to the discretion of the operator whether or not the Soil Conservation Program should be considered a source of income in the budget.

Soils may be viewed as a mine from which everything is to be taken away, nothing returned, or the land may be farmed in such a way as to improve rather than ruin it.

The fundamental principle underlying the 1937 Agricultural Program is wise use of the land. Sixty per cent of the Agricultural Conservation Program payment is given for diverting land from a soil depleting to a soil conserving or neutral use. Normally McPherson County farmers use ninety-three and three-tenths per cent of their crop land for soil depleting crops and six and seven-tenths per cent of that land for soil conserving or neutral uses.

Payments are made for diverting an additional fifteen per cent to soil improvement uses. When the principle is applied to the modal farm the following results are secured: crop land one hundred fifty-six acres, ninety-three and three-tenths per cent of which is normally used

Table 6. McPherson County 1937 budget. Production and disposal of crops.

County McPherson
Size of farm 240

Crop land	156
Pasture	70
Woodland	2
Other uses	12

Crop	Production				Disposal			
	Acres	Yield	Quantity	Feed	Seed	Quantity	Sale Price	value
Wheat	99	18.4 bu:	1656 bu.		113 bu.	1543 bu.	\$ 1.00	\$1543.00
Corn	10							
Grain		20.5 bu:	205 bu.	183 bu.	2 bu.	15 bu.	.75	11.25
Stover								
Silage								
Oats	10	32.9 bu:	329 bu.	304 bu.	25 bu.	---		---
Barley								
Grain Sorghums	4							
Grain		23.9 bu:	95 bu.	94 bu.	1 bu.	---		---
Stover								
Silage		8.0 T.:	32 T.	32 T.	*			
Sweet Sorghums	9							
Forage	(7)	3.0 T.:	21 T.	21 T.				
Silage	(2)	10.0 T.:	20 T.	6 T.	$\frac{1}{2}$			
Alfalfa	15	2.3 T.:	34 T.	10 T.		24 T.	10.00	240.00
Sweet Clover	7		/					
Fallow	8							
List Other Crops								
Brome Grass	3		/					
TOTAL	156							\$1794.25

* Seed -- field selected.

/ Excess used to reduce pasture requirements.

/ Used for pasture.

for soil depleting crops on one hundred forty-five acres. The one hundred forty-five acres is known as the soil depleting base. The difference between one hundred fifty-six of total crop land and the soil depleting base of one hundred forty-five or eleven acres is known as the soil conserving base. The maximum which may be diverted for payment is fifteen per cent of one hundred forty-five acres or twenty-one and seven-tenths acres. An additional twenty-one and seven-tenths acres must be devoted to soil improvement crops if full diversion payment is to be received for 1937. Normally only eleven acres are used for such purposes. Applying both to the farm, eleven acres plus twenty-one and seven-tenths acres gives thirty two and seven-tenths acres of the one hundred fifty-six acres of crop land that must be devoted to soil conserving or neutral uses if the maximum Agricultural Conservation Program payment is to be received. Or, stated from the soil depleting crops point of view not more than one hundred twenty-four and three-tenths acres can be used for soil depleting crops in 1937. Payments for diverting twenty-one and seven-tenths acres in McPherson County are made at the rate of \$5.70 per acre. Twenty-one and seven-tenths acres times \$5.70 equals \$123.69.

The remaining forty per cent of the payment eligible to be earned is based upon soil improvement practices performed during the year on the farm. Various practices have different rates. For example, seeding and establishing a stand of alfalfa will earn \$4.00 per acre to be

applied on the payment earned; seeding and establishing a stand of sweet clover will earn \$2.00 per acre; contour farming of crop land carries a rate of \$0.50 per acre; terracing carries a rate of \$0.40 per one hundred feet of linear ditch. The acreage of pasture land also helps establish a soil building allowance. The soil building allowance is quite frequently referred to as the No. 2 payment. The bases for payment were established in 1936. At that time full payment was given as diversion payment. In 1937 the total basis for payment remains constant sixty per cent of the original being allotted for diversion and forty per cent for soil building allowance or No. 2 payment.

A summary of the 1937 Agricultural Program payments as applied to the McPherson County modal farm is as follows:

Table 7a

Agricultural Conservation Program

Rates:		Farm	Total acres	240
Diversion	<u>\$5.70</u>	Pasture	156	acres
Soil-building allowance	<u>\$3.60</u>	Cropland	<u>70</u>	acres

Normal for the county: 93.3% of cropland in soil-depleting crops.

<u>93.3%</u>	X	156	=	145	- soil-depleting base.
<u>156</u>	-	145	=	11	- soil-conserving base.
<u>145</u>	X	15%	=	21.7	- maximum diversion.
<u>145</u>	-	21.7%	=	123.3	- maximum soil depleting acres for 1937 to draw full diversion payment.

Maximum Diversion Payment:

<u>21.7</u>	X	5.70	=	123.69	X 100% productivity - \$123.69 - Maximum Class
		(rate)			
		I payment			

Soil-Building Allowance:

Diversion acreage of 21.7 acres x diversion soil-building allowance rate of \$3.90 x 100% productivity = \$82.46 plus \$1.00 x the soil-conserving base or soil-conserving acreage, whichever is the smaller.

$\$1.00 \times 11 = \11.00 plus the grazing capacity of the non-crop pasture $6 \times 50\% = \$2.50$ additional payment based upon the livestock carrying capacity of the non-crop pasture land. Total maximum soil-building allowance = \$96.46

Methods of Earning Soil-Building Allowance:

Alfalfa. Seeding and establishment of a good stand of alfalfa on crop land in 1937, either alone or with a nurse crop which is not harvested for seed, \$4.00 per acre. $\$4.00 \times 5 = \20.00 .

Biennial and Annual Sweet Clover and Lespedeza. Seeding and establishing a good stand on crop land in 1937, either alone or with a nurse crop which is not harvested for grain or hay. \$2.00 per acre x 7 = \$14.00.

Perennial grasses, including blue grass, orchard, Bermuda, Bromes, and western wheat grass. Seeding and establishment of a good stand on crop land in 1937 either alone or with a nurse crop which is not harvested for grain or hay, \$3.50 per acre x 2 = \$7.00.

Establishment of terraces on crop land in 1937 at 40¢ per 100 linear feet x 5000 = \$20.00.

Contour farming on crop land in 1937. \$0.50 per acre x 50 acres = \$25.00

Contour furrowing on non-crop pasture land at \$.50 per acre x 20 acres = \$10.00.

Any additional practices:

Total Agricultural Conservation Payment for the farm in 1937 \$220.15.

Summary of 1937 budget: The 1937 budget summary shows that a total net income for the farm is expected to be \$1464.39 with not more than a total of \$1659.22 or less than \$1269.57. The farm is credited with \$400.00 for income furnished the family as in the long-time budget. This estimate might justifiably be increased due to the increase in

Table 8. McPherson County 1937 budget. Livestock food requirements.

County McPherson
 Size of farm 240

Crop land 156
 Pasture 70
 Woodland 2
 Other uses 12

Livestock	Number	Forage Required			Grain Required	
		Legumes	Non-legumes	Silage	Corn and Sorghums	Cats and Barley
Deer Cattle	12	3 T.	9 T.	30 T.		57 bu.
Milk Cows	4	6 T.	4 T.	8 T.		37 bu.
Horses	3	1 T.	3 T.		27 bu.	
Swine	8				70 bu.	41 bu.
Chickens	150				185 bu.	20 bu.
Wolves		10 T.	21 T.	58 T.	282 bu.	504 bu.

prices in 1937 above the average. The expected income in 1937 is \$307.55 higher than the long-time expected income.

If, when a summary of the year's accounting has been made and the actual income should prove to be larger than the normally expected income, it would appear that a part of the additional should be reserved or placed in savings.

The reserves could be spent for any number of items, such as increasing the value of the inventory, buying a new tractor, making permanent improvements or increasing the cash reserves. Extreme care should be exercised in using the additional income for speculative purposes because the long-time budget shows that the farm furnished for 1937 a greater than normal income and the chances are that there will be a period when the reserve will be needed.

With the 1937 prices estimated to be higher than the ten year average price the income should be higher for 1937. Also a slight shift was made in the organization of the farm to take advantage of the higher expected wheat prices.

BUDGETS FOR DIFFERENT TYPE-OF-FARMING AREAS IN KANSAS

Area Planning

In March, 1935, C. R. Jaccard of the Kansas Extension Service called an agricultural conference, at Dodge City, Kansas, of farm leaders from eight surrounding counties for the purpose of studying the

Table 9. McPherson county - 1937 budget. Computation of net farm income.

County McPherson
 Size of farm 240

Crop land	156
Pasture	70
Woodland	2
Other uses	12

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$1794.25	Total costs based on per cent of gross income of		
Cash sale of livestock produce	808.42	60%	67%	75%
Miscellaneous receipts				
Total Receipts		\$2597.67	\$2597.67	\$2597.67
Gross Expenses				
Estimated 60% of gross income		1658.60		
Estimated 67% of gross income			1753.43	
Estimated 75% of gross income				1948.25
Total Expenses		\$1658.60	\$1753.43	\$1948.25
Cash Net Income Expectancy		\$1059.07	\$844.24	\$649.42
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.C.P. payment		220.15	220.15	220.15
List other income				
Other Expenses				
List other expenses				
Total Net Income for farm		\$1659.22	\$1464.39	\$1269.57

agricultural statistics of that area. At the conclusion of the conference, and prior to the enactment of the Agricultural Adjustment Act, it was recommended that a reduction of thirty per cent be made in the wheat acreage in the area.

In 1934 two similar conferences were held--one in Dodge City, Kansas, the other in Parsons, Kansas. Representatives from thirty-four Kansas counties were asked to attend. In 1935 agricultural conferences were held in Salina, Hutchinson, Lawrence, Dodge City, and Parsons with representatives from fifty-eight Kansas counties attending. In 1936 and 1937 conferences were held which included farm leaders from all Kansas counties.

In July, 1935, an experimental project was started at the suggestion of the Agricultural Adjustment Administration and conducted primarily by the Department of Agricultural Economics of the Kansas Agriculture Experiment Station. The purpose was to determine what adjustments in production would occur if the proper land use program were in operation on all the farms in the state. In previous work the state had been divided into fifteen type of farming areas, each area being composed of those counties in which one type of farming predominates.

In November, 1935, the Agricultural Adjustment Administration held a conference in Washington, D. C., with representatives from the various states. C. E. Jaccard attended for Kansas. Previous to this time considerable planning, similar to that carried on in Kansas as before mentioned, had been done concurrently but independently, in the various

states. At the Washington conference this work, to be coordinated on a national scale, was termed "area planning". The county agricultural planning project was initiated at this conference.

At each of the various conferences in Kansas conducted by Mr. Jaccard the agricultural statistics of the area were presented to the farm leaders. The number of acres of wheat, kafir, potatoes, milo, etc.; and the number of beef cattle, dairy cattle, hogs, and sheep was given to the leaders. The variability in crop yields and kinds and numbers of livestock kept was likewise presented. After Mr. Jaccard had completed his discussions using the statistics of the area as a basis for his presentation of facts, he had asked the farm leaders to suggest the changes that would be desirable for the area. A planning committee composed of three farmers was selected in each county early in the year 1937. The area planning recommendations are based on the combined suggestions of the county Planning Committee within an area.

Application of the County Planning Committee's Suggestion

The size of the farms upon which the suggestions of the Area Planning Committees have been applied is based upon the modal size in the area and the area required for an economical unit.

The original suggestions were made by the County Planning Committees, by counties. These suggestions were summarized by areas for 1937.

The crop and livestock distributions were made by the planning committees, the farm acreage distribution such as acres in pasture, acres in crop land and other uses were secured from the 1938 census reports.

It is not the purpose of this study to attempt to show an ideal farm in each area, but to apply the budget principles for the purpose of illustration.

Wheat Abandonment Affecting the Area Budget

The abandonment of winter wheat, given in Table 10, represents the abandonment by areas for the period 1911-1938. In areas 1 to 6b, inclusive, the abandonment was less than ten per cent in all cases. Since net income is calculated on the basis of the gross returns, it follows that a reduction in winter wheat acreage with a resulting decrease in gross receipts will bring about a proportional decrease in expenses. Therefore in areas 1 to 6b, it is believed that the difference in income due to the abandonment of winter wheat will be sufficiently small that the difference can be absorbed by the variations in income as suggested.

In type-of-farming areas 7 to 12, inclusive, however, the abandonment percentages are much greater. Much of the abandonment can be eliminated, however, by following the suggestions of the Area Planning Committees. Kansas Agricultural Experiment Station Bulletin 278

shows quite definitely that summer fallow as a seed-bed preparation for wheat, reduces to a major degree the abandonment of winter wheat. In those areas where the abandonment has been greatest the committees have suggested the greatest amounts of fallow. There is not yet available, by areas, the amount of abandonment when and if the seed-bed for wheat was prepared in accordance with the suggestions of the Area Planning Committees. Consequently, for the reasons given, the abandonment is not considered in the budget calculations. However the abandonment data, as recorded by the State Board of Agriculture is cited on the summary sheet of each area from seven to twelve, inclusive.

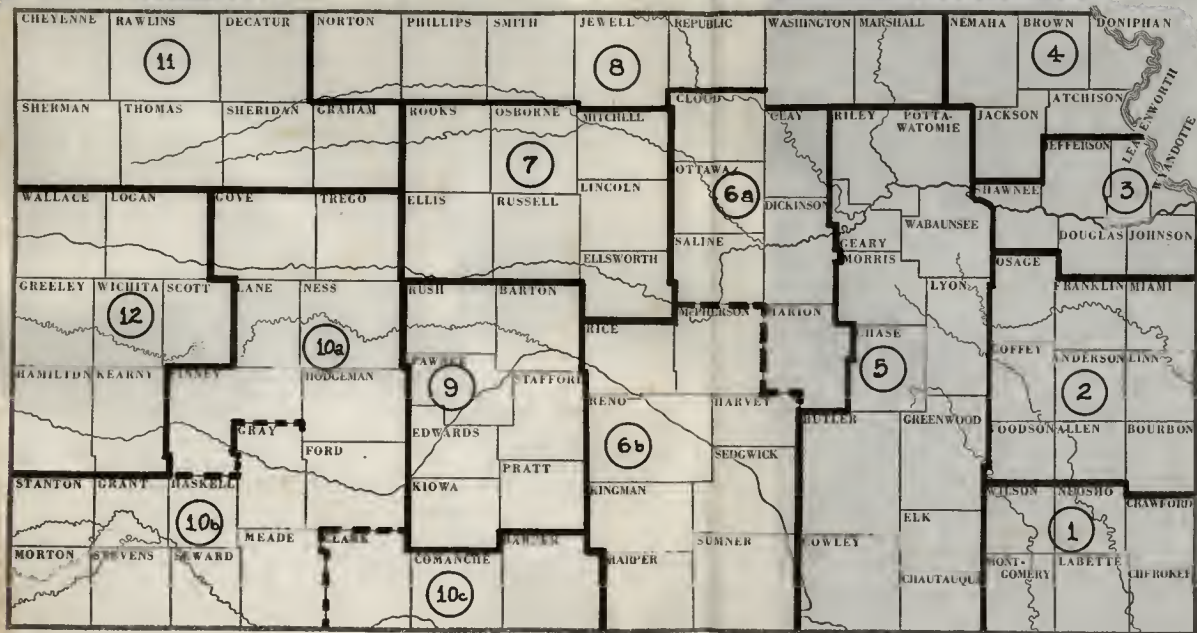
Area Budgets

For convenience in studying a large number of farms, farms are grouped in various ways, for example, wheat farms, cattle farms, dairy farms, poultry farms, etc. In the area planning work and the budget study in this thesis, farms are grouped according to the predominant type of farming. A map showing the farming areas by counties is shown in Figure 1.

The yield information by areas and also by counties is given on pages 155 to 169, inclusive.

Budget standards for livestock requirements and production are given by areas on pages 145 to 154, inclusive.

Perhaps the most glaring erroneous assumption in the study of the



TYPE-OF-FARMING AREAS IN KANSAS
 (Revision of Fig. 18, Bul. 251)

application of the Area Planning Committee's suggestions is the interpretation of the livestock data. It is agreed among the agricultural leaders that the livestock data at present are insufficient for the accurate determination of livestock income. For example, what is the relationship between the number of hogs on January 1 and the number of hogs produced on farm for the year, or the number of cattle on hand January 1 and the number of cattle produced during the year?

The basic livestock information given by the Area Planning Committees is the January 1 numbers of livestock. For the purpose of this study it is assumed that one-third of the hogs produced for the year were found on the farms January 1. This assumption was derived from the fact, that on the average, there are two litters of pigs farrowed in the spring for each litter farrowed in the fall. The number of cattle found on the farms on January 1 is factored by eight-tenths to show the number of mature cattle livestock units. It is not the purpose of the study to draw any definite conclusions as to the numbers of livestock to be kept. The method of budgeting and the attempt to calculate the livestock income only are of major importance.

Method of budgeting by areas: At the outset, a study of the statistics of each area was made. The total land area was determined from the Agricultural Census of 1935, and the number of farms from the Agricultural Census reports of 1910, 1915, 1920, 1925, 1930, and 1935. The utilization of the land was secured primarily from the last census report, that of 1935. The crop yields were obtained, by years for the

years since 1911, or for as many years as were readily available and dependable. Livestock records are those secured over a period of years, principally the past five or ten years.

From the statistics of each area, the land utilization was placed upon a percentage basis in order to budget more accurately. Area 10b is being used for the purpose of illustration. For that reason the budget for area 10b will be out of order in relation to the other budgets, which will be illustrated in the study. In the summary of statistics for area 10b as shown in Table 11a, the 2,890,431 acres in crop land represent sixty-seven and four-tenths per cent of the farm land in the area; the 631,596 acres of idle land represent fourteen and six-tenths per cent of the farm land in the area; and pasture, 1,280,470 acres, thirty per cent of the total land in farms in the area. According to the Reconnaissance Soil Survey of Western Kansas, Bureau of Soils, 1912, there were 2,029,928 acres adapted to wheat production, 200,247 acres adapted to corn production, 69,086 acres to alfalfa, and 977,487 acres to the growing of row crops other than corn, in area 10b. Either on the individual farm or by areas, recognition must be given to the amount of land adapted to the particular crops in question.

The summary sheet of the final "County Planning Project of 1937" for area 10b is shown in Table 11a, page 51, and may be explained a little more fully here. The counties composing this type of farming area are the following: Stanton, Morton, Grant, Stevens, Haskell, Seward, Gray, Meade, and Ford. The first column in Table 11a is self-

Final summary of the county planning project of Kansas.

Area 10b
Table 11a

	Item (1)	Revised by gr. exp. Station (2)	1937 C. P. C. (3)	For cent of crop of land (4)	Per cent of farm land (5)
1	Crop land, Total	2,857,000	2,890,431		67.4
2	Idle or fallow	41,000	631,596	21.8	14.6
3	Pasture land in farms	1,353,000	1,290,470		30.0
4	Woodland in farms (M. P.)	1,000	1,629		---
5	All other land in farms	129,962	116,837		2.6
6	Total land in farms	4,340,962	4,310,367		
7	Land not in farms	41,948	74,853		
8	TOTAL LAND AREA	4,382,910	4,385,220		
9	Corn	122,000	80,359	2.9	2.0
10	Grain Sorghums for grain	308,000	362,551	10.5	7.1
11	Fora of Sorghums	89,000	75,996	2.7	1.8
12	Wheat, all types	1,201,000	1,519,717	32.4	35.3
13	Oats, for grain		5,250	.2	.1
14	Barley, for grain		3,000	.1	---
15	Alfalfa, cut for hay	20,000	13,500	.5	.3
16	All other harvested Crops	276,000	146,624	5.0	3.5
17	Green Manure or cover		114,658	3.9	2.7

Live Stock

				No. per 100 acres farm land (4 & 5)
18	Total cattle	180,721	98,625	2.3
19	Cows milked	14,765	18,473	.4
20	Total hogs and pigs	18,729	34,927	.8
21	Total sheep and lambs	6,294	10,272	.2
22	Total horses, mules, colts	23,189	16,033	.3
23	Chickens	377,946	412,926	9.6

explanatory. Column 2 shows the suggestions of the Kansas Agricultural Experiment Station relative to land utilization and the numbers and kinds of livestock to be kept in the area. Column 3 represents the suggestions of the Area Planning Committee for 1937, also relative to the land utilization and the kinds and numbers of livestock that are suggested to be kept in the area. In column 4 is given the percentage of the crop land devoted to the respective uses. Column 5 gives the percentages of the farm land devoted to the respective uses. Columns 4 and 5, under the general heading, "Livestock" show the suggestions of the County Planning Committee relative to the kinds and numbers of livestock to be kept on each one hundred acres of farm land in the area.

For a more comprehensive presentation of the statistics the percentages were applied to a modal farm of 1200 acres. The suggested modal farm organization for area 10b is given here as an illustration and was set up by following this procedure; and will be used in testing out the farm organization by the budget method.

Table 11b. Distribution of the Farm Acreages.

Area 10b
Size of Farm 1200

	Per Cent	Aeres
Farm in crop land	67.4	863
Farm in pasture	30.0	364
Farm in woodland	2.6	33

Table 11c. Production and disposal of crops.

Area 10b
Size of farm 1280

Crop land	963
Pasture	334
Woodland	0
Other uses	33

Crop	Production					Disposal		
	Acres	Yield	Quantity	Food	Seed	Quantity	Price	Value
Wheat	462	15.1 bu.	6925 bu.		226 bu.	6999 bu.	\$0.87	\$5741.13
Corn	25							
Grain	(25)	13.5 bu.	337 bu.		4 bu.	335 bu.	.61	205.15
Stover	(15)	1.5 T.	22 T.	22 T.				
Silage								
Oats								
Barley								
Grain Sorghams	90							
Grain		15.5 bu.	1395 bu.	322 bu.	15 bu.	588 bu.	.62	290.16
Stover								
Silage								
Sweet Sorghams	24					---		
Forage		2.2 T.	52 T.	52 T.				
Silage								
Alfalfa	5	2.3 T.	11 T.	11 T.		---		
Sweet Clover								
Fallow	253							
List Other Crops								
Cover Crop	34	15.5 bu.	527 bu.		6 bu.	521 bu.	.62	270.92
TOTAL	865							6505.32

* Abandonment 32.0% for the area. See page 166.

Table 13. Livestock feed requirements.

Area 10b
 Size of farm 1200

Crop land	863
Pasture	384
Woodland	0
Other uses	33

Livestock		Roughage Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Beef Cattle	19	3 T.	54 T.			
Milk Cows	5	8 T.	8 T.		23 bu.	
Horses	4		12 T.		236 bu.	
Pigs	30				429 bu.	
Sheep						
Chickens	100				134 bu.	
TOT		11 T.	74 T.		822 bu.	

Table 14. Computation of net farm income.

Area 10b
Size of farm 1280

Crop land	<u>863</u>
Pasture	<u>302</u>
Woodland	<u>0</u>
Other uses	<u>33</u>

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$6505.34	Total costs based on per cent of gross income of		
Cash sale of livestock produce	1253.38			
Miscellaneous receipts		60%	67½%	75%
Total Receipts		\$7758.72	\$7758.72	\$7758.72
Gross Expenses				
Estimated 60% of gross income		4655.23		
Estimated 67½% of gross income			5237.14	
Estimated 75% of gross income				5819.04
Total Expenses		\$4655.23	\$5237.14	\$5819.04
Cash Net Income Expectancy		\$3103.49	\$2521.58	\$1939.68
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.C.F. payment		937.06	937.06	937.06
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$4440.55	\$3858.64	\$3276.74

Table 14a

Area 10b. Distribution of the crop acreages
applied to the model farm

	per Cent Crop land	Acres	Revised to meet Agricultural Conservation Program for 1957
Wheat	52.4	452.2	452
Corn	2.9	25.6	25
Oats	0.2	1.7	0
Barley	.1	.9	0
Grain Sorghums	10.5	90.6	90
Forage Sorghums	2.7	23.5	24
Alfalfa	.5	4.5	5
Sorghum Cover Crop	3.9	33.7	34
List Other Crops	5.0	43.1	0
Fallow	21.8	189.1	233

Livestock

Kinds and Numbers

Beef Cattle	19
Milk Cows	5
Horses	4
Hogs	30
Chickens	100

The statistics were somewhat incomplete in that five per cent of the land was listed as being in "other crops"; in the revision it was considered as being in fallow. Slight revisions were necessary from a practical point of view. For example, in the column, "Per cent of Crop land", it is shown that one-tenth of one per cent is used for barley production, or an acreage of barley, when the percentage is applied to the crop acreage of eight hundred sixty-three, of nine-tenths acres.

It would be illogical to suggest that a farmer operating eight hundred sixty-three acres of crop land should include such a fraction of his acreage as barley acreage. Consequently, barley was not included in the farm organization.

Table 12b.

Returns Per Crop Acre			
Crop	Yield	Price per bu.	Return per acre
Wheat	15.1	.97	\$14.65
Corn	15.5	.61	9.25
Grain Sorghums	15.5	.52	8.06

Considered from the basis of return per acre alone, wheat gives the greatest return, but it does not appear that wheat should be grown to the extent of four hundred fifty-two acres as compared to twenty-five acres of corn and ninety acres of grain sorghums. At this point another factor must be mentioned. The crop yields were secured on lands adapted to corn production, and consequently the gross return per crop acre cannot be used exclusively in determining the acreages of crops. In addition corn yields are rather erratic in the area. However, it is the opinion of members of the staff of the Kansas Experiment Station that 122,000 acres of corn should be grown in the area as indicated by line 9, column 2, Table 11a, page 51.

The sorghums are grown because of the higher yields secured and because sorghums are better adapted to more of the land in the area and are a more dependable source of winter livestock feed than corn.

The livestock numbers are found in the county planning committee's summary on page 51, in lines 18 to 23, inclusive. The numbers are not shown in per cent but in numbers of animals per one hundred acres of farm land.

Crop yields were secured from Table 92 and increased in accordance with legume acreages or crop practices in rotation. Yields of wheat in area 10b are in accordance with Table 92.

In area 10b alternate wheat and fallow practice will increase the yields of wheat seventy-five per cent. (See Farm Organization Recommendations and Schedules.)

In this instance, however, there are but two hundred thirty-three acres of fallow and five acres of alfalfa on a farm with four hundred fifty-two acres of wheat. Therefore, the wheat yield cannot be increased the maximum percentage but only that part of seventy-five per cent which the actual fallow and legume acreage is of the acreage required to give a full seventy-five per cent increase in yield. This fraction and result may be shown by the following equation.

$$\frac{233}{452} \cdot X = 233 \cdot \frac{41}{75} \text{ or } X = 41\%$$

Original wheat yield for 10b was 10.7 bushels per acre in accordance with Table 92. $10.7 \times 141\% = 15.1$ bu. per acre. The yields in the respective acres have been calculated in a similar manner.

All factors affecting the crops income and its distribution, the suggestions of the planning committee relative to utilization of the farm and crop lands, the yield, feed, and seed standards and require-

ments, the abandonment percentages, the recommendations of the experiment station, and average long-time prices are brought together in a summary in Table 11b for area 10b. In this table is shown the expected production, by crops, of the different crop enterprises, the disposal of that production, and the income that may be expected.

Livestock budgets: In the budgeting for livestock two considerations are given, the feed required and the expected production. As mentioned before livestock are kept principally to utilize feeds or products of the soil which have little or no cash value. On the modal farm in 10b there are three hundred eighty-four acres of pasture. According to the standard pasture requirements for area 10b found in Table 79, fourteen acres of grass are required per mature livestock unit and four acres for each horse. The Area Planning Committees have suggested that nineteen head of beef cattle, five head of milk cows and four head of horses be kept on the farm. According to the above standard the beef and dairy cattle would require three hundred thirty-six acres of grass and the horses sixteen acres making a total of three hundred fifty-two acres of the three hundred eighty-four acres of grass utilized, with a slight reserve remaining unused.

The expected production of the livestock has been budgeted in accordance with the budget standards for area 10b as shown in Table 55. A summary of the Production and Disposal of Livestock and Livestock Products for the modal farm in 10b is shown in Table 56.

It is not usually considered a good business practice in area 10b

to depend upon purchasing cattle for the grazing season and then disposing of them after the grazing season. Therefore feed crops are provided in the budget, to supply winter feed for the livestock.

The feed requirement standards of 10b have been applied to the farm in Table 13. Twenty-two tons of corn stover, fifty-two tons of sorghum forage and eleven tons of alfalfa hay were required to meet the forage requirements of the livestock kept on the farm.

In addition to the cattle and horses for the farm, thirty head of hogs were to be produced annually and one hundred head of poultry are to be kept. The grain requirements for the livestock are shown in Table 13. The summary shows that eight hundred twenty-two bushels of corn and sorghums will be needed for livestock feed on the farm. The crops which are not needed for livestock feeds are budgeted to be disposed of as shown in Table 13.

The computation of the net farm income will be found in Table 14. The prices used are the average Kansas farm prices for 1925 to 1934 as shown in Table 1. A description of how the costs on the farm were computed may be found on pages 31 to 33.

With the farm budgeted to a given standard as illustrated and the farm a proportionate part of a particular area by increasing the modal farm to the size of the area, the budget for the area might be calculated. The land utilization suggestions together with the suggestions as to kinds and numbers of livestock shown in column 3, Table 11a were

calculated for the area by starting with a particular farm and then increased to the general area.

It is difficult to farm-budget by areas without reducing the tract involved to a familiar size; therefore, the area is divided, or subdivided, until the part becomes a familiar size. Each of the fifteen budgets for the respective type-of-farming areas in Kansas are calculated on the modal farm size for the area, which is the familiar size.

Income due from Agricultural Conservation Program sources has been added to the gross net income of the farm. The Agricultural Conservation Programs for the counties comprising area 10b have been summarized and averaged for the area. The requirements for full payment as set forth by the Agricultural Adjustment Administration 1937 Agricultural Conservation Program has been applied to the modal farm and the payment due the farm was found to be \$937.06 as shown in Table 14. Modal farms for each area were handled in a similar manner and if found to be eligible for an Agricultural Adjustment Payment, such payment was added to the net income of the farm.

The Planning Committee's recommendations as to numbers of livestock kept per hundred acres of farm land are applied to the modal farm for area 10b in Table 12 and 13. The standards for livestock production and livestock feed requirements as found in Table 79, have been applied to the livestock numbers for the farm to arrive at the total livestock production and total feed needed by kinds of animal. Then the price standards found in Table 1 have been used with the total production and

the total income from the marketing of livestock and livestock products has been calculated, first by kind of animal, and then by total animals.

Table 14, Computation of Net Farm Income, gives a financial summary of the modal farm for area 10b. The expected cash incomes from the sale of crops, the sale of livestock and livestock products, and from miscellaneous sources are added to show the total cash income expectancy for the farm. From this total are subtracted the estimated expenses to arrive at the total cash net income expectancy. To this is added any other source of income, such as that furnished by the farm to the farm family, and the payments for compliance with the Agricultural Conservation Program. From this grand total are then lastly deducted any other expenses of the farm, and the remainder is the expected total net income for the farm.

In area 1 a soils condition exists which encourages the budgeting of livestock. The area as a whole has a heavy impervious subsoil which creates a serious drainage problem and which is better adapted to the growing of grasses than field crops. Consequently, relatively large numbers of livestock are provided to utilize the tame and wild grasses. It is difficult to grow alfalfa successfully without the use of lime and commercial fertilizer; therefore only a small acreage of alfalfa is budgeted, with sweet clover and brome grass largely taking its place.

From the standpoint of returns per crop acre, wheat occupies an advantageous position in area 1. Therefore, a greater acreage of it is budgeted than other crops. Its yield at seventeen bushels can be in-

increased by the use of commercial fertilizers, this area being one of the few areas in Kansas that will respond readily to the use of commercial fertilizers. Because of the soil situation, sorghums are substituted for corn resulting in a greater acreage of grain and sweet sorghums than corn in the area.

An analysis of Table 14 shows an expected income of \$393.84 from the cash sale of crops, and of \$631.38 from livestock and livestock products. This large proportion of income from livestock might be expected since livestock are budgeted to utilize the products of the soil. Since only the products of twenty-nine acres, eighteen acres of wheat and eleven acres of corn are sold directly for cash, the products of the remaining one hundred thirty-one acres of the one hundred sixty acres on the farm must be marketed indirectly through livestock.

In area 2 with a livestock budget as shown in Table 22 the estimate of the gross income from livestock and livestock products is \$793.79 and the income from the cash sale of crops is \$213.53. As suggested by the Planning Committees this area would have approximately forty-seven per cent of the total land in native pasture, with corn as the principal crop. Seven beef cattle and four milk cows are budgeted to utilize the grass land of the farm. Within the area two milk condenseries are located which tend to stimulate the whole milk market.

Flax is included in the budget and competes with wheat and oats. A flaxseed mill is located in the area which stimulates flax production.

Table 15. Production and disposal of crops.

Area 1
Size of farm 100

Crop land	81
Pasture	59
Woodland	4
Other uses	16

Crop	Production				Disposal			
	Acres	Yield	Quantity	Feed	Seed	Quantity	Sale Price	Value
Wheat	18	17.0 bu.	306 bu.		23 bu.	283 bu.	\$0.87	\$246.21
Corn	15							
Grain	(15)	21.6 bu.	324 bu.	138 bu.	3 bu.	183 bu.	.61	111.63
Stover								
Silage								
Oats	12	20.5 bu.	342 bu.	310 bu.	32 bu.	---		
Barley								
Grain Sorghums	9							
Grain	(9)	21.2 bu.	190 bu.	188 bu.	2 bu.	---		
Stover								
Silage								
Sweet Sorghums	7							
Forage	(7)	5.2 T.	22 T.	22 T.	*			
Silage								
Alfalfa	7	2.7 T.	18 T.	12 T.		6 T.	6.00	36.00
Sweet Clover	6							
Fallow								
List Other Crops								
Erume Grass	7							
Truck Crops	1 [#]							
TOTAL	81							\$398.84

* Seed -- field selected.

Home consumption.

Table 17. Livestock feed requirements.

Area 1
Size of farm 160

Crop land	<u>81</u>
Pasture	<u>59</u>
Woodland	<u>4</u>
Other uses	<u>16</u>

Livestock		Roughage Required			Grain Required		
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley	
Beef Cattle	5	6 T.	10 T.			23 bu.	
Milk Cows	4	6 T.	6 T.			39 bu.	
Horses	3		6 T.		80 bu.	93 bu.	
Hogs	15				151 bu.	88 bu.	
Sheep	0						
Chickens	100				95 bu.	68 bu.	
TOTAL		12 T.	22 T.		326 bu.	310 bu.	

Table 18. Computation of net farm income.

Area 1
Size of farm 160

Crop land	81
Pasture	59
Woodland	4
Other uses	16

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$393.84	Total costs based on per cent of gross income of		
Cash sale of livestock produce	631.58			
Miscellaneous receipts		60%	67 $\frac{1}{2}$ %	75%
Total Receipts		\$1025.22	\$1025.22	\$1025.22
Gross Expenses				
Estimated 60% of gross income		615.13		
Estimated 67 $\frac{1}{2}$ % of gross income			692.02	
Estimated 75% of gross income				768.91
Total Expenses		\$615.13	\$692.02	\$768.91
Cash Net Income Expectancy		\$410.09	\$333.20	256.31
Other Income				
Gross family income furnished by farm		\$400.00	\$400.00	\$400.00
A.C.P. payments		91.75	91.75	91.75
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$901.84	\$624.95	746.06

Alfalfa does not grow abundantly in the area without the use of lime and commercial fertilizer; therefore, annual legumes such as soybeans and compeas are used. Brome grass is budgeted to supply pasture and to be used as a water erosion preventing crop.

Large acreages of wheat and oats are not grown because of the comparative advantage of corn with the usual price relationships.

The modal size farm is one hundred sixty acres. The eighty-acre size also occurs frequently. On this size farm the organization of the farm is similar to the one hundred sixty-acre size but does not include wheat as one of the farm crops.

As compared to area 1, area 2 has more beef cattle pasture and hay crops and this condition is shown where a comparison is made of the two budgets.

Area 3 is located in the northeastern part of the state in the Kansas River Valley and is the area surrounding Kansas City, Lawrence, Topeka, and Leavenworth.

The modal size farm is one hundred sixty acres, with a large number of farms of one hundred twenty, eighty, forty, and twenty-acre sizes. This condition makes it difficult to describe the area by one budget. The smaller farms are as a rule truck, fruit, and dairy farms. Some part time self-sufficing farms occur.

Wheat is grown little if any on the small farms. A study of the budget as shown in Table 23 shows that corn is the major field crop with wheat, oats, alfalfa, and brome grass of about equal secondary importance.

Table 19. Production and disposal of crops.

Area 2
Size of farm 160

Crop land	66
Pasture	76
Woodland	8
Other uses	15

Crop	Production				Disposal			
	Acres	Yield	Quantity	Feed	Seed	Quantity	Price	Value
Wheat	8	19.0 bu.	152 bu.		10 bu.	142 bu.	\$0.87	\$123.54
Corn	20							
Grain	(20)	24.6 bu.	492 bu.	359 bu.	4 bu.	129 bu.	.61	76.69
Stover	(6)	1.5 T.	9 T.	9 T.		---		
Silage								
Oats	7	28.7 bu.	200 bu.	162 bu.	18 bu.	---		
Barley								
Grain Sorghums	6							
Grain	(6)	24.9 bu.	149 bu.	148 bu.	1 bu.	---		
Stover								
Silage								
Sweet Sorghums	4	3.8 T.	15 T.	15 T.	*	---		
Forage								
Silage								
Alfalfa	6	2.7 T.	16 T.	16 T.		---		
Sweet Clover								
Soybeans	4				#			
Fallow								
Brome Grass	7				#			
List Other Crops								
Annual Legumes	2				#			
Flax	2	5.9 bu.	11 bu.		1 bu.	10 bu.	1.63	16.30
TOTAL	66							\$218.53

* Seed -- field selected.

Used for pasture.

Table 21. Livestock feed requirements.

Area 2
Size of farm 160

Crop land	66
Pasture	76
Woodland	3
Other uses	15

Livestock		Roughage Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Deef Cattle	7	10 T.	12 T.			33 bu.
Milk Cows	4	6 T.	6 T.			30 bu.
Horses	3		6 T.		81 bu.	94 bu.
Hogs	22				302 bu.	
Sheep						
Chickens	100				124 bu.	17 bu.
TOTAL		16 T.	24 T.		507 bu.	182 bu.

Table 22. Computation of net farm income.

Area 2
Size of farm 160

Crop land	66
Pasture	76
Woodland	5
Other uses	15

Gross receipts	Subtotals	Grand Totals		
Cash sale of crops	218.53	Total costs based on per cent of gross income of		
Cash sale of livestock produce	798.79			
Miscellaneous receipts		60%	67%	75%
Total receipts		\$1017.82	\$1017.82	\$1017.82
Gross Expense				
Estimated 60% of gross income		610.69		
Estimated 67% of gross income			686.69	
Estimated 75% of gross income				762.90
Total Expenses		\$610.69	\$686.69	\$762.99
Cash Net Income Expectancy		\$407.93	\$331.63	\$254.83
Other Income				
Gross family income furnished by farm		\$400.00	\$400.00	\$400.00
A.C.P. payment		94.15	94.15	94.15
List other income				
Other Expenses				
List other expenses				
Total Net Income for Farm		\$901.08	\$824.78	\$749.40

Water erosion is a serious problem in the area, consequently, there is a tendency to grow less corn and more cover crops such as the small grains, grasses, and legumes. Grain or forage sorghams are grown little in the area. This is shown by the small acreages of these crops appearing in the budget.

The livestock budget shows a smaller number of beef animals and a larger number of dairy animals than occur in the previous budgets. Being located in an area where there is a better market for whole milk causes this shift to dairy animals.

In years when good corn crops are grown there is a tendency toward winter feeding of beef cattle in the area.

Hogs are budgeted in comparatively large numbers for the purpose of utilizing the corn. As compared to areas 1 and 2, area 3 produces considerably more corn when both the acreage and yields are considered. Alfalfa can be used and is grown to a considerable extent in the area. The growing of alfalfa as an enterprise correlates well with dairy cattle enterprise. Also, it is near a market, if a surplus is produced.

Mention has been made of the large number of small farms upon which little if any wheat is grown. On the large farms located some distance from the larger cities there is a larger proportion of wheat on the farms than is indicated in the budget on Table 25.

The net returns for the farm as indicated in Table 26 are materially higher than in area 1 and 2. This is due mainly to the higher productivity of the farm land.

Table 28. Production and disposal of crops.

Area 3
Size of farm 160

Crop land	81
Pasture	64
Woodland	4
Other uses	11

Crop	Production					Disposal		
	Acres	Yield	Quantity	Feed	Seed	Quantity	Sale Price	Value
Wheat	12	20.9 bu.	250 bu.		15 bu.	235 bu.	\$0.87	\$204.45
Corn	29							
Grain	(29)	31.5 bu.	913 bu.	739 bu.	5 bu.	169 bu.	.61	103.09
Stover	(2)	1.5 T.	3 T.	3 T.		---		
Silage								
Oats	10	37.2 bu.	372 bu.	347 bu.	25 bu.	---		
Barley								
Grain Sorghams	2							
Grain	(2)	29.5 bu.	59 bu.	58 bu.	1 bu.	---		
Stover								
Silage								
Sweet Sorghams	3							
Forage	(3)	4.0 T.	12 T.	12 T.	*	---		
Silage								
Alfalfa	9	2.8 T.	25 T.	25 T.		---		
Sweet Clover	4				#			
Fallow								
List Other Crops								
Brome Grass	10				#			
Annual Legumes	2				#			
TOTAL	81							\$807.64

* Seed -- field selected.

Used for pasture.

Table 25. Livestock feed requirements.

Area 3
Size of farm 160

Crop land	<u>81</u>
Pasture	<u>64</u>
Woodland	<u>4</u>
Other uses	<u>11</u>

Livestock		FORAGE REQUIRED			GRAIN REQUIRED	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Doof Cattle	5	13 T.	3 T.			55 bu.
Milk Cows	5	8 T.	8 T.			47 bu.
Horses	4	4 T.	4 T.		107 bu.	125 bu.
Eggs	50				601 bu.	42 bu.
Sheep						
Chickens	100				89 bu.	78 bu.
TOTAL		25 T.	15 T.		797 bu.	347 bu.

Table 26. Computation of net farm income.

Area 3
Size of farm 160

Crop land	81
Pasture	64
Woodland	4
Other uses	11

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$ 307.54	Total costs based on per cent of gross income of		
Cash sale of livestock produce	1263.47			
Miscellaneous receipts		60%	67%	75%
Total Receipts		\$1571.01	\$1571.01	\$1571.01
Gross Expenses				
Estimated 60% of gross income		942.61		
Estimated 67% of gross income			1060.43	
Estimated 75% of gross income				1178.26
Total Expenses		\$942.61	\$1060.43	1178.26
Cash Net Income Expectancy		\$628.40	\$510.58	\$392.75
Other income				
Gross family income furnished by farm		\$400.00	\$400.00	\$400.00
A.G.P. payment		128.74	128.74	128.74
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$1157.14	\$1039.32	\$821.49

Area 4, in the extreme northeastern section of Kansas, is one of the major corn producing areas of the state. The budget in Table 27, shows thirty-eight acres budgeted for corn out of a total of ninety-three acres of crop land on the one hundred sixty-acre farm. The modal farm size is one hundred sixty acres with eighty acre farms frequently occurring. Many smaller farms are found, the smaller farms specializing in fruit and truck crops. From the standpoint of gross returns per crop acre corn has a distinct advantage in the area. However, water erosion is a serious problem for two reasons. The soil is of the glacial type subject to severe water erosion and much of the area is rolling to hilly in topography. On the rolling lands more pasture and less corn is found and on the more level lands more corn and less pasture is the rule. The alfalfa, broms grass, oats and wheat are grown principally on the rolling lands for soil improvement, rotation and for the prevention of water erosion.

Red clover is grown in the area as a soil improvement crop similar to sweet clover but red clover has an advantage in that it is also an excellent hay crop.

From a livestock standpoint the budget differs little from the other areas so far discussed except in the numbers of beef cattle and hogs. Sixty hogs are budgeted for the large number. However, with an average yield of thirty-two bushels per acre and with thirty-eight acres of corn budgeted a comparatively large amount of grain is expected to be produced. The hogs are budgeted as a means of marketing the corn.

Table 17. Production and disposal of crops.

Area 4
Size of farm 160

Crop land	93
Pasture	53
Woodland	3
Other uses	6

Crop	Production					Disposal		
	Acres	Yield	Quantity	Feed	Seed	Sale		
						Quantity	Price	Value
Wheat	15	21.5 bu.	322 bu.		19 bu.	303 bu.	\$0.87	\$263.61
Corn	38							
Grain	(38)	32.0 bu.	1216 bu.	875 bu.	7 bu.	334 bu.	.61	203.74
Stover	(2)	1.5 T.	3 T.	3 T.		---		
Silage								
Oats	12	35.5 bu.	426 bu.	395 bu.	31 bu.	---		
Barley								
Grain Sorghums	1	23.9 bu.	28 bu.	27 bu.	1 bu.	---		
Grain								
Stover								
Silage								
Sweet Sorghums	5	3.4 T.	10 T.	10 T.	*			
Forage								
Silage								
Alfalfa	11	2.7 T.	29 T.	29 T.		---		
Sweet Clover	6			#				
Fallow								
List Other Crops								
Brome Grass	7			#				
TOTAL	93							\$467.35

* Seed -- field Selected.

Used for pasture.

Table 29. Livestock feed requirements.

Area 4
Size of Farm 160

Crop land	<u>93</u>
Pasture	<u>58</u>
Woodland	<u>3</u>
Other uses	<u>6</u>

Livestock		FORAGE REQUIRED			GRAIN REQUIRED	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghams	Grain and Barley
Beef Cattle	7	19 T.	3 T.			77 bu.
Milk Cows	4	6 T.	6 T.			33 bu.
Horses	4	4 T.	4 T.		107 bu.	125 bu.
Hogs	60				706 bu.	77 bu.
Sheep						
Chickens	100				89 bu.	70 bu.
TOTAL		29 T.	13 T.		902 bu.	395 bu.

Table 30. Computation of net farm income.

Area 4
Size of farm 160

Crop land	93
Pasture	58
Woodland	3
Other uses	6

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	1,467.35	Total costs based on per cent of gross income of		
Cash sale of livestock produce	1,407.17	60%	67%	75%
Miscellaneous receipts				
Total Receipts		\$1,074.52	\$1,074.52	\$1,074.52
Gross Expenses				
Estimated 60% of gross income		1,124.71		
Estimated 67% of gross income			1,265.30	
Estimated 75% of gross income				1,405.83
Total Expenses		\$1,124.71	\$1,265.30	\$1,405.83
Cash Net Income Expectancy		\$ 749.81	\$ 809.22	\$ 668.69
Other income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.C.P. payment		142.19	142.19	142.19
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$1,292.00	\$1,151.41	\$1,010.82

Area 4 is also known as a beef producing area. This is indicated in the budget by seven beef cattle. Winter feeding of beef cattle is common following years of good corn crops.

The productivity of the area is the highest in Kansas as indicated by Table 84, showing the average yields. Also, the carrying capacity of the pastures is high as indicated by Table 72. The high productivity of the land is reflected in the high net income shown in Table 50.

Area 5 is known as the blue stem region of Kansas. A large proportion of the area is rolling to hilly and is particularly adapted to native grass.

The budget for the area as shown in Tables 31 to 34, inclusive, indicates that the average or modal size is larger than the other areas previously discussed. The modal size three hundred twenty acres is not fairly representative. Much of the grazing area is in large tracts of six hundred forty acres or more and much of the cultivated land is in river bottoms and creek valleys in farms of one hundred sixty and two hundred forty acres. Less of the total farm land is cultivated than in area 4. The major cultivated lands in the area is made up of river or creek bottom soils. The budget of livestock shows sixteen head of beef cattle, four dairy cows, forty head of hogs, and one hundred chickens. The chickens, hog numbers, and dairy cows are similar to the other budgets but the beef cattle numbers are much greater. The budget is built somewhat around the utilization of the grass crop of the farm with sufficient feed crops grown to supply the livestock during the non-

Table 31. Production and disposal of crops.

Area 5
Size of farm 320 acres

Crop land	107
Pasture	188
Woodland	5
Other uses	20

Crop	Production			Disposal				
	Acres	Yield	Quantity	Feed	Seed	Quantity	Price	Value
Wheat	17	20.7 bu.	351 bu.		22 bu.	329 bu.	\$0.87	\$286.23
Corn	52							
Grain	(32)	25.1 bu.	803 bu.	417 bu.	6 bu.	380 bu.	.61	231.80
Stover								
Silage								
Oats	11	33.6 bu.	369 bu.	341 bu.	28 bu.	---		
Barley								
Grain Sorghums	12							
Grain	(12)	24.4 bu.	292 bu.	290 bu.	2 bu.	---		
Stover								
Silage								
Sweet Sorghums	10							
Forage	(10)	3.6 T.	36 T.	33 T.	*			
Silage								
Alfalfa	12	2.7 T.	32 T.	32 T.				
Sweet Clover	6			#				
Fallow								
List Other Crops								
Brome Grass	7			#				
TOTAL	107							\$518.03

* Seed -- field selected.

Used for pasture.

Table 32. Livestock feed requirements.

Area 5
Size of farm 320

Crop land	<u>107</u>
Pasture	<u>168</u>
Woodland	<u>5</u>
Other uses	<u>20</u>

Livestock		Fodder Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Beef Cattle	16	26 T.	22 T.			125 bu.
Milk Cows	4	6 T.	6 T.		18 bu.	
Horses	4		8 T.		107 bu.	125 bu.
Hogs	40				493 bu.	13 bu.
Sheep						
Chickens	100				89 bu.	78 bu.
TOTAL		32 T.	36 T.		727 bu.	341 bu.

Table 54. Computation of net farm income.

Area 5
Size of farm 320

Crop land	107
Pasture	188
Woodland	5
Other uses	20

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$ 518.03	Total costs based on per cent of gross income of		
Cash sale of livestock produce	1354.95			
Miscellaneous receipts		60%	67%	75%
Cash rental of 78 acres pasture	91.00			
Total Receipts		\$1063.98	1665.98	1663.98
Gross Expenses				
Estimated 60% of gross income		1178.39		
Estimated 67% of gross income			1325.69	
Estimated 75% of gross income				1472.98
Total Expenses		\$1178.39	1325.69	1472.98
Cash Net Income Expectancy		\$ 765.59	340.29	194.00
Other income				
Gross family income furnished by farm		400.00	400.00	400.00
A.C.P. payment		153.00	153.00	153.00
List other income				
Other expenses				
List other expenses				
Total Net Income For Farm		\$1338.59	1161.29	1044.00

grazing period of the year.

Even with sixteen head of beef cattle, there is seventy-eight acres of native pasture available to be rented for cash. The seventy-eight acres of native pasture are expected to give a return of \$91.00 per year as indicated in Table 34.

The budget for area 6a shows an approximate balance between the income from crops and livestock, with an expected income of \$1436.00 from crops, and \$1265.71 from livestock. As a cash crop, wheat holds first place primarily because of the ability of the land to give good relative wheat yields and because of the long stretches of level land which render practical the use of large-scale equipment. The rolling land is principally in native pasture, and the more level areas are primarily under cultivation.

With one hundred eighty acres in crop land, the model farm is much larger than the farms in the first four areas discussed. Alfalfa, sweet clover, and bruce grass are grown to provide feed crops, to prevent soil erosion, and to improve the soil. Because of the uncertainty of consistent annual corn production, the sorghums, both grain and forage, are substituted for a large part of the corn acreage.

From the standpoint of returns per crop acre, wheat is the outstanding crop as indicated in Table 35. However, some credit for the relatively high yield must be given to the practice of including legumes in rotation. Beef cattle are budgeted to utilize the native pasture, while dairy cows, hogs, and poultry are included to give a better

Table 35. Production and disposal of crops.

Area 6a
Size of farm 320

Crop land	160
Pasture	120
Woodland	4
Other uses	16

Crop	Production			Disposal				
	Acres	Yield	Quantity	Feed	Seed	Quantity	Sale Price	Value
Wheat	78	18.5 bu.	1427 bu.		98 bu.	1329 bu.	\$0.87	\$1156.23
Corn	31							
Grain	(31)	22.0 bu.	682 bu.	219 bu.	6 bu.	457 bu.	.61	278.77
Stover								
Silage								
Oats	19	31.7 bu.	602 bu.	554 bu.	48 bu.	---		
Barley								
Grain Sorghums	11							
Grain	(11)	23.9 bu.	262 bu.	260 bu.	2 bu.	---		
Stover								
Silage								
Sweet Sorghums	9	3.2 T.	28 T.	28 T.	*	---		
Forage								
Silage								
Alfalfa	17	2.5 T.	42 T.	42 T.		---		
Sweet Clover	9			$\frac{1}{2}$				
Fallow								
List Other Crops								
Prome Grass	6			$\frac{1}{2}$				
Total	160							\$1435.00

* Seed -- field selected.

$\frac{1}{2}$ Used for pasture.

Table 37. Livestock feed requirements.

Area ca
Size of farm 320

Crop land	<u>180</u>
Pasture	<u>120</u>
Woodland	<u>4</u>
Other uses	<u>16</u>

Livestock		Roughage Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Beef Cattle	14	33 T.	10 T.			109 bu.
Milk Cows	5	8 T.	8 T.			24 bu.
Horses	4	1 T.	10 T.		36 bu.	183 bu.
Logs	30				309 bu.	116 bu.
Sheep						
Chickens	150				134 bu.	117 bu.
TOTAL		42 T.	28 T.		479 bu.	554 bu.

Table 38. Computation of net farm income.

Area 6a
Size of farm 220

Crop land	10
Pasture	120
Woodland	4
Other uses	16

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$1435.00	Total costs based on per cent of gross income of		
Cash sale of livestock produce	1205.71			
Miscellaneous receipts		60%	67%	75%
Total Receipts		\$275.71	\$275.71	\$275.71
Gross Expenses				
Estimated 60% of gross income		1620.43		
Estimated 67% of gross income			1822.98	
Estimated 75% of gross income				2025.53
Total Expenses		\$1620.43	1822.98	2025.53
Cash of Income expectancy		\$1080.28	\$ 877.75	\$ 875.18
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	400.00
A.C.P. payment		157.80	157.80	157.80
List other income				
Other Expenses				
List other expenses				
Total Net Income for farm		\$1638.06	\$1435.55	1232.98

distribution of farm income. Poultry is budgeted at one hundred fifty hens for the farm. Due to a greater number of days of bright sunshine, or to labor distribution, or to some one of the numerous factors, the farm flocks in areas 6a and 6b are larger than in other areas.

Two features are very noticeable about the budget for area 6b. First, a high percentage of the total farm land is under cultivation; and second, over fifty per cent of the total cultivated land is budgeted to wheat. Wheat yields are comparatively consistent in this area; the land and climate are particularly adapted to wheat production; much of the land is level enough to permit the use of large-scale machinery and methods; and the growing season is sufficiently long to permit a seventy-five day fallow period between the harvesting of one wheat crop and the seeding of another. Thus wheat has been successfully grown on some land continuously for forty to fifty years. These same lands will respond with greater yields when legumes are placed in the rotation with small grain crops. Because of the lack of wind or water erosion on the flat soils increased yields of small grains due to legumes in the rotation may continue for long periods. Legumes are budgeted, therefore, both for soil improvement and for feed.

The modal farm size is smaller than the farm size in area 6a. Probably this is due to the increased productivity of the land. The area as a whole does not have sufficient native pasture. Feed crops, such as corn, alfalfa, and the sorghums are used for livestock, and

Table 39. Production and disposal of crops.

Area 60
Size of farm 240

Crop land	166
Pasture	63
Woodland	1
Other uses	10

Crop	Production			Disposal					
	Acres	Yield	Quantity	Feed	Seed	Quantity	Price	Value	
Wheat	87	17.2 bu.	1496 bu.		109 bu.	1387 bu.	\$0.87	\$1206.69	
Corn	15								
Grain	(15)	10.0 bu.	285 bu.	192 bu.	3 bu.	90 bu.	.61	54.90	
Stover									
Silage									
Oats	11	30.5 bu.	335 bu.	307 bu.	28 bu.	---			
Barley									
Grain Sorghams	9								
Grain	(9)	22.6 bu.	203 bu.	201 bu.	2 bu.	---			
Stover									
Silage									
Sweet Sorghum	8								
Forage	(8)	3.1 T.	24 T.	24 T.	*	---			
Silage									
Alfalfa	12	2.5 T.	30 T.	23 T.		7 T.	6.00	42.00	
Sweet Clover	6			$\frac{1}{4}$					
Fallow									
List Other Crops									
Brome Grass	12			$\frac{1}{4}$					
TOTAL	166							\$1503.59	

* Seed -- field selected.

 $\frac{1}{4}$ Used for pasture.

Table 41. Livestock feed requirements.

Area 5b
Size of farm 240

Crop land	<u>168</u>
Pasture	<u>65</u>
Woodland	<u>1</u>
Other uses	<u>10</u>

Livestock		FORAGE REQUIRED			GRAIN REQUIRED	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Beef Cattle	7	14 T.	8 T.			33 bu.
Milk Cows	5	8 T.	8 T.			47 bu.
Horses	3	1 T.	8 T.		27 bu.	141 bu.
Hogs	22				277 bu.	8 bu.
Sheep						
Chickens	100				89 bu.	78 bu.
TOTAL		23 T.	24 T.		395 bu.	307 bu.

Table 4. Computation of net farm income.

Area 5b
Size of farm 240

Crop land	166
Pasture	63
Woodland	1
Other uses	10

Gross receipts	Subtotals	Grand Totals		
Cash sale of crops	1303.59	Total costs based on per cent of gross income of		
Cash sale of livestock produce	872.29			
Miscellaneous receipts		60%	67%	75%
Total Receipts		\$2175.88	\$175.90	\$2175.88
Gross Expenses				
Estimated 60% of gross income		1303.53		
Estimated 7% of gross income			1468.72	
Estimated 75% of gross income				1631.91
Total Expenses		\$1306.53	\$1468.72	\$1631.91
Cash Net Income Expectancy		\$870.55	\$707.16	\$545.37
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	400.00
A.S.P. payment		214.73	214.73	214.73
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$1485.08	\$1321.89	\$1158.70

brone grass is budgeted for feed and pasture and to prevent erosion where erosion becomes a problem. The McPherson county budget, which has been described in detail, is fairly typical of area 6b.

Area 7, as revealed by its budget tables, is primarily a wheat growing area. The modal farm of four hundred acres has two hundred eleven acres of crop land, and one hundred seventy-three acres of native pasture. Of the two hundred eleven acres of crop land, one hundred sixteen acres or over fifty per cent are to be used for wheat production. Table 39 shows that wheat is practically the only cash crop marketed. The other crops are used principally for soil improvement and for livestock feed. Twenty acres of land are budgeted to fallow which, on the average, tends to increase the yields and decrease abandonment, when used in a system of rotation. The wheat abandonment for the area is twenty-two and one-tenth per cent which means that almost one-fifth of the wheat acreage seeded is never harvested. Twelve beef cattle are budgeted to utilize the native pasture, and provide a major livestock income. The milk cows, hogs, and chickens on the farm tend to give a more even distribution of labor and more desirable distribution of farm income. Since the yields of all crops are lower than those in areas 6a and 6b, and since the land is adapted to the use of large-scale equipment, the modal farm is larger than the sizes in other areas so far discussed.

Table 43. Production and disposal of crops.

Area 7
Size of farm 400

Crop land	211
Pasture	173
Woodland	3
Other uses	13

Crop	Production					Disposal		
	Acre	Yield	Quantity	Feed	Seed	Quantity	Price	Value
Wheat*	116	15.1 bu.	1751 bu.		145 bu.	1606 bu.	\$0.87	\$1397.22
Corn	19							
Grain	(19)	17.2 bu.	326 bu.	296 bu.	4 bu.	26 bu.	.61	15.86
Stover	(5)	1.5 T.	7 T.	7 T.		---		
Silage								
Oats	4	26.7 bu.	106 bu.	96 bu.	10 bu.	---		
Barley	3	22.8 bu.	68 bu.	60 bu.	8 bu.	---		
Grain Sorghums	15							
Grain	(15)	20.3 bu.	304 bu.	302 bu.	2 bu.	---		
Stover								
Silage								
Sweet Sorghums	13	2.6 T.	33 T.	33 T.		---		
Forage								
Silage								
Alfalfa	9	2.3 T.	20 T.	20 T.				
Sweet Clover	6			/				
Fallow	20							
List Other Crops								
Brome Grass	6			/				
TOTAL	211							\$1413.06

* Abandonment 22.1% for the area. See page
Seed -- Field selected.
Used for pasture.

Table 45. Livestock feed requirements.

Area 7
Size of farm 400

Crop land	<u>211</u>
Pasture	<u>178</u>
Woodland	<u>3</u>
Other uses	<u>13</u>

Livestock		FORAGE Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley
Beef Cattle	12	14 T.	22 T.			
Milk Cows	4	6 T.	6 T.		18 bu.	
Horses	4		12 T.		58 bu.	156 bu.
Hogs	22				321 bu.	
Sheep						
Chickens	150				261 bu.	
TOTAL		20 T.	4 T.		5.8 bu.	156 bu.

Table 46. Computation of net farm income.

Page 7
Size of farm 400

Crop land	211
Pasture	173
Woodland	3
Other uses	13

Gross Receipts	Subtotals	Grand Totals		
		Total costs based on per cent of gross income of		
Cash sale of crops	\$1413.08			
Cash sale of livestock produce	984.06			
Miscellaneous receipts		60%	67%	75%
Total Receipts		\$2397.14	\$2397.14	2397.14
Gross Expenses				
Estimated 60% of gross income		1438.28		
Estimated 67% of gross income			161.07	
Estimated 75% of gross income				1797.85
Total Expenses		\$1438.28	\$1618.07	1797.85
Cash Net Income Expectancy		\$958.86	\$779.07	\$599.29
Other Income				
Gross family income furnished by farm		400.00	400.00	400.00
A. S. payment		265.00	265.00	265.00
List other income				
Other Expenses				
List other expenses				
Total Net Income for farm		\$1623.86	\$1444.07	\$1264.29

Area 8 has primarily a livestock budget, with corn as the principal field crop and wheat the secondary field crop. Sorghums are used little in the area, as corn yields equally as well as grain sorghums, and, other factors being equal, corn is the more desirable crop. In many respects the budget in area 8 is more like the budget in area 4 than other western Kansas budgets, a livestock budget based on corn production. The modal size farm of two hundred forty acres is smaller than that of the other western areas: this is principally due to the topography of the land which is slightly rolling and too hilly for large-scale farming equipment. The farms in the western part of the area are distinctly larger than those in the eastern part of the area and larger acreages of wheat occur.

Winter killing of wheat is more common in area 8 than in areas 6a and 6b: this is another reason for the larger corn and lesser wheat acreage in area 8. The wheat abandonment is eighteen and eight-tenths per cent for the area, a relatively large percentage. The area is well adapted to the production of alfalfa, sweet clover, and bromegrass. These fill the needs of erosion prevention, of feed crop provision, and of soil improvement. Fallow is used primarily to assist in establishing the grasses mentioned. The hogs budgeted in proportion to the expected corn production, and beef cattle are budgeted in proportion to utilize the native pasture. There is a large number of milk cows in the area due to a large co-operative creamery in the locality. The

Table 47. Production and disposal of crops.

Area 8
Size of farm 240

Crop land	136
Pasture	88
Woodland	3
Other uses	13

Crop	Production			Disposal					
	Acres	Yield	Quantity	Food	Seed	Quantity	Price	Value	
Wheat*	32	16.6 bu.	531 bu.		40 bu.	491 bu.	\$0.87	\$427.17	
Corn	48	21.9 bu.	1051 bu.	505 bu.	8 bu.	538 bu.	.61	328.18	
Grain									
Stover									
Silage									
Oats	10	29.0 bu.	290 bu.	265 bu.	25 bu.	---			
Barley	2	24.5 bu.	49 bu.	44 bu.	5 bu.	---			
Grain Sorghums	5								
Grain	(5)	22.2 bu.	111 bu.	110 bu.	1 bu.	---			
Stover									
Silage									
Sweet Sorghums	6								
Forage	(6)	2.7 T.	16 T.	16 T.	#	---			
Silage									
Alfalfa	15	2.3 T.	34 T.	33 T.		1 T.	6.00	6.00	
Sweet Clover	6			/					
Fallow	4								
List Other Crops									
Brome Grass	8			/					
TOTAL	136							\$761.35	

*. Abandonment 18.8% for the area. See page 47.

Seed -- Field selected.

/ Used for pasture.

Table 50. Computation of net farm income.

Area 6		Crop land		
Size of farm 240		186		
		Pasture		
		5		
		Woodland		
		13		
		Other uses		
Gross receipts	:	Subtotals	:	Grand Totals
Cash sale of crops	:	761.35	:	Total costs based on per cent of gross income of
Cash sale of livestock produce	:	1115.51	:	
Miscellaneous receipts	:		:	60% 67% 75%
Total receipts	:		:	1070.83 1266.86 1407.64
Gross expenses	:		:	
Estimated 60% of gross income	:	1126.12	:	
Estimated 7% of gross income	:		:	1266.83
Estimated 7% of gross income	:		:	1407.64
Total expenses	:	1126.12	:	1266.83 1407.64
Net farm income before other income	:	700.62	:	655.93 467.22
Other income	:		:	
Gross family income furnished by farm	:	\$ 400.00	:	\$ 400.00 \$ 400.00
A.C.I. payments	:	167.06	:	167.06 167.06
List other income	:		:	
Other expenses	:		:	
List other expenses	:		:	
Total Net Income for farm	:	1317.60	:	1177.04 1036.28

budget shows a desirable balance between crop and livestock income, with a gross income of \$761.35 expected from the sale of crops, and \$1115.51 from the sale of livestock and livestock products.

This area (9), farther west in the Great Plains region, has a larger modal farm acreage than the areas previously discussed, with three hundred forty-eight acres of the farm's total four hundred eighty acres in crop land, and only one hundred fifteen acres in pasture. A high percentage of the land is adapted to wheat production and comparatively little to corn, alfalfa, and row crops. The eleven acres budgeted to alfalfa are expected to be grown in the bottoms or along streams, some of which acreage may be irrigated. The wheat yields are quite consistent with an average abandonment of only sixteen and three-tenths per cent for the period 1911 to 1935. Because the area is situated in a section of Kansas where the rainfall is comparatively light a fairly large percentage of the cultivated land is fallowed each year. In the case of the modal farm this is sixty acres. A lesser acreage of soil-improvement crops are used in the western section because such crops are not generally adapted to the area.

The budget for this area (10a) does not differ materially from the budgets for other areas in which wheat is the major source of income except in the size of the farm, the total crop acreage, and the percentage of the total crop land that is budgeted to sorghams. In this area the wheat abandonment is thirty-three per cent, which means that one-third of all the wheat seeded is never harvested. In an attempt to

Table 51. Production and disposal of crops.

Area 9
Size of farm 480

Crop land	348
Pasture	115
Woodland	1
Other uses	16

Crop	Production				Disposal			
	Acres	Yield	Quantity	Feed	Seed	Quantity	Sale Price	value
Wheat*	204	15.7 bu.	3202 bu.		255 bu.	2947 bu.	\$0.97	\$2563.89
Corn	26							
Grain	(26)	18.4 bu.	478 bu.	99 bu.	5 bu.	374 bu.	.61	228.14
Stover								
Silage								
Oats	9	27.1 bu.	243 bu.	219 bu.	24 bu.	---		
Barley								
Grain Sorghums	22							
Grain	(22)	22.5 bu.	495 bu.	491 bu.	4 bu.	---		
Stover								
Silage								
Sweet Sorghums	14							
Forage	(14)	2.7 T.	37 T.	37 T.				
Silage								
Alfalfa	11	2.6 T.	28 T.	18 T.		10 T.	6.00	60.00
Sweet Clover	2							
Fallow	60							
List Other Crops								
TOTAL	348							\$2852.03

* Abandonment 16.3% for the area. See page 47.

See -- Field selected.

/ Used for pasture.

Table 50. Livestock feed requirements.

Area 9
 Size of farm 480

Crop land	348
Pasture	115
Woodland	1
Other uses	16

Livestock		Roughage Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Farley
Beef Cattle	9	10 T.	17 T.			
Milk Cows	5	8 T.	8 T.		23 bu.	
Horses	4		12 T.		111 bu.	219 bu.
Hogs	22				322 bu.	
Sheep						
Chickens	100				134 bu.	
TOTAL		18 T.	37 T.		590 bu.	219 bu.

Table 54. Computation of net farm income.

Area 9		Crop land		348
Size of farm 480		Pasture		115
		Woodland		1
		Other uses		16
Gross receipts	:	Subtotals	:	Grand Totals
Cash sale of crops	:	2352.03	:	Total costs based on per cent of gross income of
Cash sale of livestock produce	:	809.41	:	
Miscellaneous receipts	:		:	60% 57% 75%
Total receipts	:		:	
Gross expenses	:		:	\$2751.44 \$2751.44 \$2751.44
Estimated 60% of gross income	:		:	2250.86
Estimated 57% of gross income	:		:	2532.22
Estimated 75% of gross income	:		:	2 17.58
Total expenses	:		:	\$2250.86 \$2532.22 \$2613.56
Cash net income & expectancy	:		:	1500.58 1219.22 977.56
Other income	:		:	
Gross family income furnished by farm	:		:	\$ 400.00 400.00 400.00
... payments	:		:	445.18 445.18 445.18
List other income	:		:	
Other expenses	:		:	
List other expenses	:		:	
Total net income for farm	:		:	\$2345.76 \$2064.40 \$1753.04

compensate for this condition a large annual acreage is seeded and approximately twenty-two per cent of the total cultivated land is fallowed annually. The sorghums, both grain and forage, are used in lieu of corn, primarily because of the uncertainty of corn production in the area. Corn is grown only on the sandier soils. Barley is largely substituted for oats in the area; and alfalfa, not adapted to the area except on irrigated lands, is budgeted with only a small acreage.

The numbers of milk cows, hogs, and poultry are similar to the numbers in other western Kansas areas; but the beef cattle number is large--nineteen as shown in Table 56. On the eight hundred-acre modal farm there are three hundred forty-two acres of pasture, and a large number of cattle are required to utilize such an acreage. The gross and net income, as estimated in the budget, are considerably higher than in the other area budget estimates. In this area large-scale equipment is needed for efficient wheat farming, and consequently the modal farm requires a larger machinery investment than is required in the areas with smaller modal farms.

Area 10c, as shown by its budget tables is distinctly different from the other western areas. The topography of the area is broken, with hills, flat valleys, and flat uplands all present. Much of the rough, broken land remains in large pasture units, comprising several sections or more. The modal of nine hundred sixty acres is not fairly typical of the area, but where range livestock farming is practiced the farms are much larger than the modal, and when wheat or general

Table 55. Production and disposal of crops.

Area 10a
Size of farm 800

Crop land	441
Pasture	842
Woodland	1
Other uses	16

Crop	Production				Disposal			
	Acreage	Yield	Quantity	Feed	Seed	Quantity	Sale Price	Value
Wheat*	278	17.0 bu.	4752 bu.		118 bu.	3634 bu.	0.37	7161.58
Corn	17							
Grain	(17)	18.8 bu.	319 bu.	---	3 bu.	316 bu.	.61	192.76
Stover	(16)	1.5 T.	24 T.	24 T.		---		
Silage								
Oats	4	20.6 bu.	102 bu.	92 bu.	10 bu.	---		
Barley	21	24.9 bu.	522 bu.	573 bu.	52 bu.	97 bu.	.47	45.59
Grain Sorghams	27							
Grain	(27)	21.0 bu.	777 bu.	573 bu.	0 bu.	198 bu.	.52	102.96
Stover								
Silage								
Sweet Sorghams	22	2.2 T.	48 T.	48 T.	$\frac{2}{4}$	---		
Forage								
Silage								
Alfalfa	8	2.6 T.	20 T.	20 T.		---		
Spout Clover								
Sallow	96							
List Other Crops								
TOTAL	441							802.89

* Abandonment 33.0% for the area. See page 47.
Seed -- field selected.

Table 57. Livestock feed requirements.

Area 10a
Size of farm 800

Crop land	441
Pasture	342
Woodland	1
Other uses	16

Livestock		Roughage Required			Grain Required		
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and Barley	
Beef Cattle	19	12 T.	45 T.				
Milk Cows	5	8 T.	8 T.			32 bu.	
Horses	6		10 T.		161 bu.	225 bu.	
Hogs	30				322 bu.	156 bu.	
Sheep							
Chickens	100				90 bu.	52 bu.	
TOTAL		20 T.	71 T.		573 bu.	405 bu.	

Table 58. Computation of net farm income.

Area 10a
Size of farm 800

Crop land	41
Pasture	342
Woodland	1
Other uses	16

Gross Receipts	Subtotals	Grand Totals		
		Total costs based on per cent of gross income of		
Cash sale of crops	\$3502.89			
Cash sale of livestock produce	1253.33			
Miscellaneous receipts		60%	67%	75%
Total receipts		\$4756.27	\$4756.27	\$4756.27
Gross Expenses				
Estimated 60% of gross income		2853.76		
Estimated 67% of gross income			3210.43	
Estimated 75% of gross income				3567.20
Total expenses		\$2853.76	\$3210.43	\$3567.20
Cash Net Income Expectancy		\$1902.51	\$1545.79	\$1189.07
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.C.P. payment		474.25	474.25	474.25
List other income				
Other Expenses				
List other expense				
Total Net Income for Farm		\$2776.76	\$2420.04	\$2063.32

farming is done, the farms are smaller than the modal. The farm organization budgets three hundred fifty-six acres as crop land and five hundred eighty-four acres as pasture. The cropping system allows one hundred eighty acres of wheat with only sixty-five acres of fallow. The wheat abandonment for the area is only fifteen and six-tenths per cent, a figure quite low for a western Kansas area. The acreages of alfalfa, sweet clover, and feed crops are all relatively high for the area. The budget numbers for milk cows and poultry are similar to the numbers in all other areas; but the beef cattle and hogs budgeted are much higher than those in surrounding areas. When the grazing and crop land are averaged together and a budget made for the area as a whole, as has been done in this study, a well balanced budget is developed. The computation of the net farm income, as given in Table 62, shows an expected gross cash income from the sale of crops of \$2720.98, and from the sale of livestock and livestock products of \$1977.00.

This budget (Area 11) is distinctly different from the other western area budgets in that there are two principal cash crops. With a modal size farm of nine hundred sixty acres, five hundred fifty-seven acres of which are in crops, and two hundred twenty-eight acres are budgeted to wheat and ninety-three acres to corn. In this area, the altitude is higher than in other Kansas areas, and as a result the climate is cooler. The higher altitude, cooler summers, and relatively little evaporation are adapted to the production of corn. Barley is substituted for oats, and comparatively little grain sorghums are budgeted.

Table 59. Production and disposal of crops.

Area 13c
Size of farm 960

Crop land	356
Pasture	584
Woodland	19
Other uses	19

Crop	Production			Disposal				
	Acres	Yield	Quantity	Feed	Seed	Quantity	Price	Value
Wheat*	180	17.9 bu.	3222 bu.		180 bu.	3042 bu.	40.57	22646.54
Corn	15							
Grain	(15)	10.6 bu.	254 bu.	169 bu.	8 bu.	122 bu.	.61	74.42
Stover								
Silage								
Oats	4	27.0 bu.	116 bu.	106 bu.	10 bu.	---		
Barley								
Grain Sorghams	41							
Grain	(41)	23.8 bu.	975 bu.	988 bu.	7 bu.	---		
Stover								
Silage								
Sweet Sorghams	32							
Forage	(13)	2.8 T.	36 T.	36 T.				
Silage	(19)	8.0 T.	152 T.	103 T.				
Alfalfa	12	2.4 T.	28 T.	28 T.		---		
Sweet Clover	7							
Fallow	65							
Misc. other crops								
Total	356							2700.93

* Abandonment 15.0 for the area. See page 47.
 Seed -- field selected.
 / Balance used to reduce pasture requirements.

Table 11. Livestock feed requirements.

Area 100
 Size of farm 960

Crop land	<u>356</u>
Pasture	<u>584</u>
Woodland	<u>1</u>
Other uses	<u>19</u>

Livestock		FORAGE REQUIRED			GRAIN REQUIRED		
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghams	Oats and Barley	
Beef Cattle	58	22 T.	16 T.	95 T.			
Milk Cows	4	6 T.	4 T.	8 T.	18 bu.		
Horses	5		15 T.		235 bu.	100 bu.	
Pigs	52				750 bu.		
Sheep							
Chickens	100				154 bu.		
TOTAL		28 T.	35 T.	103 T.	1157 bu.	100 bu.	

Table 62. Computation of net farm income.

Area 10c

Size of farm 960

Crop land	556
Pasture	584
Woodland	1
Other uses	12

Gross Receipts	Subtotals	Grand Totals		
Cash sale of crops	\$2720.96	Total costs based on per cent of gross income of		
Cash sale of livestock produce	1977.00	60%	67%	75%
Miscellaneous receipts				
Total Receipts		\$4697.96	\$4697.96	\$4697.96
Gross Expenses				
Estimated 60% of gross income		2818.78		
Estimated 67% of gross income			3171.12	
Estimated 75% of gross income				3523.47
Total Expenses		\$2818.78	\$3171.12	\$3523.47
Cash Net Income Expectancy		1879.18	1526.84	1174.49
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.C.P. payment		458.60	458.60	458.60
List other income				
Other Expenses				
List other expenses				
Total Net Income For Farm		\$2737.78	\$2385.44	\$2033.09

Wheat abandonment for the area is thirty and nine-tenths per cent, and one hundred twenty-five acres of crop land are budgeted as fallow to reduce the hazard of wheat crop failures.

From the standpoint of diversified crops, this area budget is an excellent example, having both winter and spring crops. Preparation for and seeding of wheat occur during the late summer and early fall months, while the preparation for and seeding of barley, corn, and sorghum crops occur during the spring months. This condition is ideal from the labor and machinery distribution standpoint.

With food crops and wheat acreages differing materially, the livestock budget would be expected to differ from the budgets in other western areas. Six milk cows, sixteen beef cattle, fifty-two hogs, and one hundred fifty chickens are included in the livestock budget. With the feeds and pasture available more milk cows are kept than in the other western areas. The beef cattle number of sixteen is not any more than is needed to graze the native pasture and utilize otherwise wasted feed on a nine hundred sixty acre farm.

The expected gross cash income from crops is \$3326.74, and from livestock and livestock products is \$1685.74. Such an income distribution indicates a well-balanced budget with a total sufficiently large to give a net return that will support a farm family with a reasonable standard of living.

The budget for this area (area 12) shows a farm of nine hundred sixty acres with four hundred eighty-three acres of crop lands of which

Table 63. Production and disposal of crops.

Area 11
Size of farm 960

Crop land	567
Pasture	372
Woodland	2
Other uses	27

Crop	Production					Disposal		
	Acres	Yield	Quantity	Food	Seed	Quantity	Sale Price	Value
Wheat*	228	12.8 bu.	2918 bu.		114 bu.	2804 bu.	0.37	2430.48
Corn	93							
Grain	(93)	17.7 bu.	1648 bu.	544 bu.	15 bu.	1087 bu.	.61	663.07
Stover	(11)	1.5 T.	16 T.	16 T.		---		
Silage								
Oats	6	22.0 bu.	132 bu.	117 bu.	15 bu.	---		
Barley	50	22.5 bu.	1125 bu.	623 bu.	125 bu.	477 bu.	.47	224.19
Grain Sorghums	20							
Grain	(20)	15.1 bu.	502 bu.	298 bu.	4 bu.	---		
Stover								
Silage								
Sweet Sorghums	29							
Forage	(29)	2.1 T.	60 T.	60 T.	#	---		
Silage								
Alfalfa	6	2.4 T.	14 T.	14 T.		---		
Sweet Clover								
Fallow	125							
List Other Crops								
TOTAL	557							5526.74

* Abandoned 30.9. for the area. See page 47.

Seed -- Field selected.

Table 65. Livestock feed requirements.

Area 11
Size of farm 960

Crop land	557
Pasture	374
Woodland	2
Other uses	27

Livestock		Roughage Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Scrubums	Oats and Barley
Deef Cattle	18	5 T.	43 T.			13 bu.
Milk Cows	6	9 T.	9 T.			1 bu.
Horses	8		24 T.		215 bu.	500 bu.
Pigs	52				493 bu.	161 bu.
Sheep						
Chickens	150				134 bu.	78 bu.
TOTAL		14 T.	76 T.		842 bu.	640 bu.

Table 66. Computation of net farm income.

Area 11
Size of farm 960

Crop land	<u>557</u>
Pasture	<u>374</u>
Woodland	<u>2</u>
Other uses	<u>27</u>

Gross Receipts	Subtotals	Grand Totals		
		Total costs based on per cent of gross income of		
Cash sale of crops	\$3226.74			
Cash sale of livestock produce	1683.50			
Miscellaneous receipts		60%	67%	75%
Total Receipts		\$5010.24	\$5010.24	\$5010.24
Gross Expenses				
Estimated 60% of gross income		3006.14		
Estimated 67% of gross income			3381.91	
Estimated 75% of gross income				3757.68
Total Expenses		\$5006.14	\$3381.91	\$3757.68
Cash Net Income		\$2004.10	\$1628.33	\$1252.56
Other Income				
Gross family income furnished by farm		\$ 400.00	\$ 400.00	\$ 400.00
A.C. . . payment		525.61	525.61	525.61
List other income				
Other Expenses				
List other expenses				
Total Net Income for farm		\$2929.71	\$2553.94	\$2178.17

one hundred eighty-two acres are fallowed. The wheat abandonment for the area is forty-four and two-tenths per cent which accounts for the thirty-seven per cent of the crop land expected to be fallowed. Sweet clover is not adapted to the area and alfalfa is adapted only to a limited extent. One hundred forty-one acres are budgeted to wheat with the remainder of the land that is cropped each year divided between corn, barley, grain sorghums, and sweet sorghums. The yields for all crops in the area are quite low. This accounts for the large crop and farm acreages, which are needed to provide an adequate income.

Beef cattle make up a major portion of the livestock numbers. There are four hundred fifty-eight acres of native pasture, all of which are not budgeted to be utilized by the twenty-one head of beef cattle, three milk cows, and four horses. According to the budget standards, only three hundred fifty-two acres of grass will be utilized by the numbers and kinds of livestock budgeted. Therefore the remaining one hundred six acres of native pasture may be expected to return a pasture rental of \$42.00.

Table 67. Production and disposal of crops.

Area 12
Size of farm 960

Crop land	483
Pasture	458
Woodland	3
Other uses	19

Crop	Production					Disposal		
	Acres	Yield	Quantity	Feed	Seed	Quantity	Price	Value
Wheat*	141	14.9 bu.	2100 bu.		71 bu.	2029 bu.	0.57	1766.23
Corn	32							
Grain	(32)	20.1 bu.	643 bu.		6 bu.	637 bu.	.51	322.57 *
Stover	(1)	1.5 T.	1 T.	1 T.				
Silage								
Oats								
Barley	33	25.7 bu.	800 bu.	315 bu.	95 u.	400 bu.	.47	230.70
Grain sorghums	50							
Grain	(50)	20.1 bu.	1005 bu.	438 bu.	9 bu.	506 bu.	.52	290.16
Stover								
Silage								
Sweet sorghums	32							
Stover	(32)	2.0 T.	64 T.	64 T.	#	---		
Silage								
Alfalfa	8	2.5 T.	20 T.	20 T.		---		
Sweet Clover								
Fallow	182							
List Other Crops								
TOTAL	960							2,745.86

* Bandorment 44.2% for the area. See page 47.

Seed -- field selected.

Table 69. Livestock feed requirements.

Area 12
 Size of farm 960

Crop land	483
Pasture	458
Woodland	0
Other uses	19

Livestock		Forage Required			Grain Required	
Kind	Number	Legumes	Non-legumes	Silage	Corn and Sorghums	Oats and barley
Beef Cattle	21	15 T.	46 T.			
Milk Cows	3	5 T.	5 T.			19 bu.
Horses	4		12 T.		107 bu.	15 bu.
Pigs	22				241 bu.	4 bu.
Sheep						
Chickens	100				90 bu.	52 bu.
TOTAL		20 T.	65 T.		438 bu.	515 bu.

Table 70. Computation of net farm income.

Area 12
Size of farm 960

Crop land	463
Pasture	458
Woodland	0
Other uses	19

	Subtotals	Grand Totals	
Gross Receipts	:	Total costs based on per cent of gross income of	
Cash sale of crops	\$2674.26	60%	67%
Cash sale of livestock produce	1041.27		75%
Miscellaneous receipts	:		
Cash rental of 106 acres pasture	42.00		
Total Receipts	\$3757.53	\$3757.53	\$3757.53
Gross Expenses	:		
Estimated 60% of gross income	2254.52		
Estimated 67% of gross income	:	2536.33	
Estimated 75% of gross income	:		2810.15
Total Expenses	\$2254.52	\$2536.33	\$2810.15
Cash Net Income Expectancy	\$1503.01	\$1221.20	\$947.38
Other Income	:		
Gross family income furnished by farm	\$ 400.00	\$ 400.00	\$ 400.00
A.C.F. payment	376.25	376.25	376.25
List other income	:		
Other Expenses	:		
List other expenses	:		
Total Net Income for Farm	\$2276.26	\$1997.45	\$1715.65

OPERATION AND MANAGEMENT OF THE FARM

The operation and management of a farm are so important that they alone can, and often do, over-shadow the value of budget planning. An individual farmer because of the excellence of his personal characteristics and business ability may operate a farm very successfully even though he has not budgeted, or has budgeted poorly, the uses of his land and the income from it. It is not the purpose of this study to discuss or make any special analysis of the personal characteristics of the operator--his business ability, his mechanical aptitude, his naturalist's knowledge of plants and animals, and his skill as a laborer. These things are merely pointed out as the variable human elements which affect the success of a given farm organization plan and which must be considered in any discussion of farm budgets and farm budgeting and their reliability.

The proper financing of the farm business has been and still remains, one of the most difficult tasks confronting the farmer. Until recent years it was virtually impossible to secure financial credit adaptable to the farm needs. At the present time this condition has been materially improved by the setting up of the Federal Farm Credit Administration. As a result of agricultural credit legislation, the farmer is fairly adequately served in his credit needs.

These federally sponsored agencies make their loans primarily on a

productivity basis as revealed by known production records of the farmer, his farm, and his farm enterprises. However, before granting any credit of whatever nature, the lender, in addition, wants to know certain things about the borrower: for example, his ability and willingness to pay, his personal characteristics and integrity, and the security which he can offer. Some of these, such as the borrower's personal characteristics and willingness to pay, are intangible things, and depend, in their final analysis, upon the judgment of the lender. Other things, such as the ability to pay, the farm's productivity and the worth of the security offered, are measurable and may be set down in some comparative and standard form for evaluation and appraisal. And this form the farm budget supplies.

The ends of farm financing are served by the farm budget. Through a planned long-time schedule of production, income, and outgo, the farmer is able to determine what credit he will need, the type (whether short-time, intermediate, or long-time) best suited to particular enterprises and purposes, and the time at which loans should be floated. From it the lender can establish, factually, the tangible considerations which are important in his decisions. He will know accurately the value of the farm equipment, the income which may reasonably be expected, and the uses to which that income may be put, especially the part which is available for repayment of farm indebtedness, and from it the lender can likewise gain hints concerning the intangible considerations having to do with the borrower's business ability, standard of living, and

promptness in paying bills. A long-time budget is somewhat a guarantee of solvency--hence of security of collateral which is given to the lender; at the same time it provides the borrower a worked-out plan for the payment of the loan. The annual budget serves similar ends for short time and intermediate periods.

The proper understanding between the creditor and debtor which the budget tends to establish will result in lower interest rates and more favorable loan terms to the farmer, and will result in lowered costs of farm financing. Making application for credit in sufficient time is of material assistance thus preventing the rush loan and giving the borrower more time to secure a new source of credit whenever necessary.

WHEN TO MAKE THE ANNUAL BUDGET

In Kansas, on those farms where most of the acreage is devoted to wheat, the logical time to prepare the annual budget is late summer, after the current crop has been harvested and before the following year's crop has been seeded. At this time, it is necessary to decide upon the acres to be put into wheat for the coming year and the whole of the budget might well be made out at this time. The other enterprises are relatively more flexible in their adaptability to revisions, shifts, and changes which are warranted by conditions at various times during the year, and which may be made at the operator's convenience. At wheat harvest time, on those farms that are primarily wheat farms, the information about his principal item of income, his principal item

of cost, and his principal labor and machine problems, which are tied up in his wheat enterprises, are freshest in the individual farmer's consciousness, and may be more easily, accurately, and fully analyzed.

The proper time for the preparation of the long-time budget on other types of farms cannot be so certainly stated. It probably should fall somewhere near the time of marketing of the principal product, or at the time of purchasing the supplies and stock and equipment for the succeeding year. At any rate, the farmer should make a point of preparing his budget at approximately the same time every year and of including the same calendar months and periods in each and every budget. Only in this way can he have an accurate basis for comparison and for long-time and short-time planning.

KEEPING ACCOUNTS RELATIVE TO BUDGET

Farm accounts are kept in many ways from marks on the granary to a complete double entry bookkeeping system. Practically all farmers have records of one type or another. While many farmers do not keep a complete set of records, most farmers do keep a few essential records, particularly those farmers who are required to make income tax reports.

An adequate set of farm records will make the budget more effective. The accounts are needed to supply the facts with respect to the yields, production and costs which are of value in making a budget.

The ideal situation would be that of keeping accounts with the identical budget items. For those farmers keeping the regular Kansas

farm account book the matter of making a budget would be comparatively simple, especially if the farmer had kept a set of account records for a period of farm three to five years.

Inventories at the beginning of the year, records and location of crops, quantities, prices, date of purchase and labor hire would all be of assistance in making a more accurate budget.

Farmers now members of the Farm Bureau Farm Management Associations are in an advantageous position to make a budget. In addition to having the records and summary of the farm accounts, they have the aid of the field man in planning their future operations by the budget method.

SUMMARY AND CONCLUSIONS

No type of farming is always the most profitable. This alone is sufficient cause to justify studying farms from every angle.

Farm budgets with farm accounts will tend to stimulate interest in farm organization.

The budget method seems to be the most plausible and logical method of developing a farm organization for a given farm.

Budgets help the operator in keeping a good balance between crops in a crop system of farming and a good balance between crops and livestock in a crop and livestock system. Budgets help in determining the amount of cash that will be needed to operate the farm and the times it will be needed.

The budget method is the simplest and best method of arriving at the proper combination of enterprises which will result, over a long period of time, in the greatest return.

The 1937 Agricultural Conservation Program appears to be in harmony with good farm management practices on the average farm as shown by the budget standards in the respective types of farming areas.

The farm budget is one method of determining the productive capacity of a farm.

Written budgets appear to be practical in estimating the gross and net incomes.

Budgets tend to motivate the farmer to secure the type of credit to fit his needs.

A study and application of the budget principles will tend to prevent exceptionally high prices being paid for farm land.

Budgets help to estimate the total net return that may be expected so that the living expenses and investments may be adjusted accordingly.

Farm budgeting tends to establish in the mind of the student a value of a given farm based upon the productive capacity of that farm.

The budgeting principle, if universally used, would tend to reduce the fluctuation in land prices and thus would be inclined toward a more stabilized agriculture.

Statistics show that farm organization in eastern Kansas tends toward substance farming, indicating that the farms were organized prior to the general use of mechanized farm machinery.

The size of the farm organization in the western areas of Kansas indicates commercial agriculture and that the farms were established after mechanized power farming had come into general use.

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APPENDIX

Table 71. Production and feed of live stock (areas 1 and 2).

Kind of Animal	Production	Roughage required				Grain Required		Protein Supplement	
		Non-	Legumes	Silage	Fasture	Corn or Sorghum	Barley (and) Oats	Kind	Quantity
		(T.)	(T.)	(T.)	(Acres)	(Lbs.)	(Lbs.)		
Work horses	300 hours work	2			5	1,500 (and) 250	1,000 (and) 750		
Colts		$\frac{1}{2}$	$\frac{1}{2}$		6	250 (and)	750		
Milk cows (no silage)	200 lbs. B. F.	$1\frac{1}{2}$	$1\frac{1}{2}$		6	250 (or)	300		
Milk cows (silage)	200 lbs. B. F.	1	$1\frac{1}{2}$	2	6	250 (or)	300		
Milk cows (no silage)	225 lbs. B. F.	$1\frac{1}{2}$	$1\frac{1}{2}$		6	450 (or)	540		
Milk cows (silage)	225 lbs. B. F.	1	$1\frac{1}{2}$	2	6	450 (or)	540		
Other cattle, per L. U. (with silage)	450 lbs.	1		$2\frac{1}{2}$	6	150		C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	450 lbs.	3			6	150		C. S. cake	150 lbs.
Other cattle, per L. U.	450 lbs.	$\frac{3}{4}$	$\frac{1}{2}$	$2\frac{1}{2}$	6	150			
Legume hay-silage									
Other cattle, per L. U.	450 lbs.	$2\frac{3}{4}$	$\frac{1}{2}$		6	150			
Legume hay-no silage									
Hogs, per cwt.	1,500 lbs. per sow					375		Mill feed	25 lbs.
								tankage	10 lbs.
									without legumes
Poultry	8,000 eggs								
per 100 hens	400 lbs. poultry					7,500*			

* Mixed grain.

(Sheep - Convenient factor, .14)
(50% wool 350% mutton) $(\frac{1}{2}$ T. Alfalfa)
 $(\frac{1}{2}$ T. Legumes)
 $(\frac{3}{4}$ T. Silage)(Seed requirements for Soybeans:
1 bu. for hay - .5 bu. for seed)

Table 7c. Production and feed of live stock (areas 3 and 4).

Kind of Animal	Production	Hayage Required				Grain Required		Protein Supplement	
		Non-	Legumes	Silage	Pasture	Corn or Sorghums (and) or Oats	Barley	Kind	Quantity
		(T.)	(T.)	(T.)	(Acres)	(Lbs.)	(Lbs.)		
Work horses	800 hours work	1	1		2	1,500 (and)	1,000		
Colts		$\frac{1}{2}$	$\frac{1}{2}$			250 (and)	750		
Milk cows (no silage)	200 lbs. B. F.	$1\frac{1}{2}$	$1\frac{1}{2}$		4	250 (or)	300		
Milk cows (silage)	200 lbs. B. F.	1	$1\frac{1}{2}$	2	4	250 (or)	300		
Milk cows (no silage)	225 lbs. B. F.	$1\frac{1}{2}$	$1\frac{1}{2}$		4	450 (or)	540		
Milk cows (silage)	225 lbs. B. F.	1	$1\frac{1}{2}$	2	4	450 (or)	540		
Other cattle, per L. U. (with silage)	550 lbs.	1		$2\frac{1}{2}$	4	350		C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	550 lbs.	3			4	350		C. S. cake	150 lbs.
Other cattle, per L. U.	550 lbs.	$\frac{1}{2}$	$\frac{1}{2}$	$2\frac{1}{2}$	4	350			
Legume hay-silage:									
Other cattle, per L. U.	550 lbs.	$2\frac{3}{4}$	$\frac{1}{2}$		4	350			
Legume hay-no silage									
Hogs, per out.	2,000 lbs. per sow				$\frac{1}{2}$	350		Mill feed	26 lbs.
								tankage	10 lbs. without legumes
Poultry	8,000 eggs								
per 100 hens	400 lbs. poultry					7,500*			

*mixed grain.

Table 73. Production and feed of live stock (area 5).

Kind of Animal	Production	Household Required			Grain Required			Protein Supplement	
		Non-	Legumes	Silage	Pasture	Corn or Sorghum	Barley or Oats	Kind	Quantity
		(T.)	(T.)	(T.)	(Acres)	(Lbs.)	(Lbs.)		
Work horses	800 hours work	2			2½	1,500 (and)	1,000		
Colts		1			5	250 (and)	750		
Milk cows (no silage)	175 lbs. B. F.	1½	1½		5	125 (or)	150		
Milk cows (silage)	175 lbs. B. F.	1	1½	2	5	125 (or)	150		
Milk cows (no silage)	200 lbs. B. F.	1½	1½		5	250 (or)	300		
Milk cows (silage)	200 lbs. B. F.	1	1½	2	5	250 (or)	300		
Other cattle, per L. U. (with silage)	500 lbs.	1		2½	5	250		C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	500 lbs.	3			5	250		C. S. cake	150 lbs.
Other cattle, per L. U.	500 lbs.	¾	½	2½	5	250			
Legume hay-silage									
Other cattle, per L. U.									
Legume hay- No silage	500 lbs.	2 ¾	½		5	250			
Hogs, per cwt.	2,000 lbs. per sow				.5			Mill feed	25 lbs.
	8,000 eggs				legume	350		lankage	5 lbs.
Poultry per 100 hens	400 lbs. poultry					7,500*			

*Mixed grain.

Table 74. Production and feed of live stock (area Ga).

Kind of Animal	Production	FORAGE REQUIRED				GRAIN REQUIRED		PROTEIN SUPPLEMENT	
		Non- Legumes (T.)	Legumes (T.)	Silage (T.)	Pasture (Acres)	Corn or Sorghums (Lbs.)	Barley (and) Oats (Lbs.)	Kind	Quantity
Work horses	700 hours work	2½	½		3	500 (and)	1,500		
Colts		1			5	250 (and)	750		
Milk cows (no silage)	175 lbs. B. F.	1½	1½		6	125 (or)	150		
Milk cows (silage)	175 lbs. B. F.	1	1½	2	6	125 (or)	150		
Milk cows (no silage)	200 lbs. B. F.	1½	1½		6	250 (or)	300		
Milk cows (silage)	200 lbs. B. F.	1	1½	2	6	250 (or)	300		
Other cattle, per L. U. (with silage)	500 lbs.	1		2½	6	250		C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	500 lbs.	3			6	250		C. S. cake	150 lbs.
Other cattle, per L. U.	500 lbs.	¾	½	2½	6	250			
Legume hay-silage									
Other cattle, per L. U. Legume hay- no silage	500 lbs.	2 ¾	½		6	250			
Hogs, per cwt.	2,000 lbs. per sow				½			Mill feed	25 lbs.
Sheep, per L. U. (no silage)	50 lbs. wool 350 lbs. mutton		½		6	250 (and)	250	Tankage	5 lbs.
Sheep, per L. U. (silage)	50 lbs. wool 350 lbs. mutton		½	3 4	6	250 (and)	250		
Poultry	8,000 eggs 400 lbs. per 100 hens								
						7,500*			

*Mixed grain.

Table 75. Production and feed of live stock (area 6b).

Kind of Animal	Production	Roughage Required			Grain Required		Protein Supplement		
		Non- Legumes (T.)	Legumes (T.)	Silage (T.)	Pasture (Acres)	Corn or Sorghums (Lbs.)	Barley (and) or Oats (Lbs.)	Kind	Quantity
Work horse	700 hours work	2½	½		3	500 (and) 250 (and)	1,500 750		
Colts		1			5				
Milk cows (no silage)	200 lbs. B. F.	1½	1½		6	250 (or)	300		
Milk cows (silage)	200 lbs. B. F.	1	1½	2	6	250 (or)	300		
Milk cows (no silage)	225 lbs. B. F.	1½	1½		6	450 (or)	540		
Milk cows (silage)	225 lbs. B. F.	1	1½	2	6	450 (or)	540		
Other cattle, per L. U. (with silage)	450 lbs.	1		2½	6	150		C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	450 lbs.	3			6	150		C. S. cake	150 lbs.
Other cattle, per L. U.	450 lbs.	¾	½	2½	6	150			
Legume hay-silage:									
Other cattle, per L. U.	450 lbs.	2 ¾	½		6	150			
Legume hay- no silage									
Hogs, per cwt.	2,000 lbs. per sow				½	350 with legumes 400 without legumes		Mill feed Tankage	25 lbs. 5 lbs.
Poultry per 100 hens	8,000 eggs 400 lbs. poultry					7,500*			
Sheep, per L. U. (without silage)	50 wool 350 mutton		½		6	250 (and)	250		
(with silage)	" "		½	¾	6	250 (and)	250		

*Mixed Grain.

Table 76. Production and feed of livestock (area 7).

Kind of Animal	Production	Acreage Required				Grain Required		Protein Supplement	
		Non-	Legumes	Silage	Pasture	Corn or Sorghums	Barley (and) Oats	Kind	Quantity
		(T.)	(T.)	(T.)	(Acres)	(Lbs.)	(Lbs.)		
or horses	400 hours work	3			4	500 (and) 750	1,800 (and) 900		
Colts		1			6				
Milk cows (no silage)	150 lbs. B. F.	1 $\frac{1}{2}$	1 $\frac{1}{2}$		8	125 (or)	150		
Milk cows (silage)	150 lbs. B. F.	1	1 $\frac{1}{2}$	2	8	125 (or)	150		
Milk cows (no silage)	200 lbs. B. F.	1 $\frac{1}{2}$	1 $\frac{1}{2}$		8	250 (or)	300		
Milk cows (silage)	200 lbs. D. F.	1	1 $\frac{1}{2}$	2	8	250 (or)	300		
Other cattle, per L. U. (with silage)	400 lbs.	1		2 $\frac{1}{2}$	8			C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	400 lbs.	3			8			C. S. cake	150 lbs.
Other cattle, per L. U.	400 lbs.	3/4	1/2	2 $\frac{1}{2}$	8				
Legume hay-silage									
Other cattle, per L. U.	400 lbs.	2 5/4	1/2		8				
Legume hay-no silage									
Hens per cwt.	1,000 lbs. per sow					400		ill feed	25 lbs.
	8,000 eggs							Taskare	10 lbs.
Poultry	400 lbs. poultry					7,500*			

* mixed grain.

Table 77. Production and feed of live stock (area 8).

Kind of Animal	Production	Forage Required				Grain Required		Protein Supplement	
		Non- Legumes (T.)	Legumes (T.)	Silage (T.)	Pasture (Acres)	Corn or Sorghams (Lbs.)	Barley (and) Oats (Lbs.)	Kind	Quantity
Work horses	700 hours work								
Colts		2½	2		4	500 (and)	1,500		
Milk cows (no silage)	150 lbs. B. F.	1			6	750 (and)	900		
Milk cows (silage)	150 lbs. L. F.	1½	1½		8	125 (or)	150		
Milk cows (no silage)	200 lbs. B. F.	1	1½	2	8	125 (or)	150		
Milk cows (silage)	200 lbs. L. F.	1½	1½		8	250 (or)	300		
Other cattle, per L. L. (with silage)	400 lbs.	1		2	8	250 (or)	300	C. S. cake	150 lbs.
Other cattle, per L. L. (without silage)	400 lbs.	3			8			C. S. cake	150 lbs.
Other cattle, per L. L. Legume hay-silage	400 lbs.	¾	¾	2½	8				
Other cattle, per L. L. Legume hay- no silage	400 lbs.	2 ¾	¾		8				
Hens per cnt.	2,000 lbs. per sow			½				Mill feed	25 lbs.
	50 eggs			Leg.		350		Tankage	10 lbs.
Poultry per 100 hens	400 lbs. poultry					500*			
Sheep per L. L. (without silage)	50 lbs. wool 350 lbs. mutton		½		6	250 (or)	250		
Sheep per L. L. (with silage)	50 lbs. wool 350 lbs. mutton			5/4	6	250 (or)	250		

* fixed grain.

(sheep - convenient factor, .14)
 (50# wool 350# mutton)

Table 78. Production and feed of live stock (area 9).

Kind of Animal	Production	Loughage Required				Grain required		Protein Supplement	
		Non-	Legumes	Silage	Pasture	Corn or Sorghums	Barley (and) or Oats	Kind	Quantity
		(T.)	(T.)	(T.)	(Acres)	(Lbs.)	(Lbs.)		
Work horses	500 hours work	3			4	1,500 (and)	1,800		
Colts		1			6	750 (and)	900		
Milk cows (no silage)	175 lbs. F.	1½	1½		8	125 (or)	150		
Milk cows (silage)	175 lbs. B. F.	1	1½	2	8	125 (or)	150		
Milk cows (no silage)	200 lbs. B. F.	1½	1½		8	250 (or)	300		
Milk cows (silage)	200 lbs. B. F.	1	1½	2	8	250 (or)	300		
Other cattle, per L. U. (with silage)	400 lbs.	1		2½	8			C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	400 lbs.	3			8			C. S. cake	150 lbs.
Eggs, per cwt.	1,500 lbs. per sow					400		Mill feed	25 lbs.
	8,000 eggs							Tankage	10 lbs.
Poultry per 100 hens	400 lbs. poultry								
Other cattle, (with silage)	(400)	(¾)	(¼)	(2½)	(8)				
Other cattle, (no silage)	(400)	(2 ¾)	(¼)		(8)				

*Mixed grain.

Table 79. Production and feed of live stock (areas 10a, 10b, 10c, and 12).

Kind of Animal	Production	Acreage Required				Grain Required		Protein Supplement	
		Non-	Legumes	Silage	Pasture	Corn or Sorghums	Barley or Oats	Kind	Quantity
		(T.)	(T.)	(T.)	(Acres)	(Lbs.)	(Lbs.)		
Work horses	500 hours work	3			4	1,500	(and) 1,800		
Colts		1			6	750	(and) 900		
Milk cows (no silage)	150 lbs. B. F.	1½	1½		8*				
Milk cows (silage)	150 lbs. B. F.	1	1½	2	8*				
Milk cows (no silage)	200 lbs. B. F.	1½	1½		8*	250	(or) 300		
Milk cows (silage)	200 lbs. B. F.	1	1½	2	8*	250	(or) 300		
Other cattle, per L. U. (with silage)	400 lbs.	1		2½	8*			C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	400 lbs.	3			8*			C. S. cake	150 lbs.
Hogs, per ext.	1,500 lbs. per sow					400	(or) 480	Mill feed	25 lbs.
	8,000 eggs							Tankage	10 lbs.
Poultry per 100 hens	400 lbs. poultry					7,500**			

* 12 to 15 acres should be allowed in these areas.

** Mixed grain.

Table 80. Production and feed of live stock (area 11).

Kind of Animal	Production	Roughage Required				Grain Required		Protein Supplement	
		Non-Legumes (T.)	Legumes (T.)	Silage (T.)	Pasture (Acres)	Corn or Sorghums (Lbs.)	Barley or Oats (Lbs.)	Kind	Quantity
Work horses	500 hours work	3			4*	1,500 (and)	1,800		
Colts		1			6*	750 (and)	900		
Milk cows (no silage)	150 lbs. B. F.	1½	1½		8*				
Milk cows (silage)	150 lbs. B. F.	1	1½	2	8*				
Milk cows (no silage)	175 lbs. B. F.	1½	1½		8*	125 (or)	150		
Milk cows (silage)	175 lbs. B. F.	1	1½	2	8*	125 (or)	150		
Other cattle, per L. U. (with silage)	400 lbs.	1		2½	8*			C. S. cake	150 lbs.
Other cattle, per L. U. (without silage)	400 lbs.	3			8*			C. S. cake	150 lbs.
Other cattle, per L. U.	450 lbs.	¾	½	2½	8*	150 (or)	150		
Legume hay-silage									
Other cattle, per L. U.	450 lbs.	2 ¾	½		8*	150 (or)	150		
Legume hay-no silage					2/3				25 lbs.
Hogs, per cwt.	1,500 lbs. per sow			.5	logume ½	(If no pasture)		Will feed	without
Poultry	8,000 eggs				Forage:	350		Tankage	legumes
per 100 hens	400 lbs. poultry					7,500**			

* Should be 12 if only native pasture is available.

** Mixed grain.

Table 61. Normal yields of the principal crops in area ¹.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Al- alfa Tons	Prairie Hay Tons	Sudan Tons
Cherokee	12.7	15.2	20.1	17.2	16.2	2.3	3.0	2.7	1.2	2.3
Crawford	13.3	18.4	22.4	17.3	17.6	2.5	3.4	2.6	1.1	2.6
Labette	12.7	16.9	22.7	17.8	17.0	2.4	2.9	2.7	1.1	2.4
Montgomery	13.4	17.8	24.5	18.4	16.7	2.4	3.1	2.8	1.1	2.5
Neosho	14.0	17.7	23.2	18.9	17.4	2.4	3.2	2.8	1.0	2.7
Wilson	15.5	17.9	24.0	19.0	16.9	2.3	3.3	2.5	1.0	2.8
Average	13.6	17.3	22.8	18.1	17.0	2.4	3.2	2.7	1.1	2.6

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 82. Normal yields of the principal crops in area 2.

County	Wheat bus.	Corn bus.	Oats lus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Allen	14.9	18.8	25.9	19.7	19.6	2.6	3.6	2.7	1.1	2.7
Anderson	15.3	19.3	25.5	20.8	19.4	2.8	3.7	2.8	1.1	2.6
Bourbon	13.7	19.6	24.2	20.4	18.7	2.6	4.1	2.8	1.0	2.6
Coffey	16.8	19.3	26.0	21.4	18.7	2.5	3.9	2.7	1.1	2.9
Franklin	15.4	20.4	20.6	20.7	21.9	2.7	3.8	2.7	1.2	2.8
Linn	14.4	19.3	23.7	19.8	18.9	2.5	3.5	2.6	1.1	2.7
Miami	14.5	21.6	19.4	20.5	23.8	2.5	4.0	2.7	1.2	2.8
Osage	17.0	20.7	21.1	22.3	20.1	2.6	3.9	2.6	1.1	2.9
Woodson	15.0	17.9	22.8	18.9	17.7	2.5	3.5	2.8	1.1	2.7
Average	15.2	19.7	23.0	20.5	19.9	2.6	3.8	2.7	1.1	2.7

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, paterita, and kafir.

Table 13. Normal yields of the principal crops in area 3.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Douglas	16.5	24.0	28.9	22.4	23.8	2.9	4.3	2.7	1.1	3.1
Jefferson	16.5	24.4	29.4	23.2	23.2	2.8	4.0	2.8	1.2	2.9
Johnson	15.6	24.8	30.8	23.0	26.1	2.8	4.1	2.8	1.1	2.9
Leavenworth	15.5	25.4	29.5	23.5	22.8	2.6	4.0	2.9	1.2	2.8
Shawnee	18.8	24.4	30.8	21.5	22.1	2.8	4.0	2.8	1.1	3.0
Wandotte	17.5	28.1	29.5	24.8	23.9	2.8	3.5	2.9	1.1	2.8
Average	16.7	25.2	29.8	23.1	23.6	2.8	4.0	2.8	1.1	2.9

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 84. Normal yields of the principal crops in area 4.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Atchison	16.4	25.1	28.0	23.0	23.6	2.5	3.5	2.7	1.2	2.5
Brown	19.4	28.1	31.5	24.0	24.9	2.8	3.2	2.8	1.2	2.6
Doniphan	18.0	31.3	29.2	24.1	24.1	1.8	3.3	2.9	1.2	2.4
Jackson	15.6	21.7	27.3	20.9	20.3	2.8	3.7	2.6	1.1	2.8
Memaha	16.8	21.9	26.1	22.6	22.6	2.6	3.2	2.5	1.1	2.7
Average	17.2	25.6	28.4	22.9	23.1	2.5	3.4	2.7	1.2	2.6

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 85. Normal yields of the principal crops in area 5.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Butler	14.4	17.4	25.1	20.9	16.9	2.4	3.4	2.6	0.9	2.6
Chautauqua	13.5	17.7	24.5	20.0	17.6	2.4	3.0	2.6	1.0	2.6
Chase	20.8	22.3	30.0	23.8	21.0	2.8	4.2	2.7	1.1	3.0
Cowley	13.8	17.0	23.4	19.0	16.9	2.2	3.4	2.6	1.0	2.6
Elk	13.8	17.0	22.6	19.8	15.1	2.2	2.8	2.8	1.0	2.6
Geary	17.3	21.7	27.8	21.2	21.7	2.6	3.4	2.6	1.0	2.8
Greenwood	15.3	18.7	25.5	20.3	16.4	2.5	4.1	2.8	1.0	2.9
Lyon	17.8	20.8	27.5	22.8	21.2	2.6	4.2	2.9	1.0	2.9
Morris	17.4	19.9	26.8	22.4	20.5	2.7	3.9	2.5	1.1	2.7
Pottawatomie	17.9	23.4	30.2	22.2	22.0	2.8	2.5	2.6	1.0	2.5
Riley	18.8	23.8	29.5	22.4	23.5	2.6	4.0	2.6	1.1	2.7
Wabaunsee	18.8	22.0	29.7	22.0	21.6	2.8	3.8	2.6	1.0	2.8
Average	16.6	20.1	26.9	21.4	19.5	2.5	3.6	2.7	1.0	2.7

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 86. Normal yields of the principal crops in area 6a.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Clay	14.8	18.8	26.3	21.6	19.8	2.3	2.9	2.4	1.0	2.4
Cloud	14.1	18.4	26.0	20.1	19.2	2.2	2.3	2.3	1.0	2.4
Dickinson	16.5	18.9	27.6	22.9	22.1	2.4	3.9	2.5	1.1	3.1
Harjo	15.9	18.5	27.4	22.1	19.3	2.1	3.3	2.6	1.1	2.7
Ottawa	13.3	16.3	24.1	20.4	17.8	2.2	2.9	2.6	1.0	2.5
Saline	14.3	19.0	24.8	22.5	19.1	2.2	3.3	2.6	1.1	2.5
Average	15.0	18.0	26.0	21.6	19.6	2.2	3.2	2.5	1.0	2.6

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 87. Normal yields of the principal crops in area 6b.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghams*	All Grain Sorghams-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Harper	13.0	13.2	22.3	19.3	17.2	1.9	2.8	2.4	0.9	2.2
Harvey	15.5	15.9	27.1	22.7	18.9	2.0	3.2	2.3	1.1	2.5
Kingman	12.4	13.5	22.3	19.0	16.0	1.9	2.8	2.4	1.1	2.3
McPherson	14.7	16.4	26.3	21.8	19.1	2.0	3.0	2.3	1.1	2.4
Heno	14.2	15.5	24.4	21.0	18.4	2.0	3.2	2.6	1.2	2.6
Rice	13.8	16.0	25.0	21.9	19.7	2.2	3.4	2.7	1.2	2.6
Sedgwick	14.4	15.8	25.6	22.4	18.2	2.2	3.4	2.7	1.2	2.5
Sumner	12.6	15.4	22.1	20.4	17.1	2.2	3.2	2.6	1.2	2.5
Average	13.8	15.2	24.4	21.1	18.1	2.0	3.1	2.5	1.1	2.4

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 88. Normal yields of the principal crops in area 7.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Ellis	11.5	13.2	19.0	17.4	15.9	1.9	2.4	2.3	1.1	2.1
Ellsworth	12.9	15.0	21.5	19.1	18.0	2.2	2.8	2.5	1.2	2.5
Lincoln	13.3	15.0	23.6	19.1	17.0	2.0	2.8	2.4	1.0	2.3
Mitchell	13.5	14.6	24.8	19.9	18.0	2.3	2.7	2.1	1.0	2.4
Osborne	12.7	13.7	22.6	17.5	16.2	2.1	2.8	2.4	1.0	2.3
Rooks	10.7	13.3	19.0	17.9	14.5	2.0	2.2	2.4	1.0	2.1
Russell	12.0	12.9	21.5	18.4	16.2	1.9	2.6	2.3	1.0	2.2
Average	12.3	14.0	21.7	18.5	16.5	2.0	2.6	2.3	1.0	2.3

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1916-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 89. Normal yields of the principal crops in area 8.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Jewell	13.8	17.2	26.0	19.8	18.4	2.2	2.7	2.1	0.9	2.2
Marshall	15.9	20.6	25.5	21.9	22.3	2.6	3.4	2.5	1.1	2.7
Norton	10.0	14.8	16.2	17.4	14.6	2.0	2.2	2.4	0.9	1.9
Phillips	11.2	16.0	19.7	17.9	14.6	2.2	2.5	2.6	1.0	2.2
Republic	16.0	17.9	26.5	21.0	18.0	2.0	2.4	2.2	0.9	2.2
Smith	12.3	17.3	23.0	18.8	16.9	2.1	2.8	2.2	0.9	2.2
Washington	14.7	18.4	25.4	20.6	20.0	2.4	3.1	2.2	1.0	2.5
Average	13.3	17.5	23.2	19.6	17.8	2.2	2.7	2.3	1.0	2.3

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 90. Normal yields of the principal crops in area 9.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Barton	15.2	16.1	24.9	21.8	19.4	2.2	3.2	3.1	1.2	2.6
Edwards	12.0	13.6	20.6	19.7	17.0	1.8	2.5	2.7	1.0	2.3
Kiowa	12.3	13.6	18.6	18.8	16.1	1.7	2.4	2.0	0.9	2.3
Pawnee	12.0	15.2	21.7	19.2	18.3	2.0	2.9	2.9	1.1	2.4
Pratt	14.0	15.4	22.3	20.4	19.2	1.9	2.8	2.5	1.0	2.4
Rush	11.4	12.2	19.3	18.9	16.8	1.9	2.6	2.3	1.0	2.1
Stafford	13.3	16.7	24.4	20.4	19.3	1.9	2.7	2.7	1.2	2.4
Average	12.6	14.7	21.7	19.9	18.0	1.9	2.7	2.6	1.1	2.4

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 90. Normal yields of the principal crops in area 9.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Barton	15.2	16.1	24.9	21.8	19.4	2.2	3.2	3.1	1.2	2.6
Edwards	12.0	13.6	20.6	19.7	17.0	1.8	2.5	2.7	1.0	2.3
Kiowa	12.3	13.6	18.6	18.8	16.1	1.7	2.4	2.0	0.9	2.3
Pawnee	12.0	15.2	21.7	19.2	18.3	2.0	2.9	2.9	1.1	2.4
Pratt	14.0	15.4	22.3	20.4	19.2	1.9	2.8	2.5	1.0	2.4
Rush	11.4	12.2	19.3	18.9	16.8	1.9	2.6	2.3	1.0	2.1
Stafford	13.3	16.7	24.4	20.4	19.3	1.9	2.7	2.7	1.2	2.4
Average	12.6	14.7	21.7	19.9	18.0	1.9	2.7	2.6	1.1	2.4

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 92. Normal yields of the principal crops in area 10b.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Ford	11.5	12.5	17.9	17.6	16.3	1.5	2.3	2.5	1.2	2.0
Grant	11.2	15.7	15.3	16.9	16.1	1.3	2.1	2.5	1.0	1.9
Gray	10.6	14.5	16.7	16.7	15.9	1.5	2.2	2.6	1.0	2.0
Haskell	10.2	12.6	14.1	14.6	15.7	1.5	2.1	2.7	0.8	1.8
Meade	10.4	12.4	14.4	13.1	14.5	1.4	2.3	2.2	1.1	1.8
Norton	10.6	13.8	14.0	14.6	16.0	1.3	2.0	2.2	0.9	1.7
Seward	10.6	13.2	14.2	13.4	16.3	1.4	2.2	1.9	1.0	2.0
Stanton	9.4	13.8	14.6	15.1	15.7	1.5	2.3	2.2		2.0
Stevens	11.4	13.1	14.3	14.7	16.4	1.5	2.1	2.0	0.9	2.1
Average	10.7	13.5	15.1	15.2	15.9	1.4	2.2	2.3	0.9	1.9

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 93. Normal yields of the principal crops in area 10c.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Barber	13.0	14.5	22.3	19.7	17.5	2.0	3.0	2.5	1.1	2.7
Clark	11.6	12.5	17.8	16.3	15.1	1.5	2.5	2.3	1.0	1.9
Comanche	12.1	13.0	18.9	16.4	15.9	1.7	2.8	2.5	1.2	2.6
Average	12.2	13.3	19.7	17.5	16.2	1.7	2.8	2.4	1.1	2.4

Source: Yield on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 64. Normal yields of the principal crops in area 11.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghums*	All Grain Sorghums-Stover*	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Cheyenne	12.1	16.6	20.4	20.1	13.1	1.6	2.0	2.5	1.0	1.9
Deatur	9.6	14.8	18.3	18.2	12.9	1.6	2.1	2.6	1.0	1.8
Graham	9.6	13.2	16.3	15.8	12.7	1.7	2.1	2.2	0.9	1.8
Rawlins	11.3	15.2	19.3	18.9	13.4	1.6	2.2	2.6	1.0	2.0
Sheridan	9.5	12.9	15.4	18.0	12.0	1.7	2.0	2.3	1.0	1.8
Sherman	10.6	14.8	18.8	18.6	11.0	1.6	1.9	2.4	1.0	1.6
Thomas	9.8	13.0	17.0	18.2	11.2	1.6	2.1	2.2	0.8	1.9
Average	10.4	14.4	17.9	18.3	12.3	1.6	2.1	2.4	1.0	1.8

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.

Table 95. Normal yields of the principal crops of area 12.

County	Wheat bus.	Corn bus.	Oats bus.	Barley bus.	All Grain Sorghams*	All Grain Sorghams-Stover	Cane Hay & Forage Tons	Alf- alfa Tons	Prairie Hay Tons	Sudan Tons
Greeley	8.8	12.4	12.6	14.3	10.9	1.3	1.8	2.2	0.9	1.7
Hamilton	10.8	13.6	14.4	14.8	10.1	1.3	2.3	2.5	1.0	2.1
Kearney	12.5	15.0	19.7	17.1	16.1	1.4	2.2	2.7	0.9	2.0
Logan	9.0	12.3	15.3	16.0	11.5	1.3	1.9	2.5	0.9	1.9
Scott	8.3	11.7	14.3	13.9	11.6	1.3	1.8	3.0	0.9	1.7
Wallace	8.4	12.1	14.2	13.6	10.8	1.4	1.7	2.2	1.0	1.5
Wichita	8.1	12.1	13.2	13.6	12.0	1.4	2.0	2.5	1.0	1.7
Average	9.4	12.7	14.8	15.0	12.7	1.3	2.0	2.5	0.9	1.8

Source: Yields on harvested acreage as given in the reports of the State Board of Agriculture. Averages for wheat, corn, oats, and barley are for 1911-32; sudan for 1916-32; and others from 1915-32. These averages were calculated by the Dept. of Agr. Econ., Kans. Agr. Expt. Sta. and used as normal yields in the Agricultural Adjustment Project.

* Average yield of milo, feterita, and kafir.