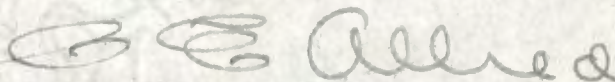


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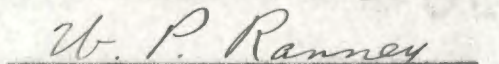
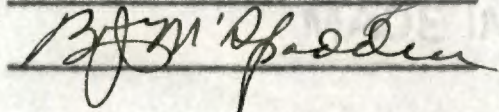
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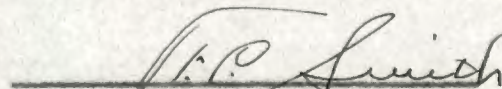


Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Committee


Dean of the Graduate School

**FARMERS' BUSINESS COOPERATION IN KNOX COUNTY,
TENNESSEE**

A THESIS

Submitted to
the Committee on Graduate Study
of
The University of Tennessee
in
Partial Fulfillment of the Requirements
for the degree of
Master of Science

by

Aaron K. Schmidt

August 1941

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PART I

INTRODUCTION

Purpose

The purpose of this study is to analyze the successes and failures of rural cooperative organizations in Knox County, Tennessee.

It is hoped that the information obtained will be helpful in showing the type of organization, method of management, and economic and agricultural conditions which contribute most to the success of farmers' cooperatives in this county, and in other similar areas.

Procedure and Scope

A list of cooperatives was obtained from departmental monographs⁽¹⁾ and files,⁽²⁾ indicating cooperative activity in Knox County prior to 1928. Suggestions as to whom to see for information were obtained from the county agents and from individuals who had been associated with the respective cooperatives.

Most of the information was obtained through personal interviews with managers, presidents, secretaries, and others who have been closely

(1) C. E. Allred and B. D. Raskopf, Development of Farmers' Cooperatives in Tennessee, Monograph No. 99, Department of Agricultural Economics.

(2) Card Index Files, Department of Agricultural Economics, University of Tennessee.

associated with the cooperatives. Some data were also obtained from by-laws, charters, minutes of meetings, county agent, and extension reports. In most cases each section has been taken back to the original informants and checked for accuracy. Data on some cooperatives were not obtainable due to records being destroyed. Some of the most prominent early cooperatives have been discontinued or are no longer in this area; for others no one seems to have definite recollections of the cooperative activity of 20 years ago.

Balken and Schaars⁽³⁾ defines 4 types of cooperatives: First, cooperative sales associations, which sell farm products produced on farms of individual members. Processing, packing, storing, financing, bargaining, and other marketing functions are carried on by such associations. Second, purchasing associations, which pool the buying power of members and handle or bargain for goods, ordinarily for both members and nonmembers. Third, cooperative service associations, which provide services such as financing, housing and utility services for members. Fourth, workers' associations, are organizations to pool the labor of members for joint action. Examples of each of these types in Knox County are Knoxville Milk Producers' Association, East Tennessee Farm Products Exchange, Knox County National Farm Loan Association, and Cooperative Fence Building, respectively.

(3) Balken and Schaars, Economics of Cooperative Marketing, McGraw-Hill Book Company, 1937, page 5.

This study has included all of the types mentioned, as they have all observed some of the more important cooperative principles, such as one-member one-vote, dividends on capital stock limited to a certain percent, dividends prorated according to amount of business, and 50 percent of business transacted with members. While some of the organizations have been initiated by others than the farmers, their success after organization has depended upon the farmers' cooperation.

Since substantial savings have sometimes been made by farmers through local cooperation on an informal basis, an inventory to determine the amount of neighborhood or community cooperation was taken. A questionnaire was answered by families who were represented by children in Vocational Agriculture classes of Knox County High Schools.

In general, the associations under each type are arranged in chronological order.

History of Knox County and Knoxville

A brief history of Knox County and Knoxville is helpful in understanding how the development of a large consumer market has influenced the type of cooperation in this county.

The first settlement in Knox County was in 1785 in Quaker Valley, and the first habitation of white men on the site of Knoxville was in 1786 when a log cabin was erected on the site now occupied by the court house.⁽⁴⁾ Knoxville was named in honor of Major-General Henry Knox,

(4) W. M. Goodman, History of Knoxville, and A. P. Foster, Counties of Tennessee.

then Secretary of War in Washington's cabinet. It was founded in 1791, and Knox County was chartered in 1792 out of Greene and Hawkins counties. The town and county soon increased in population sufficiently for protection from the incursions of the Indians. When Tennessee became the sixteenth state of the Union in 1796, Knoxville was made the capital, remaining the same till 1817. Farms were cultivated in the rich valleys, small mills were established, and Knoxville became a trading center for quite a large territory.

A road was opened in July 1795 from Knoxville to Nashville to allow passage of a loaded wagon. About the same time two wagons arrived at Knoxville from South Carolina. Steamboat navigation was introduced on the Tennessee River in 1826. The East Tennessee and Georgia Railroad was completed in 1855, and soon afterward business received new impetus by the building of the East Tennessee and Virginia road to this place.

Progress made in the construction of roads, together with improved river transportation, developed Knoxville into a jobbing center, starting considerable growth in the 1830's. Before railroads were built in this section the Knoxville wholesale market supplied a territory embracing portions of several Southern States. Bartering for deer, bear and coon skins, farm produce, etc., formed the early trading operations.

Changes that went forward by slow stages for many years finally

led to an awakening that is now making this into an industrial region. Knoxville is situated near mineral deposits of zinc, copper, clay, cement rock, marble, iron ore, slate, lead and others. Mining of these minerals is more profitable since there is a good supply of coal, timber and water resources. In recent years Knoxville has made rapid growth in manufacturing and related industries.

Knox County, about centrally located in East Tennessee, has fertile soils, pure water and a favorable climate for agriculture. Nearly all the staple crops of America can be grown here successfully. Clovers and grasses grow well, small grains succeed, while truck farming, fruit growing and other specialized types of agriculture are practiced. Due to industrial conditions the county is well adapted to general and part-time farming.

Type of Farming

The type of cooperative activity depends to a large extent on type of farming. By type of farm is meant the proportion of the total value of all products from a particular source.⁽⁵⁾

Nearly a third of the farms in Knox County are classified as self-sufficing (Table I). Part-time, general, and dairy farming are the other major types, representing nearly one-half of all farms.

The outer civil districts in the county have the largest percent

(5) Types of Farming in Tennessee by B. H. Luebke, S. W. Atkins, C. E. Allred, and W. J. Roth, University of Tennessee Experiment Station, Bulletin No. 169.

TABLE 1. TYPES* OF FARMING BY CIVIL DISTRICTS, KNOX COUNTY, TENNESSEE,
1929

Civil Distr. **	Total Farms	Self- Suf- ficing	Part- Time	General	Dairy	Truck	Crop Spe- cialty	Animal Spe- cialty	Poultry	Cash Grain	Forest Pro- ducts	Fruit	All Other Farms ***
2	216	51	72	17	19	4	4	4	5	2	-	3	35
3	125	22	39	27	3	11	1	4	3	-	1	4	10
4	285	55	78	61	46	3	5	9	-	8	4	-	16
5	419	141	19	74	87	1	43	7	1	8	1	3	34
6	290	134	42	51	3	1	2	3	1	1	4	-	48
7	255	54	64	63	51	-	5	5	2	-	4	-	7
8	194	30	57	34	20	16	2	6	3	-	1	1	24
9	442	160	74	89	39	15	13	10	3	-	5	3	31
10	273	91	38	57	28	5	13	7	8	4	1	3	18
11	301	69	85	39	21	41	4	13	-	1	2	1	25
13	451	232	92	50	15	5	10	2	5	2	2	1	35
14	226	69	40	43	20	12	5	2	4	1	2	4	24
15	270	84	41	97	13	1	-	11	1	4	4	-	14
16	201	47	61	46	25	-	1	1	3	2	-	-	15
17	91	27	-	42	4	2	-	9	-	4	-	-	3
Total	4,039	1,266	802	790	394	117	108	93	39	37	31	23	339
Percent of Total	100.0	31.35	19.87	19.56	9.76	2.89	2.67	2.30	.96	.91	.76	.57	8.39

* No cotton or stock ranch farms are listed for Knox County.

** District 1 comprises wards 1-9 of Knoxville and District 12 comprises Ward 10 of Knoxville.

*** All others includes unclassified farms and abnormal farms such as institutional, board and lodge, horse and feed lot. Part-time and forest products farms have been taken out of the abnormal group in this tabulation.

Source: 1930 Type of Farming Studies by Bureau of Agricultural Economics, U.S.D.A., prepared November 18, 1935, and in the files of the Department of Agricultural Economics, University of Tennessee.



Figure 1. Percentage Distribution of Types of Farms, Knox County, Tennessee, 1929

Source: Table I.

of self-sufficing farms, while civil districts nearest Knoxville have the highest percent of part-time farms. Even though some civil districts have a relatively high percentage of the other types, no other type is concentrated in one area in relationship to Knoxville, except that truck farming is located mostly west of Knoxville.

The types of farming in Figure 1, arranged according to an array of the largest class, indicate their relative importance.

Size of Farms

Farms in Knox County are relatively small when compared with the State average. Decrease in size has been more irregular but greater in Knox County compared to Tennessee (Table II).

TABLE II. TREND IN SIZE OF FARMS IN KNOX COUNTY AND IN TENNESSEE, 1900 - 1940

Year	Average Size of Farms			
	Tennessee		Knox County	
	Average Acres	Percent of 1900	Average Acres	Percent of 1900
1940	74.7	82.5	50.5	67.1
1935	69.7	76.9	47.0	62.4
1930	73.3	80.9	62.8	83.8
1925	70.8	78.1	58.1	77.1
1920	77.2	85.2	69.7	92.5
1910	81.5	89.9	67.2	89.2
1900	90.8	100.0	75.3	100.0

Source: Land Class Related to Economic Factors in Knox County, a thesis, by J. D. Rush, page 61, Department of Agricultural Economics, University of Tennessee.

Status of Cooperative Marketing and Purchasing

While it would be desirable to study the relationship of cooperative activity to types of farming, by civil districts, no census tabulations by civil districts were made in 1920 and 1925; the 1930 civil district tabulations did not include cooperative marketing; there were no questions on the 1935 farm schedule relating to the purchase and sale of products through cooperative organizations; and data by civil districts for the 1940 census will not be available until the fall of 1941.

Tables III and IV compare cooperative activity in Knox County with that in Tennessee and the United States. Knox County had the

TABLE III. VALUE OF FARM PRODUCTS SOLD COOPERATIVELY, PERCENT OF FARMERS SELLING COOPERATIVELY, AND AVERAGE SALES, KNOX COUNTY, TENNESSEE, AND U. S., 1919 - 1929

Year	Total Value of Farm Products Sold Cooperatively	Percent of All Farms Reporting Cooperative Sales	Average Sales per Farm for Farms Reporting Cooperative Sales
Knox County			
1919	\$5,723	.24	\$409
1924	9,605	.60	384
1929	15,091	.91	408
Tennessee			
1919	\$607,671	.49	\$484
1924	7,181,922	6.05	470
1929	1,381,835	1.44	389
United States			
1919	\$721,983,639	7.95	\$1,412
1924	858,284,387	13.87	976
1929	892,481,491	11.90	1,290

Source: U. S. Census.

largest percentage increase in value of products sold cooperatively (Table III). However, the percentage of farmers selling cooperatively was low compared with Tennessee, and with the United States. Cooperative sales per farm, for farms reporting cooperative sales, was higher in the United States than in Knox County or Tennessee.

The trend for the number of farmers purchasing cooperatively in Knox County, in Tennessee, and in the United States is similar to the number selling cooperatively, but the total number in each case is much smaller (Table IV). Total value of farm supplies purchased cooperatively

TABLE IV. VALUE OF FARM SUPPLIES PURCHASED COOPERATIVELY, PERCENT OF FARMERS PURCHASING COOPERATIVELY, AND AVERAGE PURCHASES, KNOX COUNTY, TENNESSEE, AND U. S., 1919-1929

Year	Total Value of Farm Supplies Purchased Cooperatively	Percent of All Farms Reporting Cooperative Purchases	Average Purchases per Farm for Farms Reporting Cooperative Purchases
Knox County			
1919	\$9,419	.37	\$256
1924	870	.14	145
1929	1,049	.44	58
Tennessee			
1919	\$133,270	.46	\$114
1924	445,590	1.77	99
1929	392,158	1.16	133
United States			
1919	\$84,615,669	5.10	\$257
1924	75,971,169	5.69	209
1929	125,048,597	6.53	304

Source: U. S. Census.

from 1919 to 1929 decreased 88 percent in Knox County, increased 65 percent in Tennessee, and increased 33 percent in the United States. Cooperative purchases per farm for farms reporting cooperative purchases were also much smaller than cooperative sales in each area.

The percent of farmers selling cooperatively in Knox County is small compared with the State average, except managers (Table V). Sales per tenant for tenants reporting were much lower in Knox County than Tennessee. Sales for other types of tenure were also a little lower in Knox County.

TABLE V. COOPERATIVE SALES, IN AMOUNT AND PERCENT OF FARMERS SELLING COOPERATIVELY, BY TYPES OF TENURE, KNOX COUNTY, TENNESSEE, 1924

Cooperative Sales	Amount		Percent	
	Knox County	Ave. for Tennessee	Knox County	Ave. for Tennessee
Amount of sales per farmer for all farmers selling cooperatively	\$384.20	\$469.31	-	-
Percent of all farmers selling cooperatively	-	-	0.61	6.05
Amount sales per owner for owners selling cooperatively	410.14	475.06	-	-
Percent of owners selling cooperatively	-	-	0.65	7.09
Amount sales per manager for managers selling cooperatively	450.00	759.44	-	-
Percent of managers selling cooperatively	-	-	3.45	4.93
Amount sales per tenant for tenants selling cooperatively	66.00	455.56	-	-
Percent of tenants selling cooperatively	-	-	0.29	4.57

Source: Tennessee, Economic and Social, Part II - The Counties, by C. E. Allred, S. W. Atkins, and G. H. Hatfield, University of Tennessee, pages 102-104.

No managers purchased cooperatively in Knox County (Table VI).

The percent of farmers purchasing cooperatively for all types of tenure is low for Knox County and Tennessee. Purchases per farm for farms reporting cooperative purchases was higher in Knox County than in Tennessee for each type of tenure except managers. Cooperative purchases, per tenant, were greater than cooperative sales.

TABLE VI. COOPERATIVE PURCHASES, IN AMOUNT AND PERCENT OF FARMERS PURCHASING COOPERATIVELY, BY TYPES OF TENURE, KNOX COUNTY, TENNESSEE, 1924

Cooperative Purchases	Amount		Percent	
	Knox County	Ave for Tennessee	Knox County	Ave. for Tennessee
Amount purchases per farmer for all farmers buying cooperatively	\$145.00	\$99.24	-	-
Percent of all farmers purchasing cooperatively	-	-	0.15	1.77
Amount purchases per owner for owners buying cooperatively	154.00	108.13	-	-
Percent of owners purchasing cooperatively	-	-	0.15	2.10
Amount purchases per manager for managers buying cooperatively	0.00	256.88	-	-
Percent of managers purchasing cooperatively	-	-	0.00	2.46
Amount purchases per tenant for tenants buying cooperatively	100.00	77.66	-	-
Percent of tenants purchasing cooperatively	-	-	0.15	1.30

Source: Tennessee, Economic and Social, Part II - The Counties, by C. E. Allred, S. W. Atkins, and G. H. Hatfield, University of Tennessee, pages 102-104.

PART II
MARKETING ORGANIZATIONS

CHAPTER I

KNOX COUNTY BERRY AND TRUCK GROWERS' ASSOCIATION

History and Organization

Records of the Knox County Berry and Truck Growers' Association, also referred to as the Strawberry Association, have been lost and all of the members except one are gone. Most of the following information was obtained through interviews.

Farmers obtained a charter and organized this association to ship strawberries in about 1910, on a non-profit basis. Each member paid a fee to join, and also a membership fee to help take care of expenses. To be eligible for membership a farmer had to have at least one acre of strawberries. (Mr. M. W. Kirby at one time had 36 acres of strawberries.)

They had a board of directors of 7 to 9 members, and officers consisting of president, vice-president, secretary-treasurer, and sales manager. John E. Lane was sales manager and secretary-treasurer for about 12 years, being replaced by Dale Mayo as sales manager and M. W. Kirby as secretary-treasurer. Directors met when there was business to take care of, and meetings once or twice a month were planned for all

members. There was some difficulty in getting members to attend all meetings, except about a month prior to the marketing season.

The sales manager received 75 cents per crate for his work; none of the other officers received wages. It was the duty of the sales manager to sell the berries, keep records of sales, and send to each member his checks and statements of shipment. A local inspector was employed to grade the berries before shipment.

Marketing

During the first few years after organization of the association carlot shipments were consigned to various markets, but risks were considerable since some of the berries reached the market in poor condition and the bargaining power of the producers was lessened. Later the berries were sold before they were shipped. Buyers were present to see the berries and check on the inspector's work. Chief markets were in Cleveland, Baltimore, and Cincinnati, these markets also serving as outlets to other markets. Many of the berries ripening earliest in the season were graded number 2 and met competition from production areas farther south. When the peak in shipments and quality of Knox County berries arrived there were berries on the markets from Kentucky, Missouri, and other places that were starting to ship. When this competition increased sufficiently, and the quality of local berries decreased, they were shipped south to Atlanta and other markets since most of the berries in the south had already been picked at that season of the year.

Development

The association made considerable savings to growers by buying crates and boxes direct from manufacturers. Manufacturers quoted wholesale selling prices, and sent samples of their materials to the association. Members met once or twice a year to inspect the materials and consider the buying of crates and boxes.

The membership was close to 150 at one time, and total income in one year was near \$25,000. One of the members, C. W. Henderson who had a private trucking business, withdrew from the association and with some of the members started another strawberry marketing association called the Strawberry and Producers' Association. It is not known how long the latter association operated, but apparently not longer than 1920. Its membership and income in 1914 and 1915 was about the same as that of the original association.

Factors Contributing to Success

According to the last secretary, Mr. M. W. Kirby, the association operated with few difficulties and was very helpful to strawberry shippers.

The chief element contributing to its success was the selling of high quality berries. Securing berries of this type was accomplished through educating the members on how to produce the best quality, and how to pick, pack, and market them. Quality was directly influenced by preventing bleeding, mulching to prevent sandy berries, keeping the

berries out of the rain and sun after being picked, having the workmen trained on how to pack, good inspection, selling the poorest berries locally, and taking the others to refrigerator cars for shipment as soon as they were picked.

Reasons for Decline of Association

The number of carload shipments decreased very rapidly after 1920 and the association ceased to operate in about 1925.

Farmers could not continue to raise strawberries, since production costs had increased too much compared with the selling price. The price of boxes at the beginning of the association was \$2.75 per thousand, and this increased to \$5 and \$6 about 12 years later, while the price of crates increased from 9 cents apiece to about 20 cents. Cost of packing increased from 1 cent to 2 cents per box, and later it was hard to obtain pickers. General wages at the beginning of the association were about \$1 a day, and workers could easily be obtained for packing. The school session was also increased from 7 to 9 months, thus keeping many of the children in school who had previously been available.

Another factor in the discontinuance of the association was the growth of the City of Knoxville, and the consequent increase in local demand for berries. Growers were able to sell most of their product without shipment, hence the lack of demand for a shipping association. For some time before the organization quit business it only shipped

one or more cars during the peak of the season to relieve the local market of an oversupply which depressed prices. Except for this short period of surplus the local market took the supply at relatively good prices.

CHAPTER II

UNIVERSITY OF TENNESSEE COOPERATIVE CREAMERY (1)

The University of Tennessee Cooperative Creamery was established in January, 1915, through the efforts of Professor C. A. Willson, who was later Dean of the College of Agriculture from 1923 to 1936, and C. A. Hutton, Dairy Extension Specialist. It was organized for two purposes: first, to furnish a market for some farmers who were so situated that it was impossible to satisfactorily market their cream and country butter; and second, to furnish a means of demonstrating the operation of a cooperative creamery.

Operations were begun in January, 1915. Mr. Stockwell, of the Dairy Department, kept the accounts until April, when he was replaced by H. R. Duncan, now Associate Professor of Animal Husbandry. H. E. Baker started work as buttermaker in August and resigned in November. At the time the association started one cent per pound of fat was deducted for a sinking fund. The sinking fund was to be used for the purchase of machinery and equipment. According to the records, neither the manager nor his assistant was paid a salary of any kind from the funds of the creamery. Use of the building and plant, also, was not

(1) College Creameries, a thesis, by Thos. B. Harrison, Department of Dairying, University of Tennessee, 1936, forms the basis of information from which this report was summarized.

charged to the dairymen.

Several difficulties were encountered during the first summer of operation. Onion flavor and odor caused poor quality butter. An excess of butter accumulated in May and June, and had to be put in storage. The surplus was caused by local conditions, the surplus in turn resulting in a low price being paid for butterfat. Poor storage facilities resulted in a moldy condition of butter, since ice storage is never cold enough to prevent growth of molds. A cheese flavor in the butter was due to pasteurization of sour cream or cream low in butterfat and high in milk solids, which also caused specks in the curd. The Extension Dairy Manufacturing Specialist, G. A. Gilbert, informed Professor Willson that the way to improve the situation was to improve the quality of cream rather than change the methods of manufacture. Advice was also given in regard to methods of handling the cream from the time it was produced until it was ready for manufacture, and pointers were given on pasteurizing, manufacturing methods, and marketing.

A letter sent to patrons in August included considerable optimism, such as statements to the effect that the creamery was growing rapidly, that present capacity could easily be doubled, that considerable trade was received, and that things look very bright for the future. Another letter sent in October asked the patrons for more cream, for better cream, and for more patrons.

L. R. Standifer took H. E. Baker's place as buttermaker. He

summarized the operations for the year, and encouraged production for 1916, which proved to be the most successful year during the life of the creamery. A Ford truck was purchased about July 1, 1916, to help haul cream from the station to the plant. C. E. Wylie replaced H. R. Duncan as assistant manager, and F. H. Broome was made treasurer in July 1916. The peak reached in the monthly manufacture of butter was 12,614 pounds in July 1916.

In March 1917 a letter was sent to prospective patrons giving the advantages of selling milk in the form of cream, especially in summer. It also stated that the creamery could not meet the local demand, prices were high, and would probably be higher (the high price of butter being due to the effects of the World War).

Mr. Standifer left to accept a position with the Morristown Industrial School as buttermaker and farm manager, and was succeeded by Ben Joe McSpadden in the summer of 1917.

A labor shortage occurred in 1918, due to men being called into the army and to work in munitions plants. Mr. McSpadden resigned as buttermaker in July 1918, and was succeeded by Frank Oakes. A committee was appointed in June 1918 to draw up a new constitution for the creamery. The constitution was adopted in July 1918, and it was at this time that the creamery was officially named the University of Tennessee Cooperative Creamery. Butter prices had reached a peak of 59 cents per pound in November 1918, when the creamery ceased operations. It had produced less butter in 1918 than in any of the other three years

of operation.

A letter was sent to patrons on November 18, 1918, stating that the Board of Directors had decided to suspend operation of the creamery because receipts of cream had declined and would continue to do so until spring. It was decided not to receive any cream after November 23.

Demand for whole milk became so great, and the price so high, that many producers stopped sending cream to the cooperative creamery and began selling whole milk in Knoxville. Manufacture of butter dropped so low in the spring and summer of 1918 that the cost per pound manufactured increased considerably.

Another factor which contributed to the closing of the creamery was the formation of plans, and the appropriation of funds by the State legislature, for a new agricultural building to be located on the site of the cooperative creamery.

Lack of time on the part of those in charge to manage it properly is also said to have contributed to the discontinuance of the cooperative.

CHAPTER III

KNOXVILLE MILK PRODUCERS' ASSOCIATION

History

The first organized group action, which ultimately resulted in a cooperative milk bargaining association, occurred on July 24, 1924, when Dr. M. Jacob called a meeting of the leading dairymen, at the civic building. The purpose of this meeting was to consider a proposed Standard Milk Ordinance prepared by the U. S. Bureau of Public Health Service, which might be adopted by the City of Knoxville. At that meeting J. N. Haddox was elected temporary chairman and H. J. Fowler temporary secretary. A committee of 5 was appointed, with Professor C. E. Wylie as chairman, to draw up plans for a permanent organization. A second meeting was called on July 26th, 1924, when a tentative constitution and by-laws were adopted. Permanent officers were elected as follows: President, J. N. Haddox; Vice-President, N. T. James; Secretary-Treasurer, H. J. Fowler; and an executive committee consisting of R. L. Peters, A. I. Smith, Prof. C. E. Wylie, J. M. Cruze, and J. A. Smith.

The association was active, and later through a Health and Sanitation committee, obtained the following changes in the proposed ordinance: first, the clause requiring that after one year from date

of passage of the ordinance, no milk could be sold for human consumption except pasteurized milk, was changed to allow the sale of Grade A raw milk; second, the temperature requirements were raised from 50 to 58 degrees; third, certain specified germicides were allowed for disinfecting utensils, whereas live steam alone had originally been specified; fourth, the requirements that all milk should immediately be removed after milking from the barn to the milk house was changed to allow for the construction of a cheap but sanitary arrangement convenient to the barn; and to have the clause taken out of the ordinance which prevented the sale of milk in any but bottles bearing the trade mark of the particular distributor handling that milk.

The association also arranged for a committee to appear before the Board of Health to decide on a satisfactory regulation of the sale of buttermilk in bulk. They also had a large number of circulars printed, to be distributed among milk consumers by distributors, setting forth the importance of returning bottles to their rightful owners to prevent a serious financial loss to owners of bottles. This committee also conferred with local dealers concerning rates and method of handling a standard bottle for the association, which resulted in an agreement with the John Gruze Company, handling Chattanooga bottles, to supply a standard bottle for the association.

The department of Public Welfare sponsored a "Milk for Health" campaign in the early spring of 1925, which represented the first

systematic action by City Health Officials, the Chamber of Commerce, milk producers, and other interested parties in placing before the people of this section the importance of milk as a food.

In March of 1925 there was presented to the State legislature a bill which would have prevented the resale of any milk unless pasteurized. A committee representing the association, and representatives of the Public Welfare Department, got in touch with the State legislators at Nashville to prevent passage of the bill.

Farmers were urged not to reduce the price of milk, even though there was a surplus, since within reasonable limits a price reduction does not cause consumers to use more milk.

In July, 1925, the association made plans for the cooperative purchasing of concentrated feeds for its members. These plans did not materialize, as members did not have enough cash on hand to make purchases of large lots of feed.

There was a feed shortage in the winter of 1925, due to a drouth the previous summer. The association advised consumers of the necessity for charging a higher price for milk, and provided a medium through which dairymen could receive expert advice as to other methods of meeting the emergency.

In March 1926 a meeting was held to which all dairymen of Knox and adjoining counties were invited. Only 44 of the 150 expected were present. Even though interest lagged, the cooperative movement helped

prepare an exhibit, advertising the dairying industry in this section, in the "Know Knoxville" campaign. Two educational films on dairying were shown at the University, a picnic was held during the year, and several lectures given by men from the University and other leaders.

In 1927 the association functioned almost entirely as a social and good-will organization. Such topics as raw versus pasteurized milk, cost of producing milk, and utilization of time were discussed, a picnic held, and a picture shown during the year.

On March 31, 1928, Security Mills and J. Allen Smith Company offered the association \$350 for advertising purposes if it would match that amount dollar for dollar. This resulted in an advertising campaign featuring window displays, newspaper advertisements, radio announcements, and numerous contests.

There are no records of meetings held from April 1928 to January 3, 1931. From June 1928 to January 1931, there was apparently very little interest in the association, and it existed in name only during this time. At the first meeting in 1931, on January 3, renewed interest and enthusiasm were shown. There was a general feeling that times were harder than they had ever been, complaints were made of price cutting and surplus milk, and there seemed to be considerable feeling against the milk plants. Some of the plants were selling milk at 4 cents a pint. The large surplus on the market, in spite of the drouth the previous summer, was due largely to purchasing power of the people having decreased. The tendency was for cream producers to

change from selling cream to selling milk, as a result of the low cream price, since local creameries were trying to meet the competition of low butter prices from outside sources. It was suggested that low prices be remedied by reducing the surplus through increased sales, decreased production, and the sale of milk in other forms, such as cream for butter making, and that no price cutting be done as it encouraged a low quality product.

On January 24, 1931, plans for a marketing association were discussed. The association enlisted the services of men from the University of Tennessee and the U. S. Department of Agriculture. Plans for such an organization were presented to dairymen at community meetings. A marketing agreement, by-laws, and articles of incorporation were drafted in May. A meeting on May 15, 1931, was called to meet with Mr. Schilling, representative of the Federal Farm Board, who discussed characteristics of different organizations, recommended that the dairymen build a plant to market their products cooperatively, and stated that the Federal Farm Board would loan 50 percent of the capital necessary.

About this period the name of the association was changed from Knox County Milk Producers' Association to the East Tennessee Dairy Association.

On May 29, 1931, the association formed two separate organizations. The organization as it had existed was continued by the shippers. Funds

were divided between the shippers and retailers according to membership at the time. A charter was secured on July 5, and contracts were to be signed by November 1, 1931.

No records are obtainable as to meetings after July 10, but according to an oral report only 13 shippers signed the contract by November 1, and the attempt to form a marketing association failed.

During the summer of 1932, dairymen were selling their milk for 3 to 4 cents per quart. There was a large surplus on the market, everyone seemed to think the other man caused it, and that marketing bottled milk was the only way to get it on the market. Milk was being shipped to plants for 30 cents per hundredweight for 4 percent milk.

The present organization took form on July 5, 1933, when a committee of five appointed by the chairman, who met in the County Court House to nominate 14 incorporators to serve as a Board of Directors until the first annual meeting of the association. These 14 men were in the ratio of 6 retailers, 6 bulk producers, and 2 butter and butter-milk producers. Notice was given in the papers that the necessary quota of 285 bulk producers and 90 retailers had signed the contracts by July 1. They secured 503 members, which represented about 98 percent of the milk sold on the market at that time.

The marketing agreement used for the original membership was adopted, but new Articles of Incorporation were drawn, and application made for a charter.

C. A. Hutton, Extension Dairy Specialist, went to Washington to obtain information on the Triple A, and as to the best methods of organizing the farmers.

Development Since September 1933

The association began business on September 10, 1933, and resulted in the wholesale milk price being changed immediately from \$1.00 to \$2.20 per hundredweight for 4 percent milk.

The Knoxville Milk Producers' Association formulated a trade agreement with the large milk distributing plants, which met approval from the Secretary of Agriculture, to secure Federal regulation and enforcement of the price schedules agreed upon. The agreement was signed by Secretary Wallace on October 8, 1933, and went into effect October 9, for a 30 day trial, during which period any distributor might show cause for selling at prices varying from those in the agreement. On October 24, Secretary Wallace signed a blanket license supporting the market agreement, and this went into effect October 28. Supervision of the Federal license was placed in the hands of Milk Foundation, Inc., which was a board composed of representatives from the Milk Producers' Association, the distributors, the independent producers, and the Dairy Extension Service of the University of Tennessee. The trade agreement required that a definite price schedule be maintained, the penalty for violation being revocation of the license of the offender. Minor violations were handled by a visit from the

enforcement officer with a warning that a second offense would deprive the violator of the privilege of selling milk on the Knoxville market.

Prices were not raised out of proportion to what the consumer could pay; thus a uniform price schedule returned more to the producers, stopped price cutting, and stabilized the market.

Dairymen of other communities wanted to become members in the association to obtain benefits of the government code agreement. Retailers and butter and buttermilk producers entered the association to take advantage of the government code, but their interests were different and they were competing with the wholesale shippers, so they withdrew from the association in the summer of 1937.

A wire was received from the Secretary of Agriculture, on July 26, 1934, revoking Federal enforcement on the Knoxville market. This was followed by considerable price cutting by nonmembers. Provoked by the loss of customers, some of the members of the association also resorted to price cutting, and it became necessary to appeal to the courts to restrain them from continued violations.

The office of the association during September and October 1933 was in the Dairy Extension office at the University of Tennessee. An office in the Daylight Building, on Union Avenue, was occupied from about October 1933 to April 1935. The office was moved to 952 North



Front View - showing entrance to office and trade mark used.



Side View - showing entrance to plant in the basement.

Figure 2. Two Views of the Knoxville Milk Producers' Association Plant

Broadway in April 1935, in order to secure more parking space for members; the association also needed more room so that it could sell dairy supplies. Present headquarters on Morgan Street were occupied in May 1938, the move being made chiefly to operate a surplus plant. This place is quite convenient, since it is centrally located in Knoxville.

The association joined the National Cooperative Milk Producers' Federation in August 1937. Each member pays a 10 cent fee for the privilege of having the association affiliated with the national organization. The managers have subscribed to such publications as the Sanitary Milk Producers' Cooperative, Interstate Milk Producers' Review, Fall City Cooperative Dairyman, and the Pure Milk Association.

The average wholesale milk price has been over \$2.00 per hundredweight for the 7 year period that the association has operated.

TABLE VII. NUMBER OF MEMBERS, AVERAGE PRICES RECEIVED PER HUNDREDWEIGHT FOR 4 PERCENT MILK, AND THE AMOUNT SOLD BY MEMBERS, KNOXVILLE MILK PRODUCERS' ASSOCIATION, 1933 - 1940

Date	Price	Amount in Pounds*	Members **
Sept. 10, 1933 - July 1, 1934	\$1.80	12,000,000	
July 1, 1934 - July 1, 1935	1.98	14,868,383	
July 1, 1935 - July 1, 1936	1.95	14,776,844	
July 1, 1936 - July 1, 1937	2.30	13,427,500	247
July 1, 1937 - July 1, 1938	2.11	13,295,767	237
July 1, 1938 - July 1, 1939	1.89	13,334,432	238
July 1, 1939 - July 1, 1940	2.02	13,050,572	215

* Amount for the first 2 years has been estimated from a combined total of 26,868,383 pounds.

** It was impossible to determine the number of wholesale shippers the first 3 years because the membership at that time included retailers and butter and buttermilk men. The membership figures for the last 4 years are for the end of each year.

Source: Files of Knoxville Milk Producers' Association.

Changes in the year to year average prices for milk received by association members, as shown in Table VII, are due mostly to changes in cost of production, wage scale of industrial workers, and other economic factors.

The Knoxville milk shed consists of Knox County and portions of Anderson, Grainger, Jefferson, Sevier, Blount, Loudon, and Union counties.

About half of the total membership is in Knox County, comparing the Knox County membership in June 1941 to the total in July 1940. The members are concentrated to some extent west and northeast of Knoxville (Figure 3).

There does not appear to be any correlation between location of members in Knox County and distance from Knoxville or extent of highways. The largest number of members in any civil district does not correspond closely with number of dairy farms (Table I). Many of the farms classified as dairy farms are retail milk producers and do not belong to the Knoxville Milk Producers' Association. The distribution of members is therefore more closely related to the extent of all farms.

Plan of Organization

The Knoxville Milk Producers' Association was incorporated under the laws of Tennessee, July 11, 1933, as a non-profit organization, co-operative in character, devoting all of its energies to the mutual benefit of its members.

The capital stock authorized is 24,000 shares, divided into 10,000 shares of common stock of the par value of \$1.00 per share, and 14,000 shares of 6 percent cumulative preferred stock of the par value of \$10.00 per share. Upon dissolution or the distribution of



Figure 3. Approximate Location of Farmers in Knox County Who Are Members of the Knoxville Milk Producers Association, 1941

Source: Letter, Knoxville Milk Producers Association.

assets of the association, the holders of the preferred stock shall be entitled to receive the full par value of their stock and all unpaid dividends thereon, before any distribution is made to common stockholders.

Every member pays an entrance fee of \$1.00 upon signing the marketing agreement. Each share of common stock represents 1 cow owned or controlled by the producer. Common stock can be transferred, but each member has only 1 vote.

Preferred stock may be owned by anyone, and in any amount, but does not entitle the bearer to voting privileges. At present all of the preferred stock is owned by producers.

Common stock and membership fees were used to pay the beginning expense, and at present the association operates by deducting 6 cents on each 100 pounds of milk sold.

The fiscal year of the association begins July 1 and ends June 30 of each year. Meetings are held in Knoxville at 10:00 A.M. on the first Wednesday in August of each year. Special meetings may be called by the Board of Directors, or by 10 percent of the members. Ten percent of the members is necessary to constitute a quorum for the transaction of business.

Market Price Structure

Price Policy. - Milk was sold on the class usage basis for 4 years. The standard represented 3 classes of milk:

Class I, all milk used as fluid sweet milk, and all milk used to obtain fluid sweet cream except fluid sweet cream used in ice cream mix. The price schedule was a minimum, on which the association could

negotiate with the distributors.

Class II, all milk the fat of which is used for butter or sweet cream to be used in ice cream mix, the skim milk of which is used in buttermilk and cottage cheese, or sweet skim milk to be condensed or evaporated or used as other food products. The price was that of New York 92 score butter plus about 6 cents per pound of fat therein.

Class III, all milk the fat of which is used in the manufacture of butter, the skim milk of which is not used for human consumption. The price was that of New York 92 score butter, plus about 2 cents per pound butterfat therein.

The association operated and sold for 4 years on the class usage basis, but found that distributors who bought the milk did not keep accurate records, with the exception of 2 plants. This made it hard to determine how much of each class was used by each plant. Since about the first of 1937 milk has been sold on a blended price policy. It was determined from sales records of dealers that 70 percent of the milk went for bottling and 30 percent for other purposes. The percent average or blended price is calculated by taking 70 percent of the price paid for Class I and adding this to 30 percent of the price paid for Classes II and III milk.

Price Changes. - The primary purpose of this association is to bargain for a fair price with the buyers of whole milk. It does not have a contract price for any season, but depends on such conditions as industrial wages, business activity, and cost of producing milk to

determine whether a price change is needed. However, seasonal conditions usually cause the highest price to be established in September and continue until April or May. Formerly, if the directors could not agree with milk dealers on a satisfactory price, an arbitration board was asked to set a price. This board, which consisted of one dealer, one member of the Board of Directors and one disinterested party, was discontinued in the spring of 1939.

Plan of Selling

Association Pool. - Prices paid to producers varied with different plants until January 6, 1934. After that date a straight pool plan was established to reduce expense and facilitate keeping records. Each producer now receives the same price for milk of the same grade and butterfat content regardless of the dealer to whom the milk is sold. After the association pool was computed, each producer was paid by the association for his proportionate amount of milk used in each class, and this was the practice until the blended price was established.

Supply Contracts. - The association contracts its members' milk to pasteurizing plants and distributors. The Full Supply Contract was to be signed by all contracting distributors by August 15, 1936. This contract required each distributor to buy all the milk they needed from the association. Due to a drought in 1936 the association could not supply the amount specified in the contract; so the distributors contracted with independent producers for 12 months. After

that they continued to contract with independent shippers, and the Full Supply Contract has not been in force.

Delivery of Milk. - Farmers who live close to the market deliver milk every morning, and cool their milk in the evening. In some cases dairymen cooperate by paying their proportionate amount to obtain the services of a local trucker. The trucks of milk distributing plants and of the association pass near many of the dairymen, and haul their wholesale milk.

Base Surplus (Production) Plan

The base surplus plan was adopted in November 1936, effective May 1, 1937, to help adjust seasonal supply to demand by encouraging more even production of milk. The plan helps equalize the flow of milk from producers by encouraging them to have their cows freshen in the fall and other slack periods of production.

The first base included November and December 1936, and January, February, March, and April 1937. Due to the abnormal season in 1936 and the shortage of feed, it was voted to add 15 percent to each shippers' base, provided the October production was increased 15 percent during the next 3 months (November, December, and January) which was the amount short at that time. The base production period was changed to October, November, December 1937, and February, March, and April 1938 because these months most nearly represent average milk production.

Each member calculates his base or daily average by dividing the total amount shipped during the 6 base months by the days in the base period. Producers whose average daily shipments for any 3 consecutive months, after their base is made, does not equal 85 percent of their established base will thereby establish a new base equal to their average daily shipments for the 3 months. Any increase of base for the needs of the market may be spread over the membership of the association unless it is necessary to take in new members to fulfill a possible milk shortage on the market.

A farmer who sells above the base receives a surplus price for this milk. However, the surplus price is above the price paid for milk before the association started its bargaining operations. Since the association tries to have as few producers as possible sell to each plant, a producer usually sells all his milk to the same plant, including that above his base, but the association pays him accordingly; another producer may sell all his milk to the plant used for surplus purposes, but gets paid in proportion to his base and the association pool. The amount paid for surplus milk is based on the butterfat content.

Processing Plant

On March 31, 1938, the association acquired a one-story brick building with boiler room and full basement located at 508-510 Morgan Street, together with real estate, at a cost of \$6,000.

Operating this plant was to process the surplus so it could

be stored and used at times when there was less surplus on the market, and to extend the milk shed. The surplus was also increasing, and the various plants could not take all of it. There was a milk shortage in 1935-1936 but, as shown in the following table, there has been a large surplus of milk in the association since that time.

TABLE VIII. MILK SURPLUS IN THE KNOXVILLE MILK PRODUCERS' ASSOCIATION, 1936 - 1940

Years	Pounds Surplus Milk Produced
1936 - 1937	1,028,181
1937 - 1938	1,641,857
1938 - 1939	1,647,853
1939 - 1940	1,310,769

Source: Files of Knoxville Milk Producers' Association.

The association completed its processing plant on May 1, 1939, and began operations as of that date. This plant is equipped to take care of all surplus milk which is sold through the association. Much of the equipment was bought from Swift and Company of Greeneville, Tennessee. The total cost of equipping the plant and remodeling the building was \$32,019.19.

The association borrowed \$12,000 from the Louisville Bank for Cooperatives to make part payment in cash, and to pay interest and carrying charges. Section 4-b of the Marketing Agreement was put into effect by deducting 5 percent from each milk check for capital purposes, from May 16, 1937, to March 31, 1940. In return the producer

was issued preferred stock at not less than 2-1/2 percent interest per annum. The total amount that had been collected for this purpose was \$41,562.30 on June 30, 1940.

Most of the milk is separated. The cream is then pasteurized, and most of it sold to the ice cream trade, but some is sold for bottling. Most of the skim milk is condensed and sold to the ice cream trade, but some is sold as fresh raw skim. Savings effected through the utilization of skim milk in surplus periods more than pays for labor and other costs of operating the plant. It is estimated that about 25 percent of the production is processed for members in summer, and 15 percent in winter. The plant processed 516,237 pounds of surplus milk in May and June of 1939, and all of the surplus in the fiscal year ending June 30, 1940. Although the actual amount has not been determined accurately, there has been some increase in returns for surplus milk to producers since the plant has been operating, and the other objectives have been accomplished.

Difficulties

The following problems, which directly or indirectly affect the success of the association, were obtained through interviews and minutes of the meetings.

1. There is what is considered unfair competition from non-members, who sell to distributors at the same price as association members.

2. The volume of business of the association is too small.

It should have more than 65 - 75 percent of the producers in the Knoxville milk shed as members.

3. The membership as a whole fails to fully cooperate, and to understand the functions of a cooperative.

4. It is difficult for the milk producers and distributors to agree on a fair price. On several occasions the arbitration board has had to establish the price.

5. There is competition from organized producers of other foods, such as orange juice and some of the more common beverages.

6. The recent inclusion of vitamins A and D in butter substitutes.

7. Irregular production of milk by producers, which makes it difficult to coordinate production with sales.

8. High cost of retail distribution, which results in a lower price for the milk purchased by the distributors.

9. Some dairymen have not been able to meet the City Health regulations, and have gone out of the dairy business or sold to other consumption areas.

10. There is insufficient interest in the election of directors and in attending annual meetings. Only about 30 percent of the members, on the average, attend annual meetings.

11. More education is needed on better feeding, breeding and herd management methods, as records show a wide variation in production costs between farms. ⁽¹⁾

(1) Records in Dairy Department files, taken by several students.

12. A way should be found to train and educate younger members on farms, who will some day take the place of present members, so that methods of production will be improved.

13. The association has experienced some difficulty in buying merchandise at wholesale prices to be sold to members. Business men have told wholesalers that they might discontinue purchasing from them if merchandise were sold at wholesale prices to the association.

Practical Aspects

1. One of the most popular and important services is the checking of weights and tests. The association tests each member's supply of milk. There is usually a gain in butterfat tests of from 1 to 2 points as a result of checking buyers tests. Each point is worth 4 cents per hundredweight, hence in a year the difference of two points amounts to over \$10,000, which is more than the entire cost of operating the association.

2. Use of wholesale purchasing power enables the association to make a saving of about 15 percent on the purchase of dairy and

TABLE IX. ESTIMATED SAVINGS ON SUPPLIES PURCHASED THROUGH
THE KNOXVILLE MILK PRODUCERS' ASSOCIATION,
1936-1940

Year	Estimated Savings
1936	\$132.89
1937	249.99
1938	158.75
1939	90.67
1940	305.71

Source: Files of Knoxville Milk Producers' Association.

and other farm supplies sold to members.

3. The association takes advantage of 2 to 10 percent cash discounts on merchandise bought for members and for things used in the plant.

TABLE X. DISCOUNTS ON MERCHANDISE BOUGHT BY KNOXVILLE MILK PRODUCERS' ASSOCIATION, 1936-1940

Year	Discounts Secured
1936	\$78.27
1937	38.35
1938	31.54
1939	47.72
1940	82.51

Source: Files of Knoxville Milk Producers' Association.

4. The association helped prevent repeal of the 10 cents per pound oleomargarine tax in Tennessee previous to 1941.

5. In 1937 the association helped prevent passage by the State legislature of a tax on each milk distributor of \$300.00 per year.

6. The association secured passage by the City Council, in 1934, of an ordinance regulating the milk to be used in the manufacture of ice cream. Outside dairy concerns were selling an ice cream mix manufactured from milk not under inspection by Knoxville authorities. The ordinance, as passed, requires that all fluid milk and cream sold in Knoxville to be used in the making of ice cream must be produced under the regulation of this city.

7. In the fall of 1940, for the first time since it was organized, the Knoxville Milk Producers' Association succeeded in its efforts to prevent a drastic decrease in the milk supply. With the cooperation of distributors they were enabled to raise the price to producers sufficiently to permit them to supplement their failing pastures with concentrates before the cows had dropped in production.

8. The association conducted a "Milk for Health" advertising campaign, to increase the consumption of milk.

9. The County Agricultural and Home Demonstration Agents cooperate, and help create a better understanding between producers and consumers, improve methods of production, and teach the food value of milk. The agricultural agent represented the association at the High School in an open forum dealing with the necessity of increasing the price of retail milk because of increased cost of production.

10. The association has helped farmers plan milk houses and barns.

11. It makes fat tests for each cow in a herd upon request; also takes daily samples to check with composite samples.

12. It locates the cause of high bacteria counts.

13. Milk buyers are located by the association.

14. Members are helped in getting their milk permits reinstated, when necessary.

15. Since distributing plants are paying the association in total amount for all milk delivered by members, the farmers are

getting their pay more regularly and the route men are being paid promptly.

Factors Contributing to the Present Success of the Association

The Knoxville Milk Producers' Association has done much toward stabilizing the market and increasing the price paid to farmers. However, the exact benefits of a bargaining association are difficult to measure, as it is questionable what the price would have been otherwise. Most of its success may be attributed to the practical aspects listed above, and to the following reasons:

1. The actual need for a cooperative of this nature is probably the most important factor causing its success. The price of milk prior to the organization of the association was low, and dairymen felt that they could not continue producing milk at that price. This condition caused many of the dairymen to become co-operative minded, and unite for a common cause.

2. The association has borrowed very little money. The only time that money has been borrowed was in 1938 for the processing plant. The plant could have been bought on credit, but borrowing from another source to make a cash payment distributed the risk in case of financial difficulties.

3. The association has had a very active Board of Directors since its organization. Some of its present members have been on

on the Board every year, and are well acquainted with milk marketing problems. During 1939-40 the Board met 24 times, without compensation, to transact business of the association; most of the meetings being to get a better price for milk.

4. Managers have been selected on the "step-up" method, to acquaint them with local milk producing and marketing problems (Table XI).

TABLE XI. MANAGERS EMPLOYED BY KNOXVILLE MILK PRODUCERS' ASSOCIATION, 1933-1940

Years in Office	Manager	Assistant Manager
Sept. 1, 1933 - Oct. 1, 1934	George Peters	Lewis Nunley
Oct. 1, 1934 - Sept. 1, 1936	Lewis Nunley	A. M. Glover
Sept. 1, 1936 - Present (Jan. 1941)	A. M. Glover	A. L. La Point

5. The risk of business is put in individual members and not on the association. Any financial losses to the association due to the perishability of milk are avoided, because the association does not buy the products from producers but sells them for the producers and deducts the operating expense.

6. The association has sound operating policies, such as quick return of receipts to producers, good accounting practices,

auditing of records by independent auditors, and adequate internal control to meet the purposes set forth in the by-laws, charter and marketing agreement.

7. The association did not over expand in its operations, but depended as much as possible on its members for financial support. Its gradual growth has allowed for the selling of supplies to members, and providing a processing plant to help meet competition.

8. Nearness of the College of Agriculture has directly influenced its success. The association has obtained educational material from the dairy department, experiment station, and extension service. It has also received the services of men in these institutions for educational lectures, especially A. L. Jordan, Extension marketing specialist, and C. A. Hutton, Extension dairy specialist, who helped in formulating the organizational structure.

CHAPTER IV

KNOX COUNTY WOOL POOL

History and Organization

The Knox County Wool Pool, referred to in some instances as the Knox County Wool Growers' Association, was organized in 1927 under the supervision of Frank S. Chance, county agent at that time. Membership consists of farmers of Knox and adjoining counties who have wool to sell through the local pool. Organization of the pool is very informal and may be changed each year. The chief function of the pool is to obtain a better price for wool by selling in larger quantities and finding a wider market. Local sheep growers became members of the Tennessee Wool Growers' Association, a subsidiary of the United Wool Growers' Association.

The agricultural extension marketing specialist sends a notice of the day of sale to the county agent, who in turn sends the notice to farmers.

Wool is graded by the extension marketing specialist into the following grades: clear, light burry, medium burry, hard burry, merino clear, merino light burry, rejects, mohair, and blue wool. After the wool is graded it is weighed and combined into lots representing each grade.

The wool was consigned to the United Wool Growers Association

for several years, who made advances previous to sale; but due to the unsatisfactory market, and the delay which was experienced in receiving final settlement for the 1931 clip, selling through the United Wool Growers' Association was discontinued. Since 1932 the extension marketing specialist has helped locate buyers, and takes bids by wire as well as from buyers who are present. Farm Bureau officers are associate officers of the pool who, with the marketing committee of three members, elected a year in advance or on the same day of sale, help decide which bids to accept.

Expenses are deducted from each farmer's check in proportion to the amount of wool he has marketed. The expenses involved are help in weighing and bagging, sacks, transportation, wire charge, and rent for the use of equipment.

Contributions

Since the pool was organized farmers have learned the value of marketing a high quality product, brought about by producing cleaner wool, and by shearing and tying better. Use of regulation sacks also aids in producing a more standardized product.

Through cooperative wool sales farmers in Knox County have sold 206,194 pounds of wool in 14 years representing a total saving of \$4,920.64, and a saving of 2.39 cents per pound, compared to a saving of 3.26 cents per pound for all wool sold cooperatively in Tennessee since 1919, or 2.85 cents since 1927.

The Knox County Wool Pool was somewhat larger than the average pool in Tennessee. It had almost twice as many consignors and nearly 5,000 more pounds of wool per sale (Table XII). Total value and savings seems to be somewhat low per sale for Knox County

TABLE XII. PRICE, VALUE, SAVINGS, POUNDS OF WOOL SOLD AND NUMBER OF CONSIGNORS, KNOX COUNTY WOOL POOL, 1927-1940 AND TOTALS FOR WOOL POOL SALES IN TENNESSEE, 1919-1940

Year	Number of Consignors	Pounds Wool	Ave. Price per Cwt.	Total Value	Savings *
1927	38	4,739	\$35.19	\$1,667.97	\$236.95
1928	52	6,517	49.19	3,206.03	325.85
1929	124	13,678	35.46	4,851.57	683.90
1930	97	13,674	18.32	2,505.71	-
1931	120	16,212	14.26	2,312.42	-
1932	118	17,189	11.21	1,927.02	343.78
1933	85	11,559	28.43	3,287.10	231.18
1934	187	18,455	25.75	4,752.95	369.10
1935	141	13,011	28.74	3,739.70	260.22
1936	133	15,701	34.02	5,342.23	314.02
1937	-	19,112	37.22	7,113.32	382.24
1938	144	16,838	21.76	3,663.76	336.76
1939	172	19,137	29.21	5,589.19	765.48
1940	188	22,372	34.58	7,736.90	671.16
Total Knox County	1769	206,194	27.93	57,695.87	4920.64
Ave. per Sale	126.35	14,728		4,121.13	351.47
Total Tenn.	41,806	3,399,430	32.62	2,087,189.29	207,672.84
Ave. per Sale**	64.71	9,906		3,230.94	321.47

* The savings are estimated by determining the price of wool before the sale, and on the day of sale, at other markets and then estimating the amount that would have been received for the wool if not sold cooperatively. These estimates are said to have been fairly conservative.

** Total number of sales for Tennessee was 646 or 29.36 sales per year.

Source: Annual Reports of Extension Marketing Specialists, University of Tennessee.

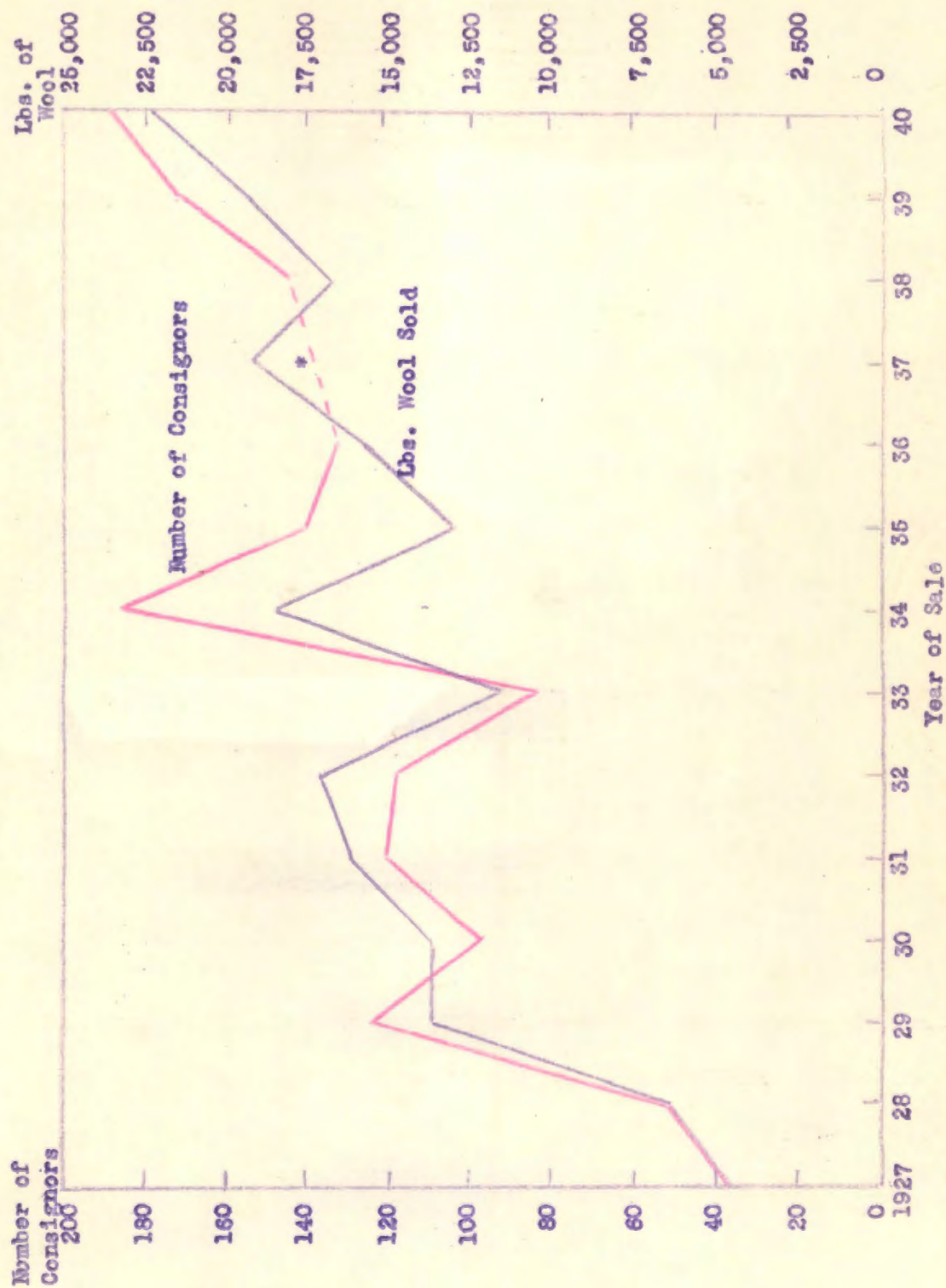
but this is influenced by \$4.74 per hundredweight less paid in the Knoxville Pool. The higher price for the average Tennessee Pool is partly explained by \$39.79 being paid per hundredweight previous to 1927. Since 1927 the average pool price in Tennessee has been \$30.84 compared with \$27.98 for the Knoxville Pool. There does not seem to be any correlation between the price of wool and number of consignors or pounds of wool sold per pool.

Less wool was sold in 1933 than in 1932 because local traders bought quantities of wool from the growers before the pool sale, which has been repeated to a certain extent in some years since 1933.

Prior to the pool sale date in 1934 the conditions of the wool market appeared so unfavorable that it was feared buyers would not be present. However, the proposal by the Government to loan \$50,000,000 to wool growers on the current crop stimulated manufacturers to make purchases.

The greatest increase in the number of consignors was in 1934 during the depression and in no year since that time has the number been as low as previous to 1934 (Figure 4).

Trends in pounds of wool sold and number of consignors has corresponded quite closely and has shown a general upward trend. The spread in 1934 and 1935 is difficult to explain. There was a large increase in 1929 and 1934. Census figures show that the number of sheep from 1925 to 1930 and the pounds of wool clipped from 1924



* Data was not available

Figure 4. Pounds Wool Sold and Number of Consignors to the Knox County Wool Pool, 1927-40

Source: Table XII.

to 1929 for Knox County more than doubled. However, the increase from 1930 to 1935 was relatively small.

Through cooperative purchasing the farmers have been able to save from 15 to 20 percent on the cost of bags.

Wool is usually a minor source of income, and farmers prefer to sell at shearing time in the spring. The average amount of wool consigned per member in 1940 was 139 pounds, from which it appears that the average flock is small, consisting of about 28 head. Total number of wool growers selling cooperatively and the amount of wool marketed reached the highest figure in 1941. Farmers selling cooperatively in Tennessee represent about 59 percent of all sheep men.

It was stated in the Extension Marketing Specialist's report that if the Tennessee Wool Growers' Association had had suitable warehouse facilities, it would have been profitable to store the 1940 clip last May and sell it several months later. An attempt is being made to educate the farmers to borrow funds from the Louisville Bank for Cooperatives if needed, store their wool, and sell on what it is hoped would be a stronger market throughout the year. Consideration is also given to a plan for reorganizing the Tennessee Wool Growers' Association so as to obtain greater grower responsibility than at present.

The wool pool represents an averaging process where products,

receipts, and expenses are pooled before patrons receive their individual share of the net returns. It is the simplest kind of pool, handling only one kind of product, for one market day, in a local area. Producers are treated fairly by having the separate grades which are recognized by buyers, and for which different prices ordinarily exist. The pool also has a sufficient quantity of each grade so that the additional cost of selling individual grades is less than the extra returns.

CHAPTER V

KNOX COUNTY LAMB POOL

History and Organization

Sheep raising increased greatly in Knox County, starting about 1921. A statement by the county agent, in his 1928 report, was that after 7 years of consistent effort the number of sheep in Knox County had more than doubled. The county agent in 1914 to 1916 reported that he found only one flock of sheep in the county, owned by A. B. Goddard, Martin Mill Pike.

TABLE XIII. NUMBER OF SHEEP IN KNOX COUNTY AND TENNESSEE,
1920 - 1940

Year	Number of Sheep	
	Knox County	Tennessee
1920 *	854	364,196
1925 *	475	289,577
1930 **	1,561	353,757
1935 *	1,634	411,088
1940 **	1,365	558,006

* Total number of sheep on January 1.

** Number of sheep 3 months old and over on April 1.

Source: Census Data.

There was some interest in cooperative lamb sales in 1927, but a sale was not held because there were not enough lambs ready at one time. Independent buyers were said to be offering farmers

very low prices.

Activities

The first lamb pool was held in 1928 when 35 farmers sold 4 carloads of lambs cooperatively. The county agent made contacts with farmers to determine when the lambs would be ready for the market. Circular letters were sent out to announce the shipping date and to determine the number of lambs to be shipped. Lambs were graded by someone designated by the extension marketing specialist. Secretarial work was taken care of by the county agent's office or the secretary of the County Farm Bureau. The average price received was estimated to be 3 cents per pound above the local market, which gave a saving of \$800. Total value of lambs sold was \$4,500.

The membership increased to 112 in 1929, at which time 1200 lambs were sold, valued at \$11,368.83. Savings were estimated at \$5,000.

Lamb sales in 1930 were made in 5 separate shipments, with a total of 1,217 lambs. They were graded and consigned to the Producers' Commission Association, Cincinnati, Ohio. Grades represented were as follows: choice, good, medium, common, cull, yearling, good, bucks, medium bucks, and common bucks.

Lambs in 1931 were marked prior to loading, and were graded by the commission association shortly before the sale. It was thought

the lambs sold to better advantage by having the opportunity to grade the lambs according to the demand on the day of sale. A total of 2,016 lambs were sold cooperatively in 1931.

There were 1,904 lambs sold cooperatively in 1932, the decrease being due in part to the low market late in the shipping season. Many of the late lambs were held over, to be sold locally as they became fat.

The first season to ship to Eastern markets was in 1933. The shipment brought 50.4 cents per hundredweight premium over lambs from adjoining states. This is partly explained by the fact that only 2 percent culls were included, unfinished lambs being sold locally so they would not penalize the good lambs in the shipment.

There were 1,608 lambs sold in 1933, the decrease being due mostly to purchases of local traders. Through the institution of weekly auction sales at the Union Stockyards traders sold their lambs, giving much publicity to gross sales in comparison with lamb pool net sales after all expenses had been paid. Some question was raised as to whether all of the auction sales were bonafide, and it was pointed out that even if they were, the yardage charge of 20 cents per head reduced the net receipts below that of the cooperative shipments.

Lamb pool shipments suffered a still further decline in 1934, totaling only 1,279 head as compared with 1,608 in 1933 and a peak

of 2,000 in 1931. The decline was ascribed mostly to a very unfavorable fall and winter season. The preceding fall had been so dry that fall seeded grains and legumes did not get a start, hence there was practically no green forage during the winter. Lambs developed very slowly and unevenly, and there were not enough ready for market to make a single carload at the date of the usual first shipment. The market declined steadily, and lambs matured so unevenly that they were marketed in small lots at the weekly auction sales. This was the seventh year that cooperative lamb shipments had been made in the County, and they had been responsible for the development of a wide interest in the production of spring lambs. Prior to the inauguration of the pool, lambs were bought at sheep prices, and there was little incentive to increase numbers or to improve quality. Each year the grades have reflected marked improvement in quality and condition, and the price of lambs now compares very favorably with that of other states.

It did not seem wise to attempt cooperative sales in 1935, as the weekly auction had been gaining in popularity, and caused too much competition. Sales to independent buyers have been quite satisfactory the last few years, and no cooperative selling of lambs has been attempted since 1934.

The county agent has given advice on methods of fattening lambs, but the number of sheep has not increased very rapidly in recent years. However, there has been an increase in sheep production in East Tennessee since 1939.

Members of the lamb and wool pools subscribed for 100 shares of stock at \$1.00 each to help organize the Eastern Livestock Producers' Association on the Baltimore, Lancaster, and Jersey City markets, in 1932. In recent years this association has furnished the Farm Bureau a daily wire of the spring lamb market, which is broadcast on the daily farm program over Station WNOX, Knoxville, during the marketing season.

CHAPTER VI

KNOXVILLE EGG AUCTION

History and Organization

Extension workers had observed that eggs marketed through co-operative organizations and egg auctions in the eastern markets often had several advantages, such as a better price for graded eggs, a greater market outlet, and saving in expenses. J. C. Powell, assistant marketing specialist, Tennessee agricultural extension service, went to Washington, D. C. in the summer of 1938 and studied the marketing and grading of eggs under Federal supervision. A. L. Jordan, extension marketing specialist, and A. J. Chadwell, extension poultry specialist, then cooperated with Mr. Powell to start the Knoxville Egg Auction in October of 1938. It was incorporated by the leading farmers of Knox and near-by counties, who hoped to receive a higher price for their product and a wider market. They also thought that the production of a superior product would bring higher prices.

The necessary equipment, and 3 basement rooms quite well suited for the purpose with a capacity of 250 cases of eggs, was obtained on Dale Avenue. Mr. Powell trained about 3 University students to candle and grade the eggs. Eggs brought to the auction were graded according to specifications as to size, color, and interior quality, and each case received a U. S. stamp indicating the grade and weight of eggs.

Marketing

Sales were held semi-weekly at first, on Tuesdays and Fridays, but buyers did not support the Friday sales very well, and they were discontinued. Each producer paid 75 cents per case to the auction as commission for selling, case and materials, grading, and other costs of handling the eggs. Eggs were purchased by local buyers, and a market outlet was also had in Asheville, N. C., Washington, D. C., New York, and other cities. To protect the auction from selling below market prices in other places orders were taken from outside buyers who promised to pay a certain price, and these orders could be used as stop-loss bids against local bids.

Difficulties

The auction had to suspend operations in December due to the following difficulties:

1. Lack of volume was caused by farmers, who promised to sell through the auction, failing to do so. Only 75 to 80 cases of eggs were sold in the auction each week.
2. Overhead expenses were too great due to the lack of volume.
3. Management was inexperienced, and bookkeeping inadequate.
4. Finances were insufficient to carry some of the policies into effect. The only financial contributions were the 75 cent per case charge for handling eggs, and a small sum contributed by the directors.
5. Storekeepers, hotel people and other buyers did not cooperate

by buying on the auction, especially when the supply on the open market was plentiful.

6. Many farmers did not realize the value of graded eggs, and brought about competition with the auction by selling direct to consumers and retail stores in Knoxville.

7. Due to lack of an educational program, local consumers did not appreciate the value of graded eggs.

8. There was a ready market in Knoxville for all eggs grading U. S. trades, or third grade eggs.

9. Sometimes the market radius exceeded 50 miles, which increased the cost of hauling by producers, and also decreased the quality of eggs.

10. In most cases the farm flocks were small, which made it difficult to teach farmers to grade eggs which if done would have reduced the expense of grading in the auction.

11. Due to the individualistic attitude of farmers they often preferred to bargain for a price themselves, especially as they only had a small quantity.

12. As a result of small farm flocks farmers were not in position to obtain proper facilities for producing good eggs, and their volume was so small that the increase in profits from cooperation was not great.

Suggestions

These difficulties might have been overcome if the following had been accomplished:

1. Consumer education as to the value of high quality and graded eggs before the auction was organized.
2. Education of producers as to methods of producing and maintaining high quality eggs, and the reasons for doing so.
3. Educating producers on methods of increasing production, and stabilizing it throughout the year, which is desirable because many eggs from outside markets are shipped into Knoxville.
4. Have most of the farmers organized before starting the cooperative, and have each one make a financial contribution to obtain sufficient reserves, and to keep producers from leaving the cooperative and causing competition with others selling cooperatively. Many producers did not feel responsible for the success of the organization.
5. Use of a carton from the beginning might have remedied the problem of a local outlet for good eggs. It has been noticed that different chain stores are successful in buying eggs in cases and selling them in cartons under their own trade name. Auction officials had completed an attractive design with a trade mark and sales slogan, but the cooperative closed before the carton was used. Plans for use of cartons were based on a long time sales program.

Weather conditions, building materials, cheap labor, accessible markets, and other economic factors appear to justify an expansion of the poultry industry in Knox County. To serve the producers some form of cooperative organization meeting the needs of all farmers, and not those producing on a commercial scale only, is needed in the area.

PART III

PURCHASING ORGANIZATIONS

CHAPTER I

FARRAGUT FARMERS' COOPERATIVE ASSOCIATION

An outgrowth of the Farmers' Alliance was the Farmers' Union, which entered Tennessee in 1904 and remained active until 1927. This organization reached a peak in 1915, with over 1000 locals in the State. From its inception the Union advocated cooperative purchasing and selling of agricultural products. It operated branch stores in Tennessee, organized various types of warehouses, and advocated the Rochdale principles of cooperation. (1)

The local Farmers' Union at Concord helped organize the Farragut Farmers' Cooperative Association on February 14, 1917. It was chiefly a marketing association, selling soybeans and cowpeas and buying seeds, fertilizer and cottonseed meal. The association was not incorporated, and did not have any capital stock, but charged a fee of 50 cents.

The association was active for 5 years, and did a total business of \$13,000. Savings on fertilizer were reported to be from \$4.00 to \$5.00 per ton, and total savings for the 5 years about \$2,000. Membership changed from year to year, but ranged from 40 to 90 per year.

(1) Development of Farmers' Cooperatives in Tennessee by C. E. Allred and B. D. Raskopf, Monograph No. 99, Department of Agricultural Economics, University of Tennessee.

It was stated by several individuals that the association was very active the first two years. After the first secretary left, in 1917, the association declined in business, possibly due to lack of an aggressive manager, and in part to the tendency of farmers to be individualistic. It was also stated that the agricultural depression, soon after the World War, put many farmers in such condition they were unable to pay cash, and they were forced to go elsewhere for their supplies.

CHAPTER II

EAST TENNESSEE FARM PRODUCTS EXCHANGE

A miscellaneous marketing association was conceived by some leading farmers in Knox County. Meetings were held, but records of those previous to October 30, 1920, could not be obtained. On that date the stockholders met in Market Hall, and elected the following as directors: W. H. Graves, J. E. Hinton, B. M. Anderson, Dr. J. W. Drinnan, W. B. French, Dr. T. M. Jenkins, M. W. Kirby, J. B. Hendrix, and M. C. Dunn. The first three mentioned were designated as president, vice-president and secretary-treasurer respectively. Actual business did not start until January 3, 1921, but members were active in selling stock and securing a place in which to conduct the business. Stockholders were at first given 5 percent commission for selling shares of stock; this was changed to 10 percent in December, and a ruling made that a permit, signed by the president and secretary-treasurer under the seal of the exchange, be issued to each person authorized to sell stock or receive money therefor.

Meetings were held every first and third Saturday, and the annual stockholders meeting in January. At the October 30 meeting a motion was carried to the effect that the members present, when proper notice of the meeting had been given, would constitute a quorum.

The minutes of December 27, 1920, indicate that finances were insufficient to open business. It was proposed to sign a joint note for \$5,000.00 for one year at 6 percent interest, and pledge the sale of 550 shares of stock within the year to redeem the note, but some directors were unwilling to sign a joint note. However, it was agreed to open business at 119 East Jackson Avenue, using a portion of the warehouse and office of the Knoxville Paper Company at a rental of \$50 per month, and make a special effort to sell as much stock as possible as soon as it could be sold.

W. H. Graves was elected business manager of the exchange, but was to give his full time to selling stock until February at 10 percent commission; later it was left to him to decide whether to sell stock or look after the business. The matter of prices to be charged for supplies was also left to the judgment of the manager. J. E. Mounger replaced J. B. Hendrix as director in January 1921.

A building on the corner of East Jackson and Morgan Streets, belonging to Judge Trotter and wife, was leased in the spring of 1921 for one year at \$1200. The lower front room of the building was sub-leased to the Southland Auto Company. An option on this building for sixty days at \$250 was considered, but not accepted. The price made by the owners was \$25,000, one-fourth to be paid in cash and the balance in one, two and three years at 6 percent interest. Purchase of the property was declined because Judge Tillman, the abstractor, declined to pass the title, which had a defect.

The manager was authorized to employ a competent bookkeeper to open a set of books for the business, and then to employ an assistant bookkeeper. The manager was also authorized to employ a competent shipping clerk and assistant. The secretary-treasurer and the manager were adequately bonded. B. M. Anderson agreed to sell \$75,000 of unsold stock for 15 percent commission, including 10 percent commission to be paid members helping him. The contract was for six months, from March 21 to September 21, 1921. All subscribed stock was to be paid for one-fourth in cash and the remainder in bankable notes, to be paid in one, two and three months.

Exchange day at the East Tennessee Farmers' Convention was celebrated on May 18, exchange members wearing the Farm Products Exchange badge.

A report of each month's business was started on May 7. Books were audited in July 1921 by some members of the exchange.

A special meeting of stockholders was held on July 16, with 8 of the directors and nearly 100 stockholders present. This meeting was called to again consider the matter of buying a home for the exchange. The property now under consideration was on the corner of Jackson and Central Streets, occupied by Duncan and Company, and priced at \$30,000. Plans provided for issuing bonds, bearing 8 percent interest, guaranteed by the exchange and secured by a first mortgage on the property. The majority of those present expressed themselves as being in favor of

buying the property, and the subscription list for bonds soon totaled \$1400 from 10 members; however, enough money to buy the building was never raised.

Directors adopted "The Farm View" as the official organ of the Farm Products Exchange. Copies were distributed among members, and the manager was given the opportunity to advertise in the paper if he thought advisable.

Books were audited by the Jones Auditing Company for the first 11 months of business ending December 1, 1921.

Directors elected J. E. Mounger Secretary-Treasurer and Paul Taylor to replace J. B. Hendrix as director in January of 1922. A Miss Miller was elected assistant secretary-treasurer, assistant bookkeeper and stenographer.

The commission on stock sold was raised to 20 percent in January, but the executive committee was to specify who could sell stock.

Stockholders met in a called session at Market Hall on February 18, 1922. The president presented the conditions of the exchange and Bailey made a report on the financial condition of the exchange. Several talks were made by members in regard to factors affecting the success of the cooperative. A motion was made for each member to buy another share of stock. Several members doubled their stock, and one member offered to sign a note for \$2,000 to relieve the present situation. B. M. Anderson resigned as director and was replaced by A.A.

Metler. W. H. Graves resigned as director, president, and business manager and W. M. McIntyre was elected to fill the vacancy as director and president.

Stockholders met again on March 4, 1922. Several members again agreed to buy or sell additional stock. A blanket note was signed by 20 stockholders in favor of the Mechanics Bank and Trust Company for a credit not to exceed \$15,000.

Since finances continued to be in a serious condition one of the members made a motion authorizing the president and secretary-treasurer to dispose of all remaining stock at their discretion.

The same building was again leased as in 1922, from Mr. Trotter, but this time at \$1,500.

The exchange did some advertising in the local papers, but discontinued this in April, 1922. John Deere farm implements were sold, but only to a limited extent. J. E. Mounger was made business manager on March 1. The president was authorized to employ a machinery salesman for 30 days. Due to financial difficulties the exchange had to refuse a car of farm machinery shipped by John Deere Company. A place for business was again considered when J. F. Walker presented a proposition on a building to be erected on Dale Avenue. The directors wanted to lease the building for one year, but did not do so.

Apparently the members must have been cooperative minded, for they considered a cooperative dairy proposition in May, 1922, presented by Mr. Cox. Books were audited in June by Hobart Carey, a

public accountant. According to the minutes, the exchange was occupying a building at 212 Dale Avenue in October, 1922. At this time it was without a bookkeeper, and needed to sell more stock. A Ford car was bought from W. H. Graves in December of 1921, to be used by the exchange. In November 1922 a motion was made to sell the car or pay the difference on a new one if it could be traded. It was proposed that the new car belong to the manager, the exchange paying for the gas, but this motion did not carry. A proposition to sell a full line of groceries at New Market was also considered.

Stockholders had a meeting in January 1923, at which J. R. Stoffell and G. B. Hardin were elected to replace J. E. Hinton and M. W. Kirby as directors. A motion was made and carried that if a director absented himself from 3 meetings in succession that his place be declared vacant, and the president empowered to appoint his successor to serve until the next annual meeting. A committee consisting of Sam Harbison, A. I. Smith, A. F. Truan, C. M. Emory, and S. B. Giffin was appointed from the twenty men who had signed the blanket note to investigate the condition of the exchange, with the power to act on the question of either closing or continuing the Farm Products Exchange.

The last minutes of a meeting are for January 24, 1923. The committee to investigate met with the directors. After the committee's investigation merchandise was sold to everyone. Dr. L.M. Jenkins and

M. C. Dunn were declared no longer directors and were replaced by A. F. Truan and J. E. Hinton, the latter being reelected as vice-president. The committee and directors adjourned to meet subject to call of the president.

Apparently there was enough business in Knoxville for a co-operative enterprise of this type, as considerable farm merchandising is conducted in Knoxville. The Farm Products Exchange was organized during a period (1920 to 1925) when many cooperatives were formed in the U. S. Members were apparently united in a cooperative purpose, as indicated by their attempts to secure a place of business, their willingness to sign a blanket note, the adoption and use for some time of an educational bulletin "The Farm View", their intentions to sell groceries and a fuller line of farm merchandise, and their consideration of a cooperative dairy proposition. They went on record as favoring the leasing of Muscle Shoals to Henry Ford. Several educational lectures were held in connection with their meetings, and they operated a sub-exchange. A membership of over 900 was obtained.

However, the exchange encountered several difficulties such as that of finances, a place for business, securing competent men for important positions, and finally their failure to secure a sufficient volume of business. The cause for these difficulties may have been chiefly a lack of knowledge and practice of cooperative principles, which resulted in poor management. Apparently the management

was inexperienced in business dealings, especially the management of large enterprises.

The association also failed to observe one of the basic Rochdale principles, namely sales at market prices, thus failing to operate on a non-competitive basis. Instead of selling all merchandise at the price which was common among all business men, and using the margin as savings, prices on some articles were reduced to attract trade. They also had insufficient capital to hold goods until they were sold. This caused competition with private business. It is said that this resulted in an organized effort among the other stores, each one to lower the price of certain merchandise to a point below which the Farm Products Exchange could not operate. Members of the exchange failed to patronize their store because they could buy products at lower prices elsewhere. The store was unable to sell many of its products at a profit, and overhead expenses became too great for continued operations.

CHAPTER III

KNOX COUNTY PEACH GROWERS ASSOCIATION

History and Organization

Peach production in this area, during the period around 1925, increased sufficiently to supply a large part of the local demand. However, consumers continued to demand shipped-in peaches, until they were convinced that local peaches were equal or superior in quality.

Peach borer infestation became serious in the fall of 1924. The recommended method of control was to spray with paradichlorobenzene. Soon, however, local dealers were unable to supply the demand for this product.

The Knox County Peach Growers Association was informally organized in the fall of 1924. Its activities consisted mostly of cooperation of fruit growers with the county agent in pooling orders to purchase supplies. Reference is made, in the 1926 county agent's report, to a fruit growers association. From the articles purchased it appears to have been the same group as the Peach Growers Association. Its informal organization could have permitted the change in name. The organization included many more members in 1926 than in 1924, which may have caused it to change names since many of the new members probably were not peach growers.

Activities

In some cases it was reported that almost 50 percent of the retail price was saved by buying cooperatively. Articles purchased consisted of spray materials, peach trees, and pyrotol.

TABLE XIV. VALUE, SAVINGS ON ARTICLES PURCHASED, AND MEMBERSHIP, KNOX COUNTY PEACH GROWERS ASSOCIATION, 1924 - 1926

Year	Article Purchased	Value	Savings	Membership
1924	Paradichlorebenzene	\$25	\$15	5
1925	Paradichlorebenzene	90	45	12
	Lime sulphur	200	150	
	Pyrotol	500	250	
1926	Peach trees	1,050	300	50
	Spray materials	700	150	

Source: County agent reports in Extension Office files, University of Tennessee.

It has not been determined whether or not this association existed longer than 1926, or if any cooperative selling had been done.

CHAPTER IV

KNOX COUNTY FARM BUREAU SUPPLY COMPANY

History and Organisation

The local Farm Bureau organized a subsidiary in 1932, the Knox County Farm Bureau Supply Company, Inc., which was to handle the more important farm supplies, such as fertilizers, feeds, seeds, and binder twine. The store relieved the Farm Bureau office of the demand for this type of service, and at the same time enabled the Farm Bureau to influence the variety, quality, formulae, etc., of the goods available to farmers. Members of the subsidiary were Farm Bureau members, and the Farm Bureau officers were its officers.

A charter was obtained, and a contract with a private business concern executed to conduct the business. The agreement was to allow the business firm to furnish the capital, take all risks, and turn a small percent of the profit over to the Farm Bureau, if it exceeded a certain amount. It was hoped that this procedure would help the Farm Bureau accumulate enough capital to conduct a similar type of business on its own responsibility in the future.

Accomplishments

Estimated saving to patrons in 1932 was \$25,000, not including the influence of their efforts on prices charged by other firms. It was stated in the county agent's report that the enterprise helped

establish the price on the open market and that the price of feeds and fertilizer had been reduced \$5 per ton, with a 20 percent reduction on seeds. This was estimated to represent a saving of \$50,000 to farmers in 1933.

Specific accomplishments are illustrated by the following examples. Farmers purchased 800 bushels of Tokyo soybean seed at 85 cents per bushel in 1932. This gave an opportunity to popularize the variety, which had proven superior in experiment station tests. Otherwise the farmers would have used the common varieties. In 1933 there were 1,500 bushels of soybean seed bought through the store. Korean lespedeza was gaining popularity, and through the efforts of the store 13,000 pounds of seed were purchased in 1933.

The anthracnose disease had almost eliminated the growing of one of the most popular legumes, red clover. The store was able to obtain a shipment of 1,000 pounds of resistant red clover seed from the West.

The store also sold 150 bushels of crimson clover in 1933, which was more than all dealers had handled the previous year. About 350 bushels of Balboa rye, a new variety, was handled through the store in 1933. An order for a carload (600 bushels) of certified Jersey Red Skin potato seed from a grower in New Jersey was placed through the store in 1933.

The store handled a total business of \$62,000 in the year ending June 30, 1934, the principal supplies sold being dairy and poultry feed, field and garden seed, and fertilizer.

Closing of Store

After the store had operated for 3 years it appeared doubtful if there would be any profits to return to the Farm Bureau. Some members felt that cost of products and cost of operating were overestimated by the business firm, thus keeping the net profits low. The firm was then no longer called the Knox County Farm Bureau Supply Company.

It was felt, too, that membership growth in the Farm Bureau was being discouraged, as nonmembers could buy at the store without supporting the Farm Bureau.

PART IV
SERVICE ORGANIZATIONS

CHAPTER I

FARMERS' MUTUAL FIRE INSURANCE COMPANY

History

One hundred farmers met in Market Hall July 12, 1913, to organize a Farmers' Mutual Fire Insurance Company for Knox County, Tennessee. Upon report by the organizers that more than \$54,000 of applications had been received, the members proceeded to establish the company.

The state law governing such organizations was discussed, new members accepted, and officers elected as follows: President, John A. Jones; Vice-President, S. O. Houston; and Secretary-Treasurer, M. R. Sellers. Other members of the first Board of Directors were: H. M. Sherrod, Dr. J. W. Drinnen, Dr. B. L. Ousley, J. I. Edington, G. M. Smith, J. H. Crudginton, W. B. French, A. G. French, J. Powell Smith, J. H. Tedford, R. H. Pennell, and S. B. Giffin. The second meeting was held in the Educational Department of the Court House.

On August 23, 1913, an office was obtained in the Deaderick Building on Market Street. That building was later removed, and the

office changed to the Arnstein Building on the corner of Market Street and Union Avenue. This office was vacated in January 1934, and another occupied in the Empire Building on Market Street. As the organization grew the latter office became crowded, and was changed to Room 302 in the same building.

Starting August 2, 1913, farmers who had insurance in the company were selected to serve as agents. On the same date, the form of application blanks, policy blank, by-laws, and contract forms for the agents were adopted. Some difficulty was encountered in 1915 with property being insured too high. It was agreed to cancel

TABLE XV. OFFICERS AND THEIR APPROXIMATE PERIODS OF SERVICE, KNOX COUNTY FARMERS' MUTUAL FIRE INSURANCE COMPANY, 1913-41

Office	Name	Approximate Period of Service
President	John A. Jones	1913 - 1915 incl.
	G. M. Smith	1916 - 1918
	S. B. Giffin	1919 - 1931
	W. R. Brakebill	1932 - 1935
	J. J. Jones	1936 - Present
Vice-Pres.	S. O. Houston	1913
	G. M. Smith	1914 - 1915
	S. B. Giffin	1916 - 1918
	W. R. Brakebill	1919 - 1931
	J. J. Jones	1932 - 1935
	F. L. Sherrod	1936 - 1937
	John E. Blake	1938 - 1940
	Robert S. McCampbell	Present
Sec. & Treas.	M. R. Sellers	1913 - 1917
	J. I. Edington	1918 - 1923
	W. L. Smith	1924
	Cora E. Moore	1925 - 1930
	J. E. Mounger	1931 - 1940
	H. L. Gibson (Assistant)	1931
	H. L. Gibson	Present

Source: Files of Farmers' Mutual Fire Insurance Company of Knox County.

all commissions paid to agents on risks which they insured too high. The secretary was also given power to cancel at once any policy which he deemed too high, and agents should return fees paid them on the property. It was also agreed that any one finding insurance written too high, that if he would report same to the company with directions for finding the property, would receive \$2.00, provided same was reported to the company not later than July 25, 1915. A system of thorough inspection of all insured property was also instituted. An agent to inspect, and reinspect, property and to write new insurance has been employed nearly all the time. W. W. Brooks has been employed as agent since 1932.

The first settlement for a fire loss was made to W. F. Robbins in February, 1914, for a barn which burned. There was some controversy as to the settlement that should be made, but it was finally agreed to pay Robbins \$600.00 within 15 days. Assessment on members was made on the basis of \$700.00 in order to pay all of the loss if it could not be paid in 15 days.

S. O. Houston was attorney for the company until 1931 when he was replaced by O. L. White. The attorneys have helped settle disputes in interpreting the by-laws, and in making certain changes in procedure. They have not been paid a salary but for the particular work done. S. O. Houston took out the first policy and has carried all his insurance in the company since that time.

A Fire Marshal Tax was passed by the Legislature in 1931 to

help pay for State inspections. The Fire Marshal acts as a detective, in cases where the cause of a fire seems suspicious, or helps determine the cause of a fire.

The local company is known to have been a member of the National Association of Mutual Insurance Companies since 1927 or longer, and a member of the State Association since 1938. The national association helped prevent congress from passing a bill in 1932 to tax all mutual insurance companies with an income tax.

A bill was passed by the State Legislature in 1935 to require all mutual insurance companies in the State to deposit with the Insurance Commissioner 25 percent of the amount of all policies in cash or governmental bonds.

Organisation

Section 2 of the by-laws provides that "The object of this Company shall be to mutually insure the property of its members against loss or damage by fire, lightning, and tornado. All expenses and losses shall be paid by assessments on all property insured with this Company."

The annual meeting is held on Saturday after the first Monday in January. Each member is entitled to one vote in all elections.

The Board of Directors consists of 15 members, one from each civil district. One-third of the members are elected by ballot each year, for a period of three years. They meet at least twice a year, and more often if necessary, to investigate the business and make

recommendations. Five Directors present, after proper notification of all, constitute a quorum. President, Vice-President and Secretary-Treasurer are elected from the Board. They constitute the executive committee which meets every week to decide on losses, new risks, and similar business. Officers are paid a salary and the other Directors a per diem and mileage.

Dwellings and other farm buildings with their contents are insured at two-thirds of their total value. The rates are 16 cents for fire and lightning and 4 cents for tornado insurance per \$100.00 worth of property. Stores and their contents outside the city limits are insured at one-half of their value for 75 cents per \$100.00 value.

Each member pays a 50 cent membership fee upon entering or re-entering the company. The agent receives 90 percent of this fee in addition to his salary. Insurance policies are perpetual, but the agent reinspects property at regular intervals.

No notes are at present accepted, but originally notes of \$3.00 or more were taken for 90 days or longer. Assessments at present must be paid within 60 days. Members were formerly charged 10 cents for each notice, after second notification, on unpaid notes or assessments. At that time payment of assessments was required in 30 days. The 10 cent fee has been dropped, as the members are now given more time to pay, and if not paid in the required time they are dropped from the company and must pay the \$5.00 membership fee

to re-enter.

No single risk for more than \$8,000 is accepted. Previous to 1916 policies on buildings under construction were taken 60 days in advance of taking effect, and renewed if the building was not finished in the stated time. At present the company does not insure a building before it is finished, but building materials are insured.

Assessments are now collected on the advance payment plan. Rates for the succeeding 6 months are estimated from the record of the previous 6 months. This has the advantage over the post-assessment plan, in operation until the last few years, of helping create a reserve, and makes the collection of assessments easier. On the post-assessment plan, members usually paid twice a year according to the amount of losses occurring during the preceding period. Under that plan members could leave the company at the time of assessment, after receiving its benefits previous to the assessment period.

The company does not insure property in adjoining counties, at a distance greater than 3 miles from the Knox County line, unless the owner of property in another county also has insurance on property in Knox County with this company.

Comparison With Companies in Other Counties

Thirty farmers' mutual fire insurance companies operating in Tennessee during 1939 reported to the "Directory of Mutual Companies in the United States". Two companies are not included in Table XVI;

TABLE XVI. MUTUAL INSURANCE COMPANIES IN TENNESSEE, DATE OF BEGINNING, AND INSURANCE IN FORCE IN 1939 *

Name of Company	Year of Beginning	Insurance in Force, 1939	Rank of Insurance in Force, 1939
Greene County Farmers' Mutual Insurance Company	1896	\$4,004,355	2
Sullivan County Mutual Fire Insurance Company	1896	2,820,832	4
Roane County Mutual Fire Insurance Company	1896	650,375	19
Farmers' Mutual Fire Insurance Co. of Washington County	1898	3,268,173	3
Farmers' Mutual Insurance Company of Giles County	1900	1,950,495	6
Farmers' Aid Association of Loudon County	1902	1,447,740	9
Hawkins County Mutual Fire Insurance Company	1905	1,760,503	8
Farmers' Mutual Fire Insurance Association of Cocke County	1905	559,230	20
Carroll County Farmers' Mutual Fire Insurance Company	1907	781,523	16
McMinn County Farmers' Fire Insurance Company	1908	652,455	18
Jefferson County Farmers' Mutual Fire Insurance Company	1909	1,904,446	7
Farmers' Mutual Fire Insurance Company of Hamblen County	1909	1,052,056	13
Warren County Farmers' Mutual Fire Insurance Company	1910	477,800	21
FARMERS' MUTUAL FIRE INSURANCE COMPANY OF KNOX COUNTY	1913	6,232,815	1
Blount County Mutual Fire Insurance Company	1913	2,149,638	5
Sevier County Farmers' Mutual Fire Insurance Company	1913	1,410,130	10
Monroe County Mutual Fire Insurance Company	1913	656,438	17
Union County Mutual Fire Insurance Company	1913	307,276	24
Bradley County Farmers' Union Mutual Fire Insurance Company	1914	1,088,025	12
Putnam County Farmers' Mutual Fire Insurance Company	1914	35,125	28
Anderson County Farmers' Mutual Insurance Company	1915	203,850	25
Hamilton County Farmers' Mutual Insurance Company	1915	130,850	27
Franklin County Farmers' Mutual Fire Insurance Company	1916	981,550	14
Meigs County Farmers' Fire Insurance Company	1917	374,992	22
White County Farmers' Mutual Fire Insurance Company	1923	323,515	23
Farmers' Home Mutual Fire Insurance Company of Moore County	1924	189,285	26
Citizens' Home Mutual Fire Insurance Company	1932	1,372,720	11
Johnson County Mutual Fire Insurance Company	1932	889,320	15

* Includes only those who reported in 1939.

Source: "Directory of Mutual Companies in the United States," Fire and Casualty Insurance, 1939 Edition, published by American Mutual Alliance.

the Grainger County Mutual Fire Insurance Company, established in 1913, did not have any insurance in force in 1939, and the Union Mutual Fire Insurance Company, established in 1936, had all of its business reinsured in 1939.

Thirteen of the active companies were established previous to the one in Knox County, which ranked 14th to 19th in order of establishment of those operating in 1939.

Development

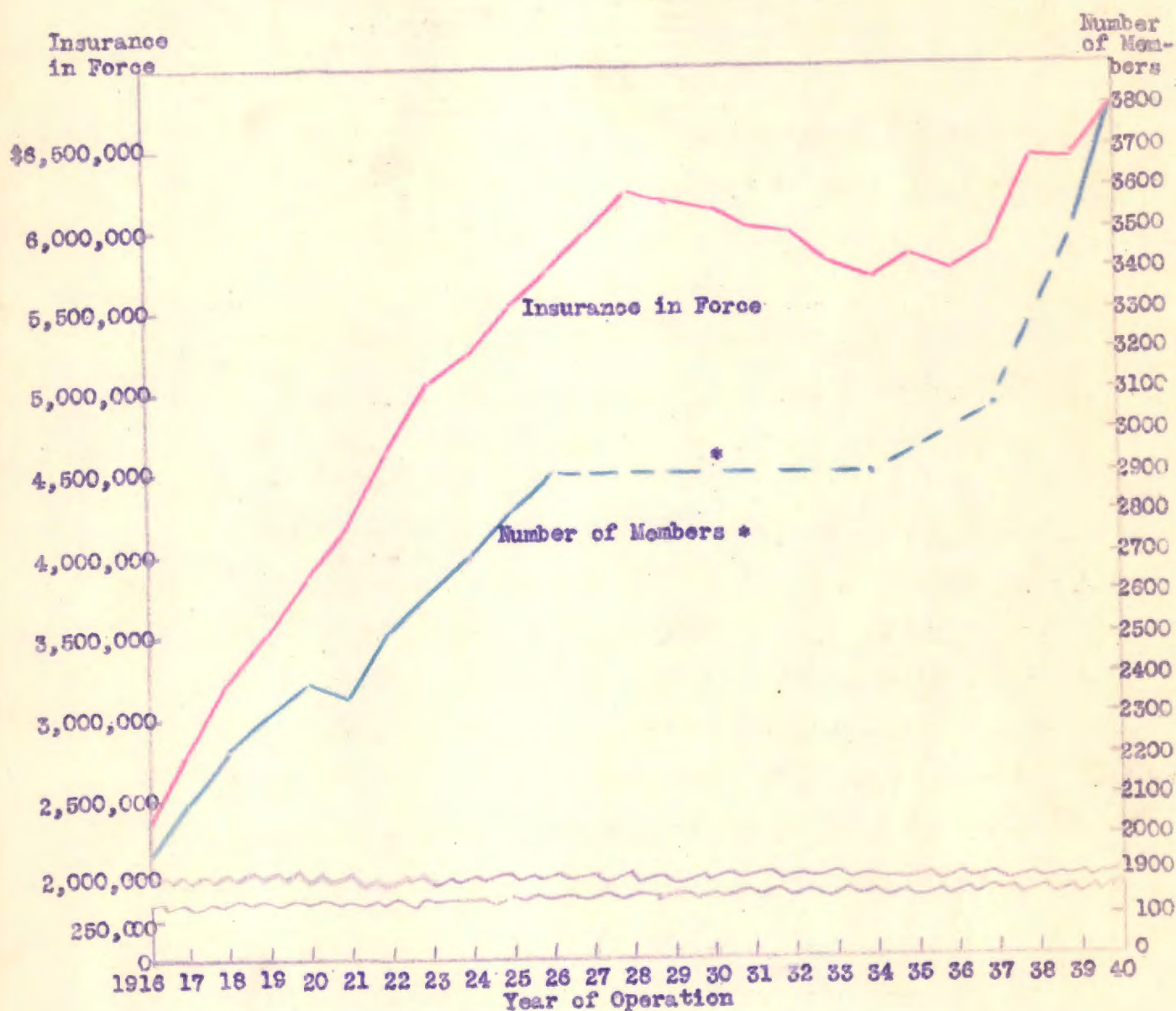
The Knox County company now ranks first in amount of insurance in force. The number of members per company might change the rank. However, since membership for each company was not given, insurance in force is the best available measure of size.

The Knox County Company has shown a fairly continuous growth since organization. This is true both as to insurance in force and membership. Insurance in force increased quite rapidly until 1929, decreasing gradually to 1937, and has increased since 1937 (Figure 5). The decrease was likely due to a decline in value of property during the depression.

Membership data are not available for each year, but there may have been some decrease during the depression. The company had the same number of members in 1934 as in 1926. Insurance in force increased more rapidly than membership, except in the last few years.

Savings to members have given an incentive for farmers to join the company. In spite of the low rate, the company has been able to create a reserve. Educating members as to how to make property a safe risk has helped to increase the insurance in force.

Although the company maintains a reserve there has been some thought of reinsurance with an old line company. Reinsurance would be taken only



* Membership figures are not available for all years.

Figure 5. Growth of the Farmers' Mutual Fire Insurance Company as Indicated by the Insurance in Force and Number of Members, 1916 - 1940*

Source: Table XVII.

on tornado risks, as fire and lightning do not cause widespread damage in rural areas.

TABLE XVII. INSURANCE IN FORCE*, ESTIMATED SAVINGS**, NUMBER OF MEMBERS, AND SAVINGS PER MEMBER, FARMERS' MUTUAL FIRE INSURANCE COMPANY OF KNOX COUNTY, 1913-1940

Year***	Insurance in Force	Estimated Savings	Number of Members	Savings per Member
1913	\$ 371,942	\$ -	-	\$ -
1916	2,334,468	-	1965	-
1917	2,786,368	-	2090	-
1918	3,223,446	35,457	2221	15.96
1919	3,535,414	34,000	2307	14.73
1920	3,889,808	48,618	2385	20.38
1921	4,195,763	50,359	2352	21.41
1922	4,650,037	-	2520	-
1923	5,061,865	50,618	2600	19.46
1924	5,233,325	55,000	2700	20.37
1925	5,529,475	55,000	2815	19.53
1926	5,754,019	60,000	2900	20.68
1927	5,994,712	60,000	-	-
1928	6,229,910	72,000	-	-
1929	6,184,210	72,000	-	-
1930	6,136,529	75,000	-	-
1931	6,013,018	96,000	-	-
1932	5,979,679	-	-	-
1933	5,779,683	50,000	-	-
1934	5,691,775	60,000	2900	20.68
1935	5,852,270	50,000	-	-
1936	5,766,714	50,000	-	-
1937	5,904,810	65,000	3060	21.24
1938	6,433,825	-	-	-
1939	6,435,872	-	3500	-
1940	6,764,702	-	3800	-

* Represents insurance in force at the end of each fiscal year.

** Savings are estimated from the amount farmers would pay old line insurance companies compared to the amount paid the Mutual Company.

*** No data were available for 1914 and 1915. Other blank spaces represent where data were unavailable.

Source: Files of Farmers' Mutual Fire Insurance Company of Knox County.

At first the assessment rate included fire, lightning, and tornado. Farmers whose property did not meet the requirements for any one of these risks had to pay the same rate regardless. During the past several years the rate has been subdivided into fire and lightning, and tornado, so that each farmer now pays only for the protection his property receives.

The number of policies per 100 farmers is relatively large (Table XVIII). In a number of cases there are more than one policyholder per farm. A 50 percent increase in number of policyholders occurred from 1919 to 1929. The number of farms in Knox County has been increasing somewhat more slowly than membership in the Farmers' Mutual

TABLE XVIII. NUMBER OF POLICYHOLDERS PER 100 FARMS, AND PERCENT CHANGE AT EACH CENSUS PERIOD IN NUMBER OF POLICYHOLDERS, FARMERS' MUTUAL FIRE INSURANCE COMPANY OF KNOX COUNTY, AND PERCENT CHANGE IN NUMBER OF FARMS, KNOX COUNTY, 1919, 1924, 1935, AND 1939

Year	Total No. of Farms	Percent Change Each Census Period	Total No. of Policyholders *	Percent Increase Each Census Period	No. of Policyholders per 100 Farms
1919	3,969	-	2,307	-	58.12
1924	4,106	3.33	2,700	17.03	65.76
1934	5,490	33.70	2,900	7.40	52.82
1939	5,033	- 8.32	3,500	20.68	69.54
Total Increase		26.80	-	51.71	-

* Includes some policyholders outside of Knox County.

Source: Files of Farmers' Mutual Fire Insurance Company of Knox County and Census Data.

Fire Insurance Company.

Total value of farm buildings has increased considerably since 1919 (Table XIX). A little over one-half the value of all farm buildings are insured in the Knox County Company. The increase in insurance was large compared with the change in total value of farm buildings, from 1934 to 1939, which decreased somewhat. The total increase of insurance was much smaller, possibly due to more conservative valuation of buildings, from 1934 to 1939, which decreased somewhat.

TABLE XIX. PERCENT CHANGE IN THE VALUE OF ALL FARM BUILDINGS COVERED BY INSURANCE, BY CENSUS PERIODS, IN THE FARMERS' MUTUAL FIRE INSURANCE COMPANY OF KNOX COUNTY AND THE PERCENT CHANGE IN TOTAL VALUE OF FARM BUILDINGS, KNOX COUNTY, 1919, 1924, 1929, AND 1939

Year	Total Value of All Farm Buildings	Percent Change Each Census Period	Total Value of Property Insured	Estimated Value of Buildings Insured *	Percentage Value of All Farm Buildings Covered by Insurance	Percent Change Each Census Period
1919	\$5,805,108		\$3,535,414	\$2,828,331	48.72	
1924	5,680,984	- 2.13	5,233,325	4,186,660	73.69	+ 51.25
1929	8,264,364	+45.47	6,184,210	4,947,368	59.86	-18.76
1939	8,150,534	+ 1.37	6,435,872	5,148,697	63.17	+ 5.52
Total Increase		+43.40				14.45

* Value of buildings insured is estimated to be 80 percent of the total value of insured property and includes some property outside of Knox County.

Source: Files of Farmers' Mutual Fire Insurance Company of Knox County and Census Data.

Difficulties

Several difficulties have been encountered in the usual routine of business.

1. Difference of opinion in the settlement of claims seemed to have been more prevalent during the first years of the company. Opinions as to the true value of a given property have also differed.

2. Some of the older members in the company seem to think they should be favored, when a loss occurs, because they have been supporting the company for a number of years; however, they have been fortunate that a loss did not occur sooner.

3. There has been some tendency among farmers to want their property overinsured. This may be due to their wanting their property insured as close as possible to actual value at a low rate. This would make it unnecessary to insure the other one-third of the value of their property in old line companies. Some perhaps expect to sell their property, and want a high valuation for that reason.

4. Some farmers are negligent in protecting their buildings from fire, lightning, and tornado hazards. This necessarily increases the rate to the more careful members. A differential rate would probably be too high for some, but might cause buildings to be made safer against hazards.

5. When property is sold the insurance must be transferred; otherwise neither party can collect for a loss. Some people fail to make

this transfer and later try to collect for a loss. The mortgagee can collect for a loss if he was not notified that the title had been transferred.

6. All members of an estate must sign an insurance policy to prevent disputes. Sometimes such members try to keep others from signing a policy so they cannot collect for a loss.

7. Property is not insured for families who do not get along well together, because such risks may not be safe. Some persons have tried to insure property in their name, without other members of the household knowing under whose name it is insured, and the others paying for the insurance.

8. Competition from old line companies has had to be met. Insurance companies of Knoxville tried to organize a stock exchange in 1932, to boycott mutual insurance companies, and to get more business for stock companies.

Factors Contributing to Its Success

It was stated in the minutes several years ago that this is one of the largest and best county mutual fire insurance companies in business, and the only one of its kind in the state that carries a reserve fund to pay its members immediately after they suffer a loss. It has operated longer than any other cooperative in Knox County, which is attributed to the following:

1. A large number of farmers participated in starting the enterprise.

2. After operating successfully for several years the farmers became convinced that a cooperative of this type was desirable and could be successful.

3. The members believe in the principles of the company, and have gained confidence in each other.

4. Members have learned from the experience of other companies.

5. The office is open during all usual working hours, to give service.

6. An agent contacts farmers to write new insurance and value the property.

7. Only safe buildings are insured, and members are informed how to remove fire hazards.

8. Officers have been adequately bonded to prevent losses to the company.

9. The company did not require a large amount of capital to start operations.

10. Changes in the by-laws have been made whenever necessary, for the benefit of the company and individual members.

11. The company has operated on a legal basis, at all times observing state laws on mutual fire insurance and other matters.

CHAPTER II

RURAL COOPERATIVE TELEPHONE EXCHANGES AND LINES

Cooperative Exchanges and Lines

Most cooperative telephone exchanges in Knox County had their origin between 1913 and 1920. Some farmers made a list of families in each community and notified them of meetings to be held concerning telephones. A speaker from the telephone company was present at each meeting to tell the farmers why they needed telephone service and how they could obtain it at reasonable costs.

Citizens then proceeded to organize lines. Chestnut and cedar poles suitable for use were plentiful, and farmers contributed their own labor, thus reducing costs. A neighborhood rally was held in many instances, to get the labor organized and have each farmer contribute his proportionate share of the total.

After the poles were set, the metallic line was put up. This required a line man to nail brackets, put the insulators on and tie the wires. Usually a local man who had had some experience in this work was obtained.

If more than one bracket was used, cross arms were bought, or sometimes sawed at local mills. The cross arms were in most cases fastened to the poles with lag screws, whereas bolts are usually recommended. Local

blacksmiths were employed to make braces for the cross arms. In many cases only one brace was employed in holding a cross arm.

Fence wire instead of galvanized wire was used, which resulted in many lines breaking sooner than usual. Switchboards were made by local people, or those costing the least money were bought, thus obtaining materials of low quality. Telephone boxes were obtained in a similar fashion.

Rates were usually 25 cents per month per telephone, and in some cases 25 cents extra for services to Knoxville.

At one time there were between 30 and 40 cooperative telephone exchanges in Knox and adjoining counties. The following table gives an idea of the location of some of them in Knox County in 1927.

TABLE XX. NAME, LOCATION, AND PRESENT STATUS OF SOME RURAL COOPERATIVE TELEPHONE EXCHANGES, KNOX COUNTY, TENNESSEE, 1941

Name	Location	Status - June 1941
Riverdale Exchange	Knoxville	Existing
Shocks Exchange	Neubert	Existing
Concord Telephone Company	Concord	Commercial
Powell Telephone Company	Powell's Station	Commercial
Halls' Cross Roads Exchange	Corryton	Commercial
Harbisons' Cross Roads Exch.	Corryton	Commercial
Corryton Exchange	Corryton	Out
Raccoon Valley Exchange	Fountain City	Out
Peaks and Edgemores Exchange	Heiskell	Out
Thorn Grove Exchange	Strawberry Plains	Out

Source: Card Index Files, Department of Agricultural Economics, and Interview.

Due to the use of poor materials and poor construction, natural deterioration, lightning, storm and other hazards, the lines soon needed

repairing. No money had been accumulated as a reserve for repairs.

After the exchanges and lines had been operated about 15 years it seemed that only the more prosperous farmers were cooperating in paying bills for repair work, and often paid all expenses. Lacking the cooperation of other farmers, most of the rural cooperative telephone exchanges have now ceased to function.

Riverdale Exchange

Detailed information on only one of the exchanges has been obtained. At present only the Riverdale Exchange and Shooks Exchange are operating as cooperatives. The Riverdale Exchange was started about 1913, and has operated continuously since that time. J. A. Brooks, who operates a store at Riverdale, has been in charge of the exchange for a number of years. He takes care of finances, keeps records and looks after the switchboard.

The farmers own all of the physical facilities. Each farmer owns and is responsible for the repair of his part of the line. In some cases where a farmer has a very long line, others who have an exceptionally short line may help build and maintain the long line. At present there are 23 farmers on the exchange which seems to be sufficient to operate economically. More farmers on the exchange would lower the fees but might decrease the quality of the service obtained.

A small reserve is maintained to help take care of expenses, if some members would withdraw or if money is needed for repairs. Each member

pays \$1.50 per month. A 10 cent fee is charged people who are passing through Riverdale and do not own a telephone in another locality but wish to call out, or neighbors who are not members of the exchange but want to call out. Fifteen dollars per month is paid to the person who operates the switchboard. About \$15 per month is paid to the Bell Telephone Company for use of a trunk line to Knoxville.

Some farmers did not repair the lines, and some left the exchange during the depression. This necessitated a higher assessment per member. A new switchboard was obtained at a reasonable price, which gave better service, and farmers again joined the exchange. Each member paid \$5 to help pay for the switchboard, and each new member pays \$5 so he will have equal rights in the exchange.

Four farmers' lines are maintained, which helps to give service to farmers almost at all times. The service seems to be very satisfactory at present. The exchange gives service at any time of the day but it was agreed to pay their local operator 10 cents for each call after 8 o'clock at night. Most of the members have not paid this fee but they do not try to call unnecessarily after 8 o'clock.

Contracts with the telephone company to use the trunk line are usually made for 5-year periods.

Cooperative Farmers' Lines

The cooperative lines, without exchanges, started operating about the same time or a few years sooner than the cooperative lines with exchanges. Cooperative lines do not need an exchange as they are connected

directly with the Knoxville exchange. Farmers own the telephones and lines but the company does repair work and charges a fee for it. The company charges \$4.25 for six stations and one-sixth of \$4.25 for each additional station. There are about 10 cooperative farmers' lines in operation near Knoxville, with 6-18 farmers on each line.

In some other counties cooperative telephone lines are operated only on a neighborhood basis without an exchange. It was stated that some neighborhood lines have operated in Knox County but it is not known if they are still operating. The company tries to connect these lines with an exchange.

Rural Commercial Lines

Cooperative farmers' lines are being replaced by rural commercial lines and telephones are replaced by new ones. The new steel wire used allows the company to use fewer poles. Usually not more than 12 to 14 poles per mile are required and the lines are shortened in most cases. The company owns the lines and telephones and does repair work without charge when needed. Six to eighteen farmers are on a line, and pay a base rate of \$2.00 per month with a maximum of \$2.75. This type of service is being encouraged to insure good service to the farmers at all times.

CHAPTER III

KNOX COUNTY NATIONAL FARM LOAN ASSOCIATION

Organization of National Farm Loan Associations

Federal land banks, one of the four divisions of the Farm Credit Administration, have been making long term first mortgage loans on agricultural lands since 1917 through national farm loan associations.

Loans are made to those who are engaged, or about to become engaged, in farming or livestock raising or deriving the principal part of their income from these sources. Loans are made on the security of first mortgages taken on land and improvements.

The borrower becomes a member of the association through the purchase of stock equal to approximately 5 percent of his loan which entitles him to one vote. This stock may be refunded if the association is not impaired from losses or delinquent loans.

The loans are made for buildings and improvements; to buy land, equipment, fertilizers, and livestock; to refinance indebtedness incurred prior to 1937, and to provide funds for general agricultural purposes.

Land bank loans are limited in size from \$100 to \$50,000 and may not exceed 50 percent of the appraised value of the land to be mortgaged or 20 percent of the appraised value of insurable improvements.

The temporary interest rate is $1\frac{1}{2}$ percent below the usual rate of

4 percent on loans made through the association, 4 1/4 percent on loans made through associations with impaired stock, and 4 1/2 percent on loans made directly through the Federal land bank. The interest rate is determined by the rate of turnover and the rate at which Federal land bank bonds can be sold.

Length of term of the loans varies from 20 to 30 years, with some for shorter periods, depending upon the farmer's needs. Loans are paid by semi-annual installments with the interest. In addition to the interest the cost of appraisal and fees for recording are paid by the borrower.

Land Bank Commissioner loans, secured either by a first or second mortgage, are also made through the association. These loans are limited to \$7,500 each, and with all other indebtedness on the property may not exceed 75 percent of its appraised normal value.

Members of the association elect directors from among the borrowers and the directors, with the secretary-treasurer who is appointed by the directors, conduct most of the affairs of the association. Directors also appoint a loan committee to consider all applications for loans. There must be a minimum of 10 members and \$20,000 in loans before an association can be organized.

History and Development of Knox County National Farm Loan Association

On January 20, 1917, Mr. John Rodgers, an attorney of Knoxville, through extensive announcements called a meeting of the farmers of Knox

and surrounding counties for the purpose of discussing the Federal farm loan system. About 275 were in attendance at this meeting, held in Market Hall, when temporary officers were elected for associations in this county. Considerable interest was shown and about 13 community associations were organized in Knox County alone. Officials of the Fidelity Trust Company secured names of the associations and of the proposed members, and sent letters setting forth in detail the chance for loss, and the hazards of the Federal farm loan system. The trust company also stated that their loans were safer and cheaper, and did not entail the responsibility for other borrowers contained in the Federal Loans, and since their loans were of the same type, amortization loans, why borrow from the government? It has not been learned as to the exact time these associations remained organized, but in 1920 there were seven national farm loan associations in Knox County located at the following points: Riverdale, Thorn Grove, Harbisons, Halls, Beaver Ridge, Stock Creek and Farragut. In July 1935 they elected M. B. Gentry as common secretary-treasurer of them all, this being one of the two instances in the United States where one man has headed more than one association. In February 1937 the seven associations were consolidated into the Knox County National Farm Loan Association, chiefly to reduce expenses. It has had the same Board of Directors since 1937, namely: Dr. J. W. Drinnen*, John O. Toole, B. G. Pifers, J. W. Petri, R. H. Funnell, A. M. Russell, and Dr. J.M.J. Van Degriff. Since the associations were consolidated, loans made by the

* Deceased - replaced by O. M. Delozir.

Knox County National Farm Association have been limited mostly to Knox County. Previously the loans extended into Sevier, Jefferson, Union, Grainger, Anderson, Loudon, and Roane counties. The average loans in Knox County have been approximately \$2,000, the largest loan

TABLE XXI. NUMBER OF LOANS, AMOUNT LOANED, AND NUMBER OF BORROWERS EACH YEAR, KNOX COUNTY NATIONAL FARM LOAN ASSOCIATIONS, 1917-1941*

Year **	Closed During Year		Number of Borrowers at Close of Year
	Number Loans	Amount	
1917	21	\$33,400	21
1918	61	114,100	81
1919	28	60,100	103
1920	9	18,400	111
1921	19	39,500	127
1922	32	66,900	157
1923	34	53,400	187
1924	29	52,200	211
1925	42	67,200	249
1926	40	82,300	276
1927	28	46,600	296
1928	28	47,600	320
1929	9	9,500	317
1930	-	-	309
1931	3	6,600	308
1932	1	2,500	301
1933	11	22,700	310
1934	72	176,900	378
1935	18	66,800	381
1936	3	5,400	380
1937	5	10,700	371
1938	1	1,200	361
1939	1	2,500	347
1940	1	2,300	327
1941 ***	2	5,000	324
Total to date	498	\$992,600	

* Does not include Land Bank Commissioner Loans.

** The figures for the seven associations before they were consolidated into one association have been combined into one figure for each year.

*** Through March 31, 1941.

Source: Files of Federal Land Bank, Louisville, Kentucky.

Number of
Members

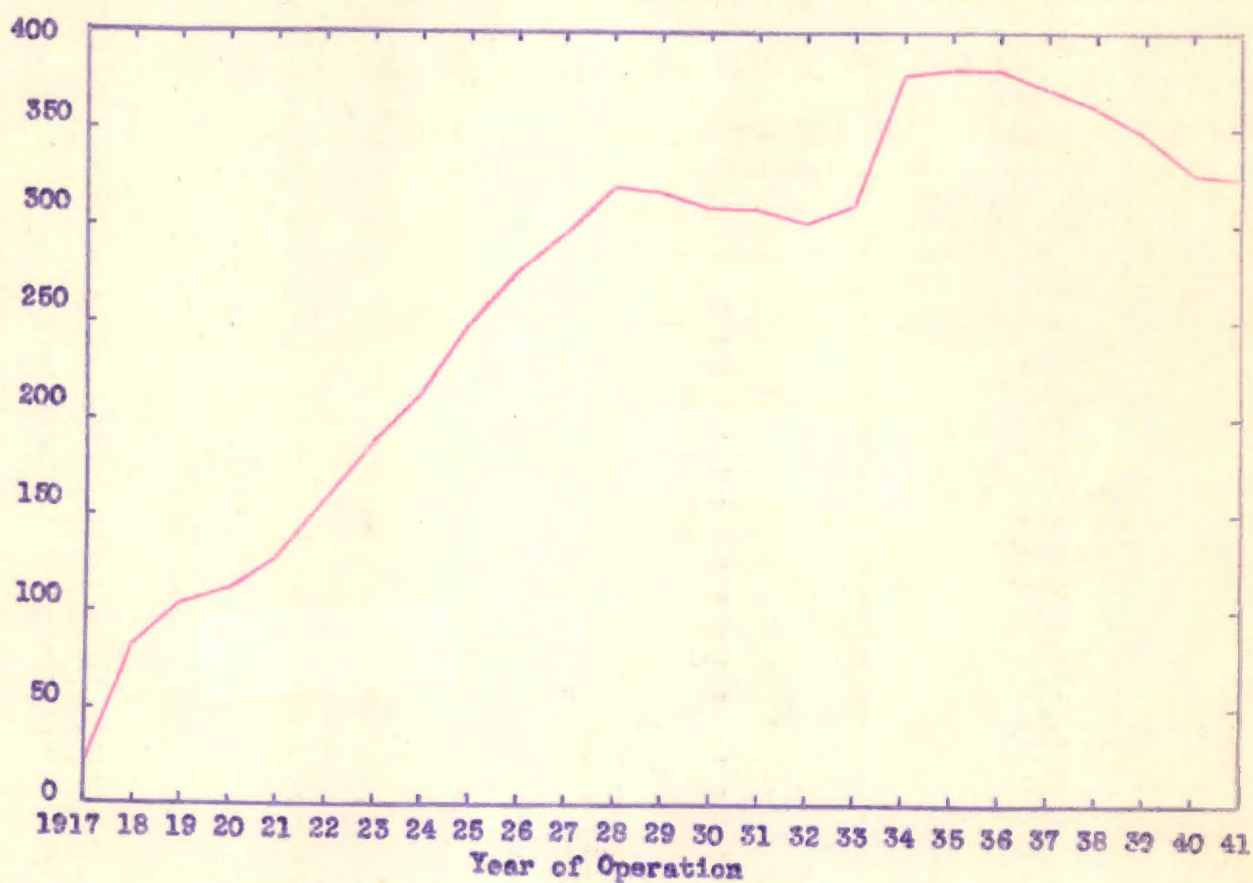


Figure 3. Membership Trend in Knox County National Farm Loan Association, 1917 - 1941.

Source: Table XXI

outstanding at present being for \$18,500. According to the secretary-treasurer this is a rather strong association, being the strongest in East Tennessee.

As shown in Figure 6, the number of members showed a gradual growth until 1929, remained at about that level until 1933, then increased rapidly during the depression to refinance indebtedness at lower rates of interest.

TABLE XXII. OUTSTANDING LOANS IN THE KNOX COUNTY NATIONAL FARM LOAN ASSOCIATION SINCE IT WAS CONSOLIDATED IN FEBRUARY, 1937
(At End of Fiscal Year)

Year	Federal Land Bank Loans	Land Bank Commissioner Loans
At date of consolidation	\$751,400	\$219,500
1937	733,700	227,900
1938	707,500	224,100
1939	687,200	217,800
1940	639,800	200,800

Source: Files of Knox County National Farm Loan Association.

Many of the loans have been paid off since 1937. Only two loans have been foreclosed since 1935 in this association. More loans were foreclosed previous to 1935. Members at present (January 1941) own all the capital stock in the Louisville bank.

Factors Contributing to Success

Losses of this association have been kept at a minimum in spite of financial difficulties, probably due to the following:

1. The policy has been to accept part of the payments and ask the

Federal Land Bank to be patient until the farmer realized more income.

2. Interest rates on all loans made by the Federal Land Bank have been reduced.

3. A good national market for stocks and bonds has helped to supply money at reasonable rates.

4. An active board of directors, since the associations were consolidated, has given the association more permanency.

5. Only good risks are accepted. The applicant must have good character, meet obligations promptly, and be in a position to make payments.

6. The association cooperates with the production credit association and the farm security administration in advising farmers where to borrow money.

7. Farmers are not over submerged with debts, as the association only loans him 50 percent of the appraised value of the land, and borrowers must have at least $1/4$ equity in the farm before they can borrow.

8. Failure of one crop will not affect the association very much as Knox County has a diversified farming system.

9. Tobacco as a cash crop has aided farmers in meeting their installments in winter. In one of the years about $1/2$ of the January installments were met by tobacco sales.

10. The nearness of a large consumer market makes it possible for farmers to sell their products to good advantage.

11. Some farmers have income from sources other than farming, such as labor, to help make payments.

12. Farmers obtain their credit on satisfactory terms, and low costs, through collective action.

CHAPTER IV

KNOX COUNTY DAIRY HERD IMPROVEMENT ASSOCIATION

History

Cooperative cow-testing associations were inaugurated in Tennessee in December of 1915, when the first successful cow-testing association south of Maryland was organized in Jefferson and Hamblen counties. On July 1, 1917, there were 8 associations in operation, an increase of 700 percent over the previous year, this being the largest percentage increase of any state in the Union. Due to the impossibility of securing competent testers under wartime conditions there were only 4 associations in operation on July 1, 1918.

Under the supervision of Jesse Winegar, county agent, a cow-testing association with 21 members representing 422 cows was organized in August 1917 in the western portion of the county. Partly due to war conditions it was unable to secure a desirable tester, and the association did not function as had been hoped. County agents gave considerable publicity to cow-testing but no actual testing was done by an association in Knox County, as far as can be determined, until June 1925 when G. A. Hutton, dairy specialist, assisted County Agent F. S. Chance in organizing the Knox County Cow-Testing Association. Organization of this association was sponsored by the Knox County Milk Producers' Association. The cow-testing association was composed of some of the most progressive dairymen of the

county, who also cooperated in the Milk Producers' Association.

In 1926 two herds in this association qualified for the National Dairy Association Honor Roll by having a yearly average of 500 pounds or more of butterfat per cow.

According to the 1926 annual report of the agricultural extension service there were 55 farmers in Knox County, in addition to the members of the association, who were feeding better balanced rations as a result of the work of the cow-testing association.

The Knox County Cow-Testing Association changed its name to the Knox County Dairy Herd Improvement Association in 1926. It completed its 5th year of operation in July 1930, reorganized, and started testing for the 6th year. However, the association became inactive during the year due to the resignation of the tester. There was some interest, and preliminary work was done in 1932 toward the formation of a new Dairy Herd Improvement Association, but no testing was done until the present association was organized in August 1937. It completed its third year of operation on August 1, 1940. The latter association was organized under the supervision of R. M. Murphy, county agent of Knox County.

Organization

Organization of a Dairy Herd Improvement Association generally originates with the county agent, who prepares a list of dairymen and sends it to the specialists in dairy husbandry. The extension dairy specialists

then send out circulars of information in regard to the organization and operation of such an association. The county agent endeavors to arouse sufficient interest among the dairymen to meet at least the minimum requirements for starting an association. These requirements consist of having a sufficient number of dairymen sign up for the service, with sufficient cows to give the tester about 22 days of work each month.

An annual meeting is called for the purposes of getting new members, electing officers, and discussing matters pertaining to the operations of the association. A board of directors is elected from the members for a term of one year. There is nothing which requires any member to continue in the association, since the benefits received by the farmer depend largely on his interest and cooperation with the tester and association. The following revised application for membership⁽¹⁾ is an example of the simple form of agreement signed by the cooperator.

"I desire to become a member of the _____ County Dairy Herd Improvement Association on the plan outlined above, and enter my herd for a testing period of twelve months. I now own or control _____ dairy cows.

Name _____ Address _____ Date _____."

The plan of operation as outlined by the dairy extension specialists is as follows: "The tester to be employed by the board of directors shall visit each member's herd once a month and make a complete record of the

(1) Application form, from dairy extension files.

milk and butterfat produced by each cow kept in the herd for dairy purposes, together with the value of product, breeding and calving data, and feed records of the cows while dry as well as while in milk. He shall post all herd improvement record books each month before leaving the member's farm, and shall discuss the records with the member or the man in charge and give him information about proper feeding, breeding and herd management. He shall ear-tag all cattle kept in the member's herd and not already properly identified, and make a complete record of same for use in the new permanent herd improvement record system and in future identification of the various animals. He shall make such reports as may be required by the board of directors and the state extension dairymen, and shall work in close cooperation with the county agent.

"The rate of payment for the services of the tester shall be 25 cents per cow per month for herds up to and including 20 cows, and 20 cents per cow per month for each additional cow from 21 to 40 cows and 15 cents per month for each cow above 40 provided that the charge for any herd shall not be less than \$3.00 per month. (2) Payments are to be made by the members to the treasurer of the association each month, based on the number of cows on test in their respective herds during the month, including those that are dry.

(2) The tester is employed at a salary somewhat less than the expected income from the total assessments made on all herds, to take care of any decrease in the number of cows tested. In addition to this he is given a bonus at the end of the year amounting to 90 percent of the surplus accumulated by the association during the year, provided he has finished a year of satisfactory service, which gives an added incentive to the tester to increase the profits of the herds.

"Each member shall pay a membership fee of \$3.00 at the beginning of the testing year to help pay for the testing outfit, sulphuric acid and other necessary equipment and shall provide board and lodging for the tester while performing his regular duties at the member's farm each month. Each member shall be entitled to vote in the election of the board of directors and other matters coming before the meetings.

"The tester shall not be required to test more than 30 cows in a day, but shall give two or more days each month to herds of more than 30 cows."

Development

The Knox County association has the four leading dairy breeds, being the only one in Tennessee to test an Ayrshire herd. Its membership extends from Knox County into Loudon, Blount, Anderson, and Union counties.

The original membership remained longer than for any succeeding year, as shown in Figure 7. In either the 1927-28 or 1929-30 seasons there were about twice as many new members as in any other year. However, only a very small number of these members continued to cooperate, which leads one to believe that many of them have not benefited as much as they could have from the association. Figure 7 also shows that a total of 54 dairymen were in the association's membership during its 8 years of operation. In 1939-40 there were 14 cooperating, only 3 of whom had become members previous to 1938-39. There are 40 dairymen who were at one time members but

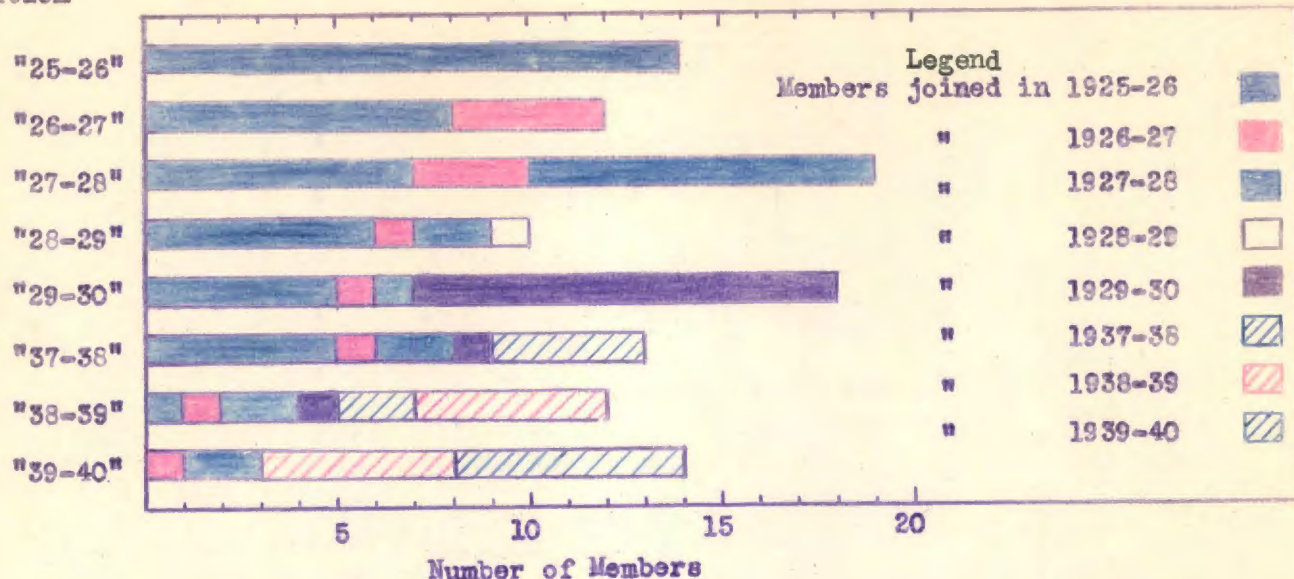


Figure 7. Length of time each group of new members stayed in the Knox County Dairy Herd Improvement Association, 1925-30 and 1937-40.

Source: Dairy Extension Files

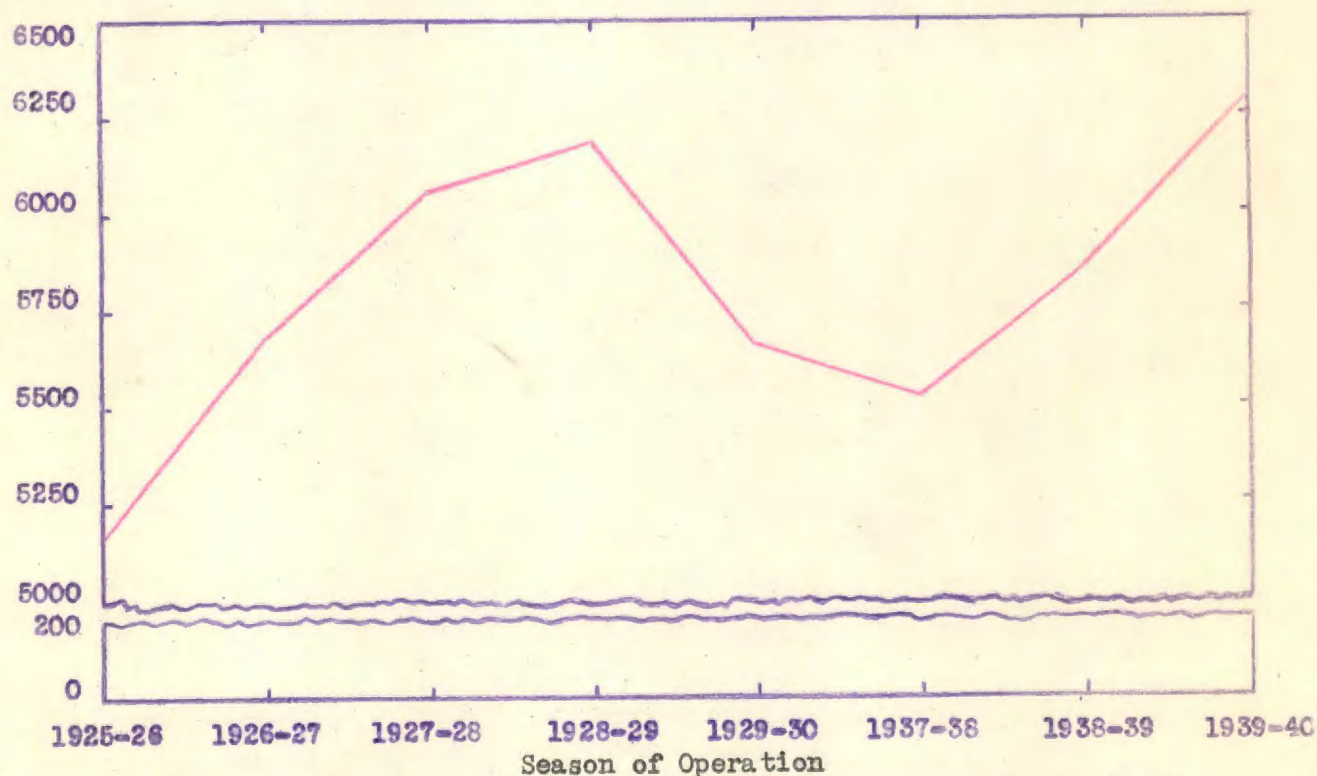


Figure 8. Average production per cow year, Knox County Dairy Herd Improvement Association, 1925-30 and 1937-40.

Source: Table XIII

no longer are members of the association. Some of these have probably left the area, or have discontinued the dairy business. However, it seems probable that there are sufficient dairymen who need the services of the association to support one.

There does not seem to be any definite trend in dairy improvement association averages, as shown in Table XXIII. The value of the product above feed cost will depend on the price of the product and feed, and the production per cow year. Variation in total pounds of butterfat is due more to variation in total pounds of milk produced than on test variations, because the test varies only .1 of one percent (and in one case .2 of one percent).

The trend in the average milk production per cow year seems to be of some significance (Figure 8). Milk production per cow year for the first period of the association reached a peak in 1928-29, the year in which there was the least number of new members. Then there was a sharp drop in 1929-30, the year in which there was the largest number of new members. Average milk production continued to drop somewhat during the years the association did not operate. Since the association was reorganized there has been a gradual rise in average milk production, and in no year has it been as low as the first year.

As shown in Table XXIV, there was a decrease in every respect which affects the production of the association, with the exception of cows per

TABLE XXIII. KNOX COUNTY DAIRY HERD IMPROVEMENT ASSOCIATION AVERAGES,
KNOX COUNTY, TENNESSEE, 1925-30 AND 1937-40

Season	Number Cows	Number Herds	Cows per Herd	Cow Years*	Lbs. Milk per Cow Year	Aver- age Test	Lbs. Fat per Cow Year	Value Product per 100 Lbs. Milk	Value of Pro- duct	Feed Cost per Cow Yr.	Value of Product Above Feed Cost
1925-26	404	14	28.85	389	5163	4.6	236	\$4.51	\$233	\$107	\$126
1926-27	330	12	27.50	327	5687	4.6	259	5.12	291	88	202
1927-28	501	19	26.36	480	6057	4.7	282	5.00	303	98	205
1928-29	320	10	32.00	250	6179	4.6	284	4.01	248	99	149
1929-30	666	18	35.30	523	5661	4.7	264	3.80	215	91	124
1937-38	433	13	37.00	361	5523	4.6	256	2.59	143	66	77
1938-39	458	12	38.16	422	5861	4.7	277	2.53	148	70	78
1939-40	512	14	36.57	416	6290	4.5	285	2.45	154	74	80

* A cow year represents 12 months that a cow is on test, whether dry or producing. It is a convenient method for converting months of testing to a comparable basis for different herds.

Sources: Dairy Extension Office Files.

TABLE XXIV. COMPARISONS OF DIFFERENT PERIODS SHOWING THE TREND IN THE KNOX COUNTY DAIRY HERD IMPROVEMENT ASSOCIATION, KNOX COUNTY, TENNESSEE, 1925-30 AND 1937-40

Comparison of Different Periods	Number Cows	Number Herds	Cows per Herd	Cow Years	Pounds Milk per Cow Year	Average Test	Pounds Fat per Cow Yr.	Price per 100 Pounds of Milk	Value of Product	Feed Cost per Cow Year	Value of Product Above Feed Cost
1930*-1926**	+ 262	+ 4	+ 4.45	+ 134	+ 498	+ .1	+ 28	-\$.71	-\$18	-\$16	-\$ 2
1938*** - 1926	+ 29	- 1	+ 8.15	- 28	+ 360	0	+ 20	- 1.92	- 90	- 41	- 49
1940 - 1926	+ 108	0	+ 7.72	+ 27	+1127	-.1	+ 49	- 2.06	- 79	- 33	- 46
1938 - 1930	-233	- 5	+ 3.70	-162	- 138	-.1	- 8	- 1.21	- 72	- 25	- 47
1940 - 1930	-154	- 4	+ 3.27	-107	+ 629	-.2	+ 21	- 1.35	- 61	- 17	- 42
1940 - 1938	+ 79	+ 1	- .43	+ 55	+ 767	-.1	+ 29	- .14	+ 11	+ 8	+ 3

* 1930 - Last Year of Operation of DHIA before it was discontinued

** 1926 - First Year of Operation of DHIA

*** 1938 - First Year of Operation of Reorganized DHIA.

Source: Table XXII.

TABLE XXV. COMPARISON OF AVERAGE PRODUCTION OF HERDS IN KNOX COUNTY
DAIRY HERD IMPROVEMENT ASSOCIATION FOR YEAR TESTING WAS
DISCONTINUED AND YEAR TESTING WAS
RESUMED *

Name of Dairy	Yrs. on Contin- uous Test	Year Test Discontinued				Year Test Resumed			Increase or De- crease	
		Season	Average Production			Season	Average Produc- tion			Milk
			Cow Years	Milk	Fat		Cow Years	Milk	Fat	
	5	1929-30	34.08	6842	356	1937-38	50.17	5615	270	-1227
	5	1929-30	64.83	4855	243	1937-38	23.75	5352	265	517
	5	1929-30	25.00	7604	357	1937-38	24.42	6400	262	-1204
	5	1929-30	61.67	5259	240	1937-38	41.75	4200	190	-1059
	4	1928-29	12.00	5659	256	1937-38	14.58	2803	131	-2856
	4	1929-30	24.50	9394	318	1937-38	17.92	10724	391	1330
										-86
										22
										-95
										-50
										-125
										73

* Includes all herds testing before 1930 that started testing again in 1937.

Source: Dairy Extension Office Files.

herd, which showed 3.7 increase during the period 1930-1938 when the association was inactive. Increase in milk production was greatest over the longest period, 1926 to 1940. Increase in milk production from 1930 to 1940 was not as great as the increase in 1938-1940, due partly to the decrease in the inactive period.

Table XXV further shows the effects of inactivity, by comparing the results from the year of discontinuance to the year of resumption, in individual herds. Only those dairymen cooperating continuously 4 or 5 years were used, as it takes a few years to realize definite benefits from the association. There was a decrease in milk production in 4 of the 6 cases studied. Both of the herds showing an increase in milk production had a 26-32 percent decrease in cow years, and the herd having the least decrease in milk production also had a 32 percent decrease in cow years.

Practical Aspects

1. A new phase of the national dairy herd improvement association program is the permanent identification and recording of production performance on every animal in the association herds.

2. Some of the studies made from association records are: relation of season of freshening to production and profit; relation of the amount of grain fed to production, cost of production and profit; and relation of butterfat production per cow to cost of production.

3. Since association herds supply much of the young stock purchased

by dairymen, its program plays an important part in the improvement of all dairy cattle. Without some herd records to prove sires, and find the best cow families, progress in the dairy industry would be more difficult.

4. The association has an improved feeding program, including pasture and feed production in a balanced system of farming.

5. At the end of each year's operations, the tester, county agent, and extension dairyman cooperate in directing a tour for members of the association and others who are interested, to see what is being done and give advice for improving dairy production methods. The association herds serve as demonstration herds for a better feeding and breeding program, and the establishment of more desirable dairy practices.

6. One of the greatest accomplishments of the Knox County association is the proving of six sires, and reproving two of these until 1941. A proven sire is one for which the records of five of his daughters have been compared with the records of their dams. From the records of 43 dams and their daughters, representing the proving of sires, 18 daughters excelled their dams in milk production, 27 in butterfat test, and 20 in total pounds butterfat. Since individual records are obtainable for each proven sire's daughters and their dams, it gives a prospective buyer and the owner of a sire a basis for judging the merits of a particular sire in improving a herd.

Difficulties

1. During the period 1937 to 1941 five testers have been employed, due to the demand for trained men in other agricultural work at higher salaries than the association could pay. This condition has handicapped the work of the association, since many of the testers have not remained long enough to get acquainted with the problems of the members and to render much assistance in solving them.

2. One of the purposes of the association is to develop outstanding herds, but this purpose is defeated in some cases, since the herd improvement records make it possible for association members to select their best cows and to sell them at a good price.

3. The changing membership makes it almost impossible to show any definite trends in herd improvement through the association. It also makes it more difficult to adopt and carry out policies which require several years of cooperation.

4. A statement in one of the annual reports was to the effect that the market milk dairymen as a rule were the hardest to interest in a testing association, due to the fact that they think they know the milk production and profits from their cows fairly accurately, and have their minds on marketing their milk more than on production problems.

5. The price of milk and cream also influences dairy herd improvement. The buying of better individuals to replace scrub stock sometimes is not justified, due to the low price of milk or cream compared with

production costs, and some dairymen think of quitting the dairy business. Due to low priced milk and high priced feeds, some dairymen withdrew from the association in 1928, thus giving the tester barely enough income on which to live.

CHAPTER V

KNOX COUNTY FARM BUREAU CREDIT UNION

History

Feeling that farmers needed additional credit facilities, the farm bureau sought the assistance of the National Credit Union Extension Bureau, and helped organize a credit union in the latter months of 1933. In the midst of the depression it had been hard for farmers to get credit at banks and other sources. Hope was expressed that the credit union would furnish small farmers lower rates than could be secured from small loan companies, installment sellers, and finance corporations. Some farmers needed cash to keep producing until returns were again realized. They had the land and collateral, but needed money to buy seed, feed, fertilizer, and clothes.

This credit union is the only one of its kind in Tennessee, and said to be the first credit union to be organized by a group of farmers in the South.

Organization

The union has two committees: the supervisory committee of 3 members who sponsor the loans, and the credit committee which passes on applications. Loans are made to farmers, their families, or to organizations affiliated with farming. The money is loaned for one year, and

bears interest at the rate of 1 percent per month. If the borrower cannot pay his loan, due to unforeseen difficulties such as crop failures or sickness, his loan may be extended for another year. The only collateral accepted is farm machinery and livestock, which must be worth twice as much as the loan. In connection with each new loan or renewal an inspector investigates the applicant's character, the value of collateral, the condition of livestock, type of farming, and any other factors affecting the soundness of the proposed loan. Money is loaned for any purpose for which it is desired. There is no limit set as to the amount to be borrowed, but it is generally understood that not more than \$200 is loaned, and usually only \$50 to \$100. When a loan of more than \$200 is desired the applicant is advised to obtain it from the Production Credit Association; and if an applicant desires less than \$200 from the Production Credit Association he is usually advised to obtain this from the Credit Union. Each borrower must buy 1 share of stock at \$5 in the Credit Union. This can be borrowed with the loan if desired. When the loan is repaid the stock is retired if the borrower so desires, or he may leave it in the union as an investment and for future loans. Anybody who desires to invest money in the union may do so by buying shares. Each member is entitled to only one vote regardless of the number of shares.

At the end of the 1940 fiscal year there were about 129 members. Usually there are more borrowing than investing members. Dividends

during the first year were at 5 percent interest, then were raised to 6 percent for each year until 1939, but reduced to 5 percent for 1939 to create a reserve. About 20 percent is set aside out of net earnings, and accumulated.

Since its organization it has grown slowly but substantially as shown by Table XXVI.

This credit union obtained a charter from the State. The money accumulated is deposited in a local bank. The union files a report with the State Department of Banking annually, and pays a \$10 fee for this privilege. The State Bank examiner audits the books once a year.

TABLE XXVI. SHARES OF STOCK AND NET EARNINGS, KNOX COUNTY FARM BUREAU CREDIT UNION, 1934-1940

Years	Net Earnings*	Shares of Stock
1934	-	517
1935	\$114.97	2711
1936	248.69	4038
1937	308.57	4990
1938	492.74	8428
1939	643.62	7494
1940	501.90	6013

* Earnings include undistributed dividends.

Source: Statements to State Bank Examiner in files of Farm Bureau Credit Union, Knoxville, Tennessee.

Factors Contributing to Success

Since its organization the credit union has not made any foreclosures. Its success may be attributed largely to the following factors:

1. Organized on a cooperative basis; one member one vote, and limited return on investments.

2. Loans can be obtained in a relatively short time, and at a reasonable rate of interest for loans of this character.

3. Borrower takes an interest in the union because he has stock in it.

4. Greater incentive for repayment due to the two for one mortgage taken on collateral.

5. Careful inspection of factors affecting safety of loan.

6. Only small loans are made.

7. Credit union extends time of loan, or permits payment of loan by a different method, to prevent foreclosure.

CHAPTER VI

KNOXVILLE PRODUCTION CREDIT ASSOCIATION

Organization of Production Credit Associations

Following the passage of the Farm Credit Act in 1933, production credit associations were organized in the latter part of 1933 and early part of 1934. These associations are local cooperative organizations of farmers, chartered by the Governor of the Farm Credit Administration as provided in the Farm Credit Act of 1933, and are under the supervision of the production credit corporation in each farm credit district. In June 1940 there were 525 production credit associations in operation, with more than a quarter of a million farmer-members. ⁽¹⁾

Production credit loans are made available through the cooperation of district production credit corporations, who purchase the necessary Class A or non-voting stock to establish associations on a sound financial basis, and district federal intermediate credit banks, who furnish loan funds by discounting farmers' notes, and sell their own debentures to investors in financial centers.

Money is loaned to individuals, partnerships, and corporations engaged in the business of farming, to finance the production, harvesting

(1) Farm Production Loans, Circular No. E-3 Farm Credit Administration, U.S.D.A., Washington, D. C.

and marketing of crops; the breeding, raising, fattening and marketing of livestock; repair, improvement and alteration of farm buildings, and in some cases to refinance indebtedness and purchase household equipment.

Size of a loan is limited primarily by the amount of money the farmer needs to carry on his business and how much he can normally expect to repay out of his operations; but loans for less than \$50 are not made.

Each farmer-borrower purchases stock in the association equal to \$5 for each \$100 or fraction thereof borrowed. This is Class B stock and entitles each borrower to one vote. After the note is paid this stock may be transferred to another borrower, or the borrower may leave it in the association for future loans, or transfer it into Class A stock. Dividends on all stock is limited to 7 percent a year. Earnings of the association may be used to repurchase Class A stock from the corporation. After all of the Class A stock is repurchased the farmer-borrowers are the sole owners of the credit agency. As long as the corporation owns stock in the association, the appointment or election of directors, loan committee and other employees is subject to the approval of the president of the corporation, and during this time he may also remove them from office. However, success of the association depends on the farmer-stockholders, who select the board of directors to manage the association.

A first lien on livestock or crops is given as security. Loans are repaid from the proceeds of the sale of crops or livestock, and are dated to mature in 3 months to one year depending upon the source of income for repayment.

The interest rate charged at present (January 1941) is 4-1/2 percent a year. The rate of interest cannot be more than 3 percent above the discount rate charged by the federal intermediate credit bank, and the bank cannot charge more than 1 percent for discounting notes above the rate it paid on the last issue of debentures sold to investors. Interest is paid only for the time the borrower actually has the money.

In addition to interest charges, borrowers pay fees to cover expenses incurred in having an association representative examine the security offered by the applicant, and a fee is also paid to county officials for recording crop liens or chattel mortgages.

History and Development of Knoxville Production Credit Association

The production credit association in this area is one of 9 operating in Tennessee, and includes 24 counties.



Figure 9. Map Showing Territory Covered by the Knoxville Production Credit Association, January 1941

The county agent assisted in organizing the Knoxville Production Credit Association and furnished it with temporary office space until

it was located permanently in the new Federal Building. It started operations in 1934 and has loaned more than \$3,500,000 in 7 years, to finance the production of crops and livestock. About 18.6 percent of this amount was loaned in Knox County. The number of loans in Knox County was about 18.3 percent of the total, hence the size of loans in this county has been about the same as for the association as a whole. The association has charged off less than \$600 on its books as bad debts, and only 46 cents in 1940; hence the figures in Table XXVII are not actual losses, as some of it is being collected. The greatest increase in any year in amount loaned was in 1936-1937, partly due to a larger increase in Knox County. The number of loans in Knox County has remained relatively constant for each year from 1937 to 1940, while the number of loans for the area as a whole has gradually increased.

TABLE XXVII. NUMBER OF LOANS, AMOUNT LOANED, AND AMOUNT IN LOSSES, IN KNOX COUNTY AND THE WHOLE KNOXVILLE PRODUCTION CREDIT ASSOCIATION, 1934 - 1940

Year	Number of Loans		Amount Loaned		Amount in Losses	
	Knox County	All Counties	Knox County	All Counties	Knox County	All Counties
1934	*	233	*	\$101,205	\$ 0	\$ 0
1935	53	331	\$66,793	247,524	0	0
1936	*	417	78,544	347,907	14.34	32
1937	80	414	125,588	524,363	19.38	117
1938	75	481	123,067	671,204	68.82	507
1939	81	483	143,498	820,672	0	26
1940	79	528	119,064	813,034	0	28

* Records not available.

Source: Records of Production Credit Corporation, Louisville, Kentucky; and Knoxville Production Credit Association, Knoxville, Tennessee.

Total outstanding loans were \$551,902 on December 1, 1940, of which \$122,264 was in Knox County. The association collected almost one million dollars in 1940. Members own over \$50,000 in stock.

Factors Contributing to Success

Success of this association, which includes counties somewhat similar to Knox in agricultural characteristics, may be attributed to the following factors.

1. It is based on cooperative principles, namely, the limited return on investment; one-man one-vote; dividends on stock are prorated according to the amount of money borrowed; and only borrowing farmers are given voting privileges.
2. It was established and is supervised through a federal agency, the Farm Credit Administration.
3. It has access to the money markets of the country.
4. The association is owned by farmers, and managed by a board of directors who are engaged in the business of farming.
5. Each member makes a financial investment in the association and therefore takes greater interest in it.
6. Loans are made only for purposes where greater returns should be realized through their use.
7. Loans are adapted to every type of farming operation. Borrowers repay in installments as they market their products.
8. Cost is kept at a minimum by paying interest on the money only during the time it is actually used.

9. Success of the association is not measured by profits above those for necessary reserves, but by the service it renders.

10. The term of the loan is usually kept at a minimum. Many of the borrowers are required to submit a budget so the association may know when to advance the money to best fit the borrower's needs.

11. Through the use of a budget the borrower must plan his farming on a more businesslike basis, which helps him to realize greater returns from his farm operations.

12. The association has been under the leadership of practically the same board of directors since it was organized.

13. Another problem receiving special attention is that of informing members on the wise use of credit. When the members have an intelligent understanding of the policies of the association they obtain greater benefits from its services. Since the associations are cooperative associations, it is desirable for members to thoroughly understand their policies. By conducting educational programs the associations are obtaining good results.

Difficulties

One difficulty which production credit associations have had is in giving service to farmers in all counties of the territory as prompt and conveniently as to those in the county where the home office is located. In recent years the number of loans in other East Tennessee

counties have continued to increase more than those in Knox County alone, as shown in Table XXVII, probably due to information and service gradually becoming more available to outlying counties. One method of meeting the difficulty mentioned is to establish an association office in each county and employ a full-time association representative and clerk to give members the same service as at the home office. However, maintaining such offices naturally increases the association's operating expenses, and it is necessary for the volume of business in a county to be sufficient to pay, from earnings, the cost of maintaining the office. Associations are establishing the offices and employing full-time men in outlying counties as soon as their earnings permit.

CHAPTER VII

KNOXVILLE MILK BOTTLE AND PACKAGE EXCHANGE

History and Organization

The Knoxville Milk Bottle and Package Exchange was incorporated in the spring of 1935. At that time there was considerable stealing of bottles, and junk dealers were selling these bottles to dairies at a very low price. Some dairies required their employees to bring back as many bottles as were taken out or pay the difference, which may have encouraged taking another person's bottles. In some cases there was more than one milk dealer who sold milk to a business firm, thus causing bottles to become exchanged. Many of the bottles were exchanged by people trading at different stores; and in many cases bottles were lost, since some stores did not charge a deposit from regular customers. Some dairymen used a special type bottle and trade mark, which involved considerable expense if the bottles were lost.

Objectives of the organization, as summarized in Article I, Section 3 of the by-laws are as follows:

To engage in the business of collecting, exchanging and distributing milk bottles, cans, boxes, crates and other containers used in and about the business of milk dealers and dealers in other dairy products; promote and protect the enjoyment of the exclusive right of milk dealers and dealers in other dairy products to the use of their respective bottles, etc.; prevent

illegal or unauthorized traffic in, or use of such bottles, etc.; provide for and obtain the recovery and restoration to the rightful owner of lost or wrongfully appropriated bottles, etc.; foster and promote the lawful, sanitary and economic use of cans, etc.; foster and promote the use by milk dealers and other dealers in dairy products of a name, mark, stamp, or brand upon each bottle, etc.; foster, promote and assist in the enforcement and application of the statutes of the State of Tennessee, and the ordinances of the City of Knoxville, and other municipalities in and near Knox County relating to the use of bottles, etc.; and generally to do, perform and carry on such lawful business as may be incidental and necessary to carry out the aforesaid objects and purposes.

Milk dealers studied the exchange at Asheville and Nashville, and patterned the Knoxville Exchange somewhat accordingly. The exchange was managed by a board of five directors, who were elected in the following manner; two from the Knoxville Milk Dealers Association, two from producer-distributor members of the Knoxville Milk Producers' Association, and one from the executive officers of the Knoxville Milk Producers' Association. The first board was composed of W. M. Bragg, A. M. Russell, Fred Plummer, Thomas B. Harrison and Lewis Munnally. Milk dealers paid \$1.00 upon signing the agreement with the exchange, and \$5.00 for each vehicle used in delivering milk in Knox County or Knoxville. The five dollars was credited toward the amount of stock subscribed by the individual member. The maximum number of shares of stock which the exchange was authorized to have outstanding any time was 5000, at the par value of \$5.00 each. Stock subscriptions totaled \$1010 on October 1, 1936 (when the exchange became inactive), from the following dairies and others: Avondale Farms Creamery, Blue Grass, Cedarcrest Dairy, Dutch Valley Dairy,

Grassy Valley, Maple Hill, Model Farms Dairy, Lewis Nunnally, A. M. Russell, Riverside Dairy, J. H. Schroeder, Southern Dairies, Inc., University of Tennessee Creamery, and Ben Hawkins.

A suitable place for the exchange was obtained by renting a room from the Knoxville Milk Producers' Association at 952 North Broadway. Tables and other necessary equipment was obtained to sort and hold the bottles until the owners called for them. Bottles were brought to the exchange for 2 cents and were taken out for 2.5 cents, while the rate on cans and crates was 10 cents. The extra charge on the bottles was to help pay the manager and his helper. Milk dealers either received cash, paid cash, or broke even in exchanging bottles.

Development and Decline

A letter was sent to the dairies, in the spring of 1935, asking them to report to the office of the Knoxville Milk Bottle and Package Exchange at least once a week and bring in all the milk bottles or other property that had the trade mark of another dairy stamped thereon, because a new law required that the property be turned over to the owner. Dairymen who took stock in the exchange thought other dairymen would eventually become members, as they were receiving its benefits.

The exchange operated quite successfully for a few months, but nonmembers would not cooperate fully in returning property. A replevy warrant was issued, and the services of the sheriff obtained to enter

nonmember premises and replevy property belonging to exchange members.

Nonmembers filed an injunction against the exchange in August 1935, attempting to sue the exchange. The complainants based their right to come into court on the ground that the defendant was acting and threatening to act under a Private Act of the Legislature, the constitutionality and validity of which was assailed in the original bill, and also in the amended and supplemental bill. The complainants filed said bills in court for the purpose of testing the validity of the act in question.

The court was of the opinion⁽¹⁾ that writ of replevin against complainant did not substantially comply with Section 9305 of the 1932 Code of Tennessee. The writs and affidavits thereto did not state the size, number, or other identifying description of the bottles, cases, cans or containers alleged to be the property of persons, et al., set out in writs.

It was also maintained that the defendant and officers could not treat the replevy warrant lawfully as a search warrant.

Section 7212 of the 1932 Code of Tennessee, Rule 3, Sub-Section (2), being the Uniform Law of the Sale of Goods, provides:

When the goods are delivered to the buyer 'on or return', or on other terms indicating an intention to make a present sale, but to give the buyer an option to return the goods instead of paying the price, the property passes to the buyers on delivery, but he may revest the property in the seller by returning or tendering the goods within the time fixed in the contract, or, if no time has been fixed within a reasonable time.

Therefore, the court maintained that in case of stores, if bottles

(1) Judge's opinion, and Sections 9305 and 7212 of the 1932 Code of Tennessee, in Files of the Chancery Court.

are not returned, the retailer keeps the deposits and treats the transaction as a sale, and the distributors never require their customers to return to the distributors the exact, specific or like bottles which were delivered to the customer.

Also, according to custom, when the distributor delivers a bottle of milk in his own branded bottle and takes up from the customer or purchaser an unbranded bottle or bottle of another dealer's brand in exchange therefor, that the title of the branded bottle passes to the customer or purchaser, and the title thus acquired was complete and could be transmitted to another.

Even though there was stealing of bottles, the court decided that unless the defendant party could show that they delivered the container to the customer or buyer on a bailment, or to return the same containers, or one of their own brand, the members are not injured but customers from whom bottles are stolen.

The exchange maintained that many of the dairies were engaged in an unauthorized practice of procuring bottles and other containers at a nominal price, and making unauthorized disposition of the same to others at a profit. They also denied that the complainant had a community of interest in the subject matter and interest in property, because some were merchants, second-hand goods dealers, junk dealers, some purchased pasteurized milk or sold milk, and some were in the dairy business.

The defendants also found, in some cases, where the complainants did not pay taxes for the property with other names.

The chief objective of the exchange was to return bottles and other dairy equipment to the rightful owners, because of the cost of maintaining a supply of bottles.

The defendants were overruled in the case, and not until the common custom as it was practiced was changed could the dairymen enter another

person's property to replevy milk containers.

Exchange members continued to cooperate among themselves while the case was in court, and for several months after the court's decision. Activities of the exchange were discontinued in October, 1936.

A law was passed in the State Legislature, stating that the label on the bottle cap must correspond to the label on the bottle, as otherwise the bottle would contain a mislabelled product; but this law has not been enforced.

CHAPTER VIII

KNOX COUNTY SOIL EROSION CONTROL ASSOCIATION

History and Organization

A group of farm leaders was called together to consider the organization of an association for the purpose of arousing interest in soil erosion control, and of working out practical plans for attacking the problem. As a result the Knox County Soil Erosion Control Association, also referred to as the Knox County Soil Conservation Association, was organized in March 1935, with Con S. Massey, assistant county agent, as supervisor of the project.

Eleven representative farmers formed a charter organization, so a program might be carried out in cooperation with the T.V.A. The purpose of the association, as copied from the charter of incorporation, is as follows:

To engage in the collective purchasing or renting of machinery and equipment for the construction of terraces and spillways to control soil erosion and to do such other things as may be necessary for effective control of soil erosion; to furnish financial, managerial, and other services in connection with the various operations in building terraces on land of individual farmers, partnerships, companies or corporations, and the doing of all things necessary or incident to the above mentioned purposes.

The association is managed by a Board of five Directors, and functions on a cooperative basis for the benefit of its members. The

association has no capital stock, but admits members upon the payment of a one dollar entrance fee, each member having only one vote. The rights of each member in the property are in proportion to his contribution thereto, and private assets of members are not subject to attachment to pay the corporate debts of the association to any amount exceeding the unpaid balance of their entrance fees. Reserves can be created from business done in any year, but shall be allocated on the books of the association on a patronage basis for that year.

This association was organized chiefly through the efforts of the T.V.A., to provide unit demonstration farms. Group meetings were held to acquaint farmers with the program, and to nominate farms to be used for demonstration purposes. The relationships between erosion control and fertility, between fertility and productivity, and between productivity and income were stressed. Farms were selected from each community, on the basis of nomination and recommendations of the Executive Committee, and subject to final approval by extension farm management specialists. Farms selected were as typical as possible of the community, and the farm program agreed upon was in accordance with recommendations of the farm management extension service. The T.V.A. appropriates money to the extension service to pay the salaries of the men required to handle administrative functions, and in addition furnishes fertilizer and lime to demonstrators, on which the farmers pay the freight. Farmers

keep records of all farming operations, to determine if fertilizer applications have any direct influence on farm income. This is the main objective accomplished, up to 1941.

Accomplishments

A comparison of the records to show farm management changes from 1935 to 1940 for 36 unit demonstrators are given in Tables XXVIII and XXIX.

TABLE XXVIII. TRENDS SHOWN BY FARM RECORDS ANALYZED, 36 FARMS, KNOX COUNTY, TENNESSEE, 1935-40

Item	Percent of Farmers Changing, 1935-1940	
	Increase	Decrease
Livestock income	83	17
Crop index	83	17
Farm receipts	75	25
Acres of hay	64	36
Number of cattle	58	42
Farm expenses	42	58
Living from farm	31	69
Corn acreage	28	72

Source: Files in Assistant County Agent's Office.

TABLE XXIX. AVERAGE INCREASE OR DECREASE, 36 UNIT TEST DEMONSTRATION FARMS, KNOX COUNTY, TENNESSEE, 1935-1940

Item	Average - 1935-1940	
	Increase	Decrease
Livestock income	\$1023.70	\$ -
Crop index	35.20	-
Farm receipts	910.00	-
Acres of hay	7.30	-
Number of cattle	3.20	-
Farm expenses	728.00	-
Living from farm	-	68.60
Corn acreage	-	2.10

Source: Files in Assistant County Agent's Office.

The large increase in livestock income may be due to larger hay acreage, a considerable proportion of which is legumes. Some of the increase in expenses may be attributed to heavier fertilizer application, which in turn is reflected in a higher crop index. The acreage of soil conserving crops, especially hay, is increased and of soil depleting crops, such as corn, has been reduced. Apparently the soil is being better conserved. The increase in cattle provides additional manure, which should result in increased fertility of the soil. The decrease in value of living obtained from farms may be due to farmers spending more at stores as their income increased; but this may be reversed as a result of stressing "live at home" program.

Through the cooperation of the T.V.A. and the R. L. Harris Machinery Company, Knoxville, terracing demonstrations were held the first year. A power terracing outfit was purchased by the association, to be paid for by charging each farmer \$3.00 per hour for actual operation. The Board of Directors of the Farm Bureau employed a man in 1936 to make contacts with farmers and sign up land to be terraced. Farmers were slow to take advantage of the large power terracing outfit, and in 1937 the company took it back because it could be used elsewhere and payments were not being met promptly by the association. However, several privately owned terracing outfits have been in operation, and several hundred acres have been terraced each year for association members.

The main purpose was to furnish a medium for demonstrating the value of T.V.A. fertilizer. Thus the purchasing of machinery, terracing, and mechanical soil erosion control have been considered secondary. Some of the farmers failed to grasp the scope of the project, in that they did not realize that furnishing the fertilizer for the purpose of bringing about better farm management practices, rebuilding productivity of soil, and stopping erosion. However, the association has been helpful even if the project was conceived by others than farmers. There have been direct results in soil conservation, raising more livestock, and teaching farmers the advantages in keeping records and how to keep them. Success may be attributed to selection of typical farms in the respective communities, operated by farmers who are willing to cooperate in every way.

CHAPTER IX

COMMUNITY PROTECTION ASSOCIATION

Farmers frequently lost property, especially poultry, by theft, which is never recovered and the thieves never convicted. After poultry had been stolen from several farmers in that community in a short period, Carl Smith conceived the idea of an anti-thief association in the Halls' Community of Knox County.

The association was organized in 1935 or 1936 for the purpose of offering a reward to the person or persons bringing about the conviction of a thief. A constitution and by-laws were adopted. Minutes of meetings were kept. However, since the association has not been active for the last few years and all of the records lost, very little detailed information could be obtainable.

Each farmer joining the association paid an entrance fee of one dollar, with the provision that if more money were later needed an additional assessment would be made. Farmers were interested, and voluntarily joined the association. There were about 40 to 50 members, none of them withdrawing from the association.

The plan was to give a reward of \$25 or more to persons bringing about the conviction of a thief. To aid in this they also planned

to stamp the owner's identification on poultry. The sheriff has been called out to investigate thefts, but it is said that no rewards have been paid or earned.

The association had the usual officers, but none were paid a salary. One man took care of the duties of secretary and treasurer, at first, but later a separate treasurer was elected. The name of the treasurer has not been learned but other officers were: President, A. M. Swaney; Vice-President, Curtis Cardwell; and Secretary, Carl Smith.

Some news articles regarding the work of the association were published in the Knoxville newspapers. Members have experienced fewer losses from theft since work of the association was made public. Meetings were held about once a month. There has not been a formal discontinuance of the association but no meetings have been held the last few years. Discontinuance has been due to lack of interest among members, and possibly also because of lack of interest on the part of county officers.

It has been suggested that a county wide theft protection association be formed, with a membership of 1000 or more, which would charge a larger membership fee to make the work more effective. It is felt that after several cases were won by the association there would be less likelihood of further depredations.

CHAPTER X

COOPERATIVE REFRIGERATION

Introduction

A series of experiments and demonstrations since 1935 on community refrigeration have been conducted in the Tennessee Valley. The Agricultural Engineering Development Division and the Commerce Departments of the Tennessee Valley Authority cooperate with the Agricultural Experiment Station and Departments of Vocational Agricultural Education in conducting the experiments.

To determine the usefulness of electric power for agricultural and domestic purposes, the University of Tennessee Engineering Experiment Station with the Tennessee Valley Authority constructed several electric walk-in-type community refrigerators. To find the feasibility of such units in maintaining a supply of fresh fruits, vegetables and fresh meat throughout the year, it was desirable to make tests in representative rural communities.

More specific purposes for the demonstrations have been primarily to find out:

1. Structural and mechanical requirements of equipment best adapted to meet the needs of rural communities.
2. Costs of construction and operation.

3. Economic and practical benefits to rural families.

4. Degree of acceptance and utilization of refrigeration as a community service.

The community refrigerators are large boxes or small rooms properly constructed and insulated in which standard commercial equipment is installed to maintain the required temperature. It is large enough to walk in and hang several carcasses of meat and store other farm products. Temperatures are thermostatically controlled at a range of 34° to 38° F.

Country stores, community canneries, agricultural school shops and farms have proven to be the most desirable locations for establishing such plants.

The coolers have been operated without a freezing unit until recently. Therefore storage periods are rather short for some products.

TABLE XXI. PRACTICAL STORAGE PERIODS IN REFRIGERATORS UNIFORMLY MAINTAINED AT 34-38° F., FOR SOME OF THE MORE COMMON PRODUCTS

Product	Period
Fruit - Apples	2 - 6 months
Grapes	30- 90 days
Pears	30- 90 days
Vegetables - Tomatoes (green)	30- 60 days
Snap beans	5 - 10 days
Sweet corn	10- 15 days
Potatoes	1 - 6 months
Watermelons	15- 30 days
Other Products - Fresh beef	15- 30 days
Fresh pork	7 - 14 days
Curing meat	Until salt-cured
Dressed poultry	10- 15 days
Butter	3 - 7 days
Cheese	30- 60 days
Sweet cream	2 - 3 days
Eggs	15- 30 days

Source: Summary of Community Refrigerators, by Loran N. Baker.

A 6' x 8' x 8'6" home constructed refrigerator will cost about \$600, and commercially about \$800. The cost of operation will average about \$3.50 per month on a three cent rate.

TABLE XXXI. SCHEDULE OF CHARGES OF THE MAJORITY OF COMMUNITY REFRIGERATORS

Product	Charge
Meat	1/2 cent per pound per month, or fraction
Milk	10 cents per 10 gallon can, not over 24 hours
Cream	15 cents per 10 gallon can, not over 4 days
"	10 cents per 5 gallon can, not over 4 days
Fruit & vegetables- bushel baskets or crates	10 cents per month, or fraction
Watermelons	10 cents per month, or fraction
Eggs	1 cent per dozen per month, or fraction
Butter	1/2 cent per pound per month, or fraction
Poultry	1/2 cent per pound per month, or fraction

Source: Summary of Community Refrigerators, by Loran W. Baker.

Farragut Refrigeration Association

The Farragut Refrigeration Association was organized in the summer of 1935 but did not start operation until 1936. Some of the members were A. M. Russell, Ben L. Jones, O. A. Smith, J. Frank Russell, Fred T. McFee, and John R. Boring. They organized the association largely because equipment was available through the Tennessee Valley Authority.

Members agreed with the Tennessee Valley Authority that they would assume all costs of operation, and keep the equipment in good running order. The Tennessee Valley Authority installed the cooling unit in

J. Frank Russell's store at Concord. As rent he received the privilege of using the cooler to store meat and other things which he sold in his store. He was also elected manager of the association.

The association had 11 members, and charged a small fee for membership privileges. Operating costs consisted mostly of the electric bill, which was prorated among the members. For each pound of meat kept in the cooler, nonmembers were charged 1/2 cent per month or part of a month. Receipts from nonmembers were sufficient to pay most of the operating expenses.

Members cooperated with the Tennessee Valley Authority to record results in regard to costs of operation, maintenance and repairs, amount of service rendered in terms of quantities of produce stored, average length of storage, and estimated the value of service rendered to the community.

With the assistance of Tennessee Valley Authority experts the Farm Bureau held a hog killing and meat curing demonstration in connection with the cooling experiment.

The original agreement with the Tennessee Valley Authority was for one year, but this was renewed for a second year. After the experiment had been conducted about 2 years, an advertisement was put in the local newspapers to sell the cooling unit. J. Frank Russell bought it and is now operating it in his store.

Several factors causing the cooling unit to be no longer used on a

on a cooperative basis are as follows:

1. There were not enough farmers interested in a cooperative enterprise of this type to make the purchase of a cooler economical.
2. Farmers were interested primarily in services and not in monetary savings. They thought private enterprise could take better care of their requirements, and at reasonable cost.
3. The cooler was operated without a freezing unit. The lowest temperatures obtained were from 32° to 40° F., hence meat could be kept for only 1 to 4 weeks. Pork could be cured in the cooler if the fresh meat was placed in the cooler immediately after applying the curing compound.
4. The experiment was not in a strictly rural area. Need for the cooperative was not very great, since nearness to Knoxville made it possible for farmers to visit the city markets frequently.

Gibbs Refrigeration Corporation

The fifth district Grange sponsored the location of a Tennessee Valley Authority cooler on the farm of one of its members. The Gibbs Refrigeration Corporation was thus organized and started operations in 1935 or 1936.

Some of the charter members were Walter Thompson, H. G. Loy, B. C. DeVault, C. F. Rollins, T. S. Shipe, and Paul Thompson.

The cooler was installed in one of C. E. Luttrell's buildings. Mr. Luttrell was elected manager, and was to have use of the cooler without charge.

A fee was charged of so much per 100 pounds of produce stored per month. Nonmembers were charged a higher rate.

The cooling unit seemed to work satisfactorily, but members lost interest, and operating expenses became too high for the few members using it. The cooperative functioned for about 2 years, then the Tennessee Valley Authority sold the cooler. The unit probably should have been located in a store at Corryton where more people could have used it more conveniently.

It was stated that the unit was somewhat too small to accommodate a large community at one time.

A hog killing demonstration was held in midsummer. Some farmers did not see a practical reason for butchering in summer. Fresh meat does not seem to be an important part of the summer diet of farm families, and can be obtained at all meat stores.

During 1937 patrons of the community refrigerator realized the following savings:

2 fat hogs down from hot weather	\$50.00
1 hog broke a leg	20.00
1 cow broke a leg	40.00
1 calf broke a leg	5.00
Value of meat saved	\$115.00

The experiments at Farragut and Gibbs have made a contribution to knowledge that would not have been made otherwise. It was demonstrated that fruit, vegetables, and meat could be kept fresh for a considerable period at little expense. Refrigeration units are now being used in some other counties of Tennessee, and in other states.

Summary

Operating records of demonstration refrigerators have been summarized for 2 units in Georgia, 4 in Tennessee, 2 in Mississippi, and 4 in Alabama.

TABLE XXXII. OPERATING RECORDS OF THE FARRAGUT AND CORRYTON REFRIGERATOR UNITS, KNOX COUNTY, TENNESSEE

Item	Farragut		Corryton	
	Total	Ave. per Month	Total	Ave. per Month
Storage capacity (cu. ft.)	170	-	150	-
Number of -				
Months	27	-	16	-
Members	11	-	11	-
Patrons	23	-	16	-
Pounds of products refrigerated -				
Pork	8,580	315	2,957	185
Beef	10,843	402	2,599	162
Miscellaneous	3,550	131	240,193*	15,012
Total	23,901	885	245,996	15,375
Electric current used -				
K. W. H.	2,159	80	2,243	141
Cost	\$91.95	\$5.41	\$69.52	\$4.35

* Major portion of "miscellaneous products" stored was milk.

The greatest economic benefits derived from use of a community refrigerator were realized in savings to individual patrons and listed by Loran M. Baker as follows:

1. Feed saved by butchering meat animals when they have attained the most profitable weight and not having to feed them until cold "butchering weather" arrives.

2. Meat saved from spoilage due to temperature changes after butchering and before the meat is thoroughly salt-cured.

3. Meat saved from animals receiving broken bones as a result of accidents.

4. Money saved in the difference between the cost of home-grown products and commercial prices in providing fresh meat for home use.

5. Increased price of products marketed because of being able to produce a better standard of quality.

6. Increased use of fresh meat, fruit, and vegetables because of ability to extend the period of freshness of home-grown products.

CHAPTER XI

HARDIN VALLEY WATERSHED PROJECT

History and Organization

The Hardin Valley Watershed Project was organized by the Hardin Valley Community Club in the summer of 1940, and includes thirty-two families in an area from Plumb Creek at Ball Camp to Clinch River, and from the top of Beaver Ridge to the top of the spur from Copper Ridge. The area, containing all of the land drained by Commers' Creek and a portion of that drained by Plumb Creek, is located about 18 miles West of Knoxville in the 9th Civil District of Knox County.

Organization of Hardin Valley as a watershed project came about indirectly as a result of six demonstration farms operating in the valley since 1935 in connection with the Knox County Soil Erosion Control Association. Farmers living in the neighborhood of the demonstration farms wanted similar projects on their farms, as a fertilizer demonstration program for the entire area, according to J. Merrill Bird, assistant county agent in charge of soil conservation. More than 50 percent of the Hardin Valley farmers approved the plan of using the whole watershed as a demonstration unit, at a

mass meeting.

They elected an executive committee of three, and a planning committee of three. The club then made an application to become a demonstration area for triple superphosphate fertilizer manufactured by the T.V.A.

This enterprise shows change of extension activities from efforts confined to a single crop to an entire farm as a unit; and finally to improvement of farm life throughout the entire watershed. Working under the sponsorship of the University of Tennessee Agricultural Extension Division and the T.V.A., the farmers have taken an inventory of the valley, on which they have based their present
(1)
program.

A study of the inventory reveals that the 32 farms, out of a total of 46 in the valley, contain approximately 4330 acres, or 72 percent of the land. Individual farms range in size from less than 15 acres to more than 960, the average being 135.3 acres. Major soil types are Decatur, Dewey and Fullerton, with some outcrops of shale and some narrow creek bottoms. General farming predominates, with beef cattle an important source of income. Although there are

(1) Program given in Appendix B.

several part-time farmers in the community, perhaps there is as little influence from the city in Hardin Valley as in any other community of Knox County. Besides beef cattle, two dairy herds, hogs, poultry, and surplus truck crops are the major sources of income.

The organization plans to hold a meeting every week. Some form of recreation is planned for every other meeting, because of the distance to Knoxville and the cost of participation in most forms of recreation in town. Some of the goals include beautification of the community, land conservation, soil improvement, and increase in community income.

Accomplishments

Following are some of the accomplishments to 1941:

1. They have decided to hold "Community Work Days" at various times, on which work will be done on community improvement projects. Eighteen men of the community started improvement of the grounds of Marietta Presbyterian Church, one of the valley's two churches. They also plan to beautify the Stoney Point Church grounds.

2. Interest in night schools has been revived and W. E. Robertson, vocational agriculture teacher at Karna High School, was selected to conduct evening classes for adults at Hardin Valley School. The classes are supervised by Mr. Robertson but actually taught by

University seniors who plan to teach next year. One of the results obtained through the evening schools was advice on the improvement of the church grounds.

3. They have replaced one grade bull with a purebred, their goal being three purebred bulls in the community.

4. They have spread 400 tons of lime, toward a goal of 1500 tons.

5. Some work has been done towards reforestation, stopping erosion, cover crops, etc.

6. Besides improving the community, the club provides a means for community socials.

This is the first time, in Knox County, that an effort has been started to improve the entire area of a watershed, but similar projects in Anderson, Sevier, and Claiborne counties have been acclaimed successful.

Accomplishments of the club may be due to:

1. A revival of the realization that community enterprises are successful only through cooperation.

2. The success of Unit Demonstration farmers in the area.

3. Expert advice from the University.

4. Cooperation of the T.V.A. in furnishing fertilizers.

5. Distance from the city, and limited financial resources for social purposes.

PART V

GENERAL ORGANIZATIONS

CHAPTER I

KNOX COUNTY FARM BUREAU

Agricultural extension work of the present type began in 1914 with the passage of the Smith-Lever bill. However, Knox County had a county agent, Arthur Bell, and a home demonstration agent, Margaret Ambrose, from 1912 through a fund provided through the Federal and State Boards of Education.

Immediately following the passage of the Smith-Lever Act May 8, 1914, a county agent was appointed for Knox County under the new plan.

TABLE XXXIII. COUNTY AGENTS AND THEIR PERIODS OF SERVICE,
KNOX COUNTY, TENNESSEE, 1914-1941

County Agent	Period of Service	
Adams Phillips	October 1, 1914	- June 30, 1916
A. J. Winegar	July 1, 1916	- November 30, 1920
F. S. Chance	February 1, 1921	- September 30, 1923
W. O. Sharp (Assistant)	September 1, 1922	- November 1, 1923
F. S. Chance	September 1, 1924	- April 30, 1930
W. O. Sharp (Assistant)	September 1, 1924	- Present
R. M. Murphy	May 16, 1930	- Present
Con S. Massey (Soil Conservation)	May 1, 1935	- April 15, 1940
J. Merril Bird (Soil Conservation)	April 15, 1940	- Present

Source: "Historical Appraisal of Extension Work in Knox County", 1914-1939, by W. O. Sharp, Assistant County Agent, Knox County.

County agents and home demonstration agents in Knox County did not have the backing of an organization of farmers until a temporary County Council of Agriculture was started October 1, 1919, and a permanent council established September 4, 1920. It is said to have been called County Council because it was thought the name Farm Bureau gave the impression of a place where only information is given out. The name was changed to Farm Bureau in 1931. The Farm Bureau and County Agent work in close cooperation.

One of the Farm Bureau's important objectives is fostering farmers' cooperative associations. It also helps the extension service arouse interest in better farming and in improving the farm home. Knox County, having a good system of roads, is well adapted to demonstration work.

The Farm Bureau has helped farmers obtain credit through the cooperative credit agencies, and also to organize various cooperatives. Farmers have also been assisted in pooling the purchase of farm supplies. This has usually been done when local retail prices are considered too high, or when there is not a sufficient supply on the market. Usually the farmers place their orders for supplies with the Farm Bureau, which does not order more than is needed at once. Farm supplies purchased are sold to farmers at cost.

A loosely organized farmers' cooperative association, called a

central farmers' organization, and composed of delegates from local clubs, existed from 1916 until about 1918. Members paid a \$0.50 fee to pay the secretary, and operating expenses. The organization purchased mostly seeds and fertilizers. About 175 tons of fertilizer was bought in 1916, with an estimated saving of \$4-5 per ton, and 200 tons in 1917 at a saving of \$3-4 per ton. It is stated that the secretary became careless, some money was involved, and the organization did not function in 1918. Some communities continued to buy fertilizer by the carload through a local dealer at just a little above cost, the dealer not being required to handle it.

Eight tons of nitrate of soda were ordered by the county agent's office from the government in 1918. Other products purchased in the same way are shown in Table

TABLE XXXIV. VALUE, QUANTITY, AND ESTIMATED SAVING ON COMMODITIES BOUGHT COOPERATIVELY THROUGH THE COUNTY AGENT'S OFFICE, KNOX COUNTY, 1918 - 1919

Year	Commodity	Value	Estimated Saving
1918	Acid phosphate	\$4,818.33	\$1,000.00
	Cottonseed meal	1,668.00	200.00
	Peas	809.22	150.00
1919		Quantity	
	Acid phosphate	200 T.	800.00
	Cottonseed meal	30 T.	200.00

Source: County agent reports in Extension Office files, University of Tennessee.

In 1918 there were \$510.52 worth of soybeans sold through the county agent's office, with an estimated saving of \$50.00.

About \$1,000 was saved in 1921 through the cooperative purchase of fertilizer by community clubs.

A horticultural movement was started in 1921 that attracted much attention. The county agent sent out about 300 letters for the farm bureau in regard to ordering fruit trees, and had the letter printed in the Knoxville daily newspapers. Orders for trees were received very fast, as the price did not seem to matter so much as the fact that farmers were getting the trees through a source which they thought was reliable. The trees were inspected before they left the railroad station, to help insure a shipment absolutely free from disease or insect pests, and farmers called for them on a set date.

TABLE XXXV. COMMODITY, QUANTITY, VALUE AND ESTIMATED SAVING OF COOPERATIVE PURCHASING IN 1921, KNOX COUNTY FARM BUREAU

Commodity	Quantity	Value	Estimated Saving
Fertilizer	500 T.	\$10,000	\$2,000
Seeds	2000 bu.	6,000	2,500
Fruit trees	4000	800	1,000

Source: County agent reports in Extension Office files, University of Tennessee.

A small amount of corn and potatoes was also sold cooperatively in 1921.

In 1922 the county agent assisted the East Tennessee Farm Products Exchange on an order for nursery stock, and helped in the buying of seed corn and livestock.

In 1923 Farm Bureau members made an estimated saving of \$225 by purchasing \$350 worth of fruit trees cooperatively.

Purchasing through the Farm Bureau from 1935 to 1937 was confined mostly to pooling orders for twine, legume seeds, carload lots of fertilizer and cottonseed meal. There was an estimated saving of \$0.02 per pound on 12,000 pounds of Korean lespedeza seed in 1935 and 23,950 pounds in 1936. Through cooperation with the Farm Bureau of a neighboring county, binder twine was obtained at a saving of \$0.025 per pound in 1935, the same practice being repeated in 1936 and 1937.

Farm Bureau members in 1936 inaugurated a truck service, delivering cottonseed meal direct from the oil mill to members. This is reported to have worked well until brokers brought about the refusal of mills to sell to farmers direct.

About 250 bushels of Tokyo soybeans, at an estimated saving of \$0.40 per bushel, and 59 bushels of crimson clover at a saving of several dollars per bushel, were purchased in 1937 through the Farm Bureau.

Considerable burley tobacco raising began in the county in 1921, and a tobacco association was attempted by the Farm Bureau in 1920.

Work was started through the members and in schools, to test the cooperative spirit by seeing if they would notify their respective districts.

In March 1938, following an unsatisfactory marketing season, about 200 farmers met at the call of the Farm Bureau. A temporary organization was formed, and strong resolutions adopted advocating certain changes considered necessary if farmers were to continue raising tobacco. A committee of 3 was appointed to represent the group in conferences to be held with representatives from other burley growing counties. The committee also attended several statewide meetings, and helped perfect the Tennessee Burley Tobacco Growers' Association. One of the accomplishments of this group was the encouragement of Federal inspection of tobacco on the warehouse floor before it is sold. Through the services of the Federal Tobacco Inspection Service it was reported that tobacco sold for \$0.015-0.03 higher at Knoxville than on most Tennessee markets.

The Farm Bureau also helped farmers disposing of their products by locating buyers. Farmers who desire certain products, such as breeding animals, seed, etc., may inquire at the bureau office to see who may have listed such articles for sale. It was stated that, in 1921, ten farmers listed products for sale and five were helped to dispose of their products. Articles listed in that year consisted mostly of pigs, chickens and dairy cattle.

Farmers seem to have been most interested in the cooperative purchase of supplies in the periods 1916-1923 and 1932-1933. These years were during the World War and the depression, when prices of fertilizers, seeds and processed feeds appeared to be high.

There has been some lack of interest among farmers in attending meetings in regard to cooperatives, improving the farm and home, and other educational programs. Many farmers live on small farms, somewhat removed from the urban center. The Farm Bureau and county agents are increasing the interest, to a certain extent, by showing moving pictures at many of the meetings. The first pictures were advertisements provided by business firms of Knoxville, who paid the cost of the machine. Most of other pictures do not cost anything, as they are received from the Agricultural Extension Service, Soil Conservation Service, etc., and from business firms such as implement companies having educational pictures.

The Farm Bureau also obtained a camera with which to take local pictures, and is thus able to show what is being accomplished locally through cooperative effort. Some of the pictures taken in the county include the annual Farm Bureau picnic and the boys' 4-H dairy cattle show. Interest in attending meetings is increased by vocational agriculture students, who see the pictures presented in school before the general meeting is held.

CHAPTER II

THE GRANGE

History

When Oliver H. Kelley started on his trip on January 13, 1866, through the South he conceived the idea of a fraternity of farmers, to restore agriculture and unite once more the North and the South. In November 1867 meetings were held to plan a definite start for an Order of Agriculture in the United States. December 4, 1867, is recognized as the "birthday of the Grange" when a formal session of the founders was held at Washington, D. C., to organize the Grange and elect officers. The Grange is said to be the oldest and largest farm organization in the world; and to be the only farm fraternity in the world. It strives to mold public opinion, and to educate and elevate American farmers and farm families. ⁽¹⁾

The National Grange was active in Tennessee from 1870 to 1885, and again became active in 1933 ⁽²⁾. Fred Brenckman, Washington representative of the National Grange, helped organize the first local Grange in Knox County in 1933, which was the beginning or reorganization in this State.

Reasons given for organizing the state Grange are: there was need

(1) The Grange Blue Book, National Grange Publicity Bureau, Springfield, Massachusetts.

(2) Development of Farmers' Cooperatives in Tennessee, by C. E. Allred and E. D. Raskopf, Monograph No. 99, Dept. of Agricultural Economics, University of Tennessee.

for a farm organization in rural communities, at a reasonable price, to promote legislation for farmers, and encourage desirable types of recreational activities for young and old.

Tennessee now has about 40 local Granges, with a membership of over 2000. It is organized in 6 other Southern states, namely: Virginia, North Carolina, South Carolina, Arkansas, Texas, and Oklahoma.

Grange chapters in Knox County have been located at Farragut, Powell Station, Pleasant Ridge, Corryton, and Carters. The first meeting was held September 19, 1933, in the Farragut Community. Mr. and Mrs. R. N. Bacon were the first ones to sign the charter list in Tennessee. Other charter members were: Frank Russell, Mrs. Frank Russell, Drew S. Gaylor, J. O. Fox, W. G. Woods, Tracy Prater, A. L. Campbell, Mrs. A. L. Campbell, Sidney Smith, S. T. Harvey, W. O. Grady, T. H. Montgomery, Mrs. T. H. Montgomery, J. D. Watt, Mrs. J. D. Watt, Lawrence Hobbs, W. W. Evans, J. F. Hobbs, and Tom Russell.

The Knox County Pomona Grange was organized in July 1937 at the University of Tennessee Farm, with representatives present from all local Granges. Fifteen officers were elected and the time of meeting set for the last Tuesday in each quarter. The second Pomona meeting was held at Powell Station, Tuesday, April 26, 1938.

Grange membership increased rapidly, especially in the Farragut

Community in 1937. After two of the locals were organized in 1938 the total membership almost doubled. It appears, however, that Knox County Grange activities have declined somewhat in the last few years.

Organization

The Grange organization comprises 4 divisions, namely: Subordinate, Pomona, State and National Granges. Subordinate Granges are local units within a county or district, which are grouped together to form a Pomona Grange. The State Grange is a delegate body representing Subordinate and Pomona Granges. It considers important matters of legislation and public policy and expresses Grange thought and the wishes of local units. The National Grange is the central organization, uniting the efforts of all State Granges. In addition to the above mentioned units there is a Juvenile Grange for children from the age of 5 to 14. Its activities are similar to other Grange units and prepares the children for future Grange activity.

Any one with good character and interested in agriculture is eligible to join the Grange. It is non-partisan and non-sectarian. The organization is financed with dues of 10 cents per member per month, 5 cents being used by the Subordinate, 4 cents by the State and 1 cent by the National Grange. If the dues are not paid, membership ceases. Reasons given for the low dues are: it is a large organization, has no high salaried men, and believes in rendering service.

The state organizational structure consists of 13 officers and 3

executive committeemen. The committeemen act for the Grange when it is not in session. A business agent takes orders for the supplies which farmers wish to buy, and a home economics committee takes care of refreshments and suggests projects for the Grange to work out. There are always Agricultural and Education Committees. Other committees are appointed as needed for special duties.

Difficulties

The only difficulty listed by the State Grange in Tennessee is to get farmers to take an interest in their own welfare and attend meetings. It has been somewhat difficult to educate farmers on the need for cooperation.

Two additional difficulties mentioned by a local Grange are: too many organizations in that particular community, and lack of interest among the leaders and members in preparing an interesting program.

Records have not been obtained as to the extent of business cooperation carried on by the Grange.

PART VI

COMMUNITY SURVEY

Introduction

Questionnaires⁽¹⁾ were prepared for use in making an inventory of rural business cooperation in six communities. Information was also obtained on the number of years each farmer participated in the respective organizations.

Due to lack of time and transportation facilities the information was obtained by vocational agriculture teachers through their students. Teachers were provided with a set of written instructions, and a conference was held to explain the questionnaires. However, results vary somewhat as the six teachers did not interpret all questions in the same way.

The total area covered was geographically quite representative of the county (Figure 10). A total of 151 questionnaires were returned, the number from each area being as follows: 37 from Carter High School, Strawberry Plains; 35 from Farragut High School, Concord; 27 from Gibbs High School, Corryton; 22 from Powells High School, Powells Station; 21 from Karns High School, Byington; and 9 from Halls High

(1) See Appendix C for copy of questionnaires used.

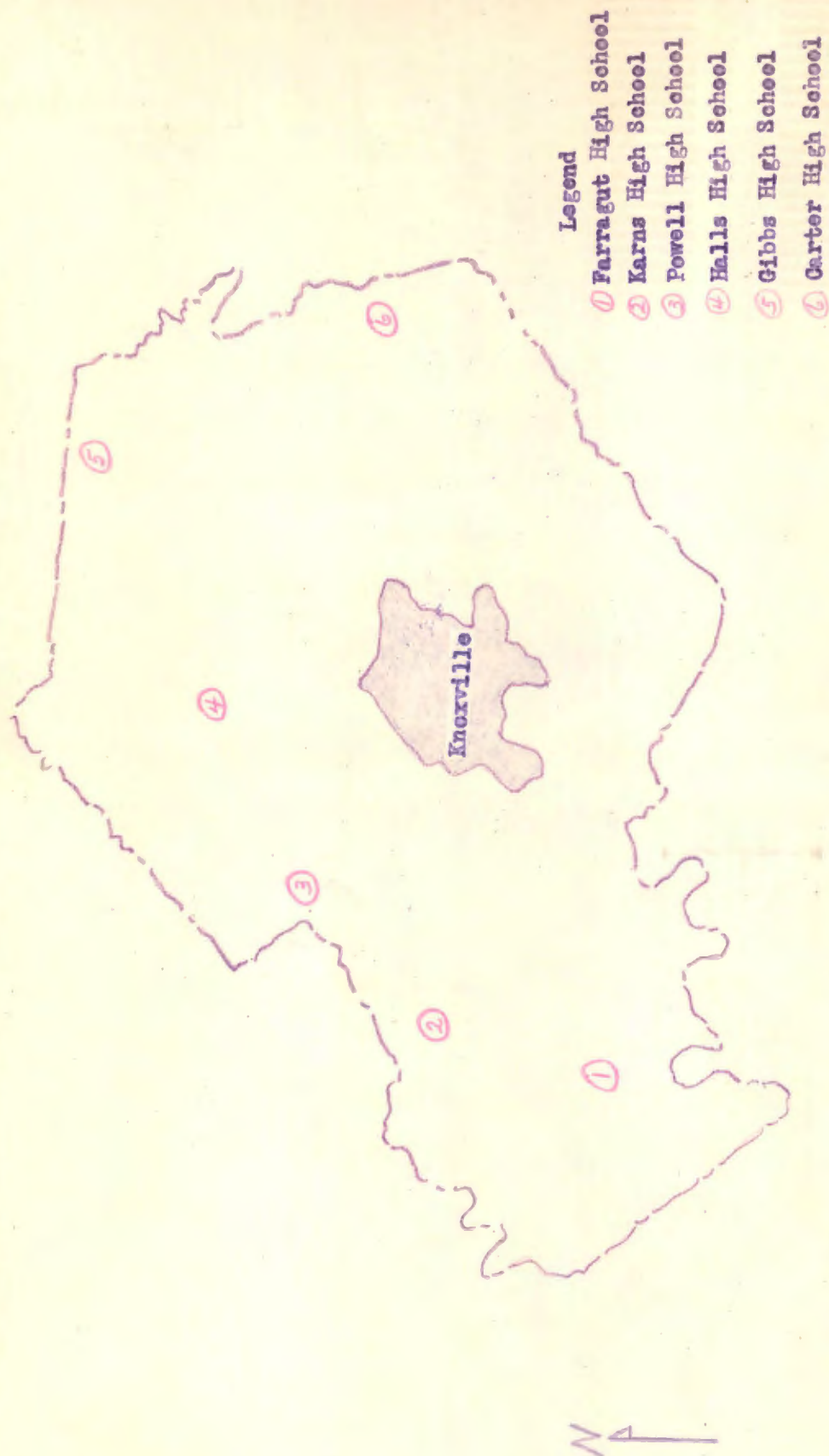


Figure 10. Map of Knox County showing location of schools which cooperated in answering questionnaires.

School, Hall's Crossroads. The number of returns and the amount filled in depended on the number of students in school, extent of cooperative activity in the community, and degree of response from students and teachers. Due to some of the data being incomplete, and some of it seemingly inaccurate, it did not appear logical to draw many definite conclusions from the schedules.

Other places in the county mentioned in the schedules were Zacharytown, Clear Branch, Ritta, Harbison's Crossroads, Clear Springs, White City, and Trickum at Corryton; Amherst at Byington; Blue Grass, Third Creek, Heiskell, and Inskip at Powells Station; and Bethany at Halls Crossroads.

Some questionnaires may be from farmers residing in other counties, since a few of the schools were near the Knox County line.

Participation in Formally Organized Cooperatives

Length of membership in each cooperative was obtained to see if there is a difference between communities in the type and length of participation. No replies were received relative to the University Cooperative Creamery, Egg Auction, Farragut Cooperative Association, nor the Farm Bureau Credit Union. Five of the cooperatives, the Farm Bureau Supply Company, Milk Bottle and Package Exchange, Community Protection Association, Hardin Valley Watershed Project, and the Women's Marketing Association were not listed on the questionnaire because at the time the schedule was made up it was not definitely known whether they had existed.

TABLE XXVI. NUMBER OF FARMERS REPORTING ACTIVITIES IN EACH COOPERATIVE AND THE AVERAGE NUMBER OF YEARS EACH PARTICIPATED IN 15 COOPERATIVES, 6 COMMUNITIES, KNOX COUNTY, TENNESSEE

Cooperative	(37)* Carter			(35) Farragut			(27) Gibbs			(22) Karns			(21) Powells			(9) Halls		
	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating	No. of Farmers Reporting	Ave. No. of Years Cooperating
Berry & Truck Growers' Assn.	1	1	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-
Milk Producers' Assn.	1	3	-	6	-	8	-	1	16	-	3	18	-	-	-	4	5	-
Wool Pool	1	14	-	8	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Lamb Pool (Sheep Growers' Assn.)	1	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Farm Products Exchange	2	1	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-
Peach Growers' Assn.	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mutual Fire Ins. Company	16	15	-	15	-	16	-	7	19	-	13	15	-	-	6	-	10	-
Cooperative Telephone Exchanges and Lines	1	1	-	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nat'l Farm Loan Assn.	1	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dairy Herd Imp. Assn.	3	4	-	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Production Credit Assn.	1	3	-	7	-	3	-	3	2	-	2	4	-	-	1	-	4	-
Soil Erosion Control Association	1	6	-	4	-	5	-	-	-	-	-	-	-	-	-	-	-	-
Cooperative Refrigeration	3	3	-	4	-	4	-	2	1	-	17	3	-	-	1	-	5	-
Knox County Farm Bureau	-	-	-	5	-	2	-	2	-	-	1	1	-	-	-	-	-	-
The Grange	1	2	-	8	-	7	-	2	-	-	-	3	-	-	-	-	-	-

* Numbers with each community indicate total number of farmers reporting.

Several duplications in names of cooperatives were as followed: Cow Testing and Dairy Herd Improvement Associations; County Council of Agriculture and Farm Bureau; Dairymen's and Milk Producers' Associations; Peach Growers' and Fruit Growers' Associations; and Berry and Truck Growers' and Strawberry Associations.

All of the communities had considerable participation in the Farmers' Mutual Fire Insurance Company (Table XXVI). Powells has been considerably more active than the other communities in the Knox County Soil Erosion Control Association. Farragut was more active in the Dairy Herd Improvement Association, Milk Producers' Association, and The Grange. Hall's and Karns seemed to be the least active in participation in all types of cooperatives.

Tenure, Size of Farms and Type of Farming as Related to Cooperative Activity

Information obtained on the cooperatives was tabulated by type of tenure and then arrayed by size of farms, for each type of tenure. Type of farming was also indicated.

No correlation between tenure status and cooperation could be found. The percent tenancy in Knox County for 1939 was 16.5. It might be assumed that tenants have cooperated about as much as owners because tenants reporting cooperative activity were in the same proportion as they exist in Knox County.

TABLE XXXVII. NUMBER OF OWNERS AND TENANTS AND PERCENT
TENANTS REPORTING, 6 COMMUNITIES, KNOX COUNTY,
TENNESSEE

Tenure	Community						Total
	Carter	Farragut	Gibbs	Karns	Powells	Halls	
Number of owners	26	34	21	15	20	7	123
Number of tenants	11	-	4	7	1	1	24
Percent tenancy	29.72	0	16.00	31.81	4.76	12.50	16.32

The average size of farms reported on schedules for each community except Halls was larger than the average of Knox County. The smallest and the largest farms corresponded with the least and most cooperative activity respectively, but a trend relating the two factors could not be definitely established.

TABLE XXXVIII. RANGE AND AVERAGE SIZE OF FARMS, 6 COMMUNITIES,
KNOX COUNTY, TENNESSEE

Location	Total No. of Farmers Reporting	Total No. of Farmers Reporting Size	Range in Size of Farms	Average Size of Farms
Carter	37	33	2-500 A.	74 A.
Farragut	35	34	10-460 A.	134 A.
Gibbs	27	24	2.5-317A.	66 A.
Karns	22	19	1-270 A.	94 A.
Powells	21	20	5-300 A.	63 A.
Halls	9	8	1-90 A.	38 A.
Total	151	138	1-460 A.	87 A.
Knox County	-	-	-	50.5

Most of the farms were listed by the operators as general farms. However it is doubtful if many of them were classified on actual income figures such as were used in the 1930 Type of Farming report on Knox County shown in Part I. While the Farragut community had more members in the Knoxville Milk Producers' Association and the Dairy Herd Improvement Association (Table XXXVI) than the other communities, none of its farms were classified as dairy farms.

TABLE XXXIX. NUMBER OF FARMS BY TYPE OF FARMING, 6 COMMUNITIES, KNOX COUNTY, TENNESSEE

Location	Type of Farming							
	General	Dairy	Part-Time	Truck	Poultry	Live-stock	Self-Sufficing	Nursery
Carter	34	1	-	1	-	-	-	-
Farragut	33	-	-	-	-	-	-	1
Gibbs	10	5	5	2	-	-	1	-
Karns	12	2	2	1	1	1	-	-
Powells	16	2	-	2	-	-	-	-
Halls	8	2	-	-	-	-	-	-
Total	113	12	7	6	1	1	1	1

Cooperative Buying of Farm Supplies and Cooperative

Selling of Farm Products

Probably the easiest method of measuring cooperative results in dollars is in amount of cooperative purchases and sales. Prices received or paid through cooperation can be compared with prices paid or received from other sources.

Information on cooperative sales and purchases included transactions of local unorganized groups as well as through the organized cooperatives studied.

TABLE XL. COOPERATIVE PURCHASING OF FARM SUPPLIES IN SOME KNOX COUNTY COMMUNITIES, 1940

Location	No. of Farmers Participating in Each Community	Farm Supplies Bought Cooperatively	Amount	Value	Saving
Carter	4	Lime	20 T.	-	-
		Lime	4 T.	\$2.00	-
		Fertilizer for corn	1500 lb.	24.00	-
		" " tobacco	1 T.	-	-
		" " potatoes	250 lb.	-	-
		Corn seed	3 bu.	3.60	-
		Pea seed	6 bu.	6.00	-
		Plows	2	20.00	-
Farragut	17	Fertilizer (10 farmers)	156.25 T.	2659.50	456.50
		Lime (4 farmers)	272 T.	402.00	204.00
		Seed corn (5 farmers)	13.25 bu.	35.50	33.00
		Seed potatoes	16 bags	48.00	12.00
Gibbs	3	Fertilizer	1800 lb.	63.00	-
		"	1400 lb.	-	-
Karns	7	Tin	10 sq.	30.00	5.00
		Fertilizer	2 T.	50.00	6.00
		"	.5 T.	-	-
		Lime	40 T.	-	-
		"	24 T.	48.00	12.00
		Corn seed	4 gal.	1.66	-
		Seed (oats, peas, lespedeza)	13 bu.	13.00	7.00
		Tomato plants	1000	3.00	-
Powells	1	Farm machinery	4 imple- ments	150.00	20.00
		Subsoilers	2	17.00	3.00
		Wire (barb)	4 spools	8.40	1.20
		Lime	-	-	-

TABLE XLI. COOPERATIVE SALES OF FARM PRODUCTS IN SOME KNOX COUNTY COMMUNITIES, 1940

Location	No. of Farmers Participating in Each Community	Farm Products Sold Cooperatively	Amount	Value	Saving
Carter	3	Milk	29,400 lb.	-	-
		Wool	80 lb.	\$21.60	-
		Pigs	2	36.20	\$1.40
		Potatoes	35 bu.	31.50	-
		Tomatoes	50 bu.	40.00	-
		Sub-total	-----	129.30	1.40
Farragut	3	Milk	500,000 lb.	\$5,500.00	\$1,500.00
		Steers (25)	20,000 lb.	1,250.00	100.00
		Chickens	50	30.00	10.00
		Sub-total	-----	6,780.00	1,610.00
Gibbs	2	Milk	25,000 lb.	\$1,500.00	-
		Milk	31,200 lb.	857.00	-
		Sub-total	-----	2,357.00	-
Karns	2	Milk	12 gal.	\$ 1.20	\$.20
		Butter	5 lbs.	1.60	.30
		Eggs	7 doz.	1.40	.40
		Tomatoes	50 bu.	75.00	-
		Sub-total	-----	79.20	.90
Powells	2	Milk	5000 lb.	\$100.00	-
		Milk	-	3,000.00	300.00
		Sub-total	-----	3,100.00	300.00
Total	12			\$12,445.50	\$1,912.30

No purchases or sales were reported in the Halls community. A total of 32 farmers out of 151 reported cooperative purchases, a little over

one-half of which were at Farragut (Table XL). Fertilizer was purchased by 16 farmers, lime by 9, seed corn by 7, implements and hardware by 5, and other seeds and tomato plants by 4.

It is difficult to determine the savings made, but the estimates seem to indicate that about \$3 per ton was saved on fertilizers and 50 cents per ton on lime.

Twelve farmers reported cooperative sales, milk being sold by 7 of these (Table XLI). Other products sold were wool, pigs, potatoes, tomatoes, steers, chickens, butter, and eggs. At present there are two commodity marketing organizations which the farmers can use.

Cooperative Community Enterprises

Seven types of information were requested on community cooperation. Four types, cooperative farm labor, household labor, transportation, and warehousing or storing are applicable to 1940. No data were obtained on livestock or crop improvement.

More answers were received for cooperative farm labor than for the other enterprises (Table XLII). Over one-half of the farmers reporting cooperative transportation were from Farragut. Storing received least participation of the 5 types. Only one farmer reported, with a single enterprise, in the Halls community.

The number cooperating in labor groups varied from 2 to 5. The largest number of days labor exchanged was for general farming. Usually

TABLE XLII. NUMBER OF FARMERS REPORTING FOR 5 TYPES OF
COMMUNITY COOPERATIVE ENTERPRISES, 6 COMMUNITIES,
KNOX COUNTY, TENNESSEE

Location	Number of Farmers Reporting					Total
	Farm Labor	Household Labor	Transportation	Warehousing or Storing	Ownership of Machinery	
Carter	12	7	5	1	5	30
Farragut	8	-	17	1	1	27
Gibbs	6	1	1	-	3	11
Karns	9	2	7	-	1	19
Powells	1	-	-	-	-	1
Halls	3	3	-	-	3	9
Total	39	13	30	2	13	97

the number of days labor received corresponded to the number given. A few farmers listed the amount of labor exchanged in hours.

It has not been determined how cooperative transportation was conducted. The amount varied from a few bushels of vegetables or one hog to 40 cattle or 500 bushels of potatoes. It seems doubtful if all of the transportation was cooperative in the Farragut community as some of the figures were for large numbers of livestock transported a considerable distance.

Some cooperation between neighbors may have occurred among relatives, especially the ownership of machinery by father and son.

TABLE XLIII. TYPE OF PARTICIPATION IN 5 TYPES OF COMMUNITY
COOPERATIVE ENTERPRISES, 6 COMMUNITIES, KNOX COUNTY,
TENNESSEE

Type of Participation				
Farm Labor	Household Labor	Transportation	Warehousing or Storing	Ownership of Machinery
Threshing	Canning	Milk	Hay	Silage cutter
Corn cutting	Quilting	Hay	Sweet potatoes	Corn harvester
Log rolling	Papering	Fertilizer	Tobacco	Saw
Planting	Hog killing	Tomatoes		Grain binder
Harvesting	Improvement	Corn		Corn planter
Plowing	House cleaning	Pea hay		Grain drill
Building fence		Shavings		Rake
Sawing wood		Cattle		Lime spreader
Mule labor		Hogs		Disc harrow
Shredding corn		Fruit		Hay baler
General farming		Lime		Mower
Hog killing		Crimson clover		Corn planter
Mowing hay		Rye grass		Sub-soiler
Cultivating crops		Potatoes		
Pulling fodder		Horses		
Cutting tobacco		Vegetables		
Hauling hay		Beans		
Silo filling		Onions		
Making molasses		Coal		
Discing		Peas		

Farmers' Reactions in Regard to Successful or
Unsuccessful Cooperation

It was anticipated that more answers would be given in regard to successful and unsuccessful cooperation. Such answers would enable one to determine the need for cooperation and make suggestions accordingly.

Thirty one farmers named the cooperative enterprises which they

thought were most successful and fourteen named those considered least successful.

Opinions from the different communities varied somewhat, especially when several farmers from only one community reported an enterprise as being most successful. The Grange seemed to be regarded as most successful in the Farragut community; the Knoxville Milk Producers' Association, Knox County Soil Erosion Control Association, Knox County Dairy Herd Improvement Association, and the Farmers' Mutual Fire Insurance Company in the Powells community. Some of the reasons given as to why particular cooperatives are most successful are indefinite. However, in most cases the reasons given indicated that these organizations had provided the most in economic returns.

The Farm Bureau, one of the largest farm organizations in the county, was listed as least successful by 2 farmers in the Farragut community. This is possibly due to the Grange having been more active there than in the other communities. Someone has said that the purposes of the Grange and the Farm Bureau are conflicting; that the Grange aims to develop the group while the Farm Bureau aims to develop the individual.

The Production Credit Association, which receives considerable support from the government, was given as least successful by three farmers in the Powells community. One might conclude, from many of the reasons given by farmers for lack of success of cooperatives, that they do not feel the need for the particular cooperatives mentioned or they have not been properly conducted.

TABLE XLIV. REASONS GIVEN BY FARMERS OF SIX COMMUNITIES OF KNOX COUNTY
WHY CERTAIN TYPES OF COOPERATION WERE MOST
SUCCESSFUL, 1941

Community	No. of Farmers Report- ing	Most Successful Cooperative or Type of Cooperation	Why It Is Most Successful
Carter	2	Buying fertilizers	Cheaper way of obtaining fertilizer Increases the yield It is a stronger organization Did not participate in others
Farragut	1	Farm Bureau	The hay was needed Contacts most people Reaches farmers who need help Has interest of rural people in mind Includes the entire family Solves problems of farmers Shows most interest in farmers Helped farmers get increase in price It is the largest Saves money & gets just as much use of machinery Gets more done Farmer members run the association Helps dairy farmers more Helps make better dairy herds More people take part Enables farmers to get fertilizers and lime Helps improve land and prevent erosion Protects farmers' buildings and property Offers good service in case of fire Had no theft since joining
	1	Cooperative ownership of machinery	
	1	Cooperative transportation	
Gibbs	8	The Grange	
	1	Farm Bureau	
	1	Knoxville Milk Prod. Assn.	
	1	Knoxville Milk Prod. Assn.	
	1	Coop. ownership of machinery Threshing	
Karns	1	Knoxville Milk Prod. Assn.	
Powells	2	Dairy Herd Imp. Association	
	2	Soil Erosion Control Assn.	
	4	Farmers Mutual Fire Insurance	
Halls	1	Southern Agr. Reward Service	

TABLE XLV. REASONS GIVEN BY FARMERS OF SIX COMMUNITIES OF KNOX COUNTY WHY CERTAIN TYPES OF COOPERATION WERE LEAST SUCCESSFUL, 1941

Community	No. of Farmers Reporting	Least Successful Cooperative or Type of Cooperation	Why It Is Least Successful
Carter	2	Warehousing or storing	Most people have a storing place
	1	Sheep growers' association	Some of the hay molded
	1	Cooperative selling of tomatoes	Did not last long enough
	1	Cooperative farm labor	Receipts were too small
Farragut	2	Farm Bureau	-
Gibbs	1	Refrigeration Association	Does not help farmers who need help
Karns	1	Cooperative farm labor	People would not use it
	1	Hauling tomatoes	Did not do so much of this
Powells	3	Production Credit Association	Did not have many to haul
			Government red tape and political appointees as officials
			Hard for farmers to obtain credit
Halls	1	Cooperative fence building	Not well enough organized

PART VII

SUMMARY

Farmer cooperation in Knox County has been studied by means of personal interviews and records.

Twenty-four organizations operated at one time or another from 1910 to 1941 (Table XLVI). Cooperatives operated for an average of 10.3 years, while individual types averaged as follows: marketing 9.4, service 11.6, general 18.5, and purchasing 4 years.

One-third of the organizations began operating between 1931 and 1935. The smallest number organized in any ten year period was from 1921 to 1930.

About one-half of the organizations studied were started by the farmers' own efforts and leadership. Others were assisted by the Tennessee Valley Authority, University of Tennessee, and the Farm Credit Administration. Probably the purchasing organizations have received least outside assistance.

Twelve of the 24 organizations are operating at present. Two of the 7 marketing and 8 of the 11 service organizations are in operation. No purchasing association has operated since 1933.

The Farm Bureau and Grange organizations did not limit their

TABLE XLVI. PERIOD OF ACTIVITY, TWENTY-FOUR COOPERATIVES, KNOX COUNTY, TENNESSEE

Cooperatives Organized by 5-Year Periods	Year Organized	Last Year of Operation	No. of Years Organization Was Active *
**			
M - Knox County Berry and Truck Growers' Assn.	1910	1925	16
S - Farmers' Mutual Fire Insurance Company of Knox County	1913	1941	29
S - Rural Cooperative Telephone Exchanges and Lines	1913	1941	29
G - Knox County Farm Bureau	1914	1941	28
M - University of Tennessee Cooperative Creamery	1915	1918	4
P - Farragut Farmers' Cooperative Association	1917	1922	6
S - Knox County National Farm Loan Association	1917	1941	25
P - East Tennessee Farm Products Exchange	1920	1923	4
M - Knoxville Milk Producers' Association	1924	1941	18
P - Knox County Peach Growers' Association	1924	1926	3
S - Knox County Dairy Herd Improvement Assn.	1925	1941	11
M - Knox County Wool Pool	1927	1941	15
M - Knox County Lamb Pool	1928	1934	7
M - Knox County Farm Women's Marketing Assn.	1931	1935	5
P - Knox County Farm Bureau Supply Company	1932	1934	3
G - The Grange	1933	1941	9
S - Knox County Farm Bureau Credit Union	1933	1941	9
S - Knoxville Production Credit Association	1934	1941	8
S - Knoxville Milk Bottle and Package Exchange	1935	1936	2
S - Knox County Soil Erosion Control Association	1935	1941	6
S - Cooperative Refrigeration	1935	1938	4
S - Community Protection Association	1936	1938	3
M - Knoxville Egg Auction	1938	1938	1
S - Hardin Valley Watershed Project	1940	1941	2

* First and last year counted as two years regardless of number of months operated in those years.

** M - Marketing organizations
P - Purchasing organizations
S - Service organizations
G - General organizations

functions as much as the others, hence have been classified as general.

In several cases the same men were charter members or officers of more than one organization.

Reasons for the degree of success of each organization are discussed. The chief reasons for the lack of success of certain organizations are as follows for each type: marketing -- change in local demand, change in cost of production, competition from private enterprise, poor management, and change in general market conditions; purchasing -- lack of interest on the part of members and poor management; service -- lack of capital and lack of member participation.

Chief reasons for successes are, for each type: marketing -- obtained higher prices and made new markets available; purchasing -- saved money and helped set prices on the open market; service -- saved money and gave services otherwise unavailable.

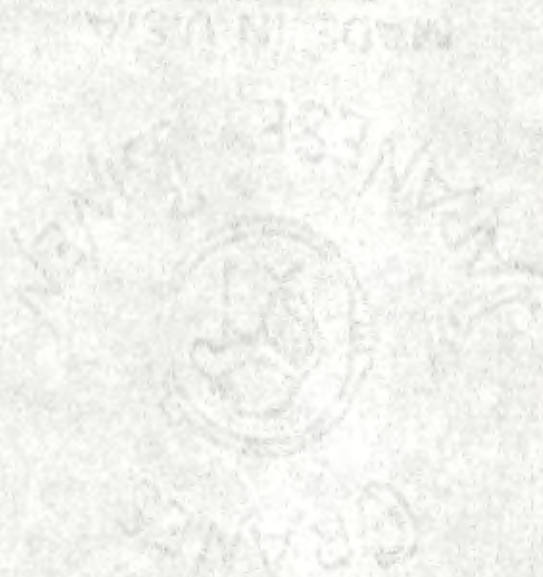
Chief difficulties given are, for each type: marketing -- obtaining sufficient volume of business and a quality product; purchasing -- lack of member participation and insufficient capital; service -- insufficient capital and difficulty in educating members as to the need of cooperation and how to cooperate.

Knoxville as an industrial center has influenced the type of farming to some extent. Specialized farms are mostly dairy and truck farms. Many farms are of the self-sufficing, part-time, or general types. For them the need for cooperative selling is limited.

Possibly no additional dairy cooperatives are needed, and it appears that credit and insurance needs are fairly well met. No cooperatives are operating in the following fields at present: storing, processing, or marketing of fruit and vegetables; marketing tobacco; livestock commission firm; marketing veal calves; livestock improvement; cooperative ownership of machinery; and purchasing fertilizers, lime, feed, and seed.

Further study of the adequacy with which the various needs are now being served by cooperatives would be necessary to determine the possibilities of success for various types of additional cooperatives in the county.

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APPENDIX



APPENDIX A

The logical place for this chapter would have been in Part II, before Chapter VI, but due to not securing information in regard to this organization sooner it is placed in the Appendix.

KNOX COUNTY FARM WOMEN'S MARKETING ASSOCIATION

Curb, club and roadside markets are put on through the cooperation of the local home demonstration and farm agents with the extension home marketing specialist. District agents, working through the county home and farm agents, decide where a market is to be organized. The curb markets at Chattanooga were organized by the farm and home demonstration agents. A market at Jackson, Tennessee, was started in 1923.

When the home marketing specialist first met with the Knox County group, all farm women who were interested in selling anything were invited to attend and bring homemade articles which they felt could be sold. The Knox County Club Market was opened October 24, 1931, in a front corner of the C. D. Kenny Company store at 517 Market Street and remained there until November 21, when it was moved to the main floor of the Y.W.C.A. It was organized by Knox County farm women to sell food and handicraft articles made at home. At this time many people were without work and income from agricultural sources was low.

Similar markets have been organized in other counties and states.

The extension home marketing specialist, Isadora Williams, directs them. Other phases of the marketing program directed by her include: curb markets, individual tea rooms, cooperative tea rooms, individual roadside markets, cooperative wayside markets, special day markets, and standardization of farm and home products for the market.

The Knox County club market sellers reorganized in January, 1932, into the Knox County Club Marketing Association. That association was loosely organized and operated without a set of by-laws, charter or constitution. The first officers were: President, Mrs. A. J. Denton; Vice-President, Mrs. C. B. Strahn; and Secretary-Treasurer, Mrs. H. B. Walker. Other offices were a standards committee of three, a marketing committee of three, and a manager. Each member of the association had one vote on questions arising from time to time.

Miss Minnie Harbison worked as the first market manager for eight days, being replaced by Miss Mabel Moore on November 4. The manager did all the selling and was the only person to receive wages. Thus the club market offered an opportunity for talented farm home makers to sell their products without leaving home. Twenty percent of the sale price of handicraft articles and fifteen percent of food sales was retained to pay the manager and other expenses. The person who had the articles to sell set a price, then the association raised the price sufficiently to pay for expenses. In this way the producer was not charged anything for making the sale.

The marketing committee secured locations for the market. Place of marketing had to be changed frequently because the association could

not pay high rent.

The standards committee, with the home demonstration agent and the home marketing specialist, helped standardize all products. Certain standards were established in order to put a more uniform and higher quality product on the market. Most of the women cooperated by making products with which they could meet the standards best. Often the group offered suggestions for improvement. Sometimes a producer made changes several times before an article was passed on by the standards committee. Even then, when tried on the market it did not always sell. Products were standardized by the following methods: articles to be sold on the market were taken to club meetings to see if they met the approval of members; articles were purchased on other farm women's markets for exhibit and discussion; demonstration methods of marking articles were held; the extension specialist worked out designs, patterns, and recipes for the home demonstration agents to use with the women who were to make the articles; and public response helped to determine which articles were desired by purchasers.

It was the intention of the association not to interfere with the usual stores. During the depression most buying was confined to necessities, hence sales of handmade articles were not large.

The association paid rent until August 15, 1932, on a place large enough to accommodate a display space for handicraft and a small place for lunches. Space was then rented from the Singer Sewing Machine

Machine Company. In July, Mrs. J. G. Prater planned to add hot lunches to the marketing project. A menu using home products was prepared, and she began serving on Saturdays, using card tables, borrowed chairs, and her own china and silver. A little later, Mrs. Hugh Griffiths and her daughter-in-law took Wednesdays. They served mostly midday lunches. Six weeks after the opening they began alternating days. By August it was decided to give all the space to the lunchroom and discontinue the handicraft until just before Christmas. Handicraft goods were for sale only on special days after that time.

TABLE XLVII . RECEIPTS FROM HANDICRAFT SALES AND LUNCHESES,
KNOX COUNTY FARM WOMEN'S MARKETING ASSOCIATION,
1931 - 1936

Year	Sales	Lunches
1931	\$221.40	-
1932	1014.83	\$534.52
1933	125.00	2430.00
1934	2090.86*	2910.68
1935	658.36	3039.80
1936	-	3000.10
Total	\$4110.45	\$11915.10

* Includes special day sales at Christmas in 1933.

Source: Annual reports of Home Marketing Specialist in Agricultural Extension Office Files, University of Tennessee.

The Knoxville Club Market continued to operate at intervals until the latter part of June 1935 when the producers had sufficiently standardized their articles and gained confidence in themselves to the point where

they could fill orders. They began to sell through handicraft markets, at Norris, Gatlinburg, and in other states.

The Knoxville Club Market continued to operate until the latter part of June 1935. After that time only special day markets were held.

Farm women from other counties sold at the Knox County club market on special day markets, while Knox County women also sold on markets outside of the county. The first special day sale was held in Knox County. These days are usually held during special occasions, such as during the Farm Bureau Federation convention, Farm Women's week, and East Tennessee Educational Association meetings. Eighteen special day sales were held in Tennessee in 1940. Some of the special days were planned and managed by farm women and the products produced by and sold to farm women.

Producers who meet the standards sell to various markets outside the State as well as in Tennessee. A list of approved producers, and a list of approved and satisfactory handicraft markets is maintained by the home marketing specialist.

A large income cannot be expected from this type of work, since competition with manufactured articles has to be met. There also is not a large market demand since most of the handicraft articles are not necessities. However, many of the articles are made during leisure time. Association members realized considerable income during the depression,

and many have continued making handicraft articles. The association was given considerable publicity in the local newspapers which aided in putting before the public the work of home demonstration club members.

Success of the association and special day markets may be attributed to the following:

1. Standardizing the products.
2. Create a feeling of fair value.
3. Developing handicraft talent wherever found.
4. Developing a spirit of cooperation.
5. Building a workable program.
6. Teaching some principles of marketing such as cooperation, standardization and salesmanship.

The greatest difficulties in operating a club market, as listed by the home marketing specialist, are to get enough volume, especially from producers who have never standardized their articles and sold them before; and to pay rent, lights, heat, advertising and a manager, all from a 20 percent commission. It has proven more satisfactory to sell through other handicraft markets; but selling through a local market at the beginning is considered a good way to develop standards.

PLAN
OF WORK
SEPTEMBER 30, 1941
COMMUNITY CLUB
OCTOBER 1, 1940-
HARDIN VALLEY

Activity	Problem	Solution	Goal	Leader	Plan for Reaching Goal	Need	Facilities	Results
Live at Home	Furnish a balanced diet with little cash for family.	Year around supply of milk, eggs and vegetables.	20 families having year 'round garden.	J. E. Yarnell J. A. Gallaher	Evening school on family food supply. Demonstration - Mr. Pelton.	Information and guidance	Bulletins, specialists, school, county agents	
Beautification of Community	To improve appearance of school & church grounds and roadsides in community.	Hold community "working" one day each year to work on lawns and set shrubs. Educate children & adults to take pride in appearance of public grounds.	Every farmer in community give one day's work on public grounds each year. All fence rows along main roads cleaned out.	W. P. Walker A. J. Bryant M. L. Ball	Hold meeting on landscaping. Ask each farmer to clean out fence rows along main roads.	Information and guidance. Shrubs and flowers.	Specialists Donated by club members County agents	
Reforestation	Control of erosion. Additional cash crop.	Plant trees.	Reforest 1/5 of group 7 land.	Haywood Aycock C. W. Peak	Cooperate with TVA and CCC. Discuss erosion control by reforestation at evening school.	Trees.	T.V.A. C.C.C. County agents	
Winter Cover Crops	Control erosion. Conserve plant food. Produce feed for livestock.	Seed land in row crop to small grain, rye grass or winter legumes.	Every acre in row crop seeded to cover crop.	M. T. Broadrick J. E. Gallaher	Rye grass seed as grant of aid. Discuss value of cover crop at evening school.	Information and guidance.	Evening school A.A.A. County agents	
Evening School	Present experimental data for recommended farm practices.	Conduct regular class meeting once each week for 12 weeks.	To have each family in Hardin Valley represented at 100% of the classes.	J. J. Jones W. E. Robertson W. P. Walker	Ask Mr. Robertson to conduct school. Call roll each night to encourage attendance.	Instructor.	U. T. County agents	
Improve Beef Cattle	Have a better and more uniform grade of cattle in order to encourage buyers to come into the Valley and to increase income.	Use purebred bulls. Grow cow replacements.	Replace 3 grade bulls with purebreds.	J. J. Stafford Woodrow Brown	Discuss value of purebred bull at evening school. Organize bull association.	Money cooperative.	Individual or F.S.A. County agents	

HARDIN VALLEY PLAN OF WORK

Activity	Problem	Solution	Goal	Leader	Plan for Reaching Goal	Facilities		Results
						Need	Source	
Better Crops	Sufficient feed crops. Economical yields. Proper land use.	Plant varieties & crops adapted to local conditions.	90% of 1941 corn crops planted with certified seed. Adapted varieties of other seed.	George Miller C. W. Peak	Discuss value of certified seed at evening school. Buy certified seed cooperatively.	Information and guidance.	Specialists Evening school County agents	
Increase Cash Income	Sufficient cash to meet obligations.	Diversified crop and livestock production. More sources of income.	At least 4 sources of income sufficient to pay the taxes.	Mrs. G.B. Hardin Mrs. J.A. Callahan	More emphasis on poultry and cash crops.	Information and guidance.	Bulletins County agents	
Increasing Productivity of the soil	Grow more grass and legumes by use of lime and phosphate.	Lime, phosphate and deep rooted legumes.	Spread 1500 T. lime in 1941. Use triple superphosphate on all eligible fields that have been limed.	J. L. Davis Roy Miller	Take lime in lieu of AAA payment. Cooperate with TVA and UT in demonstrating value of triple superphosphate. Buy additional lime and phosphate.	Experimental data on value of lime and phosphate.	Evening school County agents Bulletins	

APPENDIX C

RURAL COOPERATIVE BUSINESS PROJECTS - Knox County March 1941

Community _____ Name of Farmer _____
 Address _____ Owner _____ Tenant _____
 Acres operated _____ Type of farming _____
 How many years have you participated in the following cooperatives:

Date Organ-ized	Name of Organization	In What Years Did You Par-ticipate	Total Years
1938	Knoxville Egg Auction		
1937	Dairy Herd Improvement Association *		
1935	Knoxville Fat Cattle Sales *		
1935	Knox Soil Erosion Control Association *		
1935	Refrigeration Association		
1935	Farm Security Administration *		
1934	Production Credit Association *		
1933	Grange *		
1933	Farm Bureau Credit Union *		
1931	County Farm Bureau *		
1930	Knox Sheep Growers Association		
1928	Knox County Dairymen's Association		
1927	Cooperative Telephone Exch.		
1927	Knoxville Wool Pool *		
1925	Cow Testing Association		
1925	Knox County Peach Growers' Association		
1925	Community Agricultural Club *		
1924	Knoxville Milk Producers Association *		
1921	Farm Products Exchange		
1920	National Farm Loan Association *		
1920	Farmers' Union		
1919	County Council of Agriculture		
1918	Community Fair Association		
1917	Farragut Cooperative Association		
1915	University of Tennessee Cooperative Creamery		
1913	Farmers' Mutual Fire Insurance Company *		
-	Fruit Growers' Association		
1910	Knox Co. Berry & Truck Growers Association		
1910	Strawberry Association		
	Others:		

* Cooperatives in operation at the present time.

What farm supplies did you buy thru a cooperative or with a local group in 1940?

Article	Amount	Value	Saving
Ex. Fertilizers - (4-10-0)	4 tons	\$100	\$8
1.			
2.			
3.			
4.			

What farm products did you sell thru a cooperative or with a local group in 1940?

Article	Amount	Value	Saving
Ex. Milk	30,000#	\$600	\$150
1.			
2.			
3.			
4.			

To what extent have you taken part in the following and other projects in your community?

A. Cooperative Farm Labor in 1940

Type of Labor	No. of Farmers Co-operating - Including Yourself	No. of Days Labor Exchanged	
		Re-ceived	Given
Ex. - Log rolling	4	2	0
Threshing	7	3	5
1.			
2.			
3.			

B. Cooperative Household Labor in 1940

Type of Labor	No. Cooperating	No. of Days Labor Exchanged	
		Re-ceived	Given
Ex. - Canning	2	3	2
1.			
2.			
3.			

C. Cooperative Transportation in 1940

Product	Amount	Total Miles Trans-ported	
		By Others	For Others
Ex. - Cattle, hogs, milk	3 cows, 15 hogs		80
Fruit and vegetables		40	
1.			
2.			
3.			

D. Cooperative Warehousing or Storing in 1940

Product	Amount	Length of Storage	
		At Others	For Others
Ex. - Wheat	300 bu.		2 mo.
Canned fruit and vegetables	38 qt.	Av. 6 mo.	
1.			
2.			
3.			

E. Cooperative Ownership of Machinery

Type of Implement	No. Cooperating - Include All Who Contributed to It	No. Years Cooperating
Ex. - Lime spreader	5	2
1.		
2.		
3.		

F. Livestock Improvement

Type of Association	Name of Local	No. Years Cooperating
1. Bull Association		
2. Sire Exchange		
3. Cow Testing		
4. Livestock Breeders' Association		
5. Others:		

G. Crop Improvement

Name	No. Years Cooperating
1.	
2.	

H. Other rural cooperative projects in which you have taken part. _____

I. In your estimation which cooperatives have proven most successful? _____

Why? _____

J. Which ones have proven least successful? _____

Why? _____

Remarks: _____

EXAMPLES OF COOPERATIVE ENTERPRISES

Cooperative Ownership of Farm Machinery

Disc harrows
Ditching machines
Ensilage cutters
Grain drills
Grain binders
Lime spreaders
Lime crushers
Hullers
Manure spreaders
Saw mills

Sheep shearing machines
Spray pumps
Stump pullers
Threshing machines
Tractors
Cider mills
Sorghum mills
Peanut recleaners
Mowing machines
Hay rakes

Cooperative Farm Labor

Construction of farm buildings
Cultivation of crops
Corn shucking
Harvesting
Log rolling
Fence building
Land clearing
Pea hulling
Silo filling

Threshing
Grazing and caring for herds
Rail making
Molasses making
Cotton picking
Fodder pulling
Making spray material
Spraying orchards
Pruning

Cooperative Purchasing or Selling

Fertilizer
Coal
Containers
Feed
Food supplies
Lime
Fencing material
Land
General merchandise
Apiary equipment

Explosives
Seeds
Trees and plants
Telephone equipment
Buildings
Livestock
Farm machinery
Gasoline & auto accessories
Insecticides and fungicides

Cooperative Warehousing and Storing

Apples
Grain
Tobacco
Ensilage
Feed
Merchandise

Cotton
Potatoes
Lime
Fertilizer
Seed

Cooperative Household Labor

Canning
Cooking for threshers, etc.
Bean stringings
Apple peelings, etc.
Quiltings
House cleanings
Mattress making

Cooperative Transportation

Milk
Poultry and poultry products
Other farm products
Laborers
School children
Fruit and vegetables