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Cooperative
Purchasing by
Indiana Farmers

by Gerald M. Francis



Farm Credit Administration
Cooperative Research and
Service Division
Washington, D. C.

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Indiana Farmers Through Federated County Farm Bureau Associations

By

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FARM CREDIT ADMINISTRATION

Cooperative Research and Service Division

WASHINGTON, D. C.

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Summary

COOPERATIVE purchasing by farmers in Indiana is performed by county cooperative associations federated in a central organization, the Indiana Farm Bureau Cooperative Association. This purchasing system was established largely through the initiative of farmers in their separate communities but with the assistance of the State association. Local ownership and local control by farmers characterize the whole system.

The Indiana Farm Bureau Cooperative Association maintains offices and warehouses in Indianapolis for the purpose of providing the county cooperatives with farm supplies of good quality and with essential centralized services. It makes contracts with manufacturers and processors of required commodities on both brokerage and purchase-and-sale bases. It also assists county cooperatives with accounting and auditing services and employs commodity specialists who help managers improve their distribution services and efficiency. County associations own the entire common stock of the State association, which they have acquired through patronage refunds. They elect its 11 directors.

The county cooperatives—the subject of this study—show marked variations in the character of their business operations. Each selects the supplies to be handled, purchases mostly through the State association but in part elsewhere, warehouses commodities as facilities permit, sells at prevailing local prices, and controls policies of granting credit to patrons. Petroleum products, comprising 31 percent of total sales in 1937, are sold mainly at farms by truck drivers. Other supplies are sold at the warehouses or by salesmen in special sales campaigns.

The associations have constantly expanded their services to farmer-patrons. They have reached out to extend to Indiana farmers throughout the State the benefits of large-scale purchasing power. In 1937 their total business reached approximately \$15,000,000. Of this amount 83 percent represented sales of farm supplies, chiefly petroleum products, fertilizer, feed, seed, fence, and farm machinery. Marketing of farm products accounted for the other 17 percent. The associations in that year served about half of the farmers in Indiana and handled approximately one-fifth of all farm supplies purchased for Indiana farms. They are the largest single source of farm supplies within the State.

Membership in the associations is limited to individuals, firms, and corporations that are engaged in some phase of agricultural production. Membership is based on ownership of at least one \$5 share of common stock. Usually a share can be obtained only through participation in patronage refunds. It therefore represents substantial purchasing through the association. The associations have approximately 50,000 members, and at least an equal number of other farmers are well along in the process of acquiring membership.

By keeping their cooperative services constantly in the farmers' minds, the associations endeavor to attract new members and stimulate the interest of old patrons. Personal contacts of the managers is the chief means of carrying on such educational activities. In many cases managers set aside a definite portion of their time for visiting farms of nonpatrons. Personal contacts are supplemented by holding special and annual meetings of members and their families, by mailing special sales circulars to members, and by having managers attend township farm bureau meetings.

Facilities commonly consist of petroleum bulk plants, warehouses, offices and equipment, trucking facilities, and branch warehouses. Those associations offering marketing services have grain elevators.

Credit may be extended on sales to patrons. Accounts receivable at the end of the year usually amount to less than 10 percent of the total sales of farm supplies. One-fourth of the associations have developed a service for assisting farmers in obtaining loans from production credit associations and from county farm bureau credit unions. This has relieved these cooperatives to some extent of their credit problems and has contributed to education of patrons in the benefits of using cooperative credit institutions.

Experiences of 15 associations that operate branches indicate that, although the distribution of supplies from branches may improve the services to patrons, it may increase the difficulties of operation so that more alert management is needed to assure the desired results.

Combining marketing services with purchasing activities, as is done by 25 Indiana associations, has helped to build business by attracting patrons. Frequently, however, it has led to lower average trading margins and to heavy expenses together with unsafe business practices that have occasionally resulted in losses.

The associations' net income amounted to more than half a million dollars in 1937. Although the rate of gross earnings on sales of supplies declined from 1934 to 1937, both because margins were lower on petroleum products in 1937, and because larger amounts of general farm supplies were handled at margins lower than those on petroleum supplies, expenses were also reduced. Thus a more diversified group of commodities with relatively lower gross margins was handled, but increased volume with resulting lower expense per dollar of sales

brought the average net operating income to nearly as high a percentage of total sales in 1937 as it was in 1934.

After paying expenses of operation and dividends on capital stock and providing for reserves and surplus, the associations refund the balance of their savings annually to patrons in proportion to the value of their purchases. These patronage refunds, which are usually paid at a uniform rate on combined sales of supplies, in 1937 ranged from 1 to 10 percent of sales. Refunds are customarily issued partly in cash and partly in common stock. Special cash refunds are commonly paid on fertilizer.

The assets of these associations were valued at approximately \$3,500,000 at the close of 1937. Current assets represented 60 percent and fixed assets 25 percent of the total. The ratio of current assets to current liabilities was 2.5 to 1. Long-term indebtedness accounted for less than 10 percent and net worth for 66 percent of total assets.

While obtaining added advantages from close cooperation with their State association each year, these cooperatives have continued to strengthen their individual methods of operation and to increase their local ownership and control.

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Cooperative Purchasing by Indiana Farmers

INDIANA farmers since 1922 have built a cooperative purchasing system of 86 locally owned and operated county farm bureau cooperative associations that together cover the entire State. In 1937 the total business handled by the 82 active associations had a value of \$14,500,000 with an average of \$176,000 per association. Included in this amount was \$2,504,000 derived from farm products marketed by 25 of the associations. Cooperative purchasing and related marketing activities have become increasingly important as farmers have felt the benefits of cooperation. These activities have been developed in additional counties since 1934 as a means of providing increasing numbers of farmer-patrons with the convenience of cooperative purchasing and marketing facilities in their rural neighborhoods. (See p. 12.)

Certain characteristics of Indiana agriculture, such as the proportion of total acreage employed in production, the amount of cash income received by farmers, and the pronounced stability of the agricultural population in Indiana indicate the importance of agriculture as a business in the State. Indiana had 89 percent of its area in farms on January 1, 1935, the latest year for which figures have been published. The average size of farms was 102 acres, about half of which was used for crops, with corn, hay, wheat, and oats predominating. Cash income on farms amounted in 1937 to \$300,562,000, of which 70 percent was from livestock and livestock products, 27 percent from crops, and 3 percent from Government benefit payments. Cash income per farm averaged \$1,496, while the average for the United States as a whole was \$1,248.¹ The proportion of owner-operated farms is high and the tenure is stable. Of the 200,000 farms 68 percent were owned in whole or in part by their operators; 63 percent of these owners had operated the same farm for 5 years or more, and more than 34 percent of them for 15 years or more.

NOTE.—The writer desires to express his appreciation to the officials of the Indiana Farm Bureau Cooperative Association and to the managers and the other employees of the county cooperatives for their full cooperation at all times during the progress of this study. Acknowledgment is also made of the special advice and assistance of I. H. Hull, general manager, and M. J. Briggs, assistant general manager and treasurer of the Indiana Farm Bureau Cooperative Association, and of Joseph G. Knapp and John H. Lister, Cooperative Research and Service Division, Farm Credit Administration.

¹ U. S. Department of Agriculture, CROPS AND MARKETS. XIV: 257. 1937.

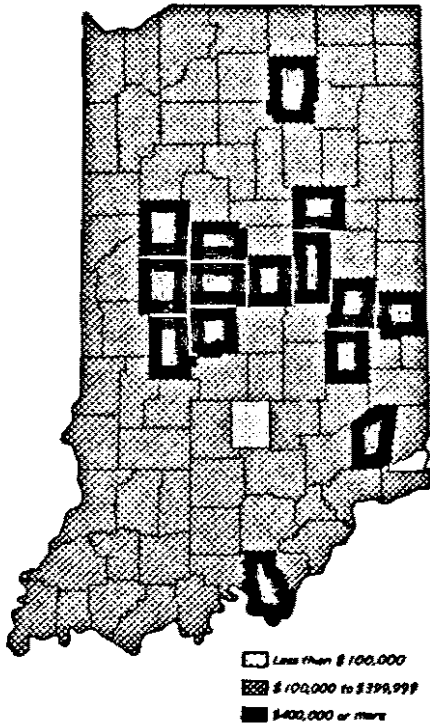


FIGURE 1.—FARM EXPENDITURES FOR FEED IN INDIANA, BY COUNTIES, 1929.

Expenditures for feed vary widely among the counties in the State. Heaviest cash outlays for feed occurred in the counties located fairly close to the Indianapolis market and in certain southeastern counties where livestock production is heaviest. In the 10 years since 1929 farmers have increased their purchases of mixed feed and have also expanded the volume of home-grown grain that is mixed into feeds by their county co-operatives.

To carry on the diversified production activities from which their income is derived, Indiana farmers must purchase large quantities of feed, seed, fertilizer, petroleum products, implements, tractors, motor-trucks, fencing, and such miscellaneous supplies as twine, spray materials, serums, and tools. In 1929, the latest year for which figures are available, feed cost Indiana farmers a total of \$26,135,018, an average of \$230 per farm; fertilizer a total of \$7,054,319, an average of \$85 per farm.² Approximate expenditures for feed and fertilizer by counties show considerable variation (figs. 1 and 2) with expenditures heaviest for feed in the central part of the State and for fertilizer in the southeastern section. In 1920 farmers in Indiana owned 102,122 automobiles, 3,671 motortrucks, and 9,230 tractors; by 1930 the number had increased to 154,556 automobiles, 30,037 motortrucks, and 41,979 tractors.³ More recent estimates show that in 1938 there were 208,743 automobiles, 46,697 motortrucks, and 82,013 tractors on Indiana farms.⁴ Petroleum and petroleum products purchased by Indiana farmers for tractors, trucks, and other farm

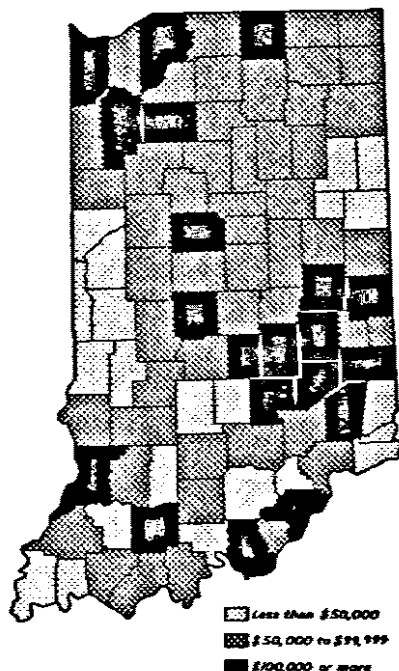
¹ U. S. Department of Commerce, Bureau of the Census, CENSUS OF AGRICULTURE, 1930, II: 1, 566.

² U. S. Department of Commerce, Bureau of the Census, CENSUS OF AGRICULTURE, 1929, V: 814; 1930, II (1): 565.

⁴ Automobile Manufacturers Association, Inc., AUTOMOBILE FACTS AND FIGURES. 21 Ed. 96 pp., Illus. 1939.

FIGURE 2.—FARM EXPENDITURES FOR FERTILIZER, IN INDIANA, BY COUNTIES, 1929.

Expenditures for fertilizer were heaviest in the southeastern and northwestern portions of the State. Fertilizer is used heavily in areas which specialize in truck farming, as in the region close to Chicago in the north portion of the State, and in the counties located conveniently to markets in Louisville, Ky., and Cincinnati, Ohio. The other counties that have heavy expenditures for fertilizer are in intensive grain-farming and livestock-producing areas.



machinery amounted in 1937 to approximately \$22,500,000 and averaged about \$112 per farm.⁴

This study is designed to show the position of the county cooperatives, their types of organization, and their methods of operation in serving their farmer patrons. Information based on 1934 operations was obtained from 82 associations. It was later supplemented with data for 1937 from 30 associations that were found to represent fairly accurately the general position of the cooperatives in Indiana and to show their various types of operations. The 30 associations are well distributed over the State and include some associations with unsatisfactory operating results as well as some of the most successful. Information concerning the relationship of county associations to the Indiana Farm Bureau Cooperative Association was obtained from officials of the central organization. These officials have supplied other information including copies of audits for the county purchasing associations which were exceedingly valuable in studying the trend of operations and in describing financial conditions.

⁴ To arrive at this figure, the retail value of petroleum supplies distributed to farmers by the 82 county associations in 1937 was multiplied by 5 because the associations reported that their petroleum sales averaged about 20 percent of total petroleum purchases by farmers in 1937.

Development of Farm Bureau Purchasing Cooperatives in Indiana

IN MARCH 1922 the Indiana Farm Bureau, together with the Indiana State Grange and the Indiana Farmers Grain Dealers Association, organized the Federated Marketing Service to provide a wholesale supply service for the county farm bureaus. A year later upon the voluntary withdrawal of the Grange and the Grain Dealers Association, the Service became the purchasing department of the Indiana Farm Bureau. In February 1927 this department was incorporated under the cooperative law of 1925 and became the Indiana Farm Bureau Cooperative Association, the wholesale agency serving the county farm bureau cooperatives. The common stock was held entirely by county farm bureau cooperative associations. The Indiana Farm Bureau ceased to control the organization.

The newly organized wholesale organization immediately undertook to develop a State-wide federation of locally owned and locally controlled cooperative purchasing and of cooperative purchasing and marketing units, partly through coordinating the activities of already existing associations and partly through developing others. In carrying out this program, up to 1935 it had organized 86 associations, 88 percent of which were organized in the 4-year period 1927-30.

The county associations began to distribute petroleum supplies in March 1928 with the sale of gasoline, kerosene, lubricating oil, and grease. The Montgomery County Farm Bureau Cooperative Association was the first to start services in this field. By 1930 distribution of these supplies was found to be readily adaptable to cooperative effort. Furthermore, wide margins prevailing on petroleum products made possible substantial savings to farmers at this time of depression prices for farm products. Consequently great expansion occurred with much of the construction work voluntary on the part of the local farmers (fig. 3). The rapidity with which the associations entered the petroleum supply field is shown by the following tabulation:

| Year: | Number of associations starting petroleum bulk plants |
|-----------|---|
| 1928..... | 1 |
| 1929..... | 9 |
| 1930..... | 23 |
| 1931..... | 22 |
| 1932..... | 7 |
| 1933..... | 1 |
| 1934..... | 3 |
| 1935..... | 2 |
| 1936..... | 0 |
| 1937..... | 0 |
| 1938..... | 0 |
| 1939..... | 1 |



FIGURE 3.—A GROUP OF INDIANA FARMERS WORKING TOGETHER IN CONSTRUCTION OF A PETROLEUM BULK PLANT.

Voluntary efforts by individual farmers have contributed largely to growth of the county farm bureau cooperatives.

Methods of Initial Financing in County Associations

In getting their county cooperatives launched, Indiana farmers used several methods of procuring initial funds. Newly organized purchasing associations which acquired the assets of farm bureaus that had previously conducted farm supply operations raised the purchase money in two main ways: (1) By selling common stock to farmer patrons, and (2) by letting county farm bureaus hold the cooperative's stock in trust for the membership. Common stock sold for cash by 18 associations ranged in amount from \$55 to \$5,360. The total cash received from these stock sales was \$15,945 and averaged \$886 per association.

Other associations obtained funds to buy warehouses, bulk plants, and other operating assets by the sale of preferred stock. Sixteen associations sold preferred stock with a total value of \$66,400, or an average of \$4,150 per association. These sales were usually made to farmers, but in some counties the farm bureaus bought such stock. Amounts purchased per farmer varied from \$100 to \$1,000.

More than half of the associations issued joint limited-liability bonds as security for bank loans, especially for financing construction of petroleum bulk plants and warehouses. Under the procedure a bond was circulated for signatures of outstanding farmers, each of whom pledged his liability varying from \$50 to \$200 for debts of the association. The total liability pledged on these bonds varied ordinarily from \$500 to \$10,000, but in some cases it was as high as \$15,000. The number of guarantors ranged from about 50 to 200 or more. Local

banks extended credit on these bonds in amounts varying from \$2,000 to \$8,000.

Directors of other associations, especially those in communities where banks were unwilling to accept farmers' liability bonds as security, raised the money upon the security of their own notes. Each director assumed full liability for the entire amount of the loan. In some cases the liability thus assumed was secondarily insured against by the group of farmers under a joint liability bond.

In several counties where the banks refused loans on liability bonds, associations financed the purchase of bulk plants by mortgage loans from the Indiana Farm Bureau Cooperative Association. In still other counties bulk plants were built and owned by the Indiana Farm Bureau Cooperative Association under a conditional sales agreement by which county associations gradually would acquire ownership.

For their first year of operation 65 of the 82 associations reported money borrowed for operating and facility purposes. The amounts averaged \$6,400 per association. While these borrowings ranged from less than \$1,000 to more than \$12,000, about half of them were for amounts ranging from \$4,000 to \$10,000, as shown in the following tabulation:

| Amounts borrowed: | Number of associations borrowing |
|---------------------------|----------------------------------|
| Less than \$1,000..... | 2 |
| \$1,000 to \$1,999..... | 5 |
| \$2,000 to \$2,999..... | 7 |
| \$3,000 to \$3,999..... | 6 |
| \$4,000 to \$4,999..... | 7 |
| \$5,000 to \$7,499..... | 18 |
| \$7,500 to \$9,999..... | 7 |
| \$10,000 to \$12,499..... | 6 |
| \$12,500 or more..... | 7 |
| Total..... | 65 |

The experience of county purchasing associations in putting funds thus borrowed to productive use was generally favorable. Margins on petroleum products were higher from 1930 to 1932 than in subsequent years; and, therefore, many associations paid off all or most of their indebtedness within 2 or 3 years. However, some associations preferred to disburse all or part of their earnings as cash patronage refunds, and this led in many cases to financial difficulty later when margins were diminished.

Services of the State Purchasing Association

From the first the State association has been concerned with establishing departments for special services to the county associations and also has sponsored other enterprises as an aid to its members. The State association is organized into commodity and special

service departments. It provides the county cooperatives with testing and grading assistance on all commodities purchased. It employs commodity specialists, who regularly visit county cooperatives for the purpose of improving distribution services through better methods of warehousing, displaying, and selling supplies. Periodically the departments help to organize and conduct meetings of county managers and salesmen for instruction and discussion in current problems of their respective commodity services. Through these meetings and regular visits of its commodity specialists the State association has contributed materially to the success of distribution programs of county associations.

Auditing and bookkeeping assistance has also been made available to the county associations from the State cooperative. Its auditors have installed the bookkeeping systems used by most county associations, and through periodic audits made on a fee basis they advise and assist the county managers in improving their accounting methods.

In order to perform better its functions as a wholesale purchasing agency for its member county associations, the Indiana Farm Bureau Cooperative Association holds membership in four regional cooperative supply and processing organizations. These four regional cooperatives, shown in figure 5 (p. 9), have developed sources of farm supplies through contracts with manufacturers, and in addition have in some cases carried on certain processing and manufacturing activities of their own. As a result of its membership in these regionals, the State association is assured a source of supplies of good quality and increased savings which come from combining much of its purchasing with that of other State and regional cooperative distributors.

The State association has always been alert to encourage special enterprises for the county associations as soon as sufficient need for them is manifested by members. For example, a program of improving the quality of poultry by blood testing was initiated by the State association at the request of farmers. This service is made available to all county cooperatives through operation of a State association hatchery at Indianapolis (fig. 4), and by contracts with 13 county associations for the joint operation of State-county farm-bureau hatcheries. These contracts provide that the State association shall supply all operating facilities, including hatchery equipment; and the local associations shall supply eggs and labor, supervise hatchery operations, and be responsible for marketing chicks. Net earnings of the cooperative hatcheries are divided equally between the State and county associations.

The State organization has sponsored and controls the Farm Bureau Serum Corporation at Thorntown, Ind., which conducts research in livestock disease prevention. This corporation to a limited extent supplies county cooperatives with serums for use by farmers



FIGURE 4.—INCUBATORS USED IN THE STATE ASSOCIATION'S HATCHERY AT INDIANAPOLIS.

Quality chicks from farm bureau cooperative hatcheries are in demand by increasing numbers of farmers. The poultry-improvement program since 1932 has aimed at disease-free strains of poultry of high producing qualities. In 1938 reports made to the cooperative hatcheries from 500 laying flocks showed an average laying flock mortality of 9.9 percent and average egg production of 168 eggs per bird.

and also distributes much of its serum products directly to farmers.

In 1938 the State association assisted in organizing the Indiana Grain Cooperative, Inc. This cooperative has complete terminal storage facilities in Indianapolis for receiving grain from farmers' associations that perform a marketing service. The State association purchased the facilities and at present (1939) owns them and has some control over its management; but since only local farmers' cooperatives may own common stock, when this loan is paid off county member associations will fully control the plant.

In December 1939 the State association completed construction of a 40,000-ton fertilizer-mixing plant at Indianapolis in order to supply county cooperatives with quality fertilizer at the most economical prices. Funds in excess of \$100,000 were subscribed by most of the county associations and by many farmers in order to assure the erection and the successful operation of this plant. The cost of the plant totaled about \$200,000. This plant and subsequently a second one to be located in the southern part of the State will meet the fertilizer requirements which during the previous 15 years were obtained by contract with a private manufacturer.

In November 1939 the State association began erecting, at Mt. Vernon, an oil refinery with a capacity of 2,500 barrels daily. This refinery will begin about March 1940 to process crude oil from wells in southwestern Indiana and southeastern Illinois. It will be equipped at first to produce the lower grade fuels such as third grade gasoline, kerosene, tractor fuel and distillate, which comprise a considerable part of the petroleum fuels distributed by the cooperatives.

The State association has assisted in the rural electrification program in Indiana by helping to organize the Indiana Rural Electric Member-

ship Cooperative, a technical and service agency interested in getting legislation beneficial to counties concerned with the rural electrification program. Moreover, the State purchasing organization has obtained favorable contracts with manufacturers and brokers so that the county associations may purchase electrical materials and appliances through their own cooperative wholesale agency.

Figure 5 summarizes the principal organization relationships of the Indiana Farm Bureau Cooperative Association and its member county associations, as set up according to their articles of incorporation and bylaws. Farmer members control the county associations through ownership of their common stock and through election of their directors. As member stockholders of the State association the county cooperatives send delegates to district meetings of the associations. In each of the 10 farm bureau districts (fig. 6) these delegates nominate 1 director of the State association. The eleventh director is nominated by the Indiana Farm Bureau. Directors are elected at the associations, annual meeting. All business of the State association is conducted through its 15 departments shown in figure 5.

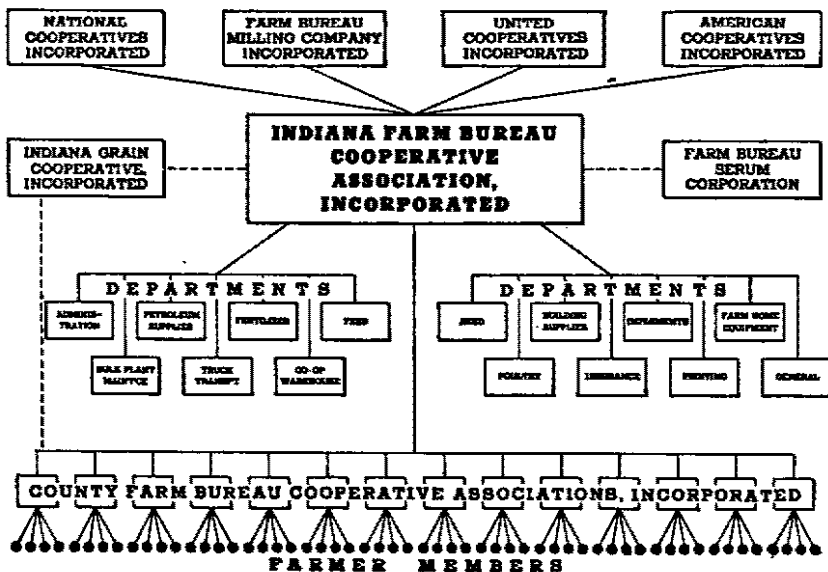


FIGURE 5.—ORGANIZATION STRUCTURE OF THE INDIANA FARM BUREAU COOPERATIVE PURCHASING SYSTEM.

Services of the Indiana cooperative purchasing system extend from the central wholesale unit through the local cooperatives to the individual farmers.

Organization Structure of County Associations

THE Indiana Cooperative Marketing Act of 1925^{*} and its subsequent amendments provide the legal basis for the county farm bureau cooperative associations. This act provides that a cooperative association may be organized by 11 or more persons, a majority of whom must be residents of Indiana engaged in the production of agricultural products, or by not less than 3 corporate bodies organized under the cooperative act of Indiana or of any other State, or which comply with the Capper-Volstead Act. Such associations, under the statute, may be empowered to engage in any activity in connection with processing and marketing farm products; handling supplies, machinery, and equipment; and rendering economic and educational services. The act stipulates that if an association handles the products of nonmembers, the value of such products must not exceed the total of similar products handled for members during any fiscal period. The act further provides that an association may admit to membership only individuals or political subdivisions which are engaged in farming and eligible cooperative associations of producers.

To assist in the organization of county cooperative associations under the provisions of the Cooperative Marketing Act, the Indiana Farm Bureau Cooperative Association has prepared standard articles of incorporation and bylaws. Practically all the county associations have been organized on the basis of these articles and bylaws.

The standard articles set forth the purposes for which a county farm bureau cooperative association is formed, its place of business, the number of its directors and the amount of its authorized capital stock. The articles state also that ownership of the common stock shall evidence membership in an association; and that holders of common stock shall each have one and only one vote in membership meetings irrespective of the number of shares held. The articles further provide that preferred stock may be issued and that such stock shall bear cumulative dividends at 6 percent payable annually. This stock may be redeemed on any dividend date at par value plus accumulated dividends. Preferred stock may be owned by any person, firm, or corporation; but it does not entitle its holders to the right to vote or to any other privilege of membership.

^{*} Indiana Laws of 1925, as amended. Chap. 20.

FIGURE 6.—FARM BUREAU DISTRICTS IN INDIANA.

County associations elect 1 director from each of the 10 farm bureau districts. These districts serve as administrative units for both the county farm bureaus and the county farm bureau cooperative associations in their selection of delegates to their respective annual meetings. The close collaboration between the local and State-wide activities of farm bureau organizations is facilitated by this district form of representation.



The standard bylaws provide for such matters as the method of holding stockholders' meetings, the election of directors, the conduct of directors' meetings, the powers of directors, and the issuance of capital stock. A provision of the bylaws⁷ having to do with the relationship of the county associations and the Indiana Farm Bureau Cooperative Association requires the associations as far as possible to hold common stock in the State association and to purchase supplies and equipment through it. Another important provision of the bylaws requires that all net income of county associations, after payment of dividends on preferred stock at the fixed rate of 6 percent, on common stock at not to exceed 6 percent, and for certain reserves and surplus, shall be distributed to patrons in proportion to their patronage. It is stipulated that patronage dividend distribution shall be in cash, in common stock, or in certificates of indebtedness.⁸

⁷ Art. VI, sec. 4.

⁸ Bylaws, Art. VII.

Status of County Associations

A BRIEF analysis of the purchasing associations in Indiana shows the general character of the county farm bureau cooperatives in the State. Information is here presented relative to their number and their location, the nature of their activities, the number of their members and other patrons, and certain organization and supervisory practices. A summary of operating and financial data for the associations is then given for the years 1934 and 1937. This information is intended to provide a background for a detailed analysis of 30 selected associations.

Number and Location of Associations

At the close of 1937 there were 86 locally owned and operated county cooperative purchasing associations, 4 of which were relatively inactive. Associations were located in all but 6 of the 92 counties in the State (fig. 7). Each association serves the entire county in which it is organized. Counties that have no associations are usually served in whole or in part by the purchasing cooperatives of neighboring counties.

Types of Associations and Commodities Handled

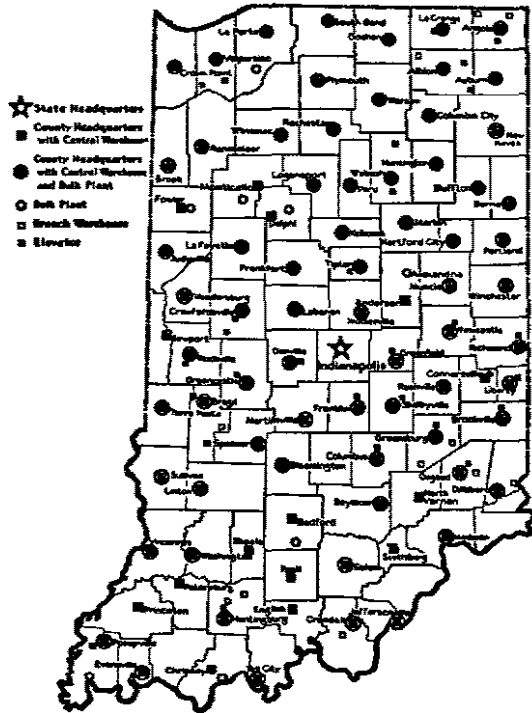
Although the 82 active associations, after excluding the 4 that operate irregularly, are generally similar in their organization and cooperative services, they may be classified into two principal types: (1) 57 associations which purchased farm supplies and rendered no marketing service for patrons, and (2) 25 associations which handled both supplies and farm products. The associations of the first group, which did not engage in marketing farm products, each operated only one central warehouse; 13 associations of the second group operated branch warehouses because the marketing of farm products more generally demanded local facilities.

The associations handle a wide variety of farm supplies. In fact, supply services of the Indiana cooperatives are probably as diverse as those of any established farmers' cooperative purchasing system in the country. Principal supplies purchased by all the associations for their farmer-patrons include petroleum products, feed, seed, fertilizer and limestone, fencing, binder twine, tires and batteries, insecticides and serums, and baby chicks. One-third of the associations also provide patrons with supplies such as building materials, farm implements, electrical equipment, poultry and dairy supplies, and coal.

The principal farm product marketed by the 25 associations are wheat, corn, oats, barley, soybeans, butterfat, poultry and eggs, and livestock and wool.

FIGURE 7.—LOCATION OF HEADQUARTERS AND FACILITIES OF INDIANA COUNTY COOPERATIVE ASSOCIATIONS IN 1937.

County cooperatives are located in all but 6 counties in Indiana. Headquarters are usually in the county seat. About 25 cooperatives have maintained additional facilities at country points for marketing grain. This type of operation has been expanded noticeably in the last 4 years. By means of handling supplies at these elevators and, in some counties, at branch warehouses, about half of the cooperatives have extended their services closer to their patrons' neighborhoods.



Expansion by the associations from year to year both in number and in volume of farm supplies distributed is illustrated by the growth of a typical association (table 1). Besides adding each year to the supplies it handled, the selected association almost tripled its volume of business, increased its year-end inventory almost tenfold, and expanded its net worth fourfold.

TABLE 1.—GROWTH IN SALES, INVENTORY, NET WORTH, AND COMMODITIES HANDLED IN A TYPICAL INDIANA COUNTY PURCHASING ASSOCIATION, 1931-38.

| Year | Sales | Inventory | Net worth | Kinds of commodities handled | Year | Sales | Inventory | Net worth | Kinds of commodities handled |
|------|----------------|----------------|----------------|------------------------------|------|----------------|----------------|----------------|------------------------------|
| | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Number</i> | | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Number</i> |
| 1931 | 57, 223 | 1, 360 | 7, 608 | 5 | 1935 | 123, 340 | 7, 541 | 11, 196 | 16 |
| 1932 | 46, 412 | 2, 432 | 7, 732 | 10 | 1936 | 140, 670 | 11, 572 | 18, 629 | 17 |
| 1933 | 79, 494 | 3, 888 | 8, 288 | 13 | 1937 | 160, 923 | 12, 933 | 25, 659 | 18 |
| 1934 | 111, 629 | 5, 841 | 9, 487 | 16 | 1938 | 146, 372 | 11, 317 | 30, 060 | 19 |

Data computed by the author from records of an Indiana farm bureau county cooperative.

Number of Member and Nonmember Patrons

The number of farmer patrons and holders of common stock of the county cooperatives has increased each year since the first association was incorporated in 1926. The 82 associations reported 31,925 stockholding members at the close of 1934 with an average per association of about 400. At the end of 1937, membership in these 82 associations totaled about 50,000, or an average of 600 members per association; 25 of the associations each had 700 or more members. Since membership status has been acquired largely by patrons through ownership of common stock obtained as patronage refunds, the increase in number of members is indicative of the growth in patronage of the cooperatives.

Besides their stockholding members, all county associations regularly serve many nonmember patrons. In 1937 the 82 associations had approximately 55,000 nonmember patrons, which was about 52 percent of all patrons. The 35,000 nonmember patrons in 1934 also represented about 52 percent of the total. However, nonmember patrons' annual purchases are considerably less than those of members and are also made less frequently. Many of the nonmember patrons, too, are owners of a portion of a share of common stock and are thus in the process of becoming members.

Information obtained in the course of this study indicates that perhaps one-fourth of all Indiana farmers support the county cooperatives with their full patronage, while another fourth support the county associations to some extent.

Directors and Employees

The standard bylaws of the county associations provide for government by boards of directors. The directors are authorized to borrow money and to perform other acts necessary for the proper conduct of the association and not inconsistent with the law and the bylaws. Under the bylaws, members of the associations elect their directors annually for terms of 2 years. Customarily, the terms of half the directors expire each year. Since directors may be reelected, more than half of the directors are usually experienced. In many associations the directors are elected on a township basis. The number of directors per association in 1935 varied from 5 to 19, with 11 the most usual number. The bylaws generally specify that directors' meetings shall be held quarterly, and at such other times as the directors decide. Directors' meetings are held usually monthly or quarterly.

The bylaws prohibit directors from becoming indebted to their associations during their terms of office, and preclude from serving as directors persons who have a relative employed by the cooperative.⁹

⁹ Amendments to the Cooperative Marketing Act of Indiana, adopted in 1936, make it a misdemeanor for any officer or director to knowingly extend after March 1, 1940 an amount of credit to an officer, director, or employee of an association in excess of that permitted by the bylaws or, if no bylaw on the subject has been adopted, then in excess of the amount specified in the statute.

Many directors are reelected as their terms expire. Tenure records of 502 directors in 50 associations in 1935 indicated that over one-fourth had served 4 years or more. A majority of directors are outstanding farmers who have demonstrated over a period of years loyal support of their cooperatives.

The board of directors usually elects an executive committee of three members to act between regular board meetings. All acts of this committee are subject to rejection or modification by the board of directors. In general, meetings of the executive committee are on call, and the number of meetings depends entirely upon the matters that need attention.

The directors appoint a manager to conduct the day-to-day affairs of the association, subject to their general supervision. Most managers hire and discharge workers as they see fit, but they usually carry out decisions affecting personnel only after conference with the directors or the executive committee.

Practically all managers of county cooperatives have a farm background. Many have been leaders in county farm bureau activities and some have had other business experience, either in farming or in private trade. Managers of many associations have held their positions for a number of years. For example, of 55 managers interviewed in 1935, 22 had been employed 5 years or more.

Besides the managers, there were on the average 8 other employees per association in 1935, the highest number for any association being 23. Each association employed from 3 to 6 men for petroleum delivery. Other employees are classified as warehouse assistants, bookkeepers and other office assistants, and general servicemen.

Operating Conditions, 1934 and 1937

Dollar volume of business of the 82 active associations was about 75 percent higher in 1937 than in 1934. Aggregate commodity sales in 1937 were \$14,450,563, or an average of \$176,000 per association; in 80 associations reporting in 1934 total commodity sales were \$8,193,351, or an average per association of \$102,000.

Table 2 shows for these 2 years total and average sales of petroleum products, general farm supplies, and farm products. Average petroleum sales per association increased almost 50 percent, but the proportion of petroleum sales to total sales declined from 36.4 percent in 1934 to 31.1 percent in 1937. Average sales of general farm supplies per association almost doubled, and increased from 46.2 percent of total sales in 1934 to 51.6 percent in 1937. Although increases were shown in sales of all farm supplies between 1934 and 1937, the largest gains were made in such commodities as tractor fuel, farm machinery, and building supplies, which had been added more

TABLE 2.—VALUE OF SALES OF INDIANA FARM BUREAU COUNTY COOPERATIVE ASSOCIATIONS, 1934 AND 1937

| Commodity | Total sales of associations | | Average sales per association | | Percentage of total sales | |
|--|-------------------------------|-------------------------------|-------------------------------|---------------------------|---------------------------|-------------------------|
| | 1934 | 1937 | 1934 | 1937 | 1934 | 1937 |
| Petroleum supplies: ¹ | | | | | | |
| Gasoline..... | <i>Dollars</i> 1, 957, 673 | <i>Dollars</i> 3, 055, 162 | <i>Dollars</i> 24, 471 | <i>Dollars</i> 37, 258 | <i>Percent</i> 23. 9 | <i>Percent</i> 21. 2 |
| Kerosene..... | 660, 422 | 682, 056 | 8, 255 | 8, 318 | 8. 1 | 4. 7 |
| Distillate and tracto- line..... | 62, 898 | 376, 493 | 786 | 4, 501 | . 8 | 2. 6 |
| Oil, grease, and al- cohol..... | 296, 882 | 374, 773 | 3, 711 | 4, 571 | 3. 6 | 2. 6 |
| Total petroleum supplies..... | 2, 977, 875 | 4, 488, 484 | 37, 223 | 54, 738 | 36. 4 | 31. 1 |
| General farm supplies: ¹ | | | | | | |
| Feed..... | 1, 646, 581 | 2, 981, 747 | 20, 582 | 36, 363 | 20. 1 | 20. 6 |
| Fertilizer..... | 671, 881 | 1, 213, 591 | 8, 399 | 14, 800 | 8. 2 | 8. 4 |
| Seed..... | 416, 535 | 663, 608 | 5, 207 | 8, 093 | 5. 1 | 4. 6 |
| Coal..... | 333, 094 | 543, 655 | 4, 164 | 6, 630 | 4. 0 | 3. 8 |
| Fence..... | 198, 968 | 367, 228 | 2, 487 | 4, 478 | 2. 4 | 2. 5 |
| Farm machinery..... | 113, 991 | 748, 528 | 1, 425 | 9, 128 | 1. 4 | 5. 2 |
| Building supplies..... | 72, 435 | 399, 751 | 905 | 4, 875 | . 9 | 2. 8 |
| Miscellaneous ² | 334, 871 | 539, 989 | 4, 186 | 6, 585 | 4. 1 | 3. 7 |
| Total general sup- plies..... | 3, 788, 356 | 7, 458, 097 | 47, 355 | 90, 952 | 46. 2 | 51. 6 |
| Farm products marketed: ³ | | | | | | |
| Wheat..... | 695, 808 | 984, 750 | 8, 698 | 12, 009 | 8. 5 | 6. 8 |
| Corn..... | 130, 746 | 616, 436 | 1, 634 | 7, 518 | 1. 6 | 4. 3 |
| Other grains..... | 174, 837 | 93, 637 | 2, 185 | 1, 142 | 2. 1 | . 6 |
| Soybeans..... | 13, 647 | 86, 456 | 171 | 1, 054 | . 2 | . 6 |
| Livestock and live- stock products..... | 412, 082 | 722, 703 | 5, 151 | 8, 813 | 5. 0 | 5. 0 |
| Total farm prod- ucts marketed..... | 1, 427, 120 | 2, 503, 982 | 17, 839 | 30, 536 | 17. 4 | 17. 3 |
| Grand total..... | 8, 193, 351 | 14, 450, 563 | 102, 417 | 176, 226 | 100. 0 | 100. 0 |

¹ 80 associations in 1934 and 82 in 1937.

² Includes binder twine, spray materials, insecticides, tires, tubes, batteries, anti-freeze, hardware, tools, poultry supplies, baby chicks, salt, harness, electrical supplies, and other items.

³ 25 associations.

Source of data: Records of the Indiana farm bureau county cooperative associations.

recently to the supply business of the associations. Average sales of farm products nearly doubled, but the proportion to total sales did not change.

A consolidated operating statement for the associations for 1937 and 1934 is presented in table 3. Cost of goods sold represented

85.7 percent of sales in 1937 and 83.4 percent in 1934, leaving gross trading income averaging 14.3 percent and 16.6 percent of sales in the 2 years respectively. This decline in average rate of gross income may be explained partly by lowered gross trading margins on petroleum supplies, but more largely by the fact that in 1937 larger proportions of total sales were of the nonpetroleum type, on which even lower gross margins were obtainable.

A significant trend shown in table 3 is the lowering of expenses per dollar of sales between 1934 and 1937. This was, no doubt, the result of increased efficiency through larger volume of business and also of a decline in delivery costs per dollar of sales since there were substantially larger increases in nonpetroleum supply sales, which do not require delivery, than in petroleum sales.

The decrease in the rate of net operating income from 3.5 to 3 percent of sales may be attributed to a decline in operating expenses from 13.9 to 12.1 percent of sales, while gross operating income per dollar of sales fell from 17.4 to 15.1 percent of sales. It is a striking fact that the associations handled in 1937 a larger volume of business at a lower average rate of gross income, yet they earned the same rate of net income on their total sales in 1937 as in 1934. This was partly due to the fact that the rate of "Other income" increased while the rate for "Other deductions" fell off.

TABLE 3.—CONSOLIDATED OPERATING STATEMENTS, INDIANA FARM BUREAU COUNTY COOPERATIVES, 1934 AND 1937

| Item | Summary of 80 associations, 1934 | | Summary of 82 associations, 1937 | |
|-----------------------------|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|
| | Amount | Percent- age of total sales | Amount | Percent- age of total sales |
| Sales..... | <i>Dollars</i> 8, 193, 350. 74 | <i>Percent</i> 100. 0 | <i>Dollars</i> 14, 450, 563. 46 | <i>Percent</i> 100. 0 |
| Cost of sales..... | 6, 830, 446. 63 | 83. 4 | 12, 377, 941. 09 | 85. 7 |
| Gross trading income..... | 1, 362, 904. 11 | 16. 6 | 2, 072, 622. 37 | 14. 3 |
| Other operating income..... | 63, 616. 71 | . 8 | 118, 130. 79 | . 8 |
| Gross operating income..... | 1, 426, 520. 82 | 17. 4 | 2, 190, 753. 16 | 15. 1 |
| Operating expense..... | 1, 142, 475. 89 | 13. 9 | 1, 746, 597. 66 | 12. 1 |
| Net operating income..... | 284, 044. 93 | 3. 5 | 444, 155. 50 | 3. 0 |
| Other income..... | 56, 433. 73 | . 7 | 123, 044. 59 | . 9 |
| Other deductions..... | 44, 890. 08 | . 6 | 47, 774. 70 | . 3 |
| Net income..... | 295, 588. 58 | 3. 6 | 519, 425. 39 | 3. 6 |

Source of data: Records of the Indiana farm bureau county cooperative associations.

Financial Condition, 1934 and 1937

The most significant features of the associations' combined balance sheets in both years were (1) the high percentage of current assets, (2) the favorable ratio of current assets to current liabilities, and (3) the substantial net worth in relation to total assets.

Total assets of the 82 associations at the close of 1937 were \$3,459,451, and in 1934 they were \$2,115,254 (table 4). Average assets per association rose from \$26,441 in 1934 to \$42,188 in 1937.

Current assets were more than half of all assets in 1934 and had reached 60 percent of the total at the close of 1937.

The ratio of current assets to current liabilities was 2.2 to 1 in 1934 and 2.4 to 1 in 1937.

Net worth of the associations increased from 64.5 percent of all their assets in 1934 to 65.6 percent in 1937, and indicate the degrees of ownership by farmer-members of their own supply business.

TABLE 4.—FINANCIAL CONDITION OF INDIANA FARM BUREAU COUNTY COOPERATIVES, 1934 AND 1937

| Item | Summary of 90 associations, 1934 | | Summary of 82 associations, 1937 | |
|---------------------------------------|----------------------------------|---------------------|----------------------------------|---------------------|
| | Amount | Percentage of total | Amount | Percentage of total |
| <i>Assets</i> | | | | |
| Current assets: | <i>Dollars</i> | <i>Percent</i> | <i>Dollars</i> | <i>Percent</i> |
| Cash | 169,211 | 8.0 | 266,316 | 7.1 |
| Accounts and notes receivable | 333,790 | 15.8 | 669,688 | 19.3 |
| Inventories | 681,061 | 32.2 | 1,141,807 | 33.1 |
| Other | 19,782 | .9 | 28,830 | .8 |
| Total current assets | 1,203,844 | 56.9 | 2,066,641 | 60.3 |
| Fixed assets (book value) | 649,408 | 30.7 | 669,161 | 20.1 |
| Other assets | 263,042 | 12.4 | 504,749 | 14.6 |
| Total assets | 2,115,254 | 100.0 | 3,459,451 | 100.0 |
| <i>Liabilities</i> | | | | |
| Current liabilities: | | | | |
| Accounts payable | 226,681 | 10.7 | 408,506 | 11.8 |
| Notes payable | 232,507 | 11.0 | 274,168 | 7.9 |
| Other | 97,977 | 4.6 | 174,679 | 5.1 |
| Total current liabilities | 557,165 | 26.3 | 857,348 | 24.8 |
| Noncurrent liabilities | 194,428 | 9.2 | 391,227 | 9.6 |
| Total liabilities | 751,593 | 35.5 | 1,188,575 | 34.4 |
| <i>Net worth</i> | | | | |
| Capital stock: | | | | |
| Preferred stock | 165,300 | 7.8 | 172,315 | 5.0 |
| Common stock | 692,170 | 33.0 | 1,048,530 | 30.3 |
| Common stock (credits) | 108,148 | 5.0 | 278,109 | 8.0 |
| Reserves and undivided savings | 438,043 | 20.7 | 771,122 | 22.3 |
| Total net worth | 1,363,661 | 64.5 | 2,270,876 | 65.6 |
| Total liabilities and net worth | 2,115,254 | 100.0 | 3,459,451 | 100.0 |

Source of data: Records of the Indiana farm bureau county cooperative associations.

Operating Methods in 30 Selected County Associations

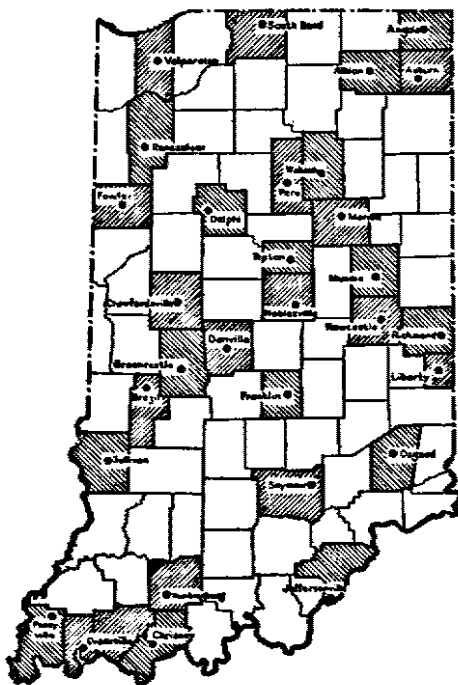
THE distinctive and the common features of 30 county associations (fig. 8) have been selected for special analysis to show how these associations serve Indiana farmers. While these 30 associations have certain distinguishing features in respect to composition of sales and number of places of business, in general they are similar to all the county associations in their facilities and their methods of operation. On the whole they have been more progressive in developing new lines of supplies than the average association and their growth has been more consistent. Furthermore their business records were probably more complete than those of some associations.

Types of Associations Selected

The 30 county cooperatives are of two principal operating types: (1) Twenty-two are entirely farm supply associations that perform no marketing service. In 17 of these, general farm supplies were handled to the extent of two-thirds of their aggregate 1937 sales, with petroleum products accounting for the remaining one-third. These 17 associations will be referred to hereafter as "general-supply associations." The other 5 associations made 60 percent or more of

FIGURE 8.—LOCATION OF 30 ASSOCIATIONS SELECTED FOR SPECIAL ANALYSIS.

Activities of these 30 associations include all services rendered by the Indiana cooperatives. While they represent on the average a larger volume of operations per association than is found in the entire 82 associations, they present all the characteristics and problems that have been met by the whole group. Methods of operation in the 30 cooperatives are in general typical of farm bureau supply activities throughout the State.



their 1937 farm supply sales in petroleum products, with the remainder consisting of general farm supplies. These 5 associations will be designated hereafter as "petroleum associations." (2) Of the 30 associations, 8 marketed farm products with an average value equal to more than one-third of their combined supply and marketing business and had less than 20 percent of their total business in petroleum products. These 8 associations will be referred to as "marketing associations."

In 18 of the 30 associations all operations were conducted from one central warehouse, while 12 operated one or more branches. In addition to these branches, 6 associations sold small amounts of farm supplies in 1937 through agent dealers in various parts of their territories.

Membership Relations and Educational Work

Members of the associations—that is, patrons who have acquired one share of common stock—usually are fewer than nonmember patrons, although they represent the bulk of sales. At the close of 1937 the 30 associations had 22,122 members, or an average of 737 each. The largest number of members in an association was 2,172, and the smallest was 212. In addition to these stockholding members, they had a total of 39,399 nonmember patrons with an average of 1,313 per association. The larger average number of nonmember patrons may be explained partly by the fact that many farmers have in recent years become patrons and are in process of becoming members, but their total patronage has been too small to entitle them to a full share of common stock as a refund.

The 17 general associations had member patrons averaging 558 and nonmember patrons averaging 1,467; the 5 petroleum associations had member patrons averaging 725 and nonmember patrons averaging 1,019; and the 8 marketing associations had an average membership of 860 and average nonmember patrons numbering 1,170. This contrast in the average number of member and nonmember patrons may be further explained by the fact that the 17 general-supply associations, because they handled a wider variety of supplies, usually had a larger proportion of small-volume patrons than the petroleum and marketing associations.

Agricultural producers comprised 95 percent or more of all patrons. Nonproducer patrons who were ineligible for membership and who also purchased miscellaneous supplies in amounts too small to become members were less than 50 in most of the associations.

Membership activities normally affect only those patrons who have become members, but the programs of cooperative education and business promotion include both members and nonmembers. During

the 4 years ending in 1937, the associations confined their educational activities among farm patrons largely to membership meetings, personal visits, direct contacts through information circulars, and some advertising in newspapers.

While annual membership meetings are open to all patrons, they are participated in only by members. Attendance at annual meetings of county associations in 1937 ranged from 10 percent to 75 percent of the total membership with an average of about 50 percent. In about 10 associations these membership meetings were attended by 400 to 600 members. Annual meetings usually are held in the county courthouse or in a community building at the county seat. The principal business of the meetings is a report by the manager or president of the association on business operations and problems during the previous 12 months. Several associations in recent years have developed attractive entertainment features for their annual meetings.

Special meetings of the members of county cooperatives are seldom held. About the only need for such meetings has been for ratifying certain official acts that require membership approval, such as amendments of charters or changes in bylaws.

Membership education and publicity by county associations consist principally of personal contacts with farmer patrons in serving them and discussions by managers and directors at monthly township farm bureau meetings. In personal contacts and at the township meetings, managers, employees, and directors, explain their cooperatives' programs of supplies and services to farmers and encourage farmers to give their patronage.

Advertising of cooperative supplies and services in local newspapers has been used to a limited extent. During the last 3 years there has been less advertising in newspapers of general county-wide circulation which do not reach all farmers. However, most associations keep cordial relations with local newspapers by occasional or regular purchase of advertising space and by providing items relating to general farm activities. Direct mail letters or cards and printed circulars distributed at their offices have been found by the cooperatives to be most effective methods of attracting farmers' attention to cooperative services. Most of the associations distribute souvenirs, such as pencils, calendars, and farm record books, as a form of business advertising among patrons. Each souvenir carries the name of the cooperative association and usually supplies and services available are listed.

Supervision

Local county directors supervise the operations of the 30 associations. Candidates for directorships are selected in various ways. As prescribed by the standard bylaws, a special nominating committee

named the candidates in 16 of the 30 associations in 1937. This committee is appointed each year by the president at least 90 days in advance of the annual meeting. Seven associations nominated their candidates at their annual stockholders' meeting. Three of these associations restricted election in 1937 to the nominees named in the cooperative's annual meeting; and these nominees consisted only of county farm bureau directors, each of whom represented one township (p. 14). Seven made nominations at township farm bureau meetings with only members of the cooperatives voting, or in committee meetings. One of these associations nominated and elected its directors in the township farm bureau meetings, a practice considerably at variance from the methods outlined in the standard bylaws.

The close identity existing between the membership of county farm bureaus and county cooperatives has in a few cases appeared to justify the use of farm bureau meetings for transacting official business of the cooperative. However, the belief was predominant in the cooperatives that since membership is based upon the requirement of ownership of common stock, all official acts of the organizations requiring membership approval should be conducted in regular or special cooperative membership meetings.

The usual method of compensating directors is by a fixed per diem fee with allowances for travel to and from meetings. In two instances in 1937 directors' compensation amounted to as much as \$800. In general, however, directors' compensations ranged from \$100 to \$500 for the year.

At the directors' meetings, managers usually present written or oral reports of the business operations since the previous meeting and set forth the financial condition of the association. The reports include such information as sales volume, expenses, net income, inventories, cash condition, accounts receivable, and current indebtedness, and membership and patrons.

Employees

Managers of county associations are hired by the directors. In 26 of the 30 associations they are hired by verbal contracts, which generally run continuously from year to year unless other formal action is taken by the directors. Managers of 4 associations are under written contract. Some written contracts continue until revoked; others are renewed yearly. Both parties have the right to cancel managers' contracts by giving 30 days' notice.

The 30 county associations in 1937 had, besides their managers, 234 wage employees and 115 petroleum truck drivers who work on a commission basis. The number of each class of employees for the 30 associations as a group in 1937 was as follows:

| | |
|----------------------------|------------|
| Managers..... | 30 |
| Branch managers..... | 21 |
| Bookkeepers..... | 57 |
| Warehousemen..... | 97 |
| General truck drivers..... | 33 |
| General servicemen..... | 26 |
| Petroleum deliverymen..... | 115 |
| Total..... | 379 |

The most usual method of compensating managers is by a straight salary, although a few associations pay a fixed salary and a commission. Most of the managers receive about \$1,800 a year. Salaries do not vary in close relationship to the volume of annual sales or the diversity of operations. Compensations of employees on weekly wages vary considerably among the associations but compare favorably with wages paid in similar local employments.

Standard schedules of weekly wages are not used for the various grades of employees. Instead, individual employees are paid on the basis of their experience and their value to the cooperatives. Many associations are finding it desirable to develop special commodity departments, and consequently to pay higher wages to experienced employees with some specialization along commodity lines, such as feed and seed, building supplies, and farm implements. Two associations reported using a bonus as a supplement to wages of employees.

Petroleum deliverymen, ranging in number from 2 to 6 in the 30 associations, not only outnumber any other single group of employees but are generally the best compensated in terms of gross cash income. Moreover, many of them are farm men who have the cooperative point of view in their dealings with patrons. Most associations use a standard contract with their petroleum truck drivers prepared by the State association (p. 82). Commissions paid to 115 deliverymen in the 30 associations for 1937 averaged \$1,912 and ranged from less than \$1,000 to more than \$4,000. The drivers were required to pay the cost of truck operations and upkeep, and few managers have required them to keep accurate records of these personal expenses. However it has been calculated by officials of the central organization that approximately 40 percent of the gross commission earnings of truck drivers is absorbed by the expense of truck operation.

Physical Facilities

Physical assets of the 30 cooperatives consist of petroleum bulk plants, general warehouses, and marketing facilities, such as grain elevators and mills (fig. 9). They also include delivery trucks, office fixtures, and in a few associations such processing equipment as feed grinders and mixers. Land upon which bulk stations are located



FIGURE 9.—TYPICAL FACILITIES OF COUNTY COOPERATIVES.

Facilities of the county associations are adapted to the services rendered.

is usually owned by railroads; but land occupied by warehouses, elevators, and other buildings is customarily owned by the associations. Of the 30 associations, 13 rented buildings or building lots used in their 1937 operations. All 12 associations with branches used leased properties. In practically all cases where property was rented, the associations owned other properties used in their operations.

In general, after allowing for depreciation, land and buildings accounted for the largest investment in fixed assets, with bulk plants second and warehouse equipment third. The 17 general-supply associations had average fixed assets valued at \$11,050 in 1937, of which one-half was in land and buildings; the 8 marketing associations had fixed assets worth \$21,250, of which two-thirds was land and buildings; and the 5 petroleum associations' fixed assets, with a value

of \$9,509, consisted of bulk plants, 45 percent, and land and buildings 40 percent. The depreciated values of the fixed assets were in most cases considerably less than their original cost because auditors of the State association applied the policy of charging liberal rates of depreciation annually to the assets of each association. As a result the figures for fixed assets on their balance sheets represent conservative appraisals of such assets, which in many associations cost more than twice the current valuation.

Petroleum bulk plants of the associations consist usually of 3 or 4 storage tanks with storage capacity of from 15,000 to 25,000 gallons each, and of other equipment necessary for handling petroleum. The 30 associations reported a total of 109 storage tanks at the close of 1937. Approximate total storage capacity of the bulk plants of the associations in that year was as follows:

| Storage capacity (gallons): | <i>Number of plants</i> |
|-----------------------------|-------------------------|
| Less than 50,000..... | 4 |
| 50,000 to 59,999..... | 8 |
| 60,000 to 69,999..... | 10 |
| 70,000 to 79,999..... | 4 |
| 80,000 and more..... | 4 |
| Total..... | 30 |

Handling equipment consists principally of motor-driven pumps, and meters for measuring fuels in and out of the bulk tanks. About half of the associations use meters.

In general, lay-out, appearance, and adequacy of warehouses of the associations differ since they vary in the character and the extent of their farm supply and marketing services. Most associations began their operations in modest warehouse quarters, or in old elevators with a minimum of equipment, and many still use the same facilities. Managers of 12 associations expressed need for additional facilities, especially warehouse room, to handle their increased volume of business and to provide additional services, such as feed grinding. Several associations have added materially to their facilities during the past few years. At the close of 1937, 18 of the 30 associations had buildings and facilities adequate in size for their existing volume of business.

Practices in Purchasing Farm Supplies

The cooperatives make their wholesale purchases largely through the Indiana Farm Bureau Cooperative Association, although each county association largely determines its own purchasing policy. The county associations in 1937 purchased approximately 85 percent of all supplies through their State association. Table 5 shows the

TABLE 5.—THIRTY REPRESENTATIVE ASSOCIATIONS GROUPED BY PERCENTAGES OF PRINCIPAL SUPPLIES PURCHASED THROUGH THE INDIANA FARM BUREAU COOPERATIVE ASSOCIATION IN 1937

| Commodity | 100 percent | 75 to 99 percent | 60 to 74 percent | Less than 50 percent | None |
|-------------------------|-------------|------------------|------------------|----------------------|------|
| Petroleum products..... | 30 | | | | |
| Fertilizer..... | 30 | | | | |
| Twine..... | 28 | | | | 2 |
| Fence..... | 26 | 3 | | | 1 |
| Seed..... | 22 | 5 | | 2 | 1 |
| Implements..... | 22 | 1 | | 3 | 4 |
| Coal..... | 13 | 3 | 2 | | 1 |
| Building supplies..... | 12 | | 1 | 1 | |
| Feed..... | 8 | 10 | 9 | 3 | |

Data computed by the author from records of the Indiana farm bureau county cooperative associations.

extent to which the 30 associations bought supplies in 1937 from the State purchasing association.¹⁰

Petroleum products handled by the associations are purchased under contract through the State association. This enables the State association acting as a central purchasing agency to contract for a year's supply and to obtain greater savings and certainty of delivery. These benefits are passed on to the county associations in annual refunds from savings and in quality of products.

In 1939 all fertilizer was purchased through the State association from the Tennessee Copper Corporation, which has fertilizer plants at Lockland, Ohio, and New Albany, Ind. Purchases were made under a manufacturing and brokerage contract between the Tennessee Copper Corporation and the Indiana Farm Bureau Cooperative Association. In addition to allowing a brokerage commission to the State cooperative, the Tennessee Copper Corporation refunds each year half of the net earnings derived from its sales to the county associations. These refunds are distributed by the State association to the various county cooperatives in proportion to their fertilizer purchases. Beginning with the 1940 fertilizer season, the county associations will obtain all fertilizer requirements for patrons from the State association's mixing plant in Indianapolis. The plant was completed in December 1939.

A large number of the 30 associations purchased all their seed, fence, twine, and farm implements through their State association. Exceptions to this practice occurred when particular associations had earlier established wholesale contacts with local firms; or, as in the

¹⁰ In 1939 it was stated by officials of the State association that much larger proportions of such supplies as fence, seed, feed, coal, and building materials were purchased through the central organization.

case of farm machinery, when county cooperatives were local agents for implements not included in the State association's contracts with manufacturers.

Feeds were bought independently of the State association to a greater extent than some of the other commodities handled. This may be attributed to the highly competitive nature of the feed manufacturing business. Local mills are found in considerable numbers throughout Indiana, many of which have served the county purchasing associations for years. Also, some farmers are more familiar with local feeds. Furthermore, price differentials have favored local mills, because they had little or no transportation costs in obtaining feed ingredients. The necessity of meeting prices of competitors handling local feeds tended, prior to 1937, to hold part of their feed-purchasing business to agencies independent of the State cooperative. Beginning about 1937, however, Indiana farmers have increasingly bought through the State association high-protein concentrate mixtures to which they add their own home-grown grains. They have found this more economical than to build the entire feed ration locally. Therefore, while, in 1937, 18 of the 30 associations bought 75 percent or more of their feed requirements cooperatively this percentage had increased considerably by 1939.

Most miscellaneous supplies, including sprays and spray equipment, feeding equipment, building supplies, hardware, electrical supplies, and coal, are purchased through the State purchasing association.

Ordering and Warehousing Procedures

The county cooperatives use generally similar methods in ordering and handling farm supplies. All associations forward their orders to Indianapolis on printed forms. In most counties these forms are of standard type and are purchased through the State association. Order blanks are filled out in duplicate and copies filed. Some variations in ordering and handling different commodities are noticeable.

Petroleum products.—Orders for petroleum fuels by county associations are cleared through the State cooperative association in Indianapolis. From 60 to 75 percent of the petroleum fuels shipped to county cooperatives goes by rail. A sight draft drawn upon the association is usually attached to the bill of lading. A few associations buy petroleum fuels on a 10-day credit. The consignment basis is very little used for petroleum fuels. A cash discount of 1 percent is allowed for settlement within 10 days, but no cash discount after 10 days.

Since 1937 about 20 county associations have received more than half of their purchases of motor fuels by transport trucks as compared with rail shipments. In September 1938 the State association acquired

and since then has operated the trucking facilities of the contract carriers who had previously delivered the fuel to the bulk tanks of these associations. In the operating year 1939, transport trucking of petroleum fuels to the county cooperatives increased until approximately one-third of the total of these fuels were so delivered. Under this system, savings both of the State association and of the county cooperatives have increased rapidly.

Lubricating oil, grease, and alcohol also are ordered through the State purchasing association. These supplies are obtained and shipped direct from the Indianapolis warehouse of United Cooperatives, Inc., a regional petroleum and farm supply cooperative which is owned by and serves a number of State and regional purchasing associations.¹¹ Practically all these supplies are transported to county warehouses by association trucks or private truckers hired locally. The basis of payment for such petroleum supplies depends on whether the association follows a credit or cash policy of purchasing (p. 48). In 1937 the State association allowed on miscellaneous petroleum supplies 3 percent discount for cash with order and 2 percent for payment in 10 days.

Feed and seed.—Orders for feed and seed are forwarded by mail to Indianapolis or are taken in by independent local truckers or by the cooperatives' trucks. Formula feeds have been shipped chiefly from the mill in Chicago, which manufactures the feed for the Indiana and several other State farm bureau cooperatives. Feeds were shipped in 1937 almost entirely by contract trucks with very little moving by rail. Use of county cooperatives' trucks for feed transport is usually limited to purchases by northern Indiana counties. Most other counties receive their feed shipments by contract truckers under an arrangement made entirely by the feed department of the State association.

In addition to buying feed through the State association and from commercial manufacturers, about one-third of the county associations purchase grain locally for processing and resale to farmers.

Trucks of the county associations usually pick up seed requirements in the course of regular or special trips to the State association warehouse, but trucks are also hired for the purpose. Advance book-

¹¹ United Cooperatives, Inc., was originally organized in 1930 under the Indiana general corporation law of 1929 as the Farm Bureau Oil Company, Inc. At its beginning it had as stockholding members the Indiana Farm Bureau Cooperative Association, the Ohio Farm Bureau Cooperative Association, and the Farm Bureau Services, Inc., of Michigan. In 1936 the name was changed to its present form. At the close of 1938 United Cooperatives, Inc., had nine stockholding members. In addition to the three original member associations, its membership included the Pennsylvania Farm Bureau Cooperative Association, Cooperative Grange League Federation Exchange, Inc., Southern States Cooperative, Inc., Farmers' Cooperative Exchange, Inc., of North Carolina, and Consumers Cooperative Oil Association of Sauk City, Wis. In 1938 United Cooperatives, Inc., transacted 22 percent of its business with the Indiana Farm Bureau Cooperative Association, 33 percent with the Ohio Farm Bureau Cooperative Association, 17 percent with the Grange League Federation Exchange, 9 percent with Farm Bureau Services, Inc., of Michigan, 10 percent with Southern States Cooperative Association, and 4 percent with the Pennsylvania Farm Bureau Cooperative Association.

ing of seed orders by farmers, especially for hybrid seed corn, is undertaken for the purpose of enabling county associations to contract their seed requirements through the State association in advance of seasonal price increases. This arrangement guarantees farmers quality seed at less than the peak prices prevailing at planting time.

Fertilizer.—Under the plan of operation in effect in 1939, fertilizer orders went direct to the plants of the Tennessee Copper Corporation at Lockland, Ohio, or New Albany, Ind., or to the order department of the State association at Indianapolis. Although trucking has been increasing in the last 3 years, shipments of fertilizer by railroad still predominate over truck deliveries. In 1937, 15 of the 30 associations received 90 percent or more of their fertilizer by rail, and 9 others received from 50 percent to 90 percent in that manner. Practically all fertilizer ordered by the county associations came to them on consignment, title remaining with the manufacturer until the fertilizer was sold.

As most fertilizer sales by county associations are booked by township commission salesmen in advance of ordering from the factory, delivery is usually made direct from truck or railroad car to farms or farmers' trucks. A considerable part of the fertilizer sold is paid for in cash within 2 to 4 weeks of delivery. The county association settles directly with the fertilizer company in cash periodically during the selling season. Under this system fertilizer inventory problems are few, deliveries are simplified, and little financing is necessary.

Farm machinery.—All but 4 of the 30 associations handled farm implements and tractors in 1937; 10 of them obtained implements mainly when individual customers placed orders for them; 16 usually carried implements in stock. Generally county cooperatives make their purchases of farm implements in small lots to avoid overstocking.

The State association has had wholesale contracts for farm machinery with two companies. The first was made in 1934 with a company which, over a long period of time, has developed a wide assortment of cultivators, rakes, spreaders, and other farm machinery. The second contract, discontinued in 1938, was with a private concern which manufactured the "co-op" tractor for a number of State and regional federations of farmers' cooperatives. In 1939 tractors were obtained by these organizations from surplus stock, while the American Cooperatives, Inc., arranged for their manufacture.¹²

¹² Five large-scale cooperatives—the Indiana Farm Bureau Cooperative Association, The Ohio Farm Bureau Cooperative Association, Farm Bureau Services, Inc. of Michigan, Farmers Union Central Exchange, of St. Paul, Minn., and the Consumers Cooperative Association, of North Kansas City, Mo.—were the principal parties to the contract under which the "co-op" tractor was manufactured according to specifications developed by the cooperatives. Other State and local cooperative associations have purchased the "co-op" tractor for distribution to farmers. From 1935 to April 1938 a total of 1,775 "co-op" tractors were reported sold in 30 States and Canada. In April 1938 the State and regional farmers' cooperatives interested in manufacture of "co-op" tractors and other farm machinery organized American Cooperatives, Inc., to serve as a management and distributive agency for the "co-op" tractors.

Farm machinery is displayed and demonstrated locally by associations that stock inventories of implements. Other associations commonly send their patrons to the implement warehouse of the State association for display and demonstration. In 1937, commercial truckers were employed to deliver implements to the warehouses in 12 of the 30 counties; 4 associations received implements by rail. Co-op tractors are commonly driven under their own power from the State association's warehouse or from the factory to the counties.

County associations purchase farm implements on varying terms of payment. When cash is not paid at time of purchase, the factory or the State association generally consigns the implements with settlement dates specified in the consignment contract.

Miscellaneous supplies.—Methods used in obtaining miscellaneous supplies are generally similar to those used for major commodities. The State association maintains contracts for wholesale purchases of binder twine, fencing, coal, building materials, and electrical supplies. County associations buy most of their binder twine, fencing, paint, and roofing materials through the State association. A number of them buy substantial quantities of coal and of some building supplies from firms not included in the State association's contracts as the State association had not perfected its wholesale contracts for these supplies in 1939.

Methods of Paying for Supply Purchases

Supplies purchased from the State association were paid for by 22 of the 30 associations in cash in 1937; that is, within 10 days by some associations, and by others upon receipt of invoice. This record of paying cash for supplies purchased is somewhat better than that which prevails among the associations generally.

The State association allows certain cash discounts, which vary for different commodities. For example, petroleum fuels carry 1 percent discount for payment within 10 days. County associations almost uniformly avail themselves of this discount. Except on fertilizer, farm machinery, and building supplies purchased in sizable quantities, credit is limited mostly to 10 days. The maximum time limit on credit from the State association is 30 days.

Beginning in April 1937, a system was established by which county associations may keep on deposit with the State association sufficient cash to cover payments of supplies purchased. A few county associations have found it profitable to use borrowed capital for these original deposit credits. This insures them against loss of any cash discounts. About 20 of the 30 associations had such deposits at the beginning of 1938.¹³ Under this deposit system each county association

¹³ At the close of 1936, 41 county cooperatives kept cash deposits with the State association in amounts ranging from about \$500 to \$2,000.

deposits with the State association cash ranging from \$500 to \$1,500, which is the range in annual savings from cash discounts, and against these deposits invoices for purchases are charged. The State association bills each county in the usual manner for the amounts of purchase orders charged against its deposit, and the county association sends a check so that its deposit is restored to the original amount. The deposit credit is considered equivalent to a check sent with the purchase order.

This deposit system has brought more cash discounts to the 20 associations than drawing checks to accompany orders previously had done, especially since either through oversight or because cash funds were low, purchase orders often were sent without bank checks. Furthermore, these associations apparently have been more careful than the others in keeping their sales to patrons on a cash or a restricted-credit basis.

The State association has set up a system of cash discounts on sales which is adapted to this deposit method of financing purchases. As shown in table 6, the number of commodities on which discounts are given is larger when checks are given with orders or when charges are made against deposits than it is for 10-day settlements.

TABLE 6.—CASH DISCOUNTS TO COUNTY ASSOCIATIONS ON PURCHASES FROM THE INDIANA FARM BUREAU COOPERATIVE ASSOCIATION IN PERCENTAGES OF WHOLESALE PRICES, 1939

| Commodity | Deposit credit | Payment in 10 days or check with order |
|---------------------------------|----------------|--|
| | Percent | Percent |
| Seed..... | 2 | 1 |
| Oil and grease..... | 4 | 3 |
| Petroleum fuels..... | 1 | 1 |
| Implements..... | 2 | 1 |
| Harness..... | 2 | ----- |
| Hatchery equipment..... | 3 | 2 |
| Paint, lumber, and roofing..... | 3 | 2 |
| Millwork..... | 2 | ----- |
| Coal..... | 2 | 1 |
| Wire fencing..... | 3 | ----- |
| Nails..... | 2 | ----- |

¹ 1 percent for settlement in 5 days.

Data computed by the author from records of the Indiana farm bureau county cooperative associations.

As their volume of business has increased, county associations have realized greater savings from centralized purchasing through their State association. These savings were attained largely between 1934 and 1938 with the more complete use of the State organization as a wholesale agency. The advantages from centralized purchasing can be increased further in most of the associations by fuller use of the cash basis of purchasing.

Methods and Problems of Distributing Farm Supplies

The associations transact the bulk of their supply business with their members; that is, with holders of common stock (p. 10). Of the 30 reporting associations, 17 made 75 percent or more of their sales in 1937 to members, while in the remaining 13 associations the percentage for such sales was between 50 and 75 percent. The percentage of total business transacted with stockholding members has increased each year as annual common stock patronage refunds have increased the number of individual members (p. 14).

Indiana county associations distribute farm supplies primarily to farmers. Of the 30 associations, 26 made 95 percent or more of their 1937 sales to agricultural producers, while the other 4 made smaller percentages of their sales to producers. Business with nonproducers consists mostly of sales of chicken feeds, coal, baby chicks, and petroleum products to townspeople.

Selling Petroleum Supplies

Truck drivers of the county associations traveling prescribed daily routes sell petroleum products at the farms on a commission basis. These men are required by contracts to own their own trucks, but the associations provide tanks for the trucks and all the containers and equipment needed for delivery. The driver is obligated to carry public-liability and property-damage insurance and to guarantee the association against responsibility as provided in the standard contract.

In addition to paying for upkeep and operations the driver agrees to pay for all goods taken from the bulk plant, either upon the succeeding day or upon his first return to the bulk plant. Accounts created through deviation from this policy are the obligations of the driver. He is required to guarantee the association against loss by furnishing bond or other personal security acceptable to the association. Clauses of the standard contract obligate the association to keep ample supplies of products on hand, but absolve it from blame for failure to do so because of fires, strikes, or labor troubles outside its control. A definite territory is allotted to each driver subject to change from time to time by the driver and the association. The driver agrees to devote his full time to solicitation of petroleum orders and to distribution of petroleum products handled.¹⁴

Through frequent visits of these salesmen to farms, farmers are not only kept supplied with petroleum products, but also are kept constantly in touch with their associations. For example, they may place orders with the truck drivers for any farm supplies but a negligible percentage of general supplies is delivered on petroleum trucks. More than 95 percent of the total petroleum sales of the 30 associations in 1937 were made by the truck drivers at farms.

¹⁴ See Appendix, p. 82, for text of standard contract.

The following sales commissions paid to petroleum deliverymen are standard (1939) in most counties:

| Commodity: | Commission per gallon, cents |
|----------------------|------------------------------|
| Gasoline: | |
| First grade..... | 2 |
| Third grade..... | 1.5 |
| Kerosene..... | 2 |
| Tractoline..... | 1 to 2 |
| Lubricating oil..... | 5 |
| Grease..... | 1 per lb. |

A few associations have made slight variations in this schedule of rates for drivers whose territories are distant from the bulk plant, and in two counties a combination of a nominal daily wage plus commissions lower than the standard level has been tried without particularly significant results.¹⁶ The commissions may be changed from time to time by mutual agreement.

Farmers may also buy petroleum products at the bulk plant or at pumps at the warehouse, but such purchases are usually restricted to small amounts of gasoline or lubricating oil. The 30 associations on the average sold less than 2 percent of their petroleum supplies from their pumps in 1932.

The chief problems that arose in expanding petroleum sales by truck drivers between 1934 and 1938 were training efficient, aggressive, and dependable salesmen, controlling credit extension to farmer-patrons, and meeting methods of competing petroleum companies for petroleum sales at farms. While many county managers are generally satisfied with the past selling records of their petroleum salesmen, the most progressive managers are constantly training their petroleum salesmen to improve methods of selling and handling supplies (fig. 10).

Special sales campaigns for grease and oil.—Lubricating oil and grease are also sold largely from trucks on their regular routes, but an increasingly larger portion of the sales of these supplies results from contracted or advance orders placed by farmers with their associations in an "oil campaign" period running from September 1 to December 31 each year. The motor-oil and grease campaign is conducted by all county associations in cooperation with the State purchasing associations. The State association organizes the campaign on a State-wide basis, sets quotas for the county associations and the truck salesmen, and arranges special awards for salesmen who attain their quotas. In this way it can determine more nearly the approximate volume of lubricating oil farmers will require during the year and make contracts

¹⁶ The first of the two associations pays truck drivers a basic wage of \$1 per day, plus commissions of 1 cent per gallon on first- and third-grade gasoline, one-half cent on tractoline, 3 cents on lubricating oil, and 1 cent per pound on grease. This system of paying drivers was adopted both to stabilize their earnings and to avoid the sole use of commissions for truck deliverymen. In these two associations all petroleum delivery equipment is owned by the cooperatives.

in advance for the year. Farmers obtain quantity savings by agreeing to purchase specified amounts of oil and grease during the ensuing 12 months.

During the 1937 campaign 26,975 oil contracts were signed by farmers throughout the State, an increase of 4,449 contracts over the previous campaign; and 766,393 gallons of oil were contracted, an increase of 115,549 gallons over the previous campaign. As a part of this advance booking of oil sales, 390,670 pounds of grease was contracted. A similar campaign was conducted to increase sales of fly spray.

In 1937 the 30 associations handled approximately 25 percent of all petroleum purchased at farms within the territories covered by their service (fig. 11).

Fertilizer.—Fertilizer selling is conducted largely by farmers who, as commission salesmen, devote part of their time to soliciting fertilizer orders from their neighbors. Selling is done usually by townships with one or two solicitors to each township. Solicitors forward orders to the county association, and it in turn sends them directly to the State association in Indianapolis. Combined orders for all associations are forwarded by the State association to the fertilizer manufacturer. Fertilizer sales are extremely seasonal, occurring chiefly in the spring and autumn months. Deliveries are made largely direct from car door to farm, although recently there has been a tendency for delivery to be made direct from manufacturer to farm by truck. By keeping on hand only small amounts of fertilizer during the selling seasons most associations have avoided large carry-overs of inventory.



FIGURE 10.—A COUNTY MANAGER DISCUSSING SELLING PROBLEMS WITH HIS PETROLEUM SALESMEN.

The most successful associations have managers who are awake to constant improvement in methods of distributing farm supplies.



FIGURE 11.—PETROLEUM TRUCK DRIVERS LOADING UP FOR A TRIP TO PATRONS' FARMS.

Supplies are delivered from these trucks direct to farmers' tanks.

Distribution of fertilizer in Indiana is highly competitive. Consequently, although the State association has provided an established source of fertilizer of dependable quality, county cooperatives have had difficulty in building their volume of sales to satisfactory levels.¹⁶

Feed and seed.—Feed is sold mainly at the associations' warehouses and usually is trucked away by farmers. Soliciting of feed orders in advance has not been commonly practiced, but has been on the increase since 1937. In the autumn and the winter of 1937 the State and county associations began booking seed orders for spring delivery in 1938. Solicitation of orders was made by the county associations through regular employees and township representatives paid on a commission basis. Thus the county associations determined in advance the approximate amounts of seeds required by farmers, particularly of hybrid seed corn and clover. This procedure assures producers more certainty of seed deliveries when needed and protects them against seasonal price increases.

Farm implements.—Most of the 30 associations sold implements and tractors in 1937. For 22 associations which reported 1937 implement sales separately, such sales totaled \$317,417 and averaged \$14,428 per association. Gross savings on implement sales for the 22 associations averaged 14.8 percent. The highest rate of gross savings was 23.3 percent, the lowest was 3.4 percent, and 1 association showed a gross loss on its implement sales. Net income has not been ma-

¹⁶ While it is expected that local methods of distributing fertilizer will remain substantially unchanged by the new arrangement for cooperative mixing that goes into effect in 1940, it will be of interest to observe to what extent farmers provide a larger volume of business for their own fertilizer plant.

terially increased or diminished in most associations by farm implement sales. At present (1939) most associations handling farm machinery use one fieldman who devotes his entire time to selling implements, seed, and fertilizer, and to service work with members.

County managers listed the sale of farm implements high among their leading distribution problems. Most frequently the lack of adequate display facilities and the need for trained implement salesmen and servicemen were felt. From 1936 through 1939 an intensive program of training farm-implement salesmen was conducted by the State association through its farm-machinery department in cooperation with county associations. It is generally agreed by county managers that most farmers lack sufficient familiarity with the line of implements handled. Special effort and skill are required to convince them of the merits of the brand handled by the associations as compared with certain other brands well known to Indiana farmers. This has made it doubly important for the associations to have adequate facilities for displaying machinery and trained staffs of servicemen who can make demonstrations to patrons and produce business.

Financing sales of implements has been another leading problem. A number of associations have found this problem may be overcome in several ways. Implements may be obtained by the associations on consignment; and if farmers need time for payment, installment contracts may be arranged by the associations with the factories; farmers may discount their notes at local banks or obtain loans from production credit associations. In a few counties the cooperatives have financed farmers' notes or have assisted in arranging loans from the local farm bureau credit union. With these financing methods available, it seems that the problems of financing farm-implement sales by cooperatives are secondary to efficient methods of wholesale purchasing, proper handling facilities, and well-trained and experienced servicemen.

A factor of practical importance in building up an implement business is the trade-in allowance for used implements. Difficulties from trade-ins vary greatly among counties because practices of private dealers in prices and trade-in allowances vary greatly. Between 1934 and 1938 managers and implement salesmen of the cooperatives gradually have been learning sounder methods of handling trade-ins. By 1939 county managers were using and perfecting their own individual policies with respect to accepting and appraising values of used implements in relation to the known conditions of the local implement market. Furthermore, a system of State-wide exchange of information through the central association on available supplies of used farm implements and farmers' demands for them by counties which was in its initial stage late in 1937, has continued to make progress.

Competition has been one of the leading barriers to the develop-

ment of the cooperative farm-implement business in Indiana. In some counties local services by private dealers have been considered so satisfactory as to render unnecessary any such cooperative services. Nevertheless, the success a number of the associations have met in handling machinery, makes it questionable whether the county cooperatives serve the best interests of their patrons by leaving the implement field entirely to existing agencies. Moreover, the availability to Indiana farmers since 1935 of a cooperative source of farm machinery and tractors promises eventually to have the same beneficial effect upon handling margins and quality of services as was the case for fertilizer and feed in earlier years.

Improvements in Sales Methods

Since 1934, selling activities of county associations have been increasingly coordinated with the sales program of the State purchasing association. For example, the State association holds regular meetings of county managers and their salesmen to discuss problems and best methods of expanding sales in certain commodity departments. Meetings of this type were begun in 1933 and 1934 for petroleum supplies, fertilizer, and feeds. Since that time this program has been expanded to include farm machinery and building supplies. Meetings are held at convenient points in the State several times prior to the beginning of active selling seasons of the major supplies. Commodity specialists of the State association advise with the county salesmen and managers for improving sales methods.

These meetings are followed up with regular visits by the State association's fieldmen to the county cooperatives. These fieldmen give information about supplies and ways of displaying and demonstrating them most effectively. Their efforts are usually concentrated in the busy selling seasons of the various supplies, but promotional work is a full-time feature of the State association's services.

To supplement this sales service the State agency provides county associations with printed circulars and posters for the principal supplies, and it places advertising of farm supplies handled by county associations in the "Hoosier Farmer," official publication of the Indiana Farm Bureau. This advertising goes directly to more than 50,000 farmers and makes it less necessary for county associations to advertise in local papers. A few associations have attempted to increase their sales by keeping attractive displays of certain supplies in their warehouses or stores. This kind of business promotion, however, has received little attention in most counties.

Most associations are seeking higher sales efficiency through more specialization of employees along commodity lines. In 6 of the 30 associations sales volumes range from \$300,000 to \$700,000, and the

job of providing trained and aggressive employees to handle such departments as feed, petroleum, farm equipment, and fertilizer has become a major responsibility of the county managers. The State association has encouraged efforts to develop special commodity departments with trained men in charge.

In order to share experiences, managers of county cooperatives have formed a State-wide managers' association. A 2-day meeting is held semiannually, customarily in June and October, at one of the State parks. In advance of the meeting committees of managers representing county cooperatives in each of the 10 farm bureau districts work out programs for rendering better services with increased efficiency, and these suggestions are reported at the State-wide gathering. Their common problems are discussed, and all proposals are considered for improving methods of distribution and general operations. After the managers have had full opportunity for discussion, resolutions reflecting the opinion of the group may be proposed and voted upon. Individual managers carry copies of these proceedings and resolutions back to their counties for use in developing more efficient methods of operation and closer coordination among the various counties.

When requested, officials of the State association attend these managers' meetings to assist in formulating sound policies and improving existing practices. The meetings of the managers' association are planned by its officers, the general manager of the State association acting as adviser.

Pricing Policies

Prices charged by county associations generally equal those of competitors. However, variations occur in the pricing of different supplies. For example, petroleum products and fertilizer are competitively priced while certain other supplies such as feed, seed, fence, twine, and implements are priced at times more on a basis of cost plus usual margin. Generally, however, the county cooperatives set prices in relation to market conditions.

Indiana farm bureau cooperative associations endeavor to avoid practices that lead to price rivalry. In periods of keen price competition, they try to maintain their customary prices and margins. They set prices below cost plus a reasonable margin only on rare occasions when general price wars necessitate some special effort to hold established patrons. Even in such circumstances, when ruinously low prices continue on particular supplies, the associations usually advise their patrons to buy temporarily from private dealers so as to avoid financial loss to their cooperative.

Petroleum products are delivered to farms at the same prices as those charged at bulk plants or at fuel pumps of warehouses. On

gasoline so delivered in quantities of 25 gallons or more a discount of 2 to 3.5 cents per gallon, depending on the total quantity delivered, is allowed in accordance with the practice of the industry. Price discounts for quantity purchases extend also to other principal supplies including feed, seed, fertilizer, and twine, but prices charged for delivered commodities differ from county to county and by quantities purchased. The chief quantity discounts granted on supplies in 1937 were as follows:

| Commodity: | Quantity discounts allowed |
|-----------------------|---|
| Gasoline..... | 2 cents per gallon on 25 gallons or more. 1.5 cents additional discount per gallon on gasoline sales totaling 1,000 gallons per month or more. |
| Lubricating oils..... | 5 cents per gallon on 5-gallon lots. |
| Grease..... | 1 cent per pound on 25 pounds or more. |
| Feeds..... | 50 cents to \$2 per ton on orders of 1 ton or more. |
| Salt..... | \$2 per ton on ton lots. |
| Fence..... | 1 cent per rod on 100 rods or more. |
| Fence posts..... | 1 cent per post on 100 or more units. |

Some county managers question the soundness of giving quantity discounts. They believe that through the annual refund, quantity purchasers are afforded a reward for patronage consistent with cooperative principles and on a basis of equality to all patrons. Because of competitive practices, however, offering price discounts to quantity purchasers is well established among the county cooperatives in Indiana.

Cash discounts are granted in a few counties in connection with operation of credit-control plans. These counties are referred to in the analysis of credit practices (p. 49).

Although farmers' cooperatives in Indiana have maintained a policy of quoting competitive prices on their farm supplies, their operations have generally tended to produce a narrowing of handling margins and consequently lower retail prices on the supplies. This effect of cooperative activity on the pricing habits of private trade may be explained as the outgrowth of knowledge of costs and prices provided farmers by their cooperatives. It may also be explained in part by the fact that the price-reducing character of patronage refunds tends to keep private trade alert to meet the competition offered by cooperatives.

Seasonal Character of Sales

In general, sales of farm supplies by the associations are heaviest in the spring and fall months. Petroleum supplies, seed, and fencing show greatest sales between March and June. About one-fifth of all fertilizer sales are made in May when they contribute to the spring sales peak. Fertilizer sales are largest in September, when almost

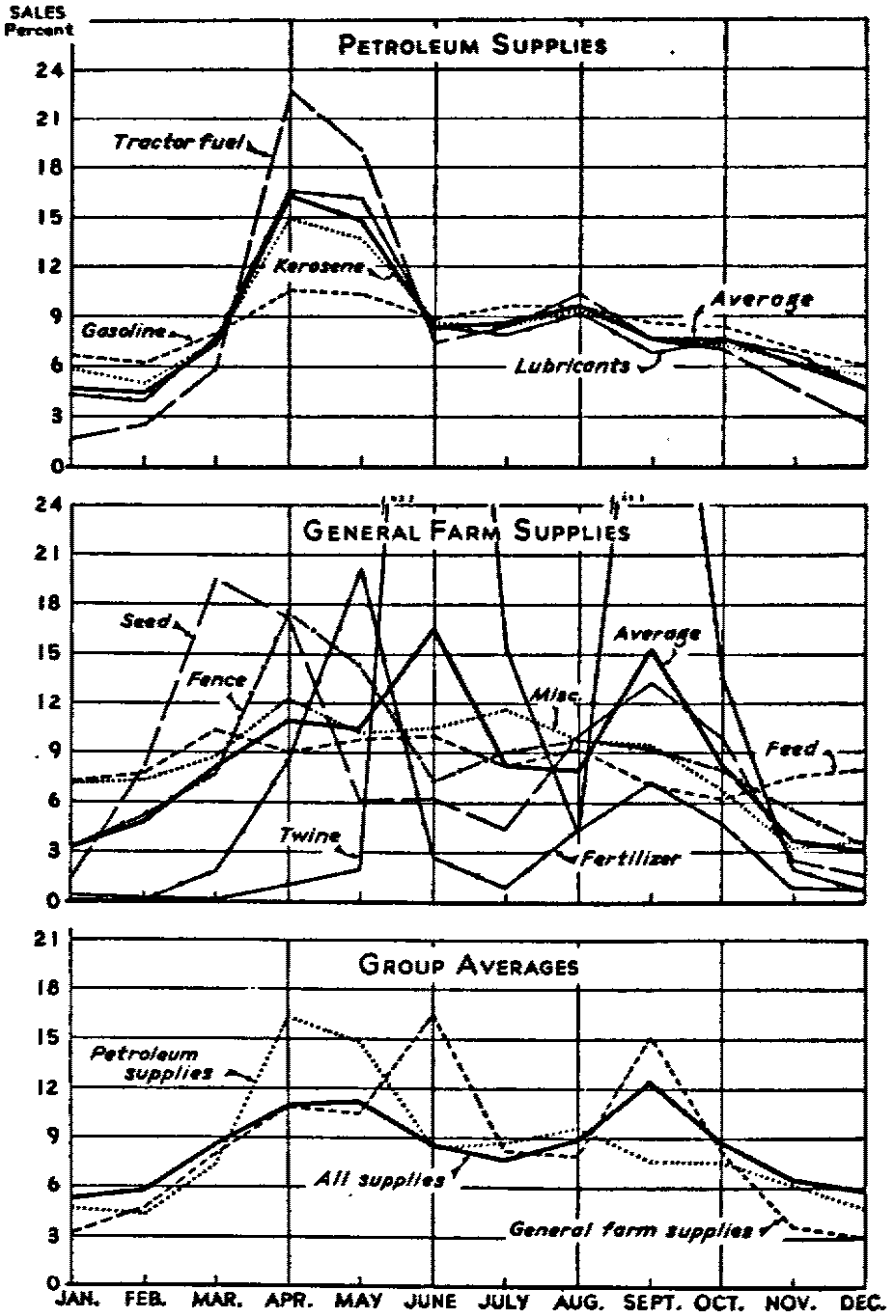


FIGURE 12.—AVERAGE SALES BY MONTHS IN PERCENTAGES OF TOTAL SALES FOR PRINCIPAL FARM SUPPLIES.

Monthly sales are seasonally high from March to June and again in September and October.

half of the yearly sales occur. This concentration of fertilizer sales in the fall makes September the month of highest total sales with about 12 percent of the total for the year. April and May rank next in order of percentage of yearly sales. Monthly sales are lowest in January and February (fig. 12).

Seasonal high and low points in total sales of the associations have been evened out somewhat in recent years by sales of certain miscellaneous supplies which are less seasonal or which reach their peak sales in the months of lowest sales of major supplies.¹⁷

Control of Inventories

Stock losses or shrinkages are an important operating problem in connection with the selling of farm supplies. The losses may be traced to a variety of causes such as faulty handling equipment, careless methods, dishonesty, or shrinkage by evaporation.

For supply inventories other than petroleum products the associations have not generally tried to determine the extent of losses attributable to these factors. To check losses of such supplies as feed, seed, fencing, twine, and miscellaneous farm supplies would require the cooperatives to keep continuous stock records, as is done for the petroleum supplies, showing the items of merchandise sold from the warehouses. Practically no associations, however, have such regular records of inventory deductions since they have depended solely upon the periodic inventory made at the end of an audit period for arriving at the cost of goods sold during the period.

For the principal petroleum products—namely, gasoline, kerosene, tractor fuel, lubricating oil, and grease—a shrinkage or gallonage report is customarily made by the State association's auditors at the end of each audit period and is included in the audit. Many of the associations, however, have not presented shrinkage figures for grease, lubricating oil, and tractor fuel because they lack full records. The shrinkage statements for gasoline and kerosene ordinarily show in gallons the opening inventories, purchases, and the resulting sales as recorded by book inventory and actual closing inventory. Any excess in the book inventory over the physical inventory indicates a loss of the supply which is not accounted for by sales. The ratio of the total loss in gallons to total gallons sold is the percentage shrinkage for the audit period.¹⁸

¹⁷ Monthly sales data for 1937 were not obtained. A percentage summary of the 1934 sales of principal farm supplies by months in the 62 associations from which such data were obtainable, shown in the appendix (table 22), indicates a general tendency for average monthly sales from March to October, inclusive, to remain relatively high except for a slight decline in July.

¹⁸ Indiana county cooperatives have shown their shrinkages in percentage of their opening inventories plus their purchases during the period. The use of this method tends to show the shrinkage as a lower percentage than when shrinkage is calculated in relation to volume of sales. Since in the petroleum industry shrinkage is generally reported in percentage of volume sold, which is a more conservative method, the county cooperatives might benefit by changing to this method.

A statement of the type just described, which can be made only if the gallons sold have been recorded, is given in the following sample record for gasoline:

| Item: | Gallons |
|---|-------------|
| Opening inventory..... | 10, 479 |
| Purchases..... | 110, 702 |
| | <hr/> |
| Total..... | 121, 181 |
| | <hr/> <hr/> |
| Less sales..... | 105, 113 |
| Book inventory..... | 16, 068 |
| Actual inventory..... | 11, 535 |
| Shrinkage..... | 4, 533 |
| Shrinkage as a percentage of volume sold..... | 4. 3 |

Percentage figures in table 7 show the shrinkages for gasoline and kerosene from 1934 to 1937 for the 28 associations for which shrinkage data were available. In comparison with widely accepted standards of efficiency, these shrinkages in many associations were excessive for all 4 years. In 1937 shrinkage of gasoline was above 2 percent in 24 of the 28 associations, and for kerosene it was 2 percent or more in 9 associations. Inasmuch as shrinkage of about 1 percent of the total sales in gallons is ordinarily considered sufficient allowance as a handling loss on gasoline and from 0.5 to 5.0 percent on kerosene, the large number of associations which had shrinkages ranging from 1 to 7.5 percent on gasoline and 0.5 percent on kerosene should serve as a warning that wasteful methods of handling are being employed too generally in these associations.

While much shrinkage apparently comes from spillage resulting from careless handling methods, table 7 indicates also that, in general, shrinkage percentages were largest in associations with smallest sales in gallons. This probably is indicative of slower moving inventories. It should stimulate the associations to develop larger sales volume to reduce their losses. Excesses of actual inventory over book inventory were realized principally on kerosene. Fewer associations showed such overages in 1935, 1936, and 1937 than in 1934.

A number of associations attributed their high shrinkages to various conditions, such as extreme variations in temperature at the time of taking inventories of fuels, which through expansion and contraction of the commodity would affect the inventory figures; or to theft; or to leakage.

Nature of Branch Operations

In 1937, 12 of the 30 county associations operated branches as a means of extending farm supply and marketing services to farmer-patrons. Usually branches consist of grain elevators with warehouse

space suitable for storing supplies. Ordinarily, branch warehouses keep less complete stocks of supplies than main warehouses, but in the few counties in which they are more centrally located they carry full lines of supplies.

TABLE 7.—SHRINKAGE OF GASOLINE AND KEROSENE IN PERCENTAGES OF TOTAL SALES IN GALLONS FOR 28 COUNTY ASSOCIATIONS, 1934 TO 1937

| Associations in diminishing order of sales in gallons | Shrinkage as a percentage of total sales in gallons | | | | | | | |
|---|---|------------------|------------------|------|------------------|------------------|------------------|------|
| | Gasoline | | | | Kerosene | | | |
| | 1934 | 1935 | 1936 | 1937 | 1934 | 1935 | 1936 | 1937 |
| 1..... | 1.7 | 0.5 | 0.8 | 0.8 | 10.7 | 10.5 | 10.5 | 10.1 |
| 2..... | 1.1 | .6 | .6 | 1.1 | .1 | (²) | 1.2 | 1.2 |
| 3..... | 3.2 | 2.3 | 2.7 | 2.7 | 1.9 | 1.3 | 1.2 | .6 |
| 4..... | 4.8 | 3.8 | 2.4 | 2.3 | 1.2 | 3.3 | 1.6 | 1.1 |
| 5..... | 2.2 | 2.6 | 2.4 | 2.2 | .9 | (²) | (²) | .8 |
| 6..... | 1.3 | 1.2 | .3 | 1.0 | 1.1 | .5 | .1 | .6 |
| 7..... | 3.7 | 4.4 | 3.2 | 2.7 | 2.8 | 4.5 | .1 | 1.3 |
| 8..... | 4.0 | 3.5 | 2.5 | 2.0 | .6 | 1.1 | .8 | .4 |
| 9..... | 2.9 | 2.6 | 5.1 | 1.9 | .1 | 1.2 | 1.1 | 1.2 |
| 10..... | (²) | (²) | 4.1 | 2.9 | .8 | (²) | 2.7 | 5.0 |
| 11..... | 3.5 | 1.7 | 3.4 | 2.4 | .4 | .5 | 1.6 | 2.2 |
| 12..... | 1.0 | 3.3 | 2.6 | 2.8 | 1.5 | 1.3 | 2.4 | 5.4 |
| 13..... | 5.8 | 4.0 | .1 | 2.0 | 2.1 | 2.6 | 2.2 | 1.8 |
| 14..... | 2.3 | 2.9 | 2.8 | 4.4 | (²) | 5.5 | (²) | 1.7 |
| 15..... | 2.4 | 2.8 | 1.6 | 3.8 | 1.5 | 1.7 | .4 | .7 |
| 16..... | 3.5 | 4.2 | 3.0 | 4.7 | .9 | 1.0 | 1.7 | 1.8 |
| 17..... | 3.4 | 3.6 | 3.3 | 3.1 | 2.4 | (²) | (²) | 1.0 |
| 18..... | 6.6 | 3.6 | 5.4 | 5.8 | 1.0 | 3.7 | 1.2 | 7.7 |
| 19..... | 3.1 | 4.9 | 3.3 | 4.0 | 1.8 | 3.3 | 3.0 | 3.4 |
| 20..... | 1.6 | 2.0 | 2.2 | 3.4 | .7 | 4.6 | 2.3 | 1.9 |
| 21..... | 14.3 | 3.3 | 6.7 | 6.1 | (²) | (²) | 2.6 | 4.4 |
| 22..... | 3.4 | (²) | (²) | 7.4 | 12.8 | 9.6 | 1.8 | 1.9 |
| 23..... | (²) | (²) | (²) | 4.4 | (²) | (²) | 7.0 | 2.3 |
| 24..... | (²) | 4.7 | (²) | 3.4 | 1.2 | .1 | .8 | 1.9 |
| 25..... | (²) | (²) | 7.7 | 2.3 | 1.1 | 1.6 | 2.0 | 1.8 |
| 26..... | 3.2 | 4.9 | 5.1 | 5.3 | (²) | 1.0 | (²) | .2 |
| 27..... | 5.3 | 4.3 | 3.7 | 4.9 | 3.0 | .1 | 2.1 | 2.5 |
| 28..... | 13.9 | 2.6 | 4.4 | 6.7 | 2.6 | 1.6 | 1.3 | 4.6 |
| Average..... | 3.1 | 2.7 | 2.7 | 2.9 | .3 | 1.5 | 1.3 | 1.7 |

¹An excess of actual inventory over book inventory was realized.

²No shrinkage report was made.

Source of data: Records of the Indiana farm bureau county cooperatives.

Nine of the associations with branches, which showed sales separately for supplies and farm products, had combined sales of farm supplies amounting to \$2,215,142 with an average of \$246,127 per

association, and sales of farm products of \$974,617 with an average of \$108,291. About 42 percent of the 1937 farm supply business and about 83 percent of the marketing sales in these nine associations was handled at their branches.

To determine accurately the net earning capacity of branch operations, it would be necessary to show expenses and other operating data for marketing separate from those for purchasing. None of the associations provided a thorough classification of this kind for their branch or main warehouse operations in 1937. Table 8 shows, however, for 6 of the 12 associations sales of farm supplies and farm products, gross savings for these 2 classes of sales, and their expenses and net operating income, segregated for the 6 main warehouses and for 14 branches. At the main warehouses 95 percent of sales represented supplies, while at the branches about 60 percent of sales consisted of supplies and 40 percent of products marketed.

The average rate of gross income at branches was 8.7 percent and at the main warehouses 18.3 percent. It is to be noted that this difference was due to lower rates of gross income earned on both farm products and supplies at branches.

Expenses per dollar of sales also were lower in the branches chiefly because the associations customarily followed a practice of charging

TABLE 8.—FARM SUPPLY AND MARKETING OPERATIONS OF THE INDIANA FARM BUREAU COOPERATIVE ASSOCIATIONS AT 6 MAIN AND 14 BRANCH WAREHOUSES

| Item | Amount | | Percentage of total sales | |
|---------------------------|-------------------|----------------------|---------------------------|----------------------|
| | 6 main warehouses | 14 branch warehouses | 6 main warehouses | 14 branch warehouses |
| | <i>Dollars</i> | <i>Dollars</i> | <i>Percent</i> | <i>Percent</i> |
| Farm supply sales..... | 888, 075. 14 | 717, 939. 31 | 100. 0 | 100. 0 |
| Cost of sales..... | 718, 843. 19 | 628, 348. 79 | 80. 4 | 87. 6 |
| Gross income..... | 169, 231. 95 | 89, 590. 52 | 19. 6 | 12. 4 |
| Marketing sales..... | 49, 207. 73 | 529, 308. 55 | 100. 0 | 100. 0 |
| Cost of sales..... | 45, 165. 45 | 511, 321. 62 | 91. 8 | 96. 6 |
| Gross income..... | 4, 042. 38 | 17, 986. 93 | 8. 2 | 3. 4 |
| Total sales..... | 937, 282. 87 | 1,247,247.86 | 100. 0 | 100. 0 |
| Total gross income..... | 173, 274. 33 | 107, 577. 45 | 18. 3 | 8. 7 |
| Expenses..... | 148, 454. 41 | 105, 359. 16 | 15. 8 | 8. 5 |
| Net operating income..... | 24, 819. 92 | 2, 218. 29 | 2. 5 | 0. 2 |

Data computed by the author from records of the Indiana farm bureau county cooperative associations.



FIGURE 13.—REGULAR TRUCKS USED ON DAILY ROUTES AND A LIGHT EMERGENCY DELIVERY TRUCK.

Light delivery trucks are used by some associations to take care of rush orders. The heavier type trucks are used on regular routes.

the bulk of their general overhead expenses to operations of the main warehouse. The six associations earned net income in 1937 at a rate of 2.5 percent of sales at their main warehouses and at 0.2 percent of sales at their branches.

The general conditions revealed by these facts indicate that operations at branches have not always been conducted in a manner to produce satisfactory gross income on supplies, and, therefore, that the branch operations prior to 1937 generally needed more careful supervision. This would be particularly clear if total expenses incurred in branch operations were fully charged to the income of the branches.

Delivery Service to Patrons

County purchasing associations usually provide delivery service for all farm supplies (fig. 13). A daily petroleum delivery service is maintained by all associations. The drivers act as salesmen in developing new business as well as deliver to established members (p. 23). Of the 30 associations, 28 also deliver nonpetroleum supplies to farmers. Fertilizer, fencing, and coal are commonly hauled by trucks owned by the associations or by contract truckers. Usually, deliveries of supplies are made only for sizable orders or on a regular route two or three times each week. Most associations permit their petroleum deliverymen to take small orders of feed, seed, or miscellaneous supplies to farmers who have requested this service; but



FIGURE 14.—A FARMER TAKES HOME A SMALL LOAD OF FEED.

Associations usually do not deliver small orders.

as a rule each farmer hauls most of his purchases of such commodities.

Charges for delivery are generally included in the prices quoted on supplies. Therefore, if farmers pick up large orders of feed, twine, or seed in their trucks, an allowance is made in the price charged. On feed, delivery charges average \$1 to \$2 per ton; on coal, 50 cents to 75 cents per ton; and on fertilizer, 50 cents per ton. Few of the associations have a schedule of delivery charges graduated according to hauling distance. The practice of quoting "delivered" and "at warehouse" prices has generally been used for the purpose of inducing farmers to haul their own supplies.

In associations that render marketing services, farmers usually deliver grain products to the cooperatives' shipping point, and take return loads of supplies (fig. 14). In 6 of the 30 counties trucks owned by the associations were used to pick up grain. In such cases, managers frequently combined delivery trips to the farms with return loads of grain to make the fullest use of truck facilities.

Extension and Control of Credit

The bylaws of the county associations stipulate that—

All purchases and sales shall be made on the basis of payment in cash or its equivalent, except in cases or phases of the business where the board of directors, by reason of trade customs or conditions shall have found it necessary to grant credit for certain periods of time and under specified conditions, and shall have passed express resolutions governing such cases or phases of the business.*

* Art. VI, sec. 2.

While this provision was designed to insure operation on a cash basis, it permits the extension of credit where it seems desirable. Most of the associations have found it impossible to restrict business to a 100 percent cash basis. In starting limited credit, generally directors have passed resolutions authorizing extension to "good risks" for short periods as a convenience to patrons. This action is defended on the grounds that many farmers would patronize competitors if credit accommodations were unavailable from their own cooperative associations.

Managers in 24 of the 30 associations believed some degree of credit extension to be necessary in selling farm supplies. Typical suggestions made by successful managers for controlling credit were: Restrict all credit to cases of justifiable need; require payment within a short period, such as 5 or 10 days; make an interest charge for credit extended for longer periods or for purchases of equipment requiring financing over an extended time.

All associations extended some credit to patrons in 1937. In a few counties credit was strictly limited to amounts averaging only a small percent of sales; in others it was extended to half or more of sales value. The range by percentages of sales and by number of associations is shown in table 9. Of the 30 associations reporting their credit practices in 1937, 6 did credit business equal to about 50 percent of total farm supply sales; 5 estimated their credit sales from 35 to 40 percent, 7 from 25 to 35 percent, 5 from 15 to 20 percent, and 7 at 10 percent or less.

In comparing these estimates of credit sales with the percentages which total receivables at the end of 1937 were of the year's sales, it was found that associations which kept their credit sales to lowest proportions had smaller proportions of receivables to sales. Conversely, those associations that extended credit liberally had considerable amounts of their assets in receivables. This led to expense for collection as well as loss of interest on the funds owed by patrons and to larger losses in bad debts.

The associations generally extended largest amounts of credit on feed, fertilizer, and petroleum. There was, however, wide variety in the extent that different supplies contributed to the credit problem. Usually associations that extend credit on sales of principal supplies also extend credit on all other sales. In 22 of the 30 associations, credit on sales had been approved by the board of directors and full discretion was delegated to the county manager as to where and how liberally credit was to be extended. The remaining 8 used various methods of controlling credit. In none of the 30 associations were the managers held personally liable for uncollectible accounts. Surety or indemnity bonds carried on all managers do not cover losses arising from the extension of credit.

The credit experiences of Indiana county purchasing associations show a need for more efficiency in management of credit, greater care in differentiating good from poor credit risks, and limitation of credit to periods of from 5 to 30 days.

Credit Extension on Petroleum Sales

Methods of handling credit on sales of petroleum products by truck drivers varied greatly among the 30 associations. Twelve associations required each driver to pay cash for petroleum supplies either at time of loading or upon first return to the bulk plant. The driver was then usually free to extend credit to his patrons. Eighteen associations placed upon their books the accounts created by credit sales of the driver. Most associations required each driver to give a personal bond for a sum varying from \$50 to \$200 to guarantee payment for merchandise carried on his delivery truck. A few associations accumulated reserves from truck drivers' commissions to offset any petroleum accounts more than 60 days old.

There has been a definite tendency in the past 3 years for the county associations to shift the burden of carrying credit on petroleum business to the truck drivers. In at least half of the 30 associations, credit sales of petroleum products by 1937 were considered solely the truck drivers' responsibility. A few associations, however, through close supervision by the county manager of truck drivers, have satisfactorily controlled extension of credit on sales of petroleum products. In these cases, the usual credit problems have become fewer both because better judgment has been exercised in extending credit and because alert and businesslike managers who know the dangers of lax credit practices, have required prompt collection of accounts.

Failure by drivers in a number of associations to make cash settlement for sales of petroleum, as prescribed by their contracts, usually may be traced to increased liberality in extension of credit from 1935 to 1939. Although many drivers extend considerable credit in the busiest seasons, most of them collect their accounts fairly well later in the year. Nevertheless, if credit is extended liberally on petroleum sales, it may result in similar credit being sought on other commodities with harmful results.

County managers generally believe that drivers make collections more promptly if they are required to pay cash for their loads at time of loading or to be responsible for credit extended to their patrons. Under this plan the drivers realize that they are personally financing credit to their patrons; and it is believed that this fact effectively influences patrons to pay their accounts more promptly.

Some county managers have exercised care in instructing drivers in ways of avoiding credit business. In several associations patrons

have been led to borrow from their farm bureau credit unions and to use the proceeds of these loans to pay for their petroleum needs in advance. In other counties many farmers use loans from production credit associations to purchase petroleum needed in production activities. In general, however, more farmers should be impressed with the functions of these cooperative credit institutions and their own responsibility for paying the cost of credit service.

Credit practices of competing petroleum drivers must be considered in any such instructions. Easy credit and, to a considerable extent, other special inducements are offered by competitors to make sales. For example, county managers indicated that commercial petroleum distributors offer free storage and curb-pump equipment to farmers as considerations for their patronage and that the drivers for these companies frequently make special price reductions by sharing commissions or granting larger quantity discounts than are justified by volume delivered. To meet these practices one cooperative instructed its deliverymen to tell patrons attracted by such offers that the cooperative association, too, could furnish them free equipment and special discounts if the patrons would surrender their rights to annual patronage refunds.

Collection Procedures for Customers' Accounts

Efforts to collect accounts in four associations are described in the following statements:

Accounts are checked over every 30 days in order to keep collection up on older accounts. No classification of accounts by age is kept.

Monthly statements are sent to credit patrons and in the case of older accounts special collection visits are made.

A list of accounts receivable is made up monthly for each petroleum truck driver. Each driver then tries to collect both petroleum accounts and others for general supplies. In the busy season petroleum drivers are provided statements of their patrons' accounts each 2 weeks. These patron lists show credits of the last month separate from credits older than 30 days.

Directors check monthly the status of accounts and notes receivable on a list classifying them by age; that is, under 30 days, 30 to 60 days, 60 to 120 days, 120 days to 1 year, and over 1 year old. This classification is then examined by a special credit committee of the board and collection is pressed.

County associations do not usually give discounts for prompt payment of patrons' accounts, nor is interest charged on accounts receivable unless customers' notes have been given to finance a purchase for a definite period. Six percent interest is usually specified in such notes receivable.

One association, however, operated in 1937 a system of giving discounts for cash and charging interest on accounts receivable. Although no cash discount was allowed on petroleum supplies, an interest charge of 6 percent was made on such accounts running more

than 30 days. For other supplies 2 percent discount was allowed on accounts paid within 5 days of sale. Accounts running more than 5 days, but less than 30, received no discount. Also interest at 6 percent was charged on nonpetroleum accounts unpaid after 30 days. Credit patrons, therefore—whose accounts were not paid in 5 days from date of purchase—paid 2 percent above the prices paid by other customers on all supplies except petroleum products. The manager of the association stated that patrons appeared satisfied with this system of charging the cost of credit to those who were using it. An interesting reaction to the credit plan, however, developed. Many patrons who probably would not otherwise have asked for credit began to use this credit chiefly as an additional service for which they were willing to pay. This reaction of patrons indicates the desirability of training farmers to use specialized cooperative credit institutions, such as production-credit organizations and credit unions.

The State association began about 1937 a program of education on the purposes and the methods of credit unions. The program was designed to assist farmers to combine their own capital funds and thus to have at hand a source of loans for production and other short-time purposes.

The farm bureau credit unions were getting well started in Indiana counties during 1937. Of the 30 associations 16 had active credit unions.²⁰ Three of them had paid-in capital of about \$50,000 each at the end of the year. Total loans ranged from \$5,000 to \$15,000 in the 16 credit unions. Their growth has been rapid in some counties, and they offer farmers opportunities both as savings institutions and as sources of loans for production purposes at reasonable rates. County cooperative managers reported, however, that Indiana farmers were better acquainted with the savings service of credit unions than with their loaning activities.

Loans from county farm bureau credit unions were used during 1937 by farmers in 14 of the 30 counties to pay cash for purchases of farm supplies from the cooperatives or to pay old accounts. In 3 of these 14 credit unions, 90 percent or more of the loans were employed by farmers for cooperative purchasing; in 5 others, between 50 and 90 percent of the loans were so used; in 6, less than 25 percent of credit-union loans were used to purchase from the cooperative associations.

Loans by production-credit associations also have been used by Indiana farmers both to pay cash for their supply purchases and to wipe out old accounts. While most county cooperatives reported sales in 1937 to farmers who had received production-credit loans, reports on the exact extent to which such funds were used for these purposes

²⁰ There are now (1939) 47 farm bureau county credit unions that are helping to supply the short-time credit needs of farmers. Loans by these credit unions are increasingly being employed by farmers to finance supply purchases through their county cooperatives.

were not available. The following comments by managers of five cooperatives, however, indicate the importance of these loans to farmers:

To a considerable extent production-credit loans have helped in purchases of feed, seed, and fertilizer.

Five tractors and other implements sold by the cooperative association in 1937 were financed with production-credit loans. Other production-credit money was spent with the association, but it is impossible to say how much.

Production credit has improved cash buying by farmers, principally on fencing, paint, farm implements. The farmer gets a cash discount when buying with the proceeds of a production-credit loan, but if he buys implements with his own note, he gets no cash discount.

It is impossible to estimate what amount or proportion of production-credit-association money comes into the cooperative association. There is a large volume of production-credit loans in the county. The manager of the production credit association district office is a local farmer and a director in the local cooperative purchasing association. This has made it possible for the cooperative association to work closely with the production-credit association in furnishing supplies to farmers who are borrowers.

How much production-credit money comes into the cooperative association is unknown, but the tendency is for loans to be directed to the cooperative association. The secretary-treasurer of the cooperative is local agent for production-credit loans.

It is of interest also that 19 of the 30 associations apply patronage dividends to the unpaid accounts of patrons. In most cases, however, this was equivalent simply to postponing issuance of common stock to patrons, since most patronage refunds have been paid in stock and the associations have seldom permitted payment of patrons' accounts with stock.

Methods of Marketing Farm Products

In 1937, 15 of the 30 associations assisted farmers in marketing one or more farm products. Wheat was handled by 14 associations; corn by 8; other grains by 9; soybeans by 5; poultry and eggs, butterfat, and livestock by 3. All 30 associations received wool from farmers for the Indiana Wool Growers, Inc. Cooperative canning and marketing of tomatoes was in its third season in one association.

Under the predominant method of handling farm products the cooperative association buys from the farmer on the basis of market quotations and resells to central markets. Only two associations handled farm products on commission, except wool for which all the associations were paid 0.5 cent per pound handled. In the case of tomatoes, an advance was paid to growers when tomatoes were delivered to the cannery; the association supervised canning and marketing operations and made further payments to growers as proceeds were realized. Most of the grain was handled by purchase and resale, and was stored in local elevators while awaiting shipment (fig. 15). The associations either operated on their own capital or were author-

ized, in paying farmers for grain, to draw drafts upon a central brokerage agency to which the grain was consigned. Grain owned by the cooperative is generally protected by hedges made by the Indiana Grain Cooperative on the grain exchange.

In 1937 wheat made up 45 percent, and corn 31 percent of farm products marketed by 15 associations for which sales and gross income figures were available, as shown in table 9. Of the 15 associations, 10 handled wheat at a gross loss, and 2 handled corn and other grains at a loss. Especially heavy losses on wheat in 1937 were attributed to lowering of grades on wheat shipments at shipping destinations after the associations had purchased from farmers at higher grades. Average gross loss on wheat per dollar of sales was 1.2 percent. On corn average gross margin was 1.9 percent; and on other grain, 8.7 percent. Soybeans produced a gross margin of 5.9 percent.

Livestock was handled by one association on an average gross margin of 0.9 percent, while gross margin on poultry was 6.6 percent, and on butterfat, 8.3 percent. Average gross margin on total livestock and livestock products was 5.8 percent.

Managers of the 15 associations that marketed farm products in 1937 held the opinion that cooperative handling of farm products had increased their farm supply business and that many farmers obtained their first acquaintance with cooperative purchasing of these supplies through marketing contacts. In most of the counties that handle grain, farmers market through the cooperative association chiefly for the assurance of maximum prices for their products, but partly also as a means of paying accounts created by supply purchasing.

TABLE 9.—SALES VALUE AND GROSS INCOME ON FARM PRODUCTS HANDLED BY 15 INDIANA FARM BUREAU COUNTY COOPERATIVES, 1937

| Product handled | Number of association | Value of sales | | Gross income | |
|---------------------------------------|-----------------------|-----------------|---------------------------|----------------|---------------------------|
| | | Amount | Percentage of total sales | Amount | Percentage of total sales |
| | | <i>Dollars</i> | <i>Percent</i> | <i>Dollars</i> | <i>Percent</i> |
| Wheat..... | 14 | 567, 301. 83 | 45. 0 | -6, 785. 89 | -1. 2 |
| Corn..... | 8 | 392, 599. 25 | 31. 0 | 7, 426. 50 | 1. 9 |
| Other grain..... | 9 | 75, 899. 93 | 6. 0 | 6, 572. 81 | 8. 7 |
| Soybeans..... | 5 | 75, 501. 27 | 6. 0 | 4, 474. 62 | 5. 9 |
| Livestock and livestock products..... | 3 | 150, 123. 25 | 12. 0 | 8, 643. 22 | 5. 8 |
| Total..... | | 1, 261, 425. 51 | 100. 0 | 20, 331. 26 | 1. 6 |

1 A minus sign indicates gross loss.

Data computed by the author from records of the Indiana farm bureau county cooperatives.



FIGURE 15.—A TYPICAL GRAIN ELEVATOR WITH SURPLUS STORAGE TANKS.

In 1937 grain accounted for more than two-thirds of all farm products marketed by the associations.

Of the 30 cooperatives 14 have tried to improve their earnings on feed and render more service to patrons by buying grain locally and mixing feeds to be sold to customers on a basis to meet local competitive feed prices. (See p. 28.) The associations reported that this service created a local market for their members' grain. Although feed grinding and mixing services have been expanded in several counties, the largest part of the associations' feed sales consisted in 1937 of formula feeds purchased through the Indiana Farm Bureau Cooperative Association.

Expenses of handling farm products were reported together with other expenses in the audits of associations that performed marketing service. Managers of eight associations which had the largest grain marketing volumes in 1937 estimated expenses of marketing represented from one-third to one-half of total expenses. The remaining associations considered their marketing expense relatively small. Since handling farm products ordinarily increased very little the associations' labor expense, this expense consisted largely of property overhead. Therefore, because overhead expenses are fixed while marketing sales and gross savings vary greatly from year to year, net income from marketing operations has been exceedingly variable, and in several cases apparently negligible. While net income from marketing is an important objective of the associations that provide marketing service, it should be noted that the service rendered farmers and the resulting benefits to farm supply business justify the marketing

activities even though the income from it may not in a particular year appear large.

Accounting Methods

Systems of accounts and records are generally similar in the purchasing associations. All but 6 of the 82 associations have adopted standard accounting forms and procedures submitted to them by the Indiana Farm Bureau Cooperative Association at the time of their organization. As the cooperatives have developed, the standard system of accounts has been adapted in varying extent to meet local requirements. It, therefore, now (1939) reflects to a considerable extent the individual association's particular needs and offers a desirable flexibility in a federation of locally governed associations.²¹

These standard forms are based on the following requirements:

1. Complete and accurate records of all business transactions. These include purchase orders, sales tickets, bank checks as evidence of money disbursed, and statements covering receipts and disbursements of cash from sales, for expenses of operation, and for other purposes.

2. A clear classification of all transactions in journal form. Special journals for sales and purchases usually are kept in addition to a general journal.

3. Ledger accounts classified into assets, liabilities, net worth, income, and expense groupings. Subsidiary ledgers are kept and a control account is maintained for them in the general ledger.

4. Inventories taken semiannually or quarterly by employees, being checked by the auditor or by independent appraisers only through occasional check test. Periodic counting and pricing of inventories have a direct effect upon the process of computing gross savings, and hence the directors of the associations, in most instances, need to require that a more complete check of inventories be made by some independent party.

A few of the associations keep perpetual inventory records in order to enable the management to supervise stocks more efficiently and to prevent waste and losses. A perpetual inventory is valuable, but it does not replace the periodic physical inventory.

Periodic Statements and Audits of Accounts

Statements of the associations vary greatly in frequency, extent, and completeness. In 11 of the 30 associations a financial report was prepared monthly by the bookkeeper or the manager for the directors' meetings. In the other 19 associations less frequent reports were made.

²¹ For reproductions of somewhat similar accounting forms and a detailed explanation of standard methods of keeping these records, the reader is referred to Lister, J. H., *COOPERATIVE PURCHASING THROUGH THE ILLINOIS FARM SUPPLY CO. AND ITS MEMBER COUNTY COMPANIES*, Farm Credit Administration, Bull. 27, 173 pp., illus. 1938. See pp. 86-90.

Most associations have gradually recognized the desirability of regular audits by outside accountants. The State association has stimulated these demands for accurate auditing service by providing trained auditors whose principal duties are to assist the county associations at a standard per diem fee. Of the 30 associations, 14 had quarterly audits in 1937 prepared by auditors of the State association; 12 had semiannual audits, and 4 annual audits.

Financial and Operating Condition of 30 County Cooperatives in 1934 and 1937

IN ORDER to show the operating and financial condition of the county associations, an average balance sheet and an average operating statement for 1937 and 1934 have been prepared based on data from 30 selected associations and from the 3 groups into which they have been divided (table 10). Averages shown in these statements are typical of the entire group of Indiana county cooperatives.²³ However, since the fiscal years end at various dates, certain items on the average balance sheet, such as receivables, inventories, and current liabilities, are higher in percentages of total assets than they would be if all periods ended with the calendar year.²³ Associations that close the fiscal year in the fall months, when selling and marketing operations are at the peak, have abnormally high inventories and current liabilities and low cash. Thus to some extent the average balance sheet does not appear as favorable as it would if all audits were made as of December 31.

Several significant trends are evident in volume of sales, cost of goods sold, income, and cost of operation for the 30 associations as a whole, and when grouped by commodities handled and services offered.

Average volume of sales for all associations, including sales of farm products, increased in value between 1934 and 1937 about 89 percent—from a total of \$120,580 to a total of \$227,758. Of special significance is the fact that the general-supply business, that is all supplies other than petroleum products, has increased faster than either the petroleum business or the marketing of farm products, as a comparison of the percentages in table 10 shows.²⁴ This trend is indicative of the increasingly diversified supply services offered by the county cooperatives to their patrons.

That such diversification brings greater growth is indicated by the comparative volume distribution of associations by types in 1937.

²³ Comparison of the average percentages on the average operating statement and balance sheet of 30 associations for 1937, shown in tables 10 and 19, with the similar figures for 82 associations in 1937, shown in tables 3 and 4, indicates the highly representative character of the 30 selected associations.

²⁴ For example, in 14 of the 30 associations, fiscal periods ended on December 31, in 7 on November 30, in 7 on October 31, in 1 on September 30, and in 1 on August 31.

²⁵ Compare table 10 with table 2 for similarity in percentages of commodity sales by all associations and the selected 30 in 1937 and 1934.

TABLE 10.—AVERAGE OPERATING STATEMENT, BY TYPE OF ASSOCIATION, FOR 30 SELECTED INDIANA FARM BUREAU COUNTY COOPERATIVES, 1934 AND 1937

| Item | 1934 | | | | 1937 | | | |
|--|--------------------------|---------------------|-------------------|------------------|--------------------------|---------------------|-------------------|-------------------|
| | 30 selected associations | Type of association | | | 30 selected associations | Type of association | | |
| | | 17 general supply | 8 marketing | 5 petroleum | | 17 general supply | 8 marketing | 5 petroleum |
| Sales: | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> |
| Petroleum supplies..... | 41,367.55 | 38,375.58 | 40,760.20 | 52,511.99 | 67,259.91 | 59,899.46 | 67,256.01 | 92,291.71 |
| General farm supplies..... | 55,956.86 | 55,225.44 | 77,740.75 | 20,249.44 | 118,461.04 | 110,363.99 | 171,401.32 | 61,226.56 |
| Farm products marketed..... | 23,245.82 | 10,633.76 | 64,575.10 | | 42,047.52 | 8,289.69 | 140,062.60 | |
| Total sales..... | 120,569.23 | 104,234.78 | 183,076.05 | 72,761.43 | 227,768.47 | 178,553.14 | 378,719.93 | 153,518.27 |
| Cost of sales: 1 | | | | | | | | |
| Petroleum supplies..... | 30,482.14 | 28,500.18 | 20,708.69 | 36,378.33 | 52,339.83 | 48,500.14 | 52,132.39 | 72,529.69 |
| General farm supplies..... | 48,312.96 | 48,606.84 | 66,813.03 | 17,713.61 | 101,617.42 | 95,449.36 | 145,429.61 | 32,499.34 |
| Farm products marketed..... | 21,728.76 | 9,737.75 | 60,811.41 | | 41,369.81 | 8,573.89 | 136,917.29 | |
| Total cost of sales..... | 100,493.86 | 86,834.77 | 157,333.13 | 55,091.94 | 195,327.06 | 150,523.39 | 334,479.29 | 125,018.03 |
| Gross trading income: | | | | | | | | |
| Petroleum supplies..... | 10,915.41 | 9,875.40 | 11,051.51 | 14,233.66 | 14,920.08 | 13,399.32 | 15,123.62 | 19,762.02 |
| General farm supplies..... | 7,653.90 | 7,618.00 | 10,927.72 | 2,535.83 | 16,833.62 | 14,814.63 | 25,971.71 | 8,737.22 |
| Farm products marketed..... | 1,817.06 | 908.01 | 3,763.69 | | 677.71 | 1-264.19 | 3,145.31 | |
| Total gross trading income..... | 20,386.37 | 18,401.41 | 25,742.92 | 16,769.49 | 32,431.41 | 28,029.76 | 44,240.64 | 28,502.24 |
| Other operating income..... | 1,291.17 | 1,198.95 | 3,154.77 | 222.95 | 2,059.16 | 1,713.38 | 4,089.69 | 70.77 |
| Gross trading and other operating income..... | 21,677.54 | 19,599.36 | 27,897.69 | 16,992.43 | 34,490.57 | 29,743.14 | 48,330.33 | 28,573.01 |
| Operating expense..... | 16,751.69 | 15,715.30 | 21,710.30 | 12,341.68 | 27,237.68 | 23,674.41 | 38,714.05 | 20,969.32 |
| Net operating income..... | 4,925.85 | 3,884.06 | 6,187.39 | 4,650.75 | 7,252.89 | 6,068.73 | 9,616.28 | 7,603.69 |
| Add—Other income..... | 768.14 | 792.62 | 864.09 | 321.39 | 1,943.19 | 1,932.04 | 2,190.37 | 1,691.76 |
| Deduct—Other expenses..... | 534.90 | 513.13 | 745.45 | 271.68 | 332.47 | 678.00 | 524.09 | 261.69 |
| Net income..... | 4,859.09 | 4,163.55 | 6,306.03 | 4,699.46 | 8,863.61 | 7,522.77 | 10,982.56 | 8,932.76 |

PERCENTAGE OF SALES

| | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Sales: | | | | | | | | |
| Petroleum supplies..... | 34.3 | 38.5 | 22.3 | 72.2 | 29.5 | 33.6 | 17.8 | 50.1 |
| General farm supplies..... | 46.4 | 53.4 | 42.4 | 27.8 | 52.0 | 61.8 | 45.2 | 39.9 |
| Farm products marketed..... | 19.3 | 10.1 | 35.3 | | 18.5 | 4.6 | 37.0 | |
| Total sales..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Cost of sales: | | | | | | | | |
| Petroleum supplies..... | 25.2 | 27.1 | 16.2 | 52.6 | 23.0 | 26.0 | 13.8 | 47.2 |
| General farm supplies..... | 40.1 | 46.2 | 36.5 | 24.3 | 44.6 | 53.5 | 38.4 | 34.2 |
| Farm products marketed..... | 18.0 | 9.2 | 33.2 | | 18.2 | 4.8 | 36.1 | |
| Total cost of sales..... | 83.3 | 82.5 | 85.9 | 76.9 | 85.8 | 84.3 | 88.3 | 81.4 |
| Gross trading income..... | 16.7 | 17.5 | 14.1 | 23.1 | 14.2 | 15.7 | 11.7 | 18.6 |
| Other operating income..... | 1.0 | 1.1 | 1.1 | .3 | .9 | 1.0 | 1.0 | 4.0 |
| Gross trading and other operating income..... | 17.7 | 18.0 | 15.2 | 23.4 | 15.1 | 16.7 | 12.7 | 18.6 |
| Operating expense..... | 13.9 | 14.9 | 11.8 | 17.0 | 11.9 | 13.3 | 10.2 | 13.7 |
| Net operating income..... | 3.8 | 3.7 | 3.4 | 6.4 | 3.2 | 3.4 | 2.5 | 4.9 |
| Add—Other income..... | .6 | .8 | .5 | .7 | .8 | 1.1 | .6 | 1.1 |
| Deduct—Other expenses..... | .4 | .5 | .4 | .4 | .2 | .3 | .2 | .2 |
| Net income..... | 4.0 | 4.0 | 3.5 | 6.7 | 3.8 | 4.2 | 2.9 | 5.8 |

¹ Includes cost of delivery into storage tanks and warehouses, and Federal and State taxes on motor fuels and oil.

² A minus sign indicates a loss.

³ Less than 0.1 percent of sales.

Source of data: Records of the Indiana farm bureau county cooperatives.

Average volume of sales in the 8 marketing associations in 1937, because of their specialization in supplies as well as in farm products, was more than double the average volume in the general-supply or petroleum types. The 17 general-supply associations, with 62 percent of their average 1937 sales in general supplies and 33 percent in petroleum supplies and only 5 percent in farm products, were second in volume of sales. The 5 petroleum associations, with 40 percent of average sales in general supplies and 60 percent in petroleum supplies, had the lowest average volume. Thus, general lines of supplies tended to increase volume, as shown by the comparative operating statement (fig. 16).

The added volume which marketing associations have is not so significant as it might at first appear. It comes principally from handling the large grain crop that floods the Indiana market at harvest time. While these operations are important as a service to farmers, they are limited to a short season in the fall months, and they do not ordinarily contribute as much to gross income in proportion to their dollar volume as do the supply sales.

The cost of goods sold represents the amounts that must be recovered in the prices charged for them. The county cooperatives, through their State association's wholesale contracts, obtain supplies generally at lower costs than would be possible if they bargained individually. This has been true particularly of petroleum products, fertilizer, implements, tractors, fence, and binder twine. From year to year as the total volume of these supplies purchased by county associations has been increasingly handled through the State association, the association has been able to control costs by a gradual improvement of its purchase contracts. Naturally, some commodities, such as feed, which heretofore have not been purchased so fully through

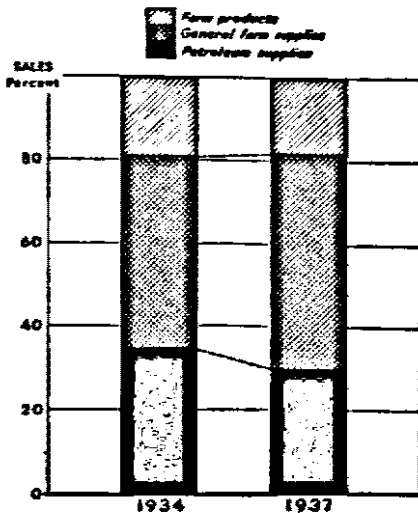


FIGURE 16.—PERCENTAGE OF 1934 AND 1937 SALES REPRESENTED BY PETROLEUM PRODUCTS, GENERAL FARM SUPPLIES, AND FARM PRODUCTS.

General farm supplies represented a considerably larger proportion of total sales in 1937 than in 1934.

the State organization, and such others as building supplies, for which price and local dealer arrangements are already well established, afford less opportunity for control of cost of goods by means of wholesale purchase contracts. Even in these commodity fields, however, the Indiana cooperatives have made progress in perfecting large-scale purchase contracts through their central organization, and in 1939 more effectively controlled the costs of supplies distributed.

The combined gross operating income, including trading income and other operating income, averaged \$34,490 per association in 1937 and \$21,377 in 1934 (table 10). These represented 15.1 percent of sales in 1937 and 17.7 percent in 1934. This decline in percentage came largely as the result of reduced trading margins in petroleum products, and was most pronounced, therefore, in the five petroleum associations.

Gross trading income, which represents the difference between sales and cost of goods sold, reflects particularly the decline in trading margins on petroleum products from 26.4 cents per dollar of sales in 1934 to 22.2 cents in 1937; but it also reflects a decrease in the trading margins on farm products marketed (table 11 and fig. 17). This decline in the average rate of gross trading income was less sharp than might have been expected because the average trading margin on general supplies increased from 13.7 cents to 14.2 cents per dollar of sales; and, more significant, because the average volume of such supplies was more than doubled. While the gross margins were about the same for such general supplies as feed, fertilizer, seed, coal, twine, and farm machinery, they were slightly higher for fencing and building supplies (table 12).

Thus, while the associations had a lower average gross margin on larger total business volume in 1937 than in 1934, they provided a wider supply service in such general commodities as implements, electrical equipment and other building supplies, which tended to offset narrowing gross margins on the petroleum products.

TABLE 11.—AVERAGE PERCENTAGE GROSS TRADING MARGINS BY GROUPS OF COMMODITIES FOR 30 INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPE OF ASSOCIATION, 1934 AND 1937

| Number and type of associations | All supplies | | Petroleum supplies | | General supplies | | Farm products | |
|---------------------------------|--------------|------|--------------------|------|------------------|------|---------------|-------------------|
| | 1934 | 1937 | 1934 | 1937 | 1934 | 1937 | 1934 | 1937 |
| General (17)----- | 17.5 | 15.7 | 25.7 | 22.4 | 13.6 | 13.5 | 8.5 | ¹ -3.4 |
| Marketing (8)----- | 14.1 | 11.7 | 27.1 | 22.5 | 14.1 | 15.2 | 5.8 | 2.2 |
| Petroleum (5)----- | 23.0 | 18.6 | 27.1 | 21.4 | 12.5 | 14.3 | ----- | ----- |
| Total (30)----- | 16.7 | 14.2 | 26.4 | 22.2 | 13.7 | 14.2 | 6.5 | 1.6 |

¹ A minus sign indicates a loss.

Data computed by the author from records of the Indiana farm bureau county cooperatives.

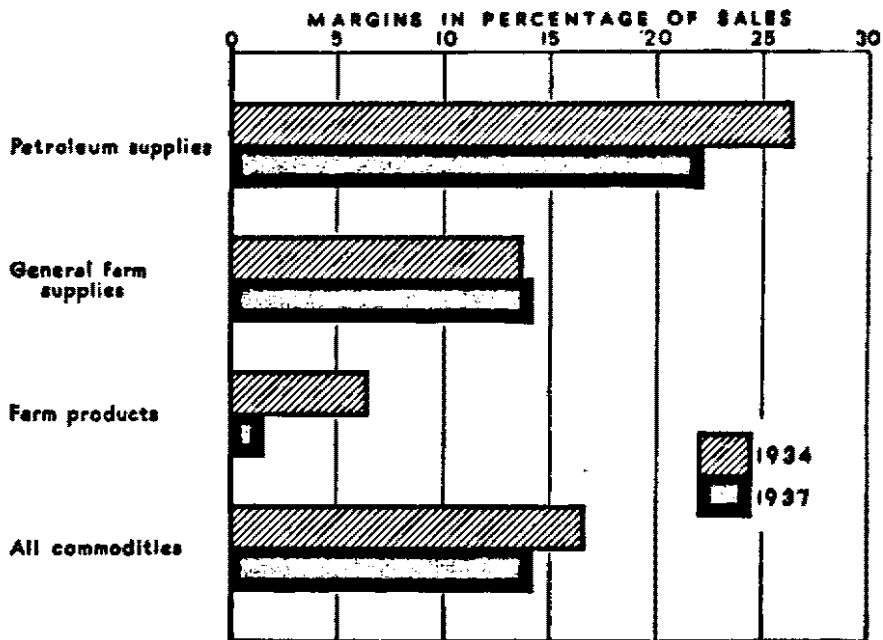


FIGURE 17.—AVERAGE PERCENTAGE GROSS TRADING MARGINS FOR ALL COMMODITIES IN 1934 AND 1937.

Gross margins on general farm supplies increased, while on petroleum supplies and farm products there was a decline.

Conditions adversely affecting gross trading margins occurred between 1934 and 1937. It appears that some associations, to meet these changes, introduced supplies of generally higher mark-up which farmers wished to purchase, and thereby improved the average gross margins earned on all their supply business—for example, from 14 percent to 16.1 percent in one association. Other associations which did not adjust their supply business to meet changed conditions, or which had low gross earnings on farm products marketed, had lower average earnings.

Other operating income consists mostly of income from grinding feed or operating hatcheries, and of commissions on farm products marketed and insurance sold (table 13). The marketing associations were better prepared than the general-supply and petroleum associations for rendering such services.

The average operating expense of the 30 associations amounted to 13.9 cents per dollar of sales in 1934 and 11.9 cents in 1937 (table 10). This reduction came largely as a result of increased volume of business. Total operating expense increased 63 percent from 1934 to 1937, compared with the increase of 89 percent in volume in the same period.

The principal items of operating expense and average amounts of

each for the years 1934 and 1937 are shown in table 14 and figure 18. Combined salaries, wages, and commissions of all kinds, along with directors' fees and expenses were 65 percent of total expense in both years, truck drivers' commissions being about 28 percent of total expense. The remaining 35 percent consisted of general expense such as rent, taxes, insurance, office supplies, and depreciation. Outstanding was the high percentage of expense for facilities in the general-supply associations, the high percentage for warehouse and sales salaries in the marketing associations, and the high percentage of drivers' commissions in the petroleum associations.

After deducting operating expense from gross operating income, the net operating income averaged 3.2 cents per dollar of sales in 1937 and 3.8 cents in 1934. To this was added substantial amounts of "other-than-operating income" consisting chiefly of patronage refunds received from the State association and dividends on investments.

TABLE 12.—DISTRIBUTION OF 30 COUNTY COOPERATIVES ACCORDING TO GROSS TRADING MARGINS ON COMMODITIES HANDLED, 1937

| Commodity | Associations reporting | Less | 1937 gross margin per dollar of sales | | | | | | | |
|---------------------------------------|------------------------|------|---------------------------------------|----------------|------------------|------------------|------------------|------------------|------------------|-------------------|
| | | | 0 to 4.9 cents | 5 to 9.9 cents | 10 to 14.9 cents | 15 to 19.9 cents | 20 to 24.9 cents | 25 to 29.9 cents | 30 to 34.9 cents | 35 and over cents |
| | | | Number of associations | | | | | | | |
| Petroleum supplies: | | | | | | | | | | |
| Gasoline..... | 30 | 0 | 0 | 0 | 1 | 25 | 4 | 0 | 0 | 0 |
| Kerosene..... | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 21 | 7 |
| Distillate and tractor-line..... | 26 | 0 | 0 | 0 | 0 | 2 | 2 | 9 | 13 | 0 |
| Oil, grease, and alcohol..... | 30 | 0 | 0 | 0 | 0 | 4 | 10 | 11 | 4 | 1 |
| General farm supplies: | | | | | | | | | | |
| Feed and flour..... | 29 | 0 | 0 | 7 | 14 | 7 | 1 | 0 | 0 | 0 |
| Fertilizer..... | 29 | 0 | 0 | 2 | 21 | 5 | 1 | 0 | 0 | 0 |
| Seed..... | 30 | 0 | 1 | 7 | 9 | 10 | 1 | 2 | 0 | 0 |
| Coal..... | 25 | 0 | 2 | 2 | 7 | 8 | 5 | 1 | 0 | 0 |
| Fence..... | 25 | 1 | 0 | 1 | 5 | 10 | 7 | 1 | 0 | 0 |
| Farm machinery..... | 25 | 1 | 1 | 10 | 9 | 1 | 3 | 0 | 0 | 0 |
| Building supplies..... | 23 | 0 | 0 | 3 | 4 | 10 | 4 | 2 | 0 | 0 |
| Twine..... | 22 | 0 | 1 | 4 | 7 | 8 | 1 | 0 | 1 | 0 |
| Miscellaneous items..... | 30 | 0 | 2 | 7 | 6 | 7 | 6 | 1 | 1 | 0 |
| Farm products marketed: | | | | | | | | | | |
| Wheat..... | 14 | 10 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Corn..... | 8 | 1 | 2 | 3 | 1 | 1 | 0 | 0 | 0 | 0 |
| Other grains..... | 10 | 1 | 0 | 5 | 3 | 1 | 0 | 0 | 0 | 0 |
| Soybeans..... | 4 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Livestock and livestock products..... | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

Data computed by the author from records of Indiana farm bureau county cooperative associations.

TABLE 13.—AVERAGE "OTHER OPERATING INCOME" RECEIVED BY 30 INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPE OF ASSOCIATION, 1934 AND 1937

| Item | 1934 | | | | 1937 | | | |
|-----------------------------------|-----------------|---------------------|-------------|-------------|-----------------|---------------------|-------------|-------------|
| | 30 associations | Type of association | | | 30 associations | Type of association | | |
| | | 17 general supply | 8 marketing | 5 petroleum | | 17 general supply | 8 marketing | 5 petroleum |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | |
| Marketing commissions.... | 349.91 | 287.71 | 700.80 | 357.11 | 390.66 | 570.27 | 4.30 | |
| Sales commissions..... | 124.69 | 181.50 | ..... | 199.05 | 127.39 | 190.62 | 68.20 | |
| Insurance commissions... | 8.30 | 1.49 | ..... | 14.74 | 128.62 | 164.85 | 118.97 | |
| Hatchery income..... | 147.63 | 200.67 | ..... | ..... | 92.97 | 164.61 | ..... |  |
| Grinding income..... | 511.93 | 418.90 | 1,029.57 | ..... | 1,190.40 | 667.90 | 3,067.84 | |
| Other service income..... | 153.51 | 68.48 | 424.40 | 9.17 | 156.08 | 178.15 | 211.82 | |
| Total other operating income..... | 1,291.17 | 1,198.95 | 2,154.77 | 222.95 | 2,050.16 | 1,713.38 | 4,086.69 | |
| | | | | | | | 70.77 | |

¹ A minus sign indicates a loss.

Source of data: Records of the Indiana farm bureau county cooperatives.

Expenses and deductions of a nonoperating character, such as interest and sales discounts, were small (table 15).

The average net incomes of the different types of associations were higher in 1937 than in 1934 (table 10), and for the 30 associations income was nearly doubled. Average net income per dollar of sales in 1937 ranged from 5.8 cents for the petroleum associations to 2.9 cents for the marketing, and 4.2 cents for the 17 general-supply associations. These rates were generally lower than those earned in 1934 except in the general-supply associations which showed a small increase.

It is apparent that there is considerable variety among the county associations in ways of rendering supply and marketing services, and that this fact accounts in part for the varied operating results shown by their average operating statements. It is significant that although the average rate of gross operating income per dollar of sales declined from 17.7 cents in 1934 to 15.1 cents in 1937, improvements in other forms of income and reductions in rates of expense resulted in almost as high an average net income rate in 1937 as that earned in 1934.

Distribution of Net Income

Indiana county purchasing associations use their net income, as prescribed in their bylaws, to pay dividends on preferred and common stock, and to make patronage refunds. Dividends on preferred stock are determined by the directors but may not be paid in excess of 6 percent per year. It is provided that in case preferred stock or certificates of debt are outstanding, the directors shall set up a fund for

their retirement and shall add to this fund each year when possible. After deductions for dividends on capital stock and for debt retirement, the bylaws specify that the directors may place annually into surplus an amount to be determined by them, but not exceeding 25 percent of the balance of net income remaining after the above provisions, and that they may contribute to a fund for educational, promotional, and organization work among producers of agricultural products. All remaining net income is to be used for patronage refunds which may be paid in cash, in common stock, or in certificates of indebtedness to producers of agricultural products. The issuance of common stock is the predominant method of distributing earnings to patrons. Nonproducer patrons may not receive refunds.

Distribution of the net income earned by the 30 associations from their 1937 operations is summarized in table 16. Cash dividends paid

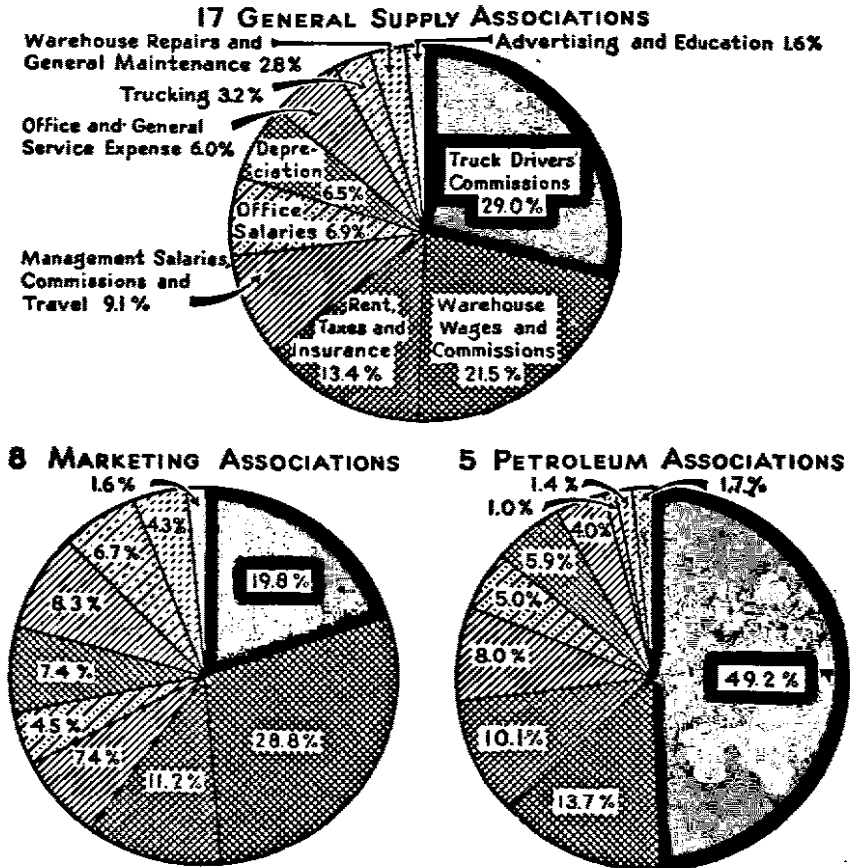


FIGURE 18.—PERCENTAGE COMPARISON OF MAJOR OPERATING EXPENSES FOR 30 COUNTY COOPERATIVES, GROUPED BY TYPE, 1937. PETROLEUM TRUCK DRIVERS' COMMISSIONS WERE THE HIGHEST ITEM.

TABLE 14.—AVERAGE OPERATING EXPENSES FOR 30 INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPE, 1934 AND 1937

| Item | 1934 | | | | 1937 | | | |
|---|--------------------------|---------------------|--------------------|--------------------|--------------------------|---------------------|--------------------|--------------------|
| | 30 selected associations | Type of association | | | 30 selected associations | Type of association | | |
| | | 17 general supply | 8 marketing | 5 petroleum | | 17 general supply | 8 marketing | 5 petroleum |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | |
| Manager's salary..... | 1, 727. 40 | 1, 733. 96 | 1, 888. 36 | 1, 447. 55 | 1, 916. 61 | 1, 811. 24 | 2, 428. 78 | 1, 455. 40 |
| Office salaries..... | 1, 196. 99 | 1, 307. 80 | 1, 526. 70 | 292. 70 | 1, 561. 00 | 1, 828. 86 | 1, 743. 47 | 1, 038. 30 |
| Warehouse and sales salaries and wages..... | 3, 035. 95 | 2, 878. 58 | 4, 712. 50 | 888. 55 | 5, 910. 44 | 4, 689. 16 | 10, 646. 43 | 2, 485. 21 |
| Truck drivers' commissions..... | 4, 791. 63 | 4, 457. 05 | 4, 540. 79 | 6, 330. 56 | 7, 664. 81 | 6, 873. 32 | 7, 679. 03 | 10, 331. 69 |
| Special sales commissions..... | 135. 87 | 155. 24 | 111. 58 | 108. 91 | 431. 28 | 401. 38 | 516. 60 | 395. 72 |
| Directors' fees and expenses..... | 181. 51 | 143. 58 | 276. 99 | 157. 69 | 186. 25 | 186. 03 | 248. 98 | 86. 66 |
| Rent..... | 317. 51 | 387. 96 | 260. 70 | 168. 88 | 405. 31 | 572. 46 | 245. 32 | 92. 96 |
| Taxes ¹ | 971. 02 | 812. 08 | 1, 431. 11 | 775. 25 | 2, 052. 61 | 1, 768. 95 | 2, 965. 65 | 1, 556. 18 |
| Insurance..... | 434. 93 | 417. 82 | 576. 87 | 266. 03 | 849. 75 | 826. 10 | 1, 123. 60 | 492. 01 |
| Repairs and supplies..... | 240. 41 | 201. 92 | 431. 42 | 65. 67 | 434. 62 | 308. 05 | 918. 63 | 90. 54 |
| Depreciation..... | 1, 211. 51 | 1, 097. 79 | 1, 771. 86 | 701. 62 | 1, 846. 24 | 1, 540. 68 | 2, 875. 53 | 1, 238. 26 |
| Office supplies and postage..... | 260. 87 | 218. 57 | 367. 68 | 233. 82 | 440. 72 | 384. 96 | 656. 06 | 285. 76 |
| Heat, light, power, and water..... | 464. 74 | 414. 66 | 804. 22 | 91. 82 | 784. 50 | 582. 29 | 1, 599. 31 | 168. 33 |
| Telephone and telegraph..... | 180. 54 | 169. 81 | 216. 84 | 158. 93 | 248. 48 | 212. 39 | 368. 37 | 179. 35 |
| Advertising and donations..... | 204. 79 | 202. 13 | 248. 23 | 144. 31 | 373. 06 | 316. 28 | 541. 20 | 297. 09 |
| Education and organization..... | 65. 95 | 74. 29 | 67. 84 | 34. 54 | 79. 20 | 78. 74 | 92. 37 | 59. 70 |
| Travel expense..... | 63. 71 | 57. 48 | 23. 07 | 149. 91 | 153. 83 | 149. 87 | 162. 50 | 153. 43 |
| Trucking..... | 679. 18 | 528. 33 | 1, 379. 07 | 72. 24 | 1, 157. 04 | 764. 32 | 2, 590. 73 | 198. 39 |
| Bad debts..... | 174. 91 | 121. 73 | 384. 71 | 20. 00 | 228. 35 | 153. 00 | 451. 49 | 127. 55 |
| Auditing..... | 83. 99 | 71. 48 | 129. 79 | 53. 27 | 79. 91 | 72. 36 | 113. 16 | 52. 39 |
| Other ² | 328. 28 | 263. 04 | 559. 97 | 179. 38 | 433. 67 | 353. 77 | 745. 97 | 205. 61 |
| Total operating expense..... | 16, 751. 69 | 15, 715. 30 | 21, 710. 30 | 12, 341. 63 | 27, 237. 68 | 23, 674. 41 | 38, 714. 08 | 20, 990. 53 |

TABLE 15.—AVERAGE "OTHER INCOME" AND "OTHER EXPENSE" OF 30 INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPE OF ASSOCIATION, 1934 AND 1937

| Item | 1934 | | | | 1937 | | | |
|---------------------------------------|-----------------|---------------------|----------------|----------------|-----------------|---------------------|-----------------|-----------------|
| | 30 associations | Type of association | | | 30 associations | Type of association | | |
| | | 17 general supply | 8 marketing | 5 petroleum | | 17 general supply | 8 marketing | 5 petroleum |
| Other income: | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> |
| Rent..... | 37.40 | 36.93 | 61.75 | 84.88 | 142.37 | 15.75 | 170.36 | |
| Dividends on investments..... | 150.89 | 133.61 | 217.86 | 102.53 | 283.74 | 239.54 | 448.54 | 170.36 |
| Patronage refunds..... | 527.95 | 558.21 | 531.13 | 420.00 | 1,438.83 | 1,409.45 | 1,581.85 | 1,309.89 |
| Other..... | 51.90 | 63.87 | 53.35 | 8.86 | 135.74 | 140.68 | 134.13 | 121.51 |
| Total other income..... | 768.14 | 792.62 | 864.09 | 531.39 | 1,943.19 | 1,932.04 | 2,180.27 | 1,601.76 |
| Other expenses and deductions: | | | | | | | | |
| Interest..... | 387.75 | 389.14 | 494.56 | 211.65 | 370.74 | 339.38 | 547.95 | 193.85 |
| Sales discounts..... | 117.58 | 105.13 | 179.87 | 60.23 | 138.78 | 102.69 | 270.01 | 42.27 |
| Other..... | 29.57 | 18.91 | 70.72 | ..... | 22.95 | 34.03 | 10.13 | 5.77 |
| Total other expense..... | 534.90 | 513.18 | 745.15 | 271.88 | 532.47 | 476.00 | 834.09 | 241.89 |

Source of data: Records of the Indiana farm bureau county cooperatives.

TABLE 16.—DISTRIBUTION OF THE 1937 NET INCOME OF 30 COUNTY ASSOCIATIONS

| Item | Amount | Percentage of total |
|--|----------------|---------------------|
| | <i>Dollars</i> | <i>Percent</i> |
| Total net income in 1937..... | 259,908 | 100.0 |
| Dividends on preferred stock..... | 3,334 | ..... |
| Dividends on common stock..... | 23,549 | ..... |
| Total dividends on capital stock..... | 26,883 | 10.4 |
| Balance of net income..... | 233,025 | 89.6 |
| Patronage refunds paid in cash..... | 54,374 | ..... |
| Patronage refunds paid in stock..... | 131,934 | ..... |
| Total patronage refunds paid..... | 186,308 | 71.7 |
| Balance of net income to surplus..... | 46,717 | 17.9 |

Source of data: Records of the Indiana farm bureau county cooperatives.

on preferred and common stock absorbed 10.4 percent of their entire net income. The rate of dividend paid on preferred stock was customarily 6 percent, although a lower rate was paid when net earnings were small with the balance of the 6 percent rate accumulating as prescribed in the bylaws.

The associations have not followed the practice of appropriating to surplus a definite percentage of their net income left after declaring

dividends on capital stock. Their usual procedure is to determine how much can safely be distributed to patrons as refunds and leave a margin for addition to surplus. Inasmuch as patronage refunds are made chiefly in common stock, the cooperatives have tended to be liberal in such distributions in relation to the amount of distributable net income.

Total patronage refunds paid by the 30 associations for 1937 accounted for 72 percent of their net income in that year. The largest amount of refund paid to any individual by an association was \$210.

After deducting dividends on capital stock and patronage refunds, about 18 percent of the net income remained to be carried to surplus.

Of the total patronage refunds in 1937, those paid on commodities in general at a flat rate accounted for 91 percent of the total, of which 81 percent was paid in common stock and 19 percent in cash. Special refunds on fertilizer and petroleum products made up the remaining 9 percent (table 17).

Twenty-seven associations made patronage refunds on their general-supply sales, 9 paid both cash and common stock and 18 common stock only (table 17). In addition 11 associations paid special refunds on fertilizer, 9 of them in cash, 1 in cash and in stock, and 1 in stock. Three associations also paid special refunds on petroleum supplies, the first paying entirely in cash, the second entirely in stock, and the third half in cash and half in stock. When such special refunds are paid upon sales of particular commodities, the commodities do not share in the refund distributed upon general sales of supplies.

Most general refunds were made at rates ranging from 2 percent to 8 percent; 14 of the 16 special refunds were paid at rates from 4 percent to 10 percent.

In paying patronage refunds in cash most associations take into consideration each patron's debts to the cooperative. Cash patronage refunds are occasionally withheld until a patron's account is paid, or the refund is applied directly to the account. Refunds in stock are not applied to unpaid accounts; but issuance of such stock to patrons whose accounts have remained unpaid for extended periods is postponed by a few associations.

There has been no marked change in methods of paying patronage refunds in the past 3 years. However, the associations have been adopting gradually the practice of paying part of all refunds in common stock. One association paid half of its authorized 1937 refunds in common stock and the other half in credit cards or due bills, which permit the patron to purchase supplies to the extent of the amount of the credit refund. These credit cards may be used also by the patron to pay accounts with the cooperative—in fact, if he has accounts due at the time patronage refund slips are made out they are generally credited directly to his account.

TABLE 17.—PATRONAGE REFUNDS PAID BY EACH OF 28¹ COUNTY ASSOCIATIONS IN 1938 FROM THEIR EARNINGS OF 1937

| Association code number | Total | Refunds on general supplies | | Refunds on fertilizers | | Refunds on petroleum | |
|-------------------------|---------------------|-----------------------------|---------------------|------------------------|----------------|----------------------|----------------|
| | | Cash | Stock | Cash | Stock | Cash | Stock |
| | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollars</i> |
| 1..... | 352 | | | 214 | 138 | | |
| 2..... | 1,000 | | ² 1,000 | | | | |
| 3..... | 1,529 | | 1,529 | | | | |
| 4..... | 1,579 | 383 | 1,196 | | | | |
| 5..... | 2,133 | | 2,133 | | | | |
| 6..... | 2,605 | | 2,605 | | | | |
| 7..... | 3,093 | | 1,094 | 519 | | | 1,480 |
| 8..... | 3,140 | | 3,140 | | | | |
| 9..... | 3,307 | | 3,000 | 307 | | | |
| 10..... | 3,718 | | 3,718 | | | | |
| 11..... | 3,730 | | 3,507 | 223 | | | |
| 12..... | 4,032 | | 3,727 | 305 | | | |
| 13..... | 4,186 | | 4,186 | | | | |
| 14..... | 4,412 | | 4,189 | 223 | | | |
| 15..... | 4,635 | 2,551 | 2,084 | | | | |
| 16..... | 5,460 | | 5,460 | | | | |
| 17..... | 6,195 | | 6,195 | | | | |
| 18..... | 6,277 | 2,957 | 3,320 | | | | |
| 19..... | 6,282 | 1,835 | 4,447 | | | | |
| 20..... | 7,736 | 3,868 | 3,868 | | | | |
| 21..... | 9,305 | | 7,447 | | | 1,858 | |
| 22..... | 10,000 | | ² 10,000 | | | | |
| 23..... | 11,048 | 4,935 | 5,913 | 200 | | | |
| 24..... | 11,657 | 5,811 | 5,846 | | | | |
| 25..... | ³ 12,076 | 2,759 | 2,759 | 956 | | 2,283 | 2,283 |
| 26..... | 16,066 | | 15,579 | 487 | | | |
| 27..... | 16,206 | | 13,154 | 3,052 | | | |
| 28..... | 24,549 | 8,677 | 14,462 | | 1,410 | | |
| Total..... | 186,308 | 33,776 | 135,558 | 6,486 | 1,548 | 4,141 | 3,763 |

¹ 2 of the 30 associations paid no patronage refunds for 1937.

² Estimated by managers.

³ This association also paid a special refund on feed handled from the car door amounting to \$614, of which half was paid in cash and half in stock, and a special cash refund on coal handled from the car door amounting to \$422.

Data compiled by the author from reports of the Indiana farm bureau county cooperatives.

Relationship Between Volume of Business and Operating Results

Usually the operating data of merchandising businesses, such as rates of gross income, expense, and net income, vary to some extent in relation to the volume of business handled. Table 18 shows the extent to which this relationship existed in the associations by types, as revealed when these items are expressed in percentages of sales for the associations grouped according to volume of business.

TABLE 18.—GROSS OPERATING INCOME, OPERATING EXPENSES, AND NET INCOMES IN PERCENTAGE OF SALES FOR 30 INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPE OF OPERATION AND VOLUME OF SALES, 1934 AND 1937

| Range in volume of sales | 1934 | | | | 1937 | | | |
|--|------------------------|------------------------|--------------------|-------------------------|------------------------|------------------------|--------------------|-------------------------|
| | Number of associations | Gross operating income | Operating expenses | Net income ¹ | Number of associations | Gross operating income | Operating expenses | Net income ¹ |
| | | Percent | Percent | Percent | | Percent | Percent | Percent |
| 17 general-supply associations:¹ | | | | | | | | |
| Less than \$50,000 | 2 | 20.7 | 14.8 | 6.0 | | | | |
| \$50,000 to \$100,000 | 7 | 20.8 | 15.8 | 5.3 | 1 | 18.6 | 15.3 | 4.5 |
| \$100,000 to \$150,000 | 4 | 17.9 | 13.7 | 4.7 | 6 | 18.3 | 15.4 | 3.9 |
| \$150,000 to \$200,000 | 4 | 17.3 | 15.1 | 2.2 | 4 | 18.3 | 13.0 | 6.1 |
| \$200,000 to \$250,000 | | | | | 5 | 14.3 | 11.9 | 3.1 |
| \$250,000 to \$300,000 | | | | | 1 | 16.5 | 12.7 | 4.4 |
| Average ² | 17 | 18.6 | 14.9 | 4.0 | 17 | 16.7 | 13.3 | 4.2 |
| 8 marketing associations:¹ | | | | | | | | |
| Less than \$50,000 | 1 | 20.4 | 20.7 | .7 | | | | |
| \$50,000 to \$100,000 | | | | | | | | |
| \$100,000 to \$150,000 | 3 | 16.5 | 13.1 | 3.5 | | | | |
| \$150,000 to \$200,000 | 2 | 15.4 | 11.7 | 3.7 | 1 | 19.3 | 14.7 | 4.9 |
| \$200,000 to \$250,000 | | | | | 2 | 12.1 | 11.3 | 1.1 |
| \$250,000 to \$300,000 | | | | | | | | |
| \$300,000 to \$400,000 | 2 | 14.1 | 10.7 | 3.5 | 2 | 12.8 | 10.9 | 2.3 |
| \$400,000 to \$500,000 | | | | | 1 | 19.2 | 13.5 | 6.2 |
| \$500,000 to \$600,000 | | | | | | | | |
| \$600,000 to \$700,000 | | | | | 2 | 9.9 | 7.9 | 2.4 |
| Average ² | 8 | 15.2 | 11.8 | 3.5 | 8 | 12.7 | 10.2 | 2.9 |
| 5 petroleum associations:¹ | | | | | | | | |
| Less than \$50,000 | 1 | 20.8 | 16.1 | 6.6 | | | | |
| \$50,000 to \$100,000 | 3 | 24.6 | 18.5 | 6.4 | 1 | 19.9 | 15.0 | 5.8 |
| \$100,000 to \$150,000 | 1 | 21.6 | 14.0 | 7.4 | 2 | 17.7 | 13.4 | 5.2 |
| \$150,000 to \$200,000 | | | | | 1 | 21.6 | 14.9 | 7.5 |
| \$250,000 to \$300,000 | | | | | 1 | 17.2 | 12.7 | 5.4 |
| Average ² | 5 | 23.4 | 17.0 | 6.7 | 5 | 18.6 | 13.7 | 5.8 |
| Average for all associations | 30 | 17.7 | 13.9 | 4.0 | 30 | 15.1 | 11.9 | 3.8 |

¹ Within each type-group of associations considerable differences occur in the proportions of sales of various kinds of supplies to which the gross margins and costs of distribution apply. These differences account for the wide variations in gross margins and operating expenses within groups.

² After addition of other-than-operating income and deduction of nonoperating expense.

³ Weighted averages obtained as percentages group totals in dollars were of total sales.

Data computed by the author from records of Indiana farm bureau county cooperatives.

The rates of gross operating income tended to decrease with increased volume in all three type groups. However, this tendency was not entirely consistent in any one group, since the proportion of different services and supplies, provided at different gross margins by individual associations, varied in the volume groups.

Expenses in percentage of sales were generally lower in associations with higher sales volume. This tendency suggests that increased efficiency accompanied rising volume of business. However, in view of the extent of variation in types of business done, this trend was not so pronounced as to discourage small-volume associations from continuing their efforts to eliminate unnecessary expenses.

It is important to remember that petroleum associations had from 60 percent to 75 percent of their total business in petroleum products as compared with 33 percent for the general-supply associations and 20 percent or less for marketing associations. Truck drivers' commissions was a large item of expense on petroleum business; therefore the petroleum associations had the highest average expense rates compared with averages for associations having larger total volume of business but smaller proportions of petroleum sales.

Net income in percentage of sales varied considerably for different types of associations but showed little, if any, apparent relationship to volume of business. This variable character of net income rates probably was the result of the influence of generally declining rates of gross operating income and reduced rates of operating expense, together with rising volume of business and variable composition of sales. Since these various factors produced this result, the influence of volume alone on rates of net income cannot be separately observed in table 18.

Analysis of Average Balance Sheets

Total assets of the 30 associations in 1937 amounted to \$1,649,419, or an average of \$54,981, as compared with an average of \$32,312 in 1934 (table 19). Current assets, consisting of such items as cash, accounts and notes receivable, and inventories, represented 62.2 percent of total assets in 1937 and 57.4 percent in 1934. Cash averaged \$2,527 per association in 1934 and \$4,250 in 1937. Accounts and notes receivable increased from an average of \$5,400 in 1934 to \$10,452 in 1937 and average inventories increased from \$10,210 to \$18,957.

Total assets of the associations in 1937 were about 66 percent higher than in 1934, while receivables almost doubled in amount, and inventories were increased by about 85 percent. With current assets in 1937 a larger proportion of total assets than in 1934, and fixed asset a smaller proportion of total assets, the associations in transacting a much larger volume of business were turning over their capital more frequently and utilizing operating facilities more efficiently.

TABLE 19.—AVERAGE BALANCE SHEETS FOR 30 SELECTED INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPE OF ASSOCIATION, 1934 AND 1937

| Item | 1934 | | | | 1937 | | | |
|---------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|
| | 30 selected associations | 17 general supply associations | 8 marketing associations | 5 petroleum associations | 30 selected associations | 17 general supply associations | 8 marketing associations | 5 petroleum associations |
| Assets | | | | | | | | |
| Current assets: | | | | | | | | |
| Cash | \$2,827 | 1,664 | 3,967 | 3,214 | 4,250 | 2,450 | 6,306 | 6,497 |
| Accounts and notes receivable | 5,400 | 4,285 | 9,549 | 2,480 | 10,452 | 6,859 | 20,723 | 6,100 |
| Inventories | 10,210 | 9,205 | 14,635 | 6,548 | 18,957 | 14,472 | 32,730 | 12,170 |
| Other | 414 | 267 | 707 | 106 | 567 | 890 | 180 | 289 |
| Total current assets | 18,851 | 15,551 | 28,798 | 12,357 | 34,226 | 24,721 | 60,187 | 25,036 |
| Fixed assets (book value) | 10,175 | 9,506 | 13,790 | 6,671 | 13,514 | 11,041 | 21,280 | 9,899 |
| Other assets: | | | | | | | | |
| Investments | 2,163 | 2,626 | 4,154 | 2,720 | 6,619 | 5,729 | 6,599 | 5,922 |
| Accruals and prepayments | 277 | 291 | 377 | 182 | 651 | 700 | 644 | 497 |
| Other | 146 | 75 | 278 | 178 | 71 | 45 | 72 | 154 |
| Total other assets | 3,586 | 3,192 | 4,799 | 3,080 | 7,241 | 6,474 | 9,282 | 6,568 |
| Total assets | 32,312 | 28,248 | 47,327 | 22,108 | 54,981 | 42,246 | 90,719 | 41,098 |
| Liabilities | | | | | | | | |
| Current liabilities: | | | | | | | | |
| Accounts payable | 2,953 | 2,641 | 3,967 | 2,653 | 4,780 | 3,192 | 9,444 | 2,717 |
| Notes payable | 2,631 | 3,044 | 2,592 | 1,291 | 3,530 | 2,655 | 6,845 | 1,200 |
| Other | 918 | 942 | 1,193 | 392 | 3,219 | 1,190 | 9,439 | 890 |
| Total current liabilities | 6,502 | 6,627 | 7,752 | 4,236 | 11,529 | 7,037 | 25,728 | 4,796 |
| Noncurrent liabilities | 3,340 | 2,632 | 5,584 | 2,159 | 5,347 | 3,790 | 9,914 | 3,436 |
| Total liabilities | 9,842 | 9,259 | 13,336 | 6,395 | 16,876 | 10,787 | 35,642 | 8,232 |
| Net worth | | | | | | | | |
| Capital stock: | | | | | | | | |
| Preferred stock | 2,318 | 2,362 | 2,681 | 1,200 | 2,303 | 2,725 | 2,000 | 1,350 |
| Common stock | 9,754 | 6,795 | 18,048 | 6,590 | 18,719 | 13,198 | 31,542 | 17,075 |
| Common stock (credits) | 2,637 | 2,904 | 3,359 | 2,113 | 4,528 | 4,293 | 5,568 | 3,908 |
| Reserves and undivided savings | 7,561 | 7,018 | 9,805 | 5,820 | 12,455 | 11,303 | 15,947 | 10,763 |
| Total net worth | 22,470 | 18,989 | 34,091 | 15,713 | 38,006 | 31,479 | 55,077 | 32,878 |
| Total liabilities and net worth | 32,312 | 28,248 | 47,327 | 22,108 | 54,981 | 42,246 | 90,719 | 41,098 |
| Assets | | | | | | | | |
| Current assets: | | | | | | | | |
| Cash | 7.8 | 6.0 | 8.2 | 14.5 | 7.7 | 5.9 | 7.3 | 15.8 |
| Accounts and notes receivable | 16.7 | 15.2 | 20.3 | 11.3 | 19.0 | 18.3 | 22.8 | 14.9 |
| Inventories | 31.6 | 22.6 | 30.9 | 29.6 | 34.5 | 24.3 | 36.1 | 29.6 |
| Other | 1.3 | 1.3 | 1.5 | .5 | 1.0 | 2.0 | .2 | .6 |
| Total current assets | 57.4 | 55.1 | 60.9 | 55.9 | 62.2 | 50.5 | 66.4 | 60.9 |
| Fixed assets (book value) | 31.5 | 33.6 | 29.1 | 30.2 | 24.6 | 26.2 | 23.4 | 23.1 |
| Other assets: | | | | | | | | |
| Investments | 9.8 | 10.0 | 8.8 | 12.3 | 11.9 | 13.6 | 9.4 | 14.4 |
| Accruals and prepayments | .9 | 1.0 | .6 | .8 | 1.2 | 1.6 | .7 | 1.2 |
| Other | .4 | .3 | .6 | .6 | .1 | .1 | .1 | .4 |
| Total other assets | 11.1 | 11.3 | 10.0 | 13.9 | 13.2 | 15.3 | 10.2 | 16.0 |
| Total assets | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Liabilities | | | | | | | | |
| Current liabilities: | | | | | | | | |
| Accounts payable | 9.1 | 9.4 | 8.2 | 11.5 | 8.7 | 7.6 | 10.4 | 6.6 |
| Notes payable | 8.2 | 10.8 | 5.5 | 5.8 | 6.4 | 6.2 | 7.6 | 2.9 |
| Other | 2.8 | 3.3 | 2.5 | 1.8 | 6.1 | 2.7 | 10.4 | 2.1 |
| Total current liabilities | 20.1 | 23.5 | 16.2 | 19.1 | 21.2 | 16.6 | 28.4 | 11.6 |
| Noncurrent liabilities | 10.4 | 9.3 | 11.8 | 9.8 | 9.7 | 8.9 | 10.9 | 6.4 |
| Total liabilities | 30.5 | 32.8 | 28.0 | 28.9 | 30.9 | 25.5 | 39.3 | 20.0 |
| Net worth | | | | | | | | |
| Capital stock: | | | | | | | | |
| Preferred stock | 7.1 | 8.4 | 6.1 | 5.4 | 4.2 | 6.4 | 2.2 | 8.3 |
| Common stock | 30.2 | 24.0 | 38.1 | 29.8 | 34.0 | 31.2 | 34.9 | 41.6 |
| Common stock (credits) | 8.6 | 9.9 | 7.1 | 9.6 | 8.2 | 10.1 | 8.1 | 8.9 |
| Reserves and undivided savings | 23.4 | 24.9 | 29.7 | 26.3 | 22.7 | 26.8 | 17.5 | 26.2 |
| Total net worth | 69.3 | 67.2 | 72.0 | 71.1 | 69.1 | 74.5 | 62.7 | 60.0 |
| Total liabilities and net worth | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Amount of total assets | Dollars 969,373 | Dollars 480,216 | Dollars 878,616 | Dollars 110,539 | Dollars 1,646,419 | Dollars 718,179 | Dollars 726,752 | Dollars 206,486 |

Source of data: Records of the Indiana farm bureau county cooperatives.

Other assets, including investments, accruals, and prepayments, were doubled, and they increased from 11.1 percent of total assets in 1934, to 13.2 percent in 1937.

Total liabilities of the 30 associations in 1937 amounted to \$509,278, or an average of \$16,976 per association as compared with an average of \$9,842 in 1934. This 1937 average was made up of \$11,629 of current items and \$5,347 of long-term obligations, principally mortgages. Measured as a percentage of total assets, current liabilities in 1937 represented 21.2 percent; and noncurrent liabilities, 9.7 percent—approximately the same percentages as in 1934. The fact that fixed assets in 1937 averaged 24.6 percent of total assets while noncurrent liabilities represented 9.7 percent indicates that on the average about 40 percent of the present value of facilities has been financed with long-term borrowings.

The net worth or equity of members of the 30 associations in 1937 totaled \$1,140,141 or an average of \$38,005 per association. This consisted of capital stock averaging \$25,550 per association and reserves and undivided savings averaging \$12,455. These combined represented 69.1 percent of the average total assets of the associations. It is of interest that reserves and undivided savings alone amounted to 22.7 percent of the total assets.

Comparison of Average Balance Sheets by Type of Association

Size and percentage composition of average assets varied considerably for the associations when grouped by types (table 19). At the close of 1937, average assets in 8 marketing associations were \$90,719, or more than twice the average for 17 general-supply and 5 petroleum associations.

Similar variations existed among the 3 types in their average amounts of current and fixed assets. The 8 marketing associations had average current assets of \$60,187 compared with \$24,721 and \$25,006, respectively, in the 17 general-supply and the 5 petroleum associations. Also, the 8 marketing associations had average fixed assets about twice as large as the averages for the other groups. The percentages that current and fixed assets, respectively, were of total assets in the 3 groups did not vary greatly.

Other assets were about 50 percent higher in amount in the 8 marketing associations than in the general-supply and petroleum associations, but they had only 10 percent of the total in other assets compared with about 15 percent in the other 2 groups.

Current liabilities of the marketing group averaged \$25,728 as compared with \$7,007 and \$4,786 in the general-supply and petroleum groups, respectively. Average noncurrent liabilities were also higher in the marketing associations. In terms of percentage of total assets,

the current liabilities in these groups were considerably different, but the percentages of noncurrent liabilities were about equal. Total liabilities in the marketing group in 1937 represented 39.3 percent of their assets compared with 25.5 and 20.0 percent, respectively, in the general-supply and petroleum groups. Because of changes in liabilities, these figures varied noticeably from comparable data for 1934.

As a result of the different proportions of liabilities, the net worth of the three groups in percentage of total assets varied in both years. The marketing associations had net worth amounting to 60.7 percent of their assets, while the general-supply and petroleum associations had net worth amounting to 74.5 and 80 percent, respectively, of their assets in 1937. Lower net worth percentages for the marketing associations may be explained by temporarily large current liabilities incurred in connection with their marketing services.

Comparison of Financial and Operating Ratios by Type of Association

For the purpose of further comparing the operating and financial characteristics of the 30 associations and of the 3 type groups for 1934 and 1937, certain financial and operating ratios are presented in table 20.²⁵ These ratios have been calculated from the average figures appearing in tables 10 and 19.

Current assets averaged about \$3 for each dollar of current liabilities in the 30 associations in 1937. The highest average current ratio was 5.22 to 1 in the petroleum associations and the lowest was 2.34 to 1 in the marketing type. A decline in the marketing associations' current ratio between 1934 and 1937 may be attributed largely to an increase in current liabilities as a result of grain purchases made under short-term loans. In the other two groups, average current assets were increased more than current liabilities between 1934 and 1937. The increase in the average current ratio for the 30 associations was not large between the 2 years.

The amount of working capital—excess of current assets over current liabilities—for each dollar of total assets ranged in 1937 from a low of 38 cents in the marketing associations to a high of 49 cents in the petroleum group, with an average of 41 cents for all 30 associations. Between 1934 and 1937 this ratio increased for the 30 associations as a whole, and also for the general-supply and petroleum associations, but declined for the marketing associations. In 1934 the marketing associations ranked highest with 45 cents of working capital per dollar of assets, but in 1937 the petroleum associations were highest with 49 cents.

²⁵ The ratios in table 20 were selected from a number commonly used in financial and operating analyses.

Combined accounts and notes receivable per dollar of current assets in 1937 were highest, 34 cents, in the marketing associations, and lowest, 24 cents, in the petroleum associations, with an average ratio of 31 cents for the 30 associations. Little change occurred in this ratio for the 3 groups between 1934 and 1937 except in the petroleum group which recorded an increase from 20 to 24 cents.

TABLE 20.—AVERAGE OPERATING RATIOS FOR 30 INDIANA FARM BUREAU COUNTY COOPERATIVES, CLASSIFIED BY TYPES, 1934 AND 1937

| Items compared | 1934 | | | | 1937 | | | |
|---|--------------------------------|--------------------------|--------------------------|-------------------------|--------------------------------|--------------------------|--------------------------|-------------------------|
| | 17 general supply associations | 8 marketing associations | 5 petroleum associations | Total (30) associations | 17 general supply associations | 8 marketing associations | 5 petroleum associations | Total (30) associations |
| Current assets per dollar of current liabilities..... | 2.35 | 3.76 | 2.85 | 2.85 | 3.53 | 2.34 | 5.23 | 2.94 |
| Working capital per dollar of total assets..... | .32 | .45 | .37 | .37 | .42 | .36 | .49 | .41 |
| Accounts and notes receivable per dollar of current assets..... | .26 | .33 | .20 | .29 | .28 | .34 | .34 | .31 |
| Accounts and notes receivable per dollar of sales..... | .04 | .05 | .03 | .04 | .04 | .05 | .04 | .05 |
| Net worth per dollar of total assets..... | .67 | .72 | .71 | .70 | .75 | .61 | .80 | .69 |
| Net worth per dollar of total liabilities..... | 2.05 | 2.58 | 2.28 | 2.28 | 2.92 | 1.54 | 4.00 | 2.24 |
| Sales per dollar of total assets..... | 3.72 | 3.87 | 3.29 | 3.73 | 4.23 | 4.17 | 3.74 | 4.14 |
| Net income per dollar of total assets..... | .15 | .13 | .22 | .15 | .18 | .12 | .22 | .16 |

Data computed by the author from records of the Indiana farm bureau county cooperatives.

In 1937 total receivables represented about 5 cents for each dollar of sales in the three groups of associations. The only change between 1934 and 1937 was an increase in the petroleum associations' receivables from 3 to 4 cents for each dollar of their sales. This change, like the rise in receivables of petroleum associations in relation to their current assets, was the result of a more liberal extension of credit on petroleum sales.

The amount of net worth per dollar of total assets averaged 69 cents for the 30 associations in 1937. The 17 general-supply and the 5 petroleum associations had net worth of 75 and 80 cents, respectively, per dollar of total assets, and the 8 marketing associations had 61 cents. There was an increase between 1934 and 1937 in this ratio for each group except the marketing associations, in which a decline resulted temporarily from their 1937 marketing activities.

The 30 associations had \$2.24 of net worth per dollar of total liabilities in 1937 compared with \$4 in the petroleum, \$2.92 in the general-supply, and \$1.54 in the marketing associations. This ratio increased between 1934 and 1937 in all groups except marketing.

Sales of the 30 associations per dollar of total assets in 1937 averaged \$4.14. This may be compared with \$3.74 in the 5 petroleum associations, \$4.17 in the 8 marketing associations, and \$4.23 in the 17 general-supply units. All groups increased this ratio between 1934 and 1937.

Net income per dollar of assets in 1937 ranged from 12 cents in the marketing associations to 22 cents in the petroleum group, with 18 cents in the 17 general-supply associations, and an average of 16 cents for the 30 associations. There was no change in this ratio for the petroleum associations in 1937 compared with 1934, only a slight decline for the marketing associations, but the 17 general-supply associations increased their ratio of net income to total assets by about 20 percent between the 2 years.

In general, there was improvement in these ratios between 1934 and 1937. Exceptions occurred, however, in the ratio of total receivables to current assets and to sales, respectively, which showed a slight rise for petroleum associations, and in the ratio of net worth to total liabilities, which showed a small decline in the marketing group attributable to special conditions.

These financial and operating ratios reflect considerable variation in the operating and financial character of the 30 associations.

Financial and Operating Conditions of Individual Associations

It has been shown, in general, that the 30 associations vary in financial and operating condition because differences occur in age, efficiency of operation, types of territory served, commodities handled, and degree of membership support. The extent of this individual variation is shown in table 21, which summarizes the distribution of the associations for 1934 and 1937, in (1) the net value of their assets, (2) the value of their sales, (3) gross income in percentage of sales, (4) operating expenses in percentage of sales, (5) the combined salaries, wages, and commissions in percentage of sales, and (6) net income in percentage of sales.

It is significant that 11 of the 30 associations had total assets in 1937 amounting to \$50,000 or more, while in 1934 there were only 4 such associations. Moreover, 6 of these 11 associations in 1937 were of the marketing type and 4 were of the general-supply type. Naturally, larger investments in facilities have been required in associations that undertake to render varied cooperative services than in those that handle narrower lines of supplies, like petroleum products, that can be distributed by truck direct from bulk stations.

This tendency is further illustrated by the fact that the four associations that had assets amounting to more than \$100,000 in 1937 were all in the marketing group.

When arranged according to the volume of their sales, it developed that in 1937 there were only 2 associations with sales of less than \$100,000, 14 with a range in sales of from \$100,000 to \$200,000, and 14 with sales that exceeded \$200,000. It will be noticed that the grouping of the associations in respect to their volume of sales in 1934 was almost exactly the reverse of 1937 conditions, since 14 associations

had totalsales in 1934 of less than \$100,000, 14 ranged between \$100,000 and \$200,000, and only 2 were above \$200,000. Marketing associations accounted for 7 of the 14 cooperatives with sales of more than \$200,000 in 1937, and 5 of these had sales in excess of \$300,000.

In 27 of the 30 associations, gross income per dollar of sales in 1937 was less than 20 cents, whereas only 15 had gross income of less than

TABLE 21.—RANKING OF 30 COUNTY ASSOCIATIONS, CLASSIFIED BY TYPE, WITH REFERENCE TO SELECTED FINANCIAL AND OPERATING DATA, 1934 AND 1937

| Type and range of comparison | 30 associations | | 17 general associations | | 8 marketing associations | | 5 petroleum associations | |
|---|-----------------|-----------|-------------------------|-----------|--------------------------|----------|--------------------------|----------|
| | 1934 | 1937 | 1934 | 1937 | 1934 | 1937 | 1934 | 1937 |
| Net value of assets: | | | | | | | | |
| 0 to \$9,999 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \$10,000 to \$19,999 | 10 | 0 | 8 | 0 | 1 | 0 | 2 | 0 |
| \$20,000 to \$29,999 | 5 | 8 | 3 | 4 | 1 | 0 | 1 | 2 |
| \$30,000 to \$39,999 | 5 | 7 | 2 | 4 | 1 | 1 | 2 | 2 |
| \$40,000 to \$49,999 | 5 | 5 | 3 | 5 | 2 | 1 | 0 | 0 |
| \$50,000 to \$59,999 | 1 | 2 | 0 | 2 | 1 | 0 | 0 | 0 |
| \$60,000 to \$69,999 | 1 | 3 | 0 | 1 | 1 | 2 | 0 | 0 |
| \$70,000 to \$79,999 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| \$80,000 to \$89,999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \$90,000 to \$99,999 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| \$100,000 or more | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 |
| Total | 30 | 30 | 17 | 17 | 8 | 8 | 5 | 5 |
| Value of sales: | | | | | | | | |
| Under \$100,000 | 14 | 2 | 9 | 1 | 1 | 0 | 4 | 1 |
| \$100,000 to \$199,999 | 14 | 14 | 8 | 10 | 5 | 1 | 1 | 3 |
| \$200,000 to \$299,999 | 0 | 9 | 0 | 6 | 0 | 2 | 0 | 0 |
| \$300,000 or more | 2 | 5 | 0 | 0 | 2 | 5 | 0 | 0 |
| Total | 30 | 30 | 17 | 17 | 8 | 8 | 5 | 5 |
| Gross income in cents per dollar of sales: | | | | | | | | |
| 0 to 4.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 to 9.9 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 10 to 14.9 | 5 | 7 | 2 | 2 | 3 | 5 | 0 | 0 |
| 15 to 19.9 | 10 | 18 | 7 | 12 | 3 | 2 | 0 | 4 |
| 20 to 24.9 | 12 | 3 | 7 | 2 | 2 | 0 | 2 | 1 |
| 25 to 29.9 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 30 to 34.9 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Total | 30 | 30 | 17 | 17 | 8 | 8 | 5 | 5 |
| Operating expenses in cents per dollar of sales: | | | | | | | | |
| 0 to 4.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 to 9.9 | 1 | 5 | 0 | 2 | 1 | 3 | 0 | 0 |
| 10 to 14.9 | 17 | 18 | 11 | 10 | 5 | 5 | 1 | 3 |
| 15 to 19.9 | 8 | 6 | 4 | 4 | 1 | 0 | 3 | 2 |
| 20 to 24.9 | 4 | 1 | 2 | 1 | 1 | 0 | 1 | 0 |
| Total | 30 | 30 | 17 | 17 | 8 | 8 | 5 | 5 |
| Salaries, wages, and commissions in cents per dollar of sales: | | | | | | | | |
| 0 to 4.9 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 5 to 9.9 | 19 | 18 | 11 | 9 | 7 | 7 | 1 | 2 |
| 10 to 14.9 | 11 | 10 | 6 | 7 | 1 | 0 | 4 | 3 |
| Total | 30 | 30 | 17 | 17 | 8 | 8 | 5 | 5 |
| Net income in cents per dollar of sales: | | | | | | | | |
| Loss | 3 | 3 | 1 | 2 | 2 | 1 | 0 | 0 |
| 0 to 1.9 | 1 | 8 | 1 | 1 | 0 | 2 | 0 | 0 |
| 2 to 3.9 | 11 | 4 | 7 | 2 | 3 | 1 | 1 | 0 |
| 4 to 5.9 | 5 | 15 | 3 | 9 | 2 | 2 | 0 | 4 |
| 6 to 7.9 | 7 | 4 | 3 | 2 | 1 | 1 | 3 | 1 |
| 8 to 9.9 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| 10 to 11.9 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Total | 30 | 30 | 17 | 17 | 8 | 8 | 5 | 5 |

Source of data: Records of the Indiana farm bureau county cooperatives.

20 cents in 1934. In other words, of the 15 associations that earned gross income in 1934 amounting to 20 cents or more per dollar of their sales, only 3 earned as much in 1937. Of the 12 associations with lowered gross income, 6 were in the general-supply group, 2 were in the marketing group, and 4 were in the petroleum group. The tendency toward lower average gross income per dollar of sales in 1937 may be explained by decreased trading margins on certain supplies and also by the fact, previously stated, that the associations between 1934 and 1937 generally expanded their volume of business more in the general farm supplies that have lower gross trading margins than in those like petroleum supplies which brought highest gross trading margins.

Operating expenses of the associations per dollar of sales ranged from 5 cents to 25 cents in both 1934 and 1937. There was a tendency for the operating expenses to decline between the 2 years, as shown by the fact that there were 7 associations in 1937 with expenses over 15 cents per dollar of sales compared with 12 associations in 1934, while 5 had expenses under 5 cents in 1937 compared with 1 in 1934. This downward trend in expenses per dollar of sales, which was partially accounted for by smaller proportions of sales in petroleum products (table 10), took place chiefly in the petroleum and marketing associations. Only 1 of the 6 general-supply associations with expenses per dollar of sales over 15 cents in 1934 had less than that amount of expense in 1937.

Total salaries, wages, and sales commissions paid by the associations comprised about two-thirds of their expenses. In 1937 these expenses for personal services ranged from less than 5 cents to 15 cents per dollar of sales. There was little change in the rate of these expenses between 1934 and 1937, except that 2 associations which had personnel expenses per dollar of sales above 5 cents in 1934 were below that level in 1937. These 2 associations were general-supply and marketing associations, but 1 petroleum association had lower personnel expenses in 1937.

Net income per dollar of sales in 1937 was above 6 cents in 5 associations, between 4 and 6 cents in 15 associations, and less than 4 cents in 10 associations. In 1934 there were 10 associations with net income per dollar of sales above 6 cents, only 5 associations had net income between 4 and 6 cents, and 15 had less than 4 cents. Although 5 fewer associations in 1937 had net income per dollar of sales above 6 cents, there were 5 fewer with net income below 4 cents. The tendency for net income to be concentrated between 4 and 6 cents per dollar of sales in 1937 was present especially in the petroleum and general-supply associations. Five of the 8 marketing units had less than 4 cents of net income per dollar of sales in both years.

The above comparisons of operating data for 30 individual associations show, in general, that they increased their total assets and sales, that they earned smaller gross income per dollar of sales, but also had

lower expenses per dollar of sales in 1937 than in 1934. The result was that rates of net income of more than 6 cents and under 4 cents per dollar of sales occurred in only half as many associations in 1937 as in 1934, while the number of associations with net income between 4 and 6 cents increased from 5 in 1934 to 15 in 1937.

Conclusions and Recommendations

COUNTY farm bureau cooperatives in Indiana have two outstanding characteristics—they are owned and democratically controlled by agricultural producers, and they provide farmers with fairly complete farm supply and some marketing services. The increasing volume and complexity of their services have confronted the associations with a number of conditions and problems that have been presented in this study. For the purpose of pointing out the major needs of the associations, the findings of the study may be grouped under the following heads.

Membership.—The associations can benefit from more effective membership work among patrons. Not more than one-fourth of all farmers in Indiana have patronized the associations exclusively. There is an opportunity to show more farmers that cooperatives are a profitable part of their production organization and that benefits from cooperative activity increase in proportion to participation. Most of the cooperatives would get good results from developing more cooperative interest among their small-volume and part-time patrons.

Information developed by this study indicates that all the associations have an opportunity through their annual meetings for creating more interest and pride of ownership among their members. A few associations have held interesting meetings by combining educational and social features with the business program. Addresses have been given by agricultural leaders and educational films displayed. More attention might be given to distributing information on developments in agricultural cooperation outside of Indiana and to the participation of cooperatives within the State in these broader activities. The State association offers assistance in planning such programs.

Leadership.—The associations generally have had as directors men who are leaders in the farm bureau program. Many of the directors are also capable in business affairs. With the increasing complexity in the business of the cooperatives, however, more directors with business training and experience are needed, who will study the activities of their cooperatives and formulate better plans for building the associations into more efficient business units. The associations should see that directors are reimbursed for their time and expense liberally enough to draw out their best efforts.

In general, county managers have been men with initiative and ability. A few associations, however, have attempted to operate with unqualified managers. Directors must realize that selecting a manager is one of the most important acts they perform for their association. Once a manager is in office, the directors should support him by regular attendance at meetings and by familiarity with his problems.

Supplies handled.—The associations have shown considerable variation in the supplies handled. Some have restricted their operations largely to a few main commodities, such as petroleum products, feed, seed, fertilizer, fencing, and binder twine. Certain miscellaneous supplies such as serums, feeders, harness, and poultry equipment are usually distributed. A number of cooperatives have expanded their services to building materials, hardware, farm implements, tractors, coal, and electrical wiring and appliances. However, the bulk of the business of all associations has been confined to the commodities listed first.

Before increasing the number of supplies handled, it might be well for directors in the individual associations to ask whether the expansion will be made at the sacrifice of efficient operation in lines already handled. First, how efficiently and completely has the association been able to develop sales in the commodity fields already entered? Second, how well are the employees equipped to provide effective service in the new fields? For example, efficient business service in farm machinery usually requires a small beginning with specialized training of employees in the problems of these commodities. Third, is the association in a position to finance new commodity departments? Generally associations should enter new supply fields advisedly and only when they have enough capital to provide the basic financing of the undertaking.

Territory.—A large part of the associations' service consists of direct contacts with farmers at their farms. To establish satisfactory contacts requires that, so far as possible, salesmen and other service employees be assigned territories which can be intensively worked on a definitely arranged route system. More attention should be given to developing density of sales in all sections of the counties in both number of patrons served and number of farm supplies sold. Since associations are already located over most of the State, intensifying of sales efforts in the counties offers the associations their greatest opportunity for growth.

Operating efficiency.—The associations can increase their savings for patrons by increased operating efficiency as well as by greater volume of business. Shrinkage in handling petroleum products has been excessive in many associations. Constant attention to keeping equipment in good repair and accurate adjustment, a daily inventory

record and more exact requirements of employees in recording sales transactions and measuring supplies are effective methods of stopping excessive losses. More careful purchasing of miscellaneous supplies and more rapid turnover of stocks will reduce costs. All the associations can increase their efficiency by closer attention to sound business principles such as control of credit to patrons and purchase on a cash basis.

As the associations have grown and undertaken to handle additional supplies, the problem of providing attractive arrangements for display of merchandise, especially by associations that carry a wide variety of supplies, has become more important as a means of increasing sales. The neatness and good lighting of the interior and a good external appearance are essential. The condition of stores and warehouses can be made an asset without great expense, and this contributes, along with efficient and prompt service by employees, to building confidence and respect among patrons. Only a few associations have attempted to present displays of merchandise. Generally a small display space in front of a storeroom can be arranged so that supplies in current demand can be brought to the attention of the patrons.

In general associations that operate only from bulk warehouses do not store their merchandise compactly and in such fashion that patrons can readily observe the variety of supplies offered.

Control of credit.—There has been some tendency in recent years for the associations to extend credit more freely. Although average receivables at the year-end have been kept below 10 percent of annual sales in the associations as a group, in individual associations considerable amounts of operating capital are regularly tied up in patrons' accounts during the busiest seasons. A more restricted credit policy could profitably be adopted in practically all associations. Some credit, however, may be necessary as a short-time convenience to patrons. Farmers do not get their supplies at the lowest cost when credit expense must be added.

Unpaid accounts should be classified periodically by age, to enable the management and directors of the associations to measure the effect of credit operations on their operating capital and expenses. The member can then see the disadvantage to himself of extensive credit. For farmers the facilities of credit unions and production credit associations are available. Full use of these facilities enables many county cooperatives to utilize their operating capital to the greatest advantage and the individual patrons to obtain supplies at lower cost. At the same time it puts the cost of credit on the individual in proportion to his credit requirements.

The associations also have an opportunity, of which they have not taken full advantage, to acquaint farmers with proper use of cooperative credit. They, furthermore, can often assist the cooperative credit unions in instructing farmers how to provide for their loan capital

needs at reasonable costs, and also help farmers to become better acquainted with production credit associations which are intended to become farmer-owned.

Employee standards.—The character of the employees of a cooperative association is vital to its successful operation. Although some of the cooperatives have accomplished more than others in training their employees in cooperative principles and in acceptable methods of meeting customers and completing sales transactions, there is still much opportunity for improving their efficiency in these respects. On the whole, the county associations have employed young rural people with some previous business training and experience. However, the county associations may still expect marked gains in their service to farmers when their employees, especially those engaged in sales and distribution work, obtain more complete knowledge of commodities handled and effective methods of presenting cooperative opportunities to patrons. Directors of most of the cooperatives also need to work more closely with the managers in keeping informed about the efficiency, training, and promotion or dismissal of employees.

Marketing services.—Marketing operations have supplemented farm supply services in 25 associations. Their income from marketing has been relatively low and highly variable. The experiences of these associations in marketing indicate that it is necessary to have men in charge of these operations who have had marketing experience in the commodities handled and to train employees more thoroughly in marketing procedures. It is also expedient for local boards of directors to require managers to sell all grain the day it is purchased or to hedge it immediately.

Branches consist largely of grain elevators which also handle farm supplies at country points operated under the general supervision of the county associations. Operating results in a number of associations having branches indicate the advisability of determining carefully the economic need for a branch before one is established and the importance of careful supervision by the branch manager.

Improving systems of record keeping.—By adopting the standard accounting system developed by the State association and through regular advice from auditors of the State association, most of the county associations have already greatly improved their bookkeeping practices. However, the audits for a number of associations do not provide certain valuable information, such as a record of gross trading income for individual commodities and shrinkages for each type of petroleum product. Furthermore many of the audits do not provide for adequate itemization and segregation of expenses, and other essential operating information.

Most associations do not make a clear distinction in the classification of income received from operations (other than trading) and in-

come derived from nonoperating sources. It would seem desirable that all income from operating services or transactions, such as income from sales of insurance, weighing, grinding, and storage services, together with special commissions received on goods and services, be shown on the operating statement as an addition to the gross trading income before expenses are deducted. Furthermore it would be beneficial if other forms of income of a nonoperating character, such as patronage refunds received in cash or stock, interest income, and miscellaneous other earnings not directly connected with the operations, were to be shown on the operating statement as an addition to the net operating income. This method would make possible a clearer understanding, by both auditors and managers, of the gross trading income on commodities, of other operating income, and of the other-than-operating income, and would thus be conducive to better management.

Methods of paying patronage refunds.—The county associations have employed different methods in distributing patronage refunds. Generally patronage refunds have been paid in stock. The cooperatives that have issued refunds in common stock and paid regular cash dividends on stock have conserved their cash for use in expanding operations. It is anticipated that many of these associations will redeem their common stock in cash in the order in which the shares were issued when their cash reserves exceed their requirements for operating capital. This revolving-fund system is to be encouraged, since it insures that an association will be financed by those who are making use of it.

Participation in the State association's program.—Approximately 80 percent of the purchases by county associations in 1937 were made through the Indiana Farm Bureau Cooperative Association. A larger percentage of purchases would permit the State association to obtain greater savings in wholesale purchasing for the local associations.

Many of the county cooperatives could benefit from making greater use of services and information of the commodity specialists of the State association on local sales methods and selling problems, and of district meetings sponsored by the State association for study of methods and problems of supply distribution.

General appraisal.—This study indicates that the county cooperative associations have made considerable progress during their 15 years of development; but that there are many ways in which their operations can be made more efficient. As a whole the associations have developed a sound basis of cooperative operation adapted to the needs of Indiana farmers and based upon a democratic form of organization where full knowledge and control is available to member patrons. They are therefore well prepared to continue to improve in efficiency and service to patrons.

Appendix

Standard Form of Contract Between County Cooperatives and Petroleum Truck Drivers

THIS AGREEMENT, made and entered into this day of, 19...., by and between County Farm Bureau Cooperative Association, Incorporated, hereinafter referred to as the Association, and, hereinafter referred to as the Driver;

Witnesseth:

Whereas, the Association is a service organization, owning, leasing, or controlling trucks, and acting in the distribution of petroleum products and other supplies; and

Whereas, The Driver is owner of a truck chassis leased or controlled by the Association, and represents the Association in the territory allotted to him, which may be changed from time to time, and is held responsible for the delivering of products of the Association, according to its orders, prices, and instructions, to the farmers with all possible promptness and dispatch, and for collecting all amounts due from the purchasers of the products delivered;

Now, therefore, it is hereby mutually agreed as follows:

(1) That, the Driver agrees, at his expense, to furnish a truck suited to carry the Association's tank and to keep the same well painted and in good mechanical condition; and the Association agrees to furnish the tank and keep same in attractive and well-painted condition, and to furnish adequate truck-tank equipment for delivery.

(2) That, the Driver agrees to carry on said truck an insurance policy in a reputable company to cover public liability and property damage, and to hold the Association harmless from all accidents, injuries, and damages arising from the use of such truck, excepting only such liability as the Association may have under the Indiana workmen's compensation law; and the Association will, at all times, have the right to fully cover and insure tank, equipment, and merchandise.

(3) That, the Driver agrees to pay the Association, in full, for all goods taken out by him, either upon the succeeding day or upon his first return to the plant. Any account created by the Driver, due to his deviation from this policy, shall be the obligation of the Driver; and he shall guarantee the Association against loss on such accounts by furnishing bond or other personal security acceptable to the Association or to its bank.

(4) That, the Association may adequately bond the Driver for its protection against misappropriation of funds or property.

(5) That, the Association agrees to keep ample supplies of its products on hand at all times, but shall not be held responsible for losses resulting from delays in filling orders by reason of fires, strikes, labor questions, or any other cause beyond its control.

(6) That, on all deliveries to patrons, the Association agrees to pay the Driver the commissions mutually agreed upon, as set out in the schedule attached hereto and made a part hereof. (This schedule may be changed from time to time by mutual agreement.)

(7) That, the Association will allot to the Driver the territory solicited by him, which may, from time to time, be changed by the Association and the Driver. The Driver agrees to devote his full time in the solicitation and distribution of petroleum supplies handled by the Association.

This contract shall continue in full force and effect until canceled by either party by giving 30 days' written notice to the other party of its intention so to do.

If, at the time such cancelation takes effect, the driver is indebted in any amount to the Association, the Association shall have the option to acquire immediately the Driver's equipment, or such equity as the Driver may have in such equipment, at the fair market price thereof, less fair depreciation thereon, and less the amount of such indebtedness. In the event that such valuation cannot be agreed upon promptly by the parties hereto, the same shall be set by a disinterested third party selected by the parties hereto, whose decision shall be final and binding on both parties hereto.

In witness whereof, the parties hereto execute this contract the day and year first above written.

Attest:

Driver

COUNTY FARM -BUREAU
COOPERATIVE ASSOCIATION, INC.

By -----

Attest:

Schedule of Compensation to Drivers

Farm Deliveries¹

| <i>Commodity</i> | <i>Regular deliveries</i> | <i>Quantity discount deliveries</i> |
|--|---------------------------|-------------------------------------|
| Farm bureau regular gasoline..... | ---¢ per gallon | ---¢ per gallon |
| Farm bureau U. S. motor gas..... | ---¢ per gallon | ---¢ per gallon |
| Farm bureau kerosene..... | ---¢ per gallon | ---¢ per gallon |
| Farm bureau No. 1 prime white distillate.. | ---¢ per gallon | ---¢ per gallon |
| Co-op Tract-O-Line..... | ---¢ per gallon | ---¢ per gallon |
| Lubricating oils..... | ---¢ per gallon | ---¢ per gallon |
| Miscellaneous oils..... | ---¢ per gallon | ---¢ per gallon |
| Fly spray, disinfectants, etc..... | ---¢ per gallon | ---¢ per gallon |
| Greases..... | ---¢ per pound | ---¢ per pound |
| Tires..... | ---¢ on sales | |

Service Station Deliveries

| | |
|----------------------------------|---|
| Farm bureau regular gasoline.... | ---¢ per gallon, within city limits of city in which bulk plant is located. |
| Farm bureau regular gasoline.... | ---¢ per gallon, within a radius of 10 miles of bulk plant. |
| Farm bureau regular gasoline.... | ---¢ per gallon, in remainder of county. |
| Farm bureau U. S. motor gas.... | ---¢ per gallon, within city limits of city in which bulk plant is located. |
| Farm bureau U. S. motor gas.... | ---¢ per gallon, within a radius of 10 miles of bulk plant. |
| Farm bureau U. S. motor gas.... | ---¢ per gallon, in remainder of county. |
| All lubricating oils..... | ---¢ per gallon, barrel delivery only. |
| All greases..... | ---¢ per pound. |

¹ The commission rates paid to drivers differ among the associations.

TABLE 22.—AVERAGE MONTHLY SALES IN PERCENTAGE OF TOTAL SALES OF PRINCIPAL FARM SUPPLIES FOR 62 COUNTY ASSOCIATIONS IN 1934

| Farm supply | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|---------------------------------------|---------|----------|-------|-------|------|------|------|--------|-----------|---------|----------|----------|-------|
| Gasoline..... | 6.7 | 6.2 | 8.0 | 10.6 | 10.4 | 8.9 | 9.6 | 9.6 | 8.6 | 8.4 | 7.0 | 6.0 | 100.0 |
| Kerosene..... | 5.8 | 5.0 | 7.5 | 14.9 | 13.7 | 8.7 | 8.4 | 9.4 | 7.6 | 7.3 | 6.2 | 5.5 | 100.0 |
| Tractor fuel..... | 1.7 | 2.5 | 5.9 | 22.7 | 19.0 | 7.5 | 8.4 | 10.4 | 7.6 | 7.0 | 4.7 | 2.6 | 100.0 |
| Lubricants..... | 4.4 | 3.9 | 7.7 | 16.6 | 16.1 | 8.4 | 7.9 | 9.2 | 6.8 | 7.6 | 6.7 | 4.7 | 100.0 |
| Average of petroleum supplies..... | 4.7 | 4.4 | 7.3 | 16.2 | 14.8 | 8.4 | 8.6 | 9.6 | 7.6 | 7.6 | 6.1 | 4.7 | 100.0 |
| Feed..... | 7.2 | 7.7 | 10.3 | 9.0 | 9.8 | 10.0 | 8.2 | 9.2 | 7.0 | 6.2 | 7.5 | 7.9 | 100.0 |
| Seed..... | 1.4 | 8.1 | 19.5 | 17.2 | 6.1 | 6.2 | 4.4 | 10.0 | 13.2 | 9.8 | 2.5 | 1.6 | 100.0 |
| Fertilizer..... | .1 | .1 | 1.7 | 8.5 | 20.1 | 2.7 | .9 | 4.4 | 45.3 | 13.6 | 1.9 | .7 | 100.0 |
| Fence..... | 3.3 | 5.2 | 7.7 | 17.5 | 14.3 | 7.3 | 9.0 | 9.7 | 9.2 | 7.9 | 5.5 | 3.4 | 100.0 |
| Twine..... | .4 | .2 | .1 | 1.0 | 1.9 | 63.2 | 15.4 | 4.3 | 7.2 | 4.8 | .8 | .7 | 100.0 |
| Miscellaneous..... | 7.1 | 7.3 | 8.7 | 12.2 | 10.1 | 10.4 | 11.5 | 9.7 | 9.4 | 6.7 | 3.3 | 3.6 | 100.0 |
| Average of general farm supplies..... | 3.2 | 4.8 | 8.0 | 10.9 | 10.4 | 16.6 | 8.2 | 7.9 | 15.2 | 8.2 | 3.6 | 3.0 | 100.0 |
| Average of all commodities..... | 3.8 | 4.6 | 7.7 | 13.0 | 12.2 | 13.3 | 8.4 | 8.6 | 12.2 | 7.9 | 4.6 | 3.7 | 100.0 |

Data computed from records of the Indiana farm bureau county cooperatives.

Other Publications Available

In addition to this bulletin, the following publications of the Farm Credit Administration may be of interest to farmers' purchasing cooperatives:

Cooperative Purchasing of Farm Supplies

Bulletin No. 1, *Joseph G. Knapp and John H. Lister*

Accounting Principles for Cooperative Cotton Gin Associations

Bulletin No. 2, *Otis T. Weaver*

Cooperative Marketing of Agricultural Products

Bulletin No. 3, *Ward W. Fetrow*

Cooperation in Agriculture, a Selected and Annotated Bibliography, Bulletin No. 4, *Chastina Gardner*

Statistics of Farmers' Cooperative Business Organizations, 1920-1935, Bulletin No. 6, *R. H. Elsworth*

Cooperative Marketing of Range Livestock

Bulletin No. 7, *L. B. Mann*

Membership Relations of Cooperative Associations

Bulletin No. 9, *J. W. Jones*

Contract Feeding and Pasturing of Lambs and Cattle

Bulletin No. 15, *C. G. Randell*

Commercial Trucking of Fruits and Vegetables in Nine Atlantic Coast States, Bulletin No. 17, *Nephtune Fogelberg and H. W. Mumford, Jr.*

***Use of Motortrucks in Marketing Fruits and Vegetables**

Bulletin No. 18, *Marius P. Rasmussen*

Farmers' Purchasing Associations in Wisconsin

Bulletin No. 20, *Rudolph K. Fraker and Joseph G. Knapp*

Farmers' Mutual Windstorm Insurance Companies

Bulletin No. 21, *Gordon A. Bubolz*

Cooperative Purchasing of Farm Supplies in Mississippi

Bulletin No. 22, *John H. Lister and Gerald M. Francis*

Problems and Trends in Farmers' Mutual Fire Insurance

Bulletin No. 23, *V. N. Valgren*

The Surplus Problem in the Northeastern Milksheds

Bulletin No. 24, *Leland Spencer*

Relative Prices to Producers Under Selected Types of Milk Pools

Bulletin No. 25, *T. G. Stitts, E. W. Gaumnitz, and Others*

A Statistical Handbook of Farmers' Cooperatives

Bulletin No. 26, *French M. Hyre, Whiton Powell, and Others*

Cooperative Purchasing Through the Illinois Farm Supply Company and its Member County Service Companies, Bulletin No. 27, *John H. Lister*

Accounting Procedure for Cooperative Grain Elevators

Bulletin No. 28, *E. B. Ballow*

Terminal Fruit Auctions as Marketing Agencies for Farmers' Cooperatives, Bulletin No. 29, *Kelsey B. Gardner*

Cooperative Farm Supply Purchasing in the British Isles

Bulletin No. 31, *Joseph G. Knapp*

*No copies available.

(Continued on page 4 of cover)

Other Publications Available

(Continued from page 1 of cover)

- Cooperative Milk Marketing in Louisville**
Bulletin No. 32, *Wm. C. Welden and T. G. Stitts*
- Cooperative Marketing of Fleece Wool**
Bulletin No. 33, *James M. Coon*
- Cooperative Marketing of Livestock at Cincinnati**
Bulletin No. 34, *H. H. Hulbert*
- Livestock Auction Sales in the United States**
Bulletin No. 35, *C. G. Randell and L. B. Mann*
- Butter Marketing by Cooperative Creameries in the Middle West**
Bulletin No. 36, *Paul E. Quintus and T. G. Stitts*
- Cooperative Egg and Poultry Auction Associations**
Bulletin No. 37, *John J. Scanlan and Roy W. Lennartson*
- Early Developments in Cooperative Cotton Marketing**
Circular No. C-101, *O. W. Herrmann and Chastina Gardner*
- Organization and Operation of Cooperative Irrigation Companies**
Circular No. C-102, *Wells A. Hutchins*
- Western Cattle and Sheep Areas**
Circular No. C-103, *L. B. Mann*
- Economic Analysis of Bargaining Problems of Milk Cooperatives**
Circular No. C-104, *T. G. Stitts and Wm. C. Welden*
- Refrigerated Food Lockers, a New Cooperative Service**
Circular No. C-107, *L. B. Mann*
- Organizing Farmers' Cooperatives**
Circular No. C-108, *S. D. Sanders*
- Organizing a Cooperative Cotton Gin**
Circular No. C-109, *Otis T. Weaver and U. H. Prickett*
- Marketing Fruits and Vegetables Cooperatively**
Circular No. C-110, *M. C. Gay*
- Co-ops in Agriculture**
Circular No. C-111, *French M. Hyre*
- Development of Cooperative Cotton Ginning**
Circular No. C-112, *Omer W. Herrmann*
- Farmers' Retail Petroleum Associations**
Circular No. C-113, *Joseph G. Knapp and French M. Hyre*
- Crushing Cottonseed Cooperatively**
Circular No. C-114, *John S. Burgess, Jr.*
- Organization Structure of Farmers' Elevators**
Circular No. C-115, *Harold H. Hedges*
- Cooperative Marketing of Dairy Products**
Circular No. C-116, *Harry C. Trelogan and French M. Hyre*

These may be obtained free of charge, while a supply is available, from the

**Director of Information and Extension
Farm Credit Administration, Washington, D. C.**