

THE UNIVERSITY OF MINNESOTA

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The undersigned, acting as a Committee
of the Graduate School, have read the accompanying
thesis submitted by Frank Robotka
for the degree of Master of Science.

They approve it as a thesis meeting the require-
ments of the Graduate School of the University of
Minnesota, and recommend that it be accepted in
partial fulfillment of the requirements for the
degree of Master of Science.

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This is to certify that we the undersigned, as a committee of the Graduate School, have given Frank Robotka final oral examination for the degree of Master of Science. We recommend that the degree of Master of Science be conferred upon the candidate.

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A SYSTEM OF ACCOUNTING FOR
COOPERATIVE PRODUCE MARKETING ASSOCIATIONS

By
FRANK ROBOTKA

A Thesis submitted to the
Graduate School of the University of Minnesota
in partial fulfillment of the requirements for the degree of
Master of Science

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CHAPTER I.

INTRODUCTION

That business success has its basis in efficient management, and that efficient management in turn has its basis largely in sound accounting, are assertions the truth of which is so generally conceded that it is believed no evidence need here be introduced to substantiate them.

"Investigations of the U. S. Bureau of Markets indicate that probably not more than 15 per cent of the organizations engaged in marketing agricultural products have any system of books which could possibly be considered adequate for the business." (1)

Were comparative data available, it is believed they would indicate that non-success is attributable directly to inadequate accounting methods, more frequently in the case of farmers' cooperative associations than in the case of other types of business organizations. This belief is based on a number of facts, the most important of which is that farmers generally have not the practical business experiences which men in most other industries acquire through special training and through a more frequent and intimate contact with business men and business affairs. Furthermore, the cooperative business units are in most cases relatively small compared with those found in commerce and industry generally. The small unit usually offers few opportunities for division of labor, the manager frequently being required to attend to all the routine details as well as to the larger problems of the operation and the management of the entire establishment.

Other reasons why the lack of adequate accounting is more fre-

(1) A. V. Swarthout, Investigator in Market Business Practice, Bureau of Markets, U. S. Department of Agriculture, in an address delivered before the Sixteenth Annual Convention of the Farmers' Grain Dealers Association of Iowa, Sioux City, Iowa, January 20-22, 1920.

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quently the direct or indirect cause of failure among farmers' cooperative organizations than among other types of business concerns, have their basis in the special features which are peculiar to the cooperative organization. The manager of a cooperative organization is responsible to many proprietors (stockholders or members) instead of to one or a few as in the case of a similar concern privately owned. The fact that the stockholders or members of a cooperative association are also its patrons, makes this consideration doubly important.

The distribution of earnings on the basis of the volume or value of business transacted by the customers with the association, especially where a distinction is made between members and non-members, involves a large amount of additional detailed bookkeeping.

Additional records are also required when produce is pooled. In order that the returns may be distributed equitably among those contributing to the pool, consideration must be given to the quality and grade of the produce delivered. Even though the product may lose its identity as soon as graded, it is necessary that a method be provided whereby specific returns from sales of produce might be identified with specific deliveries of produce to the association. The practice of making advances of cash to growers at the time of delivery of produce further complicates the accounting records.

The special laws providing for the incorporation of cooperative associations, contain specific provisions with respect to the distribution of earnings and the creation of surplus reserves and sometimes other special funds, a strict compliance with which requires careful accounting. Furthermore, the Federal income tax regulations permit the deduction from profits of patronage dividends paid members out of earnings on business contributed by them, but

earnings on business contributed by non-members are not exempt from income tax unless remitted to them. A further complication is introduced when patronage dividends are distributed at one rate to members and at another rate to non-members, and at different rates on different commodities, or according to the profits realized on the different commodities.

Although the literature on the subject of accounting in industry generally and in specific fields of industry is voluminous, the practical application of the fundamental principles of accountancy to the cooperative type of business organization has received little attention. Attempts to transplant accounting systems bodily from the general commercial field to cooperative organizations have frequently resulted disastrously, not because the accounting principles upon which they were based were not sound, but because the application of those principles was attempted without a careful analysis of the specific needs of such organizations having first been made.

The purpose of this thesis is to outline the accounting requirements of cooperative potato warehousing and marketing associations, with special reference to the needs of the associations in the state of Minnesota. The thesis is based on the results of an investigation of these associations undertaken in the Fall of 1919 and the following Winter, during which time data were obtained, largely by personal interviews and partly by correspondence, from 62 of the 71 associations which were in existence at that time. Considerable correspondence was also had with similar organizations in other states. The outline on page 51 indicates the nature and scope of the study undertaken.

CHAPTER II.

THE ORGANIZATION AND METHODS OF OPERATION OF MINNESOTA COOPERATIVE POTATO MARKETING ASSOCIATIONS.

Corporate and Financial Organization Features.

In this chapter a brief survey is given of the organization and methods of operation of the potato warehouse associations of Minnesota. No attempt is made to treat the subject critically or exhaustively, but rather to give a bird's eye view of the situation on the basis of which the adequacy or inadequacy of the recommendations contained in this thesis must be judged.

Practically all of the associations from which reports were received were incorporated under the cooperative law of 1913, and a few under the new law passed in 1919. The older associations organized previous to 1913 were incorporated under the general corporation laws.

All of the associations, however, included in their by-laws most of the so-called cooperative features. All of them reporting regarding voting power of members limited it to one vote per member. Nineteen out of 23 limited the number of shares a member might own to 10 or less, one limited the number to 20 shares, one to 25 shares and two placed no limitation on the number. Twenty-three out of 28 associations reported limiting the rate of dividend on capital stock, all except one of these to 10 per cent or less. All which reported provided in their by-laws for partonage dividends; and 18 out of 19 reported exercising control over the transfer of shares.

The number of members ranged from eight to 308. Twenty-four out of 39 associations reported a membership of less than 100, nine reported from 100 to 200 members, three reported from 200 to 300 members, and three reported 300 members or more.

The cooperative law of 1919 requires the creation of a surplus by reserving not less than 10 per cent of the annual profits until such surplus shall equal 50 per cent of the paid up capital stock. Previous to that time the creation of a surplus was not required and only five out of 13 reported including such a provision in their by-laws. Nine out of 14 associations, however, reported the amount of accumulated surplus,--three less than \$1000, four from \$1000 to \$3000, one from \$3000 to \$6000 and one over \$6000.

Most of the associations limited the indebtedness which could be incurred to the amount of the paid up capital stock.

Most of the older associations commenced business with a capital of less than \$3000, whereas all of the associations organized in 1918 and 1919 had a paid up capital of \$3000 or more and two of them over \$15,000.

The par value of shares in the earlier associations was usually \$25 or less, while that of the newer associations ranged from less than \$25 to \$100, less than \$25 being reported by one association, \$25 by six, and \$100 by five associations.

Eight of the 29 associations reporting the cost of the building had less than \$3000 invested in the building, 10 from \$3000 to \$6000, and seven over \$6000. Three of the latter reported an investment in buildings of \$13,000 and over. The cost of machinery and equipment ranged from \$100 to \$3000. Six reported a machinery and equipment cost of less than \$500, eight from \$500 to \$1000, nine from \$1000 to \$2000 and two reported \$2000 or over.

The amount of working capital which was required averaged \$9300 for 13 associations. The amount borrowed ranged from \$500 to \$15,000 most of which was obtained from local banks.

Operating Organization.

In practically all cases the manager, with some assistance in

the warehouse, constituted the entire operating organization. In only one case was the employment of a bookkeeper reported. In a number of cases, however, the secretary or treasurer kept some of the books. The manager or treasurer, sometimes both, were usually under bond of from \$1000 to \$5000.

Accounting Methods

The accounting in most of the associations, especially the smaller ones, consisted merely of miscellaneous memoranda. In many cases, scale tickets and check stubs furnished the only evidence of business transacted. In only one case, that in which a bookkeeper was employed, was a complete, double entry system of records kept. Suitable office space, desks, filing cases, fireproof safes, check protectors and writers, and even adding machines were frequently not provided.

The bank account in some cases was reconciled with the bank statement only at the end of the year, and sometimes not even then. Most of the associations, however, made it a practice to deposit all receipts and make disbursements by check only, using a petty cash fund for small disbursements and for making change.

The records were usually examined by an auditing committee composed of members of the board of directors, but no report of an audit by an expert accountant was received. In some cases, however, the auditing committee called upon a bookkeeper in some other local concern to assist them.

Commercial Practices

Commodities Handled. Eleven of the 25 associations reporting on this point handled farm produce alone, mainly potatoes and some cabbage, onions and rutabagas. Of the other 14 associations, five handled live stock, two handled groceries, six handled eggs and

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hides, three handled grain, and four handled farm machinery. All of these 14 associations also handled feed and other farm supplies. It was found that approximately two-thirds of the potatoes shipped by cooperative potato associations were handled by associations which made the handling of potatoes their main or only business.

The number of carloads of potatoes handled ranged from 12 to 172, the average for those reporting their shipments for 1918 being 45.7 carloads and for 1919, 51.2 carloads. Twelve associations in 1918 handling potatoes only, shipped an average of 70 carloads. The average receipts from potatoes for 15 associations in 1918 was \$27,888 and for 14 associations in 1919, \$43,337.

The ratio of the potato business to the total business for associations handling a number of other commodities, varied widely. In 1918, the sales of commodities other than potatoes averaged \$59,725 for nine associations, which included one large general grain and produce association. The average of seven associations in 1919, not including the one just referred to, was approximately \$33,000.

Selling Methods. Potatoes are usually sold subject to inspection, although the practice of selling according to Federal grades is growing. As progress is made in the standardization of the product, the adoption of uniform grades and the establishment of trade brands, the inspection method of sale will no doubt gradually fall into disuse. State and Federal inspection and certification of grades and the improvement of cultural methods will assist materially in bringing this change about.

By far the largest proportion of the potatoes were sold outright to wholesale dealers, farmers' purchasing organizations in other states, and jobbers, and to some extent to retail stores. A large proportion of the sales were made direct to traveling representatives of these agencies, and in nearly all cases cash was received

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before the car left the shipping point or sight draft was attached to bill of lading. Some consignment sales were made, but this method of sale was usually looked upon with disfavor.

Practically all of the potatoes sold outright (not consigned) were sold f.o.b. shipping point. A number of "delivered" sales were reported, and "track" and "to arrive" sales were reported by only one association. In a few cases where permanent connections had been established, definite arrangements have been made with buyers permitting the association to draw on the buyer to the extent of 75 per cent or 80 per cent of the market value of the produce shipped.

Commercial Relations with Growers. The potatoes are usually delivered in bulk by the grower and are run over a sorter as they are unloaded. Frequently only the culls are sorted out, which are returned to the grower. A number of associations reported grading the potatoes, and this practice is becoming more and more general. In such cases two grades were made, usually according to the standards suggested for potato grades by the Federal Bureau of Markets. Where the quantity of second grade potatoes was small, they were usually returned to the grower with the culls.

In dealing with the growers, a considerable diversity of practices exists. Practically all of the methods used may, however, be classified under one of the following methods: (1) Buying for cash. (2) Selling on commission for the grower. (3) Pooling. (4) Maintaining and selling storage space and service. (5) Buying on commission for a dealer. (6) Handling the product on joint account with a dealer. (7) In some cases associations which did not desire to assume the responsibility of operating the warehouse, have rented it to private dealers or buyers.

The foregoing methods clearly fall into two significant classes; namely, (a) Methods under which the association, or its members through it, assume the risks incidental to the marketing of the product. (b) Methods under which the association or the members have almost, if not entirely, shifted the risks to private concerns or individuals.

As the business and accounting policies in the latter class of associations are determined largely if not entirely by others than the members of the association or its officers or manager, we are concerned in this thesis only with these falling into the first group, and the discussion will accordingly be limited to a description of the methods used by them.

Buying for Cash. This method was used by approximately half of the associations reporting on this point. It appears to be the method favored most by the growers because cash is received immediately and the price is known before the sale is made. It is, however, not regarded as a truly cooperative method and the investigation made shows that many associations have suffered heavy losses or have been wrecked in years of violent price fluctuations. From the accounting point of view, this method involves only the usual procedure incidental to the ordinary mercantile business.

Selling on Commission for Growers. The second method was used by only three of the 25 associations in 1919, and six of the 42 associations in 1918, reporting on this point. Under this method, a fixed charge is made for the services rendered, which usually includes sorting, sacking (but not sacks), storage until sold, shrinkage, loading, and all selling and overhead expenses. Special charges, such as heating the car or refrigeration, if any, are deducted from the cars in connection with which the expense was incurred. Returns for individual cars are distributed to growers

as received. Advances of 75 per cent to 80 per cent of the market value were often made to growers at time of delivery.

Pooling. The pooling method resembles the preceding method, except that the returns from several cars, covering varying periods of time, are usually averaged and the grower receives returns based on the average price.

Storing. Most associations usually find it necessary to hold potatoes in the warehouse for varying periods of time before they are sold, especially during periods of car shortage. No charge is usually made for storage under these circumstances, and the association absorbs the shrinkage. However, what is meant by storing in this discussion is selling storage space to farmers who wish to hold their potatoes in anticipation of a rise in price or for other reasons.

Only five of the 16 associations reporting on this point did any storing in 1918. One of these made storing its sole business, the marketing and all other work connected therewith being attended to by the farmers themselves. The other four associations performed all the necessary work as well as the selling, although in three cases the farmers instructed the manager when to sell. Three of the associations doing a storage business, rented separate space to the farmers, in which case each grower bore the actual shrinkage on his own potatoes. In the other two cases the potatoes were bulked and the shrinkage was prorated on the basis of a uniform rate.

The foregoing discussion applies specifically to the handling of potatoes. Most associations, however, also handle other produce and feed and sometimes groceries, machinery and other commodities. Where cabbage, rutabagas, onions and other produce of this character constitute a significant item, they are usually handled on the same basis as potatoes. Miscellaneous produce, if handled in relatively

small quantities, however, is usually purchased outright. Feed and supplies are either merchandised in the usual way, or are purchased only when orders are on hand for a carload. In the latter case, it is a common practice to notify the members when the car arrives and the commodities are hauled direct from the car, cash payment often being required in advance or upon delivery of the goods. Groceries and other general merchandise is sometimes carried in stock and sold either on a cash or credit basis.

Since this study was started, there was organized in the state in the spring of 1920, the Minnesota Potato Exchange, a federation of the local warehouse associations. As most of the local associations are affiliated with this central organization, the business practices of the Exchange in its dealings with the local associations has a direct bearing on the subject of this thesis.

The following extracts from its by-laws are pertinent:

Article II, Section 1. (Qualification). Any local cooperative potato or produce shipping organization in Minnesota, that is duly incorporated under the laws of this state, may become a member of this Exchange by agreeing to comply with the requirements of these by-laws and by becoming the owner of at least one (1), but not more than ten (10) shares of the capital stock.

Such local must, in evidence of its cooperative character, comply with the following essentials of cooperation.

- (1) Adhere to the principle of one vote to each stockholder regardless of the number of shares held.
- (2) Limit the dividends on capital stock to a reasonable rate of interest.
- (3) Pro-rate earnings among the members or patrons on the basis of business furnished."

"Article VI, Section 5. (System of Accounts). The Board of Directors shall be responsible for the installation of a thoroughly adequate and scientific system of accounts in the Exchange, and for the provision of such other accounting appurtenances that may be necessary to conduct the business in a safe and orderly manner. It shall be the duty of the Exchange to furnish at cost a uniform standard system of accounts for the locals and to assist in installing the same."

Article X, Business Practice:

Section 1. (Payments, when made). The local associations shall receive payment after each shipment through the Exchange upon the receipt of the proceeds by the Exchange or at the end of each pooling period.

Section 2. (Returns to the locals). The Exchange may make individual sales for each local association, and at the discretion of the Board of Directors, the Exchange may pool all products of the same grade and quality for such periods as the Directors shall decide. When this method of sales is adopted all locals shipping products of the same grade and quality shall receive exactly the same price. Returns to the locals shall be on the basis of an average price for each grade during the pooling period. The total amount

available for payment to the locals after each pooling period, or after each shipment, shall be the net proceeds to the Exchange from a shipment, or shipments, as shown by the account, or accounts, of sales, less the deductions provided for in Section 3 hereof. These deductions may be made, in the discretion of the Board of Directors, as a fixed percentage charge upon the returns for products sold, or as a fixed charge per one hundred pounds or per ton of products shipped."

"Section 4. (Supplies and Merchandise). If the Board of Directors shall so decide the Exchange may purchase merchandise and supplies for the locals; provided, that each local ordering such supplies or merchandise shall pay for the same at the time of ordering it or shall deposit a sum sufficient to cover the payment with some bank, approved by the Board of Directors. The Exchange shall handle such business upon a margin sufficient to cover all expenses and other items as indicated in Section 3 hereof."

"Section 6. (Patronage refunds). At the end of the fiscal year any earnings resulting from an over estimation of expenses and handling costs shall be disbursed to member associations and to non-members in such a manner as to comply with the law, on the basis of the patronage or business done by each."

The by-laws which the Minnesota Potato Exchange is recommending for adoption among the local associations which wish to affiliate with it, include the following provisions:

"Article VII. Business Practice:

"Section 1. (Payments, when made). Growers shall receive payment after each shipment by the Association upon the receipt of the proceeds by the Association or at the end of each pooling period.

"Section 2. (Returns to the Grower). The Association may make individual sales for each Grower, and at the discretion of the Board of Directors, the Association may pool all the products of the same grade and quality for such periods as the Directors shall decide. When this method of sales is adopted all Growers shipping products shall receive exactly the same price. Returns to the Grower shall be on the basis of an average price for each grade during the pooling period. The total amount available for payment to the Grower after each pooling period, or after each shipment, shall be the net proceeds to the Association from a shipment, or shipments, as shown by the account, or accounts, of sales, less the deductions provided for in Section 3 hereof. These deductions may be made in the discretion of the Board of Directors, as a fixed percentage charge upon the returns for products sold, or as a fixed charge per one hundred pounds or per ton of products shipped.

"Section 3. (Deductions). The charges provided for in Section 2 shall be adequate to cover the following items:

- “(a) Current operating expenses.
- “(b) Accrued operating expenses. This deduction shall be adequate to cover such items of expense as wages and

salaries, insurance, taxes, repairs, renewals and replacements, depreciation, interest and other items.

"(c) Surplus reserve. The amount of this deduction shall be determined by the Board of Directors and shall be continued until the earnings thus retained in the business shall amount to at least thirty (30) per cent of the paid up capital stock. This surplus shall be employed in the business for a legitimate purpose.

"(d) Dividends on Capital Stock. This deduction shall be sufficient to pay a rate of six (6) per cent on stock.

"(e) Miscellaneous. This deduction shall be for any other purpose, at the discretion of the Board of Directors.

"Section 4. The Board of Directors may at their discretion deduct from the net proceeds for potatoes and other vegetables five cents for each hundred weight handled for the individual member. The sums derived therefrom to be applied to pay for additional shares for such member.

"Section 5. (Supplies and Merchandise). If the Board of Directors shall so decide the Association may purchase merchandise and supplies for growers; provided, that each grower ordering such supplies or merchandise shall pay for the same at the time of ordering it or shall deposit a sum sufficient to cover the payment with some bank, approved by the Board of Directors. The Association shall handle such business upon a margin sufficient to cover all expenses and other items as indicated in Section 3 hereof.

"Section 6. (Patronage Refunds). At the end of the fiscal year any earnings resulting from an over estimation of expenses and handling costs shall be distributed to members and non-members in such a manner as to comply with the law, on the basis of the patronage or business done by each."

On the basis of the foregoing, the system of accounting described in the following Chapter was devised. Although the procedure described contemplates the pooling of the product, minor modifications in detail, the use of only such of the forms as may be needed, and the omission or addition of accounts as required, will readily adapt the system to the needs of associations operating on either the commission or cash basis or variations of these methods.

CHAPTER III
THE ACCOUNTING SYSTEM

The Forms

The forms to be used in operating the system of accounting described in this thesis are as follows:

- Delivery Ticket (Form No. 1)
- Register of Delivery Tickets and Stock Record (Form No. 2)
- Car Record Envelope (Form N o. 3)
- Register of Shipments (Form No. 4)
- Pool Sheet (Form No. 5)
- Pool Settlement Sheet (Form No. 6)
- Crower's Check Voucher (Form No. 7)
- Cash Receipts Book (Form No. 8)
- Cash Disbursements Book (Form No. 9)
- General Journal (Form No. 10)
- Merchandise Sales Book (Form No. 11)
- Record of Produce Purchases (Form No. 12)
- Grower's Selling Order (Form No. 13)
- Car Index (Form No. 14)
- Claims Register (Form No. 15)
- General Check (Form No. 16)
- Advance Produce Check (Form No. 16a)
- Sales Ticket (Form No. 17)
- General Ledger and Accounts R eceivable Ledger (Forms 18-19)
- Storage Ticket (Form No. 20)
- Advance Check Register (Form No. 21)

Although some of the forms may not be used by the smaller associations, the aim has been to provide all the forms necessary in maintaining an unbroken course of all transactions through the

records.

Purpose and Description of Forms

Delivery Ticket. (Form No. 1). The Delivery Ticket serves the purpose of a scale ticket and constitutes the basis for the original entry of each delivery of produce to the association. The tickets will be issued in duplicate, numbered consecutively and will show the grower's name, the kind and grade of produce, the number of the car or bin into which the produce is unloaded, gross, tare and net pounds, the name of the individual making the delivery, and the name of the authorized weigher.

Register of Delivery Tickets and Stock Record. (Form No. 2). This form provides for summarizing the information regarding the daily deliveries of potatoes, as follows: date delivered, ticket number, grower's name, and a distribution according to variety and grade of the potatoes delivered. The number of variety columns may be increased or decreased according to requirements.

Car Record Envelope. (Form No. 3). The purpose of the Car Record Envelope is to provide a convenient means for filing all papers pertaining to each car shipped and to provide for recording the usual information desired regarding each car shipped from the date of shipment to and including the final settlement, as well as claims filed for loss or damage in transit. Associations which make separate settlement for each car shipped will not use the Pool Settlement Sheet, but will show the details of the settlement with each grower on the Car Record Envelope.

Register of Shipments. (Form No. 4). The following information regarding each car shipped is provided for on this form: the lot number assigned to the shipment, the date of shipment, consignee and address, car number and initials, kind of produce, quantity, date

sold and the net proceeds.

Pool Sheet. (Form No. 5). The Pool Sheet provides for bringing together the necessary data in determining the average prices which can be paid for the different kinds and grades of produce sold during the period covered by the pool. The following information is provided for: Date, Lot Number, Car Number, Sacked or Bulk Pounds, Produce Sales (Advances, Net Proceeds), Local Charges (Sacks and Packages, Other Charges, Selling Charges), Net Amount for Distribution, and Summary of Settlement (Applied on Account, Advances, Amount of Check).

Pool Settlement Sheet. (Form No. 6). The calculation of the returns to individual growers at the close of each pool, will be made on the Pool Settlement Sheet. The form also provides a ready means of proving the accuracy of these calculations, and serves as a register of the settlement made with each grower contributing to each pool, and of the checks issued in final settlement. The following information is provided for at the head of the form: Lot Numbers Included, Kind of Produce, Grade, Pool Price, Pool Number, and the period covered by the pool. The captions of the columns are as follows: Grower's Name, Grower's Number, Number of Packages, Pounds, Gross Amount; Local Charges (Sacks and Packages, Other Expenses, Selling Charge), Net Amount, Amount Advanced, Check Number, Amount Applied on Account, Ledger Folio, Final Balance (Amount, Check Number).

Grower's Check Voucher. (Form No. 7). The upper part of this form is an ordinary check form and is to be detached before it is deposited. The lower part provides for giving the details of the sales, (kind of produce, pounds, pool price, the amount of each kind of produce, and the total), and the expenses and deductions, (sacks, other charges, selling charges, total), the net value of produce and

amount applied on account, advances, the balance due, and the number of the check given in settlement. The vouchers will be issued in duplicate and numbered consecutively.

Cash Receipts Book. (Form No. 8). All cash receipts will be entered on this form, the distribution being made in accordance with the column headings. The captions of the columns are as follows: Date, Account Credited, Explanation of Transaction, Lot Number, Produce Sales (Advance, Balance), Ledger Folio, Accounts Receivable-Growers, Accounts Receivable-General, Sundry Accounts, Merchandise Sales (one or more columns as needed), and Bank Deposits.

Cash Disbursements Book. (Form No. 9). The Cash Disbursements Book provides columns for the date, name of account to be debited, explanations, check number, bank withdrawals, and for the distribution of disbursements as follows: Debits to Sundry General Ledger Accounts, Produce Sales (Advances, Balance on Shipments), General Expense, and columns for merchandise purchases to be captioned as required.

General Journal. (Form No. 10). The usual stock form of Journal will be used. All financial transactions other than cash transactions will be entered in this book.

Merchandise Sales Book. (Form No. 11). The Merchandise Sales Book is provided to furnish a record of all sales of merchandise. The column headings are: Date, Purchases, Explanation, Sales Ticket Number, Ledger Folio, Cash, Accounts Receivable-Growers, and General Accounts Receivable. Blank commodity columns are provided for distributing the sales among different merchandise accounts. Where the number of commodities handles is large, these columns may be continued on the reverse side of this form.

Record of Produce Purchases. (Form No. 12). This form will be used where an association buys sundry produce outright. The fol-

lowing columns are provided: Date, Bought of, Explanation, Check Number, Amount, Sundry Produce (commodity account debited, quantity, amount), and blank commodity distribution columns showing quantities purchased and the cost.

Grower's Selling Order. (Form No. 13). When an association stores produce for growers, it is desirable that the grower issue and sign a selling order when he wishes that all or a portion of his produce be sold. These orders will be issued in duplicate and numbered consecutively.

Car Index. (Form No. 14). The Car Index is provided to facilitate the determination of the lot number assigned to any given car number. Any memorandum book providing space for two columns may be used for this purpose, the columns being headed "car number" and "lot number", respectively. The pages of this book should be numbered by ten's. The car numbers will be indexed by entry on the page numbered to correspond with the last two digits of the car number, i.e. car numbers the last two digits of which are less than ten will be entered on page 0; from 10 to 19, on page 10; from 20 to 29, on page 20, etc.

Claims Register. (Form No. 15). A register of claims is provided to facilitate the following up of claims, and for ready reference. The information recorded is indicated by the following column headings; Our Number, Their Number, Lot Number, Against Whom, Date, Amount of Claim, Date Settled, Amount Received, Remarks. Associations affiliated with the Minnesota Potato Exchange will not use this form, as the Exchange attends to the collection of claims for its member associations.

Check. (Form No. 16). Disbursements other than for advances to growers and pool settlements will be made by the common form of stub check usually provided by the local bank. These checks should

be numbered to form a separate consecutive series.

Advance Produce Check. (Form No. 16a). As a separate register will be maintained of all advances made growers, the checks issued in making advances should form a separate series. A duplicate check form upon which space is provided for the delivery ticket numbers upon which the advance is based, will serve the purpose.

Sales Ticket. (Form No. 17). This, or any other satisfactory stock form, is to be used when merchandise is sold locally. The tickets should be put up in pads of fifty originals and duplicates and numbered consecutively.

General Ledger and Accounts Receivable Ledger. (Form Nos. 18-19). The usual stock form of double entry ledger is recommended. The General Ledger will contain all of the balance sheet and nominal accounts, including controlling accounts of the Grower's and General Accounts Receivable Ledgers. The Accounts Receivable Ledger will be divided into two parts, one carrying the grower's charge accounts and the other all other charge accounts.

Storage Ticket. (Form No. 20). The Storage Ticket provides for the usual information shown on a warehouse receipt. On the back of the ticket will appear the rates of storage charged by the association and the conditions and rules regarding shrinkage and storage as are required by the statutes. Storage tickets should be issued at the close of each day for any potatoes which are not to be sold immediately. The numbers of the scale tickets for which the storage ticket is issued, and the gross, tare and net weights will appear on the storage ticket. The tickets will be issued in duplicate and numbered consecutively.

Advance Check Register. (Form No. 21). In order that proper control might be had over advances made growers on deliveries of produce, the use of this form is recommended. The advance checks

issued each day will be listed consecutively on this form at the close of each day's business. The form is ruled to provide columns for the date, the name of the payee, check number, amount, numbers of delivery tickets upon which the advance is made, and the pool number in which the amount advanced is deducted. An entry will be made in the Cash Disbursements Book each day, debiting Advances to Growers account and crediting Cash for the total amount of such advances, as shown by the Advance Check Register.

Ledger Accounts

The accounts which will be required in a cooperative potato marketing association will depend upon the methods used in operating the business. The accounts suggested in the accompanying chart will usually be found necessary in an association operating on ^{any of} the plans described in pages 6 to 14, for which the system of accounting described in this thesis is designed.

Classification of the Accounts

Balance Sheet Accounts, A-H inclusive.

A. Current Assets

- A 1. Petty Cash
- A 2. Bank Account
- A 3. Notes Receivable
- A 4. Accounts Receivable - Growers
- A 5. Accounts Receivable - General
- A 6. Merchandise Inventory

B. Accrued Assets

- B 1. Accrued Interest - Notes Receivable
- B 2. Accrued Storage

C. Fixed Assets

- C 1. Office Furniture and Fixtures
- C 2. Machinery and Equipment
- C 3. Buildings
- C 4. Land

D. Deferred Charges

- D 1. Prepaid Insurance
- D 2. Printing and Stationery Inventory

E. Current Liabilities

- E 1. Notes Payable
- E 2. Accounts Payable
- E 3. Produce Sales
- E 4. Advance to Growers
- E 5. Dividends Payable (Cooperative Stock)
- E 6. Patronage Dividends Payable
- E 7. Notes Receivable Discounted

F. Accrued Liabilities

- F 1. Accrued Interest - Notes Payable
- F 2. Accrued Salaries and Labor
- F 3. Accrued Rent and Taxes

G. Reserves

- G 1. Reserve for Doubtful Accounts
- G 2. Reserve for Depreciation on Office
Furniture and Fixtures
- G 3. Reserve for Depreciation on Machinery
and Equipment
- G 4. Reserve for Depreciation on Buildings

H. Capital Stock and Net Worth

- H 1. Capital Stock
- H 2. Surplus
- H 3. Loss and Gain

Nominal Accounts, I-J, Inclusive

I. Revenue Accounts

- I 1. Selling Charges
- I 2. Merchandise Sales
- I 3. Merchandise Trading Account
- I 4. Miscellaneous P roduce
- I 5. Railroad Claims

J. Expenses

J 1. Merchandise Purchases

J 2. Operating Expenses

2. 1 Labor

2. 2 Sacks and Packages

2. 3 Car Linings

2. 4 Repairs

2. 5 Depreciation on Machinery and Equipment

2. 6 Depreciation on Building

2. 7 Light, Heat and Power

2. 8 Miscellaneous

J 3. Administrative Expenses

3. 1 Salaries of Officers

3. 2 Manager's Salary

3. 3 Printing and Stationery

3. 4 Telegraph, Telephone and Postage

3. 5 Sundry Office Expenses and Supplies

3. 6 Taxes

3. 7 Insurance

3. 8 Interest

3. 9 Loss for Bad Debts

3.10 Depreciation on Office Furniture and
Fixtures

3.11 Miscellaneous

Description of the Accounts

A 1. Petty Cash. Inasmuch as it is recommended that all receipts of cash be deposited in order to properly safeguard the cash, the need for currency for petty disbursements and for making change is met by issuing a check for an amount sufficient to meet the requirements and charging same to the Petty Cash account. Memoranda

of all disbursements from this fund should be made in a suitable notebook. Receipted vouchers supporting all disbursements should be in evidence. The disbursements should be summarized monthly and the fund replenished by issuing and cashing a check for an amount equal to that disbursed. At this time an entry will be made in the Cash Disbursements Book debiting sundry expense accounts for the amounts disbursed and crediting the bank account through the Amount of Check column.⁽¹⁾

A 2. Bank Account. The Bank account will be charged with the available balance in bank at the time of opening the account, and will be debited each month with the total of the Bank Deposits column in the Cash Receipts Book and credited with the total of the Amount of Check column in the Cash Disbursements Book. A debit balance will represent the amount of available cash in the bank.

A 3. Notes Receivable. All notes taken by the association in payment for shares of stock or merchandise will be debited to this account and all notes paid by the signers will be credited. The debit balance should represent the total of unpaid notes on hand.

A 4. Accounts Receivable - Growers. This account controls the Growers' Accounts Receivable Ledger. It will be debited with the monthly total of the Accounts Receivable-Growers column in the Sales Book and will be credited with the total of the Applied on Account column on the Pool Sheet and with the total of the Accounts Receivable-Growers column in the Cash Receipts Book. The debit balance of this account represents the total due from growers on account of merchandise sales charged them, and is therefore a resource. This balance should agree at all times with the total obtained by taking a trial balance of the Growers' Accounts Receiv-

(1). The method described is the so-called "imprest" system and is described by Kester, Accounting Theory and Practice, pp. 290-291.

able Ledger, and the account should be reconciled with this ledger at regular and frequent intervals.

A 5. Accounts Receivable - General. This account serves the same purpose with respect to credit sales made non-members as account A 4 serves with respect to credit sales made members.

A 6. Merchandise Inventory. This account will be used only at the end of the fiscal year at which time it will be debited with the inventoriable value of merchandise on hand. The account will be credited at the beginning of the new fiscal period, at which time sundry merchandise purchase accounts will be debited with their respective inventories.

B 1. Accrued Interest - Notes Receivable. Interest accrued on all notes receivable will be debited to this account at the end of the fiscal period, at which time Interest account will be credited. It will be credited when such accruals are paid.

B 2. Accrued Storage. This account will be used only when a warehousing business is conducted. At the end of the fiscal period it will be debited with all accruals on produce held in storage, and will be credited when such accruals are collected.

C 1. Office Furniture and Equipment. All purchases of office furniture and equipment will be debited at cost to this account, and items charged to this account and subsequently disposed of by sale or replacement will be credited to this account at cost, at which time the cash received, if any, will be debited to the cash account and the difference between the cost and the amount realized will be debited to Reserve for Depreciation on Office Furniture and Equipment. If the reserve is deficient, the difference will be debited to surplus.

C 2. Machinery and Equipment. This account will be handled similarly to Office Furniture and Equipment. The freight or ex-

press on machinery and equipment, cost of installation, and similar items will be added to the original cost. The cost of additional machinery and equipment or alterations which materially increase the efficiency of the equipment, as well as the excess of the cost of replacements over the cost of the equipment replaced, will also be debited to this account.

C 3. Buildings. See C 1 and C 2.

C 4. Land. This account will be debited with the purchase price of the site, together with permanent improvements other than buildings.

D 1. Prepaid Insurance. The amount of all insurance premiums will be debited to this account as paid. It will be credited at the end of the fiscal period with the amount of insurance premiums expired, at which time Insurance account will be debited. The debit balance will be a deferred charge representing the amount of unexpired insurance premiums.

D 2. Printing and Stationery Inventory. At the end of the fiscal period, the inventoriable value of unused stationery and printed material will be debited to this account, at which time the corresponding expense account will be credited. This entry will be reversed at the beginning of the new fiscal period.

E 1. Notes Payable. All notes given by the association will be credited to this account at face value, and notes paid will be debited. A credit balance will represent the liability arising from outstanding notes.

E 2. Accounts Payable. Separate accounts should be opened with each concern with which a current credit business is conducted. Accounts with occasional creditors may be handled more satisfactorily through a sundry Accounts Payable account. Debits to these accounts will be made from the Cash Disbursements Book or the Gen-

eral Journal depending on whether the obligations are liquidated by cash payments or notes or adjustments.

E 3. Produce Sales. The purpose of the Produce Sales account is to show the liability arising from sales of produce made for which settlement has not been made with growers. The credits will consist of monthly postings of the totals of the Produce Sales columns in the Cash Receipts Book, representing advances and balances received from sales of produce. The account will be debited with the monthly totals of the Local Charges, Advances, and Applied on Account columns on the Pool Sheet, representing all deductions made in determining the balance distributable to growers, and with the monthly total of the Produce Sales column in the Cash Disbursements Book, representing the amount distributable remitted to growers in final settlement. The account should balance when settlement has been made with growers for all shipments made.

E 4. Advances to Growers. As the title indicates, the purpose of this account is to reveal the status of advances made to growers. It will be debited with the monthly total of the Advances to Growers column in the Cash Disbursements Book and will be credited with the monthly total of the Advances column on the Pool Sheet. The debit balance at any time will indicate the amount of advances made on produce which has been delivered but for which final settlement has not been made. The account is in reality a subdivision of the Produce Sales account and its balance is an offset to the liability recorded there on account of the undistributed proceeds received from sales. It is also a controlling account, and the debit balance should at all times represent the difference between the advances made, as shown on the Advance Check Register, and advances deducted, as shown on the Pool Settlement Sheets. As the failure to deduct advances at the time of settlement is often a

source of considerable losses, it is desirable to maintain the control over advances which this account affords.

E 5. Dividends Payable - Capital Stock. The purpose of this account is to show the liability arising from dividends declared but not paid. Dividends declared will be credited and payments thereon debited to this account.

E 6. Patronage Dividends Payable. After a limited dividend on stock and the required reserves have been provided for, the remaining net profits may, in the discretion of the board of directors, be distributed on the basis of the volume of business transacted with members and on the wages of employes. Such dividends when declared also constitute a liability and will be credited to the Patronage Dividends Payable account.

E 7. Notes Receivable Discounted. Notes receivable which have been discounted will be credited to this account, rather than direct to the Notes Receivable account. A contingent liability arising when notes are discounted, due to the fact that if the makers are unable or refuse to pay them at maturity, the endorser is liable. The account will be debited and Notes Receivable credited upon notification of payment received from the bank.

F 1. Accrued Interest - Notes Payable. The liability arising from the accrual of interest on outstanding notes will be shown by this account. Credits will appear therein only at the end of the fiscal period when accruals are recorded, and the debits will appear when the accruals are paid.

F 2. Accrued Salaries and Labor. Amounts due for salaries and labor at the end of the fiscal period will be credited to this account, and the subsequent payment of such liabilities will be debited.

F 3. Accrued Rent and Taxes. The purpose of this account is identical to that of accounts F 1 and F 2.

G 1. Reserve for Doubtful Accounts. Where a considerable credit business is done, a given percentage of the accounts will usually be uncollectible. In order to avoid an overstatement of the Accounts Receivable account and to provide a reserve against which accounts actually found to be uncollectible might be charged, the estimated amount of such losses at the end of the fiscal period should be credited to the Reserve for Doubtful Accounts account and debited to the corresponding expense account. It is a valuation account and offsets the corresponding resource account, or the suspense account to which doubtful accounts are sometimes closed.

G 2. Reserve for Depreciation on Office Furniture and Fixtures.

G 3. Reserve for Depreciation on Machinery and Equipment.

G 4. Reserve for Depreciation on Buildings.

Separate depreciation reserve accounts should be carried for each of the principal classes of fixed assets subject to wear and tear upon which a different rate of depreciation applies. Accounts G 2, G 3 and G 4 are suggested, to which will be credited at the end of the fiscal period the estimated amount of depreciation on office furniture and equipment, machinery and equipment, and buildings, respectively. These accounts will be debited with the difference between the cost and the realized residual value of equipment, machinery or buildings destroyed or discarded. Adjustments of these accounts due to differences between estimated and actual depreciation will be carried to the Surplus account.

H 1. Capital Stock. All paid up shares of capital stock will be credited to this account, the credit balance at any time indicating the total amount of paid up capital stock outstanding. Shares

of stock subsequently redeemed and retired will be debited to this account at face value.

H 2. Surplus. The excess of the resources over the liabilities and capital stock outstanding at the time of opening the books will be credited to this account. At the end of the fiscal year, the net earnings, as shown by the excess of gains over expenses and losses, will be credited. The account will be debited if the result of the operations for the fiscal period is a net loss.

H 3. Profit and Loss. At the end of each fiscal year when the books are closed, a Profit and Loss account will be set up, to which will be closed the balances of all revenue and expense accounts. Gains, as indicated by credit balances in revenue accounts, will be credited to this account, and expense and losses will be debited. If the net balance of this account is a credit, a net gain has resulted, and if the balance is a debit, a net loss has resulted. The net balance will be disposed of as the board of directors may decide. The statutes⁽¹⁾ providing for the incorporation of cooperative associations prescribe that not less than ten per cent of the net profit shall first be set aside as surplus until an amount equal to thirty per cent of the paid in capital stock shall thus have been set aside. Not more than eight per cent may be paid on the capital stock outstanding, and the balance shall be distributed as a uniform dividend on the purchases and sales of members and wages of employes.

I 1. Selling Charges. To this account will be credited the amount retained as a charge for services rendered at the close of each pool, as shown by the total of the Selling Charges column under Local Charges on the Pool Sheet. The credit balance of this account will be closed to the Profit and Loss account at the end of

(1). Chapter 382, General Statutes, Laws of 1919.

the fiscal year.

I 2. Merchandise Sales. Sales accounts will be opened to correspond with the merchandise purchase accounts. They will be credited monthly with the sales as shown by the Sales Book and debited with any goods returned by customers. The credit balances, representing net sales, will be closed to the Merchandise Trading account.

I 3. Merchandise Trading Account. The purpose of this account is to relieve the Profit and Loss account of the details entering into the determination of the gross profit on merchandise handled. The net sales as shown by the Merchandise Sales account will be credited to this account and the cost of sales as shown by the Merchandise Purchases account will be debited. The balance will represent the gross profits earned on sales of supplies and other merchandise and will be closed to the Loss and Gain account at the end of the fiscal period.

I 4. Miscellaneous Produce Account. It will be desirable to carry miscellaneous produce purchased outright in a separate account in order that it might be ascertained whether or not this department is yielding sufficient revenue to at least make it self-supporting. As the inventoriable value of this class of produce on hand at any time is not likely to be significant and as returns are not likely to occur, a multiplicity of accounts will be avoided by carrying both the purchases and sales in one account. The purchases will be posted from the Miscellaneous Produce Purchase Record monthly and the sales from the Merchandise Sales Record.

I 5. Railroad Claims. When a claim is filed for losses which may occur while produce is in the carrier's hands, a memorandum of same will be made in the Claims Register. Amounts realized on claims will be credited to the Railroad Claims account. If the

amount recovered in connection with a claim on any particular shipment is large, it should be distributed to the growers who participated in the pool in which the shipment was included. The accumulation of small amounts recovered will be closed to Profit and Loss at the end of the year. (1)

J 1. Merchandise Purchases. An account will be opened with each principal class of merchandise handled. These accounts will be debited with the opening inventory and with the invoice cost of goods bought, plus freight and express charges. They will be credited with the cost value of any purchases returned and, at the end of the fiscal year, with the closing inventories. The debit balance will represent the net cost of goods sold and will be closed to the Merchandise Trading account.

J 2. Operating Expenses. In most cases it will be found advantageous to open separate accounts only for certain classes of expenses, and to assemble all other expenses on one ledger page ruled to provide several columns for the segregation of the principal classes of expense. Separate accounts should be opened with Labor, Sacks and Packages, and Car Linings. The other operating expenses may be assembled on a ledger page headed Sundry Operating Expenses, on which columns should be provided for Repairs, Depreciation on Machinery and Equipment, Depreciation on Buildings; Light,

(1). Another method of treating railroad claims is suggested in U. S. Department of Agriculture Bulletin No. 236, A System of Accounts for Farmers' Cooperative Elevators. According to this method, when a claim is filed an entry will be made debiting the railroad through a Claims account and crediting Loss and Recovery on Claims account. When a remittance is received in full or partial settlement, Claims account will be credited and Cash debited. In case of a partial settlement, the difference will be credited to Loss and Recovery on Claims account, the amount of the income from this source being measured by the balance of the latter account. Under this method, both accounts would appear in the balance sheet, Claims as a contingent asset and Loss and Recovery on Claims as an offset on the liability side of the balance sheet.

Heat and Power, and Miscellaneous Operating Expenses.

J 3. Administrative Expenses. What has been said in the first paragraph under J 2, applies in connection with the administrative expenses. Separate accounts should be opened with Salaries of Officers, Manager's Salary, Interest, and Printing and Stationery. The other sundry administrative expenses may be treated as has been suggested in connection with the sundry operating expenses. The Interest account will be a mixed revenue and expense account in that the interest earned will be debited and the interest paid credited to this account. All expenses will be closed to the Loss and Gain account at the end of the Fiscal period.

Operating The System

Receiving Records

A delivery ticket will be issued in duplicate for each lot of produce delivered, the original being given to the grower for his record and the carbon copy being retained for the office record.

The tickets representing each day's deliveries will be entered consecutively in the Delivery Ticket Register, and a distribution of the produce represented by the tickets made by bins or by car numbers, or, preferably, by varieties and grades. The Delivery Ticket Register should be footed daily and deductions made for potatoes shipped. The balances will indicate the quantity of each variety and grade of potatoes on hand at the close of each day.

If the grower desires to store his potatoes, a storage ticket will be issued in duplicate upon surrender of the delivery tickets. As little storing will ordinarily be done, it is not deemed necessary to maintain a register of the storage tickets. The carbon copies should be placed in consecutive order in a file labeled "Storage Tickets Outstanding", and as the potatoes represented by them are ordered sold, the tickets will be transferred to a second file labeled, "Storage Tickets Cancelled". The cancelled original and the signed selling order should be filed with the office copy.

If an advance is requested, in case of produce to be pooled, an advance check will be issued for a conservative proportion of the market value of the produce. The delivery ticket numbers upon which the advance was made will be entered on the advance check. These checks will be entered consecutively in the Advance Check Register, which will be footed daily and the total entered in the Cash Disbursements Book, crediting Bank account and debiting Ad-

vances to Growers account.

Produce not left for storage will be sold and settled for in the order in which deliveries were made.

Shipment Records

When a car is loaded and ready for shipment, the information called for on the Car Record Envelope will be supplied in so far as available at this time. Each car shipped will be assigned a consecutive lot number, which number will be entered on the upper, right-hand corner of the envelope.

The information called for by the Register of Cars Shipped will also be supplied, in so far as available at this time. This record is a memorandum record and will be used only by associations doing a large volume of business, in which case the general information on the Car Record Envelopes regarding cars shipped will thus be made available for more convenient reference.

If a draft is drawn, this will be entered in the Cash Receipts Book, giving the date, name of firm on which drawn, the lot and car numbers, and entering the amount in the Produce Sales - Advances column.

When returns are received, the amount of the check will be entered in the Cash Receipts Book under Produce Sales-Balance for Shipments and the remainder of the information called for on the Car Record Envelope and the Register of Cars Shipped will be entered. Into the envelope will be placed any selling orders issued by growers covering produce included in the shipment, a carbon copy of the bill of lading, the invoice, if any, a carbon copy of the draft, the account sales rendered by the sales agency, and any other papers and correspondence relating to the shipment. Information regarding claims filed in connection with any car will also be noted on the envelope. After the car and lot numbers have been entered in the

Car Index, the envelopes will be filed consecutively by lot number.

A summary of the information regarding each claim filed will be made in the Claims Register, where each claim will be assigned a serial number. When remittances are received in settlement of claims, Cash will be debited and Railroad Claims account credited through the Cash Receipts Book. A memorandum of the date and amount of remittance will be made in the Claims Register. The status of claims filed will then be apparent at a glance by reference to this register.

Settlement Records

Determining the Average Price. The first step necessary in making settlement with growers for produce shipped is to determine the average price which can be paid based on the sales made during a given pool period. The information regarding each car sold called for on the Pool Sheet will be obtained from the Car Record Envelope. Deductions to be made for sacks or other packages and other expenses chargeable to the shipment and for the selling commission will be entered in the columns provided therefor. The difference between the net returns and the deductions will be entered under Net Amount for Distribution. All shipments belonging to each pool will be treated similarly, after which the different columns will be footed. The average price will be determined by dividing the total net returns by the number of hundred-weight of produce included in the pool. Care should be taken to see that all prepaid charges, if any, are deducted and that the net proceeds received are used as the basis in determining the average price. (1) The

(1). The pool price may be a gross price to growers (which will be the case under the procedure described) or a net price; that is, a price calculated after all deductions for expenses and selling charges have been made. Although the latter method satisfies all accounting requirements and involves a smaller number of calculations the members of a cooperative association will favor the former method

per hundred-weight charges for expenses will be calculated similarly.⁽¹⁾

Calculating the Amount Due Each Grower. On the Pool Settlement Sheet, opposite each grower's name, will be entered the number of packages and the pounds of produce sold for him. In the following column will be entered the value of the produce on the basis of the average price determined on the Pool Sheet. Deductions for expenses will be entered in the columns provided for that purpose under Local Charges. Any advances made will be posted to the Pool Settlement Sheet from the Advance Check Register, the Pool number to which posted being noted on the Advance Check Register. The amounts to be applied on account will be obtained from the Growers' Ledger, which will be credited as the items are entered on the Pool Settlement Sheet. Under Final Balance will be entered the amount of the balance due the grower, for which a check will be issued.

After the calculations have thus been made for each grower, the accuracy of the work will be tested by comparing the total of the Value at Pool Price column with the sum of the totals of the Local Charges, Advances, Applied on Account and Final Balance columns; the sum of the latter columns must equal the sum of the Value at Pool Price column.

as it gives them a full accounting of the total proceeds actually received by the association. Furthermore, the members will receive information of considerable educational value regarding the costs of marketing their produce.

(1). Separate pools will be compiled for each kind and grade of produce. However, all pools relating to a given period of time will bear the same numerical designation, but in addition each will be given a distinguishing letter; for instance, all pools covering the period from December 16 to 21, inclusive, may be numbered 10, in which the potato pool would be 10-A, the rutabaga pool, 10-B, etc.

The totals of the last three columns on the Pool Settlement Sheet will be entered in the columns provided for this purpose under Recapitulation of Settlement on the Pool Sheet.

Issuing Growers' Statements and Checks. Statements and checks will then be issued in duplicate on Form No. 7, on which will be given the data as indicated by the form. As each statement is issued, the number of the check attached to the statement will be entered on the Pool Settlement Sheet under Check Number. The checks will be numbered consecutively, which numbers will correspond with the numbers of the statements to which they apply. The carbon copies of these vouchers will be filed according to growers' names for convenient reference at the end of the year in connection with the distribution of patronage dividends.

The Financial Entry For the Settlement. In order that the settlements for all pools may appear in the financial records, the Pool Sheet will be footed at the end of each month and an entry made in the General Journal crediting Sacks and Packages, Car Linings, Selling Charges, Advances to Growers, and Accounts Receivable-Growers accounts with the totals of the corresponding columns on the Pool Sheet, and debiting Produce Sales account with the total of these sundry credits. The debit for the checks issued in final settlement will be posted from the Cash Disbursements Book.

Miscellaneous Produce Purchases and Sales

Most associations aim to market any miscellaneous produce in addition to potatoes which their members may have for sale. Such produce ordinarily constitutes a minor part of the total produce handled and is usually purchased outright.

Beans, field peas, onions, carrots, hides, seeds, eggs, poultry, rutabagas and grain are often handled in this way. Some of this

produce is sold locally and the remainder is either sold to dealers or consigned.

The Produce Purchase Record is provided for recording all purchases of miscellaneous produce from members. The Amount of Check column on this form should be footed daily and the total credited to the Bank account and debited to Miscellaneous Produce account through the Cash Disbursements Book. The debit to Miscellaneous Produce, however, will not be posted from the Cash Disbursements Book, but from the Produce Purchase Record at the end of each month. Special quantity and amount columns may be provided for the more important items, the minor items being assembled under Sundry Produce. These columns should be totaled at the end of each month and posted to one or more produce accounts, depending upon the extent to which it is desired to classify the produce. The grand total of all produce should be reconciled with the total of the Amount of Check column before posting. The detailed information made available by this record will also be found useful in compiling reports.

Local sales of miscellaneous produce will be recorded in the Merchandise Sales Book, columns being captioned as needed for this purpose. Sales of produce shipped or consigned will be recorded in the Cash Receipts Book, Miscellaneous Produce account, or appropriate sundry accounts being credited through the Sundry Credits column. A separate column for these credits may be provided in the Cash Receipts Book if the volume of this business warrants it.

Merchandise and Supplies Purchases and Sales

Nearly all produce associations purchase some merchandise and supplies for their members. Purchases of such commodities will be recorded in the General Journal if purchased on terms and in the Cash Disbursements Book if purchased for cash. Sales will be re-

corded in the Merchandise Sales Book. (See description of Merchandise Purchase and Merchandise Sales accounts, pp. 32 and 33).

The Financial Records

The financial records consist of the Cash Receipts Book, Cash Disbursements Book, Miscellaneous Produce Purchases Record, Merchandise Sales Book, General Journal and the General Ledger. These records have already been described and their purpose and method of operation explained in the foregoing discussion on operating the system. A further word in connection with the Cash Receipts and Cash Disbursements Books, however, will be helpful in tracing the course of transactions to the ledger accounts.

The Cash Receipts Book. All receipts of cash will be recorded in the Cash Receipts Book, giving a description of each transaction and indicating the source of the income. Deposits should be made daily of all receipts, which will make it possible to identify each deposit with the particular items of receipts included.

At the end of each month the book should be footed and the total deposits reconciled with the sum of the distribution columns. The totals of the following columns will be posted to the credit of their respective ledger accounts: Produce Sales (Advances and Balance on Shipments), Accounts Receivable-Growers, Merchandise Sales, Miscellaneous Produce Sales. The items in the Accounts Receivable-Growers, General Accounts Receivable and Sundry Accounts columns will be posted in detail to the accounts indicated under Explanation of Transaction. The Bank account will be debited with the total of the Bank Deposits column.

The Cash Disbursements Book. The same general principals apply to the Cash Disbursements Book as to the Cash Receipts Book. All disbursements will be recorded in this book and a distribution of the disbursements made as indicated by the Special column. Items

for which no special columns are provided will be entered in the Sundry Accounts column. The book will be footed on dates to correspond with those on which the Cash Receipts Book is footed. The total of the Bank Withdrawals column should agree with the sum of the totals of the distribution columns.

The total of the Bank Withdrawals column will be credited to the Bank account in the General Ledger, and the totals of the Advances to Growers, Produce Sales and Merchandise Purchases columns will be debited to their respective accounts. The items in the General Expenses and Sundry Accounts columns will be posted in detail to the debit of individual accounts as indicated under Explanation of Transaction.

Periodical Tests, Reconciliations and Reports

In order that proper control might be maintained of the records, certain tests and reconciliations should be made periodically. These are usually made monthly or more frequently and consist of a trial balance, a reconciliation of the Bank account with the bank statement, and reconciliation of the controlling accounts in the General Ledger (Advance to Growers, Accounts Receivable-Growers and General Accounts Receivable) with the balances of their respective subsidiary records or special ledgers. Most associations, also, have auditing committees whose duty it is to examine the records several times during the year. The board of directors should require periodical reports from the manager which should contain statistical information regarding the operations, financial data and a discussion of matters of special interest and which may involve questions of policy regarding the operations of the business which require the attention of the board.

The Annual Audit and Report

At the end of each fiscal year, the books should be examined

by a competent, disinterested accountant. His report should be made a part of the annual report. This report will consist of a Statement of Resources and Liabilities, a Profit and Loss Statement, a detailed Statement of Expenses and such statistical data as may be of interest.

Suggestive forms for a Statement of Resources and Liabilities and a Profit and Loss Statement are given herewith:

R E S O U R C E S

<u>Current Assets:</u>	Current Year	Last Year
Petty Cash	xxx	xxx
Cash in Bank	xxx	xxx
Notes Receivable	xxx	xxx
Less Notes Receivable Discounted	<u>xxx</u>	<u>xxx</u>
Accounts Receivable-Growers	xxx	xxx
General Accounts Receivable	xxx	xxx
Less Reserve for Doubtful Accounts	<u>xxx</u>	<u>xxx</u>
Merchandise Inventory	<u>xxx</u>	<u>xxx</u>
Total	<u>xxx</u>	<u>xxx</u>
 <u>Accrued Assets:</u>		
Interest-Notes Receivable	xxx	xxx
Storage	<u>xxx</u>	<u>xxx</u>
Total	<u>xxx</u>	<u>xxx</u>
 <u>Fixed Assets:</u>		
Office Furniture and Fixtures	xxx	xxx
Less Reserve for Depreciation	<u>xxx</u>	<u>xxx</u>
Machinery and Equipment	xxx	xxx
Less Reserve for Depreciation	<u>xxx</u>	<u>xxx</u>
Buildings	xxx	xxx
Less Reserve for Depreciation	<u>xxx</u>	<u>xxx</u>
Land	<u>xxx</u>	<u>xxx</u>
Total	<u>xxx</u>	<u>xxx</u>
 <u>Deferred Charges:</u>		
Prepaid Insurance	xxx	xxx
Printing and Stationery	<u>xxx</u>	<u>xxx</u>
Total	<u>xxx</u>	<u>xxx</u>
 Total Resources	<u>xxxxx</u>	<u>xxxxx</u>

PROFIT AND LOSS STATEMENT

For Fiscal Year Ending _____ 192__

Income:

Merchandise Sales	xxx	xxx	
Cost of Merchandise Sold	<u>xxx</u>	<u>xxx</u>	
Gross Profit on Merchandise Sales		xxx	xxx
Miscellaneous Produce Sales	xxx	xxx	
Cost of Produce Sold	<u>xxx</u>	<u>xxx</u>	
Gross Profit on Miscellaneous Produce Sales		xxx	xxx
Selling Charges	xxx		xxx
Railroad Claims	<u>xxx</u>		<u>xxx</u>
Total Gross Income		<u>xxx</u>	<u>xxx</u>

Operating Expenses:

Labor	xxx	xxx	
Sacks and Packages	xxx	xxx	
Car Linings	xxx	xxx	
Repairs	xxx	xxx	
Depreciation on Machinery & Equipment	xxx	xxx	
Depreciation on Buildings	xxx	xxx	
Light, Heat and Power	xxx	xxx	
Miscellaneous	<u>xxx</u>	<u>xxx</u>	
Total Operating Expenses		<u>xxx</u>	<u>xxx</u>

Administrative Expenses:

Salaries of Officers	xxx	xxx	
Manager's Salary	xxx	xxx	
Printing and Stationery	xxx	xxx	
Telegraph, Telephone & Postage	xxx	xxx	
Sundry Office Expenses & Supplies	xxx	xxx	
Taxes	xxx	xxx	
Insurance	xxx	xxx	
Interest	xxx	xxx	
Bad Debts	xxx	xxx	
Depreciation on Office Furniture & Fixtures	xxx	xxx	
Miscellaneous	<u>xxx</u>	<u>xxx</u>	
Total Administrative Expenses		<u>xxx</u>	<u>xxx</u>
 Total Expenses		<u>xxx</u>	<u>xxx</u>
 NET PROFIT		<u>xxxxx</u>	<u>xxxxx</u>

Office Organization and Equipment

No discussion of an accounting system can be complete which does not take into consideration the office organization and equipment. The following extracts from the U. S. Department of Agriculture Bulletin No. 178, "Cooperative Organization Business Methods", are to the point in this connection:

"The fact must be kept in mind that business systems do not consist entirely of forms. The most perfect set of forms ever drawn is worthless without the organized effort to use them properly.

"System is organized effort, and every business must be conducted under some sort of prearranged plan, so that there is unity of effort, making each pound of effort expended, further the objects of the organization's existence." (1)

"There is often a mistaken idea of economy in regard to any expenditure for the installation of an up-to-date accounting system, the employment of competent help, and the introduction of various labor-saving devices. The cost of an adding machine or calculating machine may seem large, but may save its original cost by the elimination of extra help during the first year, providing the volume of business is sufficient to make its use economical. Columnar development, loose-leaf systems, card systems, the carbon copy, have all lessened the routine of the bookkeeper and made modern bookkeeping both possible and economical." (2)

"The office of every cooperative organization must be modeled according to the prevailing conditions of the business, and it is necessary to place the office work in charge of a person fully competent and trained to cope with these conditions, thus relieving the general manager of the necessity of handling details.

"The time of the general manager is valuable to the business in outlining the large matters of policy and directing all the forces that make for a larger and better concern. He should not be expected to give time to office details when the volume of business is sufficiently large to require as his right-hand man an efficient office manager, one who can successfully carry on the work connected with the records.

"The office manager should be an accountant, and it is preferable that he be thoroughly familiar with the type of the organization the office of which he is to direct. This knowledge is the first essential toward making it possible for him to direct others, to give them

(1) Page 2. (2) Page 5.

an understanding of the organization's business policies, and to keep the office force in harmony with these policies. In the smaller organizations the entire force consists of but one man. Here, as well as in the larger organizations, knowledge of accounting and of the business principles involved in the particular type of cooperative organization are essential, as the manager in these cases must perform all the accounting duties in addition to those of the general manager. The office manager of the small organization is relatively just as important a personage in helping to promote or defeat the objects of the cooperative scheme as is the office manager of the largest organization.

"The office manager should keep in touch with other organizations and with the progress, development, and improvements in existing practices of cooperative organizations generally, thereby being in a position to take advantage of anything that will be of benefit to the office." (1)

"As the business of most cooperative organizations is, in a way, not continuous, but goes by seasons, the usual procedure is to file all records at the end of the season. Too often no provision is made for storing these files in such a way that they are readily accessible for reference.

"Matters of importance other than the regular financial transactions of the business should be carefully recorded so that they will not be overlooked. Papers pertaining to claims against railroads and express companies are often placed in the regular correspondence files and are lost sight of through a change in management or clerical force. Accounts which have proven uncollectible for the time being, and have been thrown into the "profit and loss" account, are also apt to be entirely forgotten when opportunities for collecting them are presented several seasons later. Such matters should be carried in auxiliary records in small bound books or card systems, so that instant reference is afforded." (2)

(1) Pages 5-6. (2) Page 10.

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The following list of books and bulletins does not purport to be a complete bibliography but gives the principal sources of information drawn upon in connection with the preparation of this thesis.

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Federal Trade Commission, A System of Accounts for Retail Merchants, July 15, 1916, Government Printing Office, Washington, D. C.

Bureau of Business Research, Harvard University:

Bulletin No. 2 Harvard System of Accounts for Shoe Retailers.

Bulletin No. 3 Harvard System of Accounts for Retail Grocers.

Bulletin No. 5 Expenses in Operating Retail Grocery Stores.

Bulletin No. 7 Harvard System of Stock Keeping for Shoe Retailers.

Reference material relating to the general field of cooperative purchasing and marketing is not here included. An extensive list of such publications is given in U. S. Department of Agriculture Bulletin No. 547, pp. 78-82.

In addition to the above, considerable unpublished material was also drawn upon.

Outline of Study of
Cooperative Potato Marketing Associations in Minnesota

I. General:

- A. Number of organizations, geographical distribution.
- B. Relation of distribution of associations to surplus potato producing area.
- C. Dates of organization and reorganizations.
- D. Brief history of movement.
- E. Circumstances leading to organization.
- F. Commodities handles.

II. Corporate Organization:

- A. Organized under Cooperative or general corporation law.
- B. Cooperative features.
- C. Officers and terms of office, duties.
- D. Committee, duties.
- E. Number of members.
- F. Conditions of membership.
- G. Holding of stock.
- H. Affiliations or nature of outside control.

III. Operating Organization:

- A. Line or responsibility.
 - 1. Board of managers.
 - 2. Manager.
 - 3. Department heads.
- B. Functional organization.
 - 1. Selling.
 - 2. Buying.
 - 3. Office organization.
 - a. Bookkeeper..
 - b. Cashier.
 - c. Stenographer and secretarial.
- C. Definiteness of responsibility.

IV. Finances:

- A. Capital stock.
 - 1. Authorized, subscribed, paid in.
 - 2. Par value; number per member; how transferred.
 - 3. How paid.
- B. Appropriation of earnings.
 - 1. Stock dividends.
 - a. Rate; cumulative or not; limited dividend.
 - 2. Patronage dividends.
 - a. Provisions for payment.
 - b. Rate, and limitations.
 - c. Members vs. non-members.
 - d. Method of payment.
 - 3. Reserves.
 - a. Depreciation
 - b. For liquidating indebtedness.
 - c. Expansion and improvements
 - 4. To surplus

C. Credit.

1. Borrowed capital.
 - a. From banks
 - (1). Amount, rate of interest.
 - (2). Maturity.
 - (3). Difficulties involves.
 - (4). Secutiry.
 - b. From other sources.

Ditto a - 1,2,3,4.
2. Other methods of financing operations.
 - a. Sight draft attached to bills of lading.
 - b. Commissions, fees, etc.
 - c. Pooling of products.
3. Credit retail sales.

V. Commercial Relations:

A. With growers.

1. Responsibility of growers.
 - a. Growers' contracts.
 - b. Standardization and grading.
 - c. Cultural methods.
 - d. Varieties.
 - e. Time and method of delivery.
2. Methods of payment for produce.
 - a. Direct purchase.
 - b. Pooling.
 - (1) Frequency.
 - (2) Methods of prorating.
 - (a) Gross returns among varieties and grades
 - (b) Expenses.
 - (c) Other charges.
 - (3) Deductions and charges.
 - (a) Expenses.
 - (b) Applied on notes, etc.
 - (c) Carried to reserves.
3. Storing arrangements.
 - a. Time.
 - b. Rate.
 - c. Shrinkage.

B. With wholesale trade.

1. Selection of markets.
2. Trade connections, how made.
3. Terminal market business practices.
 - a. Methods of sale.
 - b. Terms and conditions.
 - c. Commissions and charges.
 - d. Forms of account sales.
 - e. Remitting for shipments.
 - (1) Methods.
 - (2) Interest on balances.
 - (3) Attitude toward S.D/B.L.
 - f. Disputes regarding
 - (1) Charges.
 - (2) Condition of produce.
 - (3) Losses, damage, etc.

- C. Transportation companies.
 - 1. Freight and switching rates.
 - 2. Reconsignments.
 - 3. Furnishing cars.
 - 4. Warehouse sites and trackage.

VI. Accounting and Business Methods:

- A. Accounting system.
 - 1. Types.
 - 2. Difficulties.
- B. Labor saving devices.
 - 1. Duplicate copy forms.
 - 2. Duplicating ledger statements.
 - 3. Mechanical contrivances.
 - 4. Loose leaf and card systems.
- C. Cost records.
- D. Accounting practices regarding:
 - 1. Balancing of books.
 - 2. Safeguarding cash.
 - 3. Bank reconciliations.
 - 4. Preparation of statements, reports, trial balances, etc.
 - 5. Reserves.
 - 6. Patronage records.
- E. Office equipment and filing appliances.
- F. Business and corporate forms.
 - 1. Constitution and by-laws, stock certificate, secretary's record.
 - 2. Subscription agreement.
 - 3. Growers' contracts, membership certificate.
 - 4. Membership register.
 - 5. Receiving records.
 - 6. Sales records.
 - 7. Settlement records.
 - 8. Ledgers and business summaries.
- G. Auditing and reports.
 - 1. Audits.
 - a. Frequency, nature of.
 - b. By whom performed, and cost.
 - 2. Reports.
 - a. Managers'
 - (1) Daily, monthly, annual.
 - b. Other reports.

VII. Business Statistics:

- A. Volume of business, subdivided.
- B. Expenses, salaries (classified).
- C. Financial standing.

VIII. Historical:

- A. Circumstances leading to organization.
- B. Brief outline of experiences.
- C. Difficulties encountered and how met.
- D. Prospects for future.

IX. Plant:

A. Buildings.

1. Size.
2. Construction.
3. Capacity, number of bins, arrangement.
4. Cost.

B. Machinery.

1. Items of equipment.
2. Original cost and upkeep.
3. Etc.

Form No. 1

DELIVERY TICKET NO. _____	
BLANK COOPERATIVE COMPANY	
Name _____ 192 _____	
Unloaded in Bin _____ Car _____	Scale Record
Kind of Produce _____	Gross _____ Lbs.
Grade (No. 1 _____ Pounds	Tare _____ Lbs.
(No. 2 _____ Pounds	Net _____ Lbs.
Delivered by _____ Advance Check No. _____ \$ _____	
Driver (On _____	Weighed by _____
(Off _____	

Form No. 13.

GROWER'S SELLING ORDER	
Blank Cooperative Company,	No. _____
Blank, Minnesota,	_____ 192 _____
I hereby order you to sell for my account	
_____ Signed _____	

Form No. 7.

BLANK COOPERATIVE COMPANY

NO. _____

Blank, Minnesota, _____ 192_____

PAY TO THE
Order of _____

_____ DOLLARS

(Bank) _____

BLANK COOPERATIVE COMPANY

By _____
Manager

(Detach Before Depositing)

GROWER'S NO. _____ POOL NO. _____ STATEMENT NO. _____

Kind of Produce	Pounds	Price	Amount	Total

EXPENSES

Sacks	Other Chgs.	Selling Ch- arges	Total

Net Amount \$.....

Applied on Account \$ _____ Advances \$ _____ \$ _____

Check No. _____ for balance due \$ _____

C L A I M S R E G I S T E R

Form No. 15.

OUR NO.	THEIR NO.	TRANSPORTATION COMPANY	DATE	AMOUNT OF CLAIM	DATE SETTLED	AMOUNT RECEIVED	REMARKS

A D V A N C E C H E C K R E G I S T E R

Form No. 21.

DATE	ISSUED TO	CK. NO.	AMOUNT	DELIVERY TICKET NOS.	POOL NO. IN WHICH DEDUCTED

Form No. 20.

STORAGE TICKET
BLANK COOPERATIVE COMPANY
BLANK, MINNESOTA

NO. _____

_____ 192

Scale Ticket	Gross	Tare	Net

Received of _____
 _____ pounds (Variety) potatoes
 grade _____, which amount, variety
 and grade of potatoes will be delivered
 to the holder of this receipt, or his
 order, upon surrender thereof, subject
 to the conditions and charges stated on
 the back of this receipt.

BLANK COOPERATIVE COMPANY
 By _____
 Manager