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Farm Accounting

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FARM ACCOUNTING

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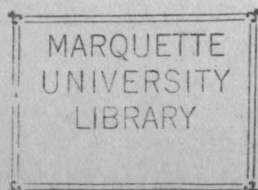
A thesis submitted to fulfill the requirements
for the degree of Bachelor of Science of Commerce.

-----College of Business Administration-----

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FARM ACCOUNTING

From the literature on the subject nearly all of which has been published during the last five or six years, one might be led to believe that there was something strange and uncommon about keeping records of business transactions on the farm. In the last several years, many record books and bulletin on farm book-keeping and farm costs have been published. With very few exceptions these bulletins deal with the subject from a purely statistical point of view, without involving principles of double entry book-keeping or the fundamentals of accounting theory. Very often they fail to provide for proper correlation and interpretation of results after they are obtained. These bulletins have proved to be of considerable value, however, in creating a desire on the part of the farmer for a better knowledge concerning his financial condition and program.

Perhaps the reason the subject is considered in the bulletins from the statistical view point only is found in the fact that double entry book-keeping has been treated so often in the past as a weird and difficult subject unrelated to anything else, requiring familiarity with a great many rules and the use of a great amount of time to operate. Naturally this would not appeal to the farmer returning from a hard day's work.

It is quite common for a farmer to say that he has no use or time for keeping accounts. As economic conditions are causing more intensive farming, higher land values and higher rents, it will not be possible much longer to farm in the extensive fashion that has characterized the United States farming in the past. It will become necessary to plant those crops, or raise those animals, or use such fertilizer or rotation of crops as prove most valuable under the condition. A knowledge of what pays best can be most accurately determined by keeping proper accounts.

The changing economic conditions are very well illustrated in a quotation from, "1".

"Agriculture has passed through two stages of development and is now entering the third." The first stage was called the self sufficing system. Each family produced enough to keep itself until the next harvest."

"The second stage was called the money making stage. It arose about the time of the Civil War, when some states became wealthy from the production of wheat. The Western States created wealthy farmers who bought land for \$1 or \$2 an acre, and robbed the soil of its elements to make money. This land is now worth from \$100 to \$250 per acre. This exhaustive money making period caused the rise of the third period.

This stage is called the scientific stage. It is

scientific as to the feeding of animals, fertilizing, dairying, sanitation, marketing, management, organization, etc. Chemistry was the first science to come to the aid of Agriculture: Economics is the latest."

Now, however, when the public domain is practically exhausted, competition for land will raise its price, food values must go up, for the farmer must realize income on his capital as well as on labor, and his business is gradually assuming the form of other capital industries."

THE INVENTORIES

One of the most important elements in determining the resources or the loss or gain of a farm is the inventory. An inventory is not the name of an amount as used in farm accounting. It affects a great number of accounts however. Primarily an Inventory is a list of commodities in one's possession at a given time, together with the quantity and value of each. As ordinarily used in connection with accounts, inventory refers only to the total value of a given class of property. For instance the crop account is debited with the inventory at the beginning of the year.

It is only through the inventory enteries that the natural increase in live stock is recorded. It is not practical to record values for young livestock from time to time in the way the merchant records values for merchandise bought. Such values are reflected in the books annually at the time of recording the inventory. Thus the young animals during a given year has its effect on the loss and gain account and upon the specific livestock account in the inventory entry or in the entry for sales.

The physical inventory (process of counting & valuing) is taken and recorded on sheets of paper or in a

(1) Dean Eugene Davenport of the College of Agriculture of the University of Illinois, part of which preceded in previous material.

permanent book at the close of the fiscal period. This is about Feb. 29, in the Middle west, March 31, in some other localities, and December 31 in some specific types of Agriculture, especially orchards and nurseries. However under the new Income Tax regulations it is more convenient to have the fiscal year coincide with the calendar year. It is a very good plan to record inventories in comparative form, having the names of the items written on the left side of the page, reserving the space to the right for several money columns, for for each year. In this way one has the figures for about five years at a time to compare, which comparison serves as quite a valuable source of information.

Another good feature of the inventory record in permanent or comparative form is that it presents a good exercise for "calling in" tools that have been loaned. It serves much the same purpose as the merchants appeal to his customers to please remitt so we can close our books for the year: If the customer does not remitt the merchant closes his books anyway. If the tool is not returned it is counted in any way. In either case, the pretension of an exercise often does much good and usually does no harm.

The relation between the figures in this comparative inventory and the ledger account in the essential point in the record. The physical inventory is taken in order to derive figures to use in the accounts.

DEPRECIATION

Depreciation is a decrease in the value of property. The term is used on the farm in connection with buildings and equipment. Other possessions are not considered as depreciating to the extent that special accounting recognition must be taken of them. Hay may be depreciated in a stack or corn in a crib under certain conditions, but such depreciation is taken care of in the annual inventory. Taking an inventory then, is one way of providing for depreciation. It is known as the "Revaluation" method of calculating the amount of Depreciation. There are two main points to consider in depreciation, (a) the calculation of the amount of wear and tear expressed in dollars and cents and (b) the recording of the amount so calculated in the books.

In the case of buildings and equipment it is more difficult and unsatisfactory to calculate depreciation according to the revaluation method, so the percentage method is used. There are several ways of calculating depreciation by percentage. The most common is called the "straight line" method, in which the anticipated number of years of life of the asset is divided into the original cost in order to find the amount of depreciation for each year.

A method similiar to the straight line method, which is used very practically and sufficiently accurate for four purposes, is an unscientific modification of the "diminishing value" method. As practised on the farm, it consists in calculating a certain percentage of the book value at the close of each year. This method never reduces the book value to zero, which is one element in its favor as far as farm use is concerned.

Under the "diminishing value" method as practiced on the farm, if the Equipment account has a balance of \$1000 at the beginning of the year and 10% is considered as a reasonable rate of depreciation, the entry at the close of the year is the debit Equipment and Expense and a credit to Equipment of \$100. This would leave a balance of \$900 in the Quipment account at the beginning of the second year. At the end of the second year, the entry would be for \$90, (10% of 900). At the end of the third year it would be for 81 (10% of 810). If at the beginning of the third year \$50 worth of new machinery is purchased, the depreciation calculated at the close of the year is 10% of \$860 or \$86.

The effects of the entries for depreciation as stated above is to decrease the profits of each year and decrease the value of the resource depreciated.

The profits are decreased because the annual charge to Equipment Expense account represents the wear and tear on the equipment for the year.

The rate of 10% as used in the preceding example is a conservative and practical rate to use in calculating depreciation on farm equipment, under the diminishing value method. A given rate used under this method results in a less annual amount of depreciation than the same rate under the straight line method. The principle point to remember in the comparison of the results of the two methods of calculation depreciation, is that a given rate of depreciation does not always mean the same thing. Some might say, for example, that 10% is too high a rate for all equipment, having in mind that it charges off all of the value of the assets in ten years. Others might say that 10% is too low a rate, having in mind that even with a period of twenty years the asset is not entirely charged off.

In the case of farm equipment, 10% under the "diminishing value" method represents the condition better and simplifies it better than with any other method or rate. The rate is easy to use in calculating, and the results interpret very closely the actual wear and tear on equipment in general. Depreciation is greater in the early years, and less in the later years of a

machines life. Under this plan it is considered that new equipment is purchased from time to time before all of the old equipment becomes absolutely worthless. This fact tends to equalize the depreciation from year to year, while allowing for a conservative life of the various units, of equipment.

The general principle governing the calculation of depreciation in equipment apply in the case of depreciation on buildings. A rate of 5% on the diminishing value method is conservative for the average farm buildings. The annual entry for building depreciation is a Debit to building Expense account and a credit to Building.

Other methods of calculation depreciation are not considered practical enough for farm use and for that reason are not given any consideration.

An account for Reserve for Depreciation is used in commercial accounting to which is credited the depreciation instead of crediting the property account direct. The statement of resources and liabilities is then prepared in such a way as to show the resulting value of the properties exactly as is shown in the ledger accounts under the method presented.

It is not considered necessary to discuss why depreciation is an element of expense. Not many years ago accountants had great difficulty in impressing upon judges, lawyers, and business men in general the fact that depreciation was an expense. At present however, the business world is generally coming to recognize the fact that a deterioration of capital requires an entry on the books in order to show the true conditions. A decrease in Capital requires a corresponding debit to loss or Gain account or some other nominal account, which is really a subdivision of the Capital account itself.

LEDGER AND BOOK OF ORIGINAL ENTRY

The ledger can be used as the only book of record for a business, however in commercial book-keeping it is not the practice to use it as the only book of record. In farm accounting precedent does not influence it's use in any way, but other factors render it more desirable to use other books in connection with it.

In commercial book-keeping there are five reasons for using other books, known as books of original entry, in which debits and credits are expressed before transferring them to the ledger accounts. It should be remembered, however, that these books of original entry do not alter the main usefulness of the ledger in any way. Even with the use of the books of original entry the ledger accounts receive all of the debits and credits ultimately, and hold them in permanent form for use later.

Summary of the five reasons for the use of "Books of Original Entry with Ledger":

1. To supply a chronological list of business transactions. (Occasions arise in which it is desirable to know in what order transaction occurred.)
2. To present in one place in compact form both the debits and credits involved in a transaction and some explanation concerning it.

3. To permit of division of labor, when transactions are numerous.
4. To assist in the prevention of errors, or in their discovery.
5. To reduce the amount of detail recorded in the ledger, and thus make it a more compact and permanent record without destroying its usefulness.

With the exception of the third, that of division of labor, the reasons given above would apply to farm accounting as well as to commercial accounting. Therefore, the use of books of original entry is advantageous on the farms, if the proper book or books can be selected. Such books should satisfy the conditions mentioned above without requiring any more work than would be encountered in using the ledger.

Books of original entry are used for the purpose of expressing debits and credits as transactions arise. The actual debit or credit to the account does not occur until the debit or credit is transferred to the ledger account. The process of transferring debits and credits from the book of original entry to the ledger accounts is called Posting. Posting might refer to the transfer of one express debit or credit at a time, or it might

refer to the transfer of a total obtained in a book of original entry having special columns.

It follows that if a ledger is to get its data second hand, so to speak, the books of original entry should show at least as much information concerning the transaction as would be shown in the ledger when it is used alone. All books of original entry are designed as to show this much, and most them show more.

Books of Original Entry

1. Journal
2. Cash Book
3. Sales Book
4. Purchase Book.

If only one book of original entry is used in connection with the ledger the Journal is the only book that will satisfy the requirements. The debit and credit of any transaction can be expressed in the simple Journal or in the Cash Journal. This is not true of any other book of original entry. The simple Journal is so arranged that each debit and credit must be posted as separate items to the ledger accounts. With its use, the ledger accounts contain exactly the same number of items that they do when the ledger is used alone.

The simple cash book usually is so arranged that both the left and right hand pages are in use at the same time, the left one for cash received and the right one for cash paid out. On the left hand side are entered in chronological order all amounts of cash received and on the right side all amounts of cash paid out. Cash includes all curving coin, checks, drafts, and money orders, but not promissary notes. The cash book cannot be used as the only book of original entry unless all transaction are cash.

C O N C L U S I O N

The benefits of a proper study and interpretation of farm records is very nicely summarized by Mr. El L. Curreir, in "A careful study should be made of each account and of the business as a whole in order to learn how to improve it. Farm accounts as stated before, are of little value unless they teach how to organize the business so that greater profits will result. The outcome of a year's record-keeping often furnish many surprises. Frequently some enterprise that was looked upon as a mainstay of the business returns a loss, while some more common enterprise to which less attention was given is the source of the real profit. Caution, of course must be exercised in interpreting results, It must be borne in mind that the figures are for one year only, and that weather, crop and market conditions may not all have been normal. The normal cost and the normal value of the product must be kept foremost in mind, and if the average market price for a number of years is not above the normal cost of production the enterprise should be discontinued."

"Montana Agriculture College, Circular # 43

Besides the satisfaction in knowing the cost and profit from each enterprise, the records are valuable in other ways. They may be used to study the seasonable distribution of labor as a whole and on separate enterprises. By keeping such records one is sure to gain a better idea of the value of labor. He sees that it is just as important to save an hour's work by a man and team on an acre of oats as it is to get a yield of an extra bushel per acre, and that it is more wasteful to have a team idle than to have a man idle for the same length of time.

Another very important reason for keeping an accurate record of the farm accounts is to enable the farmer to fill out his income tax return properly. To do this, does not mean that an elaborate set of accounts must be kept, in fact the average farmer gets along very nicely with the more simple system, as outlined in the previous chapter.

As the farm industry progresses there is an every increasing need for Farm Accounting and it is very probable that in the near future the accounting system on the farm will rank with those of other business enterprises.

E-I-B-L-I-O-G-R-A-P-H-Y

1. Farm Management--Richard L. Adams.
2. The Farmer and His Farm--Frank App.
3. Book-keeping for Farmers--T. C. Atkison.
4. Farm Mangement--Benson & Belts.
5. Farm Accounting--H. F. Scovill.
6. Farm Accounting and Business Methods--J. A. Bexell.
7. Agricultural Economic--J. E. Boyle.