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FARM RECORDS—WHAT KIND AND HOW?
by Edward E. Carson, Department of Agricultural Economics, Purdue University

Man has been keeping records since he first drew on the walls of a cave in what is now France. Why? Why do you want records? What are you going to use them for? These are the first questions you must face as you consider the development of your own record system.

The purpose of this bulletin is to provide you with a review of the alternative kinds of record-keeping systems available to you and to discuss the various purposes for which you can use those records, plus provide some guidance in keeping them. We will begin with the most critical consideration, your objectives.

FARM RECORD OBJECTIVES:

What are your objectives regarding farm records? Is your intention simply to provide a way to refresh your memory about some event? If so, in how much detail do you want to be reminded? Or do you want to summarize a series of events—to total them up; perhaps compare the results to other results? Do you desire to use the information you have collected as a guide to predicting the future?

The main objectives that farmers usually list for keeping records are:

a. for information to make the required income tax reports;
b. for information to analyze the business and aid in management planning (this may be for the business in general, or for enterprises, or both);
c. for information to facilitate financial management and control.

These are all valid reasons why people keep records. You may have others.

The key to a successful record system is the identification of the desired objectives. It is frustrating to be using a record system that provides more than you really want or need—sort of like looking through a barrel of nails of mixed sizes when all you really want is one size. It is equally frustrating to try to use a record system that does not provide what you really need—about like trying to swim in two feet of water.

Which records should you have? You should have all the records that you believe you can effectively use. If you don't believe you will use a particular record, there's not much point in keeping it. You might even find at some future date that you could really use some particular information that you did not retain. But, the odds of being able to figure out all that you will need someday in the future are pretty low. Most of us don't enjoy keeping records all that much anyway. Therefore, the least frustrating alternative for you will be to keep the records that you now perceive you can effectively use.

At a minimum you need enough records for income tax reporting. For well-informed decision making you also need some degree of records for business analysis. (In a simple business you may be able to keep these in your head; it's not likely you can do so in a more complex business.) If you want to further sharpen your decision making you will find good use can be made of enterprise records—both production and economic. If capital is somewhat of a constraint, or if you want to emphasize financial management, then certain financial
records are essential. Finally, as a guide to personal spending, or perhaps simply as a matter of historical interest, family records complete the picture.

ORGANIZING YOUR RECORDS

When deciding how to organize your farm records there are two broad considerations. First, what kinds of records are needed (taxes, business analysis, enterprise, etc.) and second, what kind of record-keeping system fits best for keeping them (columnar journal, double entry, computer, etc.). We will first consider the kinds of records and follow that with a look at record systems.

KINDS OF RECORDS

The main kinds of records that might be considered include records for income tax reporting, for general business analysis, for enterprise analysis (including such things as fields, lots and individual machines), capital and credit information and personal (family records). These will be considered in that order.

Income Tax Records

The records required for tax reporting are relatively simple, consisting of properly classified income and expenses plus a depreciation schedule. The complications come in knowing what should be classified where (ordinary income or capital gain; deductible now or later?, etc.) and in how things should be treated on the depreciation schedule. It is not our intent here to discuss income tax reporting rules. Later we will discuss handling key entries in the section on reporting systems.

Records for Business Analysis

Records suitable for income tax reporting serve as a good base for general business analysis, but two additional kinds of information are required. They are production information and inventories. Before considering how to obtain this information, some attention needs to be given to what kind of business decision making information is wanted and needed.

To guide his business decision making the farm businessman needs to be able to compare his business to (1) other similar businesses and (2) his own past business. The key factors that need to be compared are the volume (size) of business, the efficiencies of the business, the combination of enterprises, and the critical cost factors. In addition there are detailed enterprise data, which will be discussed later.

General Business Analysis

Size of the farm business can be measured in several different ways. The most obvious is acres. Second is total capital investment. Numbers of livestock is another, as is total value of feed fed. Total number of productive days of work (PMWs) is a useful overall measure of business volume. Each measure requires the collection and recording of specific information. Some are simple to obtain (acres) and others are more complex. Thus, the user must decide which measure(s) are needed to meet his needs. This is turn will dictate the data to be collected.

Efficiency measures that can be considered include yields per acre for each crop raised, production per head of livestock, value of livestock production per $1 value of feed fed, production per man, and total value of production per dollar’s worth of total costs.

Evaluation of the combination of enterprises merely requires a record of the acreage of each crop grown and the number and kinds of livestock kept. For the livestock this necessitates a beginning inventory, an ending inventory, a record of the numbers sold and purchased, and a record of production for each kind.

There are a number of general business analysis cost factors that can be calculated. Among the more useful ones are fertilizer cost per tillable acre, feed cost (fed) per tillable acre, labor cost per tillable acre, machinery and equipment cost per tillable acre and machinery and equipment investment per
tillable acre. It is possible to obtain all of these given an accurate record of sales, purchases, beginning and ending inventories and production information.

An outline of the steps for calculating the various factors involved in a general business analysis can be found at the back of "The Indiana Farm Account Book" (yellow), Department of Agricultural Economics, Cooperative Extension Service, Purdue University, West Lafayette, IN 47907, available at your county extension office. To compare your results to that of similar farm operations, obtain a copy of the latest Farm Business Summary, Agricultural Economics Department, Purdue University, Cooperative Extension Service, West Lafayette, IN 47907, also available from your county extension office. The Farm Business Summary is available both for size of farm (State, EC-253) and by type of farm (Hog and Crop-Hog, EC-250; and Dairy and Crop, EC-251).

If you wish assistance in developing general farm business analysis factors for your farm, contact your county extension agent; he can provide you with information about the Purdue farm account project which is set up for that purpose. Even more useful than the business analysis you receive will be the counsel available from the record fieldmen. There is a fee for participating in the project. There are also several other organizations that provide similar services.

Enterprise Analysis

Before attempting to obtain and analyze enterprise data, you should ask yourself "Why?" "What use will I make of it?" "What problems do I have that enterprise information may help me solve?" "What enterprise data do I need to help solve these problems?" Some enterprise data can serve to monitor current activities (example--pigs per litter, etc.), others serve to analyze what has happened (example--return per acre, or per animal), while others aid in projecting future plans (example--costs per unit). The key is to identify those items that will be useful. Once you have determined the "Why?" and the "What?" you can proceed to collect the appropriate enterprise data (if any).

Enterprise analysis requires more attention to classification of entries and in some cases causes a greater amount of detail than does general business analysis. At the outset the user must decide whether he/she wants to keep track of just the direct costs, or wants a complete enterprise record. For example, with crops just the direct costs are quite often enough to determine which crops are contributing the most to the business. On the other hand, a record of the total costs and returns for an enterprise can be useful in determining whether or not to invest additional funds in that enterprise. However, a record of the total costs and returns for an enterprise generally requires that at least some of the costs be assigned (allocated) by judgment. The final result must, therefore, be considered as an approximation at best.

There are basically two kinds of enterprise information or records--they are physical information and economic information. Most people keep a record of at least some physical information--yields, production per animal, etc.

Some specific types of physical information that might be kept are:
- For crops--crop history (by fields), fertilizer applications, liming, soil test results, chemical applications, yields, etc. A handy system for keeping track of this information is the Individual Crop Field Records, Cooperative Extension Service, Purdue University, West Lafayette, IN 47907, available from your county extension office.
- For livestock--performance data: production per head, breeding and birth dates, weight gain, feed fed, number born, died, etc. There are a number of types of cards, booklets, wall charts, etc., available from the extension service, from breed organizations, and from private companies designed to aid in collecting these types of data. The key is to first have a system to collect, permanently record and summarize the data, and then do it.
- Health records--vaccinations, illnesses, treatments, preferably by individual animal where practical.
- Registration records.
- For machinery and equipment—repair records (each machine), service records (fuel, lubrication, coolant). A handy method is to have a card or sheet for each important piece of machinery on which all information about that item is recorded (staple on added cards or sheets as needed). While ideally hours of machinery use per enterprise would be recorded, few find it worth the effort. Instead, costs are allocated on the basis of estimated use.

- Labor data—number of hours spent working on the particular enterprise by each of the various types of labor—operator labor, unpaid family labor, and hired labor. Ideally, this should be recorded daily. If this is not practical, then an attempt should be made to record it either weekly or monthly. This is not too difficult if the work is broken down into regular work (example, chores—1 1/2 hours per day times 7 days equals 10 1/2 per week, etc.) and irregular jobs (example, grinding feed—2 hours this week). Below is an outline for a form that can be used to keep track of the hours of labor for an enterprise. Once the hours of labor have been determined a value can be placed on them whenever a summary is prepared. The value for the operator and unpaid family labor must be an estimate but the value charged for the hired labor can be what was paid (including extras and FICA taxes).

<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
<th>Hours Spent on Enterprise No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fed hogs, planted</td>
<td>04 42 53 Other Total</td>
</tr>
<tr>
<td>Ex</td>
<td>corn, disked SB's</td>
<td>1 5 4 - - 10</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
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<td>4</td>
<td></td>
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<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that much of the above physical information may be kept and used for decision making whether enterprise cost and return data are kept.

With three exceptions, the economic information required for an enterprise record is not really any different than that kept for a general business analysis record—income, expenses, inventories, and production. However, it must be sorted out or classified separately from the other data. Depending upon the accounting system being used this may require no more than setting aside a section of the book in which only entries for the particular enterprise are entered (or, more than one section if there is more than one enterprise being recorded).

The first exception is that some transactions must be recognized which do not show up in the regular cash activities; these are the transfers from one part of the business to another. For example, the transfer of feed to livestock, or of beef calves to the feedlot, or labor to the enterprise must be measured and recorded in order to have a complete enterprise account. It is useful to have a special notebook or jour-
nal similar to the one noted for labor to keep track of these internal transfers.

The second exception involves cash transactions which apply to more than one part of the business such as property tax or insurance payments. At some point they must be divided up so that an appropriate portion is applied to the enterprise. A suggested set of guidelines for that purpose can be obtained by writing to the author.

The third exception is the need to record physical quantities in more detail (as well as dollars), if you want to calculate cost of producing a cwt. of gain or a bushel of corn.

Some of the computer-processed record keeping systems make the task of keeping enterprise records somewhat easier by (1) making it possible to make the classifications simply by adding a special code number, (2) by providing a systemized procedure for handling internal transfers, and (3) by partially or wholly automatically taking care of the allocation of the general expenses.

In summary, for enterprise records, the same procedures apply to them as apply to the general business analysis records. First, determine specifically the information that you believe will be useful or needed for making decisions about that enterprise. Then design a system for collecting that information, such as cards on the farrowing crate or a pocket calendar or notebook. Finally, develop a permanent "file" for summarizing and storing the information. The latter might be an envelope, a filing cabinet, a box, etc.

Capital and Credit Records

Capital and credit records consist of essentially two kinds. The first are the various financial statements pertaining to the business. The second are the records regarding borrowed funds and accounts payable and receivable.

FINANCIAL STATEMENTS

The main financial statements are the Balance Sheet (Net Worth) Statement, the Profit and Loss Statement, and the Cash Flow Statement.
next year, but it can be more or less frequent and for shorter or longer periods of time. It consists of a listing of the expected income, operating expenses, capital expenses, family living outlays, the net cash flow, and the addition to or reduction in borrowing dictated by the net cash flow. It is very useful for planning borrowing needs and debt repayment, and for planning for the use of surplus funds.

RECORD OF BORROWED FUNDS

The main need regarding records of borrowed funds and accounts payable and receivable is to have a system of filing that keeps track of the receipts and payments on these accounts from these transactions. Most lenders (and most merchants) issue regular billings and receipts for accounts owed. Thus, if these are filed in an organized manner it should be possible to determine at any time exactly what the situation is with regard to any account. If a more consolidated record is desired, a running account can be kept on lined paper (or cards, example--5" x 7") with a page (card) for each account. On the page (card) would be columns for the date, amount charged (borrowed), amount paid and the balance. A similar set of pages (cards) could be used for accounts receivable, for example with landlords (or tenants).

PERSONAL RECORDS

The key to keeping an accurate and relatively easy-to-use record of personal transactions is a checking account, preferably one that is separate from the farm business account. Most householders will not write a check for every expenditure (example--groceries). But, if all cash for personal use passes through the checking account it will at least be accounted for. Even if all cash does not pass through the checking account, notation can be made in the check ledger of strictly cash transactions to complete the picture. In particular, any transactions that will be needed for income tax reporting should be handled through the checking account. These include nonfarm income (noting the source on the deposit slip and in the check ledger), the family portion of joint farm-family expenses (property taxes, interest), contributions, interest expense, property taxes, medical and dental expenses, and other deductible expenses. A summary of the check book entries can be maintained in any one of the various types of record systems discussed in the following section. The columnar journal is the most popular. An additional advantage of using the checking account approach is that it allows the user to select the time for summarization--daily, weekly, monthly, or annually--knowing that the necessary information will be available when the user is ready to pull it together.

SYSTEMS FOR KEEPING RECORDS

In general, regardless of the objective of the record system four functions need to be performed: (1) gather (or assemble) the information, (2) organize it to meet the desired need, (3) summarize the information, and (4) provide for longer term storage and retrieval of the information. Each of the following contributes to one or more of these functions.

Temporary Records

Any record system should begin with a procedure for current gathering of the necessary information. Generally this step should be considered as a temporary holding place for the information. The key element is to record the information where it can be readily relocated when desired.

There are several methods that can be and are being used. They can be used separately or in combination.

The first is a pocket notebook, or journal; it is particularly useful in keeping track of small cash transactions.

A second method is to enter transactions on a calendar. The calendar should have either one inch (or so) square "boxes" for each day, or a
separate page for each day.
A third method is to file all receipts and bills in some way that (1) separates the paid from the unpaid, and (2) separates the ones that have not been entered (posted) in the permanent records from those that have. At least seven ways of temporarily filing receipts and bills come to mind:
- in the "pouches" of a calendar (if you have such a calendar),
- in a set of boxes set up for that purpose (there is a place for shoeboxes in a record system!),
- on spindles,
- in a set of envelopes,
- in the pouches of an "accordion" envelope,
- in file folders,
- in between the pages of an account book.
If desired, a more detailed classification can be set up for any one, or all, of the unpaid/paid, not posted/posted groupings. This can range from one more "slot" for the paid feed bills (example) to any number of "slots" for each of the groups. In general, the most useful arrangement is to have separate slots only for those classifications that have a lot of items. Usually you need this only for paid and posted items.
A fourth method is to use your checkbook (which is also a part of your permanent records) as the focal point for gathering information on a current basis. This does necessitate giving attention to entering in the check stub, or ledger, adequate information (example, prices, quantities, description) for your purposes. Also, to be complete, cash transactions (if any) should be noted in the check ledger (although not debited or credited, of course). Preferably there should be a checking account for the farm business separate from the family business.

Even if the checkbook is used it will still be necessary to decide how to handle receipts and bills (see above).

Labor Records
Among the most important records for income tax reporting are your employment records. A simple tablet sheet, set up as noted below, one for each worker, should suffice:

<table>
<thead>
<tr>
<th>Name</th>
<th>Soc. Sec. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Date(s)</td>
<td>Time Worked</td>
</tr>
</tbody>
</table>

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7
If you have more than one worker, keep a simple summary sheet on total Social Security withdrawals and deposits to aid in making the required deposits in a timely manner.

Transfer of Information from Temporary to Permanent Record

If the information about your business is recorded on current basis in one or a combination of the above temporary forms, you then have a wide latitude of choice in deciding when to transfer it to your permanent records. You can adapt it to your schedule and to your personality. It is preferable to have a specific, regular time set aside for posting records. For some farmers that is every evening, right after supper; for others every Sunday right after church; for others, the first Sunday each month; for some, the second week of the year, and for a few, "when I get to it, if ever!" Be aware, however, that the longer you wait between times the more difficult it is to recall the details of a transaction (if that is needed) and the more likely temporary records will be lost.

Type of Permanent Record

Regardless of when temporary records are transferred (posted) to a more permanent and better organized place, a decision is first needed as to which type of permanent record to use. There are essentially five possibilities:

- Simple Journal
- Page Journal (ledger)
- Columnar Journal
- Journal and Ledger (double entry)
- Computer Record

These can either be personally designed by you or can be acquired in preprinted form.

Simple Journal. The Simple Journal is, as the name implies, the simplest, but it does not provide the flexibility usually required. It is a single chronological listing of transactions with two columns for dollar values (one for income and one for expenses). The headings look as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Income</th>
<th>Expenses</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Ledger. The Page Journal, or Ledger, has a page, similar to a journal page, set aside for each classification of income and each classification of expense that is judged to be needed by the designer (usually the user).

A relatively simple ledger might have the following pages:

<table>
<thead>
<tr>
<th>Hog Sales</th>
<th>Corn Sales</th>
<th>Miscellaneous Income</th>
<th>Feed Expense</th>
<th>Other Livestock Expense</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fertilizer Expense</th>
<th>Other Crop Expense</th>
<th>Taxes and Insurance Expense</th>
<th>Miscellaneous Expense</th>
</tr>
</thead>
</table>
This type of permanent record has the advantage of keeping all transactions of a similar nature in one place, but if there are very many classifications the page turning can become unwieldy.


Example Columnar Journal (Expense Section):

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Quantity</th>
<th>Total Value</th>
<th>Labor Hired</th>
<th>Feed</th>
<th>Other Livestock Expense</th>
<th>Seed</th>
<th>Fertilizer</th>
<th>Fuel</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

This arrangement is the one most frequently found in the various farm account books that are published. Because of the large number of classifications of income and expenses, usually at least one section is designed for recording receipts and another for recording income. Ideally, the design should provide for separate classification of livestock sales into their various income tax classes.

The columnar journal has the advantage of ease of posting and classification of entries. However, entries for a given classification (example—feed) are not all in one place, and therefore are not as easily relocated as in a ledger.

A large majority of farmers use a columnar journal, either one of the several commercially available farm account books, or one of their own design.

Double Entry. The double entry accounting system consists of both a journal and a set of ledgers. It derives its name from the fact that entries are made twice, as a credit to one ledger account and as a debit to another ledger account. To facilitate recording and to minimize error, entries are first made in the journal in which is recorded both the account to be credited and the account to be debited. Then (at a convenient time) these entries are posted to the appropriate ledger accounts. Once the entries have been made in the ledger, account balances can be derived (struck) at any time.

The advantage of the double entry system is that it is coordinated so that at any time both an income (profit and loss) statement and a balance sheet (net worth) statement can be obtained from the current balances of the ledger accounts. Further, they are directly tied together, and each verifies the other. If they do not, they provide the basis for finding any computational errors. If appropriately designed, the system can also provide for detailed cost accounts.

The double entry system is somewhat more complex than the previously discussed procedures. Further, particularly for a farm business, it is not designed to recognize increase in value because of growth, as with growth of crops or livestock. Value of assets is based on cost-of-production which may under (or over) value them in relation to the market.
Computer Records. The data recording method for a computer record system can take any one of several forms. The most common form combines the simplicity of the simple journal with a coding procedure that classifies the entries. The income and expense entries may all be made on one form (example--Michigan State's TELFARM). Or they may be made on separate forms (sheets) (examples--Purdue's system, Production Credit's system, Farm Bureau's system, etc.).

A second approach is to record the information right on specially designed checks, usually designed to make carbon copies. Again, classification is by codes.

A third system uses the check ledger to record and code the information that is subsequently transferred to and processed by the computer.

And fourth, in the most recent development, directly into the computer via your own terminal.

In each case the information from the forms, check copies, check ledger, or terminal is transferred to a computer (either by cards or electronically) which sorts the information into the desired classifications and prints out appropriate reports, including a summary and generally an income tax report. The computer systems normally do have a charge associated with their use.

Some computer systems also provide for obtaining just a business analysis from summary data taken from the regular record book of the farmer. If you are interested in this option, contact your county Extension office.

The decision as to which of the above systems of permanent entry you adopt for record keeping depends upon your objectives and the nature of your business. For most farm operations the simple journal, while simple, does not provide the classification needed. The ledger provides the classification, but may be overly cumbersome, particularly for a complex business. The columnar journal tends to overcome the shortcomings of both the simple journal and the ledger, but does not provide the unity and completeness of the double entry approach. The double entry system is complete and ties together the cash and asset accounts but is somewhat more complex and may not be quite as well adapted to the needs of the farm business as is the columnar journal.

The computer record systems offer most of the simplicity of entry of the simple journal plus the service of summarizing the data and preparing summary reports (at an added cash outlay). In addition, they provide for maintaining and updating the depreciation schedule, and they provide the potential for easily obtaining additional analysis and reports. If you desire to minimize your personal input or feel that your time can be used more valuably somewhere else in your business, consider the computer record systems.

If there is some question in your mind as to which system you should be using, run through the following score sheet and see where your rankings bring you out. First, enter any objectives you have that are not listed. Then rank each system for each objective with "1" for "meets least well" to "4" for "meets very well." The first line has been ranked as an example.

Sum the results. The system with the highest score ranks highest for you.

Common Omissions and Mistakes

The most common problem is the omission of current expense items, particularly of small purchases for cash. Even in the lowest income tax bracket (14 percent), every $1 missed means an extra expense of 14 cents.

A second problem area is the failure to properly classify and sort livestock sales, particularly breeding livestock, but sometimes also purchased market animals. Sales of breeding livestock, if held for the required period, are subject to capital gains treatment rather than treatment as ordinary income. This can mean as much as 60 percent savings on the taxes on that sale. Animals that are purchased for market (example--feeder pigs, feeder cattle) can only be deducted as an expense when they are sold, or die, or are otherwise lost. Therefore, when they are disposed of, it is important to (1) record them separately from other an-
### Score Sheet for Farm Accounting Systems for Income Tax Reporting

<table>
<thead>
<tr>
<th>Objective</th>
<th>Simple Journal</th>
<th>Ledger</th>
<th>Columnar Journal</th>
<th>Double Entry</th>
<th>Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Simplicity (example)</td>
<td>4</td>
<td>2-3</td>
<td>2-3</td>
<td>1</td>
<td>2-3</td>
</tr>
<tr>
<td>2. Provides needed data</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>3. Provides for internal audit</td>
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<td>4. Cost</td>
<td></td>
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<tr>
<td>5. Flexibility (can grow with your needs)</td>
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<td>6.</td>
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<td>7.</td>
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<td><strong>TOTAL</strong></td>
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</tbody>
</table>

Animals (raised, and breeding), and (2) to note their original cost which can be deducted as an expense. If it is not possible to follow specific animals through your feedlot, you are allowed to simply match up the first ones bought with the first ones sold in deciding which ones to expense next. (This is the "first in, first out" approach.) If a purchased animal dies, or is otherwise lost, it can be entered as an expense at that time.

Even though purchased animals (market or breeding) cannot be entered as an expense when acquired, space should be provided in your records to record the number and cost for later reference, but in such a way as not to count them as a current expense.

Handling of purchased breeding livestock (which technically are depreciable) is another problem area. There are essentially two types of situations. In the first, the expected salvage value of the animal at a later date exceeds its cost. Example—purchased gilt costs $125.00; expected cull sow value is $150.00. Even though there will obviously not be any depreciation, it is highly advisable to record this information in the depreciation schedule to avoid questions as to why the animal was not depreciated if there is an IRS audit. In the second type of situation, the cost exceeds the expected salvage value. Example—purchased dairy bull costs $1,000.00, has an expected salvage value of $400.00. It is generally advantageous to place such an animal on the depreciation schedule for two reasons. First, you gain the tax savings due to utilizing the allowable depreciation. Second, if the animal is to be kept three years or longer, at least some investment tax credit is available which can result in a further tax savings.

Also in the area of depreciation is a problem related to machinery and equipment. The problem concerns estab-
lishing the appropriate basis (cost) for depreciation, particularly on trade-ins. The depreciable basis (or cost) that is allowed by law is (1) the cash paid, plus (2) the undepreciated remainder, on your depreciation schedule, of the item, or items traded in. Example—you have on your books a tractor which has been depreciated down to $2,375.00 (this is usually called the unrecovered cost). You trade it in on a new tractor, paying $13,000 cash boot. The cost basis for the new tractor is $13,000 plus the $2,375.00 unrecovered cost of your old tractor for a total of $15,375. Note that the dealer's list price (perhaps $16,000?), or the amount he allowed on the old tractor (perhaps $3,000?) does not enter into consideration.

Depreciation

Up to this point attention has been directed to the cash transactions. Another important part of records for income tax reporting is the depreciation schedule. Well over half of the farmers submitting income tax reports depend upon a tax practitioner to maintain a depreciation schedule for them. For these farmers, their main need is to understand enough about the laws related to depreciation to understand their options and to be able to interpret their own depreciation schedule.

Farmers who prepare and maintain their own depreciation schedules have several options as to where and how they accomplish this. They may simply carry their depreciation record forward from one year's tax form to the next, always being sure to retain a copy. A second choice is to record it in the section(s) of an account book designed for that purpose, again carrying it forward from one year to the next. A third approach is to obtain (or design) a depreciation record that will extend over a period of years so that it is only necessary to carry forward the balances, not the entire information.

A fourth alternative is to enroll in a computerized record-keeping system. These systems normally provide a depreciation schedule which is continually updated based on the reports of purchases, trades and sales of depreciable items.

The Internal Revenue Service will allow the reporting of depreciation information as totals, with a reference that "Detailed Records are Available on Request". Therefore, keeping the depreciation schedule in a permanent book and reporting totals can save a significant amount of copying if you do your own taxes.

Receipts and Bills

Once the information from the original documents (receipts and bills) has been entered in the permanent record they, too, need to be put away and kept, preferably in an organized way.

By law, your books are open to the Internal Revenue Service for 3 years and 3 months after the date of filing that year's tax reports. Cancelled checks and deposit slips are not considered to be adequate evidence of business transactions—you must have the original receipts and bills. Furthermore, if during an audit any evidence of fraud is uncovered, the law entitles the I.R.S. auditor to go back into your records as far as he desires to. Original documents can be very helpful in such circumstances.

In addition to the requirements of the law occasionally you may want to look up some detail from an earlier transaction; having the document and knowing where it is becomes important at such times.

From the foregoing it is evident that you need to set up a system for retaining your receipts and bills for at least 3 years and 3 months, and preferably for as long as possible beyond that. They generally should at least be separated into years. Depending upon their volume they may be further sorted by either time (example—months) or type of transaction (feed, livestock, fertilizer, etc.), or perhaps both. Among the ways that this may be done are envelopes, accordion-file-folder, file folders, small boxes, or between pages of an account book.

Normally, the most recent years are those that are referred to most fre-
quently. For this reason it is usually desirable to keep the last 2 or 3 years' items close by (in a deep desk drawer, or in a filing cabinet, for example), and then store older items in a more remote area such as a closet or in the attic. Attention should be given to protecting such stored records from insects and rodents. Regardless of how or where the old receipts and bills are kept, the objective is first to keep them, and second to be able to locate a particular item when you want to.

Lost Records

There is always a danger that records can be lost, either due to a calamitous event (fire, tornado, flood) or through negligence. Obviously the best answer is to take steps not to lose key records in the first place. But sometimes even the best plans don't work out.

Just how far should one go to protect one's records? No one else can answer that question for you since the value an individual puts on their records, or parts of their records varies widely from one person to another. For some a fireproof safe is minimal; for others they'll "take their chances." So you must answer that question for yourself.

If you do have a loss it is usually possible to obtain duplicate bills back for a year or so, and your financial institution can normally provide duplicate copies of your bank statements and sometimes copies of your checks and deposit slips. You can also obtain copies of your tax reports.

Beyond that, about your only defense is reasonable precaution.

Few people really enjoy keeping records (those that do probably become accountants). But if we are going to acquire the information we want and need we are going to have to keep some records. The key to doing this with the least pain and inconvenience is first to determine exactly what it is we want (and why), and then to develop a procedure for collecting it and then summarizing it. These comments were intended to aid in that process.

FOOTNOTES:

1. See Appendix A for procedures.

2. Two farm record books are published by Purdue University, Indiana Farm Record Book, which is basically a columnar journal, and Indiana Farm Account Book, also a columnar journal, but designed to enable splitting of entries (tenant/landlord, father/son) and designed for business analysis, both prepared by the Department of Agricultural Economics, Purdue Cooperative Extension Service, Purdue University, West Lafayette, Indiana 47907.

3. Twelve months or more for swine and sheep, 24 months or more for beef, dairy and horses.

4. For additional information on income tax obtain from your county Extension office, Income Tax Management for Farms, North Central Regional Publication #2, revised, and The Farmer's Tax Guide, Publication 225, Internal Revenue Service, Department of the Treasury.

5. In Indiana ask your Cooperative Extension Agent for "Indiana Farm Depreciation Book--A Ten-Year Investment and Depreciation Record," Cooperative Extension Service, Purdue University, West Lafayette, Indiana 47907.

6. For a guide to a generalized filing system, request EC-549, Your Farm and Home Filing System, E. E. Carson, Dept. of Agricultural Economics, Purdue University, West Lafayette, Indiana 47907.
APPENDIX A

Making Estimates of Production, Inventories

A. Estimating crop production.

When all of the crop is not sold (and weighed) it is very advisable to make estimates of this kind by at least two different methods.

1. Ideally, the total production would be weighed.

2. The most frequent method is to count the number of hoppers, or wagon loads, or bales, etc. With these approaches it is important to have accurate knowledge of how much each unit really holds, or weighs. If at all possible a representative wagon load of each crop should be weighed each year. For bales, 4-6 sample bales should be weighed for each cutting.

3. A good check on the above method is to measure and estimate the quantity in storage in bins or mows. Obviously, allowance would need to be made for amounts fed directly, or sold. Guides for making these estimates are provided in the back of most farm account books.

4. A third method is to measure off a sample acre, harvest it, and weigh the production.

5. A method often used for corn, and small grains and forages is to measure off small portions of an acre (usually 1/100th) in several spots (usually 5 to 10), weigh the samples (adjusting for moisture), and estimate per acre and total yield from this.

6. Estimating Production of Forages

a. Grass Silage - adjust to 60 to 65 percent moisture basis, if possible. Arbitrarily assume all above 50 percent is grass silage.

   Note: Most silo capacity tables are based on 60 to 70 percent moisture. If moisture content is unknown, silo content on this basis is satisfactory since dry matter in a silo is about the same, regardless of moisture content.

   Formula:

   $\frac{(100\% - \text{Actual \% Moisture}) \times \text{Actual Tons}}{(100\% - \text{Adjusted \% Moisture})} = \text{Tons at adjusted moisture}$

   Example: 200 T at 70% moisture to 62.5% moisture:

   \[
   \frac{(100\% - 70\%) \times 200}{(100\% - 62.5\%)} = \frac{30 \times 200}{.375} = 60 = 160 \text{ Tons}
   \]

   b. Haylage - Arbitrarily, assume all silage below 50 percent to be haylage. Adjust all to 45 percent, if possible (same formula as above).

   c. Green chop - Convert to Grass Silage equivalent. Green chop is about 80 percent moisture, generally. Therefore, 1 ton of green chop equals about 1/2 ton 62.5 percent grass silage, i.e., multiply actual tons of green chop by .5 to get tons of grass silage equivalent.

   If the operator does not know the actual tons of green chop, then what? Use the hay yield (or estimated hay yield) as a base. If his hay yield is based on "new" hay (est. at 20 percent moisture), multiply by 2.1 to get 62.5 percent grass silage equivalent. If hay yield is based on "old" (or in storage 6 months or more estimated at 10 percent moisture), multiply by 2.4 to get 62.5 percent grass silage equivalent.

   d. Hay Production - preferably, hay production should be reported on a "dry" basis (10 percent moisture) since this is generally how it is inventoried.
and priced. If production has been estimated on the basis of weight right out of the field, it should then be adjusted by multiplying by .9. Note, however, that if the moisture content at inventory is obviously materially different than 10 percent, this should be taken into account in estimating both quantity, and price.

B. Estimating livestock production.

Because most livestock production is ultimately sold, it is generally fairly easy to obtain production information if a few simple records are kept.

1. For dairying, a guide to total herd and average per cow production can be obtained from the milk sales receipts. Individual cow performance can be obtained with any one of several regular milk weighing programs. In addition, breeding and parturition records should be kept for each animal. Barn Sheets, or 3 x 5 cards make this job fairly simple and provide important information for herd management.

2. In addition to sales weights of hogs sold, a few additional items ought to be kept, preferably for each sow. Again, 3 x 5 cards can be very useful. Litter weight and number when born, and when weaned, are very important. Vaccination and castration notations can be made on the same cards. Even if sows are not individually identified, these data are very helpful in spotting troubles.

3. For beef feeders, two pieces of information can be very enlightening, and are easy to get: They are the date, number, price, and weight when purchased, and the same data when sold. From this pounds gained per head per day, and market margin, can be easily figured.

4. With beef cow herds breeding date, calving date and numbers, and calf sale date weight, and numbers are easily obtained and provide important clues to management.

5. With layers the main items are (a) average number of hens by months, and (b) eggs produced (or sold). Information on egg sizes and prices adds insight.

C. Estimating feed fed.

This is one of the most useful types of information to have, and usually the hardest to get, particularly for each enterprise on farms with more than one kind of livestock.

What can you get? If you keep accurate crop production records, sales records, purchase records, and make an accurate inventory of feed supplies at the beginning of each year, you can determine total feed disappearance. With a little effort most farmers can do this much.

With the additional effort of (a) writing down the estimated amount removed each time feed is fed (or processed), and/or (b) writing down the amount fed each time feeders are filled, then feed fed to a particular class of livestock can also be determined. Taking all of the feed for one class from one bin and all of the feed for another class from a different bin can make this job quite simple.

Summary

There are no "forms" which will record this information for you. There are several sources of forms which you can use to keep this type of information. Often one you design yourself is the best one because it fits your needs. For some this is a calendar hung in the barn; for others a "barn sheet"; for others a box of 3 x 5 cards; for others a pocket notebook. The important thing is to train yourself to use it.

D. Making Inventories.

1. Generally, building, improvement, machinery, and equipment inventories are quite easily made on the basis of tax depreciation records. In connection with this it is desirable to list fully-depreciated items at either (1) their salvage value, or (2) $1.00 each so that you can keep track of them.

For existing buildings and improvements which have not previously been carried on your books (newly purchased property), estimate a current value based on usefulness.
Examples: For barns and sheds (1) estimate the usable square feet of floor, and multiply by $2.50 for dirt floors, $3.00 for paved floors; (2) estimate the percent of the total life still left in the building (Ex.-built 30 years ago, expect to last 20 more - 40% left), and multiply this times the value estimated in (1). This will give an approximate current value considering age.

For grain storage buildings, obtain (1) above by multiplying the capacity in bushels of shelled corn and small grain by $1.00; in ear corn by $1.50, and adjusting as in (2) above.

Second, it is advisable each year to check your list against what you actually have to eliminate omissions, and to check for unexplained disappearance. Insurance claims can often be justified if this is done regularly.

2. As major additions are made to buildings and improvements, or as they depreciate, appropriate adjustments should be made in the total value of the farm. Land should be adjusted for changing land values, preferably every year, and at least every 5 years.

3. Feed and supplies. Here two problems are involved: estimating quantities, and selecting prices. The quantities usually require measuring the storage area and estimating the amount in it. Prices can usually be obtained from the local elevator. Where necessary, allowance should be made for grade and moisture, and marketing expense.

Some items such as corn silage, "haylage," and growing crops do not have published prices. It is suggested that they be priced about as follows:

a. Hay: use current market value at the farm, taking into account quantity, based on dry (10 percent moisture) hay, if it was inventoried on this basis.

b. Grass Silage: price equal to an equivalent amount of hay, 60 to 65 percent moisture grass silage is equivalent to .4 ton of hay. If hay is $75.00 per ton, grass silage would thus be $30.00 per ton. Note that this procedure may tend to over value grass silage relative to corn silage in years when hay prices are quite high relative to corn. (Since green chop is converted to grass silage equivalent, it can be valued on this basis also.)

c. "Haylage": price equal to an equivalent amount of hay - 45 percent haylage is equivalent to .6 tons of hay.

d. Corn Silage: price at the value of 6 1/2 bushels of corn plus $3.50 net harvesting cost, i.e., for $3.00 per bushel corn, equals $19.50 per ton plus $3.50 = $23.00.

e. Growing Crops: value of seed and fertilizer used plus variable operating costs of preparation and planting (about $10.00 per acre).

4. Livestock. For market animals estimate their weight and multiply this times the current market price for the grade and kind. For breeding and dairy animals use estimated current per head values. This should reflect as nearly as possible what these animals would bring at an open public sale. A local sale barn can often give you some guidance on this. This obviously cannot be very exact.

It is suggested for breeding and dairy stock that the per head values be kept fairly constant from beginning inventory to ending inventory in any one year. However, if per head values change significantly over time, an adjustment should be made "between years"; that is, the preceding year's ending inventory should be increased, or decreased, to arrive at an adjusted beginning inventory for the following year.