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FARM RECORD KEEPING

Farm Record Keeping With the Kansas Farm Account Book

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

Farm Record Keeping

With the Kansas Farm Account Book

John R. Schlender
Extension Agricultural Economist, Farm Management

The Kansas Farm Account Book, an accounting system for farm businesses, is available for a nominal cost at all Kansas County Extension Offices. Other manual accounting systems available at Extension Offices are the Kansas Depreciation and Investment Record and the Kansas Family Account Book.

Why Keep Farm Records?

Farm records should be kept for two basic purposes: (1) income tax reporting and (2) business management. The primary motivation behind many farm records is income tax reporting. Well-kept records can serve an equally important business management function.

The rapid changes taking place in today's farm business make it difficult to stay abreast of the requirements of farming. Without good farm records, it is difficult to know what is really happening within the farm business.

Farm records kept only for income tax purposes on the "cash" basis do not provide for the computation of actual net farm income for the year to show if the farm business was profitable. Wide variations in actual net farm income occur from year to year due to fluctuations in production and prices. Tax management adjustments in sales and expenses are made in an effort to level taxable income as much as possible from year to year.

Records kept for "cash" method tax reporting purposes include no inventories. Depreciation schedules are computed with tax consequences in mind. They may or may not adequately prorate costs for the purpose of farm business analysis. Records for tax reporting purposes are important, but they do not give as much information about the business as is needed to make effective management decisions.

Farmers face many questions in the management of the farm business.

- Which livestock and crop enterprises should be expanded?
- Which ones should be eliminated?
- Should a specific item of farm equipment be purchased or would it be cheaper to custom hire the job done?
- How can credit be used more profitably?

Records alone will not solve these problems. But a farmer who maintains and studies an adequate set of records can usually handle such problems better than one who does not.

Many farm records are kept primarily, and in some cases solely, for income tax information purposes. By adding additional farm business data, they can provide valuable management information. Income tax reporting rules require some farm business records. Farm business record keepers have a choice between merely meeting tax requirements and building a valuable business tool.

A good set of farm business records has three basic uses:

1. As a service tool for:
   - Income and social security tax returns.
   - Employee wage and social security reports.
   - Balance sheet, income statement and cash flow for improved credit relations.
   - Landlord-tenant and partnership settlement, records of past settlements.
   - Estate planning.
   - Appraisal of land values.
2. As an indication of business profitability and growth through the:
   - Income statement—present, past and change over time.
   - Balance sheet and net worth—present, past and change over time.
3. As a farm business analysis tool to indicate:
   - Sources of farm profits and losses.
   - Weak and strong parts of the business.
   - Facts for important decisions.
   - Basis for forward planning.

All of these benefits can be obtained with just a little effort and know-how.

Records Needed

Records needed are determined by the uses to be made of them. The two primary methods of record keeping used by farmers are the cash method and the accrual method. With the cash method, all items actually or constructively received during the year are included in gross income. Farm business expenses, with a few exceptions, are deducted in the tax year they are paid.

Under the accrual method of farm record keeping, income is generally reported in the year produced or earned, and expenses are deducted or capitalized in the year incurred, not necessarily in the year received or paid.

The simplest level of farm record keeping is for reporting of income taxes by the cash method. Tax reporting with the accrual method requires additional records. If the records are to be used for farm business analysis, even more extensive records are required.

Records required for the different purposes are:

Tax Return "Cash" Method

1. Receipts
2. Expenses
3. Depreciation schedules
   Buildings
   Machinery
   Purchased breeding and dairy stock
4. Record of feeder livestock purchased

Tax Return "Accrual Method"

1. Receipts
2. Expenses
3. Depreciation schedules
   Machinery
   Buildings
   Purchased breeding and dairy stock
4. Inventories
   Raised market and breeding livestock
   Livestock purchased for resale
   Grain, feeds and supplies

Tax Return Plus Farm Business Analysis

1. Receipts (with weights, price, etc.)
2. Expenses (with weights, price, etc.)
3. Depreciation schedules
   Buildings
   Machinery
   Purchased breeding and dairy stock
4. Inventories
   Raised market and breeding livestock
   Livestock purchased for resale
   Grain, feeds, etc.
5. Livestock and crop production
6. Payables and receivables
7. Family living records

While the more extensive records are required if the records are to be used as a business management tool, most of the record keeping has already been done if records are kept for the simplest tax reporting purpose. By adding a little more time, effort and know-how, a record is available for business management purposes in addition to tax return preparation. In farm record keeping, there is more than a little truth in the statement that "it costs just a little more to go first class."

Tips for Improving Record Keeping

•**Develop a system of record keeping.** Fill out the inventory pages for the end of the previous year. The ending inventory of the past year becomes the beginning inventory of the present year. Enter expense and receipt transactions at least once a month. Total the expenses and receipts in November and early December for tax management purposes. Fill out the inventory pages for the end of the present year at the end of December, complete the recording of receipts and expense entries and proceed to analyze the year's business.

Record keeping is a habit. Once the habit is formed, record keeping becomes easier. There are many shortcuts and steps that can be taken to help simplify the job of record keeping. Keep the record book in a convenient location. If it is not handy, some of the record keeping will be postponed and then forgotten.

•**Run your business through a bank.** Deposit farm receipts in your bank account. Identify all items on deposit slips, especially non-taxable receipts such as borrowed money and gifts. Pay farm expenses by check. Check your bank statement with your account each month. If you must pay cash, get a receipt and place it with the account book for posting. Have a separate bank account for family living expenses.

•**Always show names, dates, quantities, weights, and prices** when making entries in your account book.

•**Use a charge account to prevent recording many small purchases.** Expenses can be itemized and recorded when the account is paid. Charge accounts should be paid regularly.

•**Keep records with pencil, not pen** so mistakes can be easily corrected.

•**Use an adequate farm record system.**

Choosing a Record System

Numerous kinds of farm record systems are available. Some record books are given away free by commercial organizations. Others are available at varying costs. Most record systems furnish adequate information for income tax reporting. Many do not provide all information needed for aiding in the management of today's complex farm business.

A good farm record, when followed, will provide needed information about the farm business. It will show the machinery costs per acre, the cash flow, the gross and net income of the farm, the net worth, and many other measures and facts of production and management.

The Kansas Farm Account Book is suggested as a record system to follow. It has been designed by Kansas State University agricultural economists in farm management. With it you can keep records for income tax purposes. But it will do more than that. If properly used, the Kansas Farm Account Book can be a valuable tool for farm business management. It can provide much of the information needed to make better management decisions.

This publication is a "textbook" for keeping records in the Kansas Farm Account Book. It explains each of the basic parts of the book and gives instructions on the kind of information to record and how it is to be recorded.

Phases of Farm Record Keeping

Farm business record keeping can be divided into four phases:

(1) Recording receipts and expenses; (2) keeping and using inventories; (3) recording crops and livestock production information; and (4) analyzing the farm business.

Recording Receipts and Expenses

The Kansas Farm Account Book is a columnar type of record system. The various types of receipts and expenses are recorded in separate columns rather than on separate pages. Throughout the record book, lines are numbered on the side of the pages and columns are numbered at the top and bottom.

On the receipts and expenses pages, there are two places where the amount of each transaction is recorded. The amount of the transaction for all receipt and expense items is entered first in a column called "Amount Received" or "Amount Paid" near the left side of each page. Each transaction is then entered a second time in the proper column to the right, according to the type of receipt or expense (Columns 1 through 25). By using this two-entry method, the record keeper has a better opportunity to check for errors in recording business transactions. Columns 1 through 25 added together will equal Column A on line 30 of the receipts and expense pages if no mistakes have been made.

Enter all available information on the receipts and expenses pages. This detailed information is needed when the records are used for analysis. Only one or two important pieces of information not recorded can make the entire record much less valuable.

Some things most often neglected on the receipts and expenses pages are a description of the items sold (or bought), the number of units, total weight, and price per unit. When two or more classes of livestock are sold at one time, some effort should be made to separate the income from each class. Then when an efficiency analysis of an individual enterprise is attempted, the information will be available.

Receipts

Pages 2 and 2a of the Kansas Farm Account Book contain a "Classification of Receipts." Refer to this classification often. Example receipt entries are also shown on the lower part of pages 2 and 2a. As with other products you buy, it is important to follow the directions.

Receipts are recorded on pages 4 and 4a. Receipts may be classified in 25 different columns. Each column has a purpose. The purpose may be for correct tax reporting or for more effective farm business analysis, or both. To facilitate tax reporting, receipts columns are listed as nearly as possible in the order in which they appear on Schedule F of income tax Form 1040.

Column 1 is for reporting the "Sale of Raised & Purchased Breeding Livestock, Machinery & Buildings." All items that are to be reported on federal income tax Form 4797, "Sales of Business Property," should be recorded in Column 1. Sales of these capital items should not be recorded in ordinary taxable income columns.

Column 2 is for "Sale of Livestock & Other Items Bought for Resale." These items are reported on line 1 of federal income tax form Schedule F.

Columns 3 through 5 are for recording "Raised Market Livestock Receipts." By keeping receipts from the different livestock systems separated, further studies of the costs compared to the returns of each livestock enterprise are possible.

It is important to enter livestock receipts in the correct column depending on whether they were purchased for resale, purchased for breeding purposes, raised market

animals or raised and used for breeding purposes. Only *raised market* livestock receipts are recorded in Columns 3 through 5. The tax reporting procedures vary greatly depending on how livestock were acquired and used. If livestock used for breeding purposes are mistakenly recorded in a market livestock column, excess income taxes may result.

Columns 6 and 7 are for "Livestock Product Receipts."

Columns 8 through 14 are for recording "Crop Sales." This includes crops sold for grain or for seed, and crops sold in the form of pasture.

Other farm income items are recorded in Columns 15 through 20.

Column 15 is for "Distributions from Cooperatives" (patronage dividends). Farm account keepers will receive a copy of IRS Form 1099-PATR from their cooperative showing these amounts.

Column 16 is for "Agricultural Program Payments," such as soil conservation and deficiency payments. Commodity credit loans are not reported in Column 16.

Column 17 is for "Commodity Credit Loans Under Election or Forfeited." If the record keeper elects to treat CCC loans as taxable income in the year the loan is received, the loan amounts are recorded in Column 17. If the grain for which the election was taken is later sold, the amount of the sale equal to the original loan is reported as a non-taxable receipt in Column 22. The amount that is above the original loan is included as other farm income in Column 20.

If CCC crop loans are treated as loans for tax purposes, the loan receipts are reported in Column 21, "All Loans Received."

Column 18 is for "Crop Insurance Proceeds." Under some circumstances, you can elect to postpone reporting of insurance payments to the following year.

Column 19 is for "Custom Hire." Custom work receipts are used as a credit against machinery costs in the farm business analysis; otherwise, the machinery costs attributed to crop production within the farm business would appear higher than the actual costs.

Column 20 is for "Other Farm Income, Gas Refunds, Etc." Miscellaneous farm income items not included in other columns are recorded in Column 20. If a recurring and important source of income would normally be listed in this column, it would be preferable to give it a column by itself by changing the headings of another column not used.

Columns 21 and 22 are for recording "Loans" and "Other Non-Taxable Receipts" such as gifts, inheritance, etc. These receipts are kept out of the regular farm receipts for two reasons. One is that they are not taxable as regular income, and the other is that they are not considered as actual farm business income but are part of the business cash flow.

Columns 23 through 25 are for "Taxable Outside Business Receipts." These are receipts which must be reported on income tax returns as taxable income, but are not a part of the farm business. Examples are rent from farm land that is not farmed by the operator, gas and oil lease payments, interest and dividend income and off-farm labor income.

In summary, Columns 1 through 20 contain taxable farm business income items and are considered taxable income. All except Column 1 (breeding livestock sales, machinery and building sales) are taxed as ordinary income. Column 1 items are reported on federal income tax Form 4797 and Columns 2 through 20 are reported on Schedule F.

Columns 21 and 22 are farm income items but are non-taxable. Some items in Column 22 may have been taxable income in an earlier year but not received until the present year. One example is co-op patronage dividends made in an earlier year but not paid until the present accounting year. The dividend is taxable in the year it was prorated even though payment was not received. In a later year when it is received, it is non-taxable since it already has been reported as taxable income. Another example is the sale of grain on which a CCC loan had been taken and on which the election of treating the loan as a cash sale had been taken. The grain sale to the extent of the loan is entered in Column 22 as a non-taxable receipt since the loan value had already been included as taxable income. Any payment for the grain in excess of the amount of the loan would be taxable income and should be entered in Column 20. Columns 23 through 25 are for non-farm income items that are taxable.

Expenses

Expense columns are listed as nearly as possible in the order they appear on Schedule F of Form 1040 to facilitate tax reporting. Classification of expenses, explained on pages 3 and 3a of the Kansas Farm Account Book, should be studied before entering transactions. If in doubt as to where to enter a transaction, record it in the column that seems most logical so the item is not overlooked. At a later date, it may be placed in a different column.

Expenses are recorded on pages 5 and 5a. Some expenses may logically be entered in more than one expense column. In such cases, unless there is a tax reason for doing otherwise, enter the expense is the column that you consider the most important cost center. For example, a crop insurance expense might logically be entered either in an insurance column or a crop expense column. Since the crop expense column is considered a more important cost center, the crop insurance expense should be entered in that column.

If two or more expense categories listed on Schedule F are combined into one column in the Kansas Farm Account Book, they do not need to be separated before recording on Schedule F. The Kansas Farm Account Book column

heading can be written on a blank line near the bottom of the expense section of Schedule F.

Column 1 is for entering the "Cost of Feeder Livestock & Other items Bought for Resale." Livestock purchases that are not held for breeding, dairy or draft purposes are recorded in Column 1. PIK (Payment-in-Kind) certificate purchases and poultry purchases are also recorded in Column 1.

Column 2 is for "Breeding Fees, Livestock Marketing and Other Livestock Expense."

Column 3 is for "Chemicals—Herbicides and Insecticides, etc.," including custom application of materials.

Column 4 is for "Conservation Expenses." Enter in Column 4 only the conservation expenses that are subject to the 25 percent of gross income limitation, for income tax purposes. Expenditures for depreciable soil and water conservation assets (pipes, concrete dams, etc.) should be entered in Column 22. Ordinary and necessary expenses for maintaining completed soil and water conservation structures are not subject to the 25 percent limit, so should be entered in other appropriate deductible columns.

Column 5 is for "Custom Hire, Trucking, Freight." Schedule F has two separate lines for "Custom Hire" and "Freight, Trucking," but it is not necessary to separate the items before recording on Schedule F. The full amount in Column 5 can be recorded on the "Custon Hire" line with the notation "and Freight, Trucking" added. An alternative is to write the account book caption and enter the full Column 5 amount on one of the "Other Expense" lines of Schedule F.

Column 6 is for "Feed Purchased." If feed is used for more than one type of livestock, each feed entry should be designated to the kind of livestock for which it was purchased. If more than one kind of livestock is fed from the same feed purchase, an estimated division of feed costs should be made. The designation can be listed in the "Details of Transaction" column. This information is necessary if the record analysis is to give accurate production costs for each livestock enterprise.

Column 7 is for "Fertilizer and Lime."

Column 8 is for "Gasoline, Fuel & Oil." Gas, fuel, oil and grease expenses for all farm use except vehicles shared between farm and family purposes are recorded in this column. Expenses on vehicles shared between the farm and family should be recorded in Column 20.

Column 9 is for general farm "Insurance" expenses. Included are types of insurance that cannot be specifically assigned to the livestock, crops and machinery segments of the farm business.

Column 10 is for "Interest" payments on money borrowed for use in the farm business. Separate interest payments from principal payments. Enter principal payments in Column 23.

Column 11 is for "Hired Labor." The amount of the check actually written for hired labor should be entered in Column 11 at the time of payment. Withholdings for social security or income tax should be entered in Column 11 at the time payment is made to the Internal Revenue Service or a designated bank depository. Gross wages earned and deduction amounts should be recorded on page T-2 of the Kansas Farm Account Book. Cost of meals for hired labor can be entered in Column 11.

Column 12 is for "Rent or Lease" of farmland and pastureland.

Column 13 is for "Repairs, Maintenance & Other Machinery & Building Expense."

Column 14 is for "Seeds, Plants Purchased & Other Crop Expenses."

Column 15 is for "Storage & Warehousing" expense.

Column 16 is for "Supplies Purchased, General." All general supplies that cannot be classified directly in some other expense column should be entered in Column 16. Crop supplies can be recorded in Column 14, livestock supplies in Column 2, machinery supplies in Column 13, etc.

Column 17 is for real and personal "Taxes" on the farm business. Taxes on the dwelling and other non-business property should not be recorded here, but should be included in the family living accounts.

Column 18 is for the farm share of "Utilities" expenses.

Column 19 is for "Veterinary Fees, Medicine."

Column 20 is for "Auto Expenses." Expenses on farm vehicles that are shared between farm and non-farm use should be recorded in Column 20. The full expense amounts can be recorded during the year. At the end of the year, the proportion of the auto expenses that can be justifiably attributed to the farm business should be transferred to the analysis page (page 11) and to income tax forms (an optional standard mileage rate may be used for income tax preparation purposes in place of the actual farm share of auto expenses). An alternative is to enter only the farm share of auto expenses in Column 20. Then at the end of the year, the full amount of Column 20 expenses can be transferred to the analysis page and to income tax returns.

Column 21 is for "Other Farm Expenses—Farm Organization Fees, Publications, etc." In addition, any miscellaneous annual farm business expenses that are not appropriately entered in Columns 1 through 20 may be entered in this column. Bank charges and meals and lodging on business trips are examples.

Column 22 is for entering "Capital Purchases." All cattle, sheep, hogs or horses bought for breeding, dairy or draft purposes are recorded in Column 22. Purchases of farm machinery, livestock equipment, buildings, fences and other farm business improvements that must be transferred to the depreciation record for income tax purposes are recorded in Column 22. Major repairs that significantly increase the value of the items repaired, and consequently have to be recorded on the depreciation schedule, also are recorded in

this column. Capital expenses on the farm dwelling are not recorded in this column. They are recorded in the family account records.

Columns 23 and 24 are for expenses that are "Non-Deductible" on a tax return. All principal payments on notes are entered in Column 23. Income tax, self-employment taxes and other non-deductible expenses are included in Column 24. If separate bank accounts are used for farm and family, transfers from the farm to the family account may be recorded in Column 24. This will provide cash outflow information for family expenses. If one bank account serves both farm and family, family expenses for the month can be totaled and one entry made at the end of the month, with the amount recorded in Column 24.

Column 25 is for "Outside Business" expenses. Items entered in this column are tax deductible business expenses that are not a part of the farm business. Examples are taxes and other expenses on rental properties and other non-farm business expenses.

Summarizing the expense pages: column 1, "Feeder Livestock and Other Items Bought for Resale," is an expense that is not charged as a cost until the year the livestock are sold when determining income taxes by the cash accounting method, but is used to reduce gross income in the year purchased when calculating income taxes by the accrual accounting method and in analyzing the farm business net income. Columns 2 through 21 are ordinary tax deductible items. Column 22, "Capital Purchases," is for all farm business expenses that are treated as capital expenditures and must be placed on a depreciation schedule for income tax and farm business analysis purposes. Columns 23 and 24 are for farm business expenses that are not deductible in determining farm business income. Column 25, "Outside Business Expenses," is reserved for expenses incurred by the farm operator that are tax deductible but not on the farm schedule and are not included in the analysis of the farm business.

Column 1 expenses are recorded on line 2 of federal income tax Schedule F. Column 2 through 21 expenses are recorded on lines 12 through 34 of Schedule F. Column 22 items are placed on a depreciation schedule and Column 25 expenses are recorded on appropriate federal income tax schedules.

Cash Inflow and Cash Outflow Summary

Monthly totals of each receipt and expense column are entered on pages 6 and 6a. Totaling all receipts including cash farm receipts, borrowed funds and outside business receipts gives the cash inflow of the farm business and family on line B of page 6. Similarly, totaling all cash operating expenses, capital expenses, principal payments, outside business expenses and family living expenses gives the total cash outflow on line B of page 6a.

Family living expenses can be recorded on page 6a by one of the following methods:

1. In the case of separate farm and family accounts, transfers from farm to the family accounts can be recorded in Column 24 of the expense page and transferred to line 24 of page 6a along with other non-deductible items.
2. If monthly family expenses are recorded in Column 24 of the expense pages, they can be transferred to line 24 of page 6a.
3. If separate family living records are kept, the monthly totals can be recorded on line 26 of page 6a.
4. If family records are not kept, an estimate of monthly family expenses should be recorded on line 26 of page 6a.

Line B, page 6a (total cash outflow) is then transferred to line C, page 6. The difference between lines B and C, page 6, is the net cash flow and is entered on line D, page 6. Net cash flow is positive if line B is greater than line C and negative if line B is less than line C. For additional information on using a cash flow statement as a financial management tool, see K.S.U. Farm Management Guide MF-275, "Cash Flow Projection for Operating Loan Determination."

Keeping and Using Inventories

All businesses, whether farm or non-farm, need an annual evaluation to determine progress. One of the first steps in this evaluation process is taking an annual inventory. Taking an annual inventory of a farm business is not a complicated process once some values are established and a good record system is followed. Actual progress in the farm business cannot be determined from year to year without an annual inventory.

A record of receipts, expenses, and purchase cost of feeder livestock sold during the year, plus depreciation schedules, will be adequate in arriving at net income for income tax purposes for those reporting on the "cash" basis. However, this does not take into consideration any changes in inventory in the business. When the changes in inventories

are recorded, net income can be calculated on a true or accrual basis. Inventory information is also used in constructing a balance sheet.

Inventories should be made at the end of the regular year's business. This may be on a calendar year basis or on a fiscal year basis. Most farm families report income tax on a calendar year basis, so most make an inventory on December 31 each year. This is a good time to inventory farm assets because the work load is usually light. It normally does not require much time to take an inventory, but it is important enough that the job should not be rushed.

A good set of forms for taking annual inventories can be found in the Kansas Farm Account Book, pages 7 through 9.

Only one inventory is necessary each year. The ending inventory for one year is the beginning inventory for the next year.

Inventory of Receivables and Payables

A record of money owed to the farm business (receivables) and money owed by the farm business (payables) is a necessary part of a financial summary such as the Balance Sheet. Pages 7 and 8 of the Kansas Farm Account Book are designed for this purpose. Page 7 is optional. It is a worksheet for page 8 and can be used any way the record keeper desires. The eight columns can be used to record separate payments if more than one payment is made or received on a payable or receivable.

Receivables and payables are summarized for the year on page 8. The beginning of the year inventory of receivables and payables is the same as the end of the previous year. Totals from the inventory of receivables and payables, page 8, are transferred to the Balance Sheet, page 10, for use in determining the net worth of the farm business. Lines 6 and 7, page 8 (Farm Business Accounts owed to me), are transferred to page 11 for use in calculating accrual net farm income.

Farm receivables include checking and savings accounts, salable stocks and bonds, farm business accounts owed to the business and stock in cooperatives and Farm Credit Services.

Farm payables include outstanding checks and overdrafts; taxes, rent and interest due but unpaid; livestock and machinery loans, real estate mortgages and hardware and feed store accounts owed.

Inventory of Livestock, Crops and Supplies

Page 9 of the Kansas Farm Account Book is designed to handle the inventory of all livestock, crops and supplies. The ending inventory figures should be recorded. Totals are transferred to the Balance Sheet, page 10, for use in determining net worth.

The ending inventory pages from the previous year for both "receivables and payables" and "livestock crops and supplies" should be removed from the previous year's account book and placed in front of the ending inventory of the present year. It may be labeled "beginning inventory" of the present year. Land is a part of inventory and is included on line 64, page 9.

Kinds of Property

Property included as inventory in the Kansas Farm Account Book consists of:

1. Unsold production (crops, livestock, etc.)
2. Purchased feeds, seeds, fuel and supplies
3. Financial assets and liabilities
4. Depreciable capital assets (machinery, buildings, etc.)
5. Land

The term "inventory" in its most narrow usage often includes only unsold production. These items are crops and livestock held primarily for future sale. In its broader sense, as used here, inventories include much more. Refer to page 9 of the Kansas Farm Account Book for additional items that become a part of the total inventory.

For example, in the Feeds and Supplies section (beginning with line 55 of page 9), are items that may be neither produced on the farm nor held primarily for future sale. Seed and fertilizer are held for use in next year's production.

Raised breeding, draft, and dairy stock are usually included in an inventory even though treated as a capital asset for income tax purposes (if held 2 years or more for cattle and horses and 1 year or more for other livestock).

Purchased breeding livestock are normally entered on the depreciation schedule and depreciated similarly to machinery and buildings, so are omitted from the inventory by some account keepers.

The inventory of depreciable assets (machinery, buildings and equipment) is not included in the Kansas Farm Account Book. Depreciable assets are recorded in a depreciation schedule. The Kansas Depreciation and Investment Record is available at County Extension Offices for this purpose. Reference to the depreciation schedule for this information is made on page 10 of the Kansas Farm Account Book. In this final state of the inventory process, current values of items in the depreciation schedule are entered to complete the inventory of all assets and liabilities. Farm record keepers are given the option of entering non-farm assets and liabilities to determine a total family net worth in the Kansas Farm Account Book. See page 1 for further discussion on inventories.

Method of Valuation

One problem in preparing annual inventories is arriving at a value for various farm products and property. This is especially difficult in the case of livestock. Inventory practices should be consistent from year to year or the usefulness of the annual inventory is lost. If values are adjusted unrealistically from year to year, true progress is not determined.

The method of valuation to be used on inventory items will depend on the items to be valued and the purpose for which the valuation is made. It is sometimes desirable to keep two separate inventories with different methods of valuation used. This is most true for farm families who file income tax reports on the accrual basis. The Internal Revenue Service has certain approved methods of valuing depreciable and non-depreciable items for tax purposes, some of which permit values below actual market value. Since this often results in reduced regular farm incomes for tax purposes, tax savings may result. Such undervaluation of assets, however, results in underestimation of net worth collateral and financial progress in general. The farm family's estimated equity in the farm business, as influenced by tax-oriented inventories, would underestimate their actual position. Consequently, their ability to get adequate credit could be curtailed or the family could be unnecessarily discouraged.

Six methods which may be used in valuation of inventory items for tax purposes are:

1. Cost method
2. Market price method (farm price method)
3. Cost or market, whichever is lower
4. Unit-livestock-price method
5. Cost-less-depreciation method
6. Cost-plus-appreciation method.

1. Cost Method—Supplies of fertilizer, purchased feeds, and other materials to be used in production are normally valued at cost. Raised inventory items may be valued at the cost of producing them. Purchased items are valued at the actual purchase price plus any additional costs which add to the value of the item. This would be true of purchased feeder livestock. Additional costs which increase their worth are incurred between purchase and inventory dates and should be added to their value.

2. Market price method—Market livestock, poultry, and unsold crops may be valued by the market price method. For the purpose of analyzing the farm business, which is our purpose here, this method is most useful. With this method, each item (whether raised or purchased) is valued at the market price minus sales costs.

3. Cost or market, whichever is lower—Under this method the actual cost of producing the inventory item (or its purchase price if purchased) is compared with the current market value of the item. The lower of the two is used as the inventory value.

4. Unit-livestock-price method—Raised breeding livestock may be valued with this method. Under this method, livestock is grouped or classified according to kind and age and a standard price is used for each animal within a class or group. An example would be calves—$300; yearlings—$400; 2-year olds—$500; and mature animals—$600.

5. Cost-less-depreciation method—Livestock purchased for breeding or dairy purposes is valued with this method. Under this method the value each year becomes the remaining cost of the previous year less the depreciation allowed for the year. This is the method prescribed by the Internal Revenue Service for tax purposes. For example, if a machine is purchased for $10,000 and the first year depreciation is $1,785 and the second year it is $2,347, the value using the cost-less-depreciation method would be $8,215 ($10,000 - $1,785) at the end of the first year and $5,868 ($8,215 -$2,347) at the end of the second year.

6. Cost-plus-appreciation method—Prior to 1982, land had historically increased in value most years. Periodically, land values may need to be adjusted to allow for the change in value. It is suggested that land values be adjusted not more than once every four to five years. On the Balance Sheet (Net Worth Statement) in the year the adjustment is made, a note should be attached indicating the amount of land value adjustment.

Form 1 shows part of the inventory sections of the Kansas Farm Account Book. Four of the methods of valuation are shown in the examples figures. On line 1, the unit-livestock-price method is used in valuing beef cows; $600 per head is used as the unit price. On line 5, the cost-less-depreciation method is used in valuing bulls. The bulls were valued at $2,000 per head the previous year and were depreciated $500 each. The farm (market) price method is used to value the beef calves on line 12. A market value of $315 per head is used. On line 20, the cost method was used for valuing feeder pigs.

(See the inventory section of the Farmer's Tax Guide, available at your county Extension office, for more information concerning methods of valuation.)

Form 1. Examples of livestock inventory methods.

Form 1. Examples of livestock inventory methods.

INVENTORY OF LIVESTOCK.....

YEAR 19_XX_

Line No.	LIVESTOCK DESCRIPTION	NO. OF HEAD	PRICE PER HEAD		AVE. WT./HD.	TOTAL VALUE (Col. 1)	
1	BREEDING CATTLE—Beef Cows	50	600	00	1,050	30,000	00
2	Beef Cows	(Unit-Livestock-Price Method)					
3	Beef Yearling Heifers						
4	Beef Heifer Calves (replacement)						
5	Beef Bulls	2	1,500	00	1,500	3,000	00
6	Dairy Cows	(Cost-Less-Depreciation Method)					
7	Dairy Cows						
8	Dairy Yearling Heifers						
9	Dairy Heifer Calves (replacement)						
10	Dairy Bulls						
11	TOTAL BREEDING CATTLE (Add lines 1 thru 10)	52	XXXXX	XX	XXXXX	33,000	00
12	MARKET CATTLE—Beef Feeders or Calves	25	315		350	7,875	00
13	Beef Feeders or Calves	(Farm Price Method)					
14	Beef Feeders or Calves						
15	TOTAL MARKET CATTLE (Add lines 12 thru 14)	25	XXXXX	XX	XXXXX	7,875	
16	BREEDING SWINE—Sows or Gilts						
17	Sows or Gilts						
18	Boars						
19	TOTAL BREEDING SWINE (Add lines 16 thru 18)		XXXXX	XX	XXXXX		
20	MARKET SWINE—Feeders or Pigs	150	45	00	75	6,750	00
21	Feeders or Pigs	(Cost Method)					
22	Feeders or Pigs						
23	TOTAL MARKET SWINE (Add lines 20 thru 22)	150	XXXXX	XX	XXXXX	6,750	00
24	BREEDING SHEEP—Ewes						
25	Rams						
26	TOTAL BREEDING SHEEP (Add lines 24 & 25)		XXXXX	XX	XXXXX		
27	MARKET SHEEP—Lambs						
28	Lambs						
29	TOTAL MARKET SHEEP (Add lines 27 & 28)		XXXXX	XX	XXXXX		
30	HORSES						
31	POULTRY, OTHER LIVESTOCK						
32	TOTAL BREEDING LIVESTOCK (Add lines 11, 19, 26 & 30)					33,000	00
33	TOTAL MARKETING LIVESTOCK (Add lines 15, 23, 29 & 31)					14,625	00
34	TOTAL ALL LIVESTOCK (Add lines 32 & 33)					47,625	00

Analyzing the Farm Business

The summary of receipts and expenses as determined for income tax purposes may give some indication of the overall performance of the farm business. This is particularly true if the accrual method of tax reporting is followed.

But very little indication is given of . . .

- Where the income was produced.
- The weak or strong points in the farm business.
- The returns for labor and management.
- The trends in net worth, production efficiency, volume of business, per-unit costs, and other important items.

With a little extra time and know-how, records can be kept that will do more than aid in preparing an income tax return. If properly kept and analyzed, they can give many of the answers needed for better management decisions.

One of the important qualities in a farm manager is the ability to systematically keep and analyze farm business records. A comprehensive farm business analysis takes time and effort.

Competent farm managers realize that facts, not guesses, about the farm business are essential to wise decisions. Good judgment does not work well in ignorance; it must have facts as a basis for decisions. Conditions frequently call for change in the farming operation and in the amount and kind of resources being used, so it is important to know what can best be changed before binding decisions are made. A good farm business analysis is a helpful tool for solving this kind of problem. Records, in addition to receipts and expenses, are needed if a reliable farm business analysis is to be made.

Efficiency factors provide valuable information. They include both physical and financial ratios. Some examples are percent calf crop, value of milk sold per cow, value of crops produced per acre, crop cost per acre, and machinery cost per crop acre. These efficiency factors serve as important tools in the analysis of the farm business if used with judgment and common sense. When compared with reasonable goals or standards, they point up both weak and strong points in the farm business. Determining why a particular enterprise is weak or strong is the second step in the analysis of the farm business.

Before an analysis can be of any value, a farm manager must have and know how to use certain tools to make the information usable. Efficiency factors are of little value if no standard values are available for comparison.

One of the reasons many farm families do not do more work with their farm records is that they do not know where to get and how to use these tools and standards. One of the most useful sources of standards or measuring sticks is the averages of the Kansas Farm Management Association farms found in the "Farm Management Summary and Analysis" reports compiled each year or studies made from these reports. These averages come from supervised records on all types of farms in all parts of the state and are available at your county Extension office. Other farm business standards may be available to lend more meaning to an individual farmer's records.

An important management task is to learn to use farm business efficiency standards. The greatest value of efficiency factors is in determining what parts of a farm business are weak and should be eliminated or improved. Once weak and strong points are identified, needed reorganization of the farm can be more intelligently planned. However, some caution must be used in comparing efficiency factors of one farm with another, as explained later.

Balance Sheet—Net Worth Statement

A balance sheet is a statement of the financial condition of a business at a specific time. The balance sheet shows what is owned and what is owed. The difference between the two is the net worth of the business. The net worth measures the owner's share of the assets of the business.

The assets and liabilities from pages 8 and 9 and from the depreciation section of the Kansas Farm Account Book are transferred to the balance sheet on page 10. After the assets and liabilities are systematically recorded, a farm net worth figure is obtained on line 30. Then by recording last year's net worth on line 31, the increase (or decrease) in net worth can be calculated. The change in net worth during the year is an important measure of the health of the farm business. It shows how much is left for growth after family living costs have been taken out. The net worth change is shown on line 32.

Six farm financial ratios are calculated on lines 41 through 46, page 10. Publication MF-270, "Financial Ratios Used in Farm Financial Management," gives additional details on each of these ratios.

The balance sheet and the resulting net worth is one of several valuable tools for families in acquiring credit for use in financing their farming operation.

Other points are considered, also, but a good balance sheet goes a long way in developing good credit relations. For additional information on using the balance sheet as a management tool, ask for KSU Farm Management Guide MF-291, "Balance Sheet—A Farm Financial Management Tool," at your county Extension office.

Net Farm Income Computed on the Accrual Basis

The net farm income for the year can be computed on page 11 in the Kansas Farm Account Book. This form is similar to one used for income tax purposes by those who file income tax returns on the accrual basis. The accrual basis takes into consideration inventory changes, whereas the cash method does not.

On the accrual basis, the value of all crops and livestock produced is credited to the year in which they were produced. On the cash basis, some sales can be held over to a later year, making it possible to sell two crops in one year. The end result is that net incomes on the cash basis may not give a true indication of the profitability of the farm for that year. Net income on the accrual basis tells a farm manager the value of farm production for the year even though the production was not sold. Farmers who report on the cash method should also compute their net income by the accrual method to determine the true income of their farm business that year.

The ending inventory and cash farm receipts are summarized on lines 1 through 5, page 11. Beginning inventory and livestock purchases are summarized on lines 7 through 12. The beginning inventory of the present year is the same as the ending inventory of the previous year.

The gross farm income of the total farm business is calculated on line 12 of page 11 by subtracting the total beginning inventory and livestock purchases (line 11) from the total ending inventory and cash farm receipts (line 5). Gross farm income is an important measure of the size of the farm business. Gross farm income measures the total farm size in terms of the value of products produced on the farm. By definition, gross farm income equals the value of livestock and crop sales plus other farm income plus or minus the value of inventory change minus livestock purchases.

Ordinary farm business expense totals are transferred from page 6a to Column A, lines 28 through 47, page 11. On line 46, only the farm share of auto expenses is entered in Column A. Either an appropriate percentage of the total auto expenses or the rate per mile allowed for income tax purposes is considered farm share.

Annual depreciation totals are brought forward from the depreciation records and entered on lines 48 and 49, page 11. Purchased breeding livestock are assumed to be included in the page 9 livestock inventory values. If not, their annual depreciation should be included with the lines 48 and 49 depreciation amounts. Farm cash expenses and depreciation expenses are totaled on line 50.

A payable expense adjustment must be made to account for expenses that are due but unpaid at the beginning and at the end of the year. This adjustment is made on lines 15 through 17 on page 11. The change in inventory of items due but unpaid is transferred from line 17 to line 51. Farm business expenses (after the adjustment) are totaled on line 52. Net farm income shown on line 53 is the gross farm income (line 12) minus the total farm business expenses (line 52).

This accrual net farm income figure represents the true net income of the farm business regardless of the method of income tax reporting. For additional information, see KSU Farm Management Guide MF-294, "Income Statement—A Farm Financial Management Tool," available at your county Extension office.

Crop and Livestock Expense Allocation

The total farm expense figures, listed in Column A, page 11, can be allocated to crops and livestock in Columns B and C.

There is no simple method of effectively allocating expenses between crops and livestock. The responsibility lies on the shoulders of the farm business manager.

Each expense line (lines 28 through 49 and line 51) should be allocated on a percentage basis to crops and/or livestock. For some items, such as breeding fees, feed purchased and seeds, they are 100 percent either crops or livestock. Other expenses, such as gasoline, repairs and utilities, must be allocated based on the knowledge of the business manager.

If farm business expenses are allocated to the crops and livestock phases of the business, the Column B total on line 52, page 11, can be transferred to line 27, page 20, to make the determination of the contribution of crops toward the net income of the farm business. Similarly, the Column C total on line 52, page 11, can be transferred to line 29, page 21, to arrive at the contribution of livestock toward the net income of the farm business.

Recording Crops and Livestock Production Information

In addition to a listing of expenses and receipts, an inventory of crops, livestock, supplies and a depreciation schedule, information on crops and livestock production is needed to further analyze the farm business record. Most of the information is not required for income tax reporting and consequently is not a part of records kept solely for income tax purposes.

Pages 14 and 16 of the Kansas Farm Account Book have been designed to record information on crop production. Crop production on owned land is recorded on page 14 and on rented land on page 16. All crop production is listed on

pages 14 and 16 regardless of whether it is sold as a cash crop or fed to livestock. The acres, yield, total production, price per unit and total value of all crop production is listed.

The suggested prices for crops are the actual sale prices if sold before the end of the year or the year-end inventory price if not sold by the end of the year. If some of the production of a specific crop was sold and some was on hand at the end of a year, a weighted average should be used.

Pages 13 and 15 are optional worksheets that may be filled out to assist in recording information on pages 14 and 16.

Owned Crop Production—Tillable dryland crops raised on owned land are recorded on lines 1 through 20 on page 14. Pasture and meadow is listed on lines 22 through 25. If a second crop is harvested from any dryland acreage, it is recorded on lines 27 through 33. The double crop acreage is not totaled to prevent double counting of acreage.

Irrigated crops are recorded on lines 35 through 51. Miscellaneous acreage and payments, such as timber, farmstead and waste, government payments and insurance proceeds, are listed on lines 53 through 58. Irrigated double crop acreage and production are recorded on lines 60 through 66. Owned crop production is summarized on lines 68 through 70. Total owned acres and total owned crop production value is summed on line 68. The total value on line 68 includes pasture, meadow and timber production values. These values are subtracted on line 69 to give a value of all crop production from owned land on line 70. This value is transferred to line 25 of the "Farm Business Analysis," page 20, to determine the profitability of the crop operation.

Rented Crop Production—The general format of the rented crop production page (page 16) is identical to page 14 except an operator's percent column and an operator's share column have been added. Rental crop production is summarized on lines 68 through 70. The value of all crop production from rented land is determined on line 70, page 16. This value is combined with the value of all crop production from owned land (line 70, page 14) and transferred to line 25 of the "Farm Business Analysis" on page 20.

Livestock Breeding Record and Livestock Production and Mortality

Pages 17 and 18 of the Kansas Farm Account Book contain records for livestock producers, including breeding records and birth and death loss records.

Standards for Man Work Days

The amount of work to be done on a farm can be stated in terms of productive man work units. A factor, commonly called "standard for man work days," is assigned to each unit of production on the farm. When this factor is multiplied by the number of units of each enterprise, such as acres of crops or numbers of livestock, it determines the units of work for that enterprise. Totaling the units for the individual crop and livestock enterprises results in a measure of the amount of work to be done on the entire farm according to a set of standards.

The man work day factor is the expected amount of time that a person will use in an efficient farm business with adequate equipment to produce one unit of production. A man work unit is the amount of work that a man should be able to do in a 10-hour day.

The Standards for Man Work Days on page 19 of the Kansas Farm Account Book can be used to determine the total units of work to be done in the farm business. This can be compared to the amount of labor actually used to accomplish this work to indicate farm labor efficiency.

The number of acres of each crop is placed in the "Acres" column and the number or units of livestock is placed in the corresponding column. These numbers are multiplied by the standards for these crops or livestock enterprises to arrive at the amount of labor for the farm (Man Work Hours = No. of Acres or Head x Standard). For example, 200 acres of wheat in Central Kansas would require 360 Man Work Hours (200 x 1.8 = 360). On line 40, the "Man Work Hours" are converted to "Man Work Days" by dividing the total man work hours by the number 10.

In the crops section of the Standards for Man Work Days, there are four standards to choose from depending on location in the state or type of farming—east, central, west, and irrigation.

One standard is used for each livestock system. This standard represents the labor normally required for livestock systems in successful, well-managed livestock programs.

In the case of cattle feeding enterprises, the standard is listed on a per month basis rather than for the full year. For cattle feeding enterprises, the man work days figure is calculated by multiplying the number of animals times the number of months the animals were fed times the standard factors (Man Work Hours = No. of Head x No. of Months x Standard).

Supply and Disposal of Livestock, Roughage and Grain

The means of acquiring and disposing of farm products can be accounted for in the Supply and Disposal of Livestock, Roughages and Grains table on page 19.

The numbers of livestock and quantities of crops acquired are listed in the supply section. All methods of acquiring are listed there, including carrying into the farm account year in the form of beginning inventory, the number or quantity born or raised during the year and the number or quantity bought during the year.

The numbers of livestock and quantities of crops disposed of during the year are listed in the disposal section. The means of disposing of livestock and crop production include the numbers or quantities sold during the year, the number of livestock butchered during the year, crop production paid to the landlord in the form of rent or used for seed, the number of animals that died, the amount of feed fed to livestock and the numbers and quantity on hand at the end of the farm account year in the form of ending inventory.

Since the supply includes all the means of acquiring crops and livestock during the year and the disposal includes all of the means of disposing of the supply, the supply must equal the disposal of each crop and livestock enterprise. For example, if 5,000 bushels of wheat were carried over from the previous year as beginning inventory and 15,000 bushels were raised, the total supply is 20,000 bushels. Then if 12,000 bushels were sold, 500 bushels were planted and 7,500 were carried over to the next year as ending inventory, the disposal total is also 20,000 bushels. The disposal of the 20,000 bushel supply for the year has been accounted for.

If the amount of feed fed to livestock is unknown, it can be calculated by subtracting from the total feed supply, all of the disposal quantities of the other feed items. The difference would be the amount of feed fed to livestock.

The supply and disposal tables may prove useful in substantiating claims made on income tax returns.

Size of Business

The size of the farm business or scale of operation is not easily indicated by any one measure. Total size is determined by the input of labor and capital as well as land. Therefore, use of a single measure is sometimes misleading.

Acres of land might serve as an appropriate measure for farms which produce only wheat in a given geographic area. Numbers of dairy cows might well indicate scale of operations if dairy products were the sole source of income. None of these measures would give a true picture on farms producing more than one crop and livestock enterprise of varying degrees of intensity. Two farms of equal acreage may have operations of an entirely different size because one raises not only crops but also maintains a substantial livestock enterprise. Size of business measurements are found on lines 1 through 7 on page 20 of the Kansas Farm Account Book.

Capital Managed. Total capital managed (line 3) is computed by totaling all owned assets and values of rented resources. It should include capital items used in the farm business, whether owned or rented. Capital managed is a good common denominator since it reduces land, livestock and all other assets to one basis of measurement—dollar value.

Gross Farm Income. The gross farm income (line 4) for a farm family has become a useful tool in studying the size of a farm business. Studies indicate that gross income is one of the most reliable indicators of the earning potential of the farm business. When families know how much net income is required for family living, a goal for gross income can be established.

Gross farm income is computed by subtracting the cost of purchased feeder livestock from total farm sales of crops and livestock and other farm receipts and adjusting for inventory change between the beginning and the end of the year.

The relationship of gross farm income to net farm income is an important efficiency measure.

Total Acres Operated and Acres in Cropland. Total acres operated (line 5) and acres in cropland (line 6) are measures of the size of the farm business.

Man Work Units. The total man work units (line 7) is a measure of the days of labor the business would require for farm managers of normal work efficiency in well-organized units. The man work units are calculated based on crop and livestock standards listed on page 19 and carried over to line 7 on page 20.

Machinery

Machinery costs represent a sizable part of total costs on most farms. A large proportion of machinery costs on most farms is involved in crop production. It makes sense to look closely at the larger costs of a business to find ways of improving business management. The machinery cost section of the Kansas Farm Account Book (lines 11 through 21, page 20) focus on machinery costs devoted to crop production. The key measures are “machinery investment per crop acre” (line 14) and “machinery cost per crop acre” (line 21).

Total machinery investments and costs are listed in column A in the Machinery Investment and Cost Section on page 20. The total machinery investment and costs become more useful on a per-unit basis. Livestock machinery investments and costs must be separated from crop machin-

ery investments and costs to arrive at per acre crop machinery investment and cost. This is done in column B and column C, lines 11 through 21. Machinery used for both crops and livestock must be allocated between the two. Machinery used in the production and harvesting of livestock feed crops should be allocated to crops.

Machinery investment. The market value or depreciated value (remaining cost of all machinery) at the end of the year may be used as the machinery investment value on lines 11 and 12, page 20. In periods of high trade-in values of machinery, the depreciated value of the total machinery investment may vary considerably from the actual market value of the machinery. Rapid depreciation methods for tax purposes may also cause the remaining cost from tax return depreciation schedules to underestimate the market value of the machinery. In these periods, the farm account keeper may want to use an estimate of market value of machinery for lines 11 and 12 rather than the remaining cost from the tax depreciation schedule.

After the crop share of machinery investment value (lines 11 through 13, column B) has been deducted from total machinery investment value (lines 11 through 13, column A), the machinery investment per crop acre can be calculated on line 14, column B, by dividing the crop share of machinery investment by the number of crop acres.

Machinery investment per crop acre as computed on line 14, page 20, has meaning to the farm operator when it is compared with figures from farms of similar size and type. For instance, a cash crop-beef farm should be compared with other cash crop-beef farms. It is meaningless to compare the machinery investment per crop acre on a western Kansas wheat farm with that of an eastern Kansas corn farm.

The machinery investment per crop acre is computed by dividing the number of crop acres on the farm into the machinery investment figures. The annual Summary and Analysis Report of the Kansas Farm Management Association is helpful in providing standards for machinery cost and investments on similar sizes and types of farms.

Machinery cost. The total machinery cost (line 18, page 20) is the sum of (1) cash expense on machinery, including trucking and machine hire, (2) machinery depreciation, and (3) interest on machinery investment. Any receipts, less a labor allowance, that are received by using machinery for custom work or any refunds for gas used for machinery are subtracted from the total machinery cost to get a net machinery cost for the acres farmed (line 20, page 20). Then machinery cost per crop acre can be calculated on line 21 by dividing the net machinery cost, line 20, column B, by the number of crop acres.

Crops

Crop production information is important in farm business analysis. Crop efficiency measurements are determined on lines 25 through 32, page 20, of the Kansas Farm Account Book.

Gross value of crops produced. Income from the cropping system may be more than the total sales of crops would indicate unless credit is given for feed fed on the farm. Much of livestock gross income is actually raised crops sold through livestock.

The value of cropland production calculated on pages 14 and 16 is transferred to lines 25 and 26, page 20.

The cost of producing crops does not differ greatly from year to year, but there can be a great deal of variation in the value of crops produced. It is important to keep the value of crops produced per acre as high as possible, so long as the cost of additional inputs is less than the value of the additional production. The value of crops fed to livestock is included in the gross value of crops produced to give the crops portion of the farm business its full share of value produced. In the crop analysis, the value of all cropland production, including the landlord's share, is listed on line 25. The value of the operator's share is listed on line 26.

Direct crop cost. The direct crop production cost (line 31, page 20) measure includes costs that are directly related to crop production. It does not include an interest charge on the operator's own capital, a charge on operator and unpaid family labor and management or a land charge on owned land. Direct crop costs include: (1) crop production expense including depreciation and repair of crop machinery brought over from page 11, line 52, column B, and recorded on line 27, page 20, and (2) value of raised seed planted (line 30, page 20). If some custom crop work is done by the business operator, an adjustment must be made to allow for the cost of doing custom work. This is done by subtracting receipts for crop custom work from crop expenses. The receipts for custom crop machine work are recorded on line 19, column B, page 20, and transferred to line 28, page 20.

Crop income over direct crop costs. By subtracting direct crop costs (line 31) from the value of operator's share of all cropland production (line 26), the operator's share of crop income over direct crop costs can be determined (line 32). This measure gives an indication of the efficiency of the cropping system and the contribution of the cropping system toward the net income of the farm business. It must be kept in mind that this measurement includes no interest cost on the operator's own capital and no charge for the operator's labor and unpaid family labor.

Operator's Return for Labor and Management

The operator's return for labor and management, estimated on page 20, lines 33 through 38 of the Kansas Farm Account Book, provides some revealing information in a farm analysis. The operator's return for labor and management is the amount of actual earnings the farm operator receives for labor and management efforts.

Interest on net capital (line 35) plus the value of unpaid family labor (line 36) is subtracted from net income to arrive at the operator's return for labor and management (line 38). Interest on net capital is subtracted at rates the farmer could have earned on the same capital in safe investments for an intermediate period of time. An 8 percent interest rate is suggested on line 35 but a different rate may be used.

Each record keeper can specify the value of unpaid family labor per month on line 36. The monthly rate is then multiplied times the months of unpaid family labor used in the business.

Labor

Labor efficiency measurements can be determined on lines 41 through 44, page 20, of the Kansas Farm Account Book. After totaling the months of labor contributed by the operator, hired labor, and family labor, the number of man hours (equivalent) for the year can be calculated.

Profit Guides

Other profit guides can be useful in farm business analysis. Some of these can be computed and entered on lines 47 through 64 on page 20 of the Kansas Farm Account Book. Certain standards or reasonable goals have been established so the farmer's results can be compared with these goals. In addition to the livestock goals, five computations in this section of the analysis stand out in importance.

1. **Gross Farm Income**—Gross farm income (line 54) has already been discussed. A figure of $150,000 or more is suggested to cover farm expenses and still leave enough to meet family living costs and make some increase in net worth. Such a goal is, of course, dependent on resources available.
2. **Gross Farm Income per Man**—Gross farm income per man (line 55) shows a labor efficiency factor. It is computed by dividing total gross income by the number of man years used. For some types of farming, the output per worker is high. In others it is low. A goal of $100,000 gross income per man has been suggested. High wages cannot be paid when production per man is low.
3. **Net Farm Income**—The net farm income of the business was calculated on page 11 and carried back to lines 33 and 56, page 20. The net income goal should be high enough to provide a comfortable family living and allow some farm growth.
4. **Man Work Days per Man**—The ratio of man work days per man (line 57) measures work accomplishments per worker. This ratio is computed by dividing the total man work days (the number of days it should have taken according to the standards on page 19) by the number of men equivalent actually used on the farm (line 44). High capacity machinery and power have reduced the time required to produce livestock and crops, but machinery costs must be kept in line. The man work days per man measure is similar to other measures of labor efficiency; it does not fully indicate the economy of labor-capital substitution relative to costs of each. A suggested goal is 250 work days per man.
5. **Total Farm Expenses Per $1 Gross Income**—The total farm expenses per $1 gross income (line 59) indicates the overall efficiency of a farm business. This is computed by dividing total farm business expenses (line 58) by gross farm income line (54). A reasonable goal is 75 cents expenses per $1 gross income, leaving 25 cents out of each dollar of gross farm income for net income.
6. **Ratio of Gross Income to Net Income**—The ratio of gross income to net income (line 60) is determined by dividing gross farm income (line 54) by net farm income (line 56). This ratio is similar to the previous measurement except that it is a gross income to net income ratio rather than an expense to gross income ratio. A suggested goal is 4 to 1 ($4 gross income to $1 net income), which is analogous to the 75 cents to $1 ratio. As with the expenses per $1 of gross income, this ratio will vary widely between good years and bad years. An average of several years is most useful. Individual year ratios should not be averaged to arrive at an average. Gross farm income and net farm income should each be totaled for a several years; then a ratio of these two totals should be calculated.

Livestock Income Summary

The livestock income summary on page 21 provides valuable information about the income earning capacity of each type of livestock enterprise on the farm. The sales, product receipts and ending inventory of each livestock enterprise are totaled, as are the purchases and beginning inventory of each livestock enterprise. Subtracting purchases and beginning inventory from sales, product receipts and

ending inventory gives the gross income for each livestock enterprise. The livestock gross income summary shows the relative importance of each enterprise in contributing to gross farm income. Gross income as measured in the Kansas Farm Account Book is the total sales of crops and livestock minus livestock purchases plus or minus any difference in inventory from the beginning to the end of the year. It is one measure of volume of business. The livestock gross income figures on lines 9, 18 and 26 show the contribution to the volume of business made by cattle, sheep and hogs. Combining these three totals gives the total livestock gross income on line 27.

If a realistic proration of farm expenses (lines 28 through 52, Column C, page 11) to the livestock enterprises can be made and if a reasonably accurate estimate of non-cash livestock costs (line 30 through 35, page 21) can be made, it is possible to derive a meaningful measure of livestock income over direct costs (line 37, page 21). This measure gives an indication of the livestock segments' contribution to the net income of the farm business.

Income Tax Records

Information necessary for income tax reporting is recorded on pages T-1 through T-6. Names and Social Security tax numbers along with non-business itemized deductions are included on page T-1.

A record of farm wages paid to all hired labor, including family labor payments, is available on pages T-2 and T-3. At least four employees can be handled on the two pages. There are two full sets of columns on each page. The date of each payment, gross amount earned, net amount paid and any withholdings for Social Security tax or income tax should be recorded. The Social Security number of each employee should be obtained when the first payment is made to a laborer so it is sure to be available at tax preparation time. Pages T-2 and T-3 provide information for submitting periodic Social Security tax payments and income tax withholding payments.

Form 1099 information is recorded on page T-4. Farm business operators are required to submit a Form 1099 to the Internal Revenue Service to report payments of $600 or more for certain kinds of payments to individuals. Examples are cash rent, custom operations and interest payments to individuals. The name, address, Social Security number and amount of any qualifying amounts should be recorded on page T-4. If more than one payment is made during the year totaling $600 or more, a Form 1099 must be filled out. One copy to the Internal Revenue Service and one copy must be sent to the individual.

Also included on page T-4 are tables for recording livestock birth and death loss information for tax purposes and non-highway gasoline and oil used.

A cost of livestock sold record is available on page T-5 for determining the purchase cost of livestock sold in the present tax year. Income tax regulations require that purchase cost of livestock bought for resale be counted as an income tax deduction in the year the livestock are sold. Farm taxpayers on the cash basis, consequently, cannot necessarily deduct the cost of purchased livestock in the year they were purchased similar to most other farm expenses. In case the livestock were purchased in one year and sold in another year, it is necessary to keep a record of the purchase cost of various groups of livestock. This can be done on page T-5.

An income tax estimate worksheet is on page T-6. Taxable receipts and tax deductible expenses including depreciation should be totaled in late November or early December and combined with non-farm taxable income to determine taxable income on that date. Then tax management decisions influencing taxable income can be made, such as selling additional crops or livestock to increase taxable income or incurring additional expense to lower taxable income.

Kansas Depreciation and Investment Record

The Kansas Depreciation and Investment Record is a separate record book but is part of the Kansas Farm Account Book system. It is for recording farm business expenses that must be depreciated for income tax purposes. It contains two depreciation sections. The MACRS-ACRS (Modified Accelerated Cost Recovery System and Accelerated Cost Recovery System) section is for recording depreciable items purchased after 1980. A second section is for depreciable items purchased in 1980 and prior years. This section contains four categories: machinery, motorized equipment, buildings, and breeding livestock.

Other records included in the Kansas Depreciation and Investment Record are: owned real estate investment record, rented land record, and tax information record. The Kansas Depreciation and Investment Record is available at Kansas County Extension Offices.

Resources

Micro-computer Accounting Plus

For farm account keepers with computer equipment, a software program is available through the Kansas State University Extension Service. It is an accounting program designed for agriculture called Micro-Computer Accounting Plus. The program consists of the financial system plus the following modules: Balance Sheet - Financial, Payroll and Enterprise.

The accounting package allows for entry of all checks and deposit tickets directly from the bank statement. Accuracy checks are a special feature of the program. A four-digit code is used to classify all check and deposit ticket entries as income, expense or loans. Family living records are an integral part of the system. A separate family living report is provided.

Micro-computer hardware requirements are: IBM PC compatible, 512K RAM, hard disk, and dot matrix printer.

For more information on the Micro-Computer Accounting Plus program, contact your County Extension Agent or Larry N. Langemeier, Extension Agricultural Economist, Waters Hall, KSU, Manhattan, KS 66506 (913-532-5823).

Suggested References*

1. KSU Farm Management Guide, MF-270, “Financial Ratios Used in Financial Management”
2. KSU Farm Management Guide, MF-275, “Cash Flow Projection for Operating Loan Determination”
3. KSU Farm Management Guide, MF-275a, “Worksheet—Cash Flow Projection for Operating Loan Determination”
4. KSU Farm Management Guide, MF-291, “Balance Sheet—A Farm Financial Management Tool”
5. KSU Farm Management Guide, MF-294, “Income Statement—A Farm Financial Management Tool”
6. Internal Revenue Service Publication 225, “Farmer’s Tax Guide”
7. North Central Region Publication No. 2, “Income Tax Management for Farmers”

* Available at Kansas County Extension Offices

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