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IICA



FARM RECORD KEEPING

October, 1991

IICA OFFICE IN JAMAICA

WHAT IS IICA?

The Inter-American Institute for Cooperation on Agriculture (IICA) is the specialized agency for agriculture of the inter-American system. The Institute was founded on October 7, 1942 when the Council of Directors of the Pan American Union approved the creation of the Inter-American Institute of Agricultural Sciences.

IICA was founded as an institution for agricultural research and graduate training in tropical agriculture. In response to changing needs in the hemisphere, the Institute gradually evolved into an agency for technical cooperation and institutional strengthening in the field of agriculture. These changes were officially recognized through the ratification of a new Convention on December 8, 1980. The Institute's purposes under the new Convention are to encourage, facilitate and support cooperation among the 32 Member States, so as to better promote agricultural development and rural well-being.

With its broader and more flexible mandate and a new structure to facilitate direct participation by the Member States in activities of the Inter-American Board of Agriculture and the Executive Committee, the Institute now has a geographic reach that allows it to respond to needs for technical cooperation in all of its Member States.

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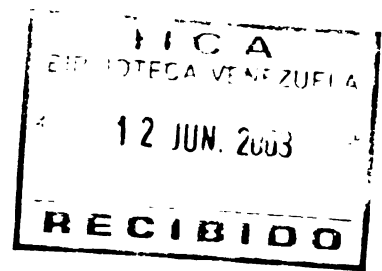
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PREFACE

This series of training manuals are the result of class notes used in the training of Ministry of Agriculture personnel. The training manuals were developed by the Ministry of Agriculture Farm Management Section and the Inter-American Institute for Cooperation on Agriculture for the purpose of enhancing Ministry of Agriculture extension personnel skills in areas of farm planning and monitoring of farm plans implementation.

Training was implemented in modules of three days workshops covering the areas of farm plan preparation, investment analysis and control of the farm plan implementation. During the first workshop the participant is exposed to concepts of enterprise budgets and the development of the best farm plan given farmers goals and resources. The emphasis is on the development of farm plans with annual crops.

The second workshop covers the aspects of farm investment decision making. Concepts of capital budgeting and the Net Present Value method to compare between investment alternatives in permanent crops are presented and illustrated with examples.

The third workshop deals with the aspects of the control of the farm plan implementation. During this workshop the emphasis is on the presentation of a recordkeeping system to monitor the technical and financial implementation of the farm plan and on how to use the information to improve the farm operation.

✓ The publication of this series of training manuals is for the purpose of contributing to the improvement of farm management skills of small farmers in Jamaica. Those interested in expanding the information for training purposes will find the list of sources of information used in the preparation of these materials very useful. //

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FARM RECORDKEEPING

I. Introduction

Many small and large farmers believe that hard work and good weather conditions are enough to produce good business results. Without records describing how the business is performing, is like flying without instruments. The farmer acts only by instinct and corrects mistakes after they have happened.

However, it is important that the farmer knows where his business is at any time. This is the only way that the farmer will be able to make decisions and have control to reach his/her goals.

A great amount of information is required for farm planning, for whole farm analysis and for enterprise analysis. Additional records are valuable only if they are used in a way that increases the efficiency and profit of the farm operation. In this workshop the emphasis will be on the presentation of a very simple system of recordkeeping sufficient to assist farmers in their management of the farm operation.

Elaborate systems of records are unnecessary for making decisions to improve the efficiency and profits of the farm operation. Most farmers could benefit by keeping additional detailed information, but there is a limit. The time spent recording information is an important factor to be considered. This is particularly important for small and medium size farmers who do not have the time or resources to pay a person to keep records for them.

The presentation of farm planning starts with the determination of the farmer's goals. These goals relate to specific production, marketing and financial goals. The production goals (yield/acre, milk/acre) and marketing goals (prices and quantities of inputs purchased and products sold, grade or quality to deliver or purchase, when and how to buy and sell) are tied to measures of efficiency, while the financial goals are tied to measures of profitability, liquidity, and solvency.

A record keeping system involves organizing a set of records where a description, quantities and values on the physical and financial transactions of the farm operation are registered for control and analysis. If these goals are to be realized, it is appropriate to relate the control measurements, standards and procedures to the same goals. This suggest that a control system for a farming operation must monitor production, marketing and financial performance.

II. Use of Farm Records

Farm records can be used as follows:

1. Management tool

Farm records provide the necessary information for analyzing the farm business, for budgeting, farm planning and for decision making. Farm records can be used by the farmer to measure efficiency in using his/her labour, management and capital in production. The Income Statement (a summary of income and expenses) measures the farmer's success in producing income for family living, farm business growth and satisfaction of the farmer's goals.

2. Basis for credit

Farm records provide the financial institution with information for handling credit requests. Records provide the information for planning the credit needs and the repayment capability of the farmer.

III. Accounting Methods

1. Single Entry Method

In the single entry system receipt and expense transactions are recorded only once. The system keeps track of the receipts and expenses of the farm business without maintaining a balance in the following basic accounting formula:

Farm property (land, buildings, machinery, livestock, supplies) = what is owed (debt) + what is owned

or

Assets = Liabilities + Owner's equity

The single entry system can be on a cash basis where income and cash expenditures are recorded when they are paid. For example yam seed purchased in December 1990 and paid in January 1991 will be recorded as an expense for 1991.

The accrual method registers income and expenses when they occur, whether they are paid or not. Therefore income is income when the output is produced and

expenses are expenses when the inputs are used. Changes in inventory (grains, livestock, supplies) are taken into consideration to estimate net income. This method describes more accurately annual farm income.

2. Double entry system

In the double entry system there is a source and a destination for every transaction. Transactions are recorded twice, once in the source account and once in the destination account. A purchase of a sprayer in cash will decrease the amount of cash assets and increase the capital assets account.

It simply involves keeping track of all changes in assets and the claims (liabilities and owner's equity) on those assets each time a transaction takes place.

Both methods will give the same income statement when records are properly kept. Recording errors are more difficult to detect in the single entry system.

IV. The Accounting Period

The production period needs to be considered in selecting an accounting period. The beginning of the main cropping season could be an appropriate time to start a recordkeeping system.

The accounting period selected should be the period most appropriate for the analysis of the activities of the farm operation. For some farmers it may be more useful to keep records on a calendar or fiscal year period. A broiler producer may find it more convenient to use an accounting period that starts with each new batch of broilers.

V. Components of a Farm Records System

Two basic components of a complete set of farm records are:

1. The financial statements
2. The supporting records

1. Financial Statements

There are three basic types of statements:

- 1) Net Worth Statement or balance sheet; and
- 2) Income Statement or profits and loss statement.

Both are financial statements, but they serve different purposes. The balance sheet shows the financial condition of the farm at a point in time while the income statement summarizes the financial transactions (income and expenses) which occurred over a period of time. These two reports are very useful to small farmers for improving their managerial decision-making process.

Cash Flow Statement

The Cash Flow Statement is another important component of a set of records. The cash flow statement is the key component to keep good financial control and monitor farm plan implementation.

The income statement and balance sheet provide annual summaries of the financial condition and progress of the farm, but these are only annual statements. If a farmer relies only on the annual income statement and net worth statement as the major components of the financial system, problems that can have serious financial consequences are not detected until the end of the year.

The cash flow statement provides a system for monitoring the financial condition of the farm, detecting potential problems and suggesting alternative procedures that could be implemented to correct the problems.

By comparing actual cash flow for the period with projected cash flow (projected cash flow concept and example presented during the farm planning workshop), constant monitoring of the income and expense pattern of the farm business can occur. With the cash flow record, potential problems can be detected during the year so that corrections can be made.

The cash flow statement is useful to every farmer but it is not recommended to attempt to develop projected cash flows with farmers who have not kept records before. Farmers who use low level of inputs and are involved in few cash transactions will find projected cash flows schedules less useful.

1.1 Net Worth Statement

The net worth statement or balance sheet is a summary of the farm assets (cash, machinery, livestock, land) expressed in money terms and the claims (liabilities) upon them. Assets not claimed by outside business are the owner's net worth or

equity (farmer's capital). If a farmer sells the farm (assets) and pays all the debts or claims on the farm (liabilities) what is left is his/her capital (net worth or equity).

The net worth statement is a summary of the assets, liabilities and net worth of a farm business at a point in time. It is the basis to estimate financial ratios indicating the feasibility of the farmer to pay farm debts and take new debts. Comparison of Net Worth statements made at the end of the accounting period provides information on the farmer's capital growth.

$$\text{Net Worth} = \text{Assets} - \text{Liabilities (debts)}$$

By increasing assets and/or reducing liabilities the farmer's net worth can be increased.

$$\text{Assets} = \text{Liabilities} + \text{Net worth (farmer's equity)}$$

Assets can be increased by investing net income from the farm or by increasing debt.

Many different forms and formats exist for developing a net worth statement or balance sheet. However, all contain the same basic information with assets listed on the left-hand side and liabilities on the right-hand side.

NET WORTH STATEMENT

Mr./Mrs./Miss _____

January 1, 1990

ASSETS

LIABILITIES

Current:

Current:

Cash or commodities that can be converted to cash within one year (supplies, raw materials, crops in storage, growing crops, livestock purchased for resale and raised for sale, breeding livestock to be culled)

Accounts payable, loans principal due in the next 12 months.

Intermediate:

Intermediate:

Assets with expected lives of from two to 10 years (breeding and dairy livestock, machines, and equipment)

Remaining principal on loans associated with intermediate assets

(continues in next page)

Long Term:

Real Estate with expected life
of over 10 years (buildings, land)
Improvements to the land,
permanent crops

Long Term:

Remaining principal on
loans associated with
long term assets

Net Worth or Owner's
Equity

TOTAL \$**TOTAL \$**

Example:

NET WORTH STATEMENT

Mr. John Doe

January 1, 1990

ASSETS**LIABILITIES****Current:**

Cash

Cash in the bank \$ 1582

Accounts receivable

crops & roots 6750

Seeds & supplies 3505

Calves 2500

Current:

Accounts payable

A.C. Lumber Co. \$ 837

J. Drake & Sons 1704

P. Guinness 3201

Loans

F.C. Bank 6235

Interest

F.C. Bank 585

Intermediate:

Breeding livestock

Beef Cattle 13475

Dairy 6050

Goats 1270

Powered Machinery 23525

Crop Equipment 7327

Intermediate:

Loans

F.C. Bank 11758

Long Term:

Land 39000

Buildings 12000

Long Term:

0

TOTAL ASSETS \$ 116,984-----
TOTAL LIABILITIES \$24,320**NET WORTH 92,664****TOTAL \$ 116,984****TOTAL \$ 116,984**

- Information provided by the net worth statement

Several ratios can be computed from the net worth statement to analyze the financial situation of the farm business.

Percent Ratio

The percent debt ratio shows the proportion of farm total capital supplied by creditors.

$$\text{Percent debt} = \frac{\text{Total liabilities}}{\text{Total assets}} \times 100 =$$

Using the figures from the example above, we have that the percent debt for the farm is:

$$\text{Percent debt} = \frac{24,320}{116,984} \times 100 = 20.8 \%$$

An increasing percent debt through time may indicate problems in the farm operation.

Current Ratio

This ratio measures the ability of the farmer to pay current liabilities.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} = \frac{14,337}{12,562} = 1.14$$

A ratio close to one or lower indicates cash problems to pay debts and bills when they are due. In this example the farmer can pay the bills but will have very little cash left for working capital to operate the farm. A cash flow budget will show a more accurate picture of the farmer's capacity to pay bills on time and carry out farm operations.

An additional analysis that can be made is the comparison of net worth statements to measure changes in the farmer's equity. A change in the farmer's net worth or equity from one year to the next shows growth or decrease due to net income earned or lost from the farm operation. A decrease from one year to another may result from low farm income or high consumption expenditures by the farmer and his family. It may also result from large changes in inventory prices of current and intermediate assets.

To construct a Net Worth Statement and the supporting farm records you need to conduct an inventory and value your assets. Conducting a physical inventory takes time but does

not presents major problems. The problems start when you have to select an appropriate valuation system for the assets in the net worth statement.

Inventory and valuation of assets for the net worth statement

Farm assets (property) are the economic resources of the farm that are expressed in money terms. The valuation criteria that you may use will depend on the purpose of your Net Worth Statement (NWS).

If you are preparing the NWS for a loan, the bank is interested in your solvency situation along with a detail of your assets. The valuation method used for preparing the NWS should be the net market value (actual market value of your assets minus the cost of selling the assets). The net market value method of valuation can be used to value your assets to analyze financial progress through time and for business and financial analysis.

The most common methods used in valuation are the following:

- . Market cost

This method is used for items that have been recently purchased. It is the price at which the items were purchased.

- . Net market value

This is the price that the farmer can get for the asset at the market less transportation and marketing charges.

- . Farm production cost

This method is used for products produced in the farm that will be used in other farm production activities (for example, hay, standing crops, breeding livestock raised in the farm). The production cost should not include the cost of farmer's labour, interest on investment and profit. It should only the cash expenses incurred in the production of the commodity.

- . Cost minus depreciation

Assets valued by this method are buildings, machinery, fences and purchased breeding livestock. To estimate depreciation there are different methods. The simplest method is the straight line method.

Depreciation

Assets like tractors, sprayers, and other similar machinery, permanent constructions and purchased breeding livestock, provide productive services to the farm operation for more than one year. During the lifetime these capital assets age and deteriorate and therefore eventually need to be replaced.

Depreciation is a method to estimate the annual cost of using capital items in the farm (or the portion of the cost of the capital asset that is recovered every year to replace it at the end of its useful life) and to estimate the loss in value. Some of the capital assets have a value at the end of their useful life in the farm (salvage value) that needs to be considered in the estimation of the depreciation of the asset.

One simple method to estimate depreciation is the straight line method. The method takes the total amount to be depreciated less the salvage or residual value and divides this amount by the number of years of useful life in the farm. The amount to be depreciated is deducted in equal amounts over its useful life in the farm.

Straight line formula

$$\text{Annual Depreciation} = \frac{(\text{Beginning Value} - \text{Salvage Value})}{\text{Number of years of useful life}} =$$

Examples:

Sprayer's beginning value	\$	1000
Salvage value	\$	0
Useful life		10 years

$$\text{Depreciation} = \frac{1000 - 0}{10} = \$ 100$$

Tractor beginning value	96000
Salvage value	32000
Useful life	8 years

$$\text{Depreciation} = \frac{96000 - 32000}{8} = \$ 8000$$

Estimates of annual depreciation are used to prepare the income statement. Depreciation is the annual cost of capital items in the farm and is a non-cash expenditure.

As a valuation method, depreciation is deducted every year from the initial cost of the capital item. Assuming that the sprayer was purchased on January 1st of 1987, the book value of the sprayer at the end of the third year (1989) will be \$700 (\$1000 initial cost - \$300 of depreciation in three years).

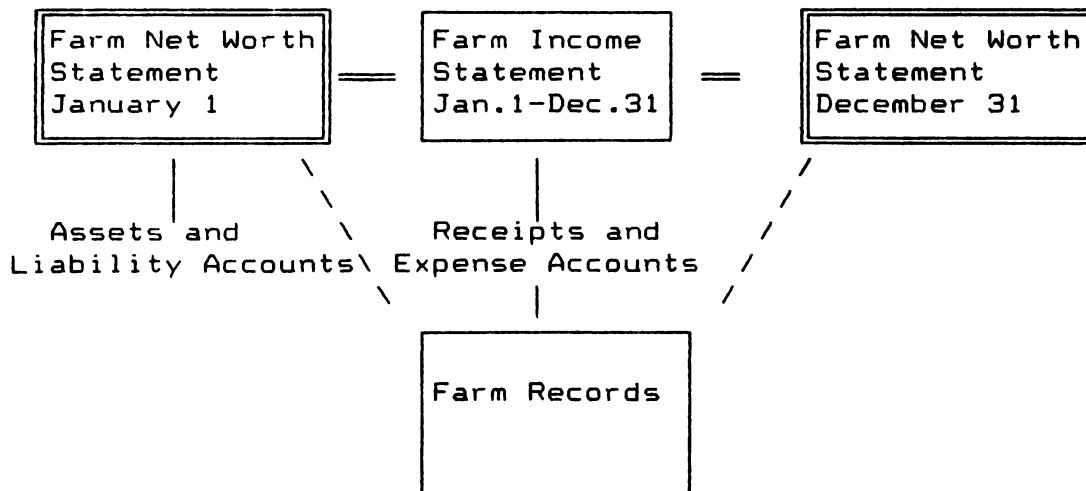
Which will be the book value at the end of 1990?

Assuming that the sprayer was purchased July 1, 1987, which is the book value at the end of 1989?

1.2 Income Statement

The family farm presents certain particular aspects that need to be clearly defined before starting a recordkeeping system. It is important to define which transactions belong to the farm business. The home and family expenditures in clothing and food for example are not part of the farm business. Farm production consumed by the farmer or given to friends and relatives as a gift is part of the farm business and needs to be included as part of the farm income.

The income statement or profit and loss statement summarizes the expenditures and income incurred by the farmer during the accounting period. It bridges the gap between the beginning and ending net worth statements.



The cash Income Statement summarizes production income, expenditures and net farm income accurately over time but for any one accounting period may over or underestimate the true net income unless adjustments for inventory changes are made. Adjusting for inventory changes ensures that the value of farm production is included in the year it is produced and not in the year that it is sold.

Income statements reflecting changes in inventory are the most useful for income analysis and for farmers' decisions. The income statement is used to calculate Net Cash Farm Income.

Income occurs when both non-cash and cash flows into the business from:

- . sales of livestock, livestock products and crops raised or harvested on the farm
- . sales of livestock purchased for fattening and sold
- . sales of breeding livestock
- . farm production used or consumed in the farm, and/or given as presents to friends (non cash income)
- . sale of capital assets (profit over book value of machinery and equipment)

Expenses are non-cash and cash flowing out of the business for:

- . cost of producing the commodities (hired labour, inputs)
- . annual cost (depreciation) of machinery, equipment and buildings (non cash expenditure)

Do not include death loss of livestock as an expense. This will be reflected in the changes in livestock inventories.

Calculation of Net Cash Farm Income

Cash Income

- Sale of crops
- + Sale of livestock
- + Miscellaneous farm income

Minus

- Cash operating expenses (hired labour, seed, fertilizer, pesticides, interest, miscellaneous expenses)
- = Net Cash Farm Income

Net Farm Income = Net Cash Farm Income, + farm production used and/or consumed in the farm or given to friends - depreciation of capital assets + or minus changes in inventory (changes in livestock, crops and supplies).

Net Farm Income + Net Non-Farm Income (income from non-farm activities) = Family Living Expenses + Net Worth Change

Adjustments for inventory are calculated using information from the beginning and ending inventory for livestock, crops and supplies.

There is no fixed format for the Income Statement. The Income Statement prepared with data from the cash expenditure forms (see Page 16) will look something like this:

Income Statement

Income	Expenses
Cash Income \$ -----	Cash Expenses \$ -----
A. Total Cash Income \$	D. Total Cash Expenses \$
Non-cash income	Non-cash expenses
Farm production consumed and given as gifts \$	Depreciation
	Machinery \$
	Equipment \$
	Buildings \$ ----
	E. Total
Inventory Increase	Inventory Decrease
Livestock \$	Livestock \$
Crops \$	Crops \$
Supplies \$ -----	Supplies \$ -----
B. Total Non-cash Income \$	F. Total Decrease \$
	G. Total Exp. (D+E+F) \$
C. Total Income (A+B) \$	H. Total Livestock purchased \$
	I. Total cash and non-cash (G+H) \$
J. Gross income or value of farm production (C-F-H) \$	
K. Net Farm Income (C-I) \$	

Net Farm Income is the return to family and farmer's labour, management and net worth or equity (farmer's capital).

The Net Cash Income Statement based in a multicategory account (as the one presented on Page 18) could be presented as follows:

Income Statement

Income	Expenses
Crop sales	
Corn \$	Hired labour \$
Sugar cane \$	Hired machinery \$
Yam \$	Equipment repairs \$
Mangoes \$	Other repairs \$
Livestock sales	Tools(machetes) \$
Cattle \$	Crop expenses \$
Hogs \$	Livestock expenses \$
Goats \$	Interest & rent \$
	Fuel & oil \$
	Miscellaneous \$
A. Total cash income \$	
	D. Total cash operating exp. \$
Non-cash income	Non-cash expenses
	Depreciation
Farm production consumed and given as gifts \$	Machinery \$
	Equipment \$
	Buildings \$
	E. Total \$
Inventory Increase	Inventory Decrease
Livestock \$	Livestock \$
Crops \$	Crops \$
Supplies \$	Supplies \$
Tools \$	Tools \$
B. Total Non-cash Income \$	F. Total Inv. Decrease \$
	G. Total Exp. (D+E+F) \$
C. Total Income (A+B) \$	Livestock Purchased
	Breeding \$
	For fattening \$
	H. Total Purchased \$
J. Gross Income or value of farm production (C-F-H) \$	I. Total cash and non-cash (G+H) \$
K. Net Farm Income (C-I) \$	

2. Supporting Records

The number of records that the farmer needs depends on the kind of information he/she wants. A small farmer who uses few inputs, uses no credit, sells small amounts of total production and has small equipment (sprayers) and tools (machetes, forks, spades) doesn't need a complete set of records for management decisions or to estimate net farm income and growth in net worth.

The basic records needed by the small farmer are the following:

1. Farm income and expenses

This is the basic record to determine farm profitability and to generate the cash flow figures. Farm production consumed at home or given as a gift is part of the income record.

2. Depreciation or cost recovery

These records are used to determine annual cost of using capital assets (machinery, small equipment, or buildings) and to determine intermediate and long term asset values for the net worth statement.

3. Physical inventory

The inventory is necessary to prepare the net worth statement and for adjustments in the income statement.

Medium size and large farmers with mechanized operations, using credit and producing mainly for the market will find it convenient to include additional records to keep track of transactions and credit operations and analyze production and economic efficiency of the various production activities.

Some of the additional records required are the following:

4. Capital purchase and sales

This record includes the purchase and sale of depreciable machinery and equipment. The profit or loss of capital items when sold is part of the income statement. Items recorded in this book are transferred to the depreciation record to estimate annual cost of using the capital item.

5. Credit record

Includes information on single and multiple payment loans with the name of the institution, conditions of the loan, and dates and amount of principal and

interest to be paid. Interest on the loan and bank non-interest charges are farm expenses and need to be recorded in a different column.

6. Accounts payable and receivable

This set of records keeps track of transactions on open accounts with suppliers and records of sales on credit to other businesses or persons.

7. Production records

These records are necessary to measure efficiency in crop production (yield/acre, variety, fertilizer used) and livestock (milk/cow, milk/acre, beef/acre, pounds of ration/pound of production).

8. Enterprise records

The purpose of these records is to pull information from the different accounts and records to measure production and income efficiency by enterprise (sugar cane, corn, coffee, dairy cows, hogs).

9. Labour record

The purpose of this record is to summarize the number of days per month hired labour worked in the farm.

2.1 Receipt and Expense Accounts

Forms to record income and expense transactions are of three types:

1. Cash Journals
2. Multicategory accounts
3. Single-category accounts

A cash journal is a single-account listing all income and expenditures occurred during the accounting period. Income transactions are recorded separate from expenditure transactions by page or column.

An example of a format to register monthly cash expenditures is presented below.

CASH EXPENDITURES

Month of _____ 19__

Date	Description of Items	Quantity	Unit Cost	Total

A similar format could be used to register cash income on a different page.

CASH INCOME

Month of _____ 19__

Date	Description of Items	Quantity	Price	Total

A Cash Journal with income and expenditures on the same page is presented below.

INCOME AND EXPENSES JOURNAL

Date	Description of Items	Quant.	Income	Expenses	Balance
	Balance forward	XXXXX	XXXXXXXX	XXXXXXXX	13245.00
5/6	Sold 2 pigs to J. Reed	232 lb	1124.30		14369.30
7/6	Paid J. Morgan wages	2 days		80.00	14289.30

These forms present difficulties to analyze the information of a farm with many activities and business transactions. If one wants to determine the total amount paid in fertilizer, or to hired labour, or expended in the production of crops, it is necessary to go through the many transactions and make a separate list by category.

This simple system with forms to record home consumed products and inventory could be used to start a recordkeeping system in a small farm. The extensionist could assist in preparing the initial inventory record and the net worth statement.

The monthly totals on the farmer's records can provide immediate information on cash flows for the farm as a whole. With the assistance of extension personnel the monthly totals can be used to estimate farm income (Income Statement) at the end of the accounting period. As the farmer becomes used to keeping track of transactions and sees the benefits of keeping records, additional columns can be added to the basic system (multicategory accounts) and additional records can be incorporated into the overall system (credit accounts record, accounts receivable and payable, labour, production and enterprise records).

Multicategory accounts are similar to the journal account except that income and expenses are recorded in separate accounts or pages and additional columns are included for a classification of sources of income and type of expenditure. The advantage of this system is that it allows income and expenditures to be classified in major categories. The disadvantage of this system is the width of the ledger that is required when many columns are included in the system.

A multicategory format is included below.

FARM EXPENSES

Date	Description	Quantity and Unit	Labour Hired	Tractor Hired	Repairs Equipm.	Others	Tools	Crop Expense	Livest. Expense	Interest Rent	Fuel Oil	Miscell.	Purchase Livestock
			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

Additional columns can be added for each expenditure for which a separate figure is wanted. A similar form can be developed for farm income. The headings in the columns will include the date, description (what, to whom sold and where), quantity and the name of the crops and livestock.

This system could be used once the farmer or a member of his family is familiar with the record-keeping procedures and shows interest in having more detailed information.

A word of caution: There will be great temptation to start a multicategory journal account recording expenses by crop (corn, beans, carrots, corn-bean in association, sweet potato, hogs, beef cows, dairy cows, and so on).

One of the benefits of such a system could be to know the cost of producing each crop or crop association and see which crops and livestock activities are more profitable. The information could be used in the analysis of the economic and production efficiency of each enterprise.

Doing this kind of analysis accurately requires to keep track of inputs and labour used by production activities. The farmer will have to both keep track of, and distinguish between, the allocation of his or her own labour time and that of hired labour for each crop and livestock activity. Furthermore, inputs like fertilizer, insecticides, pesticides and fuel are usually purchased in bulk and then applied to the different crops. The allocation among crops needs to be

noted. This requires the keeping of additional records, and involves more of the farmer's time keeping records. Attempting to implement such an elaborate system with a small farmer who has never kept records before will almost surely result in failure to implement any recordkeeping system at all.

Single-category account books use a separate page for each major category of income and expenses. The main advantage of this system is to have more space for writing, so more details about each transaction can be included thereby facilitating the analysis.

2.2 Depreciation Record

A format to keep track of annual depreciation and value of capital goods (such as machinery, equipment, and buildings) is presented below:

Depreciation

Description	Date Bought	Cost	Salvage Value	Depr. Balance	Years Life	1989		1990		1991		1992	
						Deprec.	End Val.	Deprec.	End Val.	Deprec.	End Val.	Deprec.	End V
1 Sprayer	1/7/87	1000	0	1000	10	100	750	100	650	100	550	100	450
1 Tractor	2/9/89	96000	32000	64000	8	2666.70	93333.30	8000	85333.30	8000	77333.30	8000	69333
1 Storage shed			0	600	2	300	300	300	0				

Notice that the sprayer was purchased July 1 of 1987, so the depreciation value in 1987 is for six months.

Annual depreciation for the sprayer is estimated as follows:

$$\text{Depreciation} = \frac{1000 - 0}{10 \text{ years}} = \$100$$

The depreciation in six months for 1987 is \$50 and the book value of the sprayer at the end of 1987 is \$950. The book value at the end of 1988 is \$850 and at the end of 1989 \$750.

Let's take another example. A storage shed was built by a farmer, but he doesn't remember the year it was built. The estimated salvage value is zero and the remaining useful life is two years.

The estimated actual value of the storage shed (tin roof and lumber), therefore is \$600.

If the farmer decides to make major repairs on the shed (new roof) in 1990, its useful life will increase and the value of the storage shed too. A new value will have to be estimated based on the cost of the repair. The annual depreciation for 1990 will be estimated based on the new value and useful life.

2.3 Inventory

Inventory is the physical count and valuation of all property owned or controlled by the farmer, including liabilities. Rented land should be included in the inventory but not taken into consideration to prepare the net worth statement. Rented land is part of farm resources. An inventory format is presented below.

INVENTORY

Include only land (owned and rented), livestock, planted crops and supplies (seed, fertilizer, chemicals, fuel). Inventory of assets subject to depreciation (machinery, equipment and buildings) are in the depreciation schedule.

Date: August 1, 1989

Date: July 31, 1990

Description	INITIAL INVENTORY			FINAL INVENTORY		
	Quantity	Price/unit	Total	Quantity	Price/unit	Total
<u>Example:</u> <u>Inventory</u>						
Land (owned)	2 ac.	6000	12000	2 ac.	6000	12000
corn seed	20 lb	1.2	24	-	-	-
carrot planted	1 sq	900	900	-	-	-
corn planted	-		-	5 sq.	1300	1300
dairy cow(6 yrs.)	1	3000	3000	1	2800	2800
calf (10 months)	-	-	-	1	600	600
goats (2 yrs.old)	2	150	300	1	160	160

Value livestock at net market price or farmgate price.

Value supplies at the purchase price.

Value planted crops at the cost.

In a simplified system of records the inventory schedule could include only, land (owned and rented), livestock (valued at net market value), planted crops (valued at the farm production cost) and supplies (market cost). Buildings, machinery and equipment information can directly be obtained from the depreciation record. The depreciation record also can be used as the record of purchase and sale of machinery and equipment.

Land value should be maintained the same between initial and final inventory. Changes in land value will only reflect gains or losses in paper. It is better to reflect changes in land value between one accounting period and the next so that paper gains are not reflected in the net income produced by the farm.

VI. Control of the Farm Plan Implementation

The process of measuring performance, comparing measured performance with the standards established in the farm plan, and making adjustments to achieve the desired goals is referred to as control of the farm plan implementation.

A useful way to deal with the dynamics of managing the farm business is to measure performance of the farm plan through time and to make adjustments as needed to attain the farmer's goals.

Farm plans should not be developed, implemented and then forgotten. A plan is developed to attain certain goals, and the status of the operation needs to be monitored over time. The plan provides the standards, goals and procedures to be attained and control monitors progress related to each of these.

The information recorded, and the analysis performed as part of the control function, provide important data for the planning function. Therefore, there should be a continuous flow of information from the control system which can be used to correct and alter plans. This feedback from the control system to the planning function is an important part of a complete management system.

VII. Management Information System

The primary component of a financial system is an accounting and recordkeeping system that permits the farmer to compare actual periodic (monthly, quarterly) cash inflows, outflows, and other financial measures of performance with those projected. The comparison of actual to projected cash flows provides the basis for determining if the farmer's financial objectives are being achieved.

The financial control system is probably the most important component of the total control system for the farm business. The purpose of the financial control system is to monitor the solvency, liquidity, profitability and efficiency of the business and to indicate when performance is not consistent with expectations in these areas. As with the production control system, financial control seeks to compare actual performance with specified standards. These standards are reflected in the financial budgets prepared as part of the planning process.

In addition to the comparison of actual performance to budget standards, the financial performance of the farm can also be evaluated by comparing performance this year to performance in previous years or by comparing the farm to other farm operations.

A very valuable information system could be developed by the extension service, with the cooperation of farmers and farmer's organizations, by implementing a very simple recordkeeping system like the one described in these pages.

The recorded production and financial results from the cooperator farmers can be processed together, and average results presented for the total and the best 10 per cent of the farms. These farms can be grouped either by parish, farm size, or production specialization (for example, more than 60 per cent of gross income from sugar cane or dairy products, or from vegetables or coffee, or from total capital managed) with results disseminated to farmers.

The information could be used by extension personnel to advise farmers and by individual farmers to compare the performance of their farm with the average farm with similar production mix or size in their parish. Farmers with continuous production and financial results below the average farm in their region will have a point of reference to use in their other farm operations in order to improve the overall performance of their farm operation.

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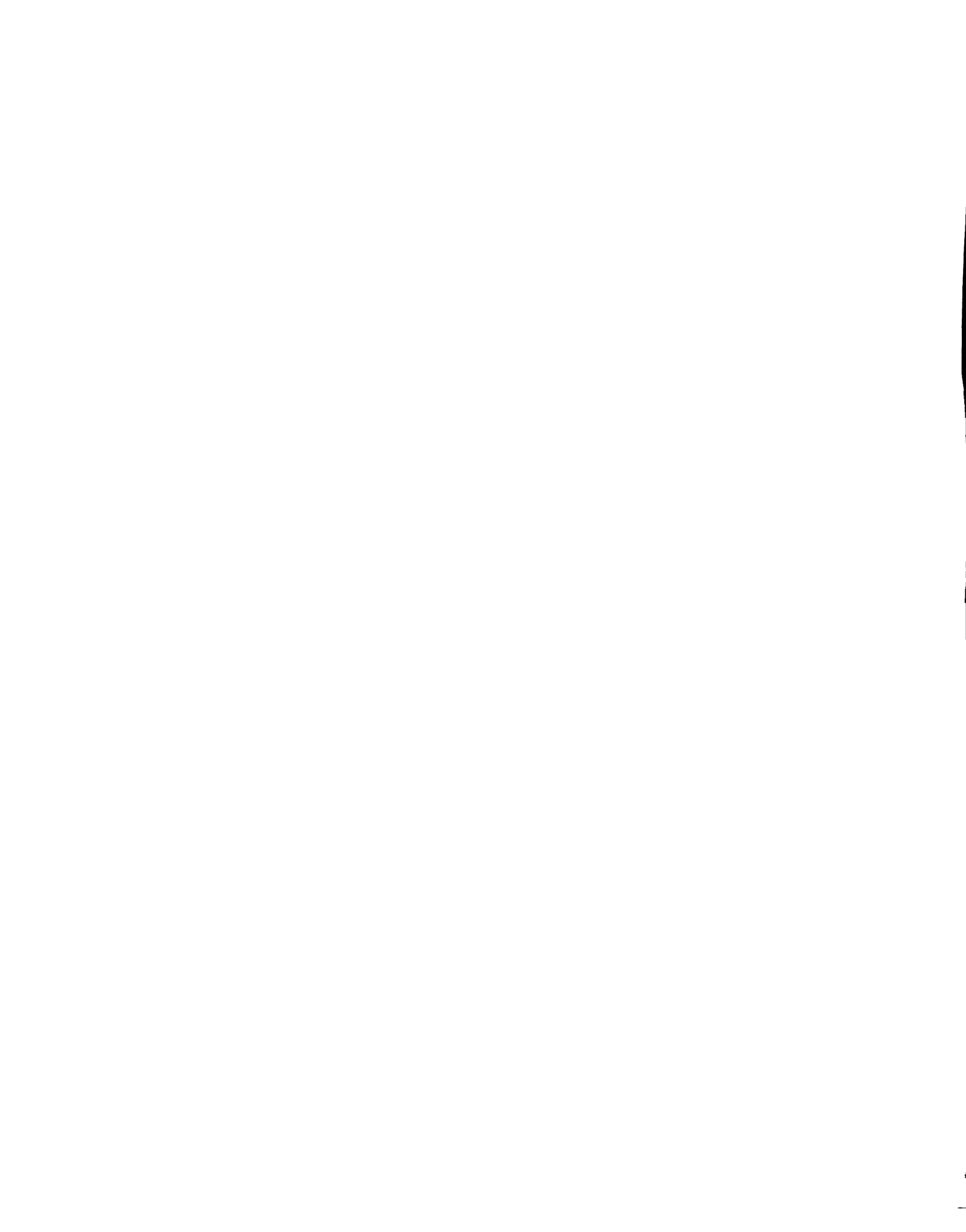
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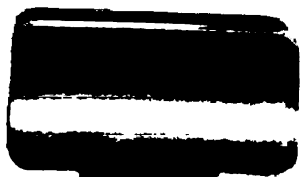
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