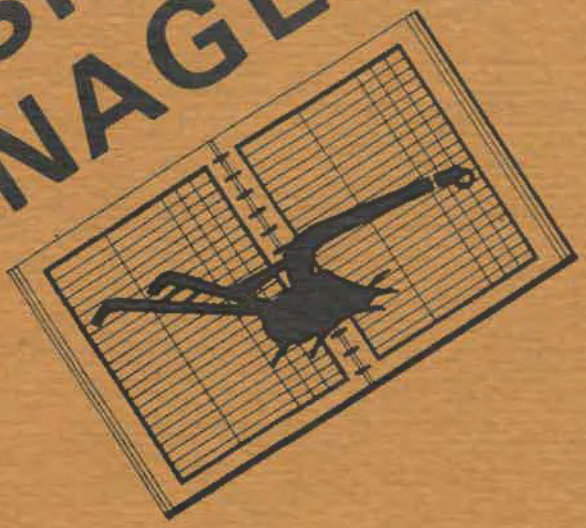
FARM BUSINESS MANAGEMENT



A Guide To On-Farm Instruction In Farm Management And Farm Business Analysis

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AN ADULT EDUCATION PROGRAM

A GUIDE TO ON-FARM

INSTRUCTION IN FARM MANAGEMENT

AND FARM BUSINESS ANALYSIS

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FOREWORD

In all the wide range of offerings in vocational agriculture from horticulture to farm implement service to FFA to business management there is one essential ingredient. This essential is well planned individual on-the-job instruction and counseling. Nowhere is this more important than in the adult farm management-business analysis program.

This guide centers around the actual and critical needs of farm business operators. It will help to get maximum use and application of classroom and group instruction. It is a practical guide for practical teachers.

The material contained in this guide is the product of long and successful experience. It will be useful for beginning teachers as well as for those experienced in the field. It may also prove to be a helpful reference in teacher training programs. This guide is exactly what its title suggests - a guide rather than an inflexible text. In this sense it is a more valuable teaching aid. As a companion piece to the course of study for adult education in Farm Management, it should contribute to the improvement of vocational education in agriculture.

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Acknowledgements

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To my wife, Patricia, a special thanks for her understanding during the study and for typing the manuscript.

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Chapter I

INTRODUCTION

Farm economics and management principles are becoming more important to successful farm operation each year. The need for utilizing improved management in each farm operation assumes greater importance as margins narrow and unit size increases. Farm management programs as offered through Vocational Agriculture Departments in the Minnesota public schools provide one of the soundest approaches to improved management in farm operations. Increased incomes and higher living standards should result from participation in such programs. As indicated by Dr. Milo Peterson[1], good farm management means "the pencil guides the plow". Sound planning based on accurate facts is the forerunner of good earnings.

With the complexity of modern day farming, the successful farm operator and his family must not only be able to comprehend and apply the latest information and techniques on a day-to-day basis. They must also understand their relationship to the total farm business and to the agricultural economy as a whole.

An excellent course of study for classroom instruction in farm management was completed in 1959 as a Master's Thesis by Ralph Palan.[2] However, it offered only a very brief resume of activities to be included in the on-the-farm portion of a total program in farm management education. This paper will complement and extend Palan's material on classroom instruction to encompass on-farm instruction in more detail.

A systematized approach to farm management inatruction with the individual farm family is necessary in any farm and home analyais program. A regularly scheduled consultation visit, with a planned purpose, to each member family is necessary to insure continuity and maximum accomplishments.

THE PURPOSE OF THIS STUDY

The purpose of this study is to develop a program of on-the-farm instruction in farm management for farm families. It is designed to complement and extend classroom instruction. The results of any farm management educational program derive from the area of individualized management assistance achieved on farm consultation visits.

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[1] Peterson, Milo J., The Pencil and The Plow, The Visitor, July 1961, Volume XLVIII, University of Minnesota, Department of Agriculture, July 1961.

[2] Palan, Ralph L., A Program of Instruction for Adult Farmers in Agriculture. Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

Too often farm visits lack a clear-cut purpose. With a planned program of instruction, a family will be more aware of possible areas for concentration and study. They are alerted to areas of their business which can perhaps be improved. Many farm families are not aware of the numerous educational services that are offered as a part of a complete vocational agriculture farm management program. Farm management programs are often associated only with keeping farm records. Accurate records are only one of the tools used in a good management program. They must be combined with many other factors to arrive at the most correct management decision.

This study should serve as a guide to the vocational agriculture instructor when working with farm families in a management capacity. A farm visit without a purpose can often be wasteful of the time of both the family and the instructor. Consultation visits with a definite purpose are beneficial to both parties.

The subject content for each farm call is arranged to correlate with the progression of a family through a planned farm management program, the seasonality of various farm tasks and to coincide with courses of study previously developed for classroom instruction. A definite sequence is indicated for accomplishing the various farm management tasks, however, in practice it would be extremely difficult to remain on such an exact schedule. Some families may wish to discuss certain decision areas long before they appear in this schedule. The on-farm instructional program must remain flexible enough to make such adjustments as necessary. The schedule projected in this paper can only serve as a guide and a source of interpretive material.

This study is also developed to serve as a guide for administrators, boards of education and laymen when determining the usefulness and practicability of implementing such a program in their school.

This paper does not purport to encompass every experience that should be developed in consultation visits. It does attempt to cover some of the major areas where a farm management program can perform an educational service for the farm family.

Chapter II

REVIEW OF LITERATURE

Numerous articles and papers have been written about farm management programs and their objectives. However, relatively few papers have been devoted to the development of a full program of individual farm management instruction on-the-farm.

Heady and Jensen[3] indicate the goals of good farm management are (1) to push profits to the level consistent with the capital, resources and abilities of the farm operator and (2) to relate choices in the farm business with choices in the farm household in a manner consistent with the needs and wishes of the farm family.

Cook[4], lists the following as objectives for adult education in agriculture.

1. To develop improved farming abilities and improved family living.

2. To provide information on approved practices and new developments in agriculture.

3. To contribute to more successful establishment in farming.

4. To encourage co-operation among farmers in programs which are beneficial to farming operations.

5. To enable the school to serve as a central place where ideas can be presented and ground work laid for projects, tours, classes and meetings.

6. To provide instruction in farm mechanics.

7. To develop an appreciation of the need for training in farm management practices.

8. To develop rural leaders.

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[3]Heady, E.O. and Jensen, H.R. Farm Mangement Economics, Prentice-Hall, Inc. Englewood Cliffs, New Jersey, 1954, page 9.

[4]Cook, Glen C., Handbook on Teaching Vocational Agriculture, Danville, Illinois, The Interstate Publishing Company, 1947, pp. 651-652.

9. To develop abilities which result in making the farm a better place to live.

10. To further satisfy the educational needs of the community.

Jensen[5] states that farm management is a study of making decisions on the use of resources that a farm operator has under his control. He goes on to indicate that the substance of farm management is to reconcile, bring into harmony or agreement, farm family goals with the available means or resources. The basic structure of a farm management educational program is best described in terms of a study of making decisions under conditions of change and imperfect knowledge.

Peterson and Cochran[6] define the purpose of the Vocational Agriculture Farm Management program as conducted in Minnesota.

1. To provide more effective means for the teaching of Farm Management in Vocational Agriculture classes.

2. To provide research data for a more complete study of farm management.

3. To assist farmers in the following:

   a. Organize farm business more profitably

   b. Detect and correct weak points in farming

   c. Determine accurately the status of the farm business from month to month and year to year

   d. Provide farms with records useful in establishing credit and obtaining loans

A recent study by Cvancara[7], points up the economic advantages that accrues to a farm family enrolled in a farm management program. It indicates that participation in such a program tends to increase farm earnings. Better earnings by farm families are reflected in increased economic activity in the entire community.

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[5]Jensen, H.R., The Elements of a Farm Management Educational Program, Paper Presented at Minnesota Vocational Agriculture Instructor's Association Conference, October, 1962, St. Paul, Minnesota.

[6]Peterson, Milo J., and Cochran, G.R. Memorandum Regarding Cooperative Vocational Agriculture Farm Management Project, Code IV-B-164, State Department of Education, St. Paul, 1952.

[7]Cvancara, Joseph. Do Increases in Farm Output Exceed the Communities Input Costs of Farm Management Instruction, The Visitor, April, 1965.

Two booklets recently completed by Painter[8,9] contain a great deal of interpretive material that will prove extremely useful for farm management instruction. A colloquim paper by Guelker[10] also contains instructional material for on-farm consultation.

Data collected by Hohenhaus[11] attempted to ascertain strong and weak areas within farm management programs as conducted in the public schools and to determine ways and means of improving them. His survey asked farm families enrolled in vocational agriculture farm management programs to rate the importance of group classroom instruction and individual on-the-farm instruction. Seventy-one percent of the families indicated they considered the on-farm instruction very valuable. Twenty-nine percent rated it of some value. While most families considered classroom teaching valuable, they generally did not rate it's importance as high as the on-the-farm phase of management instruction. A survey by Dillner[12] also indicated a feeling by young farmers that on-farm instruction was the most important part of a farm management program.

With this in mind, this paper has been developed to provide a comprehensive guide for planning on-the-farm management instruction. The units suggested have been organized into a logical sequence and have been coordinated insofar as possible with the well recognized course of study for classroom use developed by Palan[13]. It is hoped they can serve as guideposts in developing on-farm instruction.

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[8] Painter, Charles M., Keeping Records For Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

[9] Painter, Charles M., Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

[10] Guelker, William E., A Proposed Adult Farmer Program For The Staples, Minnesota Community, Colloquim Paper, Department of Agricultural Education, University of Minnesota, 1959.

[11] Hohenhaus, William E., An Evaluation of the Vocational Agriculture Farm Management Program of Southern Minnesota, Colloquim Paper, Department of Agricultural Education, University of Minnesota, 1964, pages 23-24.

[12] Dillner, Fred Dale, Appraisal of Methods of On-Farm Instruction of Young Adult Farmers in South Central Pennsylvania, Masters of Education Paper, Pennsylvania State University, 1961, page 40.

[13] Palan, Ralph L., A Program of Instruction For Adult Farmers in Agriculture, Colloquim Paper, Department of Agricultural Education, University of Minnesota, 1960.

Chapter III

ELEMENTS OF AN ON-FARM INSTRUCTIONAL PROGRAM

Most of the units developed in this paper will require a two or three hours discussion with the farm family. Thus, it will be difficult to schedule more than three calls each day. The amount of time required for each call will depend to a great extent on the family. Some families will need a great deal of help and encouragement in the keeping of adequate farm records. Others will require very little of the instructor's time in developing record-keeping skills. All will require extended visits, however, as the family and the instructor work together in interpreting facts and developing plans and procedures for advancing farm earnings.

A program of farm management built solely on the keeping of good records without moving into the analysis and interpretation of what these records indicate, is of minor value to a family. Records are only a tool for computing basic facts about the farm business. These facts must be interpreted in view of the family's goals, abilities and attitudes and the capabilities of the farm and other related factors. This interpretation should be the primary goal of the modern farm management program.

The successful farm management instructor must create an awareness, in the families with which he works, of new ideas and concepts in each phase of farming. Successful operators must evaluate and utilize the more worthwhile concepts as soon as possible. They must be "innovators" or "early adopter's" if the greatest profits are to he made. Early knowledge of new developments allows adequate time for study and evaluation before adopting a new practice or idea.

The farm management instructor must also serve as a sounding board or resource person as new concepts are gathered and contemplated by the family. All new ideas and practices will not prove successful on every farm. The farm management instructor must assist the family to evaluate the usefulness and adaptability of any practice in light of their own particular situation.

The successful farm management instructor must be aware of many resource materials. Much of his task when working with families will be to provide basic sources of management information that can be used to formulate the most profitable plans. This may range all the way from determining the best seed to plant, to deciding on the most satisfactory method of ventilating the dairy barn. Organized research and information data are among the basic tools of the experienced farm management specialist.

Another area of concern for the farm management instructor is in developing the ability of the farm family to view their business as a whole. To be extremely concerned with crop yields, yet to feed these good yields through inefficient livestock does not provide the soundest approach to

top earnings. Each phase of the farm business must be viewed in relationship to maximizing returns for the total operation if greatest returns are to be experienced.

A fundamental requirement of any farm management instructor is sincerity. His relationship with a farm family must be built on mutual confidence if it is to succeed and endure. A strong advance buildup of a farm management program without adequate individual follow-through in practice can only result in failure of the entire program over a period of time.

The on-farm instructional phase of a farm management program must be extremely flexible. Each farm business presents its own set of problems, unique only to that particular business and family. While many of these problems are basically the same for many families, they must be evaluated and adapted to each particular situation. The units presented in this study will almost all be applicable to every farm business at some time. However, the application of some units may occur at widely differing times for the individual family. A particular family may be faced with a decision concerning land ownership shortly after enrollment in the program. Another may not encounter this decision for a number of years. Building construction or credit planning may be the first concerns to one family whereas complete land drainage may be the uppermost project for another.

A very large share of the visits made to member families should be scheduled ahead of time. This may be done by sending a calendarized schedule to each family at regular intervals. (See Appendix) The date and time for each individual appointment should be indicated. Some instructors may have each family indicate the time of their appointment. Others may wish to set up a schedule in advance, with the family having the privilege of rescheduling if a conflict arises.

Some form of a newsletter or tip sheet could accompany the monthly visit schedule. Current tips and information items, plus a calendar of up-coming meetings could be a part of this mailing.

The practice of "dropping in" on a family when in the neighborhood should be kept to a minimum. If a major portion of the farm visits are of this type this is what the family comes to expect. Very little consultation of a serious and helpful nature can take place talking out of a car window or leaning against the barn door as the farmer unloads bales or fills the hog feeders. It often does little more than hinder him from completing some daily chores.

A few of such drop-in visits to each family are valuable and necessary. A brief stop to check on weed or insect control as the farmer is cultivating or to see how construction is progressing on the new hoghouse, shed or home can be very helpful. This is especially true if on a previous scheduled visit the teacher has helped to formulate the plans for such activities. Such visits show interest and can be helpful in catching an on-the-spot error or adjustment.

A scheduled visit allows the family some time for preparation. They have an opportunity to up-date account books (and many get behind during busy seasons) and to assemble questions and facts on area where they desire assistance. They also have an opportunity to arrange their work schedule in order to give their full attention to the problems at hand. The good farm manager usually has his work schedule arranged for several days or perhaps weeks in advance.

Unless the visit is scheduled, it may be unwise to ask to see the farm account book. Some families may be embarrassed and somewhat offended if they are caught behind and did not know in advance of the instructor's coming. An inquiry from the instructor as to how the records are "coming along" will indicate an interest and willingness to give any assistance that may be necessary.

A calendar of visits also suggests the arrangement of the instructor's schedule to each family. If they find the schedule filled for the next three weeks, they may be hesitant to ask for a postponement that will transfer them to the bottom of the list.

A visit calendar can also prove valuable as an aid in explaining the program to administrators, businessmen, civic leaders and other individuals. They become aware of the continuity and scope of the program.

This paper is developed to provide a guide for the farm management instructor and those families with whom he works. If each member family is to make a progression toward more profitable farming, it must reach accurate management decisions based on correct facts from the individual farming operation. A sound classroom program plus a continuous, meaningful and constructive program of farm consultation must be developed if this goal is to be realized.

Chapter IV

OUTLINE OF THE FARM MANAGEMENT PROGRAM OF ON-THE-FARM INSTRUCTION

The following is a brief outline of a planned program of on-the-farm consultation for families enrolled in the vocational agriculture farm managment program. This outline is developed more extensively in the instructional units that follow in Chapter V.

FARM MANAGEMENT I

I. Contacting the farm family

   A. Introduce yourself and the local farm management program to farm family.

   B. Plan for a more extensive visit at a later date to discuss the farm management program at greater length.

II. What is a farm and home analysis program?

   A. Discuss the objectives of the farm management program

   B. Present an overview of the annual farm analysis report

      1. Information contained in the report

      2. Importance of such information for management decisions

      3. Scope and area of the vocational agriculture farm analysis program

   C. Assist the farmer in taking soil samples or some other educational service

III. Setting up good farm records, planning a fertility program

   A. Discuss the use of complete and accurate farm records for business analysis and income tax reporting

   B. Present information that can be obtained from a detailed farm analysis report

   C. Plan a fertility program for the coming year based on soil test results

IV. Beginning accurate, complete farm records

A. Record beginning inventories of livestock, crops and facilities.

B. Instruct the family in the procedures for making a monthly check of livestock numbers.

V. Cropping plans - Assistance in Record Keeping

A. Project field arrangements, crop plans, fertilizer needs, weed and insect control measures for current year.

B. Provide further instruction in keeping farm records more accurately and easily.

C. Provide instruction in organizing the Four Year Depreciation Schedule.

VI. Up-dating feed records and projecting possible returns

A. Complete a quarterly check of feed consumption and disappearance.

B. Assist the family in recording accurate monthly livestock counts.

C. Project possible livestock returns.

1. Consider production and returns to date

2. Review feed costs

3. Discuss some standards of livestock returns (i.e. Return on $100 of feed, feed costs per cwt. or head, return over feed cost.)

VII. The mid-year feed check - Observing crop progress

A. Complete a mid-year check of inventory disappearance and feed consumption.

B. Observe growing crops with farmer.

1. Nutrient deficiency symptoms
2. Weed control measures
3. Insect damage
4. Hay and pasture growth

VIII. Recording crop data - Soil sampling

A. Check entry of crop data in the Minnesota Farm Account Book: acres, yield, seed used, landlord's share.

B. Project a comprehensive program of soil analysis.

IX. Completing crop data - Planning livestock rations

A. Check for the completeness of crop information including yields adjusted for moisture, test weight, shelling percentage and value.

B. Plan winter livestock rations and feed needs.

X. Making an income tax estimate - Checking the completeness of the Minnesota Farm Account Book

A. Assist the family in completing an income tax estimate prior to the year's end. Discuss tax management procedures.

B. Begin the year-end check on the completeness of the account book. Point up areas that need further work.

FARM MANAGEMENT II

XI. Completing the farm account book for analysis, completing the income tax return

A. Prepare the farm record book for submission to the area center for anslysis.

B. Instruct the family in the procedures for completing federal and state income tax reports.

XII. Completing an operating budget - Planning fertilizer, weed and insect control program

A. Project an income - expense statement for the coming year.

B. Outline a weed and insect control program for the farm.

C. Project fertilizer and lime needs based on soil tests.

XIII. Beginning the interpretation of the annual analysis report

A. An overall look at the individual farm business summary.

B. Interpret each table to the family as it related to averages and to the particular farm.

XIV. Crop costs and returns plotting farm experimental trials

A. Assist the family in an evaluation of their cropping program.

B. Assist in setting up fertilizer, chemical, varietal and population trials on the cooperator's farm.

XV. Evaluating livestock enterprises -
Observing growing crops -
Completing a mid-year crop and feed check

A. Use the farm analysis to evaluate the efficiency and profitability of each livestock enterprise on the farm.

B. Assist in the completion of a mid-year crop and feed check.

C. Evaluate the growing crops with the farmer.

XVI. Analyzing overhead costs - Determining progress on the yearly budget and checking completeness of the account book

A. Use the farm analysis to analyze some of the costs of operating the farm business.

B. Determine if the estimated income and expense for the year will be realized, as budgeted.

C. Spend some time checking on the completeness of the farm account book.

XVII. Income tax estimate - Planning the livestock program

A. Prepare an income tax estimate; provide for tax management.

B. Assist the family to plan the best livestock program for their farm.

C. Look for ways to increase return from each enterprise.

XVIII. Completing the farm account book - income tax reporting

A. Assist the family in summarizing the farm account book for analysis.

B. Provide instruction in completing income tax reports.

FARM MANAGEMENT III

XIX. Projecting an operating budget - evaluating the net worth structure - Planning a credit program

A. Assist in the projection of an operating budget for the coming year.

B. Help the family to evaluate their net worth and financial position.

C. Provide assistance to the family in planning a sound program of credit. Consultation with the leading agency involved is desirable.

XX. Long-range crop and fertilizer plan - Development of a complete drainage system

A. Assist the family in setting up a long range rotation and fertilizer plan. Consult with the Soil Conservation Technician.

B. Work with the family and the SCS technician to project a complete drainage system for the farm.

XXI. Evaluating the farm business

A. Assist the family in an evaluation of their farm business on the basis of two consecutive farm business summaries.

B. Complete a cumulative worksheet of the most important factors in the farm analysis that determine financial progress.

XXII. Studying trends - determining strengths and weaknesses

A. Assist the farm family to make an intensive study of the strengths and weaknesses of their farm business.

B. Determine ways and means to correct weak areas and to capitalize on strong areas.

XXIII. Analyzing crop costs and returns; feed values; new crop practices.

A. To determine costs and returns from crops.

B. To determine the feed value of each crop - to compare various harvesting and storage methods.

C. To stimulate thought and discussion of some of the latest developments in crop raising that may have application on this farm.

XXIV. Evaluating the livestock program - planning improvement programs.

A. Assist the farm family to make a thorough study of the livestock enterprises.

1. Compile feed-lot records on feeder livestock.
2. Work out the costs other than feed for each enterprise.

B. Project the most profitable combination of livestock enterprises for this farm.

C. Plan improvement programs to strengthen returns from each enterprise.

D. Project a health and sanitation program. Consult with the veterinarian.

XXV. Closing the farm records for analysis - income tax management

ADVANCED FARM MANAGEMENT

Units to be discussed and developed during fourth and succeeding years of on-farm instruction in farm management. Each of these units will require considerable research and a number of consultation visits.

XXVI. Developing plans for making the wisest investments in resources, facilities and machinery

- A. Evaluating power, equipment and building costs.
- B. Planning machinery and equipment purchases.
- C. Studying the factors involved in the construction or remodeling of livestock and storage facilities.
- D. Farmstead planning.

XXVII. Assisting the family in decisions involving investment in land resources

- A. Farm ownership vs. renting.
- B. Decisions concerning leasing of additional acres.
- C. Decisions concerning purchase of additional acres.

XXVIII. Developing alternative plans to maximize income

- A. Study preaent crop and livestock program.
- B. Determine areas to be improved.
- C. Project alternative possibilities.
- D. Determine additional investment.
- E. Determine additional returns and expenses.
- F. Determine labor load.
- G. Compare net returns from each alternative possibility.

Chapter V

THE PROGRAM OF INSTRUCTION

To develop a sound and comprehensive program of continuing farm management instruction, the family enrolling for the first time in a farm record and business analysis program needs sufficient time and attention from the instructor. Individual instruction on-the-farm with each family will pay big dividends for both the cooperating family and the instructor.

The material presented in the units developed for FARM MANAGEMENT I is intended to (1) motivate the family to keep accurate records; (2) assist the family in completing the records to be sent in for analysis; (3) promote better cropping programs and practices; (4) begin correction of weaknesses in livestock programs and (5) begin instruction in income tax management.

The major emphasis during the first year will be directed toward securing accurate, adequate records useful for farm business analysis and income tax computation. A number of other activities are also included in the units. A complete program of farm management education must be concerned with each phase of tbe farm operation if the program is to provide the maximum return to the family and instructor.

Farm families who may wish to enroll in the local farm management group should be contacted several months in advance of the start of a new calendar year. Personal contact by the instructor is perhaps the most satisfactory procedure. When a management program bas been operating with good success for several years, one of the best methods for securing new participants is by the recommendation of families presently cooperating in the program.

Since spending for family living is dependent upon farm earnings, the farm wife should be very interested in any program designed to increase earnings. Every effort should be made to bring her into the discussion and planning. If this is done as the family begins in farm management, the wife will very likely be a full participant in all future discussions. The instructor may wish to request that both husband and wife be present on the first visits.

The confidential nature of the program must be pointed out to the family. A farm management instructor must be constantly on guard against revealing facts from any other family's business.

The following units establish the basic procedure for a series of consultation visits to a cooperating family during the first year of participation in the farm management program. Many of the units will require more than one visit to complete. They have been arranged on a bi-monthly basis to allow more flexibility.

FARM MANAGEMENT I

ON-FARM INSTRUCTION | August-September | Unit I

OBJECTIVE: To contact farm families for enrollment in a program of farm management

On-Farm Instructional Topics:

A. Contacting the farm family

Objective: To make the initial contact with a farm family to discuss enrollment in a program of self-appraisal of their farm operation.

1. Subject content:

a. Introduce yourself and the farm management program to the farm family

b. Provide the family with a copy of the latest vocational agriculture farm analysis summary for the area

c. Include a copy of the outlines for classroom and on-the-farm instruction

d. Arrange for a more extensive visit at a later date

e. Plan activities for your next scheduled visit

1) Soil sampling
2) Forage testing
3) Yield checks
4) Other

2. Teaching activities and experiences:

This visit may be the first contact with this family. It may also be a family with whom the instructor is quite well acquainted. In either case, the first task is to become better acquainted with the family and their farm and to gain their confidence.

This visit will quite often be unscheduled, thus in most instances should be rather brief. The visit could best be accomplished during a slack period of time in the farm work schedule. A contact visit during silo-filling or combining may not be too productive.

If the family has a fairly comprehensive understanding of the management program offered by the local school, the instructor may only ascertain their interest in enrolling. He can then plan to discuss the program more thoroughly on a scheduled visit at a later date.

The instructor may also wish to plan other activities to be completed on the next on-the-farm instructional visit. These could include soil sampling, forage sampling, measuring yields or other items of interest to the family. Through these activities, the family becomes more aware of the instructor's willingness to work for the improvement of their business.

The latest copy of the vocational agriculture farm analysis summary and s copy of the class and on-the-farm instruction

3. References:

   a. Latest vocational agriculture farm analysis reports, area analysis center.

   b. Farm Management Service Reports - University of Minnesota.

   c. Farm management class instruction outline, local vocational agriculture department.

   d. Farm management on-the-farm instruction outline, local vocational agriculture department.

FARM MANAGEMENT I

ON-FARM INSTRUCTION — September-October — UNIT II

OBJECTIVE: To become further acquainted with the farm and farm family; To stimulate the interest of the family in establishing a permanent record of their farm business; To perform some educational services for the family.

On-Farm Instructional Topics:

A. Assisting the farmer in taking soil samples for soils laboratory analysis.

   Objective: To establish a firm contact with the family and to become more familiar with the layout and topography of the farm and the cropping practices presently carried on.

   1. Subject content:

      a. Determine with the farmer what soil areas of the farm should be sampled and sent to the soils laboratory for testing.

b. Assist the farmer in taking soil samples.

1) Illustrate procedures for getting a representative sample.

2) Illustrate procedures for determining area to be included in each sample.

3) Discuss soil texture and tilth with the operator.

4) Determine the operator's present crop and fertility program.

5) Discuss soil management problems particular to this farm.

6) Discuss drainage systems in use on the farm. Become familiar with the tile and ditch layouts.

7) Inspect maturing crops - look for signs of nutrient deficiency.

8) Determine weed problems on the farm. Discuss control measures with the farmer.

c. Plot in sampled areas on a rough map of farm. Soil Conservation Service maps and tiling outlines will be helpful, if available.

2. Teaching activities and experiences:

By assisting the farmer in taking soil samples, the instructor becomes more familiar with the farm operator and the farm and learns a great deal about the capabilities and potential of the farmer and his land.

Discussions of soil management practices, cropping programs, fertilizing and weed control problems during the time the samples are being taken will provide further background for the instructor and will aid in establishing an instructor-cooperator relationship.

A thorough knowledge of the soil and the drainage systems on the farm is necessary if the instructor is to assist in planning the best crop and fertility programs.

The return of the laboratory test results several weeks later provides another opportunity to visit the farm for further discussion of fertilizer and lime needs. This again indicates to the family a concern and willingness to assist them toward more profitable farming.

3. References:

   a. Soil Conservation Service Farm Plans for the individual farm.

   b. Soil Testing Information Sheets, Soils Laboratory, University of Minnesota, St. Paul, Minnesota 55101.

   c. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

   d. Peterson and Nordstrom, Calendar of Farm Practices For Minnesota, Extension Pamphlet 204, University of Minnesota.

B. Introducing the local farm management program to the family.

   Objective: To show the need and advantages of a good farm record and analysis program and to acquaint the farm family with the management program conducted by the local vocational agriculture department.

   1. Subject content:

      a. Discuss the scope of the local farm management program.

      b. Indicate the objectives of a good program of farm and home management.

      c. Point out variations in farm earnings indicated by the latest farm analysis report from the area center.

      d. Discuss the achedule of classroom instruction.

      e. Point out that an accurate record kept in the Minnesota Farm Account Book will provide the necessary information for both farm analysis summaries and income tax accounting.

      f. Discuss with the family some of the goals they wish to attain.

         1) Short-term goals (new tractor, washer-dryer).
         2) Long-term goals (farm ownership, new home, college for children).

      g. Diacuss the cost of enrollment in the farm management program. Point up the possibility of saving several times this amount through good income tax accounting.

      h. An enrollment agreement similar to the one contained in the appendix may be signed at this time.

2. Teaching activities and experiences:

An introduction to the farm management program by use of the latest area analysis report indicates to the family the real reason for good farm records. Stress the point that records are only a tool and unless they are analyzed and carefully studied, much of the effort of keeping a good farm record has been wasted.

A brief introduction to the program is all that should be attempted at this time. Class instruction and on-farm discussions will provide opportunity for further explanation.

Make every attempt to include the farm wife in the explanation and conversations. The interest of the wife can often be the deciding factor in the family continuing in a farm and home analysis program. Point out that family living can only be improved as farm earnings increase.

At this point, the instructor may wish to discuss family goals. Determine some of the things the family wants their farm business to do for them. It will be beneficial to introduce the discussion of family goals in a classroom session. This gives each husband and wife an opportunity to think about and record the goals they may have. It should also serve to broaden the scope of their goals. It provides reasons for the improvement of the farm business. Can the farm business provide the earnings to attain these goals? This is the real reason for enrollment in a farm management program.

The instructor may wish to have the family sign an enrollment agreement at this time.

3. References:

a. Latest vocational agriculture farm analysis reports, area analysis center.

b. Farm Management Service Reports - University of Minnesota.

c. Farm management class instruction outline, local vocational agriculture department.

d. Farm management on-the-farm instruction outline, local vocational agriculture department.

e. Johnson, Peterson and Associates, Getting Started In Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

f. Malone and Malone, Decision Making and Management For Farm and Home, Iowa State College Press, Ames, Iowa, 1958.

FARM MANAGEMENT I

ON-FARM INSTRUCTION November-December UNIT III

OBJECTIVE: To plan a liming and fertility program for the farm and to introduce the family to the farm record and analysis program.

On-Farm Instructional Topics:

A. Planning for fertility needs

Objective: To assist the family in planning a liming and fertilizer program for the coming year based on soil test results and past cropping practices.

1. Subject content:

a. Discuss and evaluate test results from soil samples taken on the previous farm call.

b. Determine if the fertilizer recommendations given fit each field and situation.

c. Discuss fall applications of fertilizer and lime.

d. Project the probable per-acre and total cost of following the recommendations.

e. Discuss the value and place of available manure in a fertility program.

2. Teaching activities and experiences

A scheduled visit soon after the return of the soil test reports provides an opportunity to give the family concrete help in planning a fertilizing program for the coming year. The family can immediately see value in such services and will be more receptive to a discussion of the farm analysis program. The discussion of the costs of next year's fertility program will often bring the farm wife into the discussion.

Particular stress should be given to the fall application of lime on next year's seeding. Possibly the entire farm has not been sampled, however, the instructor will have started the family on a soil analysis and fertilizer planning program.

3. References:

a. Soil Test results from University Soils Laboratory.

b. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

B. Outlining the farm management program for the farm family

Objective: To provide the family with a preliminary understanding of the farm management program as carried on by the local vocational agriculture department in cooperation with the area vocational school.

1. Subject content:

a. How is the annual farm analysis report set up?

1) Three averages (overall average, top percent of farms, bottom percent of farms).

2) On a cash and accrual basis.

b. What information is presented in the annual farm analysis summary?

1) Farm inventory summary.

2) Cash statements (whole farm, operator's share).

3) Enterprise statement.

4) Family living and net worth statements.

5) Factors that influence earnings.

6) Crop yield summary.

7) Livestock enterprise summaries.

c. Introduce the family to the Minnesota Farm Account Book.

1) Stress the completeness of the account book.

2) Point out the use of the thumb index.

3) Stress the usefulness of the account book to provide both farm analysis and income tax information.

4) Indicate the usefulness of enterprise accounting in arriving at a summary of the farm business.

5) Discuss the FM-7, Schedule of Farm Income and Expenses. Point out that it may be used in place of the Schedules F and D of the federal 1040 form and also with the state tax report.

6) Discuss the ease of taking an income tax estimate with the FM-7 or a similar worksheet.

2. Teaching activities and experiences

This visit will be a definite follow-up to the previous month. It will be used to further acquaint the family with the local and area farm management program.

Begin the explanation by using the information and tables from the latest area analysis report. Point out the scope of the program. Indicate how farms in the local area fit into the overall averages. Stress the confidential nature of the program. Briefly discuss each table in the financial section of the report. Point out several interesting observations from the previous year's report. Illustrate the use of livestock section by discussing an enterprise peculiar to this farm. Be sure to include the farm wife in the discussion. Bring out family living costs from past analysis reports.

Point out areas that will be covered in class discussions and on consultation visits. Use the course outline for classes and visits.

Take the family through the Minnesota Farm Account Book on a page-by-page explanation. Listen carefully for any questions they may have. Point out how information recorded in the account book will be used in compiling the farm analysis summary report.

A great deal of this material should be presented in a classroom session. The on-the-farm instruction should be concerned with any questions or misconceptions and with the family's ability to comprehend a good farm record system.

3. References:

a. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

b. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

c. Painter, Keeping Records for Farm Analysis, Area Vocational Technical School, Austin, Minnesota, 1964.

d. Schedule of Farm Income and Expense, Form FM-7, Bookstore, Institute of Agriculture, University of Minnesota, St. Paul 1, Minnesota.

FARM MANAGEMENT I

ON-FARM INSTRUCTION | December-January | UNIT IV

OBJECTIVE: To assit the family in recording beginning inventories and to provide instruction in making the monthly livestock numbers checks.

On-Farm Instructional Topics:

A. Recording beginning inventories

Objective: To assit the farm family in the entry of accurate and complete inventories of all crops, livestock and equipment.

1. Subject content:

a. Assist the farm record-keeper in completing inventories of the various livestock enterprises.

b. Be sure number, weight and value is recorded in each case.

c. Add up numbers in various age categories for each livestock enterprise. Be sure total agrees with actual total on hand. Be sure the number on hand on January 1 is recorded in the monthly summary.

d. Be sure purchased livestock has been indicated.

e. Check the entry of the crop and feed inventory on page 30 and 31.

f. Be sure all crop inventories are recorded on a standard basis (moisture, test weight and shelling percentage).

g. Point up the importance of entering total liabilities and non-farm assets on pages 49 and 50, if a Net Worth statement is desired.

h. Stress the importance of accurate inventories and the error of changing January 1 inventories during the year, unless there is definite evidence that an incorrect entry has been made.

i. If time permits, provide the family with assistance in recording information on capital items in the Four Year Depreciation Schedule.

j. Summarize inventory totals on the Financial Summaries for the Minnesota Farm Account Book.

k. Supplementary data:

TABLE I

Inventory of grains and forage — Take card along into barnyard

Kind of crop	Dimensions of silo, stack, crib or no. of bales	Cubic feet or weight of bales	% moisture	Test weight	Estimated volume before correction
Ex: Corn	6 x 48 x 12	3456	25%	51#	1150
Corn					
Corn					
Corn					
Oats					
Beans					
Alfalfa					
C. silage					
Haylage					

Multiplication factor to reduce wet corn yield to a dry basis

% moisture	15½%	20%	25%	30%	35%	40%
Ear corn	100%	91%	85%	70%	60%	50%
Shell corn	100%	95%	89%	82%		

Reduce corn yields by 1.8% for each pound less than 56# test wt.

TABLE II

Inventory of Livestock

Kind of Livestock	No. of head	Weight or age	Approx. mkt. value	Purchased or raised
Ex: Feeder steers	110	750	24.50	purchased
Dairy cows (Raised)				
Dairy cows (Purch.)				
Other dairy				
Market hogs				
Sows				
Gilts				
Boar				
Feeder				
Chickens				

2. Teaching activities and experiences

The primary task on this visit is to supplement the classroom session on the completion of the January 1 farm inventories. A farm analysis cannot be completed unless inventories are begun. Completing the inventories is one of the biggest obstacles for many farm record keepers. The instructor's help and understanding at this time will be greatly appreciated by the farm family. It should be stressed that this is their farm record and that the instructor's job is only to see that they make the entries correctly. Careful checks to eliminate errors at this time will pay big dividends later in the year.

If time permits, the instructor may wish to illustrate the procedures for making the entries in the Four Year Depreciation Schedule. This could be done at a later date however.

3. References:

a. Hamilton and Bryant, Profitable Farm Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

b. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

c. Johnson, Peterson and Associates, Getting Started in Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1953.

d. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

e. Painter, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

f. Palm, Ralph E. A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

B. Instructing the family in making the monthly livestock number's check.

Objective: To provide instruction in recording the first of the month count of all livestock and any changes that occur during the month.

1. Subject content:

a. Discuss the need for an accurate recording of livestock numbers at the first of each month.

1) To determine annual production on a per unit basis (per cow or per hen).

2) To determine annual feed cost on a per unit basis.

3) To determine the farm size and workload.

b. Discuss the monthly occurrences that influence first of month livestock counts.

1) Births
2) Purchases
3) Transfers in
4) Leased animals
5) Sales
6) Deaths
7) Transfers out
8) Butchered livestock

c. Stress the importance of accurate inventories, if monthly counts are to be kept correctly.

d. Point up the importance of keeping up-to-date on livestock numbers.

1) Difficult to catch up if they fall behind.

2) Good farm management to know the number on hand.

2. Teaching activities and experiences

Illustrate how livestock counts may be recorded by entering happenings from one of the livestock enterprises on their farm for a month. Record births, deaths, butchered, transfers in and out, sales and purchases. Part of a later visit will also be used to further illustrate the methods of making monthly counts.

Much of the subject matter for this and the preceeding topic may be covered in a class session. This visit can serve as an accuracy check and is necessary to answer any questions the family may have.

Some instructors may wish to include this topic later in the year. It could be discussed more thoroughly at a later date, but emphasis on this portion of the record from the beginning will be of benefit throughout the year.

3. References:

a. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Painter, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

c. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

FARM MANAGEMENT I

ON-FARM INSTRUCTION — February-March — Unit V

OBJECTIVE: To assist the farm family in making correct accounting entries; To provide instruction in organizing the four-year depreciation schedule; and To project crop and field plans for the coming year.

On-Farm Instructional Topics:

A. To assist the farm family in making entries accurately and correctly in the Minnesota Farm Account Book.

Objective: To check receipt and expense entries for correctness and to promote accuracy and promptness in the recording of other needed items of information.

1. Subject content:

a. Check the monthly count of livestock numbers. Assist the family in bringing this up-to-date. Review the discussion of livestock counts from the previous visit.

b. Check on the entries of purchased feeds. Pages 32-35.

1) Discuss the division of purchased supplements to the various livestock classes.

2) Assist the family in arriving at a method of recording feed purchases, grinding, and disposal of "grain bank" grains in a simple, yet understandable way.

3) Stress simplicity and completeness.

c. Bring the record of feed feed up to date. Pages 22-24.

1) Assist the family in the division of the various grains and roughages to each class of livestock.

2) Use a bale count to record hay fed. Convert to tons at the time when crop and feed checks are made.

d. Check on correctness of other entries. Some problem areas are:

1) Recording numbers and weights of livestock sales and purchases.

2) Division of expense items to the correct page.

3) Division of gas, oil and repairs to tractor, truck, crop machinery and auto.

4) Entry of capital purchases on page 39

5) Recording milk fed to livestock products used in the home.

2. Teaching activities and experiences:

Begin the check of the record book by discussing any questions the family may have on the correctness of entries. This will often bring the wife directly into the discussion if she has been doing some of the recording. Many times the questions the family has will relate directly to problem areas listed in the subject content.

Be sure a careful check is made on the recording of livestock numbers and feed records. These must be entered correctly, if future problems are to be avoided. Spend as much time as necessary on this portion of the visit.

3. References:

a. Hamilton and Bryant, Profitable Farm Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

b. Johnson, Peterson and Associates, Getting Started in Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

c. Minnesota Farm Account Book, Agriculture Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

d. Painter, Charles, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

e. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium paper, Department of Agricultural Education, University of Minnesota, 1960.

B. Organizing the 4-year depreciation schedule

Objective: To provide instruction and guide lines for the family when making entries in the 4-year depreciation schedule.

1. Subject content:

a. Have the family secure a copy of the regular income tax depreciation schedule from past income tax reports.

b. Illustrate the entry of several items from this schedule.

c. Be sure all depreciable items have been accounted for and entered in the schedule.

d. Be sure the family has entered the value of land, operator's house and buildings. Rented land should be included at a fair market value.

e. Instruct the family in the entry of depreciable items purchased during the current year from page 39.

f. The family can complete the Financial Summary Sheet when the entries have been complete in the Depreciation Schedule.

2. Teaching activities and experiences

A classroom session should be used to provide instruction in the correct way to make depreciation schedule entries. Some families will need additional assistance on the farm. Helpful pointers and encouragement can make a time consuming and rather difficult task much easier.

Stress the need to study the income tax depreciation schedule carefully to determine if all depreciable items have been recorded in past years. Many times the family will discover some large items that have not been on the tax schedule.

Rented land and facilities should be included at market value if a comparison is to be made of ownership vs. leasing when the analysis report is returned.

Discuss with the family their investment in machinery, equipment and buildings. Point up the effect of depreciation on farm labor earnings.

When all entries have been entered in the depreciation schedule, the Financial Summaries included with the Minnesota Farm Account Book should be completed.

3. References:

a. Financial Summaries for Minnesota Farm Account Book, 8th Revision.

b. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

c. Painter, Charles, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

d. Depreciation Schedule, past income tax reports of the farm family.

C. Projecting the field and crop plans for the coming year

Objective: To assist the farm family in setting up field arrangements and crop plans for the coming year.

1. Subject content:

a. Review test results from soil samples taken on fall visit. (or from previous years, if available)

b. Review soil classifications from Soil Conservation Service maps or county maps.

c. Assist the family in plotting the field layout for the current year.

1) This should be done on a scratch sheet patterned after the outline on page 28 of the Minnesota Farm Account Book. This should be transferred to page 28 later in the year.

d. Assist the family in making a detailed cropping plan for the current year. Insert all recommendations for each field directly on the preliminary crop map.

1) Locate field outlines, acres and projected crop.

2) Project lime and fertilizer requirements on a field basis.

3) Project planting rates and cultural practices needed.

4) Discuss weed control measures, both cultural and chemical.

5) Plan for trial plots on fertility, weed control, population and tillage, if desired by the family.

e. Discuss crop selection practicea and the influence of higher yields on net farm earnings.

3. References:

a. Painter, Charles, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

b. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

c. Minnesota Hybrid Corn Performance Trials, Misc. Report 28, University of Minnesota.

d. Varietal Trials of Farm Crops, Misc. Report 24, University of Minnesota.

e. Soil Conservation Service Farm Plans for the Individual Farm.

f. Farm Plat Worksheet for Cropping Year 19___, F H Dev -18, University of Minnesota, St. Paul 1, Minnesota.

FARM MANAGEMENT I

ON-FARM INSTRUCTION — April-May — UNIT VI

OBJECTIVE: To complete an initial check of the feed records and to project possible returns from the livestock enterprises.

On-Farm Instructional Topics:

A. Checking feed records

Objective: To correlate the amount of feed recorded fed with the disappearance of January 1 inventories.

1. Subject content:

a. Assist the family in making a periodic inventory of roughages and feed grains on hand. Enter on page 30 of the Minnesota Farm Account Book.

b. Compare total amounts of each feed fed with disappearance of January 1 inventories. Consider sales, purchases, seed used and waste.

c. Adjust the amount of feed recorded as fed as necessary to coincide with disappearance.

2. Teaching activities and experiences:

Keeping feed records current and accurate is one of the most difficult tasks for the farm record-keeper. Early guidance by the instructor will reduce the time requirement later in the year. Helping the family to find the best method of recording the amounts fed to each livestock class will promote better records and a more accurate analysis.

An inventory and brief check at this time will be helpful in establishing the return on the livestock enterprises thus far. It will also prove helpful when completing the mid-year crop and feed check. This check on feed can be made rather easily at the close of the barn feeding season. However, it should be completed prior to beginning of heavy spring work.

Assist the family in establishing the simplest and most accurate procedure for recording purchased feeds on their farm. Be sure feeds are not counted twice. Be especially careful of "grain bank" accounts.

It may be necessary to adjust the amounts of feed recorded as fed on pages 22-25 at this time. A check and adjustment at this time will provide more accuracy and should locate any possibility of errors in the beginning inventory. An inventory card similar to the supplementary data in Unit IV may be sent prior to the visit.

3. References:

a. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Painter, Charles, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minn. 1964.

B. Bringing livestock counts up to date

Objective: To assist the family in recording accurate "first of the month" counts of livestock to date.

1. Subject content:

a. Check the entry of all happenings that influence livestock numbers on hand.

1) Sales
2) Purchases
3) Births
4) Deaths
5) Butchered livestock
6) Transfers in
7) Transfers out.

b. Illustrate the procedure for bringing livestock counts up-to-date on the Livestock Report, F.A. 12.

1) Stress the need for an accurate accounting of livestock numbers on hand.

2) Leave the livestock report, F.A. 12, with the family for completion during the remainder of the year.

2. Teaching activities and experiences:

It is especially important that feed and livestock records be up-to-date at the start of the busy crop season.

The family record-keeper will find it easier to keep track of livestock numbers when using the Livestock Report, F.A. 12. This checksheet may be left with the family as a worksheet. If necessary, the information can be transferred to a new checksheet at the time of submission to the area center for analysis.

3. References:

a. Livestock Report, F.A. 12, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

C. Projecting possible livestock returns.

Objective: To assist the family in determining livestock returns and feed costs to date and in projecting possible returns for the year.

1. Subject content:

a. Compute returns to date for each livestock enterprise.

1) Milk sales, amount fed, amount consumed in home.
2) Egg sales, amount consumed in home.
3) Sales and gains on meat animals, butchered.

b. Compute feed costs to date for each livestock enterprise.

1) Farm grown grains and forages.
2) Purchased feeds and supplements.
3) Pasture.

c. Discuss the return over feed cost realized to date from each enterprise.

d. Project the possible returns and feed costs for the entire year.

e. Project the total income from livestock for the year.

f. Discuss ways to effect improvements where indicated:

1) Feed a more balanced ration
2) Provide more feed
3) Use a less expensive supplement per pound of protein
4) Reduce feed wastage
5) Plan for least cost rations
6) Plan improvements in housing and ventilation
7) Sell a better quality product - market more efficiently.

2. Teaching activities and experiences:

This can be one of the more valuable teaching activities in the first year of farm records. Completing a partial analysis at mid-year can be a big motivational factor in encouraging the family to complete a good set of records. It may point to minor adjustments that can increase profits in the current year.

A partial analysis can be completed rather easily for the dairy and poultry enterprises, where a product sale is involved. Inventory values may change very little, therefore product sales are the main income factor. Feed costs can be determined on a per unit basis. It is more difficult to make a partial analysis on meat animal enterprises, since an inventory of weights is involved. A projection of the total yearly sales to be realized from these enterprises is perhaps the best summary to make at this time.

Discuss some of the improvements or changes that should tend to increase net income from the livestock enterprises.

A young farm family will often have a very limited knowledge of the efficiency and size necessary on a present-day farm to provide an adequate living. A partial analysis at this time is often helpful in establishing the need for greater size and/or efficiency.

3. References:

Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

Morrison, Feeds and Feeding, 22nd edition, The Morrison Publishing Company, Ithaca, New York, 1956.

FARM MANAGEMENT I

ON-FARM INSTRUCTION June-July Unit VII

OBJECTIVE: To assit in completing the midyear feed check and to evaluate growing crops.

On-Farm Instructional Topics:

A. Making the mid-year crop and feed check.

Objective: To assit the farm family in completing a mid-year check of feed disappearance.

1. Subject content:

a. Assist the family in completing a mid-year inventory of feed on hand.

b. Have the family record-keeper record the following information for each feed on the Crop-and Feed Checksheet, F. A. 11.

1) Purchases, pages 32-35.
2) Beginning inventory, pages 30-31
3) Sales, page 36
4) Seed used, page 29
5) Waste.
6) Amount on hand as of this date.
7) Amounts recorded fed to each enterprise, pages 22-25.

c. Compare the total amount recorded as fed with the amount determined to be available to be fed. Make any adjustments necessary.

d. Check the entry of milk fed to livestock, pages 22-25.

e. Check the number of days on pasture, pages 22-25.

2. Teaching activities and experiences:

A large portion of the mid-year feed check may have been completed in a classroom session. The instructor's primary task will be to check for accuracy and to assist the family with any problems they may have encountered. They will often need additional instruction in adjusting the amounts of feed assigned to the various livestock classes.

The amount of feed fed to some classes of stock may be more easily determined than that fed to others. (Example: Grain for poultry and hogs may be handled and weighed accurately through a Grain Bank, while corn for the dairy herd may be ground directly from the crib.) Determine the amounts which have been recorded with the greatest accuracy before making any adjustments.

Illustrating the procedure for making a feed check at this time will ease the instructor's workload at the close of the year, when time is at a premium.

3. References:

a. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Crop and Feed Check, FAll, Agriculture Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

c. Palan. Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

B. Evaluating the growing crops

Objective: To compare crop progress for the current year and to evaluate the cropping practices carried on.

1. Subject content:

a. Inspect the growing crops for symptoms of nutrient deficiency.

1) Deficiency symptoms within individual plants
2) General growth patterns on each field.

b. Determine problem areas within various fields where soil should be sampled and tested separately in order to locate specific needs.

c. Evaluate cultural and chemical weed control practices applied.

1) Have the practices applied been effective?
2) Are weeds serious enough to reduce yields?
3) What type of weed control is indicated in the future?

d. Compare hay and pasture stands and growth.

1) Discuss possible improvements in fertility and weed control practices.
2) Evaluate harvesting practices and methods.

e. Check fields for symptoms of insect damage. (rootworm, corn borer, aphids, cutworm)

1) Are they serious enough to reduce yields?
2) Control measures to be adopted.

f. Determine population rates.

1) Are plant populations sufficient to utilize available moisture, fertility and sunlight?

2) Are thin stands the result of improper planting, insects, cultivator loss, or poor germination?

2. Teaching Activities and experiences:

A great deal can be accomplished on an evaluation tour of the farm crops at this time of year. Pointing up the need for weed control or changes in the fertility program can be especially beneficial to the farmer. On-the-spot discussions of nutrient deficiency symptoms and weed control measures are particularly meaningful.

The instructors at this time can be extremely helpful in planning fertility, weed control and planting practices on future consultation visits. Field and soil conditions vary with the year and current weather conditions. Periodic crop evaluations provide the instructor with the opportunity to evaluate the farm's potential and to determine management areas that need improvement.

Numerous sources are available to provide reference material for this visit.

3. References:

a. Cultural and Chemical Weed Control in Field Crops, 19-- Extension Folder 212, Agricultural Extension Service, University of Minnesota.

b. Insecticides and Their Uses in Minnesota, Extension Bulletin 263, Agricultural Extension Service, University of Minnesota.

c. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

d. Klingman, Weed Control As a Science, John Wiley and Sons, New York, New York, 1963.

e. Minnesota Hybrid Corn Performance Trials, Misc., Report 28, University of Minnesota.

f. Peairs and Davidson, Insect Pest of Farm, Garden and Orchard, 5th edition, John Wiley and Sons, Inc., New York, New York, 1950

g. Peterson and Nordstrom, Calendar of Farm Practices for Minnesota, Extension Pamphlet 204, University of Minnesota.

h. Varietal Trials of Farm Crops, Misc., Report 24, University of Minnesota.

FARM MANAGEMENT I

ON-FARM INSTRUCTION August-September UNIT VIII

OBJECTIVE: To assit in recording crop information in the Minnesota Farm Account Book; To outline a complete program of soil analysis and to project the outlook for livestock profits.

On-Farm Instructional Topics:

A. Recording crop data and field layout in the farm account book

Objective: To provide instruction in the entry of the field lay-out and crop data on pages 28-29 of the Minnesota Farm Account Book.

1. Subject content:

a. Check the entry of crop acres for each individual crop.

1) Do the acres recorded for each crop add up to the total amount of total tillable acres recorded?

2) Are nontillable acres entered correctly?

b. Check the accuracy of owned and rented land entries.

Record rental arrangements under "remarks" section.

1) Has seed used for planting been recorded?

2) Are crop yields entered to date?

3) Have they been adjusted for moisture, test weight and volume?

c. Assist the family in plotting the field arrangement on page 28 of the Minnesota Farm Account Book. A major portion of this may be taken from the preliminary crop plans projected in Unit V.

2. Teaching activities and experiences:

A considerable portion of the subject matter may have been completed at a previous class session. The instructor's main task on this visit will be to check for completeness and accuracy of the above items.

Even though some of the items discussed under subject matter have been completed on a previous visit, it may be well to check the progress of the family in recording the crop data and field arrangement. Early completion of this work will aid in the final closeout of the books.

Stress the need for adding up the tillable acres alloted to each crop to determine if the total equals the amount of total tillable acres recorded.

3. References:

a. Hopkins and Turner, Records for Farm Management, Prentice-Hall, 1958.

b. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

c. Painter, Charles, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

B. Projecting a comprehensive program of soil analysis

Objective: To assist the farmer in planning a program of soil sampling.

1. Subject content:

a. Review soil samples taken in previous years.

1) Have recommendations for lime and corrective fertilizer been followed?

2) Should some areas be re-sampled?

b. Evaluate growing crops for nutrient deficiency symptoms.

c. Determine fields and acres to be sampled this year.

d. Assist the family in working out a fall fertilizer and liming program.

1) Determine the better buys in fertilizer for this farm.

2) Assist the farmer in deciding on amounts of fertilizer to use.

2. Teaching activities and experiences:

It often takes two or three years to soil sample the complete farm. The instructor's task should be to establish the family in a regular habit of soil sampling. Be sure the farmer has a knowledge of correct sampling procedures. An accurate, mixed sample can be very misleading and worse than no sample.

Discuss liming and fertilizing practices with the family. Stress the need to apply lime at least 6 months and preferably 12 to 18 months prior to seeding a legume. Point up the advantages of bulk applications of fertilizer in the fall.

Discuss fertilizer buying practices. Stress the need to check out the best fertilizer buys each year. Evaluate the various fertilizer analysis with the farmer.

3. References:

a. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

b. Soil Conservation Service Farm Plans for the Individual Farm

C. Planning for livestock profits

Objective: To assist the family in projecting the livestock outlook for the year ahead

1. Subject content:

a. Discuss the price outlook for the finished livestock product at sale time.

1) Probable price expected
2) Grade and yield of finished product
3) Possible fluctuation in expected price
4) Factors that can affect market price

b. Discuss costs of production.

1) Feed
2) Housing equipment and power
3) Veterinary, trucking, etc.
4) Labor

c. Other factors

1) Feed supply
2) Forage and grains available
3) Equipment and housing available

d. Assist the farmer in determining the probable price that can be paid for various grades and weights of feeder livestock if a reasonable profit is to be made.

2. Teaching activities and experiences:

A major part of the farm management instructor's job should be to encourage the farm family to project trends and expectations for the future. Current plans must be based on the expected return to be realized at a future date.

Assist the family in determining price trends in the year ahead. Discuss the probable costs involved in producting a certain grade of product. Be sure all costs are considered, including an adequate return for labor. Emphasize the differences in returns that can result from price fluctuations.

Discuss the feed supply available. Consider livestock that can make the best use of the feeds available. Determine the amounts of supplemental feed necessary. Discuss the production levels necessary if an adequate return is to be realized. Determine the best possible market available.

Point up the need to be realistic in outlook planning. Emphasize the need to make a profit, rather than break-even.

3. References:

a. Doane's Agricultural Digest, Doane Agricultural Service, Inc., St. Louis 8, Missouri.

b. Cattle Feeders Planning Guide, FM-30, Agricultural Extension Service, Institute of Agriculture, University of Minnesota, St. Paul, Minnesota.

c. Hog Feeders Planning Guide, FM-26, Agricultural Extension Service, Institute of Agriculture, University of Minnesota, St. Paul, Minnesota.

d. Outlook Planning Materials, Agricultural Extension Service, Institute of Agriculture, St. Paul 1, Minnesota.

FARM MANAGEMENT I

ON-FARM INSTRUCTION | October-November | UNIT IX

OBJECTIVE: To assist in the completion of crop yield data and project livestock rations and feed needs

On-Farm Instructional Topics:

A. Completing the crop yield data.

Objective: To assist the cooperating family in completing the entry of crop yield data for the current year in the Minnesota Farm Account Book.

1. Subject content

a. Check for the entry of yeilds for all crops, page 29.

b. Determine any adjustments necessary on the basis of moisture, test weight and shelling percentage.

1) Use the tables and information on the back of the Minnesota Farm Account Book to determine yeilds and adjustments.

2) Hay may be recorded as bales, and later converted to tons.

c. Assist the cooperator in adjusting hay acres that may have been pastured during a portion of the summer or in adjusting acres that may have been used to produce two different crops.

d. Other areas to be checked for completeness

1) Has the crop been divided correctly on rented acres?

2) Has seed used been recorded correctly?

3) Has the plat map been completed?

2. Teaching activities and experiences:

Complete and accurate crop data is necessary for a farm analysis. Crop yields should be recorded as the crop is harvested. Completion of as much of this section as possible at this time will be helpful in reducing the heavy workload found at the close of the year.

A large share of this should be done during a classroom session. However, the instructor will need to check the data in order to eliminate errors.

3. References:

a. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

B. Planning livestock rations and feed supplies

Objective: To assist the farm family in planning winter livestock rations and feed needs.

1. Subject content:

a. Evaluate the quality of forages and feed grains with the farmer.

1) Moisture content of corn
2) Percentage of legume and grass in hay
3) Color, leafiness and palatability of hay
4) Quality of silage or haylage

b. Plan to send forage and grain samples to a laboratory for testing for nutrient content.

c. Assist the family in the formulation of the best rations for each class of livestock. This should be based on:

1) The quality and quantity of forages available
2) Prices to be paid for forages and grains during the feeding season
3) Quality and weight of feeder livestock
4) The price situation for the finished animal at the time of sale
5) Value of the product sold
6) Prices to be paid for protein supplements, minerals and vitamins
7) Level of production - reproductive needs.

d. Determine feed needs for the year.

1) Will additional feed be needed?
2) When is the best time to buy, if purchases must be made?
3) Would profits be increased if the family were to sell one feed and buy back another (sell oats, buy back corn)?

2. Teaching activities and experiences:

Stress the need to provide a balanced ration, if production and gains are to be profitable. Assist the farmer in making an evaluation of the quality of hays and silages. Discuss the need for providing supplemental protein to dairy and feeder cattle based on the quality of forages.

Help the farmer to formulate the best rations for each class of livestock. Consider the items listed under subject content. Point up the need to supply adequate minerals and vitamins in all rations.

Spend some time determining feed needs for the year. Are present supplies adequate to carry through the year? Will additional forage or grains be needed? Determine when would be the most opportune time to buy extra supplies.

Discuss the substitution of one feed for another if prices become too high.

Encourage the family to send samples of forages and grains to be tested for nutrient content. Be sure samples are representative of the feed being fed.

Many excellent reference sources are available to aid the family in planning balanced rations and estimating feed supplies needed.

3. References:

a. Beef Cattle Rations, Animal Husbandry FS #6, Agricultural Extension Service, University of Minnesota.

b. Complete Rations for Growing Finishing Swine, Animal Husbandry FS #7, Agricultural Extension Service, University of Minnesota.

c. Feeder Pig Production Guide, Extension Folder 223, Agricultural Extension Service, University of Minnesota.

d. Feeding for Egg Production, Poultry Husbandry Fact Sheet, Institute of Agriculture, St. Paul 1, Minnesota.

e. Feeding the Dairy Herd, Extension Bulletin 218, Agricultural Extension Service, University of Minnesota.

f. Morrison, Feeds and Feeding, 22nd edition, The Morrison Publishing Company, Ithaca, New York, 1956.

g. The Midsest Farm Plan Books, MWPS 3,4,5,6,7,8,9A, 10A, Extension Agricultural Engineer, University of Minnesota.

h. Nutrient Requirements of Livestock, No's 1-10, Printing and Publishing Office, National Academy of Sciences - National Research Council, Washington, D.C.

FARM MANAGEMENT I

ON-FARM INSTRUCTION | December | UNIT X

OBJECTIVE: To assist the cooperator in making an income tax estimate and in checking the Minnesota Farm Account Book in preparation for the year-end closing

On-Farm Instructional Topics:

A. Making an income tax estimate

Objective: To provide instruction and assistance in the completion of an estimate of income tax due and to provide assistance in securing all possible tax savings

1. Subject content:

a. Assist the family in completing the tax estimate worksheet provided in the Appendix. The FM-7 form Schedule of Farm Income and Expense may also be used.

1) Use up-to-date totals from the Minnesota Farm Account Book.

2) Project additional receipts and expenses expected for the remainder of the year.

3) Determine annual depreciation and any carryover of investment credit from previous tax reports.

4) Check for any net operating loss in previous years.

b. What are some means of reducing current taxable income if taxes will be due? Use the North Central Regional Publication No. 2, Income Tax Management For Farmers to secure information on tax management tips.

1) Should additional machinery or equipment be purchased at this time a) To qualify for more investment credit?
b) To qualify for additional 20% depreciation allowance?
c) Is the machine needed and justified?

2) If income is extremely high, should the family consider income-averaging?

3) Make additional purchases of feed and supplies.

4) Use alternative methods of computing depreciation on depreciable items purchased.

5) Utilize any net operating loss from previous years.

c. What are some ways to increase the current year's income if farm profits are insufficient to utilize the full family dependency and deduction allowances?

d. Be sure the family has included any taxable nonfarm income.

2. Teaching activities and experiences:

This visit should be preceded by a classroom discussion of income tax management. The instructor should be prepared to assist the family in the completion of the tax estimate and in planning means of securing tax savings.

The preparation of an income tax estimate will be helpful in motivating an early closeout of the farm records for analysis. Much of the work of closing the farm records can be accomplished at this time.

Point out the importance of making a tax estimate in a year of low income. Moving taxable income into an otherwise low income year allows the family to take full advantage of family exemptions and may be helpful in reducing the amount of taxes paid in the succeeding year.

Income or expense adjustments should be based on sound farm management practices, if tax management is to be effective. Request each family to have previously filed tax reports available to determine any investment credit still due or the effect of an earlier net operating loss.

3. References

a. Farmer's Tax Guide, District Director, Internal Revenue Service, Publication No. 225.

b. Income Tax Management for Farmers, North Central Regional Publication No. 2, Extension Bulletin 298, Agricultural Extension Service, University of Minnesota.

c. Peterson and Nordstrom, Calendar of Farm Practices for Minnesota, Extension Pamphlet 204, University of Minnesota.

B. Checking the farm records for errors and omissions

Objective: To check the Minnesota Farm Account Book for common errors and omissions

1. Subject content:

a. Provide each family with a checksheet of items to be completed in the account book before it is submitted for analysis. (See Appendix)

b. Provide each family with a consice instruction sheet on computing and recording inventories.

c. Scan each page of the account book.

1) Notate areas that are obviously incorrect entries.

2. Teaching activities and experiences:

Stress the need to begin the record book closeout before the close of the year. Have the family complete a checksheet as they prepare their account book for submission to the area analysis center. Particular importance should be placed on bringing livestock number counts up to date and in recording the amount of the new crop fed to livestock during the latter portion of the year.

Incomplete and incorrect entries can often be spotted at the time the income tax estimate is made. These should be noted and referred to the family record-keeper for completion or correction. This will be helpful in reducing the time required to close the book on the next on-farm instructional visit.

3. References:

a. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Painter, Charles, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

ON-FARM INSTRUCTION for FARM MANAGEMENT II

On-farm instruction for FARM MANAGEMENT II will be directed toward (1) the interpretation of information in the annual analysis summary report concerning the individual farm, (2) the further evaluation of crop and livestock programs, (3) a study of the costs of operating the business, (4) the planning of an operating budget and (5) further work on tax management.

Early in the second year, the instructor may wish to outline areas to be covered during on-farm consultation with the family. Involving the family in the planning of the visit agenda assures better cooperation and greater accomplishments.

On-farm instruction will become more flexible during the second year as the instructor devotes less instructional time to the keeping of records and more to the interpretation of the farm analysis report. Other facets of good management will be stressed as an overall view is taken of the farm business.

Budgeting, cash flow and the planning of a sound credit program should be emphasized to families in the second year of farm management consultation. First-year records and their analysis can be very useful in this phase of planning.

FARM MANAGEMENT II

ON-FARM INSTRUCTION — January — UNIT XI

OBJECTIVE: To assist in the completion of the farm account book for analysis and to provide instruction in the completion of income tax returns

On-Farm Instructional Topics:

A. Preparing the farm record for the year-end summary

Objective: To provide assistance to the farm family in preparing the Minnesota Farm Account Book for record analysis and in completing the final crop and feed and livestock checksheets.

1. Subject content:

a. Assist the family in completing year-end inventories.

1) Be sure adjustments have been made for moisture, test weight, shelling percentage and quality of grains and forages.

2) Check for realistic and consistent values on all livestock.

b. Check the transfer of depreciable items purchased from page 39 of the account book into the Four Year Depreciation Schedule.

c. Assit the family in the completion of the Four Year Depreciation Schedule, if not previously done.

d. Utilize the closing checksheet (Appendix) to determine if all needed information is recorded.

e. Assist the family in completing the final crop and feed check. (FA 11)

1) Determine the amounts fed (pages 22-25) and the amount available to be fed from the crop and feed checksheet.

2) Make any adjustment necessary. The adjustment should be made from the figure assumed to be most accurate.

(a) Utilize larger measurements if possible rather than smaller measures. (Total capacity determined for a crib or silo would be more accurate than daily or monthly weighings. Utilize weighings as necessary to determine the percentage to each livestock class)

(b) Any adjustment of inventories or yields should be done only after careful consideration and complete assurance that the amount listed as fed is completely accurate.

f. Check on the completeness of the supplementary family information sheet, FA 51.

2. Teaching activities and experiences:

This on-farm instruction should follow a classroom session on the entering of closing inventories and the making of a final crop and feed check. The visit should be made near the end of December or early January so that closing inventories, livestock counts, and crop and feed checksheets can be completed.

The first year cooperator may need considerable assistance at this time. Careful checking of closing inventories will eliminate many questions at the analysis center and reduce the possibility of errors that affect the accuracy of the analysis summary.

The supplementary family information sheet should also be completed at this time, if not done earlier.

At the close of this visit, the instructor may wish to take the book in for a careful check at his home or office. Missing and incomplete entries should be notated on the closing checksheet or a page of note paper. Page and column numbers and a description of the missing information will be helpful.

The book and checksheet may then be returned to the cooperator, if necessary, for correction or completion. One or more hours of concentrated scanning of each account book by the instructor will greatly minimize the possibility of errors and confusion at the analysis center.

An inventory card such as used in Unit IV may be sent prior to your call. This will be helpful and can serve to motivate the family in completing closing inventories.

3. References:

a. Crop and Feed Check, FA 11, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Hopkins and Turner, Records for Farm Management, Prentice-Hall, 1958.

c. Livestock Report, FA 12, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

d. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

e. Painter, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

f. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

g. Suggestions for Closing Farm Records, Rev. 11/57, University of Minnesota, St. Paul 1, Minnesota.

B. Providing instruction in tax reporting

Objective: To provide instruction in the completion of the federal and state income tax returns, if desired by the family.

1. Subject content:

   a. Are totals correctly entered from the account book on to the FM-7, "Schedule of Farm Income and Expense". (The FM-7 may be used in lieu of US Forms 1040D and 1040F and Minnesota Form I-11.)

   b. Are all cash receipts and expenses entered?

   c. Are sales of feeder livestock purchased for resale entered in Section III of the FM-7?

   d. Are sales which qualify for capital gains entered in Section V and Section VI?

   e. Check the transfer of figures from the FM-7 to the US Form 1040 and Minnesota Form I-11.

   f. Has the Social Security section been completed?

   g. Has all depreciation been correctly claimed?

   h. Has investment credit been handled correctly?

   i. Has the family made maximum use of deductions and exemptions?

2. Teaching activities and experiences:

This on-farm instruction may follow a classroom session on the computation and filing of federal and state income tax reports. The instructor's main task will be to check the cooperator's computations for correctness and accuracy.

If the family has completed the tax return, it will take only a minimum amount of time to check the report for errors.

Many families will prefer to have a tax accountant file their tax report. Instructors often prefer to have the local tax consultants complete the tax forms, since this can be a time-consuming task at a very busy season.

3. References:

   a. Farmer's Tax Guide, District Director, Internal Revenue Service, Publication No. 225.

   b. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

   c. Tax forms: US 1040; Schedules D, F. F1, Minnesota I-1.

   d. Schedule of Farm Income and Expense, FM-7, Institute of Agriculture, St. Paul 1, Minnesota.

   e. Summary of Income Tax Short Course, Director of Short Courses, University of Minnesota, St. Paul 1, Minn.

FARM MANAGEMENT II

ON-FARM INSTRUCTION | February-March | UNIT XII

OBJECTIVE: To assist the farm family in projecting an operating budget, and to plan a weed and insect control program

On-Farm Instructional Topics:

A. Completing an operating budget

Objective: To assist the farm family in projecting an income-expense statement for the current year

1. Subject content:

a. List total income and expense for past year on a form similar to the supplementary data.

b. Adjust any totals that are expected to change for the current year.

1) Consider adjustments that will occur in the farm business during the current year.

2) Consider any expenditures for capital goods to be made in the current year.

c. Apportion the total of each income or expense item to each quarter of the year.

d. Compare income and expenses during each quarter. Prepare a schedule for necessary borrowing and/or repayment.

e. Supplementary data:

See Table III

TABLE III

Blooming Prairie Vo-Ag. Dept.
Farm Management Studies

For _____ for 19___.

Income Items	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Dairy Cattle Sales													
Dairy Product Sales													
Beef Sales													
Hog Sales													
Sheep and Wool Sales													
Egg and Poultry Sales													
Corn and Other Grain Sales													
Work Done Off Farm													
Agric. Cons. Payments													
Miscellaneous Income													
Other:													
----------TOTAL													
Amount over Expenses													
Amount Short													

TABLE IV

For _____ for 19___.

Expense Items	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Dairy Cattle Bought													
Hogs Bought													
Beef Feeders Bought													
Other Livestock (sheep, poultry, etc.)													
Miscellaneous Livestock Exp.													
Feed Bought													
Fertilizer													
Other Crop Expense (seed, spray, etc.)													
Capital purchases (Re and equipment)													
Custom Work Hired													
Gas, Oil and Grease Bought													
Repairs, all power machinery													
Labor													
Electricity & Telephone													
Real Estate Tax													
Personal Property Tax													
Federal and State Income Tax													
Family Living													
Principal paid on borrowed money													
Interest paid on borrowed money													
Insurance (fire, liability, crop)													
Other (include cash rent)													
TOTAL													

Jan-Mar	Apr-June	July-Sept	Oct-Dec	TOTAL

2. Teaching activities and experiences:

Assist the family in projecting total receipts and expenses expected for the current year. Totals from the Minnesota Farm Account Book for the previous year can serve as guides. Distribute the total for each income or expense item into each quarter of the year. The family will then be able to determine when they may need additional credit and when to schedule repayments.

The budget will also serve to point out necessary increases in efficiency and/or size, if expenses are to be met and progress made.

When making the budget, the family must be completely realistic in projecting receipts and expenses. All projections should be based on past performance insofar as possible.

3. References:

a. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

b. Hopkins and Turner, Records for Farm Management, Prentice-Hall, 1958.

c. Malone and Malone, Decision Making and Management for Farm and Home, Iowa State College Press, Ames, Iowa, 1958.

d. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

B. Planning a weed control program

Objective: To assist the family in planning an effective weed control program for their farm.

1. Subject content:

a. Discuss weeds prevalent on the particular farm

1) Broadleaf
2) Grasses

b. Discuss cultural methods that could be incorporated into the cropping program, (I.E. use a rotary hoe or drag on newly-germinated weeds; leaving alfalfa seeding for two years to reduce thistles, etc.)

1) Are cultural practices completed on time? (Illustrate that rotary hoeing three days too late may be almost totally ineffective.)

2) Are proven cultural practices followed in addition to use of chemicals?

c. What chemicals are available for control of weeds?

1) Stress that chemicals should be selected according to their performance in impartial trials.

2) Discuss application rates and timeliness of application.

3) Discuss the selection of chemicals on the basis of type of weeds prevalent on the individual farm, crop sequence, and cultural practices employed.

4) Emphasize cautions in the use of each chemical and point up the limitations that apply to each.

d. Review per acre costs of application

1) Chemical costs

2) Application attachment costs

3) Labor and convenience (apply as liquid or granules-planter application or separate operation.)

e. Plan check strips and yield trials

f. Assist the farmer in calibrating his sprayer or applicator, if desired.

2. Teaching Activities and Experiences:

Planning an effective weed control program is perhaps one of the most positive means to increase farm earnings. Good seed, heavy fertilization and high populations cannot produce the maximum return, if the crop is heavily infested with weeds. The farmer who has achieved weed-free soybean or corn fields is also one of the proudest farmers in the community and will strive that much harder to secure the best return.

Discuss items listed under subject content. When working with the family during the previous year the instructor should have become aware of any weed problems and of any deficiencies in the present control program.

Point out to the farmer that results from impartial performance tests of all weed control chemicals should be the basis for selection of the chemical to use on his farm.

Assisting the farmer in the proper calibration of his sprayer may be big dividends in chemical effectiveness. Emphasize that he needs to re-calibrate the sprayer each time it is used. Also point out the necessity to periodically check the accuracy of the calibration in the field.

Plan yield check strips to provide a means of evaluating the effectiveness of the various chemicals.

The references given are very effective as guides in setting up a weed control program.

3. References:

a. Cultural and Chemical Weed Control in Field Crops, 19___, Extension Folder 212, Agricultural Extension Service, University of Minnesota.

b. Klingman, Weed Control as a Science, John Wiley and Sons, Inc., New York, New York, 1963.

C. Planning an insect control program.

Objective: To assist the family in setting up an effective insect control program for their farm.

1. Subject content:

a. Determine insect control measures that may be necessary; (Example: corn rootworm, cutworm, corn borer, grasshopper, aphids, etc.).

b. Discuss the effectiveness of crop rotations and cultural practices on the control of certain insects. (Example: fall plowing on corn borer; effect of several years of corn on rootworm buildup).

c. Point out the chemicals available for insect control.

1) Emphasize the application rates and effectiveness of various chemicals.

2) Discuss approximate costs and probable net returns.

d. Discuss the symptoms of various insect damages (Example: goosenecking and partial lodging of corn damaged by rootworm; stalk lodging and ear loss from borer; reduced stands due to cutworm or wireworm).

e. Assist the farmer in the calibration of his sprayer or applicator.

2. Teaching activities and experiences:

Proper insect control measures are necessary for high profit yields. Again, as in weed control chemicals, the instructor's task is to emphasize the selection of these chemicals on the basis of impartial evaluation trials.

Review the subject content with the farm family. Stress that chemicals can only supplement good rotational and tillage practices.

It is very important to correctly diagnose the insect problems that have occurred or will occur prior to establishing the control measures to be used.

3. References:

a. Insecticides and Their Uses in Minnesota, Extension Bulleting 263, Agricultural Extension Service, University of Minnesota.

b. Peairs and Davidson, Insect Pest of Farm, Garden and Orchard, 5th edition, John Wiley and Sons, Inc., New York, New York, 1950.

ON-FARM INSTRUCTION April-May UNIT XIII

OBJECTIVE: To return and begin a general interpretation of the farm business summary

On-Farm Instructional Topics:

A. A general appraisal of the farm business analysis summary

Objective: To familiarize the farm family with the farm analysis for the current year.

1. Subject content:

a. Preparing the completed analysis summary for presentation to the farm family.

1) Study each individual farm analysis report thoroughly prior to returning the report to the family.

a) To become familiar with the data for this particular farm.

b) To find and correct any errors that may become apparent upon completion of the analysis report.

Some readily made checks for errors are:

1) Are labor earnings on Tables 2 and 3 the same?

2) Return to Capital and Labor (Table 6) equals Family Living plus change in Net Worth.

3) Feed cost per unit or per cwt. are reasonable.

4) Returns per unit or per cwt. are reasonable.

5) Overhead cost per Work Unit are reasonable.

b. Review the outline of the farm analysis summary with the family.

1) Financial summaries

a) Farm capital
b) Cash statement for total farm
c) Cash statements for the operator
d) Enterprise statement.
e) Net worth statement

2) Efficiency factors

3) Crop summary

4) Livestock summaries

a) Total returns from livestock
b) Enterprise summaries

5) Other

a) Household expense
b) Crop cost summaries.

2. Teaching activities and experiences:

It is especially important that the instructor study each individual report very carefully prior to presentation to the family. Explanatory comments should be notated on page margins for items that are particularly pertinent to the particular business. The relationship between certain items, such as, total power expense in Table 3 and power expense per work unit in Table 3 and power expense per work unit in Table 8, should be pointed out.

A thorough review of the report by the instructor prior to delivery to the family will often reveal any errors or omissions.

These can then be corrected before his discussion with the family. This often prevents erroneous conclusions from incorrect data and prevents doubts on the part of the family in the reliability of the report.

Stress the fact that this is only one year of operation. Weather, prices and many other factors can influence returns. Very few major changes should be adopted without more data and study.

Point up the need to study the farm business in total. Various factors within the business must be complementary. A farm business may be in need of more size. However, if crop yields and livestock efficiency are extremely low, increasing size may actually lower returns. Likewise, a farm family may harvest very high crop yields, but inefficient feed conversion by livestock may result in meager labor returns.

3. References:

a. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

b. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

c. Johnson, Peterson and Associates, Getting Started in Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

d. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

e. Painter, Charles, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

B. To begin a general interpretation of the tables included in the farm analysis summary.

Objective: To assist the farm family in establishing a general overview of their farm business as compiled in the annual farm analysis summary.

1. Subject content:

a. Measures of farm organization and management efficiency - Table 8

1) Discuss the eight management factors that determine earnings.

a) Crop yields
b) Selection of high return crops
c) Return for $100.00 of feed to produce livestock
d) Productive livestock units per 100 acres
e) Size of business - work units.
f) Work units per worker
g) Power, machinery, equipment and building expense per work unit
h) Gross return per acre

2) Which factors appear to have the most bearing on labor earnings for this farm business?

b. Farm Inventories - Table 1

1) Total farm capital involved
2) Total capital; operator's share; landlord's or partner's share
3) Distribution of capital investment
4) Capital investment per Work Unit or per acre

c. Cash Statement - Total Farm - Table 2

1) Cash income from crops, livestock other sources
2) Cash expenses
3) Interest on total farm capital
4) Increase or decrease in farm capital
5) Labor earnings on the total farm

d. Cash Statement - Operator's Share - Table 6

1) Cash income and expenses
2) Capital items purchased
3) Increase or decrease in farm capital
4) Unpaid family labor
5) Operator's labor earnings
6) Return to capital and labor

e. Enterprise Statement - Table 3

1) Net increases from each livestock class
2) Total net increase from livestock
3) Total feed cost
4) Total return over feed cost from livestock
5) Total return from crops above cost of fertilizer and other crop expense
6) Other income
7) Cost of operating power units, crop machinery, livestock equipment and farm buildings (including a portion of custom work hired) - includes costs of gas, lubrication, repairs and depreciation

8) Total labor cost (includes unpaid labor and a portion of custom work hired).

9) Interest on farm capital - Real estate and personal property tax (includes landlord's or partner's share).

10) Labor earnings for total farm

f. Household and Personal Expenses - Table 4

1) Total cash living expense
2) Total household and personal cash expense
3) Total cash expenses and prerequisites
4) Return to capital and labor

a) Farm only
b) Farm and nonfarm income

g. Net Worth Statement - Table 5

1) Total farm capital
2) Total assets
3) Long-term debt
4) Short-term debt
5) Total debt
6) Net worth

h. Total Feed Costs and Returns from Livestock - Table 10

1) Total returns from each enterprise
2) Total feed cost for each enterprise
3) Total return over feed cost for each enterprise

i. Crop Summary - Table 9

1) Crop acres
2) Crop yields

j. Individual Livestock Enterprise Statements - Tables 11-19

1) Production levels
2) Feed conversion and quantities
3) Feed costs
4) Total net increases
5) Return over feed costs
6) Return on $100 of feed
7) Production factors
8) Price received and paid
9) Size of the enterprise

k. Power and Crop Expense per Crop Acre - Table 20

2. Teaching activities and experiences:

Follow the material presented under subject content. A class session should be held prior to the on-farm instruction. This provides an opportunity to discuss the averages, point out some of the more important items of information and discuss the effect of weather, prices and other factors on the earnings for the current year.

If the family receives their individual report at this meeting, they will have had an opportunity to study it prior to your on-farm instructional visit. The material presented under subject content should be covered in a flexible way. Questions by the farm family will often lead into an explanation of various terms and their meaning for this farm operation.

The instructor's task is to provide the first year cooperating family with a general interpretation of the farm analysis report and its application to their operation. Stress the fact that each table will be discussed in more detail in future classroom sessions and on-farm instructional visits.

3. References:

a. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

b. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

d. Painter, Charles, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

e. Some Factors Affecting Earnings of Farmers in Southeastern Minnesota, 1950-9, Report 261, Department of Agricultural Economics, Institute of Agriculture, St. Paul, Minnesota.

FARM MANAGEMENT II

ON-FARM INSTRUCTION | May-June | UNIT XIV

OBJECTIVE: To evaluate the cropping program and to plan fertilizer and chemical trials

On-Farm Instructional Topics:

A. Evaluating the crop returns

Objective: To assist the farm family to interpret crop summary information in the annual farm analysis summary as it applies to their farm.

1. Subject content:

a. What are some of the measures of the efficiency of the cropping program?

1) Index of crop yields

a) An index comparison of the yields of all crops grown on this farm with average yields for similar crops.

b) Useful to compare the efficiency of the total crop program.

c) Must be considered in combination with the crop selection index.

2) Index of crop selection

a) Indicates the percentage of crop acres devoted to what are normally considered higher return crops for a particular land area.

b) This can be misleading. Corn is considered a high return crop, but it can be extremely unprofitable if yields are low.

c) Short-run price structure may create a favorable market for a normally lower profit crop.

d) Must be considered in combination with crop yield index.

3) Gross return per acre

a) The gross market value of all crops grown on a crop acre basis.

b) Related to the crop selection and crop yield index

b. What are the factors which affect the crop yield and crop selection index?

1) Weather
2) Topography
3) Soil capability
4) Drainage
5) Past history
6) Management
7) Labor load
8) Price

c. What is gross value of "crop, seed and feed" produced? (Table 3 - Vocational Agriculture Farm analysis report)

1) Total market value of the crops produced less the cost of fertilizers, purchased seed, weed chemicals and other miscellaneous cash items of crop expense. (Total costs from page 37 Minnesota Farm Account Book - 8th revision)

2) Useful to evaluate returns per acre and from total acres.

3) Useful to compare crop income from year to year.

d. Supplementary data: (To be sent prior to on-farm call.)

THOUGHT SHEET - CROPS

This is a "thought sheet". Its purpose is to provide an opportunity to pose some questions about your cropping program. I hope you will think about them and attempt to find answers. They should be helpful in finding even more profitable ways to operate your farm business. I would like to talk these over with you the next time I visit your farm. The references are to tables in your analysis report.

Table 8 and 9 — Your crop yield index was ____% or ____% (above / below) the average for all farms. In comparing individual yields for each crop, I note that _____ were below average.

Some possible reasons are:

1.
2.
3.

Table 8 — Your crop selection index was ____%. Is this optimum use of your crop acres?

Table 3 — Your crop, seed and feed return was $____ for 19--. This is $____ per acre for _____ crop acres. Top earning farmers made $_____ per acre in 19--.

Table 1 and 3 and 20 — Investment and operating costs are indicated in these tables. Below are some comments to think on.

2. Teaching Activities and Experiences:

This visit should be used to evaluate cropping programs and practices carried on by the family. The crop selection index and the crop yield index must be evaluated for each individual farm. Yields obtained on each crop must be considered. A crop with a low yield should be studied carefully to determine where practices can be improved or additional practices incorporated in order to increase returns. The percentage of the total acreage involved for each crop must also be considered. Improved practices may include better seed, more fertilizer, different fertilizer, a better rotation, population changes, better drainage, more effective weed control and many others.

The crop selection index must vary with the soil and topography. Some farmers may be able to plant nearly 100% of their farm to corn, others may find yields dropping if they attempt to raise corn on 50 or 60 percent of their acres. Point out that corn can be a very unprofitable crop, if yields are not maintained at a high level. Discuss total digestible nutrients and protein produced by certain crops at varying yield levels. Point up the cost per cwt. of TDN for each crop.

A "thought" or "question" sheet similar to the one included in the supplementary data may be sent several days prior to your farm call. This may serve to stimulate the thinking of the family and result in a more intensive study of their report.

3. References:

a. Individual vocational agriculture farm analysis report, area analysis center.

b. Morrison, Feeds and Feeding, 22nd. edition, The Morrison Publishing Company, Ithaca, New York, 1956.

c. Painter, Using Farm Analysis Information, Area Vocational-technical School, Austin Minnesota, 1966.

d. Palan, Ralph, E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

B. Planning fertilizer, chemical, varietal and population trials.

Objective: To assist the cooperating family in setting up crop evaluation trials to compare the results obtained when applying different practices.

1. Subject Content:

   a. Discuss various test plots that may be of value to the family.

   b. Help the family to decide on several simple trials to be conducted.

   c. Assist the family in setting up a meaningful trial.

      Some points to elaborate:

      1) Be sure variety and maturity are the same in all plots, except varietal trials.

      2) Use plots with similar cropping, fertility, tillage and chemical history.

      3) Be sure plots are replicated or cover sufficient area to be meaningful.

      4) Utilize regular crop machines for planting, tillage and harvest, if possible - use field basis tests.

      5) Keep trial plots simple and maintain only a few trials on each farm.

      6) Assist the farmer in staking and identifying plots for accurate yield checks.

      7) Inspect plots periodically through the growing season.

      8) Assist in the harvesting of yield plots.

2. Teaching Activities and Experiences:

Comparison trial plots on the individual farm are one of the best ways to demonstrate the value of a new practice. However, unless plots are carefully planned and executed the results can be misleading. Trial plots should be kept as simple as possible. This will interfere less with planting and harvesting and insures more careful work and better results. Attempting too many trials on one farm usually results in confusion and disappointment. For instructional purposes, a few trials on many farms is much more valuable than many trials on one or two farms. For accurate results and assurance of the completion of test plots, the instructor should assist in the harvesting.

Point out to the family that most trials should be conducted over a period of years to be meaningful. Similar trials on a number of area farms will also serve to more fairly evaluate a new practice.

Emphasis must be placed on the need to constantly evaluate new practices. One or two years of guidance in setting up simple test plots will usually result in the family continuing to make such test without assistance.

3. References:

a. Corn information booklets, various seed corn companies.

b. Soil test results, local farm.

c. Operating manual for farmer's planter.

d. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

e. Varietal Trials of Farm Crops, Misc. Report 24, University of Minnesota.

f. Cultural and Chemical Weed Control in Field Crops, 19--, Extension Folder 212, Agricultural Extension Service, University of Minnesota.

FARM MANAGEMENT II

ON-FARM INSTRUCTION | July-August | UNIT XV

OBJECTIVE: To assist the family in an evaluation of their livestock enterprises, to observe growing crops and to complete a midyear crop and feed check

On-Farm Instructional Topics:

A. Using the farm analysis to evaluate livestock efficiency and profitability

Objective: To guide the family in a thorough study of each of the livestock enterprises on their farm.

1. Subject content:

a. Discuss the analysis summary of each livestock enterprise on the farm. (Tables 11-18)

1) Feed conversion

2) Production levels

3) Feed cost per unit or per hundred weight

4) Net increase in value

5) Return above feed cost per unit or per hundred weight

6) Return on each $100.00 of feed fed

7) Price received

8) Death loss

9) Size of enterprise

10) Is the year of this analysis report representative of conditions for this enterprise in the future?

b. What is the total return, total feed cost and total return over feed cost for each livestock enterprise? (Table 10)

1) Is each enterprise making a significant contribution to the earnings of the business?

2) Could feed supplies needed for certain livestock classes be better utilized by some other enterprise?

3) Does the return realized from each enterprise justify the use of the labor, facilities and equipment needed?

c. Consider the contribution of all livestock to the total farm earnings. (Table 3)

1) Are crops or livestock the most important income producers?

2) Are the livestock enterprises contributing enough over total feed costs and other livestock costs to provide a satisfactory return to labor?

3) Is livestock necessary to provide a full workload?

4) Are some classes of livestock providing more net return than others?

d. Consider the significance of the factors that measure the organization and efficiency of the livestock enterprises.

1) Index of return on $100.00 of feed

a) Comparison with averages of all farms
b) Comparison between enterprises on this farm

2) Livestock units per 100 acres

a) Must be considered along with the return on feed, size of the farm business, labor supply and degree of mechanization

b) Does the return above feed cost justify expansion of an enterprise?

c) Is business size sufficient to utilize all of the labor available?

d) Are the livestock units, labor supply and the degree of mechanization in balance?

e) Are too many livestock units reducing efficiency?

(1) On crop yields?
(2) On livestock net returns?

3) Total work units and work units per worker

a) Should business size be increased?

b) Should the physical workload be reduced by greater mechanization to allow more time for improvements in efficiency?

c) Would greater net returns be realized if size were reduced and greater efficiency resulted?

4) Power, machinery, equipment and building expense per work unit

a) Are total overhead costs too high?

(1) Can they be reduced by careful management?

(2) Will size need to be increased to lower unit cost?

b) Are total overhead costs too low?

(1) Would greater mechanization mean more time for the operator to upgrade efficiency?

(2) Is the size of business too large for the operator to handle and achieve maximum returns?

c) Are livestock equipment and farm building costs per work unit comparable with other farms?

e. Supplementary data: To be sent prior to farm call.

Thought Sheet - Livestock

This is a "thought sheet". It's purpose is to provide an opportunity to pose some questions about your livestock programs. I hope you will think about them and attempt to find an answer. I hope they will be helpful in finding even more profitable ways to operate your farm business. I would like to talk these over with you the next time I visit your farm. The references are to tables in your analysis report.

Table 8	Return on $100.00 of feed fed was _____% or _____% (below) (above) the average for all farms. Compare each livestock enterprise.
Tables 3 and 10	These show the total earnings from each livestock enterprise
Tables 11 and 18	Some questions and comments on the individual livestock enterprise returns and efficiency factors
Tables 3 and 8	Work unit size and costs

2. Teaching Activities and Experiences:

Discuss the items presented under subject content with the family. Be sure the family has a good understanding of the meaning and importance of each of the various measures of livestock efficiency.

The mailing of a "thought or question" sheet, as indicated in the supplementary data, prior to this call may serve to stimulate the thinking of the family and provides a starting point for an on-farm discussion.

Emphasize the need to compile more information on each enterprise before any major changes are made. Point up areas that show need of immediate improvement.

Consider the impact of each enterprise on net earnings of the business. Is the enterprise large enough to be of economic importance? Could the labor and facilities utilized by any enterprise be put to better use?

Consider the combination of management factors. Should the business be enlarged? Should livestock numbers be increased? Which enterprises show promise of giving the best return? Is more investment required? Does efficiency need to be improved before expansion is contemplated?

Planning improvements in efficiency within each livestock enterprise is one of the soundest approaches for the family with only one year of analysis. Major changes in the organization of the business should only be contemplated after careful study and the accumulation of as much data as feasible on the individual farm operation. Average or above efficiency should be established in an enterprise before it is expanded, unless expansion is obviously needed to make it an economic unit.

3. References:

a. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.
b. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.
c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.
d. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

B. Completing the mid-year crop and feed check.

Objective: To assist in the completion of a midyear check of crop and feed disappearance.
This portion of the visit will be very similar to Instructional Topic "A" in Unit VII.

Many families will be able to complete the feed check on their own at this time. However, it should be checked for accuracy by the instructor. The fact that it is on your visit agenda will be helpful in promoting its completion.

C. Evaluating Growing Crops with the farmer

Objective: To evaluate crop progress, weed control, fertilizer and cropping practices.

1. Subject Content:

   a. Evaluate and inspect growing crops for nutrient deficiencies, weed control and insect damage

   b. Determine areas of the farm to be soil sampled in the fall

   c. Compare crop progress on any experimental research plots that were planted

   d. Assist the farmer in planning yield checks when harvesting

   e. Discuss drainage and/or conservation needs with the farmer

2. Teaching Activities and Experiences:

A tour of crops at this time will provide the farmer and the instructor with an opportunity to determine the effectiveness of fertility and weed and insect control programs planned in the spring.

Often a farm family will become discouraged and drop a sound crop practice if it has not performed well for them in one particular year. The job of the instructor should be to help the family determine why a particular practice did not work. Thus, through questioning and discussion, the family can evaluate the practice more thoroughly and perhaps correct any errors that may have been made. An example of this would be a banding of a weedicide over the row of corn or soybeans. Perhaps a number of large weeds are present in August and the family feels the chemical is not worthwhile. Inspection may show that the chemical band was too narrow and consequently left a weed band between chemical and cultivator shovels. Application of 2,4-D too late in the season and consequently poor control would be another example of failure of a proven chemical due to an error in timing.

Making tissue tests or checking on unfamiliar weeds or plant diseases can also be accomplished on this visit. A first-hand look at crop conditions can be invaluable in future planning with the family.

3. References:

a. Interpretation of Minnesota Soil Test for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

b. Peterson and Nordstrom, Calendar of Farm Practices for Minnesota, Extension Pamphlet 204, University of Minnesota.

c. Varietal Trials of Farm Crops, Misc., Report 24, University of Minnesota.

FARM MANAGEMENT II

ON-FARM INSTRUCTION — September - October — UNIT XVI

OBJECTIVE: To work with the family in a study of farm overhead costs; to determine progress on the operating budget and to check completeness of account book.

On-Farm Instructional Topics:

A. Analyzing the costs of operating a farm business

Objective: To assist the family in interpreting and evaluating operating cost figures for their farm

1. Subject Content:

a. Point out the total cost of owning and operating power equipment, crop machinery, livestock equipment and farm buildings. (Table 3)

1) Stress that these sums include costs of gas, lubrication, repairs and depreciation

2) Show the relationship between these total costs and the cost on a work unit basis. (Table 8)

b. Consider the capital investment in power units, crop machinery, livestock equipment and buildings. (Table 1)

1) Compare capital investment on a work unit basis
2) Compare capital investment on an acre basis

c. Discuss the relationship between total business size (Work Units), size per worker (W.U. per worker) and power, crop machinery, equipment and building expense per unit of work. (Table 8)

1) Should business size be increased if the farm business does not provide full employment for the family?

2) Has the family over-invested in some areas?

3) Would an additional investment in mechanization allow an increase in efficiency and better net earnings?

4) Can per unit costs be reduced by performing custom work?

5) Can per unit costs be reduced by employment of a custom operator rather than machine ownership?

d. Compare power and crop machine costs on the basis of crop acres. (Table 20)

1) Are costs excessive or too low?

2) Are excessive costs the result of over-investment or high repair costs?

2. Teaching Activities and Experiences:

The discussion with the farm family should point up the comparison of the unit costs within their business as compared to the average farm business and more important the comparison with other farms of similar type and size.

Point up that extremes in cost per work unit, either high or low, should generally be avoided in the farm business. Stress that overhead costs that are too high may indicate (1) a business that is too small, (2) capital investment that is too high, (3) careless machine handling, (4) poor preventive maintenance or (5) a combination of these. Extremely low overhead costs per work unit may indicate a heavy workload or very little mechanization and may tend to lower efficiency factors (crop yields or feed conversion may suffer) and thus adversely affect earnings. For example, a heavy livestock load may not allow one to complete field work on schedule and yield may be lowered or a heavy crop load may prevent marketing livestock at the most opportune time and consequently reduce net returns.

Many farm families who enter the farm management program have already accumulated a heavy investment in equipment and machinery. Increasing business size or performing custom work may be the only practical ways of reducing overhead costs to a reasonable level, since it would be difficult to reduce machine investment without a loss in value.

Operating costs must be evaluated in combination with the other measures of farm organization and efficiency. To recommend an increase in business size to the farmer with high power, machinery and building costs, without considering the efficiency of the business, would be inconsistent with good farm management.

3. References:

a. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

b. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

d. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

e. Palan, Ralph, E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

B. Is the operating budget for the current year being followed as budgeted?

Objective: To assist the family in determining if the estimated income and expenses for the year will be realized as projected in the budget.

1. Subject Content:

a. Have the family add a rough total for all receipts. Determine if quarterly and yearly income totals will be met.

b. Total up major expenses. Compare with budgeted expenses.

c. Compare capital expenditures made during the year with those projected in the budget.

d. What adjustments are necessary if budget goals are to be realized?

1) Will income goals be reached?

2) Are expenses in line with projections?

3) Should there be some adjustment in goals. (Example: Would the expenditure of funds for fall application of lime and fertilizer be more profitable than the planned investment in feeder pigs? Should more money be borrowed and both expenditures made?)

4) Should some planned capital expenditures be postponed?

5) Should additional capital expenditures be added?

2. Teaching Activities and Experiences:

Complete the steps under subject content with the family. An operating budget accomplishes very little unless occasional checks are made to determine if the goals set are being reached. A budget goal of $10,000 of income from the dairy heard will mean very little if the heard will actually produce only $7,000 by year's end. Unless the goals set in the budget are achieved, it will likely mean the family will make less progress than was originally projected. Scheduled loan repayments may be difficult or impossible to make.

Some adjustments that can perhaps be made at this time are: attempt to boost livestock production through the remainder of the year by better feeding and management; eliminate or reduce some of the intended purchasing of capital items; increase income potential through various means (more livestock, off-farm income, better efficiency); reschedule loan repayment periods.

This gives the family another opportunity to study their business and determine if they have improved upon some of the weaker area indicated by their analysis report.

It also serves as a valuable tool to determine how well they will be able to meet any loan repayments scheduled. Creditors will be especially appreciative of the family's efforts to meet budget goals. The creditor will also be more aware of areas where additional financing will be of benefit to the business returns.

3. References:

a. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

b. Livestock Report, FA 12, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

c. Malone and Malone, Decision Making and Management for Farm and Home, Iowa State College Press, Ames, Iowa, 1958.

C. Checking the farm account book.

Objective: To promote accuracy and timeliness in keeping the farm records.

1. Subject Content:

a. Are first of the month livestock counts up-to-date?

b. Has crop data been entered to date?

c. Are feed records complete and up-to-date?

d. Have all receipt and expense items been completely and correctly entered?

2. Teaching Activities and Experiences:

Follow items listed under subject content. Your main task will be to check for any incomplete items and bring them to the attention of the family. The use of a check sheet similar to the one used to close the book may be helpful to a less experienced instructor.

You may wish to leave an income tax estimate worksheet with the family in order to save time on your next call.

3. References:

a. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

b. Painter, Keeping Records for Farm Analysis, Area Vocational-Technical School, Austin, Minnesota, 1964.

FARM MANAGEMENT II

ON-FARM INSTRUCTION | November-December | UNIT XVII

OBJECTIVE: To assist the family in making an income tax estimate and to plan the livestock program for the year.

On-Farm Instructional Topics:

A. Making an income tax estimate

This portion of the visit will be very similar to Topic A of Unit X. Review the subject content of Unit X with the family. Since many families are unfamiliar with income tax reporting the instructor will need to review much of what was done the previous year. With the frequent revisions that occur in tax reporting, it will be necessary to remind the family of how these changes can affect tax planning for the current year.

References for this portion of the farm call can also be found in Unit X, page 67.

B. Planning for better livestock profits

Objective: To help the farm family improve the management, care and feeding of their livestock.

1. Subject Content:

a. Review with the family the items discussed in Unit XV

b. Utilize a checksheet similar that illustrated in the supplementary data to determine possible weak points within each livestock enterprise.

1) Determine corrective measures that can be taken immediately. (milking on a regular schedule-supplying adequate minerals)

2) Discuss other measures that should be initiated over a period of time. (selecting replacements on the basis of production records - harvesting quality forage)

c. Work with the farmer in developing balanced rations and feeding programs

1) Urge the family to send forages and grains for nutrient testing

2) Assist the farmer to determine the most appropriate feeding programs to follow

Based on:

a) Feed supplies
b) Livestock quality and production

c) Expected price for product
d) Equipment and buildings available
e) Costs of purchased feed
f) Labor available
g) Any additional equipment investment needed

d. Emphasize the need to create an efficient enterprise before any expansion is contemplated.

e. Begin an appraisal of the value of each livestock enterprise to net farm earnings.

1) Return over feed costs
2) Return over all costs

f. Supplementary data

See next pages

DAIRY CHECKSHEET

Place a _____ mark before each practice you are doing on your farm at the present time.

If your butterfat production is too low to suit you:

_____1. Are you using a bull from a family with higher record off production than your cows?

_____2. Are you using artificial insemination if you cannot buy a bull of this caliber?

_____3. Do you test your cow's production individually? (through vo-ag, owner sampler, DHIA, creamery)

_____4. Do you feed according to each cow's production?

_____5. Are you culling and adding replacements on the basis of production records?

_____6. Are you milking on a regular schedule?

_____7. Are you holding mastitis in check?

_____8. Do you supply enough proteins and minerals?

_____9. Do your cows settle on 1st and 2nd service?

_____10. Are you breeding all females to a dairy sire?

If your feed costs are too high, are you:

_____1. Feeding according to production on each cow?

_____2. Making maximum use of quality roughage?

_____3. Cutting hay at 1/10 bloom or less?

_____4. Using a high percentage of alfalfa in the hay mixture?

_____5. Using a hay conditioner?

_____6. Making silage from some of your better corn?

_____7. Supplying enough nutrients?

_____8. Balancing your ration with protein supplement according to the quality of hay feed?

_____9. Feeding an economical, quality protein feed?

____10. Supplying sufficient minerals and vitamins?

If your return on each cow is too low to suit you:

____1. Are you receiving a good price for milk and butterfat?

____2. Holding feed costs per cow in line with production? (feed costs less than $\frac{1}{2}$ value produced by the cow)

____3. Using an economical ration.

____4. Holding cow losses to a minimum?

____5. Holding calf losses to a minimum?

____6. Breeding heifers to freshen at 24 months of age.

HOG IMPROVEMENT CHECKSHEET

Check_____each one of these practices that you follow on your farm

____1. Do you separate your gilts to be saved for breeding from the market hogs at 4 or 5 months of age?

____2. Are gilts 8 months old and at least 250# before bred?

____3. Do you worm sows and gilts before breeding?

____4. Do you "flush" or increase feed to your sows and gilts before and during breeding?

____5. Do you provide a good legume pasture for your sows and gilts?

____6. Do you control lice and mange during gestation?

____7. Are you using individual mating?

____8. Are you either hand feeding sows and gilts or providing a bulky ration?

____9. Are you providing farrowing stalls or pens with guards?

____10. Are your stalls of adequate size? (gilts - 20 in. by 6 ft. long) (sows - 24 in. by 7 ft.)

____11. Are your hog houses adequately insulated and ventilated?

____12. Are you providing creep feed at 1 to 2 weeks of age?

____13. Are you clipping needle teeth early?

____14. Are you giving iron shots or using other good methods of controlling anemia?

_____15. Are you weaning at 5 or 6 weeks?

_____16. Are you providing a fortified ration at this time?

_____17. Are you supplying proper amounts of protein for all ages of hogs?

_____18. Are you thoroughly cleaning houses and floors between batches of hogs?

_____19. If using pasture, do you rotate lots? At least a 3 year rotation.

_____20. Do you provide a supplemental mineral mix in a separate feeder?

_____21. Are you using boars from herds which are being evaluated at testing stations and on the farm?

_____22. Are you probing gilts for backfat?

_____23. Are you getting cut-out information on market hogs?

_____24. Are you selecting gilts on the basis of length, backfat, number of nipples and overall scale?

_____25. Are you grouping market pigs on the basis of size?

_____26. Are there less than 50 pigs in each group?

_____27. Are you marketing at 210-220 lb. weights?

_____28. Are you putting on 100# of gain for $9.50 or less?

_____29. Are you marketing a high % of number 1 hogs? (70% or more).

_____30. Is there always feed available? Feeders never empty.

POULTRY CHECKSHEET

Place a check before each practice you are doing on your farm at the present time.

<u>If your feed cost per hen is too high</u>:

_____1. Are you feeding a balanced ration?

_____2. Are you feeding an expensive commercial cupplement or mixed ration?

_____3. Are you wasting feed?

_____4. Do you cull non-layers at least <u>every other month</u>?

_____5. Is your laying house properly insulated?

_____6. Is there adequate ventilation? - no drafts, no build-up of heavy odors or high moisture conditions.

_____7. Are you supplying enough feeder space? (6 inches per hen)

_____8. Do you have enough waterers? (one waterer for 100 hens)

_____9. Are you supplying enough shell or grit? (6 ft. of feeder per 100 hens?)

If your returns per hen are too low to suit you:

_____1. Do your birds lay 80% or better for the first 6 months?

_____2. Do they lay at 70% or better for a whole year?

_____3. Are your birds laying 250 eggs in a years time?

_____4. Are you getting a top price per dozen?

_____5. Are birds coming into heavy production at the time of a good market?

_____6. Are you cooling eggs rapidly to 50 to 60 degrees?

_____7. Are you gathering eggs 3X a day or oftener?

_____8. Are you holding death loss below 5%?

_____9. Do you have enough hens?

_____10. Is your litter dry and warm?

_____11. Do you have sufficient nests?

2. Teaching Activities and Experiences:

The start of the winter feeding season provides an excellent opportunity to discuss needed changes and improvements in livestock feeding and management practices. Using the past year's analysis report, two consecutive years of farm records, and personal observations, the instructor and the family have an excellent basis for studying the livestock program.

A serious appraisal of the items suggested in the checksheet, and others not included, can often result in considerable improvement in livestock efficiency and net earnings.

To stimulate the thinking of the family on some of the items outlined above, it may be advisable to send a "thought sheet", such as illustrated in Unit XV, Topic A, prior to the visit that would point up some pertinent information on the particular livestock enterprises.

Checksheets such as those illustrated in the supplementary data can be used in a regular classroom meeting. They can then be thoroughly discussed on the next farm call.

3. References:

a. Beef Cattle Rations, Animal Husbandry FS #6, Agricultural Extension Service, University of Minnesota.

b. Complete Rations For Growing Finishing Swine, Animal Husbandry, FS #7, Agricultural Extension Service, University of Minnesota.

c. Feeder Pig Production Guide, Extension Folder 223, Agricultural Extension Service, University of Minnesota.

d. Feeding the Dairy Herd, Extension Bulletin 218, Agricultural Extension Service, University of Minnesota.

e. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

f. Morrison, Feeds and Feeding, 22nd. edition, The Morrison Publishing Company, Ithaca, New York, 1956.

g. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

FARM MANAGEMENT II

ON-FARM INSTRUCTION | December-January | UNIT XVIII

OBJECTIVE: To assist the family in the completion of the farm account book for analysis and to provide instruction in completing the income tax return.

This unit is very similar to Unit XI. Follow the subject content and suggestions contained in Unit XI. The instructor may wish to suggest some refinements in record keeping that the family can incorporate into their farm accounts to provide more detailed information. Some possible suggestions would be:

1. Indicate in the description column on page 13 of the Minnesota Farm Account Book, the yield difference from standard yield and number of head in each grade for hogs sold on a grade and yield basis. (Useful to determine the percentage marketed as number 1 s and the influence of carcass yield on value received.)

2. Identify miscellaneous livestock costs for each livestock enterprise.

3. Identity crop expense items for each crop.

4. Separate feed records for breeding stock and feeder stock in the hog or sheep enterprise.

5. Identify feed and other costs of raising replacement pullets.

6. Complete a feedlot record on various lots of feeder livestock.

   a. This requires that separate feed and expense records be kept for various lots.

   b. Feeder cattle, hogs and sheep are often bought in the fall and the calendar year analysis does not give a realistic picture of the profitability of one particular lot.

Other additional features that can be easily incorporated into the farm record book will occur as the instructor works with individual families. As the family becomes more proficient at record-keeping, these suggestions can be added with very little extra work. To suggest these additions at an earlier time, may only tend to confuse and discourage the family record-keeper.

The completion of the income tax returns can be patterned after the suggestions contained in Unit XI.

ON-FARM INSTRUCTION for FARM MANAGEMENT III

The program of on-farm instruction for Farm Management III will become more intensive and more individualized as families begin to think of adjustments or reorganizations that should be made in their business. Trends and efficiencies within the business are becoming evident. The instructor is more aware of the desires, goals and capabilities of the family.

The majority of the units in this year will need more than one farm call to complete.

FARM MANAGEMENT III

ON-FARM INSTRUCTION — January-February — UNIT XIX

OBJECTIVE: To plan an operating budget; Evaluate the net worth structure and plan a credit program.

On-Farm Instructional Topics:

A. Planning an operating budget

This portion of the visit will be very similar to Topic A of Unit XII. Income-expense projections should be more accurate with two years of farm records upon which to base plans. At this point, many families will be anticipating organizational adjustments and changes in their business. The proposed budget must account for these changes.

Since changes in the organizational structure of the farm often involve additional financing, this topic should naturally lead to an evaluation of the family's net worth situation and the planning of a program of credit.

B. Evaluating the New Worth statement and planning a credit program

Objective: To assist the cooperating family in an evaluation of their net worth structure and to plan a sound program of farm credit.

1. Subject Content:

a. Assist the family in completing a current Net Worth statement.

1) Utilize the Financial Summaries Worksheet contained in the Minnesota Farm Account Book

2) Use totals for the end of the year from the account book, if still appropriate at the time this statement is being completed.

b. Determine if depreciated or purchase values assigned to land and buildings in the Minnesota Farm Account Book are comparable with current values paid for similar assets in the community? If not, help the family determine what adjustments should be made to make the Net Worth statement more realistic?

c. Has the family made satisfactory net worth progress up to this time?

d. Is the family's present financial structure sound?

1) Is there a good balance between long term and current debt?

2) Can the current debt be repaid in a reasonable length of time from present income?

3) Is the family actually increasing short term loan amounts in order to meet long term debt repayments, rather than making the repayments from earnings?

a) Income is insufficient to meet long term loan repayment

b) Scheduled loan repayments are too high

4) Is most or all of short term debt with one creditor?

5) Are the family's present credit ratios sound?

a) Total capital ratio

b) Working capital ratio

c) Current capital ratio

e. Point up the relationship between (1) The return to capital and family labor. (2) the cost of family living and (3) the increase or decrease in Net Worth.

1) Return to Capital and Labor minus Family Living Costs equals Increase or Decrease in Net Worth.

2) Is there a sufficient return to labor and equity capital to meet annual debt repayments after family living costs are met?

f. Help the family work out a borrowing and repayment plan for the current year.

1) Use the income-expense worksheets included in Unit XII

2) Determine any adjustments necessary in the borrowing or repayment schedule

3) Will changes in the business structure be necessary if repayment schedules are to be met?

2. Teaching Activities and Experiences:

The need for planning a sound credit program should be apparent to all farm families. Helping the family to form a regular habit of evaluating their credit structure should be one of the instructor's primary tasks. With many families, it may be necessary and desirable to do considerable credit planning prior to the scheduled time of this unit.

Early planning of a sound borrowing program can save the family much embarrassment and worry. Poor use of credit is often the most important factor in the failure of a farm business. It often requires several years before the results of poor credit usage become apparent. By this time, it may be extremely difficult for the family to meet their obligations and still remain in business. Poor scheduling of loan repayments can cause a severe reduction in profits. The earning capacity of the farm (Return to Capital and Labor-Table 6 of the annual analysis report) must be sufficient to first cover family living costs and secondly to make the necessary principal repayments. This should be discussed at length with the family. If the "return to capital and labor" is insufficient to cover living costs, the debt load will increase or capital assets decline. In either case, net worth will drop. A family unable to make progress on debt repayments must recognize the need to improve their business.

In working out a financing program for a family, it will be wise to bring the creditors involved into the planning. A well-informed lender is usually a more cooperative and understanding lender.

It may be well to discuss the various credit ratios with the family, especially if the present credit structure is somewhat unsound.

3. References:

a. Financial Summaries for Minnesota Farm Account Book, 8th. Revision.

b. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

c. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

d. Individual Vocational Agriculture Farm Analysis Reports for the farm family

e. Johnson, Peterson and Associates, Getting Started in Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

FARM MANAGEMENT III

ON-FARM INSTRUCTION | March | UNIT XX

OBJECTIVE: To project a long range crop and fertility program; To plan for development of a complete drainage system

On-Farm Instructional Topics:

A. Setting up a long range rotation and fertilizer plan

Objective: To assist the family in projecting a long range crop rotation and fertilizer program.

1. Subject Content:

a. Review and discuss Soil Conservation Service maps with the family and see the SCS technician, if possible.

1) If the family has not participated in the Soil Conservation Service program, they should be urged to do so.

2) A field plan and crop rotation will be organized by the Soil Conservation technician, if requested.

3) If the SCS technician is not available or is not contacted, the instructor should urge and assist the family to set up a long range field plan and crop rotation.

b. Determine the crop rotations needed and desired on this farm.

1) Based on soil capability; structure, texture, slope, drainage, erosion, depth.

2) Based on the necessary amount of forage needed in the livestock program

3) Based on labor load and machinery available

4) Based on feed grain base or other federal programs

5) Several rotations may be desired on the same farm due to varying soil conditions and livestock programs

c. Determine the number of fields needed to establish the projected rotation

d. Determine the field layout best suited to this farm

e. Project the cropping plan for a period of years

f. Review and discuss soil test results from samples taken in previous years

1) Revise fertilizer recommendations on the basis of soil test results, past crops and current year crop plans for a particular field.

2) Determine if lime needs, as indicated by soil tests, have been met.

g. Project the total costs of lime and fertilizer requirements for the current year.

2. Teaching Activities and Experiences:

The instructor's tasks on this visit may be simplified considerably if the family has already contacted the Soil Conservation technician and secured a farm plan.

However, further development of the crop rotation and follow-up help in the re-arrangement of fields and the application of corrective lime and fertilizer should be the responsibility of the vo-ag. instructor. Often field and crop rotation plans do not progress beyond the planning stage, unless someone assists the family in their implementation. A rotation and fertilization plan cannot be developed without considering the livestock program to be followed. If major changes are contemplated in the livestock organization, these should be recognized and incorporated into the crop plan. Once a field plan is established, minor changes can be made without too many problems. Field layout and rotation plans should be developed over a period of time. It is very difficult to plan a successful rotation, unless the farm has adequate drainage. In a wet spring, poor drainage can delay planting on certain fields and completely disrupt the rotation plan. A portion of this visit may be devoted to developing tiling and drainage plans, if necessary.

3. References:

a. Interpretation of Minnesota Soil Tests for Fertilizer Use, Special Report 1, Agricultural Extension Service, University of Minnesota.

b. Hamiltons and Bryant, Profitable Farm Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

c. Soil Conservation Service Farm Plans for the Individual Farm.

B. Developing a complete drainage and soil conservation plan for the farm.

Objective: To work out any necessary drainage systems and soil conservation measures required on this farm.

1. Subject Content:

   a. Urge the family to consult the Soil Conservation technician for development of a drainage and soil conservation plan.

   b. Assist the family in planning a complete drainage system over a period of time.

      1) Outlets
      2) Open ditch
      3) Waterways
      4) Tiling

   c. Is the drainage system justified?

      1) What are the costs of establishing a satisfactory drainage system?

      2) What are the expected returns due to increased yields and additional crop land?

   d. What soil conservation measures should be established on the farm?

      1) Contour strips
      2) Terraces
      3) Diversion waterways
      4) Conservation structures
      5) Other

2. Teaching Activities and Experiences:

A drainage plan should only be developed with the help of the local Soil Conservation Service technician. The instructor's main task will be to help the family determine needed financing and repayment plans. Added income from increased yields and additional crop acres reclaimed should be added into the farm earnings structure to determine the feasibility of establishing the drainage system.

Development of other conservation measures should be encouraged along with the establishment of adequate drainage. The soil conservation technician can be of great help in initiating these measures.

3. References:

   a. Foster, Approved Practices for Soil Conservation, Interstate Printers and Publishers, Danville, Illinois, 1955.

   b. Hamiltons and Bryant, Profitable Farm Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

d. Soil Conservation Service Farm Plans for the Individual Farm.

FARM MANAGEMENT III

ON-FARM INSTRUCTION | April-May | UNIT XXI

OBJECTIVE: To evaluate the farm business on the basis of two years of farm analysis.

On-Farm Instructional Topics:

A. Evaluating the farm business on the basis of two years of farm analysis summaries.

Objective: To assist the cooperating family in an intentive study of their farm operation based on two consecutive farm analysis reports.

1. Subject Content:

a. Review with the family the items discussed in Unit XIII as they concern the current year's report.

b. Ask the family to compare each portion of the current report with the previous year's summary.

c. The family should summarize the most important factors affecting business earnings on a cumulative worksheet. (some instructors may wish to use a 5 year summary patterned after the yearly analysis report)

d. What patterns and trends are becoming apparent for this farm business?

e. What effect did uncontrollable factors have on the two consecutive yearly reports?

1) Prices
2) Weather
3) Unavoidable losses

f. Supplementary data

See next pages

TABLE V

Blooming Prairie Farm Management Studies

Name _____

Cumulative Farm Business Analysis Results

Table			19--	19--	19--	19--
1	1.	Farm Capital (End of Year)				
2	2.	Total Farm Sales (All)				
2	3.	Total Farm Purchases (all)				
6	4.	Total Farm Sales (Oper.)				
6	5.	Total Farm Purchases (Oper.)				
6	6.	Labor Earnings (oper.)				
6	7.	Return to Capital & Farm Labor				
3	8.	Net Increase for all Livestock				
3	9.	Ret. Over Feed for all Livestock				
3	10.	Crop, Seed and Feed				
	11.					
3	12.	Total Ret. & Net Increases				
3	13.	Total Exp. & Net Decreases				
4	14.	Total Household Expense				
5	15.	Change in Net Worth				
9	16.	Corn Yield				
9	17.	Oat Yield				
9	18.	Bean Yield				
9	19.	Hay Yield				
10	20.	Total Ret. Over Feed-all Dairy				
10	21.	Total Ret. Over Feed - Hogs				
10	22.	Total Ret. Over Feed - Beef				
10	23.	Total Ret. Over Feed				

Blooming Prairie Farm Management Studies

Name _____

Cumulative Farm Business Analysis Results

Table			19--	19--	19--	19--
8	A.	Crop Yield Index				
8	B.	% land in Hi. Ret. Crop				
8	C.	Return on $100 feed index				
8	D.	Livestock units / 100 acres				
8	E.	Size of business				
8	F.	Work units per worker				
8	G.	Total overhead per work unit				
8	H.	Index of Ret. on Feed				
		Dairy				
		Beef				
		Hogs				
8	I.	Power Exp. per work unit				
8	J.	Crop Mach. Exp. per work unit				
	K.	Tractor Exp. per crop acre				
	L.	Crop Mach. Exp. / crop acre				
6	M.	Amount spent for New Equip. & Buildings				
12	N.	Feed cost per: Dairy cow				
11		cwt. pork				
12	O.	Ret. over feed cost Per cow				
11		cwt. pork				
12	P.	Ret. on $100 Feed: Dairy cow				
		All dairy				
		Hogs				

2. Teaching Activities and Experiences:

With the return of the second consecutive farm analysis report, the family has an excellent source of data for projecting needed improvements in their farm business. Trends and patterns of efficiency become more apparent. Discrepancies in inventories and unusual occurrences tend to even out over a two year period. The second year of records should also be more accurate as the family becomes more skilled at record keeping.

Many families will be ready to make major re-organizations in their farm business at this time. At this point, it may be well to remind the family that two years of operation do not make a farming lifetime. Any major changes contemplated should be studied very carefully and perhaps more data accumulated before re-organization is planned. A hasty decision may be very costly to the family. Major changes, such as dropping a main enterprise or expanding and erecting extensive facilities, should perhaps be delayed until more information is gathered or future trends become more clearly established.

Be sure to point out any unusual circumstances that may have influenced returns from the total business or any particular enterprise. (price patterns, production cycles, etc.) The main emphasis at this time should be on the evaluation of the total business. A family must have an overview of the total business entity before specific changes in the farm structure can be incorporated.

3. References:

a. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

b. Malone and Malone, Decision Making and Management for Farm and Home, Iowa State College Press, Ames, Iowa, 1958.

c. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

d. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

FARM MANAGEMENT III

ON-FARM INSTRUCTION | June-July | UNIT XXII

OBJECTIVE: To begin an intensive study of the strengths and weaknesses within the farm business; To evaluate the farm labor load.

On-Farm Instructional Topics:

A. Using the farm analysis summary to determine areas of the farm business which need correction, adjustment or reorganization.

Objective: To recognize factors within the farm business which should be corrected if maximum returns are to be realized.

1. Subject Content:

a. Review pertinent items on the Cumulative Farm Business Analysis Worksheet, Tabel V, completed on the previous farm call or during a class session.

b. Determine the factors within the farm business which tend to depress net income.

1) Utilize a worksheet similar to Table VI supplementary data.

2) Discuss factors which may be reducing net returns with the family.

c. Supplementary Data:

See next pages.

WHAT'S WRONG WITH MY BUSINESS

1. Are your labor earnings to small? Yes_____No_____
Why?

	Your evaluation	
	Yes	No
1. Not enough sales		
2. Expenses too high		
3. Business size too low		
4. Yields too low		
5. Livestock returns too low		
6. Business size too small per worker		
7. Business too large per worker		
8. Too high overhead costs		
9. Tractor expenses too high		
10. Capital investment too high		
11. Acres size too small		
12. Capital investment too low		
13. Questionable rental arrangements		
14. Acre size too large		
15. Facilities inadequate		
16. Debt load too high		
17. Debt load too low		
18. Need to set up work schedule		
19. Timeliness of practices		

II. Are your crop yields and returns below average or too low to suit you? Please check those which apply

	Corn	Oats	Beans	Alfalfa	----
A. Which crops are below average					
B. Why:					
1. Not using right variety					
2. Too Wet					
3. Too dry					
4. Weed control inadequate					
5. Not enough fertilizer					
6. Wrong Kind of fertilizer					
7. Need more nitrogen					
8. Too late planting					
9. Too late cutting					
10. Too low pop.					
11. Not enough power					
12. Too many acres					
13. Too many breakdowns					
14. Apply chemical & cultural practice too late					
15. Poor crop selection					
16. Too high storage loss					
17. No planned crop rotation					

III. Is your return from livestock too low? Yes_____ No_____

A. Which class of stock is too low?

B. Why:

	Dairy	Hogs	Feeders	Chickens	-----
1. Low production					
2. High feed cost					
3. Unbalanced ration					
4. Poor roughage					
5. Not enough protein					
6. Too much oats in ration					
7. Too much corn silage fed					
8. Poor litter size					
9. Low number weaned per sow					
10. Death loss too high					
11. Poor sale price					
quality					
time of market					
12. Paid too much for feeder					
13. Too long to market					
14.. Feeders run empty					
15. Feed is wasted					
16. Too much mud					
17. Disease, ship. fever, etc.					
18. Sale weight too heavy					
19. Breeding stock needs improvement					
20. Too much proteins					
21. Supplement cost too high					
22. Slow rate of gain					
23. Breeding problems					
24. Inadequate housing					
25. Parasite problems					
26. Too much livestock					
27. Like crops better than livestock					
28. _____					

IV. Is your overhead cost too high?

Why:

1. Too heavy investment
2. Too small a business
3. Repair bills too high
4. Gas and fuel too high
5. Rapid depreciation taken
6. Too few units of work per worker
7. High labor costs
8. Too high rent paid
9. Not using existing facilities
10. _____

Your evaluation	
Yes	No

2. Teaching Activities and Experiences:

This portion of the on-farm call should be used to pinpoint the factors within the farm business which tend to depress earnings. The family with two consecutive farm analysis reports can begin to establish efficiencies and trends within their business.

A worksheet similar to the one included in the supplementary data may be used as a guide. This may be introduced and used in a previous class session. Both the family and the instructor may wish to make an appraisal of the business structure. This provides each with another opportunity to review the accumulated data for this particular farm operation and thus gather added insights into means to improve the farm earnings.

Be sure to point out areas of strength within the business. Efforts should not be directed so entirely toward improving weak areas, that naturally strong areas are neglected.

Stress the fact that the major portion of farm consultation on future calls will be spent in developing ways and means to maximize farm earnings.

3. References:

a. Hamiltons and Bryant, Profitable Farm Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

b. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

c. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

d. Hopkins and Turner, Records for Farm Management, Prentice-Hall, 1958.

e. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

f. Malone and Malone, Decision Making and Management for Farm and Home, Iowa State College Press, Ames, Iowa, 1958.

g. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

B. Studying the farm labor load

Objective: To assist the family in evaluating the labor efficiency on their farm.

1. Subject Content:

a. What is the present labor structure?

1) Total work units

2) Is the work accomplishment per worker compatible with the investment in vacilities and equipment?

3) Is an additional investment in facilities or equipment justified based on labor supply and requirements?

4) Should hired labor be reduced through investment in labor-saving machines or buildings.

c. What can be done to reduce the labor requirements with present buildings and equipment?

1) Plan more efficient chore routines

2) Develop a work calendar for family and hired labor. List odd jobs to be done at slack periods in the regular work schedule.

3) Handle crops and feed by an alternative method. (store alfalfa as haylage in the silo rather than green-crop each day)

4) Custom hire as much work as feasible. (feed grinding; manure handling; trucking; field work; grain storage)

d. What can be done to reduce labor load with added investments in labor saving equipment and/or facilities?

1) Remodel present facilities for easier access and more efficient handling of livestock, feed and manure.

2) Erect more efficient facilities for handling livestock, crops, feed and manure.

3) Purchase additional or larger feed and manure processing equipment.

4) Reduce labor requirements on crops by the purchase of larger, more effective power units and crop machinery.

5) Reduce household labor requirements to allow more time for the wife to participate in farm work, if desired.

2. Teaching Activities and Experiences:

A thorough evaluation of the labor situation is necessary on each farm. Under present-day cost scales, most farm units must strive to maximize their returns on labor. Utilizing available labor in the most effective way is one of the first steps toward maximum returns.

Help the family to assess their present labor situation. Is there sufficient business size to use available labor? Is

the labor load well distributed? Is more labor expended for crops or livestock? Is a capital outlay for labor saving equipment justified? Can work routines be simplified? Can some jobs be handled better by custom labor?

Many families find it difficult to provide a sufficient labor load for the operator and a full-time hired man. Loss of hired help on a full 2 man operation at certain times of the year, may be rather disasterous, since replacement help may be impossible to find. Consequently, a farm business dependent on a full-time hired man finds it difficult to operate at optimum size.

How much investment in automation equipment is justified on this operation? Can the hired labor load be reduced? Can efficiency be raised? Can family help be better utilized if a portion of the work load is automate?

Discuss and evaluate the material presented under subject content. Assist the family in determining which alternatives offer the most effective means of producing a good return on each hour of labor expended.

3. References:

a. Custom Rates for Farm Operations, Extension Pamphlet 134, Agricultural Extension Service, University of Minnesota.

b. Hamiltons and Bryant, Profitable Farm Mangement, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

d. Painter, Keeping Records for Farm Analysis, Area Vocational Technical School, Austin, Minnesota, 1964.

e. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

f. Selection of Farm Machinery, Circular 876, College of Agriculture, University of Illinois, Urbana, Illinois, 1963.

C. Other tasks to be completed

Several other tasks may be included in this on-farm instructional call. Since these are discussed in detail in other sections of this paper they are simply listed below.

1) Complete a mid-year crop and feed check
2) Field tour of growing crops

FARM MANAGEMENT III

ON-FARM INSTRUCTION | August-September | UNIT XXIII

OBJECTIVE: To review crop costs and returns; to analyze the feed value associated with the various harvesting methods and to discuss the possible effect of adopting new practices.

On-Farm Instructional Topics:

A. Analyzing crop costs and returns on the basis of two years of reports.

Objective: To assist the farm family in determining the costs and returns from producing crops on their farm.

1. Subject Content:

a. What is the average yield for each crop on this farm for the past two or three years?

1) Discuss the reliability of an average yield obtained under the growing conditions for the past two years.

2) Compare average yields for this farm with averages from past analysis reports and with comparable farms.

b. Compute the approximate cost per acre for all crops.

c. Compute the approximate cost per acre for each crop.

d. Can yields and net returns of certain crops be increased?

1) By the application of better practices.

2) By more timely application of these practices

e. Review the amount of acres planted to the higher return crops.

f. Discuss the complementary relationship between various crops and livestock enterprises.

1) Heavy forage programs - dairy cows, beef herd, sheep
2) Heavy grain programs - hogs, feeder cattle, chickens

g. What is the most profitable combination of crops for this farm?

1) Consistent with good soil conservation
2) Consistent with livestock enterprises on the farm

h. Supplementary data:

See next pages

TABLE VII

What are your Crop Returns

Blooming Prairie Farm Management Studies

	3 years ago	2 years ago	last year	3 year average
1. How many crop acres in your farm? Table 9.				
2. What is your return from "Crops, Seed and Feed" Table 3.				
3. What is your return per acre? (#1 ÷ #2)				
4. What are your costs to raise crops?				
Truck				
Auto				
Tractor				
Electricity				
Hired Power				
Crop Machinery				
Building Cost				
Labor				
R. E. Taxes				
Personal Property Taxes				
Insurance				
General Farm				
Interest on Land				
Total				
5. What is your cost per acre? (#4 ÷ #1)				
6. What is your net per acre?				

WHICH ARE YOUR HIGH RETURN CROPS?

Wayne Wiseman
Research Assistant

Hal Routhe and Duane Erickson
Extension Economists in Farm Management

Note: Use the worksheet as a guide in determining the high return crops for your farm. This return is based on comparison value as a cash crop only. Feeding these crops to livestock may change their relative importance in your farm business.

	Corn		Beans		Oats		Alf. Hay	
	Example	Your Farm	Example	Your Farm	Example	Your farm	Example	Your Farm
Prod. / Acre	66bu.		24 bu.		55bu.		2.8Ton	
Price	$1.05		$2.10		$ .60		$18.00	
Value/ Acre	69.30		$50.40		$33.00		$50.40	
Variable or Cash Production								
Seed	$ 2.40		$ 2.40		$ 1.95		$3.35	
Fertilizer	10.25				7.25		6.25	
Spray Mat.	.60		1.20		.60			
Machinery	1.95		2.05		1.55		3.15	
Power (gas, oil)								
Hauling	4.60		3.30		2.20		.55	
Storage								
Total variables	19.80		$ 8.95		$13.55		$13.30	
Fixed or non Cash (deprec., int., rep., tax)								
Power -tractor	$ 3.55		$ 3.35		$2.45		$ 3.35	
-truck	1.50		1.50		1.50		1.50	
Machinery	6.05		7.25		10.45		11.30	
Storage	3.85		.95		1.60		5.00	
Land	14.00		14.00		14.00		14.00	
Total Fixed	$28.95		$27.05		$30.00		$35.15	
Total Costs Per Acre (except labor)	$48.75		$36.00		$43.75		$48.45	
LABOR & MGT. RETURN								
Per acre	$20.55		$14.00		$10.55		1.35	
Per hour	3.26		2.88		NONE		.33	
LABOR HOURS /AC	6.3		5.0		4.2		6.0	
COSTS /BU. -Ton (incl. labor @$1.25/hr.	.86/bu.		$ 1.76/bu.		$ .88/bu		$19.98/T.	

The costs above are based on estimated machinery and production costs for a 240 acre farm in Southern Minnesota with the following acreages: Corn-100acres; Oats-45 acres; Beans-40 acres; Hay-45 acres. Crop machinery investment totals $20,000. Use your costs where possible.

AGRICULTURAL EXTENSION SERVICE, UNIVERSITY OF MINNESOTA--U.S. DEPARTMENT OF AGRICULTURE, INSTITUTE OF AGRICULTURE, ST. PAUL 1, MINNESOTA.

2. Teaching Activities and Experiences

Use material presented in the subject content. The main task is to make the family aware of the total cost involved in raising crops. Many times they are quite familiar with the cash cost involved in producing an acre of crop. However, on-farm instruction should stress some of the other costs involved, such as, depreciation, labor taxes, land charges and miscellaneous operating costs.

It should be apparent to the family that some crops are giving them a higher net return than others. Selecting the proper combination of crops can mean better earnings. It must be emphasized that the crops raised and the livestock produced should complement each other. Point up, however that crops and livestock must be evaluated separately if one is to select the most profitable combination. A worksheet similar to Table VIII or the Extension Worksheet FM-23, "Which Are Your High Return Crops" are very helpful in a crop evaluation.

3. References:

a. Farm Organization and Income Possibility Worksheet, F & H Dev. No. 2 (revised) Agricultural Extension Service, University of Minnesota.

b. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

c. Hopkins and Heady, Farm Records and Accounting, Iowa State University Press, Ames, Iowa, 1962.

d. Johnson, Peterson and Associates, Getting Started In Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

e. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

B. What is the feed value of the various crops and of the same crop harvested by alternative methods.

Objective: To determine the cropping program that will provide the maximum amount of feed values at the lowest cost per unit.

1. Subject Content:

a. Utilize a worksheet similar to the supplementary data to determine the production of feed energy from each crop produced.

(1) Total amount of total digestible nutrients produced.

(2) Cost of producing 100 pounds of total digestible nutrient.

b. Discuss possible changes in expense and the added investment if crops are handled by a different method.

(1) Will another storage or feeding structure be necessary?

(2) Will new or more equipment be needed if an alternative harvesting method is used?

(3) Will increased returns offset the additional expense?

c. Discuss changes involved in the labor load if alternative methods are used.

(1) Additional labor needed.

(2) Labor load reductions.

(3) Change in the time or season when the labor is required

d. Supplementary data:

See next page

TABLE IX

BLOOMING PRAIRIE FARM MANAGEMENT STUDIES FH #304a

CROP	Average Yield Per Acre	TDN Produced Per Acre	Estimated Cost Per Acre	Cost Per CWT. of TDN	Market Value Per Acre	Your Average Yield Bushel	Your Average Yield lbs.	% Of TDN	TDN	Your Cost Per Acre	Cost Per CWT. TDN
CORN GRAIN	71.3	3194	$55.00	$1.72				80%			
OATS	58.9	1319	40.00	3.03				70%			
SOYBEANS	22.9	----	40.00	----							
WHEAT	29.7	----	42.00	----							
ALFALFA HAY	3.0 Ton	3000	50.00	1.67**				50%			
CORN SILAGE	12.1 Ton	4840	60.00	1.24**				20%			
OAT SILAGE	6.6 Ton	2244	45.00	2.00**				17%			

* Average of 6 years of analysis at Austin area center (1959, 60, 61, 62, 63, 64)

** Must have allowances for different protein contents.

2. Teaching Activities and Experiences:

Assist the family in completing the supplementary data Table IX. This could be a follow-up to material presented in a classroom session. Stress the fact that some crops produce a much higher amount of total digestible nutrients than others. Point out the cost of producing 100 pounds of total digestible nutrients with the various crops.

Discuss the protein content of each crop. You may wish to compare this on an acre basis also. This would be a good time to discuss the various methods for handling each crop. (dry hay vs. green chop vs. silage vs. haylage vs. pasture or corn silage vs. dry shell corn vs. high moisture shell corn, etc.)

Compare the cost per cwt. of total digestible nutrients when raising a feed crop as compared to the purchase of a similar crop.

Point out that consideration must also be given to soil conserving values of a crop, livestock utilization and the ability to market a crop if it cannot be utilized on the farm. An example may be high moisture, ear corn silage stored in an upright silo. It may be a very satisfactory method of harvesting the corn crop, if feeder cattle are available to utilize it. However, if livestock cannot be purchased with a reasonable expectation to make a profit, it may be extremely difficult to market corn stored in this way.

3. References:

a. A Nutritional Assessment of Methods of Harvesting Summer Forage for Dairy Cows, Bulletin 709, Agriculture Experiment Station, University of Illinois, 1965.

b. Hamilton and Bryant, Profitable Farm Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

d. Morrison, Feeds and Feeding, 22nd. edition, The Morrison Publishing Company, Ithaca, New York, 1956.

C. Analyzing new procedures and methods of producing crops.

Objective: To create an awareness by the family of some of the latest practices that may be applicable to the production of crops on their farm.

1. Subject Content:

a. Discuss some of the latest developments in crop raising that may have adaption on this farm.

1. Narrow-row corn or soybeans
2. Heavier plant populations

3. Harvesting oats as oatlage or silage
4. Earlier corn harvest - bin drying - high moisture storage
5. Heavier fertility programs
6. Newer developments in crop storage
7. Reduced or minimum tillage
8. Combined crop operations
9. Other

b. Review some of the more conventional practices that should be carried on.

1. Liming
2. Weed control
3. Insecticides
4. Good seed
5. Soil testings
6. Timely tillage

2. Teaching Activities and Experiences:

The adoption of a sound new practice before it has become commonplace usually means added profits to the farmer. The job of the instructor should be to stimulate thought and discussion on the part of the farm family concerning new practices that may be profitable in their operation. "Innovators or early adopters" will receive even more advantages in the future than has been true in the past.

The instructor must also point out all of the factors involved in adopting a new practice and present all the alternatives available. His task must also be to keep new practices in their proper perspective. A family will often become enthused over a new method that was successful on a neighboring farm in one particular year. The instructor must be prepared to present data on the long run performance of such a practice and the effect weather and other variables can have on its effectiveness.

Point out that many well-proven practices can often provide a boost to earnings when applied in the best possible way and at the right time.

3. References:

No references are given for this topic. Current fact sheets, magazines and periodical articles can be used to aid in the discussion of new ideas.

FARM MANAGEMENT III

ON-FARM INSTRUCTION **OCTOBER-NOVEMBER** **UNIT XXIV**

OBJECTIVE: ANALYZING THE EFFICIENCY AND ORGANIZATION OF THE LIVESTOCK ENTERPRISES; TO PLAN IMPROVEMENT AND HEALTH PROGRAMS.

On-Farm Instructional Topics:

A. Evaluating the efficiency and organization of the livestock enterprises.

Objectives: To assist the family in an intensive study of each livestock enterprise based on past records.

1. Subject Content:

a. Review material presented under subject content for on-farm instruction, Unit XV, with the family.

b. What improvements and changes are indicated by past studies of the business?

(1) "Cumulative Farm Business Analysis Worksheet" Unit XXI.

(2) "What's Wrong With My Business" Unit XXII.

c. Assist the family in compiling feedlot records on feeder livestock.

d. Guide the family in working out the costs other than feed for each livestock enterprise. Compute on a per head, per cwt. or per unit basis.

e. Point up the approximate return needed on $100.00 of feed, if all costs for each livestock enterprise are to be met and a reasonable return realized on labor.

This data adapted from the July, 1965 Newsletter published by Charles Painter, Area Vocational Agriculture Coordinator, Austin, Minnesota.

	Feed	Housing Equip. and Power	Vet. Misc. L.S. Hauling etc.	Labor	Total	Return per $100 feed needed
Hogs raised per cwt.	$ 10.00	$ 1.25	$ 1.50	$ 2.25	$ 15.00	$150.00
Dairy Cows.	160.00	45.00	35.00	110.00	350.00	220.00
All dairy per animal unit.	145.00	35.00	28.00	85.00	293.00	205.00
Beef breeding per cow.	60.00	3.00	7.00	12.00	82.00	135.00
Fed cattle per cwt.	16.50	1.50	3.00	2.25	23.25	135.00
Laying flock per hen (1500 or more)	4.50	1.25	1.25	.75	7.75	170.00
Feeder pigs fed per cwt.	8.75	.75	2.25	1.25	13.25	140.00
Sheep (farm flock)	17.00	1.00	2.00#	4.50	25.00	140.00

Shearing included here instead of under labor

f. Supplementary date:

See next pages.

TABLE X

FEED LOT SUMMARY

Year_____ Lot No. _____

For: Feeder Cattle _____: Feeder Lambs _____: Feeder Pigs _____:

Turkeys _____: Other (specify) _____

(Rev. 12/53)

OUT OF FEED LOT	Date	Description	No.	Weight	Value
					$
sold, butchered, transferred to another lot, died		Died		xxx	xxx
	(1)	Total Sales, butchered, etc.			$
INTO FEED LOT	Date	Description	No.	Weight	Value
					$
purchased transferred from another lot					
	(2)	Total purchases, etc.			$
	(3)	Value produced (to pay for feed & other costs			(1) - (2) $

FEED COST	Feeds fed in 19--			Feeds fed in 19--		
KIND OF FEED	Bu.	T. lbs.	Value	Bu.	T. lbs.	Value
			$			$
Pasture						
(4) Tot. Feed Cost	xxx			xxx		
(5) Return over feed (to pay for all-other costs (3) - (4)			$			

Purchase value_____X interest rate (%)_____=$_____(annual int.)

(6) Annual interest_____X$\frac{\text{_____}}{12}$months on feed=interest charge$_____

Shelter and Equipment Costs

Depreciation on buildings to be charged against this lot $_____

Repairs on buildings to be charged against this lot _____

Depreciation on equipment to be charged against this lot _____

Repairs on equipment to be charged against this lot _____

(7) Total building and equipment costs $_____

Miscellaneous Costs	19__record	19__record	19__record
Veterinary	$_____	$_____	$_____
Trucking	_____	_____	_____
Commission charges	_____	_____	_____
Other miscellaneous costs	_____	_____	_____

(8) Total miscellaneous costs $_____

(9) Total other costs (except labor) (6) (7) (8) $_____

(10) Return to pay for labor and management (5-(9) $_____

(11) Estimated hours of man labor on this enterprise

(12) Net return per hour of labor (10) (11)_____ $_____

OTHER INFORMATION

Breed_____Kind (heifers, steers, cows, etc.) _____

Age (calved, yearlings, 2yr. olds, etc.)_____

Quality when bought or transferred to this lot (choice, good, medium, common)_____

Quality when sold (prime, choice, good, etc.)_____

Date put on pasture _____Date off pasture_____

Date put on limited grain_____Date put on full feed_____

Feeding plan followed and other comments_____

_____

WHAT DOES IT COST TO PRODUCE LIVESTOCK - F.H. 511

Blooming Prairie 5/65

			Total for all livestock	Hogs	Dairy	Beef
Acc. Bk. p. 38	A.	Custom Work hired (Milk haul-truck., etc.)				
Acc. Bk. p. 20	B.	Breeding fees				
Acc. Bk. p. 45	C.	L'st'k Equip. Repair				
Acc. Bk. p. 21	D.	Misc. L'st'k. Expense				
Annal. Rpt. Table 1	E.	Interest on Investment				
		1. Livestock (Beg. inv. plus End. inv. X 3%)				
Dep. Sch. p. 16		2. R.E. facilities (Beg. inv. plus End. inv. X 3%)				
Dep. Sch. p. 12		3. Equipment (Beg. inv. plus End. inv. X 3%)				
	F.	Annual Depreciation				
		1. Livestock				
Dep. Sch. p. 16		2. R.E. Facilities				
Dep. Sch. p. 12		3. Equipment				
	G.	Power Costs				
Anal. Rpt. Table 3		1. Truck				
Anal. Rpt. Table 3		2. Auto				
Anal. Rpt. Table 3		3. Tractor				
Anal. Rpt. Table 3		4. Electricity				
Anal. Rpt. Table 3	H.	Taxes (RE & PP)				
Anal. Rpt. Table 3	I.	General				
	J.	Labor (Based on WU)				
		Hired				
		Own				
	K.	Other				
		Total Other Cost				
		Per Cwt				
		Per Head or An. Unit				
		Feed Cost Per CWT. Head Or Animal Unit				
		Total all Costs				
		Per Cwt.				
		Per Head				
		Per Animal Unit				

2. Teaching Activities and Experiences:

Begin this discussion by covering items mentioned in Unit XV; cash sales, net increases, feed costs, returns on feed. Compare two consecutive reports from the Cumulative Farm Analysis Worksheet.

Assist the family marketing feeder livestock in compiling feedlot records. It will be necessary to allocate feed and other costs to the various lots. A feedlot analysis will be of particular benefit to the cattle feeder who carries a feedlot of cattle through a part of two consecutive calendar years.

Work with the family in analyzing the costs other than feed for each enterprise. This will be particularly beneficial when deciding whether to continue or expand a livestock enterprise.

The discussions and activities with the family on this consultation visit should be useful for future work when developing alternative plans for maximizing income on this farm.

A "thought stimulator" may be sent to the family a few days prior to your visit. Far a particular family, you may wish to ask questions as illustrated below:

(1) The poultry enterprise analyais indicates a $1.50 return over feed costs per hen, therefore your overall return above feed on a 300 bird flock was $450.00 (See Table 10) Is this the best use for this building and your time?

(2) The hogs show an $11.70 feed cost per cwt. of gain. Although grain consumption was reasonable (310# corn 25# oats) your protein amounts and costs appear to be excessive. (70# at $5.00) Is this protein supplement doing a satisfactory job for you? (See Table 11)

Questions such as the above tend to stimulate thinking prior to the instructor's arrival and form a natural starting point for a discussion of livestock efficienciea and reorganization. The main task of the farm management instructor is not to form decisions for the family but to stimulate new thinking and promote wiser decisions on the part of the farm family.

3. References:

a. Farm Organization and Income Possibility Worksheet, F & H Dev. No. 2 (revised) Agricultural Extension Service, University of Minnesota.

b. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

c. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

d. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1964.

B. What improvements could be made in the management of each livestock enterprise.

Objective: To assist the family in improving their management practices with each class of livestock.

1. Subject Content:

a. Utilize a checksheet such as illustrated in the supplementary data in Unit XVII to determine which recommended management practices are not carried on at present.

(1) Point out possible benefits if most of these practices are carried on.

(2) Discuss ways to implement recommended practices not presently followed.

b. Point up some of the improvement programs available to the family.

(1) DHIA
(2) Owner-sampler
(3) Artificial insemination
(4) Swine testing stations
(5) Local hog improvement associations
(6) Cut-out data at slaughter plants

2. Teaching Activities and Experiences:

Follow material under subject content. Determine recommended practices that are not presently being carried out. Discuss and evaluate their effect on the enterprise efficiency and profitability. The family and the instructor will be able to think of other practices that would be beneficial to livestock returns. Assist the family in projecting ways and means by which these practices can be implemented.

Point up the various livestock improvement programs that are available in the community. Many families will be participating in these programs at the present time. However, many times they are not making full use of all the information obtained. The instructor's task will be to help them correlate and combine this information with data gleaned from the annual farm analysis summary.

3. References:

No references are given. The instructor can use current articles and research data as necessary.

C. Planning a livestock health and sanitation program.

Objective: To help the farm family in working out a comprehensive health and sanitation program to promote livestock productivity.

1. Subject Content:

   a. The family veterinarian should be involved in the planning as soon as feasible.

   b. Discuss some of the areas where a disease prevention and sanitation program can be carried on by the farmer.

      (1) Selection of suitable, clean breeding stock.

      (2) Isolation of newly purchased animals or infected animals.

      (3) Proper feeding programs. Supply adequate nutrients for good health.

      (4) Rotation of pastures

      (5) Periodic herd examinations by veterinarian

      (6) Proper disposition of culls and dead animals

      (7) Periodic disinfection of premises

      (8) Project an immunization program against communicable diseases

      (9) Provision for adequate insulation and ventilation of animal shelter buildings.

      (10) Plan means of preventing the spread or recurrence of an infection (example: mastitis)

   c. Stress the need for neat, uncluttered feedlots and corrals, if injuries are to be kept at a minimum.

   d. Emphasize animal health when remodeling or purchasing new equipment

      (1) Proper length and width of dairy stalls
      (2) Adequate waterer and feeder space
      (3) Adequate insulation and ventilation
      (4) Other

2. Teaching Activities and Experiences:

Healthy, good-doing livestock is one of the primary requirements for profitable farming. Diseased, unthrifty animals not only reduce returns, but can be a source of more infections.

Urge the family to consult their veterinarian when planning a livestock health program. Emphasize that prevention is usually much cheaper than treatment. Point up that loss of production and/or gains are usually much more serious than the actual cash costs of treatment.

Assist the family in locating clean breeding stock. Plan adequate, balanced rations. Emphasize the importance of adequate ventilation in preventing many livestock health problems.

Stress the need to plan carefully when remodeling or constructing new facilities in order to provide optimum conditions for animal health. A new dairy barn with inadequate stall size and poorly planned ventilation can often cause more loss of income than good management practices can create.

3. References:

a. Animal Diseases, Yearbook of Agriculture, 1956, the United States Dept. of Agriculture, Washington, D. C.

b. Farm Buildings and Conveniences - Reference Handbook, Minnesota Vocational Agriculture Instructor's Association.

c. Haberman, The Farmer's Veterinary Handbook, Prentice-Hall, Englewood Cliffs, New Jersey, 1953.

d. Hadley, Principles of Veterinary Science, 5th. edition, W. B. Sanders, Co., Philadelphia, Penn., 1949.

e. Midwest Farm Handbook, 6th. edition, Iowa State University Press, Ames, Iowa, 1964.

f. The Midwest Farm Plan Books, MWPS 3, 4, 5, 6, 7, 8, 9A, 10A, Extension Agricultural Engineer, University of Minnesota.

FARM MANGEMENT III

ON-FARM INSTRUCTION | December-January | UNIT XXV

OBJECTIVE: CLOSING THE FARM RECORDS FOR ANALYSIS; INCOME TAX MANAGEMENT.

This unit will be very similar to Units X, XI and XVIII. Any income tax management planning should take place several weeks prior to the end of the year. The good manager "thinks" income tax management all year. Follow the subject matter references presented in the units referred to above.

This unit will often require two visits. Families will often wish to spend a portion of the farm call on other items that have been discussed previously or on problems that have arisen in their farm business.

ADVANCED FARM MANAGEMENT

The family with three or more years of farm records and analysis reports has established a performance record, has a detailed knowledge of the basic cost structure for their business; has an extensive number of facts upon which to base proposed changes; and are generally ready to make any changes indicated.

The crux of farm management instruction is at this point. The family has assembled a great deal of information and has been instructed on its value and use. To assist them in organizing the business in the most profitable way, consistent with their goals, attitudes and abilities and the capabilities of the farm, is the task of the instructor.

The units presented in ADVANCED FARM MANAGEMENT will require numerous visits as the family makes changes in their business, evaluates the results obtained and makes re-adjustments as indicated.

ADVANCED FARM MANGEMENT

ON-FARM INSTRUCTION UNIT XXVI

OBJECTIVE: TO ANALYZE MACHINERY, EQUIPMENT AND FACILITY NEEDS AND TO DETERMINE WHEN AND WHERE TO INVEST IN POWER UNITS, MACHINERY, EQUIPMENT AND BUILDINGS.

On-Farm Instructional Topics:

A. Evaluating power, equipment and building costs.

Objective: To assist the farm family in a systematic interpretation of some of the major costs involved in the use of farm machines and facilities.

1. Subject Content:

a. Review subject content from Unit XVI, Topic A.

b. Discuss means of correlating business size and overhead costs.

(1) Compare total power, machinery, equipment and building costs from Table 3 in the individual farm analysis with averages and with similar farms.

(2) Compare these costs on a work unit and crop acre basis.

c. Discuss the goals of the family.

(1) Do they intend to expand acreage?
(2) Do they plan to increase livestock?
(3) Should the workload be lightened?
(4) Will sons or daughters be entering the farm business?

d. Determine where future investments should be made.

(1) Discuss the workload on crops and livestock

(2) Where will an investment give the greatest return?

(3) Should the family invest in equipment to reduce the physical workload?

2. Teaching Activities and Experiences:

Instructional Topic A provides an appraisal of some of the analysis facts pertinent to a discussion of additional purchases of machines or facilities. Discuss the material presented under subject content. Compare present costs of operation. Determine future goals the family may have in mind.

A good deal of this may be a review of material covered in the past, but it is necessary to establish the proper perspective of the total business entity.

3. References:

a. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

b. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

c. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

d. Palan, Ralph E., A Course of Study for Adult Farmer Instruction in Farm Management and Farm Business Analysis, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

e. Selection of Farm Machinery, Circular 876, College of Agriculture, University of Illinois, Urbana, Illinois, 1963.

B. Planning machinery and equipment purchases

Objective: To provide instruction and help to the farm family considering the purchase of machinery or equipment.

1. Subject Content:

a. Review some of the factors pertinent to the purchase of any item of equipment.

(1) Quantity of product involved (acres, head, bushels or tons)

(2) Initial cost; expected life

(3) Review the labor situation. Will labor load be reduced or increased?

(4) Determine the alternative return on any labor saved or the additional cost of hired labor needed.

(5) Consider the possible losses due to untimeliness or carelessness if a custom operator is hired

(6) Will there be a possibility of doing custom work if the yearly machine cost is more than the operator's acreage justifies?

(7) Is there a better alternative use for capital?

b. Determine the costs involved in ownership.

(1) Depreciation.
(2) Interest.
(3) Repairs.
(4) Taxes, insurance, shelter.

c. Determine the operating costs per unit of production. (include fuel, lubrication and labor)

d. Project the change in power, machinery and equipment costs per work unit if the purchase is made.

e. Study the effect of the purchase of the family's financial structure and project the means of repayment of any loan required.

2. Teaching Activities and Experiences:

This on-farm instructional topic could occur at any time of the year and in all probability will occur much earlier than the fourth year of working with the family. Much of the subject content material could be presented in a class session, however, it would be well to review and re-emphasize the factors enumerated whenever a family plans a major purchase of crop machinery, livestock equipment or power units.

With the rapid changes in technology and the extremely high cost of many farm machines, it is imperative that the family study each purchase very carefully. The area of farm equipment purchase has been largely ignored until recent years. Many farm families have developed extremely heavy overhead costs without a corresponding increase in business size. For the family with a heavy capital investment in machinery, the instructor will need to suggest ways to expand size or increase the amount of custom work done, if per unit costs are to be reduced.

Discuss the items under subject content with the family. There are a number of good references from which to gather resource data. The University of Minnesota folder, "Custom Rates for Farm Operations" presents a good procedure for determining annual use costs of farm machines.

Point up the effect of a purchase on the family's financial structure. It is extremely important that a satisfactory repayment schedule be worked out before a large machinery debt is incurred.

3. References:

a. Custom Rates For Farm Operations, Extension Pamphlet 134, Agricultural Extension Service, University of Minn.

b. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

c. Midwest Farm Handbook, 6th. edition, Iowa State University Press, Ames, Iowa, 1964.

d. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

e. Selection of Farm Machinery, Circular 876, College of Agriculture, University of Illinois, Urbana, Illinois, 1963.

C. Studying the factors involved in the construction or remodeling of a livestock or storage facility.

Objective: To assist the family in studying the advantages and disadvantages involved in the remodeling of an existing facility or the erection of a new structure.

1. Subject Content:

a. Is there a need for a new facility?

(1) Is the present structure adequate?

(2) Would remodeling be as satisfactory at less cost?

(3) Does the present and expected return from the enterprise justify this investment?

(4) Will a new structure or a remodeling allow the work to be done easier, faster and/or more efficiently?

(5) If the workload is reduced, can the saved labor be put to good use?

b. What is the necessary volume to make remodeling or construction practical?

(1) Are livestock numbers sufficient to take advantage of the new structure immediately?

(2) Will more volume require more labor than the family can provide?

c. Determine the type and size of structure that will best serve the intended purpose. (examples: sealed silo vs. unsealed; stanchion barn vs. free stall; layer drying grain bin vs. ear corn crib)

(1) What type of structure should be erected?

(a) Based on both present and future plans.

(b) Determine needed capacity to allow the operation to function smoothly. (examples: (1) sufficient drying capacity to keep a combine operating continuously. (2) hog finishing unit large enough to hold capacity of farrowing system without overcrowding)

d. Determine the costs of ownership

(1) Depreciation
(2) Interest
(3) Repairs
(4) Taxes and insurance

e. What will be the effect on the family's financial status?

(1) How will borrowing ratios be affected?

(2) Can a satisfactory repayment schedule be arranged?

(3) Will there be a reduction in borrowing capacity for operating capital.

(4) What changes will occur in the building cost per work unit?

f. Are there alternative investments that will prove more profitable?

g. Discuss the proper location for a new facility

(1) Drainage
(2) Prevailing winds
(3) Convenience
(4) Expansion
(5) Shelter from or exposure to wind (example: Cattle feedlot vs. ear corn crib)

h. Assist the family in planning the structure

(1) Layout
(2) Specifications
(3) Insulation
(4) Ventilation

i. Discuss the need to develop a complete farmstead plan over a period of years.

2. Teaching Activities and Experiences:

Discuss the need for the facility with the family. Be sure there is a sound basis for remodeling or adding a new structure. Some families assume that housing livestock in a new barn will automatically improve production and gain. Unless the enterprise has proven profitable for this family when housed in the older structure, it is doubtful if new surroundings will add to returns.

Stress the need for evaluating the alternative use of funds. Is this investment being made for the enterprise that is most profitable and best suited for this farm? Will this be true in the future? A family with a beef cow herd may need a new silo and more shed room, if the herd is to have natural expension. However, is this their best alternative for investing funds? Would an investment in a hog, dairy or some other livestock facility return more? These are questions the instructor and the family should thoroughly explore.

Help the family to determine the yearly cost of the facility. Determine the type and size of structure best suited to the farm operation. Keep in mind future trends and needs. Provide for expansion.

A farmstead plan should be developed before any new buildings are erected. Much inconvenience and wasted labor can often be avoided by careful planning and development of a farmstead plan.

Study the effect of a facility investment of the financial status of the family. Determine if the cost of the facility will impair the family's ability to secure operating capital.

Construction of a building or storage facility can be the second largest investment a farm family will ever make. The convenience, utility and flexibility of this structure can be a very large factor in determining future earnings of the farm.

3. References:

a. Ashby Shedd and Dodge, Modern Farm Buildings, Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1959.

b. Farm Buildings and Conveniences - Reference Handbook, Minnesota Vocational Agriculture Instructor's Association.

c. Farm Organization and Income Possibility Worksheet, F & H Dev. No. 2 (revised) Agricultural Extension Service, University of Minnesota.

d. Midwest Farm Handbook, 6th. edition, Iowa State University Press, Ames, Iowa, 1964.

e. The Midwest Farm Plan Books, MWPS 3, 4, 5, 6, 7, 8, 9A, 10A, Extension Agricultural Engineer, University of Minnesota.

ADVANCED FARM MANAGEMENT

ON-FARM INSTRUCTION UNIT XXVII

OBJECTIVE: TO ASSIST THE FARM FAMILY IN DECISIONS INVOLVING AN INVESTMENT IN LAND RESOURCES.

On-Farm Instructional Topics:

A. Farm ownership vs. renting

Objective: To assist the farm family in arriving at a decision on farm ownership.

1. Subject Content:

a. Review the items included in the supplementary data with the family.

b. Assist the family in making an appraisal of the farm under consideration.

c. Point up the agencies which can be helpful in evaluating the farm.

(1) Soil Conservation Service technicians
(2) Agricultural Stablization Commission personnel
(3) Qualified appraisers

d. Discuss sources of funds for farm purchases

(1) Insurance companies
(2) Federal Land Bank
(3) Farmers Home Administration
(4) Banks and individuals

e. Supplementary data:

See next pages.

TABLE XII

SHOULD YOU BUY THIS FARM?
(a farm purchase checklist)

Blooming Prairie Farm Management Studies

1. Is the farm an economic unit? Will it support your family and provide for repayment of principal? At present_____
   10 years later_____
2. If it is not an economic unit by itself, is there additional land or buildings available to rent or buy?
3. Do you have sufficient equity to buy the farm?
4. Will your operating capital and efficiency by impaired if you buy?
5. Do you have sufficient funds available to add more land or buildings, if necessary? Will this reduce your operating efficiency?
6. What improvements are needed to make it an economic unit?
   a. Drainage: Ditches
      Tiling
      Outlets
   b. New Buildings
   c. Remodeling
   d. Concrete
   e. Fences
   f. Soil Conservation Practices
   g. Land Clearing
   h. Liming
7. Does it suit your operation and situation?
   A. Crops
      1. Is it capable of good corn yields and high corn acreages?
      2. Is it capable of good forage yields?
   B. Livestock
      Higher risk: Feeder cattle
      Feeder pigs
      Farrowed pigs
      Lower risk: Poultry
      Dairy
8. Is there additional land nearby for rent or purchase?
   Today_____ 10 years later_____
9. Does the farm have a good resale value?
   Today_____ 10 years later_____
10. Have you consulted the local Soil Conservation office personnel?
    a. What are the soil capabilities?
    b. What are the soil types?
    c. Does the farm have good drainage? (surface)
    d. Does it have tile drainage?
    e. How much more tile does it need? To get by_____To be adequate_____
    f. Is there a good outlet for drainage?
    g. Are the ditch leins or taxes due?
    h. Have you examined the subsoil?
    i. Will you need to make heavy lime and fertilizer applications?
11. Will weed control by a definite problem?
12. What is the corn base?_____Soil conserving base_____base yield
13. Is the location satisfactory?
    Roads Towns Churches
    Schools Markets
14. What are the yearly taxes_____?
15. Is it convenient for combined use of facilities?
    (ex. father and son share equipment and labor.)
16. Are the present buildings useable?
17. Are they adequate to house sufficient livestock?
    Today_____10 years later_____

18. Is the home adequate? Presently_____10 years later_____
    What will it cost to fix it up?_____
19. Is the farm over-built? Are the facilities practical?
20. Are the "terms" satisfactory?
    a. Down payment
    b. Length of contract
    c. Improvements made
    d. Interest rate
    e. Re-financing possibilities
    f. Pro-payment
    g. Yearly cost basis
21. Is there a satisfactory water supply?
22. Is the contract according to law?
    a. Is the title clear?
    b. Are there back taxes due?
    c. Is there a full description of the property and other pertinent details in the deed?
    d. Have you consulted a good lawyer?

2. Teaching Activities and Experiences:

Use this unit when working with a family planning to make a farm purchase. This is one of the most important phases of management counseling. A family may make a farm purchase only once during a lifetime. It may be the most important factor in their success or failure in farming.

Point out and discuss the items included under subject content with the family. A checklist such as presented in the supplementary data may be helpful in stimulating thought and discussion. Make an inspection of the farm. Help the family to make an inventory of the resources on the farm. A thorough study should be made of Soil Conservation Service maps, tiling maps, soil tests and drainage outlets.

Assist the family in making an appraisal of the farm. Compute the yearly ownership cost per acre. Discuss the effect of a purchase on their financial statement. Determine the effect a purchase may have on their ability to obtain operating capital.

Discuss the various sources of loan capital. Point up the value a consultation with an officer of the loan agency can have in evaluating the farm's worth. Urge the family to consult Soil Conservation technicians, A S C personnel and others who can be of service.

e. References:

a. Farm Family Transfers and Some Tax Considerations, North Central Regional Publication 127, Agriculture Experiment Station, Michigan State University, East Lansing, Michigan.

b. Financial Summaries for Minnesota Farm Account Book, 8th. Revision.

c. Hamiltons and Bryant, Profitable Farm Mangement, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

d. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

e. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

f. Johnson, Peterson and Associates., Getting Started in Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

B. Should a farm owner consider renting additional land?

Objective: To assist the family in determining whether to increase their land resources through leasing.

1. Subject Content:

   a. What are some criteria for determining whether to rent additional land?

      (1) Is good land available nearby at a reasonable rental rate?

      (2) Could the land be leased for an extended period of time?

      (3) Should the family rent on a cash or share basis?

      (4) Would the prospective landlord be cooperative in providing improvements and his share of expenses?

      (5) Is the present acreage too small to make good use of power units and machinery?

      (6) Will it be too small for replacement equipment 10 years hence?

      (7) Will the family need to make an additional investment in equipment when farming a greater acreage?

      (8) Will the family always be able to secure enough land to utilize a larger investment?

      (9) Will additional land lower the present efficiency realized on livestock and crops?

      (10) How will additional land affect the labor load?

      (11) Would a greater return be secured by investing the required labor, capital and management in some other resources?

      (12) Consider the age of the operator

      (13) Will additional land facilitate the establishment of a member of the family in farming?

   b. Assist the family in making a preliminary budget to determine probable returns and expenses to be realized from additional land.

2. Teaching Activities and Experiences:

Discuss the items under subject content with the family. It will be necessary to refer to past analysis reports to determine present costs and operating efficiencies. Determine if present machinery and power will be adequate to operate additional land. If an additional investment in equipment is necessary, will the family always be able to secure enough acreage to keep this investment employed?

Discuss the labor load. Will the family be able to supply the needed labor? If not, can good part-time help be obtained during busy seasons? If it is necessary to hire full time help, is the farm business large enough to provide full employment for the family and the hired labor throughout the year? Will this require an additional investment in livestock facilities in order to provide year-round employment? Is full-time hired help desirable for this family?

Help the family to budget expected returns and expenses to determine if this is a profitable move. Is this the best place to invest their time and management? Will they be able to maintain or perhaps improve upon the present efficiency realized on crops and livestock?

Discuss the possibility of leasing as a step toward ownership of additional land. Family labor needs and machinery resources may thus be built up in readiness for adding more land through purchase.

3. References:

The references listed under Topic A, this unit, will be satisfactory.

C. Should a farm owner purchase additional land?

Objective: To provide instruction and help to the family considering the purchase of additional land to add to an existing unit.

Many of the items under "A"and "B" will apply to this situation. The age and financial position of this family may be considerably different from the family making their first farm purchase.

Since this is a more permanent move than simply leasing additional land, it should be even more carefully considered. However, ownership and therefore the authority and incentive to make needed improvements (drainage, remodeling, liming, etc.) often means the difference between mediocre and outstanding net returns.

Ask the family if a greater return could be secured by investing the required capital, labor and management in some other resource. Be sure to point up any risks involved.

Utilize the checklist provided in the supplementary data under "A" to help the family in arriving at a decision.

ADVANCED FARM MANAGEMENT

ON-FARM INSTRUCTION UNIT XXVIII

OBJECTIVE: DEVELOPING ALTERNATIVE PLANS TO MAXIMIZE INCOME.

On-Farm Instructional Topics:

A. Studying the present crop and livestock programs.

Objective: To assist the farm family in studying the present crop and livestock program.

1. Subject Content:

a. Review some of the conclusions reached from previous study of past farm analysis reports.

(1) Areas to be improved.

(2) Areas to be expanded.

(3) Enterprises to be reduced or abandoned.

(4) Practices to be implemented.

b. Determine present crop and livestock program.

(1) Acres in each crop.
(2) Normal yields.
(3) Livestock numbers.
(4) Normal production.
(5) Normal income under present program.

B. Determining improvements to be made within the present farm organization.

Objective: To assist the farm family in developing improved management within the framework of the present farm organization.

1. Subject Content:

a. What can be done to increase net income from cropland?

(1) Increase crop yields and gross returns at a greater rate than any additional cost incurred. (through fertilizer, weed control, better seed, drainage, etc.)

(2) Select the most profitable combination of crops.

(3) Lower the per unit and total operational and fixed costs.

(4) Normal production
(5) Normal income under present program

B. Determining improvements to be made within the present farm organization.

Objective: To assist the farm family in developing improved management within the framework of the present farm organization.

1. Subject Content:

a. What can be done to increase net income from cropland?

(1) Increase crop yields and gross returns at a greater rate than any additional cost incurred. (through fertilizer, weed control, better seed, drainage, etc.)

(2) Select the most profitable combination of crops.

(3) Lower the per unit and total operational and fixed costs.

(4) Market crops more advantageously.

(5) Utilize livestock to salvage any unharvestable portion of "down" crops and fall forage on "feed grain" acreage.

b. Improving returns from present livestock program.

(1) Review items discussed in Unit XXIV.

C. Developing alternative crop and livestock programs.

Objective: To assist the farm family in the development of alternative crop and/or livestock programs.

1. Subject Content:

a. Project a cropping program to maximize net return per acre over an extended period of time.

(1) Consider effect on livestock program.
(2) Review material in Unit XXIII.

b. Determine the normal feed supply produced on the farm.

(1) Equivalent values of feeds.
(2) Consider the quality of forages raised.

c. What livestock enterprises are most appropriate for this farm?

(1) What is the present efficiency of each enterprise?

(a) Average or better?

(b) Are there circumstances which will normally prevent a good return?

(2) What is the projected efficiency of each enterprise?

(a) Will it remain equal to present levels or improve?

(b) Will it decline if the enterprise is expanded?

(c) Will net earnings still improve at a commensurate rate if efficiency does decline slightly at greater volume?

(3) What is the relationship of acreage to labor supply?

(a) With small acreages, tend to choose livestock enterprises to maximize returns per acre.

1. Dairy 2. Poultry 3. Producing feeder pigs

(b) With larger acreages, tend to choose livestock enterprises to maximize return per hour.

1. Hogs 2. Feeder cattle and hogs

(c) Labor available.

1. At present 2. Future

(4) Is the potential market satisfactory?

(a) Improvements in marketing arrangements.
(b) Improvements in quality.

(5) Are present housing and equipment facilities suitable for the enterprises considered?

(a) Size and arrangement of interior.
(b) Insulation and ventilation.

(6) What are the possibilities for expansion? For adding automation?

d. Other considerations.

(1) How much risk is involved?

(2) What are the family's living and spending habits?

(a) Is a regular income necessary?
(b) Can they budget periodic income cycles?

D. Determine the additional investment necessary.

Objective: To assist the family in establishing the amount of additional investment in facilities, equipment and livestock if an alternative program is adopted.

1. Subject Content:

a. Determine total change in investment.

(1) Buildings.
(2) Equipment.
(3) Livestock.
(4) Feed

b. Annual repayment on additional investment.

c. Annual interest on additional investment.

E. Complete a partial budget to determine additional returns and expenses with the alternative plans.

Objective: To assist the family in projecting changes that will occur in gross receipts and expenses, net returns and investments if an alternative program is adopted.

1. Subject Content:

a. Determine changes that will occur in gross income.

(1) Use normal prices.
(2) Base on past performance of the farmer.

b. Determine changes that will occur in costs.

(1) Operating costs.
(2) Fixed costs
(3) Principal repayment.

F. Compare labor requirement and additional net income for family living.

Objective: To assist the family in completing a comparison of the additional net income generated and the added labor required.

1. Subject Content:

a. What is the additional amount available for family living if an alternative plan is adopted?

b. How much change will occur in the labor load?

(1) Will it increase beyond family capacity?

(2) Will it decrease due to automation?

(3) Is the net change in income sufficient to provide a good return on any additional labor needed.

c. How does the additional return compare with off-farm earning opportunities.

2. Teaching Activities and Experiences:

All of the topics within Unit XXVIII are directed toward projecting the operational plan for this farm that will bring farm earnings to the optimum level and still allow for the maximum development and enjoyment of the family. Each topic indicates one of the steps toward selecting the best plan for this farm.

Very few farm businesses can remain static for any period of time if earnings are to keep pace. Major changes or reorganizations will likely occur at an accelerated rate in future years. Each family must constantly evaluate their present business organization and plan adjustments and reorganizations that will keep profits at the desired level.

At this time, the family has received two or more consecutive farm analysis reports. They can begin to base any plans on the actual facts and trends for their business. The instructor's task is to make sure the family gives full consideration to all factors involved in good farm planning.

Farm reorganization is a very difficult subject to teach in a classroom situation. The capability of the farm and the abilities, attitudes and goals of the family greatly influence changes made in each operation.

The instructor should stress the need to give lengthy consideration to any contemplated changes. Point out that changes "grown into" are more apt to succeed then sudden "plunges" that put stress on all parts of the business; management, labor and capital structure.

The "Farm Organization and Income Possibility Worksheet" developed by the University of Minnesota can prove very useful in developing alternative plans. Table III, enterprise statement, of the individual farm analysis report can also be very useful in projecting changes in receipts, expenses and net returns.

3. References:

a. Farm Organization and Income Possibility Worksheet, F & H Dev. No. 2 (revised) Agricultural Extension Service, University of Minnesota.

b. Financial Summaries for Minnesota Farm Account Book, 8th. revision.

c. Heady and Jensen, Farm Management Economics, Prentice-Hall, Englewood Cliffs, New Jersey, 1954.

d. Individual Vocational Agriculture Farm Analysis Reports for the farm family.

e. Johnson, Peterson and Associates, Getting Started in Farming, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

f. Malone and Malone, Decision Making and Management for Farm and Home, Iowa State College Press, Ames, Iowa, 1958.

g. Minnesota Farm Account Book, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

h. Painter, Using Farm Analysis Information, Area Vocational-Technical School, Austin, Minnesota, 1966.

Chapter VI

CONCLUSION

Farm families must continually search their business for the most efficient and profitable organization. The technological changes of the past 25 years, and the prospects of even greater change in the future, have brought the science of farm management to the foreground.

As farm management instructional programs grow over the next decade, changes and improvements must be made to meet the challenges and needs of tomorrow's larger and more complex farm businesses. The recent use of machine processing of farm records provides greater opportunities to improve classroom and on-the-farm instruction. Machine processing will allow more extensive use of the wealth of instructional material contained in farm analysis reports. It will also prove extremely valuable in programming farm businesses to maximize profits.

A number of additional study units could be developed and included in the on-farm program of farm management instruction. These could include the planning of insurance programs for farm families, organizing family farm transfers or partnerships, estate planning and many others. The development and exchange of teaching aids between instructors would eliminate considerable duplication of effort and would strengthen and advance all programs. Coordinators at the area centers would be the logical persons to organize "exchange of idea" sessions. The area coordinator should also be responsible for assembling and distributing classroom and on-farm teaching aids and worksheets.

A very helpful addition to farm management programs would be the development of specialist positions at the area schools. Personnel to fill these positions would be trained in specific areas, such as, farm buildings, farmstead planning, farm machinery, soils, crops, livestock and financial management. Their job would be to assemble and disseminate basic and current information to local instructors. They would also be available as on-farm consultants on specific problem areas which are beyond the training of the local instructor and to assist in classroom instruction on highly specialized areas.

Chapter VII

BIBLIOGRAPHY

1. ANIMAL DISEASES YEARBOOK OF AGRICULTURE, 1956, The United States Dept. of Agriculture, Washington, D. C.

2. Ashby Shedd and Dodge, MODERN FARM BUILDINGS, Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1959.

3. BETTER FARMING AND BETTER LIVING FOR INDIANA FARM FAMILIES, BF & BL Ag Ec. 1, Agricultural Extension Service, Purdue University, Rev. Nov., 1961.

4. Boss and Pond, MODERN FARM MANAGEMENT, The Webb Publishing Co., St. Paul, Minnesota, 1949.

5. COMPARATIVE COSTS AND RETURNS FOR CROP PRODUCTION IN SOUTHERN MINNESOTA, 1951 - 1955, Department of Agriculture Economics, University of Minnesota.

6. Cook, HANDBOOK ON TEACHING VOCATIONAL AGRICULTURE, Danville, Illinois, The Interstate Publishing Company, 1947, pp 651-652.

7. CROP AND FEED CHECK, FA 11, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

8. CULTURAL AND CHEMICAL WEED CONTROL IN FIELD CROPS, 19--, Extension Folder 212, Agricultural Extension Service, University of Minnesota.

9. CUSTOM RATES FOR FARM OPERATIONS, Extension Pamphlet 134, Agricultural Extension Service, University of Minnesota.

10. Cvancera, DO INCREASE IN FARM OUTPUT EXCEED THE COMMUNITY'S INPUT COSTS OF FARM MANAGEMENT INSTRUCTION, The Visitor, April, 1965.

11. Dillner, APPRAISAL OF METHODS OF ON-FARM INSTRUCTION OF YOUNG ADULT FARMERS IN SOUTH CENTRAL PENNSYLVANIA, Masters of Education Paper, Pennsylvania State University, 1961, page 40.

12. FARM BUILDINGS AND CONVENIENCES - Reference Handbook, Minnesota Vocational Agriculture Instructor's Association.

13. FARMER'S TAX GUIDE, District Director, Internal Revenue Service, Publication No. 225.

14. FARM FAMILY TRANSFERS AND SOME TAX CONSIDERATIONS, North Central Regional Publication 127, Agricultural Experiment Station, Michigan State University, East Lansing, Michigan.

15. FARM ORGANIZATION AND INCOME POSSIBILITY WORKSHEET, F & H Dev. No. 2, (revised).

16. FEEDING THE DAIRY HERD, Extension Bulletin 218, Agricultural Extension Service, University of Minnesota.

17. FINANCIAL SUMMARIES FOR MINNESOTA FARM ACCOUNT BOOK, 8th. Revision.

18. Foster, APPROVED PRACTICES FOR SOIL CONSERVATION, Interstate Printers and Publishers, Danville, Illinois, 1955.

19. Guelker, A PROPOSED ADULT FARMER PROGRAM FOR THE STAPLES, MINNESOTA COMMUNITY, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1959.

20. Haberman, THE FARMER'S VETERINARY HANDBOOK, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1953.

21. Hadley, PRINCIPLES OF VETERINARY SCIENCE, 5th. edition, W. B. Sanders, Co., Philadelphia, Penn., 1949.

22. Hamiltons and Bryant, PROFITABLE FARM MANAGEMENT, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

23. Hasbargen and Pond, PLANNING FARMS FOR INCREASED PROFITS, Station Bulletin 445, University of Minnesota.

24. Heady and Jensen, FARM MANAGEMENT ECONOMICS, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1954.

25. Hohenhaus, AN EVALUATION OF THE VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM OF SOUTHERN MINNESOTA, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1964, page 23-24.

26. Hopkins and Heady, FARM RECORDS AND ACCOUNTING, Iowa State University Press, Ames, Iowa, 1962.

27. Hopkins and Turner, RECORDS FOR FARM MANAGEMENT, Prentice-Hall, 1958.

28. INCOME TAX MANAGEMENT FOR FARMERS, North Central Regional Publication No. 2, Extension Bulletin 298, Agricultural Extension Service, University of Minnesota.

29. INDIVIDUAL VOCATIONAL AGRICULTURE FARM ANALYSIS REPORTS for the farm family.

30. INSECTICIDES AND THEIR USES IN MINNESOTA, Extension Bulletin 263, Agricultural Extension Service, University of Minnesota.

31. INTERPRETATION OF MINNESOTA SOIL TESTS FOR FERTILIZER USE, Special Report 1, Agricultural Extension Service, University of Minnesota.

32. Jensen, THE ELEMENTS OF A FARM MANAGEMENT EDUCATIONAL PROGRAM, Paper Presented at Minnesota Vocational Agriculture Instructor's Association Conference, October, 1962.

33. Johnson, Peterson and Associates, GETTING STARTED IN FARMING, D. Van Nostrand and Company, Inc., Princeton, New Jersey, 1955.

34. Klingman, WEED CONTROL AS A SCIENCE, John Wiley and Sons, Inc., New York, New York, 1963.

35. LIVESTOCK REPORT, FA 12, Agricultural Bookstore, Institute of Agriculture, St. Paul 1, Minnesota.

36. Malone and Malone, DECISION MAKING AND MANAGEMENT FOR FARM AND HOME, Iowa State College Press, Ames, Iowa, 1958.

37. MIDWEST FARM HANDBOOK, 6th. edition, Iowa State University Press, Ames, Iowa, 1964.

38. MINNESOTA FARM ACCOUNT BOOK, Agricultural Bookstore, Institute of Agriculture, St. Paul, Minnesota.

39. Morrison, FEEDS AND FEEDING, 22nd. edition, The Morrison Publishing Company, Ithaca, New York, 1956.

40. NUTRIENT REQUIREMENTS OF LIVESTOCK, Nos. 1-10, Printing and Publishing Office, National Academy of Sciences - National Research Council, Washington, D. C.

41. Painter, KEEPING RECORDS FOR FARM ANALYSIS, Area Vocational-Technical School, Austin, Minnesota, 1964.

42. Painter, USING FARM ANALYSIS INFORMATION, Area Vocational-Technical School, Austin, Minnesota, 1966.

43. Palan, A COURSE OF STUDY FOR ADULT FARMER INSTRUCTION IN FARM MANAGEMENT AND FARM BUSINESS ANALYSIS, Colloquium Paper, Department of Agricultural Education, University of Minnesota, 1960.

44. Peairs and Davidson, INSECT PEST OF FARM, GARDEN AND ORCHARD, 5th. edition, John Wiley and Sons, Inc., New York, New York, 1950.

45. Peterson and Cochran, MEMORANDUM REGARDING COOPERATIVE VOCATIONAL AGRICULTURE FARM MANAGEMENT PROJECT, Code IV-B-164, State Department of Education, St. Paul, 1952.

46. Peterson and Nordstrom, CALENDAR OF FARM PRACTICES FOR MINNESOTA, Extension Pamphlet 204, University of Minnesota.

47. Peterson, THE PENCIL AND THE PLOW, The Visitor, July, 1961.

48. Philipson, Revised Nelson, HANDBOOK OF FARM MANAGEMENT; MINNESOTA, University of Minnesota, Department of Agricultural Education, St. Paul, Minnesota.

49. SELECTION OF FARM MACHINERY, Circular 876, College of Agriculture, University of Illinois, Urbana, Illinois, 1963.

50. SOME FACTORS AFFECTING EARNINGS OF FARMERS IN SOUTHEASTERN MINNESOTA, 1950-59, Report 261, Department of Agricultural Economics, Institute of Agriculture, St. Paul, Minnesota.

51. THE MIDWEST FARM PLAN BOOKS, MWPS 3, 4, 5, 6, 7, 8, 9A, 10A, Extension Agricultural Engineer, University of Minnesota.

52. VARIETAL TRIALS OF FARM CROPS, Misc. Report 24, University of Minnesota.

FARM ACCOUNT ANALYSIS AGREEMENT

As a cooperator in the Vocational Agricultural Farm Management Analysis Program, I hereby agree to the following provisions:

1. That I will use the Minnesota Farm Account Book for my farm records during the year_____, and will keep these records to the best of my ability:

   a. Inventories
   b. Cash expenses and receipts
   c. Crop records
   d. Feed records
   e. Non-farm assets and liabilities

2. That I will make a registration payment of $_____.

3. That I will attend group meetings of the Vo-Ag Farm Management Program.

4. That I will submit my account book for analysis in January of the following year.

As a representative of the Vo-Ag Department, in cooperation with the Minnesota Vo-Ag Farm Management Program, I agree to provide the following to the farmer cooperator:

1. A Minnesota Farm Account Book.

2. Assistance with establishing beginning inventories, and all other beginning entries.

3. To check the cooperator's record book at regular intervals for accuracy and completeness. At the mid-year check, the feed records for the preceding six months will be accurately adjusted.

4. To assist the cooperator with the computation of an income tax estimate and provide instruction in filing tax forms.

5. At the end of the year, to assist in preparing such necessary feed check summary, and other additional forms, as will be required by the analysis center.

6. To submit the record book to the analysis center, with the remainder of the fee payment.

7. To provide the cooperator with a copy of the completed analysis from his own farm. To discuss with him the results of this analysis, particularly as to how it may be used to further improve his farm business.

Date_____ _____
(farmer-cooperator)

Received $_____ _____
(Vo-Ag Instructor)