A Synopsis of the Adult Farm Management Education Farm Analysis Program In Minnesota

by
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An Integrating Paper

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Dedication

This paper is dedicated
to
the memory of my dad,
Alvin Brudelie,
for his ideals and inspiration.

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Chapter I

Introduction

A farm business analysis is not a new phenomena. Analyzing the farm business has been practiced for many years. In 1901, a system of farm management accounting was begun in Minnesota. In 1913, a mail-in accounting system was developed by the Agricultural Economics Department at the University of Minnesota. In 1923, Agricultural Extension at the University of Minnesota began an effort to analyze farm businesses based on a farm account. In 1946, the public schools of Minnesota entered the adult farm management education program for veterans using the farm business account and later the analysis as a primary teaching tool. Consequently, the farm business analysis has had a long and continual development.

Farm Business Management Education is concerned with the development of a farmer's knowledge of economic principles and the decision making process with emphasis on applications to the farm business. To facilitate this education, an area agriculture program coordinator organizes adult instructional activities within an assigned geographic area. The program coordinator is also responsible for articulation between secondary, post-secondary, and adult education within this geographic area.

The primary purpose of this paper was to review the developments of the farm business analysis feature of the Minnesota Adult Farm Management Education program. Based

upon an historical review of the analysis feature, a second objective of this paper was to gain a perspective for future developments in analyzing a farm business. Without a clear understanding of past developments in the analysis of a farm business, many proposed changes may ignore important reasons why particular efficiency measures and concepts form the foundation for an analysis. Consequently, proposed changes in the current farm business analysis program, which is the central core of the Minnesota Farm Management Education Program, must continually consider the underlying reasons certain aspects of the program were originally initiated. With a 65 to 75 year historical data base, it is vitally important to consider how, or in what form this database will be maintained. The database is a vital link in an analysis program. A number of questions need to be considered as changes occur in the analysis process. The following questions could greatly influence future farm business analysis activities:

How will the type of information generated affect the analysis?

How will the micro computer impact the farm business analysis?

What are the implications of these two developments?

What is the most appropriate direction for the future?

These unanswered questions must be guided by previous decisions which have guided the farm business analysis process over time. This paper aims to focus upon a

reflection of the decisions which have guided the analysis process to its current status.

Chapter II

Review of the Farm Analysis Program

In this section, a number of citations refer to Pond, Eugene, Nodland, Berg and Crickman (1965). This is due to the fact that these authors prepared the only extension history on farm management education.

The term farm management includes the selection, planning, organization, and development of the farm and the daily and yearly conduct of the finances Pond, Eugene, Nodland, Berg and Crickman (1965). Pond et al. (1965) indicated that organized research in farm management began in 1901, by Dr. Hays and Dr. Boss. Fifteen farms, that were representative of the type of farming in the area, were selected in three counties. Each farm was visited weekly to collect information on inventories, hours of labor, income and expense. The data were collected to create average values for a typical farming operation. The individuals involved in collecting the data gave no advice to the farmer or revealed the type of information being sought in the collection. The farm analysis was primarily research oriented.

In 1913, Pond et al. (1965) reported that a mail-in system of accounting was developed. Many hours of travel and expense were saved. Each month the farmer filled out a detailed record concerning the type and amount of feed fed to each class of livestock. An earnings statement was completed at the end of each year for each farmer. Costs were computed

for each type of livestock. The analysis of the farm was returned to the farmer in a published bulletin. Analyzing the data and returning the information to the farmer was a major change in farm management information systems. The farm management program was gaining popularity but the studies were discontinued in 1917, because of the war.

In 1920, Pond et al. (1965) reported that the accounting studies resumed but were significantly changed. In 1920, new prosperity caused the farmers to look to the University of Minnesota for guidance in planning the farming operation. The studies were changed to reflect what was happening to income and expenses so that farmers could maximize earnings. Great attention was given to various analysis factors.

Pond et al. (1965) indicated a second change in farm management took place in 1928, when the Southeastern Farm Management Association was established. The new farm management association provided research, extension activities, and service to the farmer enrolled in the program. The first farm management association was established on a trial basis to determine the possibilities for the farm management system. The second reason for the farm management association was to observe the farmers' reception of the program. Each farmer completed an itemized inventory of all crops and livestock at the beginning and end of each year. All cash receipts and disbursements were recorded during the year. A record of products consumed from the farm and family living expenses were also recorded.

Extension workers assisted in checking the records at the end of each year. The fieldman in charge of the area, visited each farm three or four times a year to help the farmer compile the records. One of the changes in the analysis was to print averages for the study region involved soon after the production period ended. This was the first time that local averages were available to farmers on a timely basis.

As the word began to spread about the analysis, farmers in other areas of the state became interested in the project and asked if the service could be extended (See Appendix B). The second farm management association was started in 1940, in southwestern Minnesota. The record keeping and the analysis were identical in both associations. One of the most important factors in the success of the farm management service was the hiring of a capable, enthusiastic fieldman.

Pond et al. (1965) reported that one of the important factors in the farm management program was using past records to make projections, or to use local averages to make necessary changes in the farm operation. If a farmer had continuous records over a number of years, the farm management service proved most effective. Continuous records were important to adjust to changes in prices and production techniques. Completeness and accuracy of the farm record were checked each time the fieldman visited the farm. The records were meaningless if inaccurate. The records were analyzed at the University of Minnesota, Department of Agricultural Economics. Any discrepancies or errors in the

record were noted and the record was returned to the farmer for corrections. A preliminary report summarizing the farm operation and making comparisons with the average, high, and low return groups was sent to each member of the association. The annual report served a number of functions:

1. The farmer could determine the success of the farm operation.
2. The farmer could find weak areas in the farm operation.
3. The publication was distributed to other interested individuals.

The areas of emphasis in the farm records analysis were earnings, family expenditures, and return over feed cost in livestock. The only item analyzed in crop production was yield per acre. The probable reason for limited crop analysis was that almost all farmers fed their crops to livestock. After World War I, the focus of the farm management analysis had shifted from research to resource management.

Hemming (1949) reported that after World War II, many military veterans returned to Minnesota farms. A veterans service officer in Douglas county took a special interest in the returning veterans. This service officer contacted local school administrators in the county to discuss a possible veterans farm management program as an official education program that would qualify for veterans educational assistance. The schools administration offered cooperation

and the school facilities. On July 1, 1946, a full time veterans trainer was employed by a local school district, Alexandria, to teach the group of veterans. An advisory committee developed the curriculum and outlined policy. Farm management economics became the backbone of the program. Each veteran was required to keep an accurate account of the farming operation. If the records were standardized, a comparison could be made more easily, therefore the Minnesota Farm Account Book was used to standardize the record keeping procedure.

The Veterans Administration was not enthusiastic about lending financial support for an adult farm management program. However, word spread quickly around the state about the potential of the program. People were grateful to the veterans and were eager to assist them as they moved back into civilian life. Consequently, the Veterans-On-Farm program launched public education (vocational agriculture) into the farm management education program with the analysis as the key tool (See Appendix C). The analysis format and measures used were those identified and in use by the Agricultural Extension Service and the Department of Agricultural Education at the University of Minnesota. Professors Truman Nodland and S. A. Eugene provided adult teachers of farm management education with considerable support, education and advice in using the farm business analysis. They assisted teachers and teacher educators working with a growing number of veterans instructors in

developing the Veterans Agriculture program.

Painter (1979) stated that a graduate class at the University of Minnesota summer school, in 1953, set forth a procedure for calculating the measures of efficiency of operation entitled Release #1. The final revision of Release #1 was in 1957, by A. W. Sievers, L. M. Arnesen, and C. M. Painter. (See Appendix A) The revision represented the first attempt to standardize the analysis procedure in Minnesota.

In 1953, Dr. Milo Peterson wrote a letter to Mr. A. A. Heckman, executive director of the Hill Foundation, requesting funds to support and effectively coordinate the farm management program among public Schools in Minnesota (Granger 1957). The foundation granted funds to support the project for a three year period. In 1956, because of the favorable progress, the project was extended for two additional years. This project marks a time in history when the public schools of Minnesota saw adult education as an integral part of their mission. The farm business analysis remained the central focus of this effort.

During the time when the Hill Foundation provided financial support for the program, Lauren Granger was hired to coordinate the Cooperative Farm Management program in Minnesota public schools. Granger was effective as the first coordinator of the farm management program. Immediate correspondence was established with vocational school directors, vocational agriculture instructors, county agents,

and the State Department of Education. The correspondence was designed to promote the Cooperative Farm Management program.

The State Department provided encouragement for further development by providing schools with substantial financial support for the teachers (75% of their salaries). Consequently, the program experienced considerable growth. As the Veterans Program phased out, schools developed full-time farm management programs. Throughout this development the analysis remained the constant guiding basis for the program.

The State Department of Education also provided a vital contribution to the regional analysis center concept by encouraging area vocational schools to serve as regional farm records analysis centers. Through the course of meetings between the Department of Agricultural Education and the State Department of Education, the area vocational schools at Thief River Falls, Mankato, and Austin were selected to serve as analysis centers for analyzing 1955 year records. The following year, 1956, Winona, St. Cloud, and Duluth were designated as additional analysis centers. Thus, the regional analysis center became a permanent part of the public school system in Minnesota.

Meanwhile, much work had taken place to standardize the analysis process. Ralph Smith, University of Minnesota School of Agriculture at Morris, expended much time and effort to develop the farm management analysis as well as

promote the regional analysis center concept. (Smith 1955) After one year of analysis at Morris, Smith made a number of suggestions to sequence the closeout process starting at the farmer and ending at the analysis center. Smith also showed that the analysis did not need to be sent into the Agricultural Extension Department to be analyzed. Smith continued to operate an analysis center for west central Minnesota until Willmar was designated as the area analysis center in 1962. The decision to use an analysis center instead of the Extension Service to process the analysis gave a new direction to the Cooperative Farm Management program in Minnesota.

Some of the reasons for an analysis center concept were:

1. to allow time for the adult instructor to close out books during the critical winter months after the end of a production year.
2. to increase the instructor's efficiency and therefore increase the number of cooperators.

The Cooperative Farm Management program grew at a slow but steady pace. There were a number of reasons for the slow progress. Reluctance of farmers to keep adequate records was only one reason (Painter 1979). Another reason for the slow start was that record book supervision was considered no less than an ordeal (Painter 1979). Participation in the program was also delayed due to farmer procrastination, lack of discipline, effort, and time necessary to produce an accurate farm account.

Analysis forms from 1951-1957, (See Appendix D) were to be completed from the record in the Minnesota Farm Account Book. The first form of the analysis was the crop and feed check. (See F.A.11 Appendix A page 1) The instructor and cooperator entered the following values for each crop.

1. Purchases
2. Beginning Inventory
3. Total Amount of Crop Raised

The total supply available was obtained from these entries. To determine the total crop accounted for the following entries were totaled.

1. Sales
2. Crop seeded
3. Ending Inventory

The difference between total supply available and total crop accounted for was the amount fed. The amount available for feed was distributed among the appropriate livestock enterprises. The crop and feed check has not changed since 1951. (See Appendix A page 1) Another form consisted of the monthly numbers check for each livestock enterprise. (See F.A.12 Appendix A page 2) A third form was the supplemental data for the farm family. (See F.A.Vo-Ag Appendix A page 3) The supplemental data form today is much the same as in 1951. The crop data page (See F.A.23 Appendix A page 4) required the number of acres of a crop and the total production. The only information computed for crops was the yield per acre for each type of crop. The summary of inventories (See

F.A.20 Appendix A page 5) was designed to show a farmers' assets, liabilities, and net worth for beginning and end of the year. The increase or decrease in net worth was calculated. On the back side of the page measures of farm organization and management efficiency were calculated. (See Appendix A page 6) A summary of farm earnings followed. (See F.A.21 Appendix A page 7)

All income and expenses were listed and labor earnings were calculated by total farm receipts less total farm expenses (including interest on farm capital and unpaid family labor). Return to capital and family labor were calculated by adding interest on farm capital, unpaid family labor and labor earnings. The household and personal records were also summarized. (See Appendix A page 8) A record (See F.A.22 Appendix A page 9) of the farm earnings by enterprise was also provided. Net increases by each livestock enterprise were also calculated. This analysis page was the forerunner of the current Table 3. (See Appendix A page 10) The summary of feed consumed by all livestock (See Appendix A page 11) calculated the horse and/or tractor cost per acre as well as the total feed consumed by each livestock enterprise. The last two pages of the hand analysis summarized the dairy or dual purpose livestock (See F.A.24B Appendix A page 12) and the hogs and chicken enterprises. (See F.A.24E Appendix A page 13)

Painter (1979) stated that the designated analysis centers were not directly associated with the area vocational

schools. At the onset of the analysis center concept, a local farm management instructor was selected to supervise the analysis center activities. In addition, the instructor was still expected to work with his full number of cooperators. This proved to be a considerable amount of work. As the number of farm management programs grew, the instructor had difficulty working efficiently with his cooperators and supervising the analysis center. A proposal to the State Department of Education requested the hiring of area coordinators to supervise the analysis centers. In July 1960, the area coordinator position was initiated for the Cooperative Farm Management program. Some of the positions operated on a part-time basis.

The growth of the Cooperative Farm Management program following the establishment of the coordinator positions was phenomenal. For example, in 1959, only fifty records were analyzed in Austin. However in 1960, 102 books were analyzed, and in 1964, 202 (Painter 1979).

As the coordinator positions were filled, the coordinators would meet on a regular basis to discuss and make decisions affecting the farm analysis and the analysis center. The area coordinator concept is still intact. Originally there were six coordinator positions. In 1961, there were seven area coordinators. The number increased to nine in 1968, when the Jackson area was added and a second coordinator was added at the Staples Area Vocational school to split the large northeast area . The number of positions

declined to six following the retirements of Charles Painter at Austin in 1969, and Ed O'Connell at St. Cloud in 1975. In the interim the position at Duluth was phased out and the analysis responsibilities transferred to the Staples site. Currently, six area coordinator positions are staffed.

The coordinators were still working with the manual computations of the Minnesota Farm Account Analysis. A problem was surfacing because the number of analysis in each area was growing. The coordinators were having trouble returning the individual analysis on a timely basis. By the time all the individual records had been analyzed so that averages could be computed, the information was too late to be useful.

In 1960, Stan Nelson, who initiated the farm management program at Thief River Falls, enrolled in a doctoral program in Agricultural Education at the University of Minnesota. Nelson chose to design a system for electronic analysis of the Minnesota Farm Account Book. Using Smith's manual, Nelson attempted to correlate the manual computations with a computerized program. In 1961, Nelson selected ten cases from the Austin area (Painter 1979). In 1962, after studying the Austin records, Nelson presented a more detailed correlation. Nelson proposed changes to refine the program which subsequently was tested by the Agricultural Records Cooperative (ARC) of Madison, Wisconsin. ARC dealt primarily with Wisconsin DHIA records and was looking for additional agricultural business. When Nelson left the University of

Minnesota, Edgar Persons, vocational agriculture instructor at Hoffman, filled the vacant graduate assistant position.

As early as 1961, the coordinators were investigating electronic analysis of the Minnesota Farm Account Book. In October 1964, Persons met with the coordinators to give a report on the progress of the electronic analysis. Persons also requested cooperation of all the coordinators on a statewide pilot program to electronically analyze ten of the 1963 year records. Persons also reported that a farmer using the electronic analysis might have a report returned within ten days ("Coordinator Minutes", October 1964).

In December 1964, Persons reported to the coordinators that the analysis program was now perfected to the point of being used by each analysis center (See Appendix E). The area coordinators agreed to contract data processing services with ARC. Persons agreed to write a page of instructions for completing the forms. The coordinators chose which analysis, manual or electronic, was to be used in their area. The first year of electronic analysis was not without problems. According to area coordinator meeting minutes for the year 1965, the problems were not huge but bothersome. The unfavorable comments on the use of electronic analysis centered on math errors or delays in returning records to the analysis center ("Coordinator Minutes", April 22, 1965). Other discussion focused on the need for design changes of the computer input forms, reprogramming of the net worth page, and the need to inform instructors of deadlines

("Coordinator Minutes", August 24, 1965).

As of 1965, the farm analysis closely resembled the hand analysis revised by Smith in 1957. The established closeout procedure for a cooperator and instructor at that time was as follows: The farm management instructor met with the cooperator to ensure that all inventories, quantities, and values were in the account book. The cooperator and the instructor would complete the crop and feed check in the back of the account book. After finishing the supplemental data sheet, the instructor verified that all columns were totaled in the farm account book. The farm management instructor took the account book to the analysis center. The analysis center clerical staff recorded certain information on a set of forms called transfer sheets. The data on the computer input forms came from the transfer sheets and the account book. After the input forms were completed, the data were mailed to ARC in Madison, Wisconsin. Personnel at ARC would keypunch the data into the computer, run the analysis, and send the analysis to the analysis center. When the analysis arrived at the center, the coordinator reviewed the analysis primarily checking for errors. Once checked, the coordinator sent the analysis to the farm management instructor. When the instructor received the analysis, the accuracy was rechecked. After comments were written, the analysis was sent to the farmer. The whole process, from the closeout at the farm to returning the analysis to the farm could take from two to four weeks.

In July of 1967, a number of adult farm management instructors and area coordinators met with Dr. Ed Persons at the Paul Bunyan Hotel in St. Paul. The object of the meeting was to orchestrate major changes in the electronic analysis. According to the minutes of the area coordinator's secretary, the select group met with Dr. Persons for six days ("Coordinator Minutes", May 20, 1967). This meeting became known as "Paul Bunyan One". (When the meeting was over, there was much bleeding and disagreement but no one died, so the meeting was considered to be highly successful.)

The following is a list of the analysis changes that resulted from the conference table by table basis:

Table 1- Whole Farm Inventories

Each of the following items were added.

-tillable acres

-breakdown of work units by areas-crops, livestock, etc.

-separated beef feeders from beef breeding and other productive livestock added

Table 2- Whole Farm Income and Expense

The category was split into two pages.

2A -all livestock enterprise income separated

-added beef feeders and turkeys

-separated crop sales by individual crop

-separated gas tax refund from machinery sold

-separated co-op patronage refund from misc. farm income

-added net cash operating income

2B -added other dairy purchased

-separated beef cows and beef feeders purchased

-separated chickens and turkeys bought

-added other productive livestock bought

-added chemicals bought

-separated telephone and general farm expense

-combined capital purchase of power and crop and general machinery

-added the number of operators

Table 3- Returns and Net Increases

Many of these changes were made to be consistent with Table 2A and 2B.

-separated hogs into complete, hogs finishing, weaning pigs

-added feeder lambs

Table 3- Expenses and Net Decreases

-combined truck and auto

-tractors and crop machinery combined

-deleted gas engines from electricity

-hired power combined with other power and machinery

-real estate and personal property tax combined

-insurance added to general farm expense

Table 4- Household Expense

Only the format of the category was changed.

Table 5- Net Worth Statement

-farm capital broken into total productive

livestock, drop seed and feed, total power machinery and equipment, land, buildings and fences.

-other personal assets changed to non-farm assets

-added operators' labor earnings

-added return to capital and family labor

-added total non-farm income

-added total money borrowed

-added total paid on debts

-added total household and personal cash expense

-added ratio of total farm expense to total farm receipts

-added ratio of total assets to total liabilities

Table 6- Renters and Part Owners

The category was split into two pages.

6A-Operators Income

6B-Operators Expense

-all changes were consistent with changes made on Tables 2A and 2B

Table 7- Work Units

-existing work units adjusted

-ten new items added

Table 8- Measure of Farm Organization and Management Efficiency

-added farm capital investment per worker

-added index for each livestock enterprise

-based the index on feed fed not livestock units

-combined tractor and crop machinery

Table 9- Distribution of Acres and Yields

-added fertilizer cost per acre

-added crop chemical cost per acre

-added seed and other cost per acre

-added gas, oil, grease bought per acre

Table 10-Crop Tables

No individual crop tables existed prior to 1967.

-added individual crop tables for each enterprise

Livestock Tables

The format was standardized for all tables.

-split hog table into farrow-finish hogs, weaning pigs, and finishing hogs.

Over the years, it is clear that 1967, was a milestone year for changes or additions to the farm business analysis.

In June of 1968, Dr. Persons held meetings around the state with coordinators and adult farm management instructors to review and evaluate the present analysis report. The following items were changed for the 1968 record year:

Table 1- Farm Inventories

-added capital investment per worker

Table 2A-Whole Farm Receipts

-separate hog receipts into complete, finish, and weaning pig

-added total sale from crops

-delete adjusted total farm sales

Table 2B-Whole Farm Expenses

-separate hog expenses into complete, finish, and

weaning pig

-delete total cash farm operating expenses

Table 5- Net Worth Statement Operators

-added ratio non-real estate assets to real estate liabilities

-added ratio real estate assets to real estate liabilities

-added ratio net worth to total liabilities

-added ratio cash operating expense to adjusted total farm sales

Table 6A-Operators Farm Receipts

Table 6B-Operators Farm Expenses

-same changes as Tables 2A and 2B

Table 7- Work Units Table

-Work units were changed to reflect more mechanized crops and livestock operations. The changes were made following the Agricultural Economics report on Work Unit Estimates for Measuring the Size of Business (Pherson and Nodland)

Many of the changes made in the analysis in 1968 (See Appendix F), were items requested but not changed in the 1967, overhaul.

In 1971, ARC developed a computerized depreciation program for the farmers analyzing records. One advantage was that the computer system stored the information in Madison, Wisconsin. The instructor did not complete the inventory sections pertaining to depreciation. The computer

automatically combined the data from the depreciation file with the analysis program. That same year, Persons proposed that farm power and machinery, and building, fencing, and tiling costs be allocated by formula to each enterprise ("coordinator Minutes", March 2, 1971). The formula allocated ownership costs or depreciation, operating costs, and repairs and fuel to the appropriate crop and livestock tables. In addition the following changes were made to all livestock tables:

Livestock Tables

-added allocated costs for-power and machinery
-livestock equipment
-building and fencing
-total allocated costs

In an effort to present a more readable and understandable analysis another series of changes were adopted for 1973. The analysis was used by states other than Minnesota so items were added to produce a more useful analysis. The crop enterprise tables were updated as follows:

Table 2A and 2B-Whole Farm Receipts and Cash Expenses

-additional breakdown under sale of crops

Table 6A and 6B-Operator Cash Receipts and Cash Expenses

-additional breakdown under sale of crops

Table 10-Crop Enterprise Tables

-added other crop income

-added irrigation operation under supplemental costs

-split allocated costs of ownership and operating costs

-added irrigation equipment cost allocation

-added interest on machinery and equipment investment

-under supplemental data

-added work units per acre

-added power cost allocation factor

-added return over listed costs per unit

-added total listed costs per acre

In 1974, further changes were made to specific livestock tables. Some changes required additional data from the farmer while the changing farm business required additional information on the printout of the analysis. The changes were as follows:

Dairy Cow Table

-separated out complete ration under feed fed

-broke down concentrate into grower, complete ration, and protein, salt and mineral

-broke down roughages into legume and other hay, and silage fodder and stover

-added special hired labor to supplemental data

Other Dairy Table

-same feed changes as the dairy table

-added percent death loss for calves

Feeder Cattle Table

added effective daily gain, lbs/head/day

Hog Tables

-added price received per cwt. market animals sold

-added average weight market hogs sold

-added price per cwt. protein, salt, and mineral

-added effective daily gain, lbs/day/pig

Again in 1975, the analysis was updated.

Table 5-Net Worth Statement-Operator

-added total family farm and non-farm income

Table 10-Crops Enterprise

-added breakeven yield

Hog Tables

-added total listed costs/cwt. of pork produced or per litter

Dairy Table

-added special hired labor

-added total listed costs per cow

-added total listed costs/cwt. milk produced

-added dairy cow turnover percentage

In an effort to ensure uniform results through all the small changes that occurred since 1968, the consistency of each table was verified in 1976. As the farm business changed, the analysis was altered to remain current. It was also clear that farmers were demanding more detail. It was apparent that changes being made were a reflection of national needs and concerns. An annual National Farm Management Conference began in 1972. Each year farm management instructors, state supervisors and teacher educators from across the United States gathered to discuss farm management issues. The content and format of the

Minnesota analysis was always a matter of discussion because it was used by every participating state. Therefore, a new master crop enterprise list for dryland and irrigated crops was printed.

Table 1-Farm Inventories

-added irrigation equipment

-added custom work equipment

-added increase or decrease in farm capital

Table 2A and 2B-Whole Farm Receipts and Expenses

-added additional crops and livestock enterprises

-added custom work enterprise income

-added irrigation costs

-added custom work enterprise costs

-added repair and upkeep of irrigation equipment

-split capital purchases

Table 6A and 6B-Operators Receipts and Expenses

-same changes as Tables 2A and 2B

Table 10-Crop Enterprise Tables

-added utilities and other general farm expense

-added interest allocation

-added other costs not listed

Livestock Tables

-split feed costs into each type of feed

In 1977, the terminology of labor earnings was renamed return to operators labor and management. Consequently, the task of explaining labor earnings was made easier. Labor earnings was not only a return for the operators labor, but

also reflected a return for the operator's management. Table 100 was added to the analysis to determine the record's cash reliability, to check if liabilities balanced, and to verify net worth accuracy.

In 1978, a second Table 5, Net Worth Operator, was added with blank lines on the right side of the page. At any time during the year, the farmer could calculate an updated financial position for agriculture creditors.

Total acres and tillable acres were added to Table 5 in 1979. A crop marketing index was added to Table 8. Instructors and farmers could compare marketing strategies for agricultural crops with other farmers.

In March of 1968, the pros and cons of a mail-in accounting system were discussed by the coordinators ("Coordinators Minutes" 1968). At that time, further discussion was tabled. In 1969, an experimental monthly-mail in accounting system was explored. The accounting program was check stub-based and estimated to cost $100.00 a year per farmer. A pilot program was established, but participation was low, therefore the program was dropped a few years later. Interest in some type of computerized record system continued and in 1979, the farm management program adopted a computerized accounting system named Computerized Farm Records (CFR). CFR was a monthly-mail in records system developed by Persons at the University of Minnesota and Specialized Data Systems (SDS) at Madison, Wisconsin. CFR supplied a monthly mail-in form plus a monthly mini-analysis.

(See Appendix G) The program was also designed to provide information for the annual analysis. The CFR program combined the best of all available computerized records systems into one program. CFR was designed for the farm family really interested in finding out how the farm business functions on a monthly basis. (Hest 1980) CFR was so complicated that the records needed constant attention to ensure accuracy. However it was clear that farmers who were interested in managing the farm as a business thought the CFR program was tremendous. CFR became another tool that modern agriculture could use in management. (Kastanek 1980) Vrieze (1980) suggested that the CFR program gave a wealth of information without much more effort than the farm account book and in addition information was available on a monthly basis.

In 1980, the following lines were changed or added to the analysis provide a more pertinent printout:

Table 2A and 2B-Whole Farm Receipts and Expenses

-separated capital assets sold into auto/truck/machinery, buildings and improvements, and land

Table 3-Whole Farm Net Increases and Net Decreases

-changed value of feed fed to less the value of feed fed

Table 8-Measure of Farm Organization and Management Efficiency

-added other expense per work unit (including custom enterprise)

-added general farm, telephone and other utilities except electricity

Table 10-Crop Tables

-added other possible costs not listed

-added utilities and general farm expense

-added buildings, fences and tiling costs

-added average price received per unit sold

-added operators quantity sold

Livestock Tables

-added utilities and other general farm expense to each table

Poultry Table

-added dozens of eggs per hen

-added percent of lay

-added other direct costs per dozen

-added allocated costs per dozen

-added pounds of feed/dozen eggs

In 1981, haylage was added to the data input form, and Form 3 was adjusted to allow for double cropping. The following items were changed in the printout of the analysis:

Table 10-Crop Tables

-split seed and other into seed, crop drying, and other

Table 8-Measure of Farm Organization and Management Efficiency

-expanded to crop marketing index for each crop

It should be noted that throughout the 1970's and early 80's,

changes occurred in the analysis nearly every year.

Prior to 1983, the typical farm business analysis procedure followed a scenario that is portrayed in the following section. The farm management instructor at one of the regularly scheduled monthly meetings discussed with the farmer cooperators the detailed items needed for closing the Minnesota Farm Account book. Hopefully, all of these procedures were completed before the farm management instructor arrived at the farm for a scheduled visit. The instructor and cooperator made sure that all entries and inventories, were entered in the book for the year ending. Then, the various categories in the book needed to be totaled. The livestock monthly checks were double checked to ensure accuracy. The crop data pages were double checked to make sure all crop enterprises had all of their crop harvest information entered. The next big item to be checked was to make sure the liabilities page balanced. If all of the items were completed prior to the farm visit, the closeout was usually an easy and simple process.

The farm management instructor usually had a number of transfer forms to be filled out with data from the record book before putting the data onto the actual analysis forms. These forms aided the instructor in checking the accuracy of the book and gave the farmer some preliminary analysis information. Generally, the farmer was very eager to obtain this preliminary information. These transfer forms were also designed to calculate feed conversion and feed cost per

hundred weight, or feed cost per hundred weight of milk sold depending on the enterprise involved. There wasn't anything magical about the numbers but it created intense interest on the part of the farmer. The instructor could immediately tell the accuracy of the book by the results of these calculations. The farmer also had an appreciation for the accuracy of the records at this point.

After the instructor had all the information needed for the analysis and felt everything was accurate, the instructor would take the transfer sheets back to the office. This information and the rest of the financial information from the account book and from the depreciation schedule were placed on the data forms. When this process was completed the instructor would meet with the area coordinator. The coordinator would look over the information as a double check. If the forms appeared correct the coordinator would take the record and send it to SDS at Madison, Wisconsin, for processing. In Madison, the data were keypunched into the computer. The information would be computed and the analysis would then be sent back to the area coordinator by United Parcel Service (UPS). The area coordinator would look over the analysis, check for inaccuracies, and send the analysis back to the local farm management instructor. The instructor would interpret the analysis, make comments on the analysis and send it to the farmer. At times this was a lengthy and time consuming process, that could literally take from two to four weeks between closing out the record book and the farmer

having received an analysis report. Then, at some time in the future, the instructor would meet with the cooperator and review the analysis in detail. Farmers frequently complained that it took too long to get the analysis back. They complained that the growing seasons and enterprise planning time were well underway before receiving the report.

In 1983, changes in the analysis procedure were initiated. The availability of new technology provided an opportunity to reduce the turn around time. The advent of the micro computer in farm management was at hand. Although the process the farm management instructor followed was the same, the processing of the analysis changed. Instead of mailing the analysis input forms to SDS, the area coordinator could key the data into a computer and save this data on a disk. An Apple computer was used to transmit this data by telephone to Wisconsin. This new process had many flaws. There were times when records didn't transmit properly, and the data in a particular record would never get to its destination. At other times, two farm records would become mixed. While there were problems with the system, this was a major step forward. Two to three days of mail time was saved plus whatever backlog there was at SDS.

One of the concerns with this analysis procedure was the amount of hand calculations that needed to be completed to ensure accuracy. Instructors with a high number of cooperators (40-50) didn't always take the time to hand check the accuracy of each farm. When this happened there could be

a big surprise when the analysis was returned. In an attempt to alleviate this problem and all the necessary hand checks, Dennis Finstad (1984), area coordinator at Jackson, developed a Lotus template. The instructor could enter the data into the computer and the computer would calculate the accuracy of the farm record. The great advantage of using the template was that the accuracy of the record would be checked without filling out all the transfer forms and doing all of the hand calculations. The second advantage was that the computer would print out the filled-in data forms that were sent to the area coordinator. At that point, the coordinator also knew the accuracy of the farm. A secretary entered the information from the data sheets into the transmit program with fewer mistakes because the information was taken from typed sheets not from handwritten sheets. It should also be pointed out, that not all instructors used this system. As a matter of fact, the majority of instructors across the state of Minnesota did not use this system.

In 1985, SDS initiated a data capture and transfer program called Anakey. This program could be used by the farm management instructor to key in data from the data sheets to a data disk. After the data were safely stored on the disk, the program would run a number of accuracy checks. Below is a list of these checks:

1. Cash accuracy including all income and expenses.
2. Complete liabilities check.
3. Check livestock transfers.

4. Check fuel and repairs for addition errors.
5. Print out a summary of the crops enterprises.
6. Print out a summary of the livestock enterprises.

These small checks greatly assisted in lowering the number of mistakes that were not caught before the analysis was run. This development provided assistance to the instructor to help them know exactly how accurate the record was before it left the office. The other advantage was that the data didn't need to be typed again as it had to be with the Lotus template. At this point, the instructor could take this disk with many farms on it to the coordinator. The coordinator then could again check the accuracy and transmit those files directly to Wisconsin.

The turn around time with this system was reduced to four days. For example, suppose an instructor took a disk to a coordinator on Monday morning. The coordinator could recheck the forms for accuracy and guarantee certain information was in the record and that all PCAF, BCAF, and ECAF numbers were entered. The records were transmitted on that day. They were transmitted to SDS, processed, and printed that evening and sent to the coordinator by UPS the next day. This would usually take two to three days, depending on the location of the coordinator area. The instructor would get the analysis back in the office on Friday morning in his office. In the space of a few short years, the turn around time had gone from two or three weeks

to two or three days.

In 1986, the "Paul Bunyan Two" conference was held in St. Paul, Minnesota. The conference was held because the profession realized that there was a need for improvements in the current analysis system. Some of the reasons for holding the conference are listed below:

1. The analysis had not had a major revision since the addition of the allocation process in 1973.
2. The analysis did not allocate all the expenses of the business to both livestock and crop enterprises.
3. The format and terminology used on both Table 1 (Summary of Inventories) and Table 5 (Statement of Financial Position) was not consistent with current financial statements used by other agencies or institutions.
4. The analysis supplied the instructor and the cooperator with a wealth of management information....

A summary table should be prepared for the analysis.

This conference was a significant time for selected Farm Business Management instructors and the process of farm analysis. The conference was called to make major revisions in the farm analysis. There were thirty-three instructors from five states represented as well as the six Minnesota area agriculture coordinators and two private consultants. In preparation for the conference, everyone had an opportunity to prepare suggestions for changes in the analysis. There were hundreds of suggested changes proposed.

The conference participants were divided into different teams and were given the specific suggested changes. The merits of these suggestions were discussed.

As the conference stated, one of the chief goals was to simplify the analysis. As the conference unfolded, it was evident that simplification was not going to take place. It was almost impossible to greatly simplify the analysis. Some of the major changes to the analysis which resulted are as follows:

1. Interest allocation

   A. Real estate

      At "Paul Bunyan Two", interest allocation took up much of the discussion. The first step in the interest allocation is separating real estate and non-real estate interest. When the farm is analyzed, the interest paid on real estate is allocated between land and buildings on an investment basis. The interest allocated to land is subsequently allocated on a per acre basis, therefore there is a new land cost allocation factor (LCAF). The interest allocated to buildings is allocated to crops and livestock on a work unit basis. The opportunity cost of the land is calculated on the basis of investment. In order to show a more accurate land cost for farmers who had little or no interest expense, the calculations include a seven percent interest charge. This is to reflect an opportunity cost if the money

were invested elsewhere. If the land was purchased at a low cost, nearly paid for, or completely paid, the land cost per acre would be unrealistically low because of low or no interest cost. The calculations now compare the interest cost per acre and the opportunity cost and report the higher of the two figures.

B. Non-real estate

Another major decision made at the "Paul Bunyan Two" conference changed overhead costs to allocated costs. The costs are allocated on a work unit basis to the appropriate enterprise. Non-real estate interest is allocated to enterprise on a work unit basis, also. The cooperator and farm management instructor now have the ability to assign non-real estate interest to a particular enterprise. This will reflect a truer enterprise analysis.

2. Lease Income or Expense

Because a large number of farmers lease specific pieces of equipment or buildings the analysis now provides for leases. Lease expense is treated as an operating expense, it is considered with fuel and repairs. Lease income is subtracted from building or equipment expense.

3. Utilities and General Farm Expense, Hired Labor

These expenses are now allocated to each enterprise on the basis of work units. (See non-real estate

interest.)

4. Crop Enterprise Tables

The major changes are added lines for interest allocation, building and fence cost per acre and the land cost charges for owned land discussed earlier. Also added to this table are utility and general farm expense allocated to each crop on a work unit basis.

5. Livestock Enterprise Tables

The format of the livestock tables has been changed to give added information. Each livestock table is broken down into appropriate units. For example, hogs (farrow to finish) are broken down into columns titled per cwt., per head , and per litter. This additional information is important for using analysis information in planning, projections, cash flows, etc. Livestock farmers are very pleased with the added columns. Without additional calculations the per cwt., per pound, and per head cost is known.

6. Table 500

Table 500 is a one page summary of analysis highlights. The table is designed to be removed and presented to the bank or other financial institution for overview of the previous year's farm business.

In the development of the farm business analysis process, controversy, disagreement, and change has marked the seventy-five year history. In the early twenties, the controversy was over the Agricultural Economics Department

conducting cost of production studies and the USDA using the studies to set farm prices. In the early 1950's and 60's, debate centered around items to be included in the analysis. Debate also occurred regarding the purpose of a farm analysis as whether it ought to be used primarily for research purposes or as the basis for an educational program. In the sixties, the heated debate centered over using a computerized analysis instead of the hand analysis. The eighties were no different. With the advent of legislation to provide each adult farm management instructor with a micro-computer, better analysis tools became available. Some instructors used the tools to provide a different type of analysis. To address the concern for the standard farm business analysis, the State Board for Vocational Technical Education issued a policy statement indicating that instructors would complete a minimum analysis percentage with eighty percent of their cooperators. Furthermore, the eighty percent compliance requirement had to be met with the analysis type approved by John Murray, program specialist.

In the early 1980's, the Agricultural Economics Department developed an analysis program that employed the micro-computer. The program provided information which the current analysis was not capable of providing. The printout, in condensed print, presented a logical, easy to read format. Discussion in specific areas of the state focused on changing the requirement of the State Board for Vocational Technical Education to allow any analysis.

The State Farm Management Advisory Committee met a number of times to discuss the analysis issue. The advisory committee concerns were:

1. loss of database for averages
2. loss of consistency in the farm management program
3. difficulty determining compliance with the 80% analysis requirements

After much discussion, the following policies were recommended:

1. Requirements should remain at 80% of approved analysis.
2. Mini-analysis should be developed to meet the needs of the instructor and farmer.
3. A data conversion program should be developed to save instructor time.
4. The database must remain intact.

Along with the major changes in the analysis, there are also new developments in the data capturing program ANAKEY. In addition to the accuracy checks done starting in 1985, the ANAKEY program will also instantly provide a mini-analysis. This means that there will be no waiting period to obtain parts of the analysis. The cooperator will receive an income and expense statement, a financial statement and a mini-analysis of the crops and livestock enterprises immediately. Along with the cash reliability, a net worth reliability statement is also printed. With all of the new information added to the ANAKEY program, all records are extremely

accurate.

In 1988, there are still other changes being offered with the ANAKEY program. Beginning with the 1988 records, the coordinator will have the ability to do online processing of an analysis. If an instructor needs an analysis back immediately, the coordinator can transmit the record to SDS, remain online with the SDS computer and wait for the record to be processed. After the record is processed the computer in Wisconsin will transmit the completed analysis back to the coordinator. When the transmitting is complete the SDS computer will hang up and the coordinator can print out the analysis. This process will all occur in a matter of a few short minutes. The instant analysis feature can also be used by the farm management instructor if the area coordinator so authorizes.

Chapter III

Summary

The objective of this study was to trace the progress of the farm analysis program. As a research tool developed in 1901, the analysis was not intended to serve the farmer. However, during the long history of farm business management education, the analysis has remained the foundation of this program and its purpose shifted from research to education. The evolution as a business tool has been long and continuous. Since Smith made the first revisions in 1953, the analysis has undergone constant modification to provide current business information. Changes in the farm analysis have not been without controversy and disagreement. However, the conflict has led to compromise and change that strengthened the system.

The following eras and developments mark key times during the development of the farm business analysis process:

1. 1901- A system of farm analysis began as a research tool.
2. 1913- A mail-in system of farm accounting was developed.
3. 1920- The farm analysis became a business management tool.
4. 1928- The Southeastern Farm Management Association was established.

5. 1946- The Veterans-On-Farm program was established in the public school system in Minnesota.
6. 1953- The Hill Foundation provided funds to support the Cooperative Farm Management program in Minnesota.
7. 1955- Three area analysis centers were selected.
8. 1960- The area coordinator positions were initiated for the Cooperative Farm Management program.
9. 1964- The first year of electronic analysis occurred for farm management.
10. 1967- Instructors met in St. Paul to orchestrate major changes in the electronic analysis.
11. 1983- The micro-computer was used for electronic transfer of the analysis data.
12. 1986- Instructors met in St. Paul to facilitate major changes in the farm business analysis.
13. 1989- The micro-computer was used to provide on-line data analysis.

Chapter IV

Implications for the Future

Looking at the history of the farm analysis in Minnesota, continued emphasis must be placed on using it as an educational tool and on returning the analysis to the farmer as soon as possible. Consequently, the major implication for the future development of the farm business analysis, based on the historical record, should consider the following:

1. In order to improve the service to the farmer, farm management instructors must become better time managers during the closeout period. Greater efficiency can be achieved by the increased computerization employed in the closeout procedure. With the addition of computer checks in the data capturing program, ANAKEY, instructors will be able to transmit and receive the analysis in the individual offices' immediately, if desired. The farm management program is again on the verge of providing a monthly analysis. With the pending update of the farm accounting program, F.A.R.M., and the conversion program already available, the mini-analysis can be used monthly to make business decisions.

2. The monthly analysis represents and important tool necessary for some farm business managers. However, not

every farmer has a desire or need for a monthly analysis, but many farmers and ranchers require the information.

3. The most likely analysis change to be made in the near future seems to be the addition of trend analysis. Farmers using the Finanx analysis are excited about the trends that are developed in the analysis. With the new printing technology available, ten years of trend data can be printed side by side. The computer system in Wisconsin, currently contains up to four years of available data. Assembling the data will be an easy task.

4. The database is an essential part of the farm analysis process. The accessibility of the accumulated data must be maintained. New ways to utilize the untapped data as a source of information need to be devised. Close to 5,000 farms are represented in the Minnesota database, therefore the information derived from the database would be accurate.

5. Instructors need to meet on a regular basis, perhaps every two to three years, to make updates and revisions of the analysis. The analysis is the most critical aspect of the farm business management program. Use of the analysis as a business tool requires the program remain cognizant of the trends in farming.

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Appendix A

F.A. 11 (Reprinted 1951)
(953-4)—4M
(Div. of Agri. Econ., U. of Minn.)

CROP AND FEED CHECK

Name: _____ County: _____ Date: From _____ to _____ 19__

Crop or Feed:	Corn		Oats									
Unit	T. Bu. Lbs.	Value	T. Bu. Lbs.		T. Bu. Lbs.	Value	T. Bu. Lbs.	Value	T. Bu. Lbs.	Value	T. Bu. Lbs.	Value
PURCHASES												
Total Bal.	619	634	32	-								
Beg. Inv.					27							
Raised												
Total Supply												
SALES												
Include crops sold by landlord. Mark with "L"												
Total Sales												
Seeded												
End. Inv.												
Total												
Available for Feed												
FED	Rept.	Adjust.	Rept.		Rept.	Adjust.	Rept.	Adjust.	Rept.	Adjust.	Rept.	Adjust.
Dairy or Dual Purpose Cows												
Other Dairy or Dual Purpose												
Beef Breeding Herd												
Feeder Cattle												
Hogs												
Sheep Farm Flock												
Feeder Sheep or Turkeys												
Chickens												
Horses												
Total Fed												

F.A. 12 (Reprinted 1950)
(134-4)—4M

LIVESTOCK REPORT*

Name J. [illegible] County _____ Year 1950

DAIRY OR DUAL-PURPOSE MILK COWS†

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
18	First of month	18	21	21	21	19	19	19	18	18	17	17	19
—	Purchased												
7 25	Heifers fresh	4			1							2	
6	Sold	1			3			1		1			
—	Died												
—	Transferred out												
—	Butchered												
19 25	End of month												19

DAIRY OR DUAL-PURPOSE HERD BULL†

—	First of month												
—	Purchased												
— —	Transferred in												
—	Sold												
—	Died												
—	Butchered												
— —	End of month												

OTHER DAIRY OR DUAL-PURPOSE CATTLE†

20	First of month	20	19	19	19	20	19	19	19	19	24	20	23
1	Purchased									1			
17 38	Calves born	4			2					4		7	
6	Sold	1				1					4		
1	Died											1	
1	Butchered											1	
7	Heifers fresh	4			1							2	
—	Transferred to feeders												
23 38	End of month												23

* A check for accuracy can be made at the end of the year by using the spaces on the extreme left side of each page. The number on hand January 1 and all purchases and all births and all transfers in should equal all sales and all deaths and all butchered and all transfers out and number on hand December 31.

† Indicate whether the cattle are dairy or dual-purpose—cross out the kind that does not apply.

SUPPLEMENTARY INFORMATION

F. A. (Voc. Ag.) 1950 Name _____ School _____

MEMBERS OF YOUR FAMILY LIVING AT HOME DURING 1950
(If not at home all year indicate number of months they were at home)

Operator _____ Age 32 Wife _____ Age _____

Boys _____ & Girls _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

NUMBER OF MONTHS OTHERS WERE BOARDED (not including hired help)

Men _____ Months _____ Women _____ Months _____

_____ _____ _____

FARM LABOR INFORMATION

No. of operators or partners working together on this farm 1

No. of months each operator or partner worked on this farm in 1950

1. _____ Months 12

2. _____

3. _____

The following can be secured from pages 46 and 47 of the account book.

1. Amount of unpaid family labor on this farm in 1950 (Other than that of the operator or partners) 1 months $ 120

2. Days of day labor hired 77 days

3. Months of labor hired on monthly basis 5 months

4. Hired labor boarded by operator 8 months $ 288

5. Hired labor boarded by partners _____ months $ _____

MISCELLANEOUS

In what year did you start farming as a renter or as an owner? 1946

F. A. 23 West Central (Area IV) CROP DATA (Revised 3/55) Year: 1950

Acres in farm Total	Owned	Rent	Crop (Kind and variety)	HRC	Whole Farm Total yield	A. req. crop index	Total Yield Owned	Rented Total	Rented Oper. share	Seed Used Own	Seed Used Rented	Yield per A. whole farm
			Flax	B	bu.							
			Barley	C	bu.							
			Wheat	C	bu.							
30			Oats(inc.oats mixtures)	D	1800 bu.	53				26		60
			Rye	D	bu.							
			TOT. SM. GRAIN & PEAS									XXX
			Sug.B.pot.tr.cr.hy.sd.c	A		XXX						XXX
40			Corn, grain	A	1900 bu.	40				6		47.5
			Soybeans for grain	B	bu.							
			Sweet corn	B	t.							
			Corn & cane silage	B	t.							
			Corn & cane fodder	D	t.							
40			TOTAL CULT. CROPS		(1027 Silage 100.6 hay)							XXX
50			Alf. & alf. mix. hay	B	144.3 t.	60						2.9
			Oth. leg. & leg. mix	C	t.							
			Legumes for seed	D	lb.							
			Tim. and/or br. hay	D	t.							
			Timothy seed	D	lb.							
			Soybean hay	D	t.							
			Other annual hay	D	t.							
			TOT. TILL. L. IN HAY			Total of above acres required = E						XXX
30			Alf. & Alf.-brome past.	A								
			Other leg. & mix.	C								
			Sudan & rape past.	C								
			Other till. pasture	D								
			TOT. TILLABLE PAST.									XXX
			Till.land not cropped	D		153						XXX
120			TOTAL TILL. LAND	G								XXX
			Wild hay (non-till.)	I	t.							
			Non-till. pasture	J	(G ÷ N) x 100 = P no dec.							
			Timber (not past.)	K								
4			Roads & waste	L	(T ÷ G) x 100 = Q 1 dec.							
6			Farmstead	M								
			TOTAL LAND IN FARM	N	Total acres in farm above pasture except sug. beets, seed corn, etc. = F 120							
64			% of land tillable	P								
83.3			% till. land in HRC	Q								
127.5	Index of crop yields (unadjusted)			R	(E ÷ F) x 100 = R 1 dec.							
156	Index of crop yields (adjusted)			S								

70	Total A crops	x 100% =	70.0
50	" B "	x 50% =	25.0
	" C "	x 25% =	
30	" D "	Total (T)	
150	Tot. til.land G		95.0

R ÷ avg. index of all farms = S no dec.

	Acres	Per A.	W. U.
Small grain	30	.5	15.0
Sug. beets		1.5	
Pot.& tr. cr		4.0	
Hybr. seed c		2.0	
Corn (husked	40	.7	28.0
Corn (hogged		.4	
Corn (shred)		1.5	
Soybean grain		.5	
Sweet corn		.7	
Corn silage		1.0	
Corn fodder		1.0	
Alfalfa hay	50	.6	30.0
Soybean hay		.7	
O. hay & seed		.4	
Tot.Crop Acres	120	XXX	43.0

F.A. 20 (Revised 1954)
Dept. of Agr. Econ., U. of Minn. (991-2)

SUMMARY OF INVENTORIES

Year: 1 50

Beginning of Year			Item No.		Instructions	End of Year		
Whole farm	Operator's	Landlord's				Landlord's	Operator's	Whole farm
160	160		1	Acres in farm	From F.A. 23			
[illegible]			2	Dairy and dual-purpose cows	Book, p. 3			[illegible]
[illegible]			3	Other dairy and dual-purpose cattle	Book, p. 6			[illegible]
			4	Beef cattle (including feeders)	Book, p. 8, 10			
1816			5	Hogs	Book, p. 12			1617
			6	Sheep (including feeders)	Book, p. 14			
115			7	Poultry (including turkeys)	Book, p. 16			14[illegible]
[illegible]			8	TOTAL PRODUCTIVE LIVESTOCK	Sum of 2 to 7			[illegible]
181			9	HORSES	Book, p. 15			155
3371			10	CROPS, SEED, AND FEED	Book, p. 31			4158
96			11	Auto and truck (farm share)	D.S., p. 2-3			1052
50			12	Tractors and motors	D.S., p. 4-5			1119
[illegible]			13	Crop and general machinery	D.S., p. 8-9			3154
516			14	Livestock equipment	D.S, p. 12-13			785
[illegible]			15	TOTAL MACHINERY AND EQUIPMENT	11+12+13+14			[illegible]
			16	MISCELLANEOUS				
4310			17	LAND	D.S., p. 12-13			4310
1956			18	BUILDINGS, FENCING, ETC.	D.S., p. 14-15			9266
21470			19	TOTAL FARM CAPITAL	8+9+10+15+16+17+18			29960
1050			20	Stocks and bonds	Book, p. 49			525 C
875			21	Life insurance	Book, p. 49			2[illegible]
			22	Notes and accounts receivable	Book, p. 49			
[illegible]			23	Shares in marketing org.	Book, p. 49			[illegible]
			24	Outside real estate	Book, p. 49			
1000			25	Cash on hand and in bank	Book, p. 49			[illegible]
[illegible]			26	Household goods, clothing	Book, p. 49			[illegible]
[illegible]			27	Pers. share of auto and truck	D.S., p. 2-3			313
[illegible]			28	Farm dwelling	D.S., p. 14-15			[illegible]
			29					
5313			30	TOTAL NONFARM ASSETS	Sum of 20-29			16614
42983			31	TOTAL ASSETS	19+30			46574
			32					
			33	F.L.B. or Nat'l Farm Loan Assoc. mortgage	Book, p. 50			
			34	F.H.A. real estate mortgage	Book, p. 50			
			35	Other mortgages on farm operated	Book, p. 50			
			36	Loans on other real estate	Book, p. 50			
			37					
			38	P.C.A. loans	Book, p. 50			
			39	F.H.A. chattel mortgage	Book, p. 50			
			40	Crop loans (sealed grain)	Book, p. 50			
			41	Other chattel mortgages	Book, p. 50			
			42					
[illegible]			43	Notes	Book, p. 50			
[illegible]			44	Accounts payable	Book, p. 50			
[illegible]			45	TOTAL LIABILITIES	Book, p. 50			—
			46					
42483			47	NET WORTH	31-45			41578
XXX	XXX	XXX	48	CHANGE IN NET WORTH		Increase		4095
			49					
			50					
			51					
			52					

— Lease arrangement and legal description

Rented 160

AMOUNT OF LIVESTOCK

18.9	A	No. dairy and dual-purpose cows (1 dec.)	
20.2	B	No. other dairy and dual-purpose cattle (1 dec.)	
	C	No. cows and herd bulls in beef-breeding herd (1 dec.)	
	D	No. other cattle in beef-breeding herd (1 dec.)	
	E	No. feeder cattle (1 dec.)	
	F	: No. sheep in farm flock (1 dec.)	
	G	: No. lambs in farm flock (1 dec.)	
	H	No. head sheep in farm flock (F + ½ G = H)	
	I	: No. hogs (1 dec.)	
62.6	J	: No. pigs (1 dec.)	
	K	No. feeder lambs (1 dec.)	
97	L	No. hens (no dec.)	
13	M	No. litters pigs raised	
2	N	No. work horses (1 dec.)	
	O	No. colts and ponies (1 dec.)	
	P		

MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY

From F.A. 22	Labor earnings	a	6167	24
F.A. 23 no dec.	Index of crop yields	b	126	
F.A. 23 1 dec.	% tillable land in high-return crops	c	63.1	
j ÷ avg. of all farms	Index of returns per $100 of feed to productive livestock	d	151	
(k ÷ Z) x 100 1 dec.	Productive livestock animal units per 100 acres	e	31.6	
1 + m + p	Size of business (work units)	f	377	
f ÷ s no dec.	Work units per worker	g	209	
x ÷ f	Power, machinery, equipment, and bldg. expense per work unit	h	$2	19

Animal units (1 decimal)	Work units (1 decimal)		LIVESTOCK ENTERPRISE	Animal units x index	Return for $100 feed (F.A. 24)	Index of returns per $100 of feed
18.9	189		Dairy cows			
10.1	35.4		Other dairy cattle	4379.0	2913	151
			Dual-purpose cows			
			Other dual-purpose cattle			
			Beef-breeding herd			
	x x x		Feeder cattle			
15.4	x x x		Hogs	2248.4	2224	146
			Sheep—farm flock			
	x x x		Sheep—feeders			
	x x x		Turkeys			
2.0	20		Chickens	360.0	175	180
Q 1.41	x x x		Total (i ÷ Q = j)	i 6987.4	j 151	x x x
Cwt.	x x x					
		Feeder cattle (from F.A. 24j)	Item Q	Total productive livestock animal units	k	416.4
3485.35	419.7	Hogs (from F.A. 24e)	From F.A. 23	Work units an crops (no dec.)	l	63
		Feeder sheep (from F.A. 24h)	R no dec.	Work units on productive livestock	m	3734
		Turkeys (from F.A. 24g)	From F.A. 22	Return from special enterprises: $	n	x x x
x x x	R 394	Total livestock work units	From F.A. 22	Work off farm : $ 2930	o	x x x
	S			Work units from other productive work	p	20

			Mo. of labor	Mo. of labor		No. of workers
From F.A. 51 (1 dec.)	Family labor	Proprietor	12			
		Unpaid	1	13	q	1.1
	Hired labor	Day	77			
		Month	5	7	r	.7
	Total labor			21	s	1.8

t, u, v, and w ÷ f = expenses per work unit	Totals from F.A. 22			Exp. per work unit	
Total power exp.	1391	92	t	3	45
Crop machine exp.	641	30	u	1	70
Livestock equipment exp.	263	45	v		70
Bldgs. and fencing exp.	742	75	w	2	24
Total expenses	3049	42	x	x x x	
			y		

150	Z	Acres in farm less timber not pastured, roads, waste, and farmstead (from F.A. 23 N — (K + L + M)	No. factors above overage z

F.A. 21 (Revised 1954)
Dept. of Agr. Econ., U. of Minn. (990-2)

SUMMARY OF FARM EARNINGS (By Receipts and Expenses)

Year: 1950

Operator's	Landlord's	FARM RECEIPTS	Page	Total Value
		Dairy and dual-purpose cattle sold—Cows 1339 79 Other 425 35	3,7	1765 14
		Dairy products sold	5	5471 46
		Beef cattle sold—Breeding Feeders	9, 10	
		Hogs sold	13	5615 21
		Sheep sold (including feeders)	15	
		Horses sold	15	
		Poultry sold (including turkeys)	17	256 16
		Eggs sold	19	450 60
		Crops sold—corn (grain)	36	
		small grain (oats, barley, wheat, flax, rye, etc.)	36	
		other (soybeans, canning crops, hay, silage, potatoes)	36	893 -
		Gas tax refunds 69.75 Mach., equip., etc., sold 50.-	39, 40	119 75
		Cash rent	47	x x x
		Income from work off the farm	48	60 -
		Misc. farm income	48	28 50
		(1) Total farm sales		14600 36
		(2) Increase in farm capital	F.A. 20	2259 -
		(3) Family living from the farm (from reverse side this form)		830 95
17290	31	(4) TOTAL FARM RECEIPTS (1) + (2) + (3)		17690 31
		FARM EXPENSES		
100	-	Dairy and dual-purpose cattle bought—Cows Other 60.-	3,7	60 -
		Beef cattle bought—Breeding Feeders	9, 10	
113	-	Hogs bought	12	113 -
		Sheep bought (including feeders)	14	
		Horses bought	15	
52	50	Poultry bought (including turkeys)	16	52 50
371	72	Breeding fees 101.- Misc. livestock expense 270.72	20, 21	371 72
2091	12	Feed bought	35	2091 12
354	24	Fertilizers	37	354 24
183	36	Other crop expense	37	183 36
547	59	Custom work hired	38	547 59
467	19	Gas, oil, and grease bought (farm share)	41	467 19
125	52	Repair and operation of tractor, truck, auto (farm share)	42	125 52
287	-	Repair and upkeep of real estate	43	287 -
269	66	Repair and upkeep of crop and general machinery	44	269 66
98	45	Repair and upkeep of livestock equipment	45	98 45
799	-	Wages of hired labor	46	799 -
178	58	Electricity expense (farm share)	47	178 58
426	42	Real estate and personal property taxes	47	426 42
—		Cash rent	47	x x x
554	60	Tel. exp. (farm share) 42.54 Gen. farm exp. 212.06	47, 48	554 60
2	50	Interest paid	50	x x x
1712	85	(5) TOTAL CASH OPERATING EXPENSE		6710 35
1267	12	(6) Capitol purchases—mech. power (farm share)	39	1267 12
1492	45	(7) crop and general machinery	39	1492 45
34	-	(8) livestock equipment	39	34 -
165	75	(9) buildings, fencing, etc.	39	165 75
672	17	(10) Total farm purchases (5) + (6) + (7) + (8) + (9)		9669 67
		(11) Decrease in farm capital	F.A. 20	
1439	98	(12) Interest on farm capital (5% of average of beginning and end of year)	F.A. 20	1439 98
125	-	(13) Unpaid family labor	F.A. 51	125
288	-	(14) Board furnished hired labor	F.A. 51	288
585	15	(15) TOTAL FARM EXPENSES (10) + (11) + (12) + (13) + (14)		11522 35
5165	16	(16) LABOR EARNINGS (4) — (15)		6167 96
7730	14	(17) RETURN TO CAPITAL AND FAMILY LABOR (12) + (13) + (16)		x x x

HOUSEHOLD AND PERSONAL EXPENSES AND RECEIPTS FOR THE FARM OPERATOR

No. of persons	Adult equiv.	Per person	Members of family
		.4	Child under 7 years of age
1	.6	.6	Child 7 to 12 years of age
		.8	Girls 13 to 18 years of age
		.9	Boys 13 to 18 years of age
1	.8	.8	Women
1	1.0	1.0	Men
3	Number of persons in the family		
2.4	Total adult equivalent members in family		
		.8	Women — Hired help and other boarders
.7	.7	1.0	Men
3.1	Total adult equiv. hired help and other boarders		

FAMILY LIVING FROM THE FARM

	Instructions		Quantities
Whole milk, qts.	P. 4, col. 2	A	1388
Skim milk, qts.	P. 4, col. 4	B	
Cream, pts.	P. 4, col. 6	C	
Farm-made butter, lbs.	P. 4	D	
Beef, lbs.	See below	E	1200
Hogs, lbs.	P. 12, col. 19	F	960
Lamb and mutton, lbs.	See below	G	
Poultry (including turkeys), lbs.	See below	H	223
Eggs, doz.	P. 16, col. 27	I	415
Potatoes, bus.	P. 28, col. 1	J	10
		K	

HOUSEHOLD AND PERSONAL EXPENSES

501	29	Food and meals bought	From finoncial summaries
274	99	Operating and supplies	
22	51	Furnishings and equipment	
200	15	Clothing and materials	
62	36	Personol core and spending	
62	93	Education and recreation	
67	55	Gifts and special events	
465	79	Medical exp., hospital ins.	
162	12	Church, welfare	
51	60	Pers. share truck and auto exp.	P. 41, 43
		Oper. share upkeep on dwelling	P. 43, col. 23
44	65	Pers. share tel. and elect. exp.	P. 47
		Total cash living expenses	
316	78	Pers. share new auto and truck	P. 39, col. 4
		New dwelling	P. 39, col. 4
450	83	Taxes and other deductions	Fin. sum.
245	11	Life insurance	P. 49, col. 6
		Other savings and investments	P. 49, col. 6
5122	75	TOTAL H.H. AND PERS. CASH EXP.	

VALUES

	Instructions			
Whole milk	P. 4, col. 3	L	83	28
Skim milk	P. 4, col. 5	M		
Cream	P. 4, col. 7	N		
Form-made butter	P. 4	O		
Beef	See below	P	300	
Hogs	P. 12, col. 20	Q	171	
Lamb ond mutton	See below	R		
Poultry	See below	S	48	52
Eggs	P. 16, col. 28	T	122	55
Potatoes	P. 28, col. 2	U	10	
Vegetables ond fruit	P 28, col. 4	V	90	
Farm fuel	P. 28, col. 6	W		
Misc. (honey, wool, etc.)		X		
		Y		
TOTAL FAM. LIVING FROM FARM		Z	830	95

830	95	Total family living from the farm	Item Z
5959	90	TOTAL CASH EXPENSE AND PERQUISITES	

RECEIPTS

7230	14	Return to capital and fam. labor	F.A. 21
		Income from outside investments	P. 49, col. 9
		Sale of outside investments	P. 49, col. 9
		Other personal income	P. 49, col. 9
7230	14		

LIVESTOCK BUTCHERED FOR HOME USE

Cattle	No.	Weight	Value
Dairy or dual-purpose cows			
Other dairy or dual-purpose cattle	1	1200	300
Beef-breeding herd			
Feeder cattle			
Total cattle	1	E 1200	P 300
Sheep			
From farm flock			
Feeder sheep			
Total sheep		G	R
Poultry			
Chickens—hens	10	52	10.40
others	34	171	37.62
Turkeys			
Total poultry	44	H 523	S 48.02

QUANTITY B.F. USED IN HOME

Lbs. × test = lbs. B.F.	Pounds	Test	Lbs. B.F.
Whole milk (A × 2.15 = lbs.)	2984 #	3.4	101
Cream (C × 1.05 = lbs.)	#		
Farm-made butter (D × .8 = lbs. B.F.)			
Total lbs. B.F. used in home			101

F.A. 22 (Revised 1954)
Dept. of Agr. Econ., U. of Minn.

FARM EARNINGS (by Enterprises)

Year: 1950

	Livestock products (milk, eggs, wool, etc.) Sales 1	Used in home 2	Fed 3	Totals 4 (1+2+3)	End of yr. inventory 5	Livestock sales 6	Livestock butchered 7	Transfers out 8	Totals 9 (3+6+7+8)	Beg. of yr. inventory 10	Livestock purchases 11	Transfers in 12	Totals 13 (10+11+12)	Apprec. or deprec. 14 (9—13)	Returns and net increases 15 (4+14)
Milk cows	5471 40	8328	102 -	5602 69	2543 -	1339 79			3882 79	2095 -		1190 -	3285 -	597 79	6200 48
Other dairy cattle	xx	xx	xx	xxx	3038 -	325 35	700 -	1190 -	3753 35	1735 -	60 -		1795 -	1958 35	1955 35
Beef-breeding herd															
Feeder cattle															
Hogs	xx 1	xx	xx	xxx	1017 -	5615 31	171 -	xx	6803 31	1816 -	113 -	xx	1929 -	4874 31	14871 31
Sheep—farm flock			xx												
Sheep—feeders			xx												
Turkeys			xx					xx				xx			
Chickens	450 80	128 65	xx	579 45	146 -	256 16	48 07	xx	450 18	115 -	52 50	xx	167 50	282 68	862 13
Total P.L.S.															13149 26
16 Value of feed fed to livestock															6372 -
17 Return over feed from livestock															7577 26

	End of yr. inventory	Crop sales	Veg. and fuel for home use	Horse feed	Value of feed fed	Total	Beg. of yr. inventory	Feed purchases	Misc. crop expense	Milk fed	Total	xxx
18 Crop, seed, feed, and fuel	4158 -	893 -	100 -	611 -	6372 -	11587 -	3371 -	2091 12	527 60	102 -	11191 72	51155 28

BEES, ETC.

23 End of year		27 Beg. of year		Item 30+21=returns and net increases
24 Sales		28 Purchases		
25 Used in home		29 Total		
26 Total		30 Net (26—29)		

19 Income labor off farm (part col. 8, p. 48)	40 -
20 Agricultural conservation payment (part col. 13, p. 48)	28 80
21 Misc. (col. 13, p. 48)	
22 Total returns and net increases	13161 34

	Beg. of yr. inventory 31	Purchased new 32	Repairs and upkeep 33	Gas, oil, electric bills 34	Horse feed 35	Custom work hired 36	Totals 37 (Sum 31 to 36)	End of yr. inventory 38	Sales 39	Work off farm 40	Totals 41 (38+39+40)	Returns and net decreases 42 (37—41)
Horses	181 -		xxx	xxx	64 -	xxx	245 -	158 -			158 -	87 -
Trucks (farm share)					xx	xxx						
Autos (farm share)	96 -	1067 12	111 79	74 59	xx	xxx	1569 50	1253 -			1253 -	316 50
Tractors	1259 -		14 13	322 60	xx	xxx	1645 73	1119 -	69 25	80 -	1268 75	376 98
Gas eng. and elect. exp.				178 58	xx	xxx	178 58					178 58
Hired power	xxx	xxx	xxx	xxx	xx	342 86	342 86	xxx	xxx	xxx	xxx	342 86
Total power												1201 -
Crop machinery	2120 -	1492 45	269 66		xx	25 19	3907 30	3136 -	50 -	80 -	3266 -	641 30
Livestock equipment	916 -	34 -	98 45	xxx	xx		1048 45	785 -			785 -	263 45
Buildings, fences	9656 -	165 75	287 -	xxx	xx	xxx	10108 75	9266 -			9266 -	842 75

43 Breeding fees: 101. - Misc. L.S. exp.: 270.72	371 72
44 Labor (p. 46): 299. - part col. 8, p. 48: 179.54 Unpd. fam. lab.: 125. - Board hired lab.: 288. -	1391 54
45 Real estate taxes (part col. 10, p. 47)	397 47
46 Personal property taxes (part col. 10, p. 47)	128 95
47 Insurance (part col. 3, p. 48)	152 -
48 Tele. (p. 47): 42.54 Gen. farm (part col. 3, p. 48): 60.06	102 60
49 Interest on farm capital (at 5%) (From F.A. 20)	1453 25
50 Total expenses and net decreases	6593 66
51 LABOR EARNINGS (22—50)	6567 66

(959-2)

F.A.24f (Revised 8/52) LIVESTOCK SUMMARY - LAYING HENS AND CHICKS Year: 1950

LAYING HENS - breed:												CHICKS - breed:				
Per hen	Totals			Lbs. feed	Value		Kind of feed	Lbs. feed	Value					Totals	Per 100 chicks
74	7168 #	A	Grain				Grain					Grain	a	2888 #	1069
13	1240 #	B	Com. feed	3112	67	-	Corn	840	19	-		Commer. feeds	b	4040 #	1477
87	8408 #	C	Tot. concent.	4256	96	-	oats	2048	46	-		Tot. concent.	c	6928 #	2546
	#	D	Milk									Milk		#	
2.34	$ 227	F	Tot. feed cost									Tot. feed cost	e	$ 266	98.51
597	579.45	G	Eggs									Net val. prod.	f	294.07	108.71
2.92	282.68	H	Net inc. in val									f - e = g			
8.89	862.13	I	Tot. val. prod.									Ret. over feed	g	28.07	10.40
			I - F = J	A 7168				a 2888				f ÷ e = h			
6.55	635.13	J	Ret. over feed				Commercial feeds					Ret. per $100 feed	h		111
			I ÷ F	900	57	-	Poultry Conc.	700	41	-		Date chicks were purch.	i	Mar. 16	
3.80	K		Ret. per $100 feed				Chick mash	2200	156					Amount paid	No. purch.
	L			340	11	-	Minerals	140	4	-		Chicks purch. as			
225	M		Eggs laid per hen									Pullets			
	N											Straight run		52.50	300
33.1	O		Price per doz. eggs sold									Cockerels			
	P											Price 100 chicks-pullets			
92	Q		AVERAGE NO. OF HENS									-straight run			1750
	R											-cockerels			
101	S		No. of hens Jan. 1												
	T											NO. CHICKS RAISED			270
4	U		% death loss									% death loss			10
	V											Chicks on clean ground			
100	W		% pullets												
	K											Price rec'd. per lb. sold			26.7
	Y											Date pullets were housed			Sept.
	Z														

Number	Pounds	Value													
													No.	lbs.	Value
10	52	10.40	Butchered									Butchered	34	171	37.62
117	644	146.-	End of yr.									Transfers out	122	610	152.50
87	537	99.71	Sales									End of year			
214	1233	256.11	Total									Sales	114	586	156.45
				B 1240				b 4040				Total	270	1267	346.57
122	610	152.50	Trans. in				Butter milk								
101	420	115.-	Beg. of yr.				Whey					Beg. of yr.			
			Purchases				Skim milk					Purchases	200		52.50
323	1653	367.50	Total									Total	200		52.50
				D				d				Net			
-9	153	-11.39	Net prod.	8408	227	-	Total for year	6928	266	-		production	-30	1367	294.07

FEED CONSUMED BY ALL LIVESTOCK

Amount	Value	Kind of feed	Amount	Value
		Corn		
		Small grain		
		Commercial feeds		
			A	E
		Legume hay		
		Other hay		
			B	
		Fod. and stover		
			C	F
		Silage		
		Buttermilk (fluid)		
		Whey		
		Skim milk		
		Whole milk (Test:)		
		Pasture		G
		Total 1st period		
		Total 2nd period		
		Whey, milk, pasture		
		Total for year	D	H

HORSES

		Totals	Per animal unit
Grain and comm. feed	A		
Hay	B		
Fod. and stover	C		
Grain and comm. feed	E		
Roughages	F		
Pasture	G		
Total feed cost	H		
Number of work horses	I		2
Number of colts	J		—
I+½J=K			
No. A.U. horses	K		
(From F.A. 23)			
Crop acres in farm	L		125
From col. 41 other side of this sheet			
Horse exp.	M	97 —	
Tractor exp.	N		
Total	O		
O÷L=P			
Tractor and horse exp. per crop acre	P		2.69
Crop and general machinery expense Q: 3		526.30	
Q÷L=R			
Crop and gen. mach. exp. per acre	R		4.22

F.A. 245 (Revised 19[illegible])
Div. of Agr. Econ., U. [illegible]innn.

LIVESTOCK SUMMARY—D[illegible]Y OR DUAL PURPOSE CATTLE

(581)

DAIRY OR DUAL PURPOSE COWS

B.F. production		# B.F. used in home A 161		Protein	T.D.N.	Amount	Value	Kind of feed	Amount	Value	Items		Totals	Per Head
Per cow	Total	# B.F. fed B 1311				34720	794 -	Corn	12280	294 -	Concentrates	a	21795	1227
162	6955	A+B+C=total B.F. produced									Hay and fodder	b	[illegible]	1783
3.4	Milk test	Lbs. milk sold 197178				D					Silage	c	[illegible]	4059
Per lb.	Value	Lbs. B.F. sold	From acc't books			12288	276 -	Small grain	6400	144 -	Skim milk	d		
¢		C 6730	All B.F. sold								Whole milk	e	2646	150
¢			For butter										1464	[illegible]
81.3 ¢	5471.40		Whole milk							¢	Concentrates	f	115 -	65
Per cow	Totals	D+E+F=J; G+H+I=K									Roughages	g	621 -	3124
1837	34720	D	Corn			E					Milk	h	102 -	5 05
650	12288	E	Small grain					Commercial feeds			Pasture	i	36 -	178
246	6547	P	Commercial feeds			5000	203 -	[illegible]	2200	90 -	Total feed cost	j	[illegible] -	[illegible]
2016	57000	G	Legume hay			150	5 -	[illegible]	50	2 -				
		H	Other hay			677	33 -	[illegible]	465	22 -	Gross returns	k	1059 35	[illegible]
		I	Fodder and stover			700	11 -	[illegible]	250	4 -	k–j=l			
								[illegible]	3200	136 -	Return above feed cost	l	1171 35	23 34
7823	53555	J	Total concentrates					[illegible]	250	26 -	(k÷j no dec.)			
2016	57000	K	Total hay and fodder								Returns for $100 of feed			132
6361	124000	L	Silage											
											NUMBER HEAD OF OTHER CATTLE			20.2
		M	T.D.N.			F53555	N1822 -		a 21795	f 715 -				
	T.D.N. per lb. B.F. (M÷# B.F. 1 dec.)					57000	570 -	Legume hay	2600	260 -				
	% T.D.N. that is protein (Z÷M 1 dec.)													
69 25	1322 -	N	Concentrates											
51 20	979 -	O	Roughages			G								
6 20	119 -	P	Pasture					Other hay			ALL CATTLE STATEMENT			
128 05	2420 -	Q	Total feed cost								Items		Totals	Per A.U.
											Concentrates		21795	2702
289 49	5471 40	R	Dairy product sales			H					Hay and fodder		[illegible]	3307
4 41	83 68	S	Used in home								Silage		206.000	7103
5 40	102 -	T	Fed					Fodder					37850	1305
31 63	579 79	U	Apprec. or deprec.								Concentrates		[illegible] -	75 34
											Roughages		1610 -	55 52
330 73	6254 47	V	Total value produced			I			b		Pasture		155 -	5 34
						131000	409 -	Silage	[illegible]	[illegible] -	Total feed cost		3805 -	131 20
202 88	3834 47	W	Return above feed			L	O		c	g	Dairy products		5551 68	191 54
											Apprec. or deprec.		2538 14	87 52
258	Return for $100 feed (V÷Q no dec.)							Skim milk	d		Total value produced		[illegible] 82	279 06
34.8	Feed cost per lb. B.F.							Whole milk	e 2646	h 102 -				
Total cows freshening 13 In fall 15							P 119 -	Pasture		i [illegible]	Return above feed cost		415 87 82	147 81
58	% fall freshening			Z	M			Total 1st period						
								Total 2nd period			Return for $100 of feed			213
				2÷M=% T.D.N. that is protein				Total past. & milk						
19.3	NUMBER OF COWS IN HERD					234555	Q[illegible] -	Total for year	[illegible]	[illegible] +	NUMBER OF ANIMAL UNITS			278

Div. of Agr. Econ., U. of Minn.

LIVESTOCK SUMMA...—HOGS AND CHICKENS

Year: 19 ..

HOGS

Per cwt.	Totals			A+B+C=D; F+G+H=I	Protein	T.D.N.	Lbs. feed	Value		Kind of feed	Lbs. feed	Value	
314			A	Corn			53024	1212	—	Corn	3752	86	—
61			B	Small grain									
115			C	Commercial feeds			A						
							15168	341	—	Small grain	6304	142	—
320	79455		D	Total concentrates									
			E	Milk									
856	2127	-	F	Concentrates									
			G	Milk									
31	52	-	H	Pasture									
							B				a		
877	2179	-	I	Total feed cost						Commercial feeds			
							1500	20	—	Lucerne cake			
1962	4874	31	J	Net increase in value			7200	1112	—	Wheat [illegible]			
				(J-I)			100	13	—	Molasses			
1085	2695	31	K	Return above feed cost			300	22	—	Middlings			
							150	6	—	Alfalfa meal			
224	Returns for $100 feed (J÷I no dec.)						300	10	—	Oil cake	480	15	—
							50	1	—	Salt			
xxxx	$5615.31 Total value of hogs sold									Poultry feed	1600	94	—
1837	Price received per cwt. hogs sold									Chick mash	3200	156	—

No. of litters	No. of pigs Born	No. of pigs Weaned	Value of hogs sold + lbs. sold=price received	
4	74	70	Spring	
4	28	26	Fall	Copy from F.A. 13
13	102	96	Total	

7.8	Pigs born per litter (1 decimal)
7.3	Pigs weaned per litter (1 decimal)

960	Butchered	Copy lbs. from pages 10 and 11 of account book
5800	End inventory	
30575	Sales	
37335	Total disposal	
2160	Beginning inventory	
400	Purchased	
12500	Total available	
24835	POUNDS HOGS PRODUCED	

L	M	
		L÷M=% T.D.N. that is protein

C	F		
(2000 .60)	20	-	Alfalfa
1200			
E	G		
	H 52	—	Pasture
			Total 1st period
			Total 2nd period
			Milk and pasture
7900	I 2127		Total for year

	b	
480	15	-
1600	94	-
3200	156	-
	d	
	e 4122	—

CHICKENS

		Totals	Per hen
Grain	a	10056	104
Commercial feeds	b	5280	54
Total concentrates	c	15336	157
Milk	d		
Total feed cost	e	1112	5
Eggs	f	579 45	6 00
Net increase in value	g	283 68	3 01
Total value produced	h	1062 13	10 81
(h—e)			
Return above feed	i	369 13	3 81
(h÷e no dec.)			
Return for $100 feed			175
Value of eggs sold $		450.80	xxx
(cts. to 1 dec.) Price per dozen sold			32.1
Dozen eggs set			From F.A. 13s and books
Dozen used in home		415	
Dozen eggs sold		1406	
Total dozen produced		1821	
(Total dozen × 12) No. eggs produced		21852	
(j÷k no dec.) Eggs laid per hen			225

NUMBER OF HENS	k		97
	Beg. of yr.	End of yr.	Avg.
No. hens & pullets			l+m÷2
No. of pullets	l 101	117	
% pullets	l 100	m 100	107

No. hens beginning of year + purchase + pullets starting to lay n 223

No. hens died o 6

(o÷n no dec.) % death loss 2

Number chicks started		200
Fluid buttermilk		
Lbs. butchered	223	
Whey	End inventory	640
Skim milk	Sales	1123
Total disposal		1900
Pasture	Beginning inventory	470
Total 1st period	Purchased	—
Total 2nd period	Total available	470
Milk and pasture		
Total for year	Lbs. chickens produced	1430

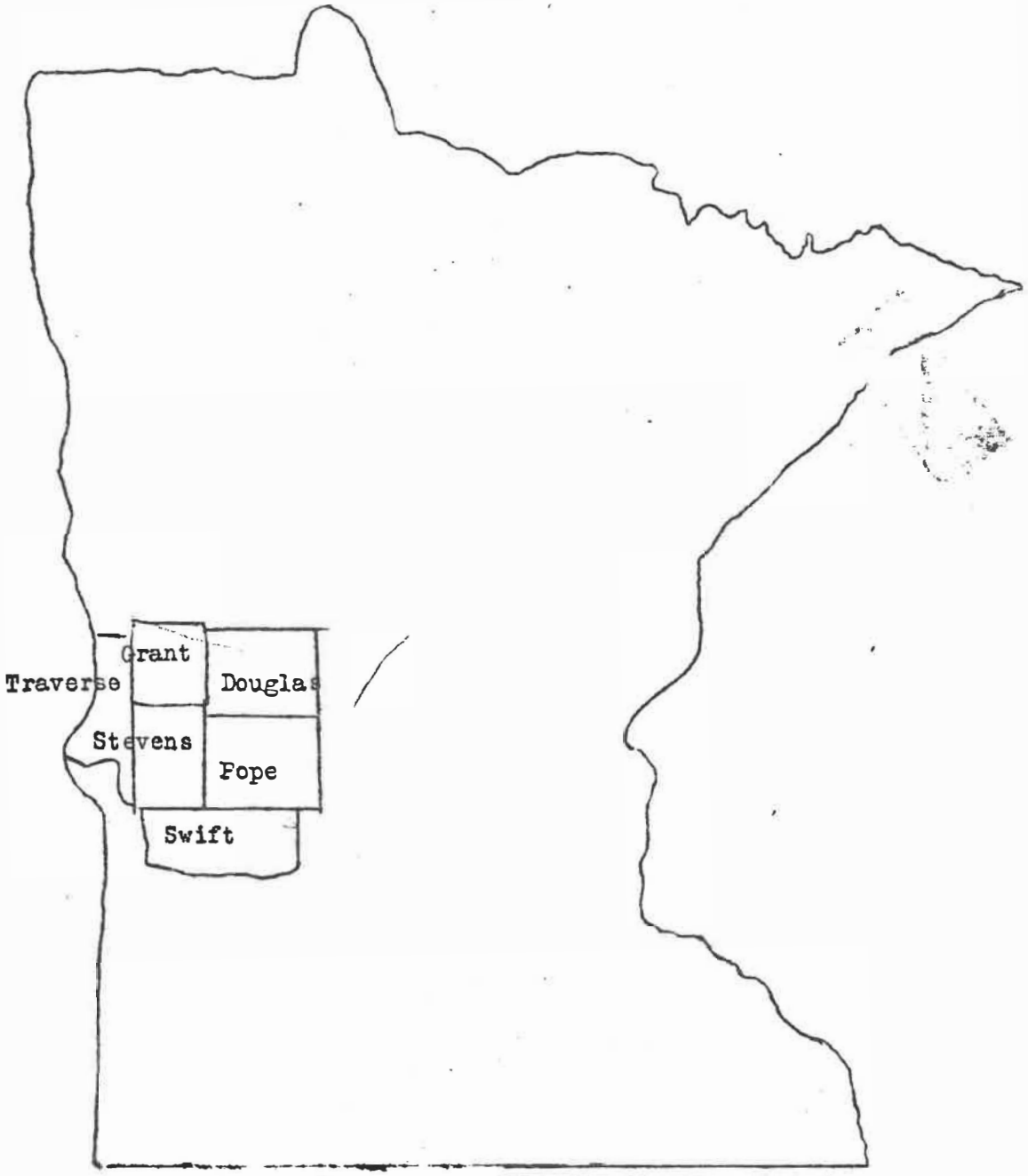
Appendix B

Table 3. Numbers of cooperators in cost accounting associations, 1920-53

Year	County or area				Total
	Steele	Cottonwood Jackson			
1920	23	21			44
1921	24	23			47
1922	22	24			46
1923	22	22			44
1924	22	23	Pine		45
1925	(113)	(113)	29	Polk	29
1926			25	18	43
1927	Rock,		26	18	44
1928	Nobles		(80)	20	20
1929	24			(56)	24
1930	24				24
1931	23	Stevens			23
1932	(71)	24			24
1933		22			22
1934		22	Winona		22
1935		15	19		34
1936		12	24		36
1937		(95)	23		23
1938			23		23
1939			21		21
1940			20	Nicollet	20
1941			(130)	26	26
1942				27	27
1943				24	24
1944	12 counties	Red		9	9
1945	Southern	River		7	7
	Minnesota	Valley		(93)	
1951	33	26			59
1952	29	(26)			29
1953	28				28
	(90)				
				Total	867

Appendix C

UNIVERSITY OF MINNESOTA
DEPARTMENT OF AGRICULTURE
WEST CENTRAL SCHOOL AND STATION
MORRIS, MINNESOTA



ANNUAL FARM MANAGEMENT ANALYSIS

OF THE

VETERANS ON-FARM TRAINING PROGRAM

1951

FOREWORD

FARM MANAGEMENT IN THE MODERN FARM PROGRAM

An analysis of a farm business for the year is of much value to the man who is interested in learning methods for improving his practices in livestock feeding, livestock management, crop selection, work units, power and machinery expense per crop acre and increasing yields. It is also helpful in analyzing household expenditures. This information along with other management factors provide tools the farm manager can use in formulating his policies for the future.

It was Abraham Lincoln who said,

"- - - no other human occupation opens so wide a field for the profitable and agreeable combination of labor with cultivated thought, as agriculture."

REPORT OF THE FARM MANAGEMENT SERVICE FOR VETERANS TAKING ON THE FARM TRAINING AT THE WEST CENTRAL SCHOOL OF AGRICULTURE

E. W. Mistelske, H. J. Aune and L. B. Granger

INDEX

INTRODUCTION

The purpose of this analysis, as far as the school and trainees is concerned, is (1) to give assistance to the instructors in the improving of the seven management factors for the individual trainee, (2) to aid in the analysis of the farm business through the use of records as a basis for vocational guidance, (3) the analysis serves as a device for farm business comparisons under almost equal farming conditions.

The analysis of the records and preparation of the reports are handled by the veteran's department under the direction of E. W. Mistelske, H. J. Aune and L. B. Granger. All forms and methods used have been described and recommended by the Division of Agricultural Economics, University Farm, St. Paul, Minnesota.

Standard

MANAGEMENT FACTORS AND THEIR RELATION TO EARNINGS
1951

Every study of farm earnings shows a wide variation in earnings among farmers in a given year. The average labor earnings of those farmers ranking in the upper 20 per cent on earnings was $2320 and of those in the lower 20 per cent was $-673. This is a range of $2993 between the average earnings of these two groups. Some of the causes for these differences in earnings, such as weather, may be beyond the control of the individual farmer. Other factors are within his control. The more important management factors affecting earnings and their relationships to earnings are presented in the following tables. These factors vary from year to year in their relative influence on earnings.

Crop Yields. The measure of crop yields used is the crop yield index. It is a comparison of the yield per acre of all crops on a given farm with the average yields for all farms included in the analysis. High crop yields make their maxium contribution to earnings if they are the result of good crop selection, the use of adapted varieties, skill and timeliness in performing the operations.

Relation of Crop Yields to Farm Earnings

Index of crop yields		No. of	Average operator's
Range	Average	farms	labor earnings
Below 76	60.8	14	$ 760
118 & above	~~111.7~~ 127.6	14	1336

Choice of Crops. Over a period of years certain crops have a definite advantage over others. The crops are classified as A,B,C, or D crops on the basis of their average net returns per acre. The relation of choice of crops to earnings follows:

Relation of Choice of Crops to Farm Earnings

Percent of tillable land in high return crops		No. of	Average operator's
Range	Average	farms	labor earnings
Below 34	27.1	16	$ 540
Above 53	60.8	16	1243

Return from Livestock. This is a measure of feeding efficiency. All farmers maintain some cattle, hog, and poultry. Most of the crops raised and some additional purchased feed are fed to livestock. Since feed is the major item of cash in livestock production, an increase in feeding efficiency results in higher earnings.

Relation of Returns from Productive Livestock to Farm Earnings

Returns for $100 feed consumed by productive livestock		No. of	Average operator's
Range	Average	farms	Labor earnings
Below 120	106	9	$ 368
Above 204	232	9	1452

Amount of Livestock. This factor measures the importance of livestock in the farm business. It is the amount of livestock units per 100 acres in the farm other than land in timber, roads, waste and farmstead. Livestock is important in that it adds to the size of business. It provides employment throughout the year and aids in maintaining or building up the fertility of the land.

Up to 21/1

Relation of Amount of Productive Livestock to Farm Earnings

Livestock Units per 100 acres Range	Average	No. of farms	Average operator's Labor earnings
Below 11.0	8.0	8	$ 387
20.0 & above	24.3	8	1210

4 X 1

Size of Business. Productive man work units are a measure of size of business. The relationship of size of business to farm earnings is shown on the table below. Average farm earnings tend to increase with an increase in size of business if size is accompanied by good management. For farmers operating their farms at a loss, the larger the volume of business, the larger will be the loss. Normally a large business has an advantage over a small business because it utilizes more efficiently and to better advantage available labor, power, machinery, equipment and buildings.

400 - Family F
600 - 2 Man Fav.
2 X 1

Relation of Size of Business to Farm Earnings

Work Units Range	Average	No. of farms	Average operator's labor earnings
Below 260	221.6	9	$ 823
416 & above	501.5	9	1468

Work Accomplished per Worker. The work accomplished per worker is determined by dividing the total man work units by the number of workers on the farm during the year. An increase in the productive work accomplished per worker reduced the labor charge per unit of business. Planning of the farm work and economical use of labor-saving machinery help to increase the output of work per worker.

300
404

Control over Expenses. The depreciation and cash cost of upkeep for power, machinery, equipment and buildings per unit of work is used as a measure of the efficiency of their use on the farm. Some farmers lack power, machinery and buildings for satisfactory operation. In case of others, an excessive investment in their items may constitute an important factor limiting earnings.

Cheap as Possible
2 X 1

Relation of Expense per Work Unit to Farm Earnings

Expense per work unit Range	Average	No. of farms	Average operator's labor earnings
Above 10.82	12.04	9	$ 542
Below 5.65	5.27	9	1054

FACTORS AFFECTING THE RETURNS FROM CROPS AND LIVESTOCK

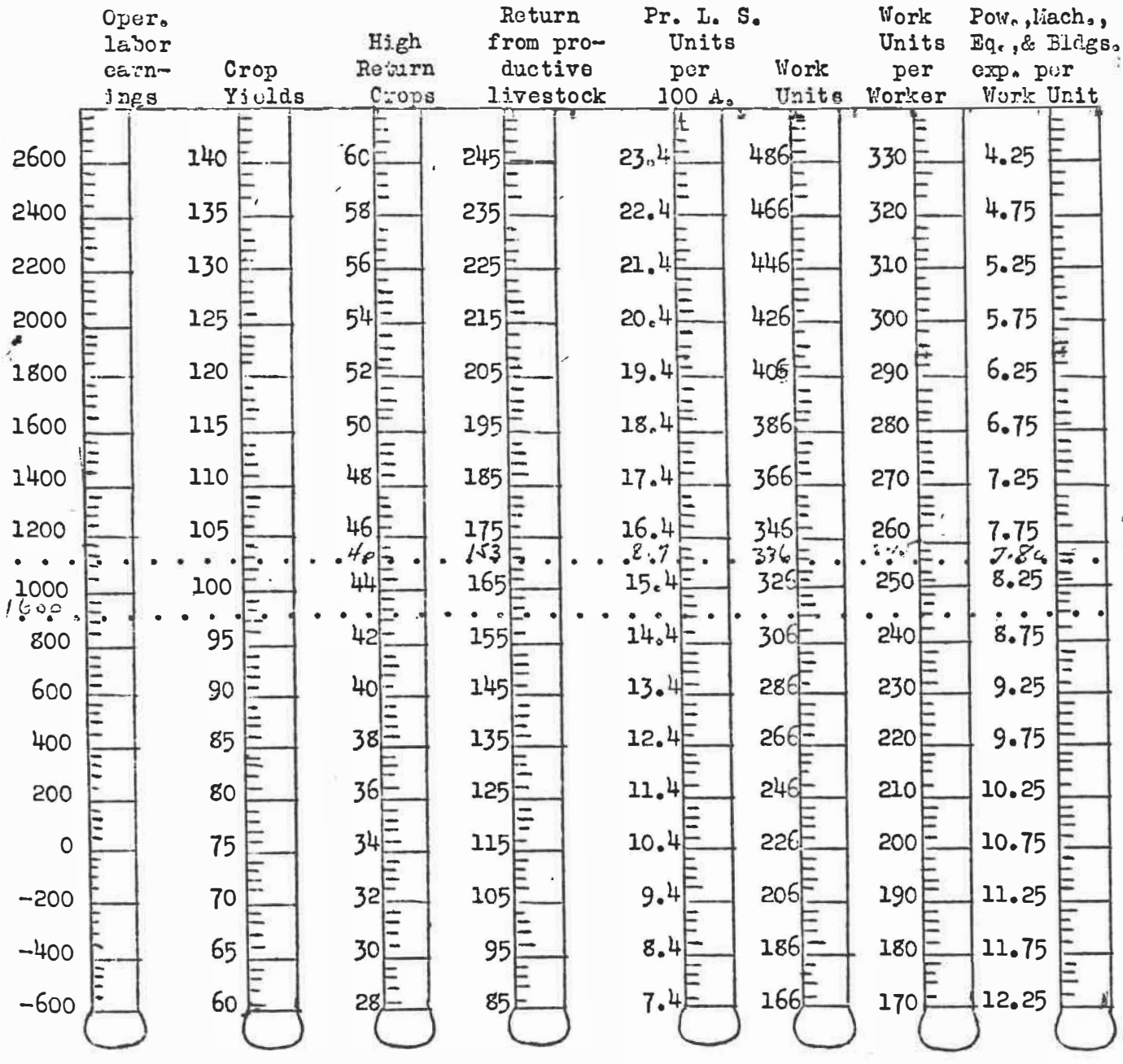
There are management factors that affect the returns from crops and livestock similar to those that affect the farmer's earnings. For crops, these include such factors as yield, seed treatment, soil treatment, selection of adapted varieties, adequate seed-bed preparation, timeliness of operations, and efficiency in the use of labor, power, and machinery. Some of these operate to increase production and thereby gross income, whereas others reduce the costs of production.

Similar factors affect financial success in livestock production. The factors considered in the case of hogs were (1) pounds of feed needed to produce 100 pounds of hogs, (2) percentage of protein in the ration, (3) the extent to which sanitation methods were followed, (4) percentage death loss, (5) number of pigs weaned per litter, and (6) price received per 100 pounds of hogs sold. The factors considered for sheep were (1) gross returns per head, (2) percentage lamb crop, (3) average value per lamb sold, (4) price received for wool, (5) Percentage death loss, and (6) feed cost per head. For dairy cattle five factors were used: (1) pounds of butterfat produced per cow, (2) total digestible nutrients per pound of butterfat, (3) percentage of protein in the T. D. N., (4) the proportion of the T. D. N. received from concentrates, and (5) the percentage of fall freshening.

THERMOMETER CHART

The following chart shows the seven factors that are known to affect farm earnings, and how you stand in each factor compared to the average of the group. The column at the left shows your earnings compared with the average.

The averages for the farms located in this summary will be found between the dotted lines across the center of the page.



922 100 44.1 167 15.5 326 249 8.27

1951 - Operator's Labor Earnings Summary - 1951

Ranking from highest to lowest	Vet. Class No.	Earnings	
1. Clarence Juergenson	8	$2309.70	
2. Leslie Nelson	21	2304.36	
3. Bernard Schneider	69	2249.43	
4. Darwin Hedstrom	4	2234.04	
5. William Myers	11	2234.00	
6. Maynard Nessman	22	2200.44	
7. Donald Wilson	73 ✓	2199.17	
8. Emil Pederson	29 ✓	2195.53	
9. Gordon Gillespie	38	2172.00	
10 Freddie Ashton	48	2144.73	
11. John Maloney	13	2096.28	
12. Ray Ras	52	2079.97	
13. Donald Gaard	34	2043.00	
14. Erland Charles	44	2024.25	
15. Leonard Vinderslev	77	2015.01	
16. Alvin Peterson	51	2005.00	
17. Donald Kirsch	10	1898.95	
18. Sidney Noordmans	24	1769.50	
19. Dale Gillespie	36	1703.33	
20. Kenneth Maanum	71	1633.00	
21. Charles Gahm	35	1630.00	
22. Curtis Irwin	5	1540.00	
23. Arnold Auel	46 ✓	1530.61	
24. Raymond Tobias	62	1515.39	
25. James Griffith	1	1513.29	
26. Herbert Duncan	32	1478.93	
27. Alois Roles	56	1464.00	
28. Robert Zimmerman	72	1434.00	
29. Virgil Driggins	30	1400.00	
30. Paul Jost	6	1374.41	
31. Ralph Onnen	26	1309.50	
32. Wallace Wendt	75	1297.33	
33. Halvor Haugland	3	1296.07	
34. James Root	57	1290.41	
35. Joseph Kopel	20	1211.18	
36. Ansel Christensen	43	1196.00	
37. Denis Schneider	68	1141.37	
38. Lawrence Dreis	40	1044.98	
39. Leonard Thompson	64	1036.14	
40. Edward Ritter	54	1033.85	
41. Gordon Thorstad	63	927.97	- Average
42. Lester Van Horn	78	887.00	
43. Robert Leuty	14	857.00	
44. Carl Hanson	2	848.56	
45. Lowell Leuck	15	823.00	
46. Kenneth Osterman	27	806.00	
47. Vincent Ritter	55	745.00	
48. Leland Kussatz	17	723.04	
49. Howard Greiner	39	719.00	
50. Clyde Sax	60	695.03	

1951 - Operator's Labor Earnings Summary - 1951
(Continued)

Ranking from highest to lowest		Vet. Class No.	Earnings
51.	Roy Pederson	7	683.39
52.	Hubert Van Amstel	61	635.09
53.	Bert Dutcher	31	619.00
54.	Robert Maloney	12	539.00
55.	Kenneth Lawson	16	468.51
56.	Fred Capp	45	464.59
57.	Leonard Gillespie	37	450.00
58.	Lawrence Erdman	33	419.75
59.	Ruben Schroder	67	299.00
60.	Dean Schuster	66	232.94
61.	Earl Wavley	74	162.34
62.	Oliver Anderson	49	102.00
63.	Gordon Krosch	19	80.79
64.	Eugene Corcoran	41	75.00
65.	Douglas Swanson	65	65.00
66.	Leo Raths	53	11.51
67.	William Kannegiesser	9	- 12.14
68.	Delroy Asmus	47	-142.08
69.	Richard Schimek	70	-146.00
70.	Marcus Noordmans	23	-284.83
71.	Edward Kurowski	18	-288.05
72.	Gerald Andert	50	-436.39
73.	Willie Sauter	59	-514.45
74.	Willie Olson	25	-598.79
75.	Joseph Wagner	76	-765.67
76.	Kenneth Cline	42	-786.12
77.	Martin Pasche	28	-1355.00
78.	Lammert Van Eps	79	-1514.00
79.	Joe Sauter	58	-1932.82

$ 921.67 - '51 Average

Ranking from highest to lowest	Vet.class Number	Total Assets	Total Liabilities	Net Worth	% Net Worth is of total assets 1950	1951	Increase or Decrease in total assets	Increase or Decrease in total worth.
1. Roy Pederson	7	$19650.38	$8745.00	$10905.38	68.7	55.4	$12212.51	$ 5799.17
2. Howard Greiner	39	21815.00	5000.00	16815.00		77.0	6348.00	4148.00
3. Lester Van Horn	78	4118.00	None	4118.00		100.0	4118.00	4118.00
4. Vincent Ritter	55	6008.65	1028.00	5637.00		93.8	4547.00	3319.00
5. Gerald Andert	50	8918.20	3661.50	5256.70		58.9	-447.11	3258.44
6. Leonard Gillespie	38	16807.00		16807.00		100.0	1611.00	3214.00
7. Dale Gillespie	36	20560.56	4115.00	16445.65	63.0	79.9	-440.25	3210.13
8. Erland Charles	44	18006.74	8750.00	9256.74		51.4	2728.74	2978.74
9. Bert Dutcher	31	25001.00	9350.00	15651.00		62.0	660.00	2910.00
10. John Maloney	13	9346.17	4101.20	5244.97	51.1	56.1	2063.55	2506.95
11. Charles Gahm	35	21271.00	12465.00	8805.00		41.4	2440.00	2465.00
12. Alvin Peterson	51	10616.00	3380.00	7236.00		68.1	2997.00	2395.00
13. Sidney Noordmans	24	33044.98	1313.83	19927.15	54.3	60.3	749.93	2393.09
14. William Myers	11	18350.00		18350.00		100.0	2210.00	2210.00
15. Lowell Louck	15	7045.00	2076.00	4969.00		70.5	2494.00	2153.00
16. Emil Pederson	29	19053.74	3229.43	15824.31	78.7	83.0	1585.14	2082.62
17. Gordon Krosch	19	15528.81	2200.00	13328.81	91.1	85.8	3119.76	2019.76
18. Gordon Gillespie	37	17895.00		17895.00		100.0	2568.00	2003.00
19. Raymond Tobias	62	7016.56	1927.03	5089.53	47.9	72.5	448.44	1942.65
20. Kenneth Maanum	71	3288.00		3288.00		100.0	1792.00	1942.00
21. Leslie Nelson	21	9955.98	562.67	9393.31	81.1	94.3	750.41	1923.86
22. Bernard Schneider	69	23941.25	11407.03	12534.22	53.0	52.3	3886.08	1898.82
23. Leonard Vindersley	77	28679.76	9500.00	19179.76		66.9	2350.05	1850.05
24. Denis Schneider	68	7217.27	3020.37	4196.90		58.1	3147.47	1840.90
25. Maynard Nessman	22	13586.00	2681.72	10904.28	93.3	86.2	3841.37	1808.04
26. Virgil Driggins	30	7565.00	1725.00	5840.00		77.1	1717.00	1762.00
27. Donald Gaard	34	26997.00	12298.00	14699.00	50.4	54.4	1204.00	1701.00

1951 - Veterans Financial Report - 1951
(Continued)

Ranking from highest to lowest	Vet.class Number	Total Assets	Total Liabilities	Net Worth	% Net Worth is of total assets 1950	1951	Increase or Decrease in total assets	Increase or Decrease in total worth
28. Lawrence Dreis	40	$10261.35	$1650.00	$8611.35		83.9	$2236.74	$1686.94
29. Clyde Sax	60	10443.31	3902.42	6540.89	48.1	62.7	287.57	1658.75
30. Alois Roles	56	31957.00	8400.00	23557.00		73.7	1619.00	1619.00
31. Herbert Duncan	32	22667.88	8758.27	13692.04	51.4	59.0	-1410.90	1548.63
32. Carl Hanson	2	7049.44	231.00	6818.44		96.7	1766.24	1535.24
33. Paul Jost	6	14087.77	5314.69	8773.08	70.9	62.2	3838.42	1496.88
34. Robert Zimmerman	72	24492.00	18557.00	5935.00		24.2	1218.00	1479.00
35. James Root	57	21544.64	12886.60	8658.01	37.0	40.1	2130.50	1472.91
36. Kenneth Osterman	27	13358.96		13358.96	95.2	100.0	751.08	1351.08
37. Darwin Hedstrom	4	14124.01	5638.88	8185.13	57.5	57.9	2194.69	1323.16
38. Fred Capp	45	15379.43	3009.46	12369.97		80.4	1004.30	1300.78
39. Douglas Swanson	65	13209.00	1000.00	12209.00		92.4	1261.00	1261.00
40. Halvor Hauglund	3	4777.60	2750.00	2027.60		41.4	1073.45	1233.45
41. Ansel Christenson	43	9589.00	1000.00	8589.00		89.5	1302.00	1202.00
42. Earl Wevley	74	9710.28	1000.00	8710.28	75.6	89.7	- 381.49	1078.51
43. Ray Ras	52	7359.04	3845.50	3513.54	38.9	47.7	761.58	949.59
44. Hubert Van Amstel	61	5567.50	600.00	4967.50		89.2	832.25	909.25
45. Willie Olson	25	5882.33	2644.00	3238.33		55.0	33.22	860.22
46. Freddie Ashton	48	7796.86	2575.00	5221.86	72.1	66.9	343.28	854.78
47. James Griffith	1	14950.80	5786.23	9164.57		61.4	2929.90	843.67
48. Dean Schuster	66	10115.29	1051.65	9063.64	84.4	89.6	365.29	833.14
49. Lawrence Erdman	33	6818.71	7354.79	-536.08	-23.1	-7.8	1040.31	801.12
50. Arnold Auel	46	7969.98	4528.36	3441.62	35.1	43.1	453.06	800.17
51. Edward Kurowski	18	21676.71	14624.00	7052.71		32.5	1330.43	581.44
52. Robert Leuty	14	12401.00	8441.00	3960.00		31.9	345.00	511.00
53. Clarence Juergenson	8	10457.03	1573.90	8883.13		82.7	-425.42	500.68
54. Curtis Irwin	5	4559.00	286.00	4273.00		93.7	477.00	414.00

1951 - Veterans Financial Report - 1951
(Continued)

Ranking from highest to lowest	Vet.class Number	Total Assets	Total Liabilities	Net Worth	% Net Worth is of total assets 1950	1951	Increase or Decrease in total assets	Increase or Decrease in total worth.
55. Rueben Schroder	67	$14398.00	$ 800.00	$13598.00		94.4	$ 232.00	$ 332.00
56. Kenneth Cline	42	23817.78	13803.51	10014.27	35.4	42.0	-3623.18	295.43
57. Kenneth Lawson	16	20209.11	15397.15	4011.96	23.5	19.8	706.35	235.90
58. Joseph Kopel	20	12164.78	3450.00	8714.78	80.9	71.6	1599.37	172.59
59. Joseph Wagner	76	18609.80	12170.56	6439.24	31.2	34.6	-1613.52	134.82
60. Richard Schimek	70	4203.00	995.00	3208.00		76.3	131.00	83.00
61. Wallace Wendt	75	28279.59	12763.47	15516.12	53.6	54.8	- 649.10	7.43
62. Willie Sauter	59	16211.72	9587.21	6624.51	57.0	41.1	4388.23	-- 116.78
63. Joe Sauter	58	28324.09	17192.90	11131.19		39.2	- 693.60	-- 132.10
64. Donald Kirsch	10	6919.64	2100.00	4819.64		69.6	-157[illegible].16	-- 173.16
65. Edward Ritter	54	18584.90	4300.00	14284.90	72.6	76.8	-1355.55	-- 187.95
66. William Kannegiesser	9	10256.67	5327.25	4929.42		48.0	745.66	- 350.54
67. Leland Kussatz	17	5270.12	3044.29	1625.23	31.4	30.8	-1128.09	- 380.65
68. Leonard Thompson	64	21762.00	14076.50	7685.50	35.9	35.3	- 964.51	-- 472.84
69. Marcus Noordmans	23	23132.90	11614.00	11518.90	50.9	49.7	- 518.29	- 539.33
70. Robert Maloney	12	4398.00	1640.00	2758.00		62.7	- 42.00	- 964.00
71. Oliver Anderson	49	11385.00	2100.00	9285.00		83.0	- 523.00	-1023.00
72. Leo Raths	53	14167.71	600.00	13567.71	100.0	95.7	- 446.90	-1046.90
73. Eugene Corcoran	41	7297.00	1973.00	5324.00		72.9	-1310.00	-1183.00
74. Delroy Asmus	47	9571.38	3661.09	5910.26	69.1	61.7	- 796.90	-1249.90
75. Ralph Onnen	26	7918.08	949.00	6969.08		88.0	-2125.52	-1591.52
76. Laamert Van Eps	79	4900.00	1375.00	3526.00		71.9	-1693.00	-1733.00
77. Donald Wilson	73	19374.20	3131.00	16243.20	86.4	83.8	-1595.40	-1874.39
78. Martin Pasche	28	21102.00	11183.00	9919.00	53.2	47.0	-1548.01	-2140.25
79. Gordon Thorstad	63	44258.02	20275.00	23983.02	53.4	54.1	-5458.44	-2564.43

HOUSEHOLD AND PERSONAL EXPENSE AND RECEIPTS

Household and personal accounts are important if the family is to manage its financial affairs wisely.

The family living from the farm is the estimated value of the farm produce used in the house and shelter furnished the farmer and his family by the farm. It is a part of the income of the farm and a part of the expenses of operating the household, even though cash transactions are not involved. If these products had been purchased, the amount paid out would have been considerably higher.

The rental value of the dwelling is calculated by taking ten percent of the average inventory value of the dwelling.

Items	Your farm	Average of farms*
Number of persons in family	____	4.6
Number of adults in family	____	2.1
Number of children in family	____	2.5
Expenses		
Food and meals bought	$____	$614.00
Operating and supplies	____	252.50
Clothing and clothing materials	____	212.00
Personal care, personal spending	____	81.20
Furnishings and equipment	____	162.80
Education, recreation and development	____	71.50
Medical care and health insurance	____	194.90
Church, welfare, gifts	____	121.90
Personal share of auto expense	____	50.20
Household share of elect. & gas eg. exp.	____	56.80
H. H. & pers. shr. of new auto and motors bot.	____	100.30
Total cash living expenses	____	1918.10
State and federal income tax	____	26.85
Insurance	____	93.00
Total household and pers. cash exp.	____	2037.95
Food furnished by the farm	____	267.00
Fuel furnished by the farm	____	
House rental	____	182.00
Total cash expenses and perquisites	____	2486.95
Purchase of stocks, bonds, and other invest.	____	6.84
Receipts		
Sale of investments	____	
Income from outside investments	____	19.20
Veterans compensation	____	1006.00
Misc. income	____	153.70

*The average of farms is taken from 44 complete records of married veterans.

Summary of Farm Earnings, 1951 (Operator's Share)

	Your farm	W.C. S. A. Average
FARM RECEIPTS		
Dairy and dual purpose cows		$ 248
Dairy products		592
Other dairy and dual purpose cattle		242
Beef cattle		626
Hogs		1945
Sheep and wool		101
Poultry		162
Eggs		458
Horses		8
Crops		1716
Machinery & equipment sold		431
Agricultural adjustment payments		23
Income from work off the farm		89
Misc.		3
(1) Total farm sales		6644 - 200
(2) Increase in farm capital		1049 533.00
(3) Family living from the farm		363
(4) Total farm rec. (1)+(2)+(3)		8056
FARM EXPENSES		
Dairy and dual purpose cows bot		263
Other dairy & dual pur. cattle bot		114
Beef cattle bot. (including feeders)		230
Hogs bot		190
Sheep bot (including feeders)		37
Poultry bot (including turkeys)		94
Horses bot		6
Misc. livestock expenses		74
Misc. crop expenses		395
Feed bot		821
Custom work hired		383
Mech. power mach. (farm share) (new)		783
Mech. power mach. (farm share) (upkeep)		217
Mech. power (farm share) (gas, oil, etc.)		724
Crop and general mach. (new)		808
Crop and general mach. (upkeep)		152
Livestock equipment (new)		77
Livestock equipment (upkeep)		46
Land, buildings & fencing (new)		268
Buildings and fencing (upkeep)		66
Hired labor		153
Taxes,(real estate & pers. property)		119
General farm and insurance		61
Cash rent		135
(5) Total farm purchases		6216 - 195
(6) Decrease in farm capital		
(7) Interest on farm capital		613
(8) Unpaid family labor		245
(9) Board furnished hired labor		60
(10) Total farm exp. (sum of (5) to (9)		7134
(11) Operator's labor earn. (4) - (10)		922
(12) Ret. cap. & family lab. (7) + (8) + (11)		1780

INDEX OF CROP YIELDS

Below are the average yields for all the trainees in each year the program has been operating:

	1952	1951	1950		1949	1948	4-yr. Ave.
Corn	35.8	22.2 bu.	31.45 bu.		31.08 bu.	35.71 bu.	30.11bu.
Barley	18.8	22.0	27.7		15.22	17.35	20.57
Oats	35.9	38.0	29.9		24.69	26.44	29.76
Spring Wheat	9.5	13.6	13.5		13.09	11.87	13.02
Soybeans	13.9	9.4	9.6		10.78	13.3	10.77
Flax	10.3	7.9	11.1		8.88	8.37	9.06
Millet Seed	21.0	12.5	19.2		7.16	24.0	15.72
Silage	6.7	5.4 T.	6.7 T.		5.97 T.	7.1 T.	6.29 T.
Alfalfa hay	1.8	1.6	1.52		1.29	1.58	1.50
Wild hay	1.2	1.0	.7		.76	.67	.78

By using the index of crop yields, it is possible to compare one farmer's yields with the average of the group. Because conditions of temperature, rainfall and soil types are reasonably uniform in the area, this is a reliable measure of the rate of production of the farmers' crops.

There are several factors which will influence the crop yields. Selection of crops, selection of adapted varieties of each crop, seed cleaning and treatment, timeliness of operations, seedbed preparation and weed control will have a definite influence on the yields obtained.

Index of Crop Yields

Ranking (Highest to Lowest)	Vet Class No.	1951	1950	1949	
1.	29	139.9	98.7	108.1	
2.	46	139.3	81.2		
3.	73	138.2	84.8	101.4	
4.	8	131.4			
5.	47	130.6	87.8	72.9	Asm
6.	20	126.4			
7.	10	125.2			
8.	35	124.9			
9.	3	124.4			
10.	61	124.3			
11.	40	122.4			
12.	15	122.4			
13.	39	119.0			
14.	43	118.4			
15.	72	118.1			
16.	69	118.0	156.4		
17.	63	117.3	100.0		
18.	53	117.1	120.7	115.1	
19.	60	116.5	90.8		
20.	38	115.5			
21.	67	113.0			
22.	30	111.9			
23.	34	111.2	94.6		
24.	28	110.7	101.1	92.5	Fare
25.	76	110.1	83.6	94.9	
26.	57	108.3	88.8	96.4	
27.	78	108.2			
28.	26	108.0			
29.	51	106.7			
30.	52	104.2	82.0		
31.	24	102.8	100.5	93.8	S. Mex.
32.	37	101.8			
33.	6	100.1	133.2		
34.	33	97.7	95.3		
35.	5	97.3			
36.	64	96.2	77.3		
37.	4	95.2	115.1	116.1	
38.	23	93.9	86.8		
39.	75	92.4	115.1		
40.	56	91.1			
41.	74	90.8	96.7		
42.	27	90.7	128.1		
43.	55	90.6			
44.	49	90.0			
45.	77	89.8			
46.	2	89.2			
47.	50	86.4			
48.	41	84.7			
49.	66	83.0	84.0		
50.	45	82.6			
51.	18	82.4			
52.	16	81.2	68.1		
53.	32	80.3	68.6		
54.	17	79.0	82.8		

Index of Crop Yields (cont.)

Ranking (Highest to Lowest)	Vet Class No.	1951	1950	1949
55.	59	77.8	77.8	
56.	65	77.5		
57.	19	76.0	88.0	
58.	31	75.0		
59.	1	74.8		
60.	58	74.4		
61.	14	73.9		
62.	48	73.0	100.0	
63.	7	72.2	96.1	
64.	42	71.5	95.1	
65.	54	70.3	72.7	
66.	36	69.8	113.0	89.3
67.	21	67.8	70.9	60.4
68.	79	65.7		
69.	68	62.1		
70.	13	46.0	92.2	

Per Cent of Tillable Land in High Return Crops

The various crops are classified into four groups (A, B, C and D) on the basis of their average net returns per acre in the various type-of-farming areas. Crops in the A group are given a weight of 100 per cent, B crops - 50 per cent, C crops - 25 per cent, and D crops 0) per cent. These totals are then added and the sum divided by the total tillable acres in the farm times 100 to give the per cent of the tillable land in high return crops. A 60% rating is considered good.

Table 1. Classification of Crops on Tillable Land According to Their Relative Profitableness

A High returns	B Medium returns	C Low returns	D Very low returns
Southeastern Minnesota (Type-of-Farming Areas 1 and 2)			
Canning peas	Corn silage	Flax	Barley
Corn for grain	Sweet corn	Soybeans for grain	Oats
Alfalfa hay	Red clover hay	Soybeans for hay	Wheat
Alf. & alf. mix. for pasture	Sweet clover pasture	Clover and timothy	Rye
		Sudan grass	Corn fodder
			Timothy hay
			Bluegrass pasture
Southwestern Minnesota (Type-of-Farming Areas 3 and 4)			
Canning peas	Soybeans for grain	Flax	Barley
Corn for grain	Corn silage	Soybean hay	Oats
Alfalfa hay	Sweet corn	Clover & timothy hay	Wheat
Alf. & alf. mix for pasture		Sudan grass	Rye
			Corn fodder
			Timothy hay
			Bluegrass pasture
Northeastern Minnesota (Type-of-Farming Areas 5 and 8)			
Seed potatoes	Flax	Oats	Wheat
Alf. & alf. mix. for pasture	Potatoes, other than for seed	Clover & timothy hay	Corn for grain
Alfalfa hay	Alfalfa seed		Corn fodder
	Red clover hay or seed		Timothy hay
	Barley		Annual hay
			Bluegrass pasture
			Rye
Northwestern Minnesota (Type-of-Farming Area 6)			
Flax	Wheat	Oats	Rye
Seed potatoes	Barley	Corn for grain	Corn fodder
Alfalfa hay	Potatoes, other than for seed	Corn silage	Timothy hay
Alf. & alf. mix. for pasture	Alfalfa seed	Sweet clover hay	Annual hay
	Red clover hay or seed	Clover & timothy hay	Bluegrass pasture
Red River Valley (Type-of-Farming Area 7)			
Flax	Barley	Oats	Rye
Wheat	Potatoes, other than for seed	Corn for grain	Corn silage
Sugar beets	Alfalfa seed	Clover & timothy hay	Corn fodder
Seed potatoes	Red clover hay	Sweet clover pasture	Timothy hay
Alfalfa hay			Annual hay
Alf. & alf. mix. for pasture			Bluegrass pasture

Per Cent of Tillable Land in High Return Crops - 1951

Student Rank	1951	1952 - 47.2	Class Number
1.	74.4		23
2.	71.0		16
3.	65.0		61
4.	63.7		68
5.	62.0		26
6.	61.3		34
7.	60.0		44
8.	60.8		32
9.	60.4		48
10.	58.3		64
11.	57.9		9
12.	57.3		37
13.	57.2		73
14.	56.5		88
15.	55.5		29
16.	53.8		24
17.	53.6		57
18.	53.0		75
19.	52.8		79
20.	51.0		18
21.	51.0		13
22.	51.0		22
23.	50.2		1
24.	50.1		51
25.	50.0		52
26.	50.0		28
27.	50.0		27
28.	50.0		60
29.	48.3		62
30.	48.0		77
31.	48.0		54
32.	48.0		5
33.	48.0		3
34.	47.4		41
35.	46.2		36
36.	46.0		42
37.	45.0		46
38.	44.0		49
39.	44.0		33
40.	43.9		72
41.	43.8		11
42.	42.9		69
43.	42.3		76
44.	41.0		66
45.	41.0		38
46.	40.6		50
47.	40.5		20
48.	40.4		47
49.	40.4		63
50.	40.3		10
51.	40.0		19
52.	40.0		14
53.	40.0		78
54.	39.0		65
55.	38.0		6

Student Rank	1951	Class Number
56.	38.0	2
57.	37.7	40
58.	37.0	4
59.	36.9	8
60.	36.5	53
61.	35.7	21
62.	35.0	7
63.	34.7	17
64.	34.0	39
65.	33.3	30
66.	32.2	43
67.	32.0	45
68.	32.0	71
69.	31.0	56
70.	30.9	67
71.	30.0	25
72.	29.0	74
73.	27.7	35
74.	26.0	55
75.	25.3	59
76.	23.0	58
77.	22.0	15
78.	20.6	12
79.	5.5	31
	AVERAGE 44.1	

TOTAL FEED FOR ALL CLASSES OF LIVESTOCK*

Rank	Veteran's Class Number	Return $100 Feed
1.	19	316
2.	69	244
3.	74	232
4.	46	229
5.	52	226
6.	48	223
7.	16	209
8.	34	205
9.	8	204
10.	68	204
11.	21	203
12.	32	202
13.	1	201
14.	13	201
15.	73	193
16.	61	192
17.	36	187
18.	4	180
19	27	175
20.	59	174
21.	63	173
22.	3	172
23.	29	167
24.	40	165
25.	18	157
26.	58	155
27.	23	151
28.	54	151
29.	6	150
30.	24	150
31.	64	149
32.	75	147
33.	26	146
34.	33	137
35.	60	130
36.	66	129
37.	76	125
38.	17	119
39.	42	117
40.	28	117
41.	57	115
42.	45	113
43.	47	103
44.	10	101
45.	20	89
46.	53	76
	AVERAGE	167.5

*Feed costs do not include pasture costs.

PRODUCTIVE LIVESTOCK UNITS

Ranking Highest to Lowest	Vet Class Number	Productive Livestock Units Per 100 Acres	Total Livestock Units Per Farm
1	29	29.8	25.9
2	75	29.6	51.4
3	18	26.2	34.5
4	26	23.3	24.6
5	57	22.9	34.7
6	24	21.3	37.1
7	47	21.1	31.1
8	69	20.7	66.2
9	16	20.4	23.3
10	52	18.7	18.2
11	73	18.7	30.6
12	23	18.2	21.7
13	63	17.1	39.1
14	64	16.8	23.1
15	21	16.0	34.3
16	28	15.9	28.0
17	36	15.8	41.4
18	34	15.5 AVE.	27.9
19	13	15.1	22.8
20	10	14.9	21.1
21	1	14.2	42.6
22	46	14.1	17.2
23	66	13.2	44.2
24	74	13.2	19.1
25	7	13.0	18.5
26	19	12.3	17.9
27	27	12.1	23.1
28	60	11.7	17.6

Ranking Highest to Lowest	Vet Class Number	Productive Livestock Units Per 100 Acres	Total Livestock Units Per Farm
29	20	11.0	28.2
30	4	10.9	32.9
31	6	10.7	23.1
32	8	10.7	16.9
33	58	10.1	14.5
34	2	9.3	17.7
35	58	8.9	25.2
36	17	8.2	18.2
37	48	7.8	14.7
38	40	6.8	14.7
39	61	4.4	4.2
40	32		21.8
41	33		17.4
42	53		23.8
43	54		33.4
44	42		16.3
45	68		40.2
46	76		21.2
47	3		20.5
	AVERAGE	15.4	26.4

1951 WORK UNITS SUMMARY

Ranking from Highest to Lowest	Vet's Class No.	Total Wk. Units per Worker	No.Man Equiv. per Fm.	Total Wk.Units per Farm	Total Cropping Work Units per Farm	Total Live-stock Work Units per Fm.
1.	6	338.3	1.1	372.1	168.1	204.0
2.	63	336.0	1.3	445.7	200.3	245.4
3.	24	330.2	1.4	462.3	145.0	317.3
4.	28	328.2	1.1	361.0	124.8	236.2
5.	66	324.2	2.2	715.8	292.5	423.3
6.	23	320.0	1.1	329.0	93.9	235.1
7.	21	312.4	1.3	416.9	106.7	310.2
8.	40	301.3	1.1	331.4	180.4	151.0
9.	17	300.5	1.3	390.7	217.5	173.3
10.	74	294.6	1.3	369.6	164.1	205.5
11.	1	290.8	1.5	436.2	253.1	183.1
12.	18	286.5	1.1	315.2	95.8	219.4
13.	68	285.3	2.0	570.6	323.0	247.6
14.	4	279.7	2.0	559.3	259.3	300.1
15.	54	267.0	1.3	334.8	144.4	190.4
16.	34	262.0	1.3	328.0	123.8	204.2
17.	76	261.8	1.2	314.2	92.7	221.5
18.	57	261.1	1.5	391.6	141.5	250.1
19.	59	256.5	1.4	359.1	226.4	132.7
20.	69	256.5	1.9	487.4	271.5	215.9
21.	42	254.3	1.2	305.1	177.0	128.0
22.	46	250.0	1.3	313.5	105.0	208.5
23.	27	250.0	1.3	332.6	153.6	179.0
24.	52	248.8	1.1	259.8	88.9	170.9
25.	2	241.6	1.7	419.0	238.9	180.1
26.	32	237.0	1.3	296.2	191.9	104.3
27.	48	235.7	1.0	235.7	148.0	87.7
28.	16	233.3	1.1	256.6	111.6	145.0
29.	10	231.5	1.3	301.0	199.2	181.8
30.	75	230.0	1.3	305.7	148.1	157.6
31.	47	229.0	1.3	304.4	123.9	180.5
32.	53	226.8	1.3	300.6	133.8	166.8
33.	64	226.2	1.3	281.6	118.8	162.8
34.	29	224.4	1.3	291.7	86.7	205.0
35.	26	223.6	1.2	268.3	100.9	167.4
36.	19	223.5	1.1	249.7	155.4	94.3
37.	36	223.3	1.8	399.9	226.9	173.0
38.	7	215.0	1.3	280.5	125.8	154.7
39.	60	213.4	1.3	277.4	137.9	139.5
40.	8	213.0	1.3	266.6	135.4	131.2
41.	58	202.9	1.0	202.9	72.9	130.0
42.	73	202.6	1.1	222.9	110.0	112.9
43.	13	195.0	1.3	259.7	137.2	122.5
44.	33	193.0	1.3	241.3	121.1	120.2
45.	20	184.0	2.0	367.9	149.8	218.1
46.	3	181.9	1.1	200.1	144.4	55.7
47.	61	125.8	1.0	125.8	94.4	31.4
AVERAGES		248.8	1.34	326.5	156.5	168.2

ANIMAL UNITS: represents one mature dairy or dual purpose cow, two head other dairy or dual purpose, 1¼ beef cows or bulls, 7 head of sheep, 14 head of lambs, 2½ hogs, 5 pigs, 50 chickens and 1100 pounds of turkey.

WORK UNITS PER WORKER: labor efficiency is measured in terms of the number of work units per worker. It is the measurement in terms of crops and numbers of livestock. Work units per worker is the best single measure of labor efficiency.

POWER, MACHINERY, EQUIPMENT & BUILDING EXPENSE PER WORK UNIT

This factor primarily concerns your control over expense. The depreciation and cash cost of upkeep for power, machinery, equipment and buildings per unit of work issued as a measure of the efficiency of their use on a farm.

Rank from High to Low	Vet's Class Number	Expense per Work Unit
1.	21	4.36
2.	17	5.06
3.	2	5.22
4.	1	5.25
5.	68	5.34
6.	74	5.38
7.	26	5.54
8.	3	5.60
9.	36	5.65
10.	46	5.85
11.	57	6.02
12.	24	6.05
13.	8	6.11
14.	4	6.26
15.	10	6.40
16.	52	6.44
17.	34	6.97
18.	60	7.07
19.	66	7.52
20.	33	7.64
21.	6	7.70
22.	54	7.74
23.	28	7.79
24.	47	7.91
25.	32	8.12
26.	29	8.21
27.	64	8.21
28.	42	8.43
29.	23	8.54
30.	13	8.85
31.	18	9.02
32.	27	9.34
33.	7	9.64
34.	63	9.66
35.	40	9.68
36.	16	10.20
37.	59	10.65
38.	69	10.80
39.	48	10.82
40.	19	11.04
41.	53	11.20
42.	75	11.50
43.	76	11.66
44.	61	11.75
45.	20	12.52
46.	73	13.78
47.	58	14.10
	AVERAGE 47 FARMS	8.27

POWER AND MACHINERY COST PER CROP ACRE

Power and machinery expense per crop acre is an indication of the economy with which capital is invested in these items. In general, the expenses are high on the farms with a small acreage. In some cases, low expenses for labor might be off set by high power and equipment costs. The farmer is interested in operating at the lowest cost for power, machinery and labor combined.

Rank	Veteran's Number	Power and Machinery Cost per Crop Acre
1.	1	4.68
2.	36	4.86
3.	3	5.38
4.	74	5.58
5.	32	5.91
6.	66	5.98
7.	21	6.10
8.	13	6.40
9.	42	6.78
10.	57	7.11
11.	8	7.14
12.	48	7.20
13.	2	7.66
14.	17	8.05
15.	60	8.20
16.	64	8.23
17.	28	8.44
18.	10	8.58
19.	20	8.95
20.	24	9.04
21.	54	9.40
22.	26	9.65
23.	6	9.67
24.	7	10.40
25.	68	10.40
26.	45	10.61
27.	58	10.70
28.	27	10.80
29.	59	10.81
30.	40	10.96
31.	46	11.01
32.	63	11.05
33.	19	11.34
34.	47	11.40
35.	75	11.40
36.	77	11.47
37.	4	11.53
38.	61	11.60
39.	33	11.80
40.	73	12.67
41.	69	13.10
42.	53	13.33
43.	52	13.46
44.	16	13.61
45.	29	13.64
46.	23	13.90
47.	34	14.93
48.	18	15.54
49.	76	17.39
	AVERAGE	9.96

VETERAN'S NAMES

CS-5v

1. Andert, Gerald	50-~~48~~
2. Anderson, Oliver	49- 31
3. Ashton, Freddie	48- 35
4. Asmus, Delroy	47
5. Auel, Arnold	46-29
6. Capp, Fred	45-34
7. Charles, Erland	44
8. Christenson, Ansel	43-58
9. Cline, Kenneth	42-54
10. Corcoran, Eugene	41-39
11. Dries, Lawrence	40- 33
12. Driggens, Virgil	30
13. Dutcher, Burt	31- 17
14. Duncan, Herbert	32 60
15. Erdman, Lawrence	33 —
16. Gaard, Donald	34-69
17. Gahm, Charles	35- 34
18. Gillespie, Dale	36
19. Gillespie, Leonard	37- 40
20. Gillespie, Gordon	38-45
21. Griener, Howard	39- 41
22. Griffith, James	1-39
23. Hanson, Carl	2-42
24. Haugland, Halvor	3-39
25. Hedstrom, Darwin	4-~~42~~
26. Irwin, Curtis	5-36
27. Jost, Paul	6-50
28. Juergenson, Clarence	8-49
29. Kannegisser, Wm.	9 —
30. Kirsch, Donald	10- 63
31. Kopel, Joseph	20-50
32. Krosch, Gordon	19
33. Kurowski, Edward	18-69
34. Kussatz, Leland	17-45
35. Lawson, Kenneth	16-65
36. Leuck, Lowell	15-49
37. Leuty, Robert	14- 33
38. Maloney, John	13-~~65~~
39. Maloney, Robert	12 —
40. Myers, Wm.	11 —
41. Nelson, Leslie	21-26
42. Nessman, Maynard	22 —
43. Noordman, Marcus	23- 67
44. Noordman, Sidney	24- 48
45. Olson, Willie	25
46. Onnen, Ralph	26-56
47. Osterman, Kenneth	27-50
48. Pasche, Martin	28
49. Pederson, Emil	29-62
50. Pederson, Roy	7-~~45~~
51. Peterson, Alvin	51-29
52. Ras, Ray	52 43
53. Raths, Leo	53- 40
54. Ritter, Edward	54-~~45~~
55. Ritter, Vincent	55-17
56. Roles, A. L.	56-39
57. Root, James	57-42
58. Sauter, Joe	58-41
59. Sauter, Willie	59-~~39~~
60. Sax, Clyde	60-44
61. Schimek, Richard	70-55
62. Schneider, Bernard	69-66
63. Schneider, Denis	68-39
64. Schroder, Ruben	67-40
65. Schuster, Dean	66-51
66. Swanson, Douglas	65-47
67. Thompson, Leonard	64-55
68. Thorstad, Gordon	63 —
69. Tobias, Raymond	62 —
70. Van Amstel, Hubert	61-43
71. Van Eps, Lammert	79 —
72. Van Horn, Lester	78-50
73. Vinderslev, Leonard	77-53
74. Wagner, Joseph	76-38
75. Wendt, Wallace	75-~~51~~
76 Wevely, Earl	74-36
77. Wilson, Donald	73-32
78. Zimmerman, Robert	72-50
79 Maanum, Kenneth	71 —
80 Hartman, Alervey	~~80-51~~
81. Schulz, Marvin	81-39
82. Watson, Richard	~~48~~

45.1 Ave

Appendix D

CALCULATING SITE MEASURES OF [illegible]
A Method of Analysis

THE MINNESOTA FARM ACCOUNT BOOK

Revised: August, 1957 Name_____

Measures of Efficiency of Operation

Classification of Crops

A equals 1 (high return)
B equals ½ (second highest)
C equals ⅓ (third highest)
D equals 0 (lowest, no value)

Type of Farming Area:	1 - 2	3 - 4	4	6	8
Small Grains & Peas					
Canning Peas	A	A			
Flax	C	C	C	B	B
Barley	D	D	D	B	C
Oats and Barley	D	D			
Oats	D	D	C	C	C
Wheat	D	D	D	C	D
Rye, Millet, Buckwheat	D	D	C	D	D
Cultivated Crops					
Potatoes & Truck Crops	A	A	B*	B*	B*
Corn Grain	A	A	C	C	D
Corn Silage	B	B	C	C	C
Sweet Corn	B	B			
Soybeans for Grain	C	B	D	D	D
Corn Fodder	D	D	D	D	D
Tillable Land in Hay					
Alfalfa Hay	A	A	A**	A**	A**
Red Clover Hay	B	C	B	B	B
Soybean Hay	C	C			
Mixed Legumes & non-legumes	C		C	C	C
Legumes for Seed	C				
Timothy and/or Brome Hay	D	D	D	D	D
Other Annual hay	D		D	D	D
Tillable Land in Pasture					
Alfalfa & Mixtures including alfalfa	A	A	A	A	A
Other Legumes & mixtures	C	C			
Sudan Grass or Rape Pasture	C	C			
Other tillable pasture	D	D	D	D	D
Tillable Land Not Cropped	D	D	D	D	D

*Potatoes for seed rated A
**Alfalfa for seed rated B

FORM 2 — Calculation of Index Crop Selection

Index of Crop Selection
By definition, this is the per cent of tillable land which has been planted to high return crops.

CROP GROWN	CLASSIFICATION	ACRES GROWN		WEIGHT VALUE (from p.2)		NUMBER OF WEIGHTED ACRES
Corn, grain		52	X	1	equals	52
corn, silage		29	X	½	equals	14½
oats	3	32	X	—	equals	—
			X		equals	
soybean, grain			X		equals	
			X		equals	
			X		equals	
alfalfa hay		28	X	½	equals	19
		22	X	½	equals	11½
		30.8	X	1	equals	30.8
		204.8	X		equals	
	XXXXXXXXXXX	TOTAL ACRES GROWN	XXXXXXX		TOTAL WEIGHTED ACRES	127.8

NOTE: Index of Crop Selection equals Total of Weighted Acres X 100 / Total of Acres Grown = Per Cent of High Return Crops

EXAMPLE: 80 acres of cropland including 25 acres of corn for grain; 8 acres silo corn; 27 acres oats; 20 acres alfalfa

Corn	A	25A X 1 = 25
Corn Silage	B	8A X ½ = 4
Oats	D	27A X 0 = 0
Alfalfa	A	20A X 1 = 20

49 X 100 = 4900 divided by 80 = 61.25

62.4
204.8 / 12780.0
12288
4920
4096
8240

PROBLEM II

Index of Crop Yields

An index above 100 indicates yields above the average, and an index of less than 100 indicates lower than average yields.

Average yields may be calculated in various ways: One may use averages obtained from the group by dividing the total yield of a crop by the total acres raised. (Do not take an average of each farmer's average yield.)
Another method is to take long time (5-7 years) county averages. This method, however, does not allow for unusual crop conditions during the present year.

Corn....._____bushels
Corn Silage..._____tons
Oats....._____bushels
_____..._____bushels
_____..._____bushels
_____..._____bushels

Soybeans....._____bushels
Wild Hay....._____tons
Clover &mixed hay....._____tons
Alfalfa hay....._____tons
Other hay....._____tons
(_____indicate)

CALCULATION OF INDEX OF CROP YIELDS

Crop Grown	Your Acres		Your Yield	Your Total Production	Average Yield per acre	Acres Required With Ave. Yield
Example: wheat	(a) 20 acres	X	25 bu.	equals (b) 500 bu.	(c) 20 bu.	(b) ÷(c) 25 acres
Corn, grain		X	"	7500		
rn, Silage		X	"			
Oats		X	"			
Soybeans		X	"			
Alfalfa Hay		X	"			
		X	"			
		X	"			
		X	"			
		X	"			
		X	"			
TOTAL ACRES ON YOUR FARM			XXXXXXXXXX	XXXXXXXXXX	TOTAL ACRES WITH AVERAGE YIELD	

NOTE: Index of Crop Yields The Sum of Acres required with Ave. Yield_____X100

Divided by The Sum of Acres required on Your Farm_____=

INDEX OF CROP YIELDS_____

PROBLEM III — Determining Livestock Units Per 100 Acres

he concept of animal units is used as a basis of expressing in one figure a quanity of live-tock which includes several classes of stock. The animal unit equivalents used in this table re based on a recent revision by the University of Minnesota.

An animal unit can be defined as a mature dairy cow, or that number of other livestock hich will consume the same quanity of feed. In the following list of animal unit equivalents, n animal unit of each class of livestock will use approximately 5,000 pounds of total di-estible nutrients. The animal unit equivalents have been adjusted to some extent to make alculations as simple as possible. The number of livestock (except fot turkeys) is expressed s the average number for a full year. For example: one head may be one animal for a full ear, two animals kept for six months each, or three animals kept for four months each. In many nstances the averahes will be taken directly from the account book and entered in (a) or (c).

Kind of Livestock	Number on hand first of month: JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL (A)	DIV. BY (B)	AVE. NO. (C)	MUL. BY (D)	NUMBER OF UNITS (E)
AIRY or dual-urpose cows														12		1.0	
ther dairy or dual-urpose cattle														12		.5	
eef cows & bulls (except feeders)														12		.8	
ther beef cattle eeders														12		.3	
														12		1.0	
ative sheep over 6 mos. old														12		.15	
eeder lambs														12		.15	
ative lambs under 6 mos. old														12		.07	
gs over 6 months														12		.4	
gs under 6 months														12		.2	
ickens-entire lock on hen basis														12		.02	
urkeys-100# produced														12		.091	

Total livestock units on your farm _____

Total Acres in your farm: _____

100 equals _____ hundreds of acres

Total Livestock Units (_____) Equals _____ Livestock units per 100 acres
Hundreds of Acres (_____)

The Minnesota Farm Management Service includes all usable pasture and cropland and excludes and in timber, roads, waste and farmstead in arriving at this figure.

PROBLEM IV Determing Work Units

The total "work units" for any one farm is a measure of the size of that farm business. A total unit as used here is the average accomplishment of a farm worker in a ten-hour day working on crops and productive livestock at average efficiency or ten hours off the farm for pay.

"To Calculate Total Work Units

Your Farm	Multiplied By		Number of Work Units	Equals	Total Work Units
Ave. No. dairy or dual-purpose cows-p.5	_____	X	10.0	per cow	_____
Ave. L.S. units other dairy or dual-purpose-p.5	_____	X	3.5	per an. unit	_____
Ave. L.S. units beef breeding herd-p.5	_____	X	3.5	Per an. unit	_____
Cwts. feeder cattle-p.16	_____	X	.25	per cwt.	_____
Ave. L.S. units sheep farm flock-p.5	_____	X	1.5	per an. unit	_____
Cwts. Sheep feeders-p.18	_____	X	.3	per cwt.	_____
Cwts. of hogs-p.13	_____	X	.2	per cwt.	_____
100's of hens-p.5	_____	X	20.0	per 100 hens	_____
Cwts. of turkeys-p.5	_____	X	.5	per 100 lbs.	_____
Acres canning peas-p.4	_____	X	.5	per acre	_____
Acres small grain and soybeans-p.4	_____	X	.5	per acre	_____
Acres sweet corn-p.4	_____	X	.7	per acre	_____
Acres corn, husked-p.4	_____	X	.7	per acre	_____
Acres corn, hogged-p.4	_____	X	.4	per acre	_____
Acres corn, shredded-p.4	_____	X	1.5	per acre	_____
Acres corn, silage-p.4	_____	X	1.0	per acre	_____
Acres corn, fodder-p.4	_____	X	1.0	per acre	_____
Acres alfalfa hay-p.4	_____	X	.6	per acre	_____
Acres soybean hay-p.4	_____	X	1.8	per acre	_____
Acres other hay crops-p.4	_____	X	.4	per acre	_____

TOTAL WORK UNITS - YOUR FARM-_____

"Instructions using this form in type of farming areas 5 & 8 should check the Univ. Farm "Farm Management Reports" for these areas to determine the correct number of work units for each class of livestock and each acre of crop.

PROBLEM V -Determing Work Units per Worker

Work units per worker is the best single measure of labor efficiency. It is expressed as the amount of work units accomplished by one man.

Determine the man equivalent on your farm.

Workers	Time Worked in months
Operator	_____
Hired Man	_____
Brother, family & others(man equivalent)	_____
Family labor (man equivalent)	_____
TOTAL MONTHS WORKED	_____

Total months worked divided by 12 equals_____man equivalent.

Work units per worker are obtained by dividing the total work units by the man equivalent.

Total Work Units (_____) equals_____WORK UNITS PER WORKER.
Man Equivalent (_____)

PROBLEM VI - Calculating Return for $100 Feed to Productive Livestock

The index of return for $100 feed to productive livestock is an index weighted by the animal units of each class of livestock. It is obtained by dividing the return for $100 of feed by the average return over feed for the farms being used for comparison. The indexes thus secured for each class of livestock are multiplied by the number of animal units in each class. This product is then added and divided by the total number of animal units to give the index of return for $100 feed to productive livestock.

Class of Livestock	Return for $100 feed Own Farm (A)	Ave. Return for $100 feed for all Farms (B)	Index of Return for $100 feed (C)	Animal Units of Livestock (D)	An. Units times Index (E) (c X d)
Dairy Cattle					
Beef					
Hogs					
Sheep					
Chickens					
TOTALS					

SUM OF (e) _____ divided by SUM OF (d) Equals INDEX _____

EXAMPLE: 20 cows and 10 units of hogs showed $180 return per $100 feed for cows and $165 per $100 feed for hogs. Averages were $200 for cows, $150 for hogs.

Cows	$180	$200	90	20	1800
Hogs	$165	$150	110	10	1100
				30	2900

Index is 96.7%

PROBLEM VII-Determining Power, Machinery, and Equipment Expense per Work Unit

1. Custom work hired, p. 38.....$_____
2. Mechanical power expense, repairs and parts (farm share) p. 42_____
*3. Mechanical power depreciation, DS p. 4-5.....
4. Mechanical power expense, gas, oil, etc.(farm share) p. 41 _____
*5. Crop and General Machinery depreciation,DS p. 8-9.....
6. Crop and General Machinery Upkeep, p.44.....
7. Livestock Equipment upkeep,p.45.....
*8. Livestock Equipment depreciation,DSp. 12-13.....
*,**9. Buildings, Fencing, Tiling, Etc. Depreciation,DS p.14-15...
**10. Buildings, Fencing, etc. upkeep, p.43.....

11. TOTAL EXPENSE (add items 1-9).....$_____

12. TOTAL NET EXPENSE:
Total expense (no. 11)_____minus Custom Work done by you for others_____ equals the Total Net Expense.....$_____

13. POWER, MACHINERY, AND EQUIPMENT EXPENSE PER WORK UNIT

Total Net Expense (no. 12)_____
_____ = $_____
Total Work Units (page 6) _____

NOTE: Dr. Truman Nodland makes the following comment relative to custom work. "The man labor portion of custom work may cause some difficulty. I do not believe it sufficiently important to change the above methodology but assume a farmer does a large amount of custom work for others. Unless the labor portion is deducted, it is quite possible he will show up with a profit instead of an expense. The reverse is true is case of hired custom work in that his expense per work unit may be too high because of labor and create the impression the machine should be owned which might not be the case."

* DS is the 5 year Depreciation Schedule for Minnesota Farm Account Book

** If comparisons are to be made between rented and owned farms, it is necessary to include depreciation and other expenses for buildings and improvements. Estimates can be used if the renter does not know the value of buildings or the cost of expense incurred by the landlord.

If the old Minnesota Farm Account Book is being used, the instructor will find it necessary to change some of the page references.

THERMOMETER CHART

Each factor listed below is ranked from high to low for the class. The earnings and seven farm management factors are usually calculated on a whole-farm basis. The actual "figure" for each trainee may be inserted or a uniform scale from high to low as used by the Minnesota Farm Management Service may be employed. Refer to thermometer charts in S.E. or S.W. Annual Farm Management Reports.

	Oper. labor earnings	Crop Yields	High Return Crops	Return from Productive Livestock	Pr. L.S. units per 100 A.	Work Units	Work Units per Worker	Power Machinery Equipment & Building Expense per Work Unit
1.	$ 5200	% 140	% 73.5	$ 140	No. 31.0	No. 560	No. 360	No. 3.40
2.	(These figures are merely used as examples.)							
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
Average								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.	800	65	28.5	65	8.5	185	135	940
	(These figures are merely used as examples.)							

Determining Feed Costs and Returns from Dairy Cows

1. Butterfat Produced
   _____ pounds whole milk (used in house (p.4, col.2)
   _____ pounds milk fed to calves (p.22 or 27)
   _____ TOTAL POUNDS times _____ ave. test (p.4) equals. . . . (1)_____#B.F.
   _____ pounds cream used times ave. test (p.4) equals . . . . (2)_____#B.F.
   SALES (p.5, col. 32) equals . . . . . (3)_____#B.F.
   TOTAL PRODUCED: (1)+(2)+(3) equals.(4)_____#B.F.

_____(4) divided by average number of cows in herd_____equals_____#B.F. Per Cow.
(total of col. 7, p.2 divided by 12 equals ave. no. of cows.)

NOTE: 1 gallon of milk weighs approx. 8.6#, 1 pint weighs approx. 1.05#

2. Total Feed Cost (from page 27)
   (Quantity for herd divided by average No. of cows equals quantity per head.)

Feed Fed	Quantity For Herd	Quantity per head	Cost per Pound	Cost per Herd	Cost per Head
Alfalfa Hay					
Silage Corn					
Grass Silage					
Corn					
Oats					
Concentrates					
Pasture					
Mineral					
Salt					
TOTAL				$_____	$_____

3. Total Value of Produce from Milking Herd:
   a. Net Increase in value of cows
      1. Sales (cows sold) . . . . . .$_____
      2. Butchered for home use (p.2). . . . . _____
      3. Ending Inventory . . . . . _____
      4. Add 1, 2, and 3 for
         GROSS RECEIPTS . . . . . .$_____
      5. Purchases (cows bought) . . . . . _____
      6. Heifers freshened (p.2, col. 10). . . . . _____
      7. Beginning inventory. . . . . _____
      8. Add 5,6, and 7 for
         TOTAL DEDUCTIONS . . . . . .$_____

   Gross receipts (4) minus Total Deductions (8) equals

   NET INCREASE IN VALUE OF COWS (a)$_____

3. Total Value of Produce from Milking Herd. Continued

a. Net Increase in value of cows . . . . . $_____

B. Total Milk, Cream, and Butterfat sales (p.5, col. 32) . . . . $_____

c. Milk fed to livestock (p. 27) . . . . . $_____

d. Total Value of Produce from Milking Herd (add a, b, c). . . . $_____

4. Return Over Feed Cost from Milking Herd

Total value of produce from milking herd (from #3). . . $_____ minus

Total feed cost (from #2) . . . . . $_____ equals

Return Above Feed Cost for Milking Herd . . . . . $_____

5. Value of Produce per Cow

Total value of produce from milking herd (from #3). . . $_____

divided by the Number of Cows milked . . . . . $_____ equals

Value of Produce per Cow. . . . . .$_____

6. Return Above Feed Cost Per Cow

Return above feed cost for the milking herd (from #4). . $_____

divided by the Number of Cows Milked. . . . . .$_____ equals the

Return Above Feed Cost per Cow. . . . . .$_____

7. Feed Cost Per Cow

Total Feed Cost (from #2). . . . . .$_____

divided by the Number of Cows (from #1) . . . . . .$_____ equals

Feed Cost per Cow. . . . . $_____

8. Feed Cost per Pound of Butterfat

Total Cost of Feed (from #2). . . . . .$_____

divided by Total Lbs. Butterfat (from #1, (4)). . . . . .$_____ equals

Feed Cost per Pound of Butterfat. . . . . .$_____

9. Return for $100 Worth of Feed

Total Value of Produce (from #3). . . . . .$_____

divided by the $\frac{\text{Total Feed Cost}}{\$100}$. . . . . .$_____ equals

the Return for $100 Worth of Feed Used. . . . . .$_____

Determining Feed Cost and Returns from Other Dairy Cattle

1. Net Increase in Value of Other Dairy Cattle
   - a. Sales (p. 7, col. 40). . . . . $_____
   - b. Butchered, home use (p.6, col.21). . . . . $_____
   - c. Transfers out (p.6, col. 28). . . . . $_____
   - d. Ending inventory (p.6, col. 14). . . . . $_____
   - e. Gross Product (a b c d). . . . . $_____

   - f. Purchases (p. 7, col. 32) . . . . . $_____
   - g. Beginning Inventory (p. 6, col.9). . . . . $_____
   - h. Total Deductions (f plus g). . . . . $_____

   Gross Products (e) minus Total Deductions (h) equals
   NET INCREASE IN VALUE OF OTHER DAIRY. . . . $_____

2. Total Feeds Fed (p.37)

Feed Fed	Quantity For Herd	Quantity Per Herd	Value Per Pound	Cost Per Herd	Cost Per Head
Alfalfa Hay					
Silage					
Corn					
Oats					
Concentrate					
Whole Milk					
Skimmilk					
			TOTAL	$_____	

3. Returns Above Feed Cost
   Net Increase in value of other dairy cattle (from #1) $_____

   minus Total Feed Cost (from #2) . . . . . $_____

   equals Return Above Feed Cost. . . . . $_____

4. Return Per $100 of Feed Fed
   Increase in value of other Dairy Cattle (from #1). . . $_____
   divided by Total Feed Cost (from # 2). . . . . $_____
   $100
   equals return per $100 worth of Feed Fed. . . . . $_____

5. Return Above Feed Cost Per Head
   Return Above Feed Cost (from #3). . . . . $_____
   divided by Average No. of Other Dairy Cattle. . . . . $_____
   equals the Return Above Feed Cost Per Head. . . . . $_____

Determining Feed Costs and Returns from Swine

1. Net Product--(the net quantity and value produced during the year)

Items for Period	Price per Cwt.	Weight	Value
a. Sales-p. 13*	_____	_____ lbs.	$_____
b. Butchered for home-p.12	_____	_____	_____
c. Ending Inventory- p.12	_____	_____	_____
d. Gross Product (a+b+c).		_____ lbs.	$_____
e. Purchases-p.12	_____	_____	_____
f. Beginning Inventory-p. 12	_____	_____	_____
g. Total Deductions (e+f).		_____ lbs.	$_____

Gross Product Lbs. (d) minus Total Deductions Lbs. (g)=Net Product _____ LBS.

Gross Product $ (d) minus Total Deductions $ (g) = Net Product $_____

2. Total Feed Cost (from page 26 and 27)

Feed Fed	Total Pounds Fed	Pounds Per Cwt Fed	Cost Per Lb.	Total Cost	Cost Per Cwt Pork
Corn	_____#	_____#	$_____	$_____	$_____
Oats	_____#	_____#	$_____	$_____	$_____
Mineral	_____#	_____#	$_____	$_____	$_____
Skimmilk (dry basis)	_____#	_____#	$_____	$_____	$_____
Protein Supplement	_____#	_____#	$_____	$_____	$_____
Pasture	_____#	_____#	$_____	$_____	$_____
Hay	_____#	_____#	$_____	$_____	$_____
_____	_____#	_____#	$_____	$_____	$_____
TOTAL	_____#	_____#	$_____	$_____	$_____

Directions for No. 2: Find the total pounds of feed by changing tons, bushels, and gallons (or quarts) into pounds. Multiply bushels by standard weights of grains. To get feeds and costs per hundred pounds of pork, divide totals by total hundred pounds of pork produced as determined in No. 1. To reduce skim milk or liquid buttermilk to a dry feed basis, divide the total pounds of milk by eight. (8).

3. Return Above Feed Cost
Net Product from #1 -$_____ minus Total Feed Cost from #2-$_____ equals
RETURN ABOVE FEED COST. . . $_____

4. Return Above Feed Cost per Cwt of Hogs Produced
Return above feed cost from #3-$_____ divided by lbs. Net Product from #1-_____ lbs. equals RETURN ABOVE FEED COST PER CWT OF HOGS PRODUCED $_____

5. Return for $100 of Feed
Net product ($ value) from #1-$_____ divided by Total Cost of Feed from #2- $_____ times 100 equals RETURN FOR $ 100 WORTH OF FEED . . . . . $_____

6. To get the Average Price per hundredweight of hogs sold, divide the Total Value by the hundredweight of pork sold.

*If the old Minnesota Farm Account Book is used, it will be necessary to correct some page references.

Determining Feed Costs and Returns from Chickens

1. **Total Egg Production**

   Eggs sold-p.16. . . . . _____doz. . . . . .$_____
   Used in home-p.16. . . . . _____doz. . . . . .$_____
   TOTAL EGGS PRODUCED. . . . _____doz. . . . . .$_____

2. **Eggs Laid per Hen**

   Total number of eggs produced_____
   _____ = eggs produced per hen
   Ave. No. of layers (p.16) _____

3. **Feed Cost** (total and per hen)

Feed Fed	Quantity for Total	Quantity per Bird	Price per LB.	Total Cost	Cost per Bird
Grains	_____#	_____#	$_____	$_____	$_____
Mash	_____#	_____#	$_____	$_____	$_____
Concentrates	_____#	_____#	$_____	$_____	$_____
*Skimmilk	_____#	_____#	$_____	$_____	$_____
Oyster Shells	_____#	_____#	$_____	$_____	$_____
_____	_____#	_____#	$_____	$_____	$_____
_____	_____#	_____#	$_____	$_____	$_____
TOTALS	_____#	_____#	$_____	$_____	$_____

4. **Net Product**

   a. Sales of birds (not eggs), p.17. . . . . $_____
   b. Used in the house, p.16. . . . . $_____
   c. Ending Inventory, p. 16. . . . . $_____
   d. Gross Product (a+b+c). . . . . .$_____
   e. Purchases, p. . . . . $_____
   f. Beginning Inventory, p. . . . . .$_____
   g. Total Deductions (e+f). . . . . $_____
   h. NET PRODUCT (d minus g). . . . . $_____

5. **Total Value Produced**

   Total value of eggs (#1)_____plus Value of Net Product (#4)_____equals Total Value Produced. . . . . .$_____

6. **Return Above Feed Costs**

   Total value produced (#5)_____minus Total Feed Cost (#3)_____equals Return Above Feed Cost. . . . . .$_____

7. **Return for $100 Worth of Feed**

   Total Value Produced (#5)_____
   _____ equals (a) _____
   Total Feed Cost (#3) _____
   Value of (a)_____
   _____ = Return for $100 Worth Feed $_____
   100

8. **Return Above Feed Cost Per Hen**

   Return above feed cost (#6) _____
   _____ =$_____Return Above Feed Costs per Hen
   Average Number of layers (#2) _____

Determining Feed Costs and Returns from Beef Cattle

1. Total Feed Cost (from p.27)

Feed Fed	I Total Amount	I Amount per Cwt Beef	II Cost per Unit	III Total Cost	III Cost per Cwt Beef
Hay (kind)			$	$	$
Silage (kind)					
Corn					
Oats					
Pasture	6				
TOTALS					

Average Price (III ÷ I) $_____(total) $_____(per cwt)

2. Net Product (Net Quantity and Value produced during Year)

Item for Period	Price per CWT	Weight	Value
a. Sales-(p.9).	$	#	$
b. Used in house (p.8). . . .			
c. Ending Inventory (p.8). . .			
d. Gross Product (a+b+c).		#	$
e. Purchases (p.9).			
f. Beginning Inventory.			
g. Total deductions (e+f).		#	$

Gross Product (d) lbs. minus (g) lbs. = _____lbs. = Net Product

Gross Product (d) $ minus (g) $ = $_____ = Net Value

h. Dairy Products from Beef Herd = $_____

Item (h) plus Gross Product ($) = $_____TOTAL VALUE PRODUCED

3. Return Above Feed Cost

Net Product (from #2)_____minus Total Feed Cost (from #1)_____

equals RETURN ABOVE FEED COST. . . . . .$_____

4. Return Above Feed Cost per CWT

Return above feed cost (from #3) $_____divided by LBS. Net Product(from #2) $_____equals RETURN ABOVE FEED COST PER CWT . . . . $_____

100

5. Return for $100 of Feed

Net Product (from #2) plus item (1) $_____divided by Feed Cost (from #1) $_____equals Return For $100 of Feed. . . . . .100 $_____

6. Cost of Feed to Produce 100 lbs of Beef

Total cost of feed_____divided by CWT of Beef Produced _____equals COST OF FEED TO PRODUCE 100 LBS. OF BEEF $_____

USE SAME PROCEDURE FOR FEEDER CATTLE

Determining Feed Costs and Returns From Sheep

1. **Total Feed Cost** (from p.24)

Feed Fed	I Total Amount	I Amount per Unit	II Cost per Unit	III Total Cost	III Cost per Unit
Hay (kind)	____#	____#	$____	$____	$____
Silage (kind)					
Corn					
Oats					
Oilmeal (kind)					
Pasture					
TOTAL	____#	____#		$____	$____

Average Price (III) divided by I). . . . . $____

2. **Total Value Produced**

Item	Price per Cwt.	Weight	Value
a. Sales of Wool (p.15). . .	$____	____#	$____
Sales of Sheep(p.15). . .	$____	____#	$____
b. Used (p.14)	$____	____#	$____
c. Ending Inventory (p.14). .	$____	____#	$____
d. Gross Product (a+b+c).		____#	$____
e. Purchases (p.14).	$____	____#	$____
f. Beginning Inventory. . . .	$____	____#	$____
g. Total Deductions (e+f).		____#	$____
TOTAL PRODUCED (d minus g).		____#	$____

3. **Return Above Feed Cost**

Total Value produced (from #2)____ minus total feed cost (from #1)____
equals the RETURN ABOVE FEED COST . . . . . $____

4. **Return for $100 Feed**

Total Value Produced (from #2) ____ divided by Total Feed Cost (from #1)
$\frac{\text{\_\_\_\_}}{100}$ equals RETURN FOR $100 OF FEED. . . . . $____

5. **Other Information**

Average wool price. . . . $____ Average sheep price (CWT)$____
Pounds of wool per sheep. .____ CWT of lambs sold. . . . .____#

Per Cent of Lamb Crop. . . .____%

Determining Feed Costs and Returns from Feeding and Misc. Operations

(This page may be used as an extra page to determine returns from strictly feeder operations of for enterprises such as turkeys, broilers, capons, etc.)

1. Total Value Produced

Net Increase in Value of Animals		Price		Total Value
Sales	_____#	_____¢	$	_____
Used in house	_____#	_____¢	$	_____
Ending Inventory	_____#	_____¢	$	_____
Gross Product	_____#		$	_____
Purchases	_____#	_____¢	$	_____
Beginning Inventory	_____#	_____¢	$	_____
Total Deductions	_____#		$	_____

Gross Products LBS. minus Total Deductions LBS. = _____#Produced

Gross Products $ minus Total Deductions $ = $_____NET INCREASE IN VALUE

2. Total Feed Cost (reduce all quantities to pounds)

Feed Fed	Total Quantity	Quantity Per Unit	Feed Cost Per Pound	Total Cost	Cost Per Unit *
Hay_____	_____#	_____#	$_____	$_____	$_____
_____	_____#	_____#	$_____	$_____	$_____
Silage	_____#	_____#	$_____	$_____	$_____
Corn	_____#	_____#	$_____	$_____	$_____
Oats	_____#	_____#	$_____	$_____	$_____
Pasture	_____#	_____#	$_____	$_____	$_____
_____	_____#	_____#	$_____	$_____	$_____
_____	_____#	_____#	$_____	$_____	$_____
TOTAL	_____#	_____#	$_____	$_____	$_____

3. Return Above Feed Cost
Total Value Produced (#1)_____minus Total Feed Cost(#2) _____
equals RETURN ABOVE FEED COST . . . . . $_____

4. Return for $100 Feed
Total Value Produced (1)_____divided by Total Cost of Feed (#2)
_____times 100 equals RETURN FOR $100 FEED . . . . . $_____

5. Return above Feed Cost Per Unit
Return above feed cost (#3) $_____divided by number of units_____
equals RETURN ABOVE FEED COST PER UNIT . . . . . $_____

**6. Return Above Feed Cost Per _____ Produced
Return per _____(from #2) _____minus Feed Cost per_____Produced (#2)
_____equals RETURN ABOVE FEED COST PER _____PRODUCED...$_____

* Units may be "head," "pounds," or "CWT."

** THis repetition of No. 5 provided an opportunity to use two units of comparison. (eg. per head, per cwt.)

SUMMARY OF FARM MANAGEMENT STUDY

1. Operator's Labor Earnings (from back page of Account Book). . . . . $_____

2. Index of Crop Selection (from page 3). . . . . $_____

3. Index of Crop Yields (from page 4). . . . . $_____

4. Livestock Units per 100 Acres (from page 5). . . . . $_____

5. Total Work Units (from page 6). . . . . $_____

6. Work Units per Worker (from page 7) . . . . . $_____

7. Return for $100 feed to Productive Livestock (from page 7). . . . . $_____

8. Power, Machinery, Buildings, & Equipment per Work Unit (from page 8). . . $_____

9. Dairy Analysis (from pages 10-11)
   - A. Average butterfat produced per cow. . . . . _____ lbs.
   - B. Total feed cost. . . . . $_____
   - C. Return above feed cost for milking herd. . . . . $_____
   - D. Feed Cost per cow. . . . . $_____
   - E. Value of Produce per cow. . . . . $_____
   - F. Return above feed cost per cow. . . . . $_____
   - G. Feed cost per lb. of butterfat. . . . . $_____
   - H. Return for $100 worth of feed. . . . . $_____

10. Feed cost and Returns from Other Dairy Cattle (from page 12)
   - A. Return for $100 feed . . . . . $_____
   - B. Return above feed cost per head. . . . . $_____

11. Swine Analysis (from page 13)
   - A. Total Pork produced. . . . . $_____
   - B. Total feed cost. . . . . $_____
   - C. Pounds of feed to produce 100# Pork. . . . . $_____
   - D. Return above feed cost. . . . . $_____
   - E. Return above feed cost per cwt of hogs produced. . . . . $_____
   - F. Return for $100 of feed. . . . . $_____
   - G. Feed Cost per 100 lbs. pork. . . . . $_____
   - H. Average price per cwt of hogs sold. . . . . $_____

12. Poultry Analysis (from page 14)
   - A. Total production _____ dozen . . . . . $_____
   - B. Eggs laid per hen . . . . . $_____
   - C. Total feed cost. . . . . $_____
   - D. Total Poultry and products produced. . . . . $_____
   - E. Total Value of product. . . . . $_____
   - F. Return above feed cost. . . . . $_____
   - G. Return for $100 worth of feed . . . . . $_____

13. Beef Analysis - Breeding Herd or Feeder Cattle (from page 15)
    A. Total Feed Cost. . . . . $_____
    B. Pounds of Beef Produced. . . . . $_____
    C. Return above feed cost. . . . . $_____
    D. Return above feed cost per CWT. . . . . $_____
    E. Return per $100 feed. . . . . $_____
    F. Feed cost per 100 lbs. beef. . . . . $_____

14. Sheep Analysis (from page 16)
    A. Total feed cost. . . . . $_____
    B. Total value produced. . . . . $_____
    C. Return above feed cost. . . . . $_____
    D. Return for $100 feed. . . . . $_____
    E. Pounds sheep produced. . . . . $_____
    F. Pounds wool produced. . . . . $_____

15. Misc. Livestock Analysis (from page 17)
    A. Total feed cost. . . . . $_____
    B. Return above feed cost. . . . . $_____
    C. Feed cost per unit. . . . . $_____
    D. Return above feed cost per unit. . . . . $_____
    E. Return per $100 worth of feed. . . . . $_____
    F. Price received per unit. . . . . $_____
    G. Average number of units. . . . . $_____

Appendix E

Annual Report

VOCATIONAL AGRICULTURE FARM ANALYSIS

EAST SOUTH CENTRAL MINNESOTA

1965

Austin Area Vocational School

AUSTIN, MINNESOTA

IN COOPERATION WITH

VOCATIONAL DIVISION, MINNESOTA DEPARTMENT OF EDUCATION
AND AGRICULTURAL EDUCATION DEPARTMENT
UNIVERSITY OF MINNESOTA

April 1966

1-4-66

1965 VOCATIONAL AGRICULTURE FARM ANALYSIS REPORT FOR EAST SOUTH CENTRAL MINNESOTA

Charles M. Painter

INDEX

INTRODUCTION

This is the eleventh year that an analysis has been made by the Austin Area Vocational-Technical School. This type of analysis follows the same pattern as that used by the Farm Management Division of the University of Minnesota. These techniques have been developed through studies made with farm management association members since 1928.

We are indebted to Truman Nodland and his associates in the Farm Management Division for the many years of service rendered to vocational agriculture. The analysis of veteran's agriculture farm account books and those of cooperating vocational agriculture adult farmers has been the principle, but by no means the only, contribution to vocational agriculture by the Farm Management Division.

We would like to express our appreciation to Harlan Koch, Graphic Arts Instructor of the Austin Public Schools, and his class, for preparing our cover and assembling the report. Mr. Koch replaces Jack Kentta who retired last summer.

Some main purposes of the farm analysis services in this area are (1) to assist instructors and cooperating farmers in farm accounting techniques (2) to aid the farmer in the study of his farm business through analysis reports and (3) to provide case study material that can be used by farmers and farm groups to study management problems. The analysis also has some research value.

This report and the analysis of records included in the report were done under the direction of Charles M. Painter, Vocational Agriculture Coordinator, Austin Area Vocational-Technical School. Analysis assistants were Madge Anderson, Dexter; Elaine Harber and Eileen Heimsness, Austin; Audrey Anhorn and Donna Qualey of Faribault. Helen Bergh and Lynda Planz, school secretaries, did the typing and duplicating. Without the excellent work and team effort of these people this report would not have been possible.

Directing in a supervisory capacity for this and the other cooperating projects were G. R. Cochran, State Supervisor of Agricultural Education; S. K. Wick, Director of Vocational Education; Morton A. Carney, Director of the Austin Area Vocational-Technical School and Irwin T. Mickelson, Austin Superintendent of Schools. William Knaak, former Assistant Director of Vocational Education, assisted in the early development of the program. Technical assistance was provided by the University of Agricultural Education Department under the direction of Dr. Milo Peterson. The professional assistance of the University Division of Agricultural Economics and the Agricultural Extension Service has done much to bring farm management study up to date. Financial assistance from the Hill Family Foundation helped to initiate the program from 1954 through 1957.

Farmers pay a fee to cover clerical costs, data processing, paper and stencils.

After a somewhat shakey start with data processing last year we gave it a second trial. The service this year was encouraging except for the delay in averaging. Agricultural Records Cooperative of Madison, Wisconsin did an excellent reprogramming job for the individual farm analysis. As of March 10 reports designated for averages had been processed. The delay in averaging was a disappointment.

The following schools submitted 1965 farm records for analysis:

School	No. of Books	Instructors
Adams	20	Dwain Vangsness* LeRoy Swanson
Alden	1	John Nelson*
Austin	20	Leland Arneson* Donald Ritland
Blooming Prairie	41	Gene Francis* Truman Tilleraas
Dodge Center	2	Herbert Hanson*
Faribault	57	Ralph Palan* Paul Day
Farmington	3	Lyle Phelps*
Hayfield	15	Bruce Oxton* Bert Fuller Frank Moon
Kenyon	16	Dennis Kluver* John Shelstad
LeRoy	4	Donald Haugland*
Lyle	8	Pete Godfredson* Ross Peterson
New Richland	20	Russell Schmeising* Gary Leske
Owatonna	2	John Zwiebel* Glenn Edin
Spring Valley	5	Ed Morine* Dale Peters
Stewartville	4	Frank Quam*
Wanamingo	2	Brian Ingvalson*
West Concord	3	Hilbert Hoof*
Zumbrota	2	Gerald Halvorson*
	223 Books	

* Instructor responsible for the adult agriculture program.

TABLE 1 SUMMARY OF FARM INVENTORIES 1965

Items	Adjustments	Average of 181 Farms* Jan. 1	Dec. 31
Size of farm (acres)		279	
Size of business (work units)		510	
Dairy & dual purpose cows		$ 3671	$ 3692
Other dairy & dual purpose cattle		1940	2027
Beef cattle (including feeders)		3001	3177
Hogs		2930	4834
Sheep (including feeders)		53	60
Poultry (including turkeys)		131	112
Productive Livestock (total)		$11726	$13902
Crop, Seed and Feed		$ 7376	$ 9307
Power machinery (farm share)		3892	4636
Crop and general machinery		4614	5397
Livestock equipment		1512	1701
Machinery & Equipment (total)		$10018	$11734
Miscellaneous		-----	-----
Land		$33122	$33678
Buildings, fences, etc.		16620	17411
Total Farm Capital		$78862	$86032

Items	36 Most Profit. Farms Jan. 1	Dec. 31	36 Least Profit. Farms Jan. 1	Dec. 31
Size of farm (acres)	354		230	
Size of business (work units)**	644		485	
Dairy & dual purpose cows	$ 2422	$ 2415	$ 4997	$ 4876
Other dairy & dual purpose cows	1576	1489	2460	2509
Beef cattle (including feeders)	7061	6594	997	1209
Hogs	7510	12367	1128	1605
Sheep (including feeders)	81	116	86	101
Poultry	101	72	120	124
Productive Livestock (total)	$18751	$23053	$ 9788	$10424
Crop, seed and feed	$11184	$15845	$ 5356	$ 5343
Power machinery (farm share)	5350	6322	3605	4161
Crop & general machinery	5837	7574	4670	5181
Livestock equipment	2232	2397	1484	1598
Machinery & equipment (total)	$13419	$16293	$ 9759	$10940
Land	$42298	$43270	$24787	$25072
Buildings, fences, etc.	22520	23723	15317	15611
Total Farm Capital	$108172	$122184	$ 65007	$ 67390

* Some books arrived too late to be included in the averages. Others were omitted for various reasons (see page 2). For the purpose of comparison, all the data shown in this report, with the exception of household expenses, are presented on a full-owner basis. The assets, expenses and receipts of the landlord were included in the records from rented farms.

** See explanation of WORK UNIT on page 9.

NOTE: See cooperator number correction on page 22.

TABLE 2 SUMMARY OF FARM EARNINGS (CASH STATEMENT) 1965

Items	Adjust-ments	Average of 181 Farms	36 most profitable Farms	36 least profitable Farms
FARM RECEIPTS				
Dairy & dual purpose cattle		$ 1722	$ 1676	$ 2243
Dairy products		6154	4257	7945
Beef cattle (including feeders)		4781	12249	1391
Hogs		10413	27247	3735
Sheep & wool (including feeders)		76	173	87
Poultry		53	17	32
Eggs		452	276	477
Corn		1981	1860	788
Small grain		235	215	281
Diverted acre income		1552	1722	864
Other crops		2775	3563	1240
Mach. & equip. sold, gas tax refund		343	474	369
Income from work off the farm		395	331	454
Misc. farm income		440	619	304
(1) Total farm sales		$31372	$54679	$20210
(2) Increase in farm capital		7170	14012	2383
(3) Family living from the farm		363	368	358
(4) Total farm receipts (1+2+3)		$38905	$69059	$22951
FARM EXPENSES				
Dairy & dual purpose cattle bought		$ 482	$ 493	$ 713
Beef cattle bought (inc. feeders)		2402	6236	504
Hogs bought		928	2073	338
Sheep bought (inc. feeders)		2	-	7
Poultry bought		88	26	119
Misc. livestock expense		629	889	684
Feed bought		5246	11165	3183
Fertilizers		1612	2729	1080
Other crop expenses		1325	1648	1035
Custom work hired		831	858	870
Gas, oil, grease bought (f.share)		1088	1392	886
Rep. mech. power (f.share)		664	807	674
Rep. & upkeep of real estate		386	638	302
Rep. & upkeep of crop & gen. mach.		518	744	376
Rep. & upkeep of livestock equip.		167	248	145
Wages of hired labor		531	906	232
Electricity expense (f.share)		320	413	307
Real estate & pers. prop. tax		1382	1749	1259
General farm expense		387	470	328
(5) Total cash operating expense		$18988	$33484	$13042
(6) Cap. purc. mech. pow. (f.share)		1596	2217	1318
(7) Cap. purc. crop & gen. mach.		1827	3150	1410
(8) Cap. purc. livestock equip.		498	710	391
(9) Cap. purc. land, bldgs, fences		2383	3570	1499
(10) Total farm purchases (5-9)		$25292	$43131	$17660
(11) Decrease in farm capital		----	----	----
(12) Interest on farm capital		4122	5759	3310
(13) Unpaid family labor		633	919	731
(14) Board furnished hired labor		82	143	53
(15) Total farm expenses (10-14)		$30129	$49952	$21754
(16) Labor earnings (4 minus 15)		$ 8776	$19107	$ 1197

See footnote on page 5

TABLE 3 SUMMARY OF FARM EARNINGS (ENTERPRISE STATEMENT) 1965

Items	Adjust-ments	Average of 181 Farms	36 most profitable Farms	36 least profitable Farms
RETURNS & NET INCREASES				
Dairy & dual purpose cows		$ 6075	$ 4204	$ 7760
Other dairy & dual purpose cattle		1859	1450	2135
Beef breeding herd		184	126	32
Feeder cattle		2319	5440	1002
Hogs		11448	30123	3908
Sheep (farm flock)		82	210	96
Sheep (feeders)		--	---	--
Turkeys		--	---	--
Chickens		416	252	411
All Productive Livestock		$22383	$41805	$15344
Value of feed fed to livestock		-12228	-21362	-9720
Return over feed from livestock		$10155	$20443	$ 5624
Crops, seed & feed		12430	17776	7461
Income from labor off farm		186	165	224
Agriculture conservation payments		113	38	24
Miscellaneous		327	581	280
(1) Total Returns & Net Increases		$23211	$39003	$13613
EXPENSES & NET DECREASES				
Truck		$ 365	$ 541	$ 365
Auto (farm share)		507	608	398
Tractor		1342	1785	1159
Elec. & gas engine exp.(f.share)		322	413	307
Hired power		423	417	453
Total Power		$ 2959	$ 3764	$ 2682
Crop & general machinery		$ 1585	$ 2219	$ 1336
Livestock equipment		472	766	420
Buildings, fences & tiling		1383	2037	1124
Bare land (minus)		-5	-3	-35
Misc. prod. livestock expense		629	889	684
Labor		1521	2246	1308
Real estate taxes		1182	1527	1050
Personal property taxes		200	222	209
Insurance		192	224	167
General farm expense		195	246	161
Interest on farm capital		4122	5759	3310
(2) Total Expenses & Net Decreases		$14435	$19896	$12416
(3) Labor Earnings (1) Minus (2)		$ 8776	$19107	$ 1197

* Cash receipts and expenses are adjusted for changes in inventory for each enterprise and for each item of expense in order to show total receipts and net increases; total expenses and net decreases.

TABLE 4 CASH HOUSEHOLD AND PERSONAL EXPENSES FOR THOSE FARMS WHICH KEPT COMPLETE ACCOUNTS OF THESE EXPENSES 1965

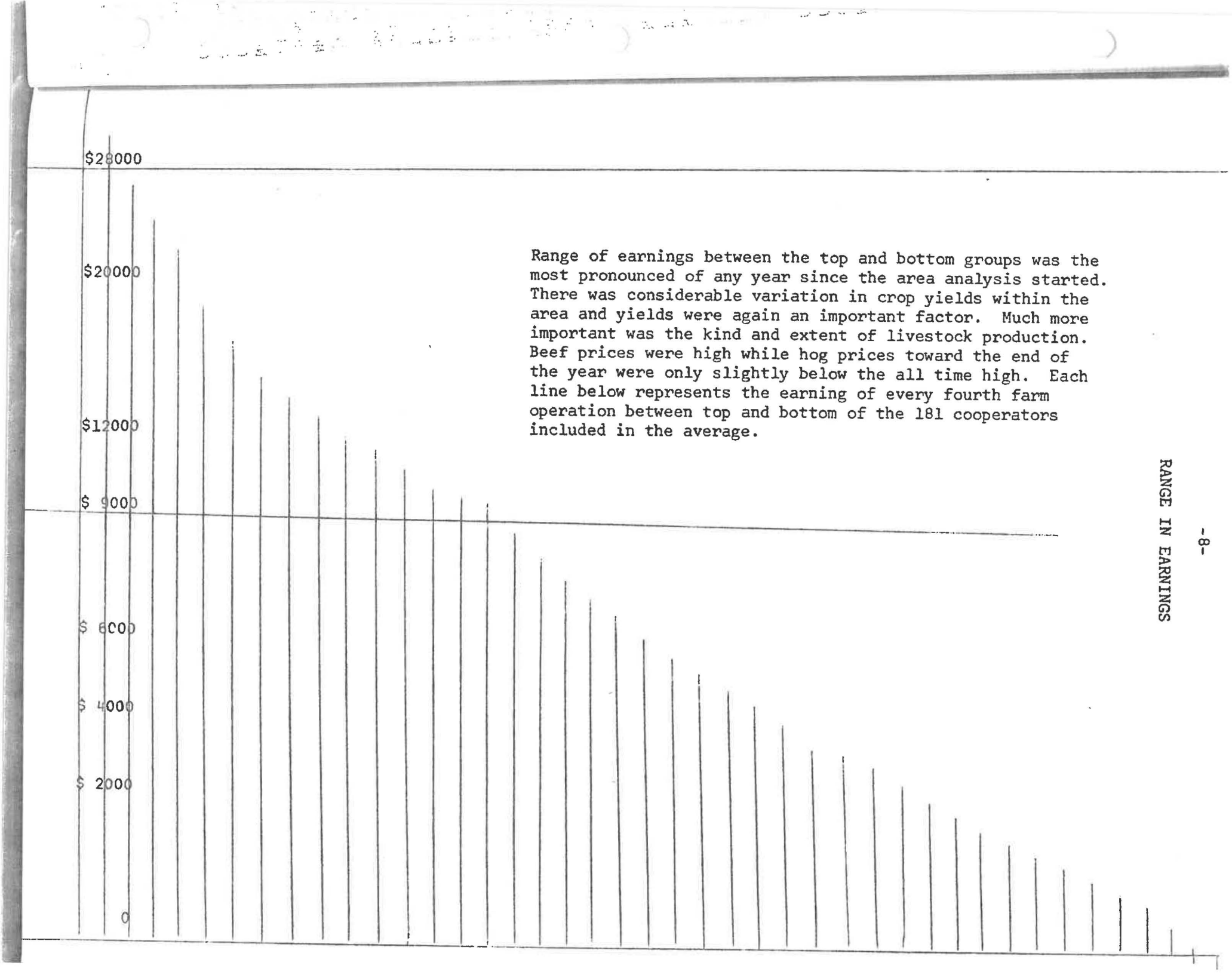
Items	Average of 96 Farms
Number of persons - family	5.3
Number of adult equivalent - family	3.7
Food and meals bought	$1202
Operating and supplies	384
Furnishings and equipment	315
Clothing and clothing materials	450
Personal care - personal spending	163
Education - recreation - development	278
Gifts and special events	185
Medical care and health insurance	489
Church and welfare	240
Personal share truck and auto expense	216
Operator's share of upkeep on dwelling	84
Personal share telephone & electric expense	126
Total cash living expense	$4132
Personal share new auto and truck	266
New dwelling bought	339
Taxes and other deductions	328
Life insurance	361
Other savings and investments	260
Total household & personal cash expense	$5686
Total family living from the farm	357
Total cash expense and perquisites	$6043
Income: Operator's labor earnings	$8236
Return to capital and labor	$9867
Total non-farm income	$ 693

TABLE 5 NET WORTH STATEMENT FOR THOSE FARMERS WHO KEPT A COMPLETE RECORD OF ALL ASSETS AND LIABILITIES 1965 (OPERATOR'S SHARE)

	Owners 102 Farms		Renters 35 Farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total farm capital	$63181	$69904	$22835	$27926
Auto (personal share)	572	585	290	413
Dwelling	3908	4277	---	113
Other personal assets	7558	7916	5320	5826
Total assets	$75219	$82682	$28445	$34278
Real estate mortgages	$21053	$20913	$ 177	$ 164
Chattel mortgages	5741	6574	5802	5625
Notes	1778	2472	3232	3463
Accounts payable	1087	1353	1679	2237
Total liabilities	$29659	$31312	$10890	$11489
Farmer's net worth	$45560	$51370	$17555	$22789
Gain in net worth		$ 5810		$ 5234

TABLE 6 SUMMARY OF FARM EARNINGS BY TENURE 1965 (OPERATOR'S SHARE)

Items	Adjustments	138 Owners & Part Owners	43 Renters
FARM RECEIPTS			
Dairy & dual purpose cattle		$ 1467	$ 1516
Dairy products		5457	5408
Beef cattle (including feeders)		4321	4058
Hogs		10536	6697
Sheep and wool (including feeders)		77	38
Poultry (including turkeys)		65	6
Eggs		546	72
Corn		1720	622
Small grain		194	53
Diverted acre income		1443	818
Other crops		2686	1093
Machinery and equipment sold		353	259
Income from work off farm		389	380
Miscellaneous		494	209
(1) Total farm sales		$29748	$21229
(2) Increase in farm capital		7538	5917
(3) Family living from farm		360	294
(4) Total farm receipts (1) + (2) + (3)		$37646	$27440
FARM EXPENSES			
Dairy and dual purpose cattle bought		$ 395	$ 587
Beef cattle bought (including feeders)		2317	1924
Hogs bought		1033	342
Sheep bought (including feeders)		--	5
Poultry		115	2
Miscellaneous livestock expense		561	575
Feed		4918	4498
Fertilizers		1614	826
Other crop expense		1314	743
Custom work hired		780	659
Gas, oil and grease		1085	836
Repair tractor, truck & auto (farm share)		645	616
Repair & upkeep of real estate		366	54
Repair & upkeep of crop & general machinery		532	407
Repair & upkeep of livestock equipment		166	131
Wages of hired labor		560	302
Electricity expense (farm share)		316	246
R.E. & personal property taxes		1047	163
Cash rent		480	1636
General farm expenses		403	236
Interest paid		1622	468
Total cash operating expenses		$20269	$15256
Mechanical power bought (farm share)		1646	1114
Crop & general machinery bought		1830	1682
Livestock & equipment bought		500	428
New real estate improvements		2640	1076
(5) Total farm purchases		$26885	$19556
(6) Decrease in farm capital		-----	-----
(7) Interest on farm capital		1826	765
(8) Unpaid family labor		631	637
(9) Board furnished hired labor		89	59
(10) Total farm expenses (5) + (6) + (7) + (8) + (9)		$29431	$21017
(11) Labor earnings (4) minus (10)		8215	6423
(12) Ret. to Cap. & Family Labor (7) + (8) + (11)		$10672	$ 7825



Range of earnings between the top and bottom groups was the most pronounced of any year since the area analysis started. There was considerable variation in crop yields within the area and yields were again an important factor. Much more important was the kind and extent of livestock production. Beef prices were high while hog prices toward the end of the year were only slightly below the all time high. Each line below represents the earning of every fourth farm operation between top and bottom of the 181 cooperators included in the average.

WORK UNITS

The total work units for any one farm is a measure of the size of that farm business. A work unit as used in this report is the average accomplishment of a farm worker in a ten hour day. The number of work units per farm or per worker may be interpreted differently for different farm situations. They may measure the degree of efficiency of labor due to mechanization or careful planning. They may also measure quality or quantity of work. Occasionally, high work units per worker indicate an excessive work load. The number of work units for each class of livestock and each acre of crop are presented in Table 7.

TABLE 7 Number of Work Units for Each Class of Livestock and Each Acre of Crop

Item	No. of Work Units	Item	No. of Work Units
Dairy & dual purpose cows	10.0 per cow	Small grain	.5 per acre
Other dairy & dual pur cattle	3.5 per an.unit*	Sugar beets	3.0 per acre
Beef breeding herd	3.5 per an.unit*	Sweet corn	.7 per acre
Feeder cattle	.25 per 100#	Corn, husked	.7 per acre
Sheep - farm flock	1.5 per an.unit*	Corn, hogged	.4 per acre
Sheep - feeders	.3 per 100#	Corn, shredded	1.5 per acre
Hogs	.2 per 100#	Corn, silage	1.0 per acre
Turkeys	.2 per 100#	Corn, fodder	1.0 per acre
Hens	20.0 per 100 hens	Alfalfa hay	.6 per acre
Canning peas	.5 per acre	Soybean hay	.5 per acre
Soybeans for grain	.5 per acre	Other hay crops	.4 per acre
Turkey hens	40.0 per 100 hens		

* Animal unit represents one dairy cow or bull, two other dairy cattle, one and one-fourth beef cows or bulls, one feeder steer or heifer, three and one-third other beef cattle, seven sheep, fourteen lambs, two and one-half hogs, five pigs, fifty laying hens, twenty-five turkey hens, eleven hundred pounds of turkey produced.

TABLE 8 MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY 1965

Measures used in Chart on Page 11	Average of 181 farms	36 most profitable farms	36 least profitable farms
Labor earnings	$8776.00	$19107.00	$1197.00
(1) Crop yields *	100	106	84
(2) Per cent tillable land in high return crops	67.1	72.4	61.1
Gross return per acre	$ 67.09	$ 72.37	$ 55.13
(3) Return for $100 feed to produce livestock *	100	103	91
(4) Productive livestock units per 100 acres **	29.8	39	29
(5) Size of business - work units	510	644	485
(6) Work units per worker	335	360	329
(7) Power, machinery, equipment & building expense per work unit	$ 12.55	$ 13.65	$ 11.47
Items Related to Some of the Above Measures			
(3) Index of return for $100 feed from:			
Dairy cattle (see pp. 15 & 16)	100	106	89
Beef cattle - breeding herd (see p. 17)	100	81	--
Beef cattle - feeders (see p. 17)	100	96	86
Hogs (see pp. 13 & 14)	100	101	89
Sheep - farm flock (see p. 18)	100	111	96
Chickens (see p. 19)	100	98	103
(4) Number of animal units	76.9	130.1	60.5
(5) Work units on crop	138	184	105
Work units on productive livestock	359	448	365
(7) Power expense per work unit	$5.80	$5.85	$5.53
Crop machinery expense per work unit	$3.11	$3.45	$2.75
Livestock equipment exp. per work unit	$ .93	$1.19	$ .87
Building & fence exp. per work unit	$2.71	$3.16	$2.32

* Given as a percentage of the average.

** Acres in timber not pastured, roads, waste and farmstead were not included.

NOTE: Agricultural Records Cooperative has a classification of "Other Productive Work Units" which accounts for the slight discrepancy in total work units.

THERMOMETER CHART

Using your figures from page 10, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 181 farms included in this summary are located between the dotted lines across the center of this page.

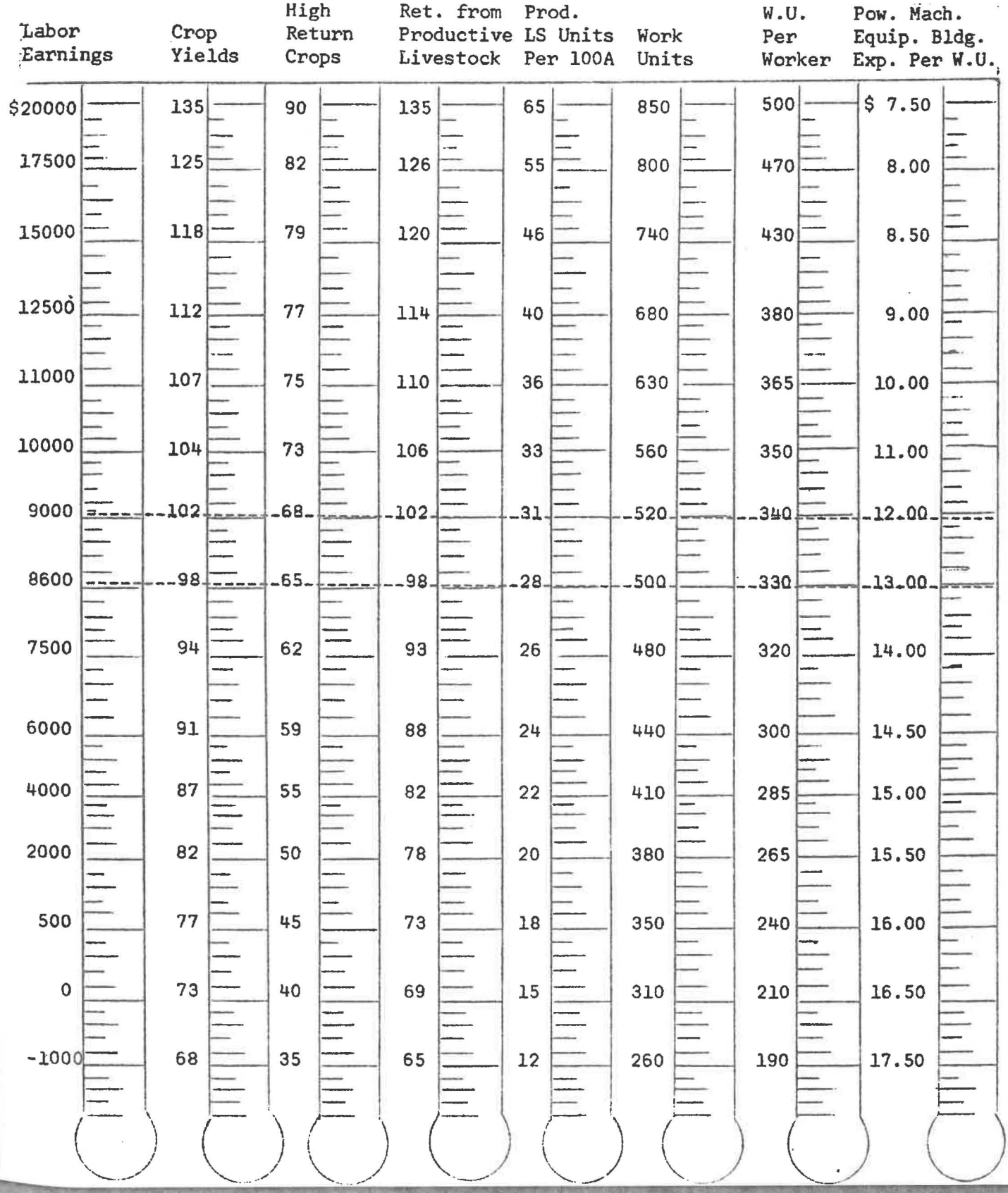


TABLE 9 DISTRIBUTION OF ACRES AND YIELD 1965

Crop	Crop rating	Number growing	Average acres of 181 Farms	Adjustments	Average yield
Canning peas	B	11	1.4		$66.34
Wheat	C	12	.8		18.5 bu.
Barley	D	2	.3		65.2 bu.
Oat silage	C	28	1.7		6.5 ton
Oats for grain	D	157	22.8		71.5 bu.
			27.0		
Sugar beets	A	2	1.3		13.9
Corn grain	A	181	86.7		73.2 bu.
Canning corn	B	16	3.3		$51.62
Soybeans	B	152	49.2		22.1 bu.
Corn silage	B	132	12.0		12.6 ton
Other crops		1	.1		
Total cultivated crops			152.6		
Alfalfa	B	146	22.5		2.7 ton
Other legume & legume mixture	C	22	2.7		2.5
Miscellaneous hay & seed *	D	38	2.3		2.5
Total tillable land in hay			27.5		
Alfalfa pasture	B	78	7.1		
Other legume pasture	C or B	14	.9		
Other tillable pasture	D	43	2.4		
			10.4		
Government program	A	120	25.5		$60.76
Tillable land not cropped (including plowdown & waterways)	D	11	.5		
Total tillable land			243.5		
Wild hay		11	.3		
Non-tillable pasture		108	14.0		
Timber		28	2.2		
Roads and waste			10.5		
Farmstead			8.7		
Total acres in farm			279.2		
Per cent land tillable			87.2		
Per cent in high return crops			67.1		

* Some crops were grouped because acreages for each were less than one acre.

TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 10. This differs from the "return over feed" shown in the enterprise statement in that it is the total for each class of livestock instead of a return "per head," "per unit" or "per 100 pounds." These data indicate the relative importance of different classes of livestock as a source of income and as a market for feed. The value of milk consumed by calves is included in the total returns from dairy or dual purpose cattle. The value of milk consumed by calves is not included in either the total returns or the feed cost of "all dairy" or "all dual purpose" cattle. The return over feed is not a net return, but rather the amount available from the gross income after paying the feed bill, to cover the outlay for hired labor, power, equipment, taxes, insurance, interest, and veterinary bills, and to provide a return for the use of family labor and capital.

TABLE 10 Total Feed Costs and Returns from Your Livestock Enterprises 1965

	Dairy or Dual Purpose Cattle			Beef Breeding Herd
	Cows	Other	All	
Total returns				
Total feed cost				
Total return over feed				

	Feeder Cattle	Hogs	Farm Flock of Sheep	Chickens
Total returns				
Total feed cost				
Total return over feed				

Feed is the largest single item of cost for all classes of livestock. The proportion of the total cost represented by feed varies between classes of livestock. Feed makes up approximately 45 per cent of the total costs of maintaining dairy cattle and poultry, 50 per cent in the case of a farm flock of sheep and 65 to 75 per cent for hogs, feeder cattle and feeder lambs. It is necessary to secure a relatively higher return over feed from dairy cattle and poultry than from the other livestock enterprises to cover costs other than feed.

TABLE 11 FEED COSTS AND RETURNS FROM HOGS 1965

Items	Adjust-ments	Average of 103 Farms	30 Farms high in return a-bove feed	20 Farms low in return a-bove feed
Feed per cwt. hogs produced (lbs.):				
Corn		300	278	293
Small grain		40	40	47
Commercial feeds		68	62	72
Total Concentrates		408	380	412
Forage and miscellaneous		5	7	6
Feed cost per cwt. hogs produced:				
Concentrates (plus forage & misc.)		$11.38	$10.34	$13.68
Pasture		.01	.02	.02
Total feed costs		$11.39	$10.36	$13.70
Net increase in value per cwt. of hogs produced		$24.19	$25.29	$23.09
Return above feed cost per cwt. of hogs produced		$12.80	$14.93	$ 9.39
Return for $100 feed		$212.00	$244.00	$169.00
Price received per cwt. hogs sold		$20.91	$21.78	$20.15
Number of litters farrowed		43	47	28
Number of pigs born per litter		9.4	9.7	8.8
Number of pigs weaned per litter		7.5	7.8	6.7
Lbs. of hogs produced		70,750	69,793	45,928

Operators producing less than 10,000 pounds of pork are omitted from hog averages. Questionable records were omitted, including those who produced hogs for only a portion of the year. Feeder pig operations are shown in Table 18. We are not able to explain why A.R.C. used different numbers of cases for high return and low return operations.

DAIRY AND DUAL PURPOSE CATTLE

No herds were classed as dual purpose. Farms raising only dairy heifers were omitted as were herds with averages of less than five cows. Also omitted were those who had herds for only a portion of the year.

TABLE 12A FACTORS OF COST AND RETURNS FROM DAIRY COWS 1965

Items	Adjust-ments	Average of 117 Farms	29 Farms highest ret. over feed cost	29 Farms lowest ret. over feed cost
Pounds of butterfat per cow		384	462	294
Pounds of milk per cow		10693	12757	8176
Per cent of butterfat in milk		3.6	3.6	3.6
Price rec'd. per lb. BF sold (¢)		95.1	95.5	94.3
Price rec'd. per cwt. milk sold		$3.42	$3.44	$3.39
Feed per cow (lbs.):				
Corn		2958	3418	2415
Small grain		745	738	878
Commercial feeds		553	710	360
Legume hay		4649	5025	4215
Other hay		233	54	259
Total Concentrates		4256	4866	3653
Total Dry Roughage		4882	5079	4474
Silage		9450	8963	9251
Feed cost per cow:				
Concentrates		$102.78	$118.35	$ 85.38
Roughages		80.86	83.11	75.74
Pasture		9.23	10.82	9.50
Total Feed Costs		$192.87	$212.28	$170.62
Value of produce per cow:				
Butterfat sales		$354.34	$430.88	$264.66
Dairy products used in home		4.25	4.54	4.88
Milk to livestock		6.13	5.87	6.52
Net increases in value of cows		-15.33	-12.86	-15.01
Total value produced		$349.39	$428.43	$261.05
Return above feed per cow		$156.52	$216.15	$ 90.43
Return for $100 of feed		$181.00	$202.00	$153.00
Feed cost per lb. BF (¢)		50.3	45.9	58.1
Number of cows		26.8	29.3	24.8

NOTE: No breakdown was made on the basis of high and low butterfat herds - thus, we are unable to provide a Table 12 or a page 15.

TABLE 13 FEED COSTS AND RETURNS FROM OTHER DAIRY & DUAL PURPOSE CATTLE 1965

Items	Adjust-ments	Average of 118 Farms	29 Farms highest ret. over feed cost	29 Farms lowest ret. over feed cost
Feeds per head (lbs.):				
Concentrates		848	1014	822
Hay and fodder		1496	1543	1392
Silage		3250	3563	2925
Whole milk		148	150	170
Feed cost per head:				
Concentrates		$22.26	$27.73	$21.07
Roughages		26.77	28.61	23.22
Milk		4.95	4.98	5.65
Pasture		3.96	4.27	3.58
Total feed costs per head		$57.94	$65.59	$53.52
Net increase in value of other cattle		$86.19	$101.89	$73.39
Return above feed cost per head		$28.25	$36.30	$19.87
Returns for $100 feed		$149.00	$155.00	$137.00
No. of head of other cattle		32.6	34.6	28.5

TABLE 14 FEED COSTS & RETURNS FROM ALL DAIRY & DUAL PURPOSE CATTLE 1965

Items	Adjust-ments	Average of 117 Farms	29 Farms highest ret. over feed cost	29 Farms lowest ret. over feed cost
Feed per animal unit (lbs.):				
Concentrates		5297	6063	4596
Hay and fodder		6718	6899	6070
Silage		12799	13165	12605
Total feed costs per animal unit		$264.02	$289.64	$231.99
Value of produce per animal unit:				
Dairy products		$364.72	$441.28	$276.06
Net increase in value of dairy cattle		90.51	107.31	69.13
Total value produced		$455.23	$548.59	$345.19
Returns above feed per cow		$191.21	$258.95	$113.20
Returns per $100 feed		$172.00	$189.00	$149.00
Animal units of cattle		42.4	46.6	38.8

TABLE 15 FEED COST AND RETURNS FROM BEEF CATTLE 1965

Items	Adjustments	Average of 11 Farms
Beef Breeding Herd		
Feeds per animal unit (lbs.):		
Concentrates		291
Legume hay		1444
Silage		8677
Other hay		1552
Feed cost per animal unit:		
Concentrates		$ 9.19
Roughages		50.47
Pasture		12.45
Total feed costs		$72.11
Total value produced		$95.16
Returns above feed cost per animal unit		$23.05
Returns for $100 feed		$132.00
Number of cows and herd bulls		28.9
Number of animal units in the herd		27.3
Lbs. of beef produced		11278
Feeding Cattle - 46 Farms		
Feeds per cwt. beef produced (lbs.):		
Corn		522
Small grain		19
Commercial feeds		49
Legume hay		202
Other hay and fodder		42
Total concentrates		590
Total hay and fodder		244
Silage		868
Feed cost per cwt. beef produced:		
Concentrates		$13.33
Roughages		5.48
Pasture		.18
Total feed costs		$18.99
Net increase in value of feeders		$28.26
Return above feed cost per cwt. beef produced		$ 9.27
Return for $100 feed		$149.00
Price received for feeder cattle sold		$19.35
Number of animal units		55.6
Lbs. of beef produced		31165

Several cooperators had beef breeding animals and also feeders, but sometimes failed to make a distinction. These were not included in the averages. In some cases club calves and project animals represented the only beef produced.

SHEEP

Farm flocks in this area are small and the feed consumption is often impossible to determine. Flocks were carefully screened for reliability. Only three of the twenty reporting sheep were used. Costs and returns are determined on a per ewe basis.

TABLE 16 FEED COSTS AND RETURNS FROM A FARM FLOCK OF SHEEP 1965

Items	Adjustments	Average of 9 Farms
Feeds per ewe (lbs.):		
Concentrates		312
Legume hay		573
Other hay		---
Silage		243
Feed cost per ewe:		
Concentrates		$ 8.00
Roughages		6.45
Pasture		3.11
Total feed costs		$17.56
Value of produce per head:		
Wool *		$ 5.79
Net increase in value of sheep		24.40
Total value produced		$30.19
Returns above feed cost per head		$12.63
Returns for $100 feed		$172.00
Price per cwt. of lambs sold		$21.14
Price per lb. wool sold (¢)		.61
Lbs. of wool per sheep sheared (awaiting correction)		-----
Number of ewes kept for lambing		44.1
Per cent lamb crop		140.0
Per cent death loss		26.8
Average number of ewes		47.0

* Wool return including incentive payment.

CHICKENS

Flocks from 24 farms are included in this report. Only those flocks averaging 200 or more hens and having a full year's production are included in the averages.

TABLE 17 FEED COSTS AND RETURNS FROM CHICKENS 1965

Items	Adjustments	Average of 24 Farms	12 Farms highest in return above feed	12 Farms lowest in return above feed
Feed per hen (lbs.):				
Grain		77	70	88
Commercial feeds		38	41	34
Total concentrates		115	111	122
Total feed cost per hen		$3.35	$3.09	$3.75
Value of produce per hen:				
Eggs sold and used in the home		$4.28	$4.27	$4.30
Net increase in value of chickens		-.50	-.28	-.85
Total value produced		$3.78	$3.99	$3.45
Returns above feed cost per hen		$ .43	$ .90	$-.30
Returns for $100 feed		$113.00	$129.00	$92.00
Price rec'd. per doz. eggs sold (¢)		24.6	24.2	25.2
Eggs laid per hen		209	212	205
Average number hens on farm during year		725	890	559
Per cent death loss of hens **		12.6	12.5	12.8

* Includes feeds and returns from laying flock and chicks raised.

** Basis used by Agricultural Records Cooperative gives a considerably higher percentage of death loss than would be true if previous basis was used.

TABLE 18 FEED COSTS AND RETURNS FROM FEEDER PIGS 1965

	Your Farm	Average of 17 Farms
Concentrates per cwt. hogs produced		404#
Miscellaneous forage		3#
Total feed cost		$10.50
Net increase in value per cwt. produced		$19.64
Return over feed cost per cwt. produced		$ 9.14
Return per $100 feed		$183.00
Average price received		$ 20.81
Pounds pork produced		84319#
Average reported weight of pigs bought		39.8#
Average price paid per pig		$14.62
Average weight of hogs sold		225#
Per cent of death loss		3.7

TABLE 19 AVERAGE PRICES USED FOR FEED 1965

			(Pasture per head per month)
Ear corn	$ 1.10	Dairy & beef cows-bulls	$3.00
Oats per bushel	.65	Young cattle	1.50
Alfalfa hay per ton	22.00	Hogs	.16
Red or Alsike clover hay per ton	18.00	Pigs	.08
Non-legume per ton	14.00	Ewes	.40
Corn silage per ton	$6.00 - $7.00	Lambs	.20

TABLE 20 TRACTOR & CROP MACHINERY EXPENSE PER CROP ACRE 1965 (See Table 8 also)

	Your Farm	181 Farms	High 36	Low 36
Acres per farm in crops and government program		234	311	176
Tractor expense per acre of crop		$7.98	$7.72	$9.02
Crop machinery expense per acre of crop		$7.66	$7.83	$8.30

For additional information divide items "Expenses and Net Decreases" (Table 3) by crop acres.

CORRECTION 1965 ANNUAL ANALYSIS REPORT

TABLE 20 TRACTOR AND CROP MACHINERY EXPENSE PER CROP ACRE

	181 Farms	High 36 Farms	Low 36 Farms
ACRES PER FARM IN CROPS & GOV'T PROGRAM	243	311	176
TRACTOR EXPENSE PER ACRE OF CROP	$5.52	$5.74	$6.59
CROP MACHINERY EXPENSE PER ACRE OF CROP	$6.52	$7.13	$7.59

THE 234 ACRES SHOWN INSTEAD OF 243 CORRECT ACRES IS A TRANSPOSING ERROR. WE WATCH FOR THESE, BUT MISS ABOUT ONE EACH YEAR. THE OTHER ERROR WAS VERY EMBARASSING BECAUSE THE CALCULATION IS SO SIMPLE. IN FACT, IT WAS INTENDED MAINLY AS AN EXAMPLE OF HOW INFORMATION CAN BE DERIVED FROM TABLE 3 SUMMARY OF FARM EARNINGS (ENTERPRISE STATEMENT). HERE IS THE WAY YOU FIND THE ANSWER (AS SOME OF YOU DID, MUCH TO OUR HUMILIATION).

	181 Farms	High 36 Farms	Low 36 Farms
Tractor Expense	$1342 ÷ 243 A	$1785 ÷ 311 A	$1159 ÷ 176A
Crop Machine Expense	$1585 ÷ 243 A	$2219 ÷ 311 A	$1336 ÷ 176A

If you want to determine other expenses per crop acre follow the same procedure. The enterprise statement shows net decreases as of 181 farms for truck as $365, farm share of auto $507, etc. If you wish to know the cost per crop acre, simply divide these figures by the number of crop acres (243).

If you think it has any particular value, you may determine returns per crop acre in the same manner. For example, "total returns and net increases" per crop acre (less income from work off the farm) averaged $94.44 for 181 farms. Total expenses and net decreases averaged $59.40.

We are sorry for our error, but pleased that some instructors and cooperating farmers examined their report so thoroughly that they caught a discrepancy that was near the end of the report.

LABOR EARNINGS CORRELATED WITH EXCELLED FACTORS

Studies of earnings of farmers in this report were measured by eight management factors causing variations in earnings among farmers within a given year. These eight factors are crop yields; choice of crops; gross returns per acre; returns from livestock; amount of livestock; size of business; accomplishments per worker and control over expenses. The combined or cumulative influence of these eight management factors on earnings is shown in Table 21. Comparisons of how individuals were related to income levels is shown in Table 8.

TABLE 21 - 181 FARMS

Number of factors in which Farmers excelled	Number of Farms	Average Labor Earnings $4000 .	$8000 .	$12000 .	
0 or 1	24	XX			$ 5006
2 or 3	61	XXXX			6068
4 or 5	64	XXXXXXXXXXXXXXXXXXXXX			11006
6	19	XXXXXXXXXXXXXXXXXXXXXXX			11344
7 or 8	13	XXXXXXXXXXXXXXXXXXXXXXXXXXX			13719

EARNINGS OF 40 OPERATORS NOT INCLUDED IN THE AVERAGES

These farms were omitted mainly because of three factors (1) twenty-one books were submitted too late (2) nine records were not considered to be sufficiently reliable and (3) ten were not typical farming operations - one business was incorporated, some were part-time operations, while others had unusual situations or combinations.

Labor earnings from all farms averaged $9525. The top ten farms had labor earnings averaging $24333. The ten lowest income farms averaged $1341 labor earnings. Work units on these farms ranged from a low of 41 to a high of 2697.

CORRECTIONS

Due to the bad storm on March 23, two Austin cooperators were unable to complete their records. With no electricity for three days some farmers fell far behind with their work. We had only 221 books instead of 223.

As soon as time will permit, a check will be made on weight of wool produced per sheep and yields of hay.

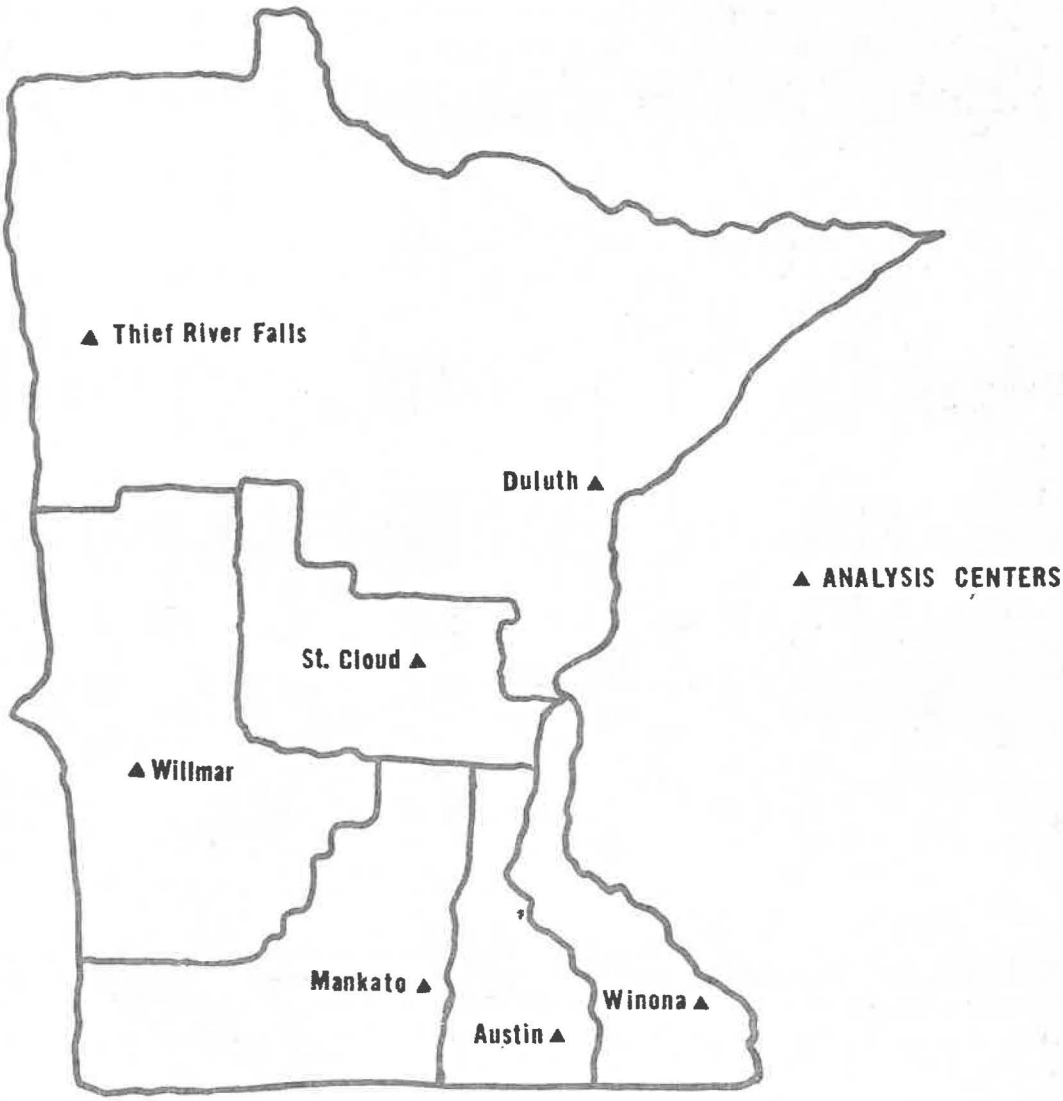
SUMMARY OF FARM EARNINGS BY YEARS

Items	1960	1961	1962	1963	1964	1965
FARM RECEIPTS						
Dairy cattle	$ 1160	$ 1602	$ 1402	$ 1348	$ 1570	$ 1722
Dairy products	4726	4776	5050	5073	6237	6154
Beef cattle (inc. feeders)	6958	5585	4645	3813	3781	4781
Hogs	6426	8751	8346	7860	8196	10413
Sheep and wool	181	147	155	234	82	76
Diverted acre income (shown separately 1965)						1552
Poultry	2280	78	49	25	37	53
Eggs	1628	989	676	546	712	452
Corn	1468	883	1601	2137	2220	1981
Small grain	401	505	507	726	431	235
Other crops	961	1179	1491	2472	2894	2775
Mach. equip. sold & gas tax ref.	172	208	266	281	302	343
Income from work off farm	406	174	228	327	299	395
Miscellaneous *	239	875	983	1478	1530	440
(1) Total farm sales	$27006	$25752	$25399	$26320	$28291	$31372
(2) Increase in farm capital	1795	3180	669	2554	-	7170
(3) Family living from the farm	326	341	368	330	317	363
(4) Total farm receipts (1+2+3)	$29127	$29273	$26436	$29204	$28608	$38905
FARM EXPENSE						
Dairy cattle bought	$ 373	$ 333	$ 250	$ 221	$ 273	$ 482
Beef cattle bought (inc. feeders)	3493	3949	2386	2829	1635	2402
Hogs bought	530	537	669	590	724	928
Sheep bought (inc. feeders)	43	17	5	36	6	2
Poultry bought	720	117	92	57	138	88
Miscellaneous livestock	777	568	570	582	601	629
Feed bought	5546	4604	4238	4341	4611	5246
Fertilizers	1085	1000	1065	1327	1522	1612
Other crop expenses	695	699	716	973	1153	1325
Custom work hired	607	592	629	722	840	831
Gas-oil-grease bought (f.share)	991	951	1010	1083	1028	1088
Repair of mech. power (f.share)	533	522	534	595	580	664
Repair & upkeep of real estate	324	332	375	336	323	386
Repair & upkeep of crop & gen. mach.	397	347	357	440	410	518
Repair & upkeep of livestock equip.	139	168	158	172	193	167
Wages of hired labor	570	459	348	538	470	531
Electricity expense (f.share)	309	292	300	299	319	320
Real estate & personal property tax	906	934	1066	1206	1277	1382
General farm expense	330	293	310	333	389	387
(5) Total cash operating expense	$18368	$16714	$15078	$16680	$16492	$18988
(6) Cap. purch. mech. power bought	697	560	992	696	1126	1596
(7) Crop & general machinery bought	1174	995	1090	923	1037	1827
(8) Livestock equipment bought	628	216	320	423	380	498
(9) New R.E. improvements&land(1965)	1360	1010	1036	1095	1072	2383
(10) Total farm purchases (5)-(9)	$22227	$19495	$18516	$19814	$20107	$25292
(11) Decrease in farm capital					143	
(12) Interest on farm capital	3106	3077	3138	3528	3764	4122
(13) Unpaid family labor	529	550	638	634	658	633
(14) Board furnished hired labor	51	68	67	66	78	82
(15) Total farm expense (10)-(14)	$25913	$23190	$22359	$24042	$24750	$30129
(16) Labor earnings (4) minus (15)	$ 3214	$ 6083	$ 4077	$ 5162	$ 3858	$ 8776

* Government program payments included prior to 1965.

Area Coordinators

Thief River Falls - Peter Probasco
Duluth - - Robert Anderson
St. Cloud - - Ed O'Connell
Mankato - - Del Hodgkins
Austin - - Charles Painter
Winona - - Gordon Ferguson
Staples - - William Guelker
Willmar - - - Ed Hartog



COOPERATING
VOC. AG. DEPARTMENTS
in Austin Area

Faribault
Wanamingo
Zumbrota
Kenyon
Blooming Prairie
Austin
Hayfield
Spring Valley
Adams
Lyle
Owatonna
LeRoy
West Concord
New Richland
Alden
Stewartville
Dodge Center
Farmington

Appendix F

Annual Report

VOCATIONAL AGRICULTURE FARM ANALYSIS

EAST SOUTH CENTRAL MINNESOTA

1968

Austin Area Vocational School

AUSTIN, MINNESOTA

IN COOPERATION WITH

VOCATIONAL DIVISION, MINNESOTA DEPARTMENT OF EDUCATION
AND AGRICULTURAL EDUCATION DEPARTMENT
UNIVERSITY OF MINNESOTA

69

April 1969

1968 VOCATIONAL AGRICULTURE FARM ANALYSIS REPORT
EAST SOUTH CENTRAL AREA - CHARLES PAINTER, COORDINATOR

INDEX

INTRODUCTION

THE FIRST ANALYSIS MADE BY THE AUSTIN AREA VOCATIONAL-TECHNICAL SCHOOL WAS FOR THE YEAR 1955. THREE OTHER ANALYSIS CENTERS IN MINNESOTA WERE ALSO INVOLVED WITH ANALYSIS. WITH THE EXPANSION OF THE PROGRAM, IT WAS FOUND NECESSARY TO GO TO DATA PROCESSING FOR THE ARITHMETICAL CALCULATION. THE 1967 ANALYSIS INCLUDED CROP PRODUCTION COSTS. WITH BETTER CROP PRODUCTION RECORDS THIS YEAR WE FEEL THAT GREATER USE CAN BE MADE OF THE INFORMATION IN THE 1968 ANALYSIS THAN THAT OF LAST YEAR.

THE ADDITIONAL INFORMATION HAS ADDED MUCH TO THE VOLUME OF THE SUMMARY. IN THE INTEREST OF SPACE WE HAVE SHORTENED THE DISCUSSION AND EXPLANATION. THE ASSISTANCE AND COUNSEL PROVIDED BY THE FOLLOWING PEOPLE IS MUCH APPRECIATED:

AUDREY ANHORN, MADGE ANDERSON, PATRICIA FRANCIS, EILEEN HEIMSNESS, ELAINE HARBER, DARLENE MILLER, ADELEEN PALAN, LYNDA PLANZ, HELEN BERGH, VIVIAN ULRICH.

I. T. MICKELSON, MORTON CARNEY, MONTE STRATING, G. R. COCHRAN, EDGAR PERSONS, MILO PETERSON, TRUMAN NODLAND.

DATA PROCESSING WAS DONE BY AGRICULTURAL RECORDS COOPERATIVE - MADISON, WISCONSIN.

SCHOOL	NO. OF BOOKS	INSTRUCTORS
ADAMS	40	DWAIN VANGSNESS* LEROY SWANSON
ALDEN	2	JOHN NELSON*
AUSTIN	10	JOE RAINE* DONALD RITLAND
BLOOMING PRAIRIE	52	GENE FRANCIS* HAROLD ULRICH TRUMAN TILLERAAS
BYRON	3	GILMAN SCHUBERT*
ELKTON	4	LYNN LAGERSTEDT*
FARIBAULT	80	RALPH PALAN* MAYNARD HUGHES-PAUL DAY-ROGER WENESS
HAYFIELD	15	BRUCE OXTON* BERT FULLER FRANK MOON
KENYON	13	FRANK WHITE* JOHN SHELSTAD
NEW RICHLAND	10	RUSSELL SCHMEISING* LEE MENDENHALL
NORTHFIELD	6	HAROLD PAULSON* RICHARD FORSLINE
OWATONNA	25	JOHN ZWIEBEL* GLEN EDIN
SPRING VALLEY	13	JAMES ERREDGE* LEROY BATTCHER
STEWARTVILLE	8	FRANK QUAM*
WEST CONCORD	2	WESLEY FAUSCH*
ZUMBROTA	1	EUGENE HUNDEBY*

* INSTRUCTOR RESPONSIBLE FOR THE ADULT AGRICULTURE PROGRAM

TABLE 1 - FARM INVENTORIES - 1968

ITEMS		AVERAGE OF 217 FARMS	
1-2	SIZE OF FARM-TOTAL ACRES & TILLABLE A	301.7	263.1
3	WORK UNITS-CROPS	122.18	
4-5	LIVESTOCK & OTHER	240.16	12.45
6	TOTAL SIZE-WORK UNITS	374.79	
7	NUMBER OF WORKERS	1.4	
7A	FARM CAPITAL INVESTMENT PER WORKER	$ 79435	
8	PRODUCTIVE LIVESTOCK	JAN.1	DEC. 31
9	DAIRY COWS	$ 4112	$ 4207
10	OTHER DAIRY CATTLE	2232	2362
11	BEEF BREEDING CATTLE	668	754
12	BEEF FEEDER CATTLE	2833	3030
13	HOGS	4076	4777
14-16	OTHER PRODUCTIVE LIVESTOCK	137	102
17	TOTAL PRODUCTIVE LIVESTOCK	$ 14058	$ 15232
18	CROP, SEED AND FEED	$ 12270	$ 13424
19	POWER, MACHINERY & EQUIPMENT		
20	AUTO & TRUCK (FARM SHARE)	$ 1610	$ 1751
21	POWER & MACHINERY	11580	12313
22	LIVESTOCK EQUIPMENT	2665	2884
23	TOTAL POWER, MACHINERY & EQUIPMENT	$ 15855	$ 16948
24	LAND	$ 43808	$ 44703
25	BUILDINGS-FENCES-ETC.	$ 20789	$ 22187
26	TOTAL FARM CAPITAL	$106780	$112494

ITEMS		43 MOST PROFIT FARMS		43 LEAST PROFIT FARMS	
1-2	SIZE OF FARM-TOTAL A & TILL A	381.8	338.3	284.6	244.1
3	WORK UNITS-CROPS	156.21		116.36	
4-5	LIVESTOCK & OTHER	339.74	15.05	143.34	8.00
6	TOTAL SIZE-WORK UNITS	511.00		267.70	
7	NUMBER OF WORKERS	1.6		1.4	
7A	FARM CAPITAL INVESTMENT PER WKR.	$96553		$79297	
8	PRODUCTIVE LIVESTOCK	JAN. 1	DEC. 31	JAN. 1	DEC. 31
9	DAIRY COWS	$ 5514	$ 5799	$ 2531	$ 2257
10	OTHER DAIRY CATTLE	2859	3279	1370	1394
11	BEEF BREEDING CATTLE	703	748	858	1195
12	BEEF FEEDER CATTLE	3447	4149	1220	979
13	HOGS	7169	8504	2684	3218
14-16	OTHER PRODUCTIVE LIVESTOCK	47	41	75	93
17	TOTAL PRODUCTIVE LIVESTOCK	$19739	$ 22520	$ 8738	$ 9136
18	CROPS, SEED AND FEED	$ 16808	$ 19923	$ 12300	$ 12590
19	POWER, MACHINERY & EQUIPMENT				
20	AUTO & TRUCK (FARM SHARE)	$ 2215	$ 2336	$ 1425	$ 1375
21	POWER AND MACHINERY	14612	16539	10566	11126
22	LIVESTOCK EQUIPMENT	3838	4383	1644	1770
23	TOTAL POWER, MACH. & EQUIP.	$ 20665	$ 23258	$ 13635	$ 14271
24	LAND	$ 56920	$ 58851	$ 45936	$ 46756
25	BUILDINGS-FENCES-ETC.	$ 27278	$ 30424	$ 18797	$ 19817
26	TOTAL FARM CAPITAL	$141410	$154976	$ 99406	$102570

TABLE 1 INCLUDES ANY LANDLORDS SHARE OF LAND AND OTHER PROPERTY. LAND IS VALUED AT COST INSTEAD OF MARKET VALUE-BUILDING & EQUIPMENT AT DEPRECIATED VALUE.

TABLE 2A - WHOLE FARM SUMMARY OF CASH RECEIPTS - 1968

	ITEMS	AVERAGE OF 217 FARMS	43 MOST PROFITABLE FARMS	43 LEAST PROFITABLE FARMS
1	SALE OF LIVESTOCK & LIVESTOCK PRODUCTS			
2	DAIRY COWS	$ 1290	$ 1617	$ 1063
3	DAIRY PRODUCTS	8917	12778	4209
4	OTHER DAIRY CATTLE	1083	1269	847
5	BEEF BREEDING CATTLE	125	144	92
6	BEEF FEEDER CATTLE	5859	9842	2177
7A	HOGS COMPLETE	8790	13904	6884
7B	HOGS FINISHING	2765	7183	244
7C	HOGS PRODUCING WEANING PIGS	346	1056	2
8	SHEEP & WOOL	60	24	39
9	CHICKENS (INCL. HENS & BROILERS)	13	8	11
10	TURKEYS			
11	EGGS	288	93	132
12	OTHER PRODUCTIVE LIVESTOCK	40		
12A	TOTAL SALES OF PRODUCTIVE LIVESTOCK	$29576	$47918	$15700
13	SALE OF CROPS			
14	CORN	$ 2537	$ 3693	$ 2337
15	SOYBEANS, FLAX, SUNFLOWERS	3146	4083	2679
16	WHEAT, OATS, BARLEY, RYE	529	798	450
17	POTATOES, SUGAR BEETS, & OTHER	535	345	1789
18	HAY, SILAGE & OTHER CROPS	155	298	121
19	DIVERTED ACRE PAYMENT	1749	2290	1842
19A	TOTAL SALES FROM CROPS	$ 8651	$11507	$ 9218
20	CAPITAL ASSETS SOLD	551	2014	343
21	GAS TAX REFUND	227	247	205
22	INCOME FROM WORK OFF THE FARM	519	767	312
23	PATRONAGE REFUNDS	297	486	218
24	MISCELLANEOUS FARM INCOME	386	345	541
25	TOTAL FARM SALES	$40207	$63284	$26537
26	INCREASE IN FARM CAPITAL	$ 5712	$13568	$ 3166
27	FAMILY LIVING FROM THE FARM	379	444	264
28	TOTAL FARM RECEIPTS (25)+(26)+(27)	$46298	$77296	$29967
29	ADJUSTED TOTAL FARM SALES (25)-(20)	$36155	$61270	$26194
30	TOTAL CASH FARM OPERATING EXPENSE	$23300	$36570	$16802
31	NET CASH OPERATING INCOME	$12855	$24700	$ 9392

TABLE 2B - WHOLE FARM SUMMARY OF CASH EXPENSES - 1968

	ITEMS	AVERAGE OF 217 FARMS	43 MOST PROFITABLE FARMS	43 LEAST PROFITABLE FARMS
1	PURCHASE OF LIVESTOCK			
2	DAIRY COWS	$ 242	$ 288	$ 261
3	OTHER DAIRY CATTLE	238	214	256
4	BEEF BREEDING CATTLE	71	52	176
5	BEEF FEEDER CATTLE	3143	6603	922
6A	HOGS COMPLETE	488	571	577
6B	HOGS FINISHING	899	1974	299
6C	HOGS PRODUCING WEANING PIGS	45	118	15
7	SHEEP	18	1	26
8	CHICKENS (INCL. HENS & BROILERS)	10	15	14
9	TURKEYS			
10	OTHER PRODUCTIVE LIVESTOCK	15		
11	MISCELLANEOUS LIVESTOCK EXPENSE	962	1420	493
12	FEED BOUGHT	5376	9531	2734
13	FERTILIZER	2314	3067	2360
14	CHEMICALS	921	1306	885
15	OTHER CROP EXPENSE	1202	1566	1110
16	CUSTOM WORK HIRED	1327	1666	1312
17	REPAIR + UPKEEP OF LIVESTOCK EQUIPMENT	225	379	117
18	REPAIR + UPKEEP OF FARM REAL ESTATE	423	661	361
19	GAS, OIL, GREASE BOUGHT (FARM SHARE)	1224	1462	1099
20	REPAIR+OPER.OF MACH,TRACTOR,TRUCK,AUTO (F.S.)	1259	1658	1127
21	WAGES OF HIRED LABOR	657	1213	650
22	PERSONAL PROPERTY + REAL ESTATE TAXES	1257	1557	1217
23	GENERAL FARM EXPENSE	476	583	391
24	TELEPHONE EXPENSE (FARM SHARE)	89	108	78
25	ELECTRICITY EXPENSE (FARM SHARE)	419	557	322
26	TOTAL CASH OPERATING EXPENSE	$23300	$36570	$16802
27	POWER,CROP & GENERAL MACH.BOUGHT(FARM SHARE)	$ 3412	$ 5489	$ 3047
28	LIVESTOCK EQUIPMENT BOUGHT	692	1272	489
29	NEW REAL ESTATE + IMPROVEMENT	4114	8629	3375
30	TOTAL FARM PURCHASES(26)THRU(29)	$31518	$51960	$23713
31	DECREASE IN FARM CAPITAL			
32	INTEREST ON FARM CAPITAL	$ 5481	$ 7409	$ 5049
33	UNPAID FAMILY LABOR	612	463	615
34	LABOR CHARGE FOR PARTNERS + OTHER OPERATORS	376	733	174
35	BOARD FURNISHED HIRED LABOR	71	91	63
36	TOTAL FARM EXPENSE (30) THRU (35)	$38058	$60656	$29614
37	LABOR EARNINGS (WHOLE FARM) (2A/2B)-(36)	$ 8240	$16640	$ 353
38	NUMBER OF OPERATORS	1	1	1

TABLE 3 - ENTERPRISE STATEMENT - 1968

	ITEMS	AVERAGE OF 217 FARMS	43 MOST PROF. FARMS	
1	RETURNS AND NET INCREASES			
2	PRODUCTIVE LIVESTOCK			
3	DAIRY CATTLE	$ 8988	$12949	$ 4190
4	OTHER DAIRY CATTLE	2470	3617	1331
5	BEEF BREEDING CATTLE	298	227	380
6	FEEDER CATTLE	2720	3630	954
7	COMPLETE HOG ENTERPRISE	8962	14594	6651
8	HOG FINISHING ENTERPRISE	1814	4920	156
9	PRODUCING WEANING PIGS	455	1382	9
10	FARM FLOCK SHEEP	52	13	32
11	FEEDER LAMBS			
12	CHICKENS (INCLUDING HENS & BROILERS)	243	103	141
13	TURKEYS			
14	OTHER PRODUCTIVE LIVESTOCK	36		
15	ALL PRODUCTIVE LIVESTOCK	$26038	$41435	$13844
16	VALUE OF FEED FED TO LIVESTOCK	14220	21339	8784
17	RETURN OVER FEED FROM LIVESTOCK	11818	20096	5060
18	CROP, SEED AND FEED	14134	20364	11175
19	INCOME FROM LABOR OFF THE FARM	249	301	160
20	COOPERATIVE PATRONAGE REFUNDS	297	486	218
21	MISCELLANEOUS FARM INCOME	386	345	541
22	TOTAL RETURNS & NET INCREASES	$26884	$41592	$17154
23	EXPENSES AND NET DECREASES			
24	TRUCK AND AUTO (FARM SHARE)	$ 1288	$ 1716	$ 1087
25	TRACTORS AND CROP MACHINERY	3918	4876	3903
26	ELECTRICITY	419	557	322
27	LIVESTOCK EQUIPMENT	722	1155	443
28	BUILDINGS, FENCES & TILING	1863	2518	1785
29	BARE LAND	21		108
30	MISCELLANEOUS LIVESTOCK EXPENSE	962	1420	493
31	LABOR	1770	2321	1751
32	LABOR CHARGE FOR OTHER OPERATOR(S)	376	733	174
33	PROPERTY TAX	1257	1557	1217
34	GENERAL FARM EXPENSE & TELEPHONE	565	691	470
35	INTEREST ON FARM CAPITAL	5483	7408	5048
36	TOTAL EXPENSES & NET DECREASES	$18644	$24952	$16801
37	LABOR EARNINGS	$ 8240	$16640	$ 353
38	NUMBER OF FARM OPERATORS	1	1	1

TABLE 3 SHOWS THE RECEIPTS AND EXPENSES ADJUSTED FOR CHANGES IN INVENTORY FOR EACH ENTERPRISE AND EACH CATEGORY OF EXPENSE IN ORDER TO SHOW NET INCREASES AND NET DECREASES AND IS ANOTHER METHOD OF DETERMINING LABOR EARNINGS.

TABLE 4 - HOUSEHOLD EXPENSE - 1968

	ITEMS	AVERAGE OF 141 FARMS	29 MOST PROFIT. FARMS	29 LEAST PROFIT. FARMS
1	NUMBER OF PERSONS-FAMILY	5	6	5
2	NUMBER OF ADULT EQUIVALENT-FAMILY	3.9	4.3	3.5
3	CHURCH AND WELFARE	$ 250	$ 264	$ 200
4	MEDICAL CARE AND HEALTH INSURANCE	719	736	769
5	FOOD AND MEALS BOUGHT	1241	1290	1049
6	OPERATING EXPENSE AND SUPPLIES	403	389	510
7	FURNISHINGS AND EQUIPMENT	364	369	381
8	CLOTHING AND CLOTHING MATERIALS	473	611	432
9	PERSONAL CARE-PERSONAL SPENDING	143	187	102
10	EDUCATION	194	193	171
11	RECREATION	203	226	143
12	GIFTS AND SPECIAL EVENTS	214	195	171
13	PERSONAL SHARE TRUCK & AUTO EXPENSE	276	261	254
14	OPERATORS SHARE UPKEEP ON DWELLING	185	420	92
15	PERSONAL SHARE TEL. & ELECT EXPENSE	157	186	138
16	TOTAL CASH LIVING EXPENSE	$4822	$5327	$4412
17	PERSONAL SHARE NEW TRUCK & AUTO	150	156	223
18	NEW DWELLING BOUGHT	202	101	15
19	TAXES AND OTHER DEDUCTIONS	561	1178	249
20	LIFE INS. & OTHER SAVINGS & INVESTMENTS	694	1660	303
21	TOTAL HOUSEHOLD & PERSONAL (16)-(20)	$6429	$8422	$5202
22	TOTAL FAMILY LIVING FROM THE FARM (33)	$ 365	$ 354	$ 277
23	TOTAL CASH & NON-CASH EXP. (21)+(22)	$6794	$8776	$5479
24	FAMILY LIVING FROM THE FARM			
25		OPR.SHARE	OPR.SHARE	OPR.SHARE
26	MILK AND CREAM	$ 87	$ 87	$ 63
27	BEEF	198	168	153
28	PORK	53	75	32
29	LAMB			1
30	POULTRY	4	5	9
31	EGGS	4	7	6
32	VEG.,FRUIT,POTATOES,FUEL-ALSO OTHER PRODUCE	19	12	13
33	TOTAL FAMILY LIVING FROM THE FARM	$ 365	$ 354	$ 277

TABLE 5 - NET WORTH STATEMENT-OPERATOR - 1968

	ITEMS	AVERAGE OF 128 FARMS JAN.1	DEC.31	24 MOST PROF. FARMS JAN.1	DEC. 31	26 LEAST PROF. FARMS JAN.1	DEC.31
1	TOTAL LIVESTOCK	$ 12558	13659	16880	18777	8566	8860
2	CROP,SEED & FEED	12106	13651	19232	22583	12739	13764
3	TOTAL POWER, MACHINERY	15048	16029	21243	23001	12918	13152
4	LAND	24833	26277	35892	40142	25800	27335
5	BUILDINGS, FENCES, ETC.	18098	19790	28913	33868	13961	15347
6	TOTAL FARM CAPITAL	$ 82643	89406	122160	138371	73984	78458
7	NON-FARM ASSETS	$ 9303	10069	12788	13670	8107	9433
8	DWELLING	4534	4629	6027	6290	3606	3624
9	TOTAL ASSETS	$ 96480	104104	140975	158331	85697	91515
10	REAL ESTATE DEBT	$ 26701	27842	34370	37833	27131	29431
11	CHATTEL MORTGAGES	13348	14906	12157	13679	18101	20418
12	NOTES	3634	3907	5089	5720	2815	2704
13	ACCOUNTS PAYABLE	1810	1944	1093	1397	2062	2604
14	TOTAL LIABILITIES	$ 45493	48599	52709	58629	50109	55157
15	FARMERS NET WORTH	$ 50987	55505	88266	99702	35588	36358
16	GAIN IN NET WORTH	$	4518		11436		770
17	SUPPLEMENTARY MANAGEMENT INFORMATION						
18	OPERATORS LABOR EARNINGS	$ 7408		15603		470	
19	RET.TO CAPITAL&FAMILY LABOR	10007		19631		2674	
20	NON-FARM INCOME						
21	OUTSIDE INVESTMENT INCOME	163		423		58	
22	OTHER PERSONAL INCOME	1505		1253		1826	
23	TOTAL NON-FARM INCOME	$ 1668		1676		1884	
24	TOTAL MONEY BORROWED	16158		18628		21096	
25	TOTAL PAID ON DEBT(PRINCIPAL)	14229		13252		15855	
26	TOTAL HOUSEHOLD + PERS. EXP.	6505		8710		5221	
27	RATIO FARM EXP.TO FM.RECEIPTS	.832		.784		.991	
28	RATIO ASSETS TO LIAB.-JAN.	2.121	2.142	2.675	2.701	1.710	1.659
29	RATIO NON-REAL ESTATE ASSETS NON-REAL ESTATE LIAB.	2.61	2.57	3.82	3.75	1.84	1.76
30	RATIO REAL ESTATE ASSETS TO REAL ESTATE LIAB.	1.78	1.82	2.06	2.12	1.60	1.57
31	RATIO - NET WORTH TO TOTAL LIAB.	1.12	1.14	1.67	1.70	.71	.66
32	*RATIO CASH OPERATING EXP. TO TO ADJ. TOTAL FARM SALES		.68		.61		.81

* ADJUSTED TOTAL FARM SALES DOES NOT INCLUDE SALE OF CAPITAL ASSETS.

THE GAIN OR LOSS IN NET WORTH IS A DOLLAR MEASURE OF PROGRESS. IT REPRESENTS THE REMAINDER OF NET EARNINGS AFTER PERSONAL AND LIVING EXPENSES. ACCURATE NET WORTH STATEMENTS ARE EXTREMELY VALUABLE TO THE FARM OPERATOR. REPORTS SHOWING EXTREME DISCREPANCIES WERE NOT USED IN THIS TABLE.

TABLE 6A - OPERATORS SHARE OF CASH RECEIPTS - 1968

	ITEMS	AVERAGE OF 155 FARMS	31 MOST PROFIT. FARMS	31 LEAST PROFIT. FARMS
1	SALE OF LIVESTOCK & LIVESTOCK PRODUCTS			
2	DAIRY COWS	$ 1287	$ 1262	$ 1335
3	DAIRY PRODUCTS	8703	10676	5204
4	OTHER DAIRY CATTLE	1058	692	1105
5	BEEF BREEDING CATTLE	118	112	24
6	BEEF FEEDER CATTLE	5896	13304	1913
7A	HOGS COMPLETE	8170	17694	5610
7B	HOGS FINISHING	2220	4809	338
7C	HOGS PRODUCING WEANING PIGS	437	1337	2
8	SHEEP AND WOOL	66	21	34
9	CHICKENS (INCLUDING HENS & BROILERS)	11	4	12
10	TURKEYS			
11	EGGS	115	73	150
12	OTHER PRODUCTIVE LIVESTOCK	56		
12A	TOTAL SALES OF PRODUCTIVE LIVESTOCK	$28137	$49984	$15727
13	SALE OF CROPS			
14	CORN	$ 2150	$ 3190	$ 2181
15	SOYBEANS, FLAX, SUNFLOWERS	2322	3359	1916
16	WHEAT, OATS, BARLEY, RYE	433	656	456
17	POTATOES, SUGAR BEETS, CANNING AND OTHER CROPS A+B	418	310	1042
18	HAY, SILAGE AND OTHER CROPS	107	202	82
19	DIVERTED ACRE PAYMENT	1552	1964	1723
19A	TOTAL SALES FROM CROPS	$ 6982	$ 9681	$ 7400
20	CAPITAL ASSETS SOLD	312	445	476
21	GAS TAX REFUND	227	252	231
22	INCOME FROM WORK OFF THE FARM	560	825	348
23	PATRONAGE REFUNDS	327	498	265
24	MISCELLANEOUS FARM INCOME	349	441	428
25	TOTAL FARM SALES	$36894	$62126	$24875
26	INCREASE IN FARM CAPITAL	$ 7555	$17554	$ 5106
27	FAMILY LIVING FROM THE FARM	365	358	270
28	TOTAL FARM RECEIPTS (25)+(26)+(27)	$44814	$80038	$30251
29	ADJUSTED TOTAL FARM SALES (25)-(20)	$36582	$61681	$24399
30	TOTAL CASH FARM OPERATING EXPENSE	25549	42602	19448
31	NET CASH OPERATING INCOME	$11033	$19079	$ 4951

TABLES 6A and 6B ARE IDENTICAL TO TABLES 2A and 2B EXCEPT THAT THE LANDLORD'S SHARE IS OMITTED AND INTEREST ON EQUITY IS CREDITED TO THE OPERATOR. THESE TABLES ARE USED IN CONJUNCTION WITH TABLES 4 and 5 WHICH ACCOUNTS FOR A LOWER NUMBER OF CASES.

TABLE 6B - OPERATORS SHARE OF CASH EXPENSES - 1968

	ITEMS	AVERAGE OF 155 FARMS	31 MOST PROFIT. FARMS	31 LEAST PROFIT. FARMS
1	PURCHASE OF LIVESTOCK			
2	DAIRY COWS	$ 272	$ 290	$ 317
3	OTHER DAIRY CATTLE	263	70	327
4	BEEF BREEDING CATTLE	85		244
5	BEEF FEEDER CATTLE	3411	8943	890
6A	HOGS COMPLETE	505	231	504
6B	HOGS FINISHING	716	1294	415
6C	HOGS PRODUCING WEANING PIGS	61	156	21
7	SHEEP	23		36
8	CHICKENS	13	17	15
9	TURKEYS			
10	OTHER PRODUCTIVE LIVESTOCK	21		
11	MISCELLANEOUS LIVESTOCK EXPENSE	930	1460	517
12	FEED BOUGHT	4867	9735	2314
13	FERTILIZER	2149	3191	2305
14	CHEMICALS	877	1386	864
15	OTHER CROP EXPENSE	1134	1510	1155
16	CUSTOM WORK HIRED	1337	1646	1289
17	REPAIR + UPKEEP OF LIVESTOCK EQUIPMENT	207	343	121
18	REPAIR + UPKEEP OF FARM REAL ESTATE	402	659	348
19	GAS, OIL, GREASE BOUGHT (FARM SHARE)	1168	1480	1010
20	REPAIR + OPER. OF MACH. TRACTOR TRUCK, AUTO (FARM SHARE)	1270	1708	1159
21	WAGES OF HIRED LABOR	622	1302	378
22	PERSONAL PROPERTY + REAL ESTATE TAXES	760	1044	778
23	CASH RENT	1096	1684	1329
24	GENERAL FARM EXPENSE	476	638	356
25	TELEPHONE EXPENSE (FARM SHARE)	87	94	81
26	ELECTRICITY EXPENSE(FARM SHARE)	408	559	317
27	INTEREST EXPENSE	2389	3162	2358
28	TOTAL CASH OPERATING EXPENSE	$25549	$42602	$19448
29	POWER,CROP & GEN. MACH. BOUGHT (FARM SHARE)	$ 3411	$ 4658	$ 3240
30	LIVESTOCK EQUIPMENT BOUGHT	739	1635	435
31	NEW REAL ESTATE + IMPROVEMENTS	4821	11074	4087
32	TOTAL FARM PURCHASES (28) THRU (31)	$34520	$59969	$27210
33	DECREASE IN FARM CAPITAL			
34	INTEREST ON FARM CAPITAL	$ 1954	$ 3468	$ 1595
35	UNPAID FAMILY LABOR	664	487	721
36	LABOR CHG. FOR PARTNERS + OTHER PARTNERS			
37	BOARD FURNISHED HIRED LABOR	91	109	87
38	TOTAL FARM EXPENSE (32) THRU (37)	$37229	$64033	$29613
39	LABOR EARNINGS (OPER.SHARE) (6A/28)-(28)	$ 7585	$16005	$ 638
40	RETURN TO CAPITAL AND FAMILY LABOR	$10203	$19960	$ 2954

LINE 40 REPRESENTS AVAILABLE INCOME FOR THE FARM FAMILY.

WORK UNITS

THE TOTAL "WORK UNITS" FOR ANY ONE FARM IS A MEASURE OF THE SIZE OF THAT FARM BUSINESS. A WORK UNIT AS USED IN THIS REPORT IS THE AVERAGE ACCOMPLISHMENT OF A FARM WORKER IN A TEN HOUR DAY. THE NUMBER OF WORK UNITS PER FARM OR PER WORKER MAY BE INTERPRETED DIFFERENTLY FOR DIFFERENT FARM SITUATIONS AS; WORK EFFICIENCY, DEGREE OF MECHANIZATION, CAREFUL PLANNING OR HOURS WORKED. OCCASIONALLY, HIGH WORK UNITS PER WORKER INDICATES AN EXCESSIVE WORK LOAD. THE NUMBER OF WORK UNITS FOR EACH CLASS OF LIVESTOCK AND EACH ACRE OF CROP ARE PRESENTED IN TABLE 7. THE WORK UNIT RATING WAS REVISED IN 1968.

TABLE 7 NUMBER OF WORK UNITS FOR SOME CLASSES OF LIVESTOCK AND COMMON CROPS

ITEM	NO. OF WORK UNITS	ITEM	NO. OF WORK UNITS
DAIRY & DUAL PURPOSE COWS	7.0 PER HEAD	TURKEY POULTS	.12 PER 100#
OTHER DAIRY & DUAL PURP.CATTLE	1.2 PER HEAD	CANNING PEAS	.3 PER ACRE
BEEF BREEDING HERD	1.5 PER COW & REPLACEMENT	SOYBEANS FOR GRAIN	.45 PER ACRE
		SMALL GRAIN	.3 PER ACRE
FEEDER CATTLE	.12 PER 100#	SWEET CORN	.4 PER ACRE
SHEEP-FARM FLOCK	.6 PER EWE & REPLACEMENT	CORN, HUSKED	.55 PER ACRE
		$20 CUSTOM WORK	1.0
LAMBS-FEEDERS	.3 PER 100#	ALFALFA HAY	.6 PER ACRE
HOGS-COMPLETE	.12 PER 100#	OTHER HAY CROPS	.4 PER ACRE
HOGS-FINISHING	.06 PER 100#	CORN, SILAGE	.8 PER ACRE
HOGS-WEANING	1.4 PER LITTER	SUGAR BEETS	2.0 PER ACRE
CHICKENS-LAYING	5.0 PER 100 HENS	DIVERTED ACRES	.2 PER ACRE
CHICKENS-REPLACEMENT	5.0 PER 100 HENS		

COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

FEED IS THE LARGEST SINGLE ITEM OF COST FOR ALL CLASSES OF LIVESTOCK. THE PROPORTION OF THE TOTAL COST REPRESENTED BY FEED VARIES BETWEEN CLASSES OF LIVESTOCK. FEED MAKES UP APPROXIMATELY 45 PER CENT OF THE TOTAL COSTS OF MAINTAINING DAIRY CATTLE AND AS MUCH AS 65 TO 75 PER CENT FOR HOGS AND FEEDER CATTLE. IT IS NECESSARY TO SECURE A RELATIVELY HIGHER RETURN OVER FEED FROM DAIRY CATTLE AND POULTRY THAN FROM THE OTHER LIVESTOCK ENTERPRISES TO COVER COSTS OTHER THAN FEED COSTS. WHEN FEED PRICES ARE LOW, THE PER CENT OF TOTAL COST REPRESENTED BY FEED IS LOWER.

1967 AND 1968 ANALYSIS INFORMATION INCLUDES SOME OTHER LIVESTOCK PRODUCTION COSTS. THE REVISED MINNESOTA FARM ACCOUNT BOOK MAKES SUCH DETAIL POSSIBLE. THE VALUE OF THIS INFORMATION IS ENTIRELY DEPENDENT UPON THE COMPLETENESS AND ACCURACY OF THE APPROPRIATE RECORDS.

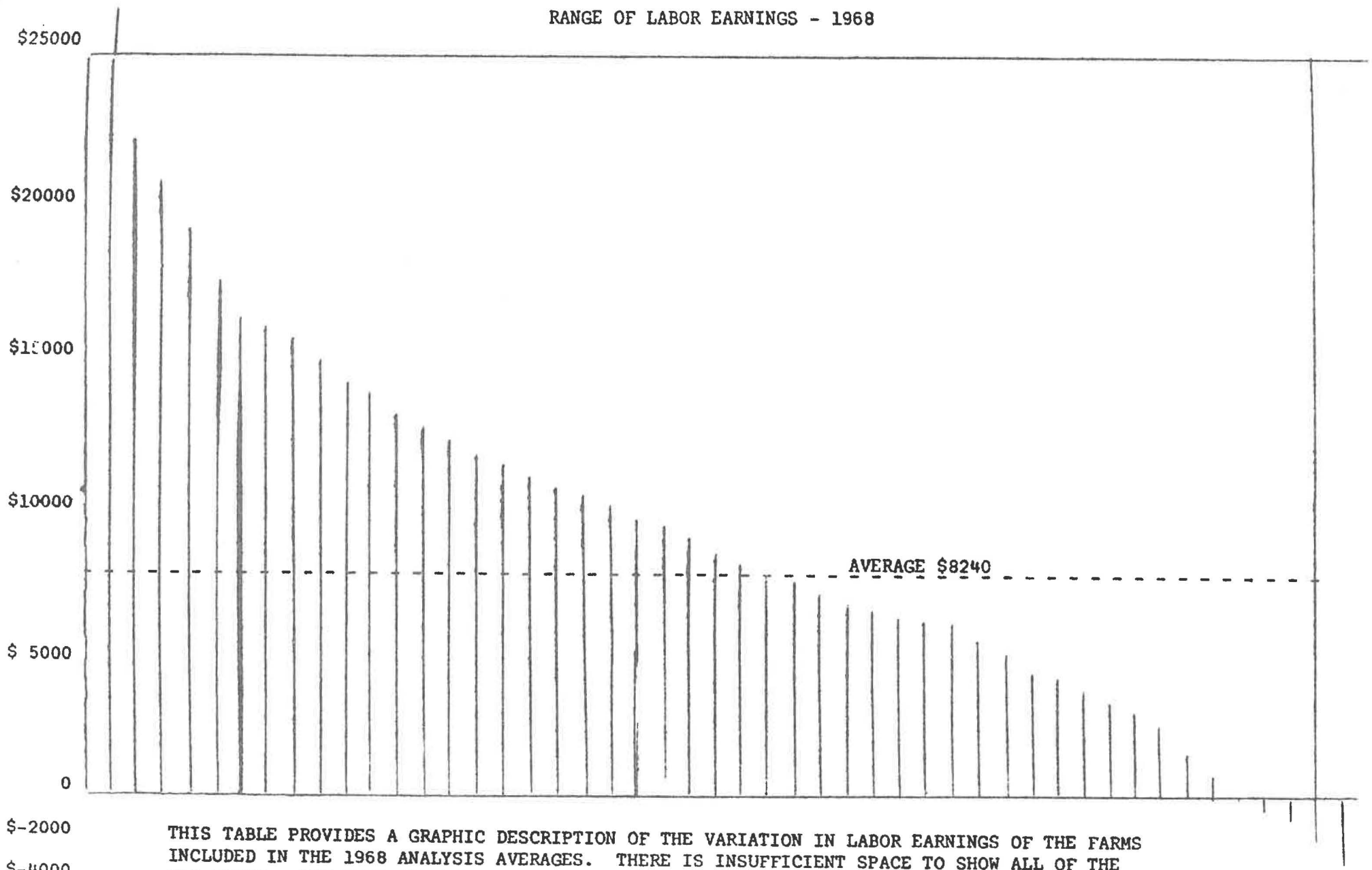
AVERAGE PRICES USED FOR SOME COMMON FEEDS - 1968

CORN	$1.05 BU.	GOOD ALFALFA HAY	$20.00 T.
OATS	.60 BU.	EXTRA CHOICE ALFALFA	22.00 T.
BARLEY	.90 BU.	CORN SILAGE	7.00 T.
WHEAT	1.55 BU.	OAT SILAGE	6.00 T.

PASTURE PER HEAD PER MONTH

COWS AND BULLS	$3.00	PIGS	.08
COWS-BULLS (GREEN CHOP)	4.50	EWES	.40
YOUNG CATTLE	1.50	LAMBS	.20
HOGS	.16		

THIS INFORMATION RELATES TO LIVESTOCK TABLES - PAGES 20 THROUGH 28.



THIS TABLE PROVIDES A GRAPHIC DESCRIPTION OF THE VARIATION IN LABOR EARNINGS OF THE FARMS INCLUDED IN THE 1968 ANALYSIS AVERAGES. THERE IS INSUFFICIENT SPACE TO SHOW ALL OF THE 217 FARMS. THE HIGH AND LOW LABOR EARNINGS ARE SHOWN WITH REPRESENTATIVE CASES BETWEEN. MANAGEMENT FACTORS ARE SHOWN IN TABLE 8.

MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY

TABLE 8 COMPARES EFFICIENCIES IN FARM MANAGEMENT BETWEEN AVERAGE, HIGH RETURN AND LOW RETURN FARMS. THIS IS GRAPHICALLY ILLUSTRATED BY A THERMOMETER CHART ON PAGE 14.

"LABOR EARNINGS" IS THE BASIS FOR COMPARING THE RELATIONSHIP BETWEEN SELECTED FARM MANAGEMENT FACTORS AND FARM PROFIT. "LABOR EARNINGS" REPRESENTS THAT SHARE OF THE TOTAL FARM INCOME THAT IS CREDITED TO THE OPERATOR'S LABOR AND MANAGEMENT. IT IS A WHOLE FARM FIGURE. THE OPERATOR'S SHARE MAY BE QUITE DIFFERENT. TABLES 2B AND 3 SHOW TWO METHODS OF DETERMINING LABOR EARNINGS. THE OPERATOR'S SHARE OF LABOR EARNINGS IS SHOWN IN TABLE 6B. THE RANGE OF EARNINGS OF THE COOPERATORS IS ILLUSTRATED BY A "RANGE OF EARNINGS" CHART ON PAGE 11.

FACTORS

1. CROP YIELD INDEX - CROP YIELDS ARE EXPRESSED IN TERMS OF AVERAGES WITH AN INDEX OF 100 REPRESENTING THE COMBINED AVERAGE OF ALL CROPS. AN INDEX OF MORE THAN 100 IS ABOVE AVERAGE WHILE AN INDEX OF LESS THAN 100 IS BELOW AVERAGE.

2. PERCENT OF TILLABLE LAND IN HIGH RETURN CROPS - THIS RATING IS BASED ON A FULL SCORE FOR THE HIGHEST RATED (A) CROPS TO NO SCORE FOR THE LOWEST RATED (D) CROPS. THE RATINGS ARE GIVEN ON PAGE 15.

3. GROSS RETURN PER ACRE REFLECTS BOTH CROP SELECTION AND CROP YIELD.

4. RETURN PER $100 FEED FED TO PRODUCTIVE LIVESTOCK IS A MEASURE OF THE GENERAL LEVEL OF EFFICIENCY FOR ALL LIVESTOCK. IT IS EXPRESSED AS A PERCENTAGE WITH 100 REPRESENTING AVERAGE EFFICIENCY WHILE INDEXES HIGHER THAN 100 REPRESENT ABOVE AVERAGE EFFICIENCY AND THOSE LESS THAN 100 BELOW AVERAGE EFFICIENCY.

5. LIVESTOCK UNITS PER 100 ACRES IS IMPORTANT FOR FARMS WITH LIMITED CROPLAND. EXAMPLES OF LIVESTOCK UNITS ARE ONE DAIRY COW, TWO GROWING DAIRY ANIMALS, SEVEN SHEEP, AND FIFTY LAYING HENS.

6. SIZE OF BUSINESS IN WORK UNITS - THE WORK UNIT MEASURES SIZE ON THE BASIS OF WORK LOAD. A WORK UNIT REPRESENTS WHAT THE AVERAGE WORKER IS EXPECTED TO ACCOMPLISH IN A TEN HOUR DAY. VALUES ARE ASSIGNED TO VARIOUS CLASSES OF CROPS AND LIVESTOCK AS SHOWN IN TABLE 7 ON PAGE 10.

7. WORK UNITS PER WORKER IS A MEASURE OF LABOR EFFICIENCY. IT IS DETERMINED BY DIVIDING THE WORK UNITS BY THE NUMBER OF WORKERS.

8. POWER, MACHINERY, EQUIPMENT AND BUILDING EXPENSE PER WORK UNIT IS A MEASURE OF EXPENSE CONTROL. IT CAN BE DETERMINED BY DIVIDING THE MECHANIZATION AND BUILDING COSTS IN TABLE 3 BY THE NUMBER OF WORK UNITS.

9. FARM CAPITAL INVESTMENT PER WORKER IS ANOTHER WAY OF MEASURING SIZE OF BUSINESS. WHILE THE TOTAL NUMBER OF FACTORS IN WHICH ANY FARM OPERATION MAY EXCEL IS ALWAYS INTERESTING AND GENERALLY IMPORTANT, PROFIT IS INFLUENCED MORE BY COMBINATIONS OF FACTORS. ONE IDEAL COMBINATION IS A HEAVILY STOCKED FARM WITH A HIGH FEEDING EFFICIENCY AND HIGH YIELDING CROPS.

TABLE 8 - MEASURES OF FARM ORGANIZATION - 1968

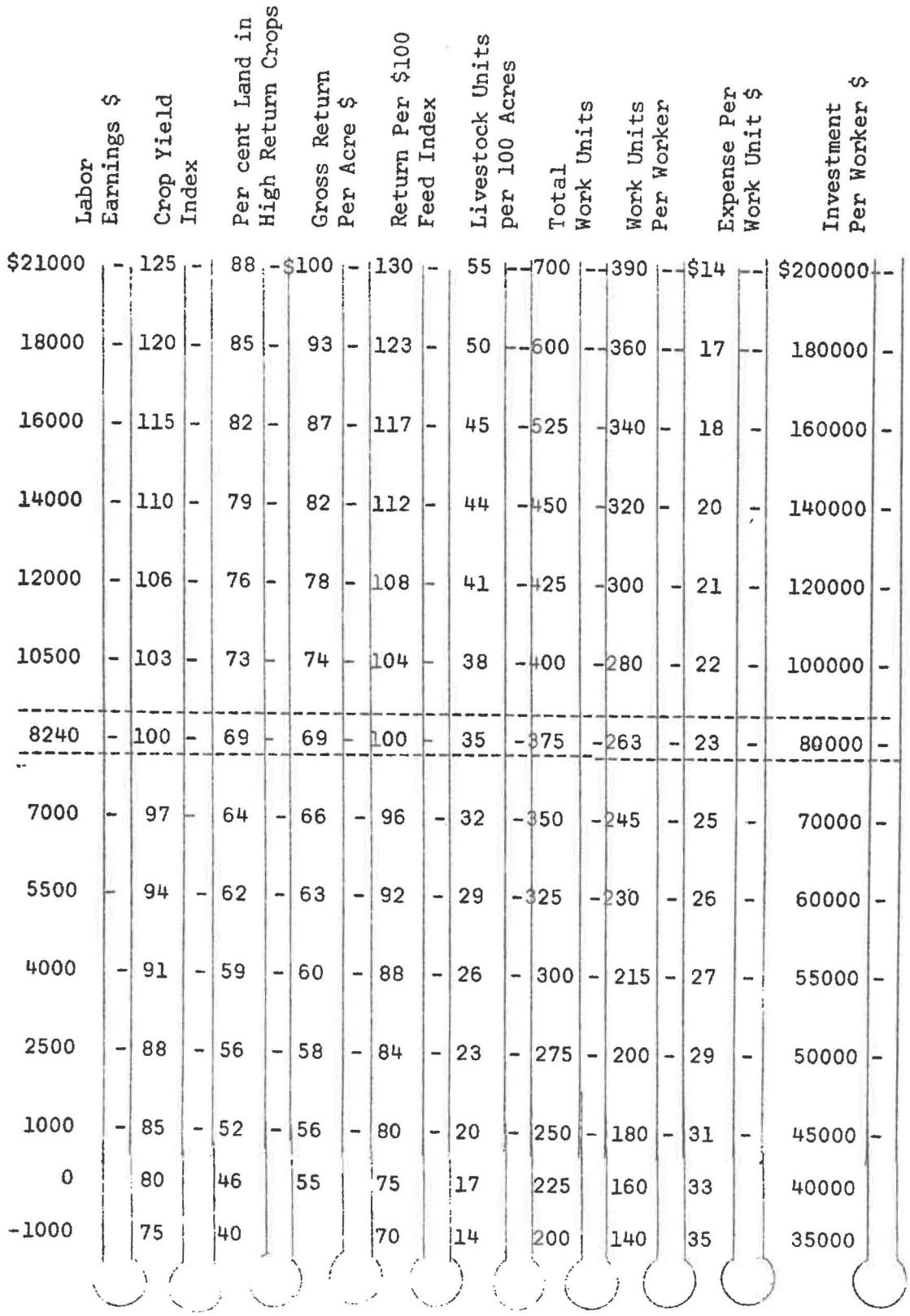
	ITEMS	AVERAGE OF 217 FARMS	43 MOST PROFIT. FARMS	43 LEAST PROFIT. FARMS
1	LABOR EARNINGS	$ 8240	$16640	$ 353
2	CROP YIELDS-INDEX	100	107	87
3	PERCENT TILL. LAND IN H.R. CROPS	68.8	71.8	68.7
4	GROSS RET. PER TILL. ACRE (EXCL.PASTURE)	$69.48	$78.79	$58.93
5	RET. FOR $100 TO PROD. LIVESTOCK-INDEX	100	108	84
6	LIVESTOCK UNITS PER 100 ACRES*	35.4	43.0	26.8
7	SIZE OF BUSINESS - WORK UNITS	374.7	511.0	267.7
8	WORK UNITS PER WORKER	262.9	325.4	200.3
9	POWER MACH. EQUIP. BLDG.EXP.PER WORK UNIT	$23.36	$21.25	$30.23
10	FARM CAPITAL INVESTMENT PER WORKER	$79435	$96553	$79297
11	INDEX OF RETURN FOR $100 FEED FROM			
12	COMPLETE HOG ENTERPRISE	100	106	91
13	HOG FINISHING ENTERPRISE	100	107	
14	PRODUCING WEANING PIGS	100	111	
15	DAIRY CATTLE	100	104	79
16	OTHER DAIRY	100	103	85
17	ALL DAIRY & DUAL PURPOSE CATTLE	100	103	80
18	BEEF BREEDING CATTLE	100	144	64
19	BEEF FEEDER CATTLE	100	115	97
20	SHEEP FARM FLOCK	100		47
21	FEEDER LAMBS			
22	CHICKENS-LAYING FLOCK	100	75	101
23	CHICKENS-BROILERS			
24	TURKEYS-LAYING FLOCK			
25	TURKEY-POULTS			
26	OTHER PRODUCTIVE LIVESTOCK	100		
27	NUMBER OF ANIMAL UNITS	86	123	54
28	WORK UNITS			
29	CROPS	122.1	156.2	116.3
30	PRODUCTIVE LIVESTOCK	240.1	339.7	143.3
31	OTHER PRODUCTIVE WORK UNITS	12.4	15.1	8.0
32	EXPENSES PER WORK UNIT			
33	TRACTOR & CROP MACHINERY EXPENSE	$11.45	$ 9.80	$15.84
34	FARM SHARE OF AUTO & TRUCK EXPENSE	3.65	3.40	4.29
35	FARM SHARE OF ELECTRICITY EXPENSE	1.17	1.10	1.33
36	LIVESTOCK EQUIPMENT EXPENSE	1.84	2.16	1.59
37	BUILDING, FENCING & TILING EXPENSE	5.23	4.77	7.17
38	TRAC.&CROP MACH.EXP.PER CROP ACRE**	$15.79	$16.04	$16.51

39 *ACRES INCLUDE ALL TILLABLE LAND, NON-TILLABLE HAY AND PASTURE

40 **ACRES INCLUDE ALL TILLABLE LAND PLUS ACRES IN WILD HAY

THERMOMETER CHART

USING YOUR FIGURES FROM TABLE 8, LOCATE YOUR STANDING WITH RESPECT TO THE VARIOUS MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY. THE AVERAGES FOR THE 217 FARMS INCLUDED IN THIS SUMMARY ARE LOCATED BETWEEN THE DOTTED LINES ACROSS THE CENTER OF THIS PAGE.



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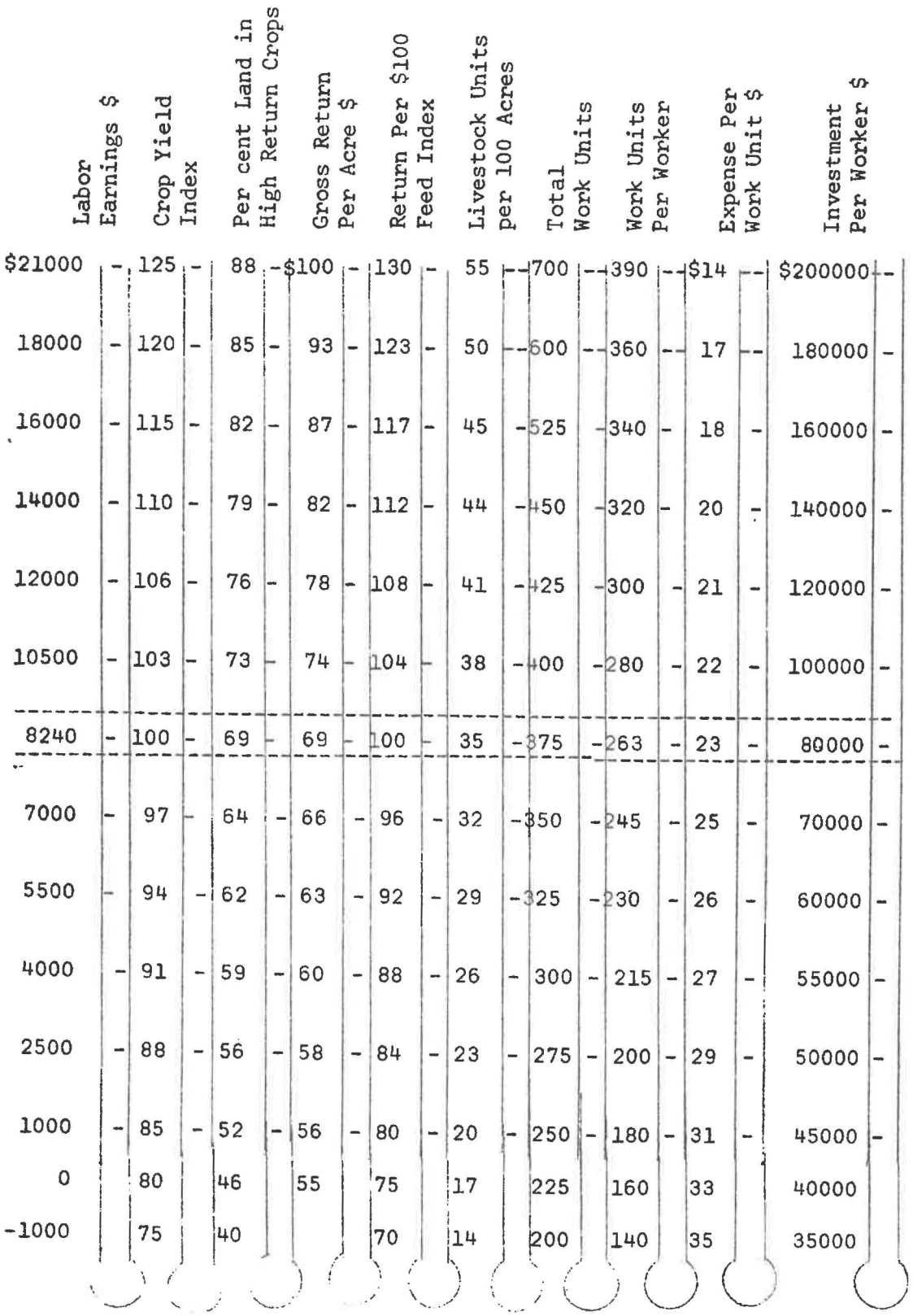


CROP ACRES AND YIELDS - 1968

	CROPS	CROP RATING	AVERAGE OF 217 FARMS ACRES	AVERAGE OF 217 FARMS YIELD	43 MOST PROF. FARMS YIELD	43 LEAST PROF. FARMS YIELD
1	OATS AND MIXTURES	D	21.5	71.7	73.4	66.8
2	OATS SILAGE	C	1.3	6.9T	7.9T	6.0T
3	CANNING PEAS	B	1.2	$66.67	$76.92	$40.00
4	WHEAT	C	3.8	39.7	39.9	40.3
5	BARLEY	D	1.0	53.0	83.3	49.2
6	FLAX					
7	RYE					
8	TOTAL SMALL GRAIN & PEAS		28.8			
9	CANNING CORN	B	3.6	$80.00	$74.24	$82.86
10	CORN GRAIN AND SEED CORN	A	96.2	88.5	94.5	79.7
11	SOYBEANS-GRAIN	B	56.4	26.1	28.0	22.8
12	CORN AND CANE SILAGE	B	9.1	14.4T	15.7T	11.6T
13	CORN AND CANE FODDER					
14	POTATOES					
15	SUGAR BEETS	A	1.1	8.2T	--	8.9T
16	SUNFLOWERS					
17	OTHER CULTIVATED CROPS - A		.2	$15.00	--	$10.00
18	OTHER CULTIVATED CROPS - B					
19	TOTAL CULTIVATED CROPS		166.6			
20	ALFALFA HAY	B	29.1	3.3T	3.6T	3.1T
21	OTHER LEGUME HAY	C	.3	3.3T	3.3T	2.9T
22	TAME GRASS HAY					
23	ANNUAL HAY	D	.1			
24	LEGUME AND GRASS SILAGE	D	.2	5.0T	8.0T	
25	LEGUME SEED					
26	GRASS SEED					
27	TOTAL HAY		29.7			
28	ALFALFA & MIXED PASTURE		4.3			
29	OTHER LEGUME PASTURE	C or B	.5			
30	OTHER TILLABLE PASTURE	D	.9			
31	TOTAL TILLABLE PASTURE		5.7			
32	DIVERTED ACRES INCOME	A	32.1	$55.64	$55.59	$56.17
33	SUMMER FALLOW - TILLED	D				
34	OTHER TILLABLE LAND IDLE	D	.2			
35	TOTAL TILLABLE LAND		263.1			
36	WILD HAY		.9			
37	NON-TILLABLE PASTURE		15.0			
38	TIMBER		2.4			
39	ROADS AND WASTE		11.5			
40	FARMSTEAD		8.8			
41	TOTAL ACRES IN FARM		301.7			
42	SUPPLEMENTARY MANAGEMENT INFORMATION					
43	PER CENT LAND TILLABLE			87.2	88.6	85.8
44	PER CENT IN HIGH RETURN CROPS			69.6	71.3	70.4
45	*FERTILIZER COST PER ACRE			$8.99	$9.25	$9.85
46	*CROP CHEMICALS PER ACRE			$3.58	$3.94	$3.69
47	*SEED AND OTHER COSTS PER ACRE			$4.67	$4.73	$4.63
48	*GAS,OIL,GREASE BOUGHT PER ACRE			$2.90	$2.77	$2.77

49 *TILLABLE LAND MINUS PASTURE

TABLE 10 CROP DATA FOR OATS - 170 FARMS - 1968

	ITEMS		TOTAL	PER ACRE
1	ACRES		27.1	
2	YIELD/ACRE			71.5
3	VALUE/UNIT			.60
4	GROSS RETURN		1163.67	42.94
5	SUPPLEMENTAL COSTS			
6	FERTILIZER			3.73
7	CHEMICALS			.15
8	SEED AND OTHER			2.88
9-10	CUSTOM WORK & HIRED LABOR			1.73
11	TOTAL SUPPLEMENTAL COSTS		230.08	8.49
12	RETURN OVER SUPPLEMENTAL COSTS		933.59	34.45
13	ALLOCATED COSTS			
14	POWER AND CROP MACHINERY EXPENSE			9.00
15-16	LAND COST & MISCELLANEOUS COSTS			22.77
17	TOTAL ALLOCATED COSTS		860.97	31.77
		PER UNIT		
18	TOTAL COSTS	.56	1091.05	40.26
19	RETURN OVER TOTAL COSTS		72.62	2.68

TABLE 10 CROP DATA FOR WHEAT - 68 FARMS - 1968

	ITEMS		TOTAL	PER ACRE
1	ACRES		11.7	
2	YIELD/ACRE			39.3
3	VALUE/UNIT			1.56
4	GROSS RETURN		699.78	59.81
5	SUPPLEMENTAL COSTS			
6	FERTILIZER			5.73
7	CHEMICALS			.09
8	SEED AND OTHER			4.62
9	HIRED LABOR			
10	CUSTOM WORK			1.79
11	TOTAL SUPPLEMENTAL COSTS		143.09	12.23
12	RETURN OVER SUPPLEMENTAL COSTS		556.69	47.58
13	ALLOCATED COSTS			
14	POWER AND CROP MACHINERY EXPENSE			9.00
15	LAND COST			24.27
16	MISCELLANEOUS COSTS			
17	TOTAL ALLOCATED COSTS		389.26	33.27
		PER UNIT		
18	TOTAL COSTS	1.16	532.35	45.50
19	RETURN OVER TOTAL COSTS		167.43	14.31

IN NONE OF OUR AVERAGES WERE THERE ANY LABOR OR MISCELLANEOUS COSTS. ITEMS 9-10 ARE CUSTOM WORK ONLY AND 15-16 ARE LAND COSTS ONLY.

CROP DATA FOR CORN - 212 FARMS - 1968

	ITEMS	TOTAL	PER ACRE AVERAGE	106 HIGH	106 LOW
1	ACRES		96.4	107.9	84.9
2	YIELD/ACRE		88.2	99.8	73.5
3	VALUE/UNIT		1.00	1.00	1.00
4	GROSS RETURN	8390.66	87.04	100.59	73.49
5	SUPPLEMENTAL COSTS				
6	FERTILIZER		17.09	17.69	16.31
7	CHEMICALS		6.19	6.76	5.47
8	SEED AND OTHER		6.73	7.37	5.92
9-10	CUSTOM WORK & HIRED LABOR		3.28	2.87	3.79
11	TOTAL SUPPLEMENTAL COSTS	3209.16	33.29	34.69	31.49
12	RETURN OVER SUPPLEMENTAL COS	5181.50	53.75	65.90	42.00
13	ALLOCATED COSTS				
14	POWER & CROP MACHINERY EXPENSE		16.50	16.72	17.55
15-16	LAND COST & MISCELLANEOUS COSTS		23.54	24.27	22.60
17	TOTAL ALLOCATED COSTS	3859.86	40.04	40.99	40.15
		PER UNIT			
18	TOTAL COSTS	7069.02 .83	73.33	75.68	71.64
19	RETURN OVER TOTAL COSTS	1321.64	13.71	24.91	1.85

CROP DATA FOR SOYBEANS - 169 FARMS - 1968

	ITEMS	TOTAL	PER ACRE
1	ACRES	70.7	
2	YIELD/ACRE		26.3
3	VALUE/UNIT		2.43
4	GROSS RETURN	4449.86	62.94
5	SUPPLEMENTAL COSTS		
6	FERTILIZER		2.79
7	CHEMICALS		4.19
8	SEED AND OTHER		3.06
9-10	HIRED LABOR & CUSTOM WORK		1.46
11	TOTAL SUPPLEMENTAL COSTS	813.05	11.50
12	RETURN OVER SUPPLEMENTAL COSTS	3636.81	51.44
13	ALLOCATED COSTS		
14	POWER & CROP MACHINERY EXPENSE		13.50
15-16	LAND COST & MISCELLANEOUS COSTS		23.58
17	TOTAL ALLOCATED COSTS	2621.56	37.08
		PER UNIT	
18	TOTAL COSTS	1.85 3434.61	48.58
19	RETURN OVER TOTAL COSTS	1015.25	14.36

TABLE 10 CROP DATA FOR CORN SILAGE - 128 FARMS - 1968

	ITEMS	TOTAL	PER ACRE
1	ACRES	15.2	
2	YIELD/ACRE		14.5
3	VALUE/UNIT		6.99
4	GROSS RETURN	1562.41	102.79
5	SUPPLEMENTAL COSTS		
6	FERTILIZER		15.72
7	CHEMICALS		5.26
8	SEED AND OTHER		5.39
9-10	CUSTOM WORK & HIRED LABOR		2.70
11	TOTAL SUPPLEMENTAL COSTS	441.86	29.07
12	RETURN OVER SUPPLEMENTAL COSTS	1120.55	73.72
13	ALLOCATED COSTS		
14	POWER AND CROP MACHINERY EXPENSE		24.00
15-16	LAND COST & MISCELLANEOUS COSTS		23.62
17	TOTAL ALLOCATED COSTS	723.82	47.62
	PER UNIT		
18	TOTAL COSTS	1165.68	76.69
19	RETURN OVER TOTAL COSTS 5.30	396.73	26.10

TABLE 10 CROP DATA FOR ALFALFA HAY - 181 FARMS - 1968

	ITEMS	TOTAL	PER ACRE
1	ACRES	34.5	
2	YIELD/ACRE		3.3
3	VALUE/UNIT		19.95
4	GROSS RETURN	2285.28	66.24
5	SUPPLEMENTAL COSTS		
6	FERTILIZER		3.33
7	CHEMICALS		.03
8	SEED AND OTHER		5.77
9-10	HIRED LABOR & CUSTOM WORK		1.71
11	TOTAL SUPPLEMENTAL COSTS	373.98	10.84
12	RETURN OVER SUPPLEMENTAL COSTS	1911.30	55.40
13	ALLOCATED COSTS		
14	POWER & CROP MACHINERY EXPENSE		18.00
15-16	LAND COST & MISCELLANEOUS COSTS		23.30
17	TOTAL ALLOCATED COSTS	1424.85	41.30
	PER UNIT		
18	TOTAL COSTS 15.64	1798.83	52.14
19	RETURN OVER TOTAL COSTS	486.45	14.10

TABLE 10 CROP DATA FOR DIVERTED ACRES - 137 FARMS - 1968

	ITEMS	TOTAL	PER ACRE
1	ACRES	48.6	
2	YIELD/ACRE		55.27
3	VALUE/UNIT		1.00
4	GROSS RETURN	2804.71	57.71
5-12	SUPPLEMENTAL COSTS	41.31	.85
13	ALLOCATED COSTS		
14	POWER & CROP MACHINERY EXPENSE		6.00
15	LAND COST		23.69
16	MISCELLANEOUS COSTS		
17	TOTAL ALLOCATED COSTS	1442.93	29.69
18	TOTAL COSTS (INC. SUPP. COSTS)	1484.24	30.54
19	RETURN OVER TOTAL COSTS	1320.47	27.17

COSTS AND RETURNS FROM LIVESTOCK ENTERPRISES

THE IMPORTANCE OF LIVESTOCK IS DEPENDENT UPON A NUMBER OF FACTORS. FOR MOST FARMS THE ACREAGE OF CROPLAND IS LIMITED. PRODUCTIVE LIVESTOCK ADDS TO THE TOTAL FARM INCOME AND MAY BE NEEDED TO PROVIDE THE VOLUME NECESSARY FOR LIVING AND TO MEET GOALS THE FARM FAMILY HOPES TO ACHIEVE. TO PROVIDE FOR LIVING AND PERSONAL EXPENSES OF $7000, THE AVERAGE OF THE 1968 ANALYSIS FARMS WOULD HAVE NEEDED TO GROSS FROM $35,000 TO $45,000. DEPENDING ON THE ENTERPRISE COMBINATION. A GROSS RETURN PER ACRE OF $70 (AVERAGE FOR 217 FARMS FROM CROPS) WOULD REQUIRE ABOUT 600 ACRES OF CROP LAND. THIS IS MORE THAN DOUBLE THE AVERAGE CROP ACREAGE FOR THE 217 FARMS.

FEED IS THE LARGEST SINGLE ITEM OF COST IN LIVESTOCK PRODUCTION. RETURN ABOVE FEED COST IS THE BASIS FOR CLASSIFYING THE VARIOUS LIVESTOCK PRODUCTION UNITS. THE HIGH AND LOW GROUPS ARE HIGH OR LOW IN RELATION TO RETURN OVER FEED COST FOR A PARTICULAR ANIMAL ENTERPRISE. THEY BEAR NO DIRECT RELATIONSHIP TO THE HIGH AND LOW RETURN FARMS IN TABLES 1, 2A, 2B, 3 and 8.

SOME OTHER CASH COST ITEMS ARE LISTED IN EACH OF THE TABLES AS "SUPPLEMENTAL COSTS." NO ATTEMPT HAS BEEN MADE TO ALLOCATE SUCH EXPENSES AS TAXES, INSURANCE, INTEREST ON INVESTMENT, HOUSING, EQUIPMENT, AND HIRED LABOR. THESE COSTS MUST COME FROM "RETURN OVER FEED AND SUPPLEMENTARY COSTS." WHAT WOULD REMAIN AFTER THAT COULD BE CONSIDERED AS RETURN FOR THE OPERATOR'S LABOR AND MANAGEMENT.

THE TOTAL RETURN FOR AN ENTERPRISE INCLUDES GAIN IN INVENTORY, SALE OF LIVESTOCK, VALUE OF ANIMALS TRANSFERRED TO OTHER ENTERPRISES, VALUE OF PRODUCTS SOLD, AND ANIMALS AND PRODUCTS USED IN THE HOME. TO DETERMINE THE NET RETURN IT IS NECESSARY TO SUBTRACT ANY LOSS IN INVENTORY, PURCHASE OF LIVESTOCK, AND ANIMALS TRANSFERRED IN FROM ANOTHER ENTERPRISE. THE NET RETURN ON ANIMALS IS DESCRIBED AS "NET INCREASE IN VALUE." ANIMAL PRODUCTS ARE NOT INCLUDED IN THIS FIGURE. BOTH THE TOTAL NET INCREASE FIGURE AND THE NET INCREASE PER UNIT ARE SHOWN IN THE LIVESTOCK REPORTS.

FEED COSTS ARE DETERMINED FROM THE FEED RECORDS FOUND IN THE ACCOUNT BOOK. THE PURCHASE PRICE IS USED FOR FEEDS PURCHASED. AN AVERAGE YEARLY PRICE IS CHARGED FOR FARM GROWN FEED. THESE PRICES ARE SHOWN ON PAGE 10.

COSTS AND RETURNS FROM ALL LIVESTOCK ENTERPRISES ARE COMPUTED ON A YEARLY BASIS. FEEDING ANIMALS ARE OFTEN PURCHASED IN ONE YEAR AND SOLD IN ANOTHER. INVENTORIES ON SUCH ANIMALS SHOULD BE THE RESULT OF SKILLFUL APPRAISAL OF BOTH WEIGHTS AND VALUES. PRICES PER CWT. SOLD AND PRICES PER CWT. BOUGHT ARE USUALLY FOR DIFFERENT ANIMALS AND REFLECT ONLY THE YEARLY MARKET SITUATION.

TABLE 11A - COSTS AND RETURNS FROM COMPLETE HOG ENTERPRISE - 1968

	ITEMS	AVERAGE OF 110 FARMS	37 FARMS HIGH IN RETURN ABOVE FEED COST	37 FARMS LOW IN RETURN ABOVE FEED COST
1	POUNDS OF HOGS PRODUCED PER CWT. PRODUCED	86871	167723	29815
2	VALUE (NET INCREASE)	$ 18.83	$ 18.95	$ 18.27
3	POUNDS OF FEED FED			
4	CORN	326.4	311.7	399.3
5	SMALL GRAIN	27.2	20.8	43.8
6	PROTEIN, SALT AND MINERAL	66.9	67.9	66.3
7	COMPLETE RATION	1.4	2.1	.2
8	TOTAL CONCENTRATES	421.9	402.5	509.6
9	FORAGES	3.1	3.7	2.4
10	FEED COST			
11	CONCENTRATES AND FORAGES	11.06	10.71	12.66
12	PASTURE	.01	.01	.01
13	TOTAL FEED COSTS	$ 11.07	$ 10.72	$ 12.67
14	RETURN OVER FEED COST	$ 7.76	$ 8.23	$ 5.60
15	SUPPLEMENTAL COSTS			
16	MISCELLANEOUS LIVESTOCK EXPENSE	.20	.20	.23
17	VETERINARY EXPENSE	.31	.37	.14
18	CUSTOM WORK	.33	.33	.38
19	TOTAL SUPPLEMENTAL COSTS	$ .84	$ .90	$ .75
20	RETURN OVER FEED & SUPPLEMENTAL COSTS	$ 6.92	$ 7.33	$ 4.85
21	SUPPLEMENTARY MANAGEMENT INFORMATION			
22	RETURN FOR $100 FEED FED	$170.12	$176.79	$144.20
23	PRICE RECEIVED PER CWT.	$ 19.21	$ 19.37	$ 18.44
24	NUMBER OF LITTERS FARROWED	51	96	21
25	NUMBER OF PIGS BORN PER LITTER	9.3	9.5	8.4
26	NUMBER OF PIGS WEANED PER LITTER	7.5	7.7	6.0
27	PER CENT DEATH LOSS	13.6	12.8	19.4
28	AVERAGE WEIGHT OF HOGS SOLD	226.3	223.8	240.0
29	PRICE PER CWT. CONCENTRATE FED	$ 2.61	$ 2.65	$ 2.48
30	POUNDS OF PORK PURCHASED	1790	2826	957

ONLY FARMS THAT HAVE A COMPLETE PROGRAM OF FARROWING AND MARKETING HOGS ARE INCLUDED IN TABLE 11A. OPERATORS WHO DID NOT HAVE HOGS FOR A COMPLETE YEAR WERE NOT INCLUDED IN THESE AVERAGES. NEITHER WERE THOSE WHO PRODUCED LESS THAN 10,000 POUNDS OF PORK. THE COSTS IN THIS TABLE INCLUDE THOSE OF BOTH THE BREEDING HERD AND MARKET ANIMALS.

TABLE 11B - COSTS AND RETURNS FROM HOG FINISHING ENTERPRISE - 1968

	ITEMS	AVERAGE OF 22 FARMS	7 HIGH	7 LOW
1	AVERAGE NUMBER OF PIGS ON HAND	210.8	442.8	109.2
2	POUNDS OF HOGS PRODUCED	94223	206453	41271
	PER CWT. PRODUCED			
3	VALUE (NET INCREASE)	$ 14.92	$ 14.96	$ 14.13
4	POUNDS OF FEED FED			
5	CORN	339.5	318.4	462.1
6	SMALL GRAIN	10.2	7.3	5.3
7	PROTEIN, SALT AND MINERAL	63.3	65.4	53.4
8	COMPLETE RATION			
9	TOTAL CONCENTRATES	413.0	391.1	520.8
10	FORAGES	.9	1.2	
11	FEED COST			
12	CONCENTRATES AND FORAGES	10.25	9.83	12.21
13	PASTURE			
14	TOTAL FEED COSTS	$ 10.25	$ 9.83	$ 12.21
15	RETURN OVER FEED COST	$ 4.67	$ 5.13	$ 1.92
16	SUPPLEMENTAL COSTS			
17	MISCELLANEOUS LIVESTOCK EXPENSE	.15	.09	.20
18	VETERINARY EXPENSE	.10	.12	.06
19	CUSTOM WORK	.28	.19	.38
20	TOTAL SUPPLEMENTAL COSTS	$ .53	$ .40	$ .64
21	RETURN OVER FEED & SUPPLEMENTAL COSTS	$ 4.14	$ 4.73	$ 1.28
22	SUPPLEMENTAL MANAGEMENT INFORMATION			
23	RETURN FOR $100 FEED FED	$145.52	$152.22	$115.74
24	PRICE RECEIVED PER CWT.	$ 19.28	$ 19.31	$ 18.86
25	AVERAGE WEIGHT OF PIGS SOLD	220.6	221.5	224.3
26	AVERAGE PRICE PAID PER PIG BOUGHT	15.68	15.82	15.27
27	AVERAGE WEIGHT PER PIG BOUGHT	39.0	39.6	34.9
28	NUMBER OF PIGS PURCHASED	522	1173	226
29	POUNDS OF PORK PURCHASED	20374	46399	7893
30	PER CENT DEATH LOSS	2.6	2.4	1.5
31	PRICE PER CWT. CONCENTRATE FED	$ 2.48	$ 2.51	$ 2.34

TABLE 11B INCLUDES ONLY THOSE OPERATORS WHO PURCHASED ALL OF THE HOGS FED. SOME OPERATORS DID MAINTAIN BOTH BREEDING AND FINISHING OPERATIONS, BUT SUCH OPERATIONS WERE NOT INCLUDED IN THESE AVERAGES.

TABLE 11C - WEANING PIG ENTERPRISE - 1968

	ITEMS	AVERAGE OF 5 FARMS HERD TOTAL	PER LITTER
1	NUMBER OF LITTERS FARROWED	95	
2	TOTAL VALUE PRODUCED	$10758	$113.24
3	POUNDS OF FEED FED		
4	CORN		1205.2
5	SMALL GRAIN		117.7
6	PROTEIN, SALT AND MINERAL		350.1
7	COMPLETE RATION		
8	TOTAL CONCENTRATES		1673.0
9	FORAGES		75.8
10	FEED COST		
11	CONCENTRATES AND FORAGES		50.94
12	PASTURE		
13	TOTAL FEED COSTS	$ 4839	$ 50.94
14	RETURN OVER FEED COST	$ 5919	$ 62.30
15	SUPPLEMENTAL COSTS		
16	MISCELLANEOUS LIVESTOCK EXPENSE		2.44
17	VETERINARY EXPENSE		3.46
18	CUSTOM WORK		.22
19	TOTAL SUPPLEMENTAL COSTS	$ 581	$ 6.12
20	RETURN OVER FEED AND SUPPLEMENTAL COSTS	$ 5338	$ 56.18
21	SUPPLEMENTARY MANAGEMENT INFORMATION		
22	RETURN FOR $100 FEED FED	$ 222.32	
23	AVERAGE PRICE RECEIVED PER PIG SOLD	$ 17.95	
24	NUMBER OF PIGS PRODUCED	724	
25	NUMBER OF PIGS BORN PER LITTER	9.5	
26	NUMBER OF PIGS WEANED PER LITTER	7.7	
27	PER CENT DEATH LOSS	17.3	
28	PRICE PER CWT. CONCENTRATE FED	$ 3.00	
29	FEED AND SUPPL. COSTS PER PIG PRODUCED	$ 7.49	

THE INFORMATION PRESENTED IN TABLE 11C INCLUDES COSTS OF MAINTAINING THE BREEDING HERD AND RAISING THE PIGS TO WEANING WEIGHT. THIS TABLE PROVIDES COSTS AND RETURNS ON A PER LITTER BASIS RATHER THAN PER CWT. BASIS.

TABLE 12 - DAIRY COWS - 1968
FACTORS OF COST AND RETURNS FROM DAIRY COWS

		AVERAGE OF 116 HERDS	39 HERDS HIGHEST RET. ABOVE FEED COST	39 HERDS LOWEST RET. ABOVE FEED COST
1	AVERAGE NUMBER OF COWS	31.4	41.5	22.5
2	POUNDS OF MILK	11567	12555	10103
3	POUNDS OF BUTTERFAT	421.0	458.5	371.0
4	PER CENT OF BUTTERFAT IN MILK	3.6	3.7	3.7
5	VALUE OF PRODUCE			
6	DAIRY PRODUCTS SOLD	505.10	566.43	424.58
7	DAIRY PRODUCTS USED IN HOME	4.90	4.84	5.78
8	MILK FED TO LIVESTOCK	5.22	4.58	5.87
9	NET INCREASES IN VALUE OF COWS	(-7.17)	(-6.84)	(-8.89)
10	TOTAL VALUE PRODUCED	$508.05	$569.01	$427.34
11	POUNDS OF FEED FED			
12	CORN	3885.4	4152.4	3337.4
13	SMALL GRAIN&COMPLETE DAIRY RATION	621.2	577.5	830.8
14	PROTEIN, SALT & MINERAL	586.1	649.8	520.8
15	TOTAL CONCENTRATES	5092.7	5379.7	4689.0
16	LEGUME HAY	6064.4	5858.9	6363.5
17	OTHER HAY AND DRY ROUGHAGE	85.0	12.4	----
18	SILAGE	8798.4	8620.2	8690.4
19	FEED COSTS			
20	CONCENTRATES	112.32	117.45	104.09
21	ROUGHAGES	91.15	87.59	92.98
22	PASTURE	6.78	5.73	8.00
23	TOTAL FEED COSTS	$210.25	$210.77	$205.07
24	RETURN OVER FEED COSTS	$297.80	$358.24	$222.27
25	SUPPLEMENTAL COSTS			
26	MISCELLANEOUS LIVESTOCK EXPENSE	$ 18.85	$ 20.92	$ 15.29
27	VETERINARY EXPENSE	9.78	11.16	7.73
28	CUSTOM WORK	22.74	24.10	20.22
29	TOTAL SUPPLEMENTAL COSTS	$ 51.37	$ 56.18	$ 43.24
30	RETURN OVER FEED&SUPPLEMENTAL COSTS	$246.73	$302.06	$179.03
31	SUPPLEMENTARY MANAGEMENT INFORMATION			
32	RETURN FOR $100 FEED FED	$241.64	$269.97	$208.39
33	FEED COST PER CWT. MILK	$ 1.82	$ 1.68	$ 2.03
34	FEED COST PER LBS. OF BUTTERFAT	$ .499	$ .460	$ .553
35	GRAIN FED PER LB. OF MILK	2.271	2.334	2.155
36	AVERAGE PRICE PER CWT. MILK SOLD	$ 4.46	$ 4.59	$ 4.31
37	AVERAGE PRICE PER LB. BUTTERFAT	$ 1.22	$ 1.26	$ 1.18

TABLE 13 - OTHER DAIRY CATTLE - 1968

	ITEMS	AVERAGE OF 115 HERDS	38 HIGHEST RETURN ABOVE FEED COST	38 LOWEST RETURN ABOVE FEED COST
1	NUMBER OF HEAD	37.9	47.8	30.7
2	NET INC. IN VALUE	$114.20	$135.33	$ 91.66
3	POUNDS OF FEED FED			
4	CONCENTRATES	1274.0	1237.2	1583.0
5	HAY AND ROUGHAGE	1949.3	1811.6	2333.3
6	SILAGE	3476.9	3007.4	4223.2
7	MILK	103.8	97.7	105.1
8	FEED COST			
9	CONCENTRATES	30.58	29.90	36.25
10	ROUGHAGES	30.82	27.87	37.10
11	MILK	4.35	4.10	4.43
12	PASTURE	3.32	3.64	2.93
13	TOTAL FEED COSTS	$69.07	$65.51	$80.71
14	RETURN OVER FEED COST	$45.13	$69.82	$10.95
15	SUPPLEMENTAL COSTS			
16	MISCELLANEOUS LIVESTOCK EXPENSE	1.03	1.38	1.01
17	VETERINARY EXPENSE	1.19	1.44	1.04
18	CUSTOM WORK	.90	.86	.98
19	TOTAL SUPPLEMENTAL COSTS	$3.12	$3.68	$3.03
20	RETURN OVER FEED & SUPPL. COSTS	$42.01	$66.14	$7.92
21	SUPPLEMENTARY MANAGEMENT INFORMATION			
22	RETURN FOR $100 FEED FED	$165.32	$206.61	$113.56
23	PER CENT DEATH LOSS	9.3	7.5	10.0

TABLE 14 - ALL DAIRY CATTLE - 1968

	ITEMS	AVERAGE OF 116 HERDS	39 HIGHEST RETURN ABOVE FEED COST	39 LOWEST RETURN ABOVE FEED COST
1	AVERAGE NUMBER OF COWS	31.4	41.1	23.6
2	VALUE OF DAIRY PRODUCTS	$515.19	$577.45	$441.53
3	NET INC. IN VALUE	$129.55	$136.40	$103.39
4	TOTAL VALUE PRODUCED	$644.74	$713.85	$544.92
5	POUNDS OF FEED FED			
6	CONCENTRATES	6629.7	6982.4	6446.4
7	HAY AND DRY ROUGHAGE	8481.8	8602.4	8766.2
8	SILAGE	12958.9	12362.3	12842.2
9	FEED COST			
10	CONCENTRATES	154.11	160.80	149.75
11	ROUGHAGE	128.03	126.98	131.06
12	PASTURE COSTS	10.76	9.20	10.72
13	TOTAL FEED COSTS	$292.90	$296.98	$291.53
14	RETURN OVER FEED COST	$351.84	$416.87	$253.39
15	SUPPLEMENTAL COSTS			
16	MISCELLANEOUS LIVESTOCK EXPENSE	$ 20.10	$ 22.87	$ 16.27
17	VETERINARY EXPENSE	11.21	13.09	7.63
18	CUSTOM WORK	23.82	24.99	21.02
19	TOTAL SUPPLEMENTAL COSTS	$ 55.13	$ 60.95	$ 44.92
20	RETURN OVER FEED & SUPPL. COSTS	$296.71	$355.92	$208.47
21	SUPPLEMENTARY MANAGEMENT INFORMATION			
22	RETURN FOR $100 FEED FED	$220.13	$240.37	$186.92

TABLE 14 PRESENTS A PICTURE OF THE COSTS AND RETURNS FROM THE WHOLE DAIRY HERD ON A PER COW BASIS. THE HIGH AND LOW GROUPS IN ALL DAIRY TABLES ARE BASED ON RETURNS ABOVE FEED COST FOR THE COW HERD, RATHER THAN ON YEARLY BUTTERFAT PER COW. SOME IMPORTANT COSTS NOT INCLUDED IN THESE TABLES ARE THOSE FOR LABOR, HOUSING AND DAIRY EQUIPMENT.

TABLE 15A - BEEF BREEDING CATTLE - 1968

	ITEMS	AVERAGE OF 11 FARMS HERD TOTAL	PER COW
1	AVERAGE NUMBER OF BEEF COWS	44.1	
2	AVERAGE NUMBER OF OTHER BEEF ANIMALS & BULLS	28.7	
3	POUNDS OF BEEF PRODUCED	17880	
4	NET INCREASE IN VALUE	$4747	$107.64
5	POUNDS OF FEED FED		
6	GRAIN		161.4
7	PROTEIN, SALT AND MINERAL		35.9
8	LEGUME HAY		2116.3
9	OTHER HAY AND DRY ROUGHAGE		18.1
10	SILAGE		8816.3
11	FEED COST		
12	CONCENTRATES		5.58
13	ROUGHAGES		47.96
14	PASTURE		16.42
15	TOTAL FEED COSTS	$3085	$ 69.96
16	RETURN OVER FEED COST	$1662	$ 37.68
17	SUPPLEMENTAL COSTS		
18	MISCELLANEOUS LIVESTOCK EXPENSE		.93
19	VETERINARY EXPENSE		1.93
20	CUSTOM WORK		.82
21	TOTAL SUPPLEMENTAL COSTS	$ 162	$ 3.68
22	RETURN OVER FEED & SUPPLEMENTAL COSTS	$1500	$ 34.00
23	SUPPLEMENTAL MANAGEMENT INFORMATION		
24	RETURN FOR $100 FEED FED	$ 153.87	
25	PRICE PER CWT. SOLD	$ 19.11	
26	AVERAGE WEIGHT PER HEAD SOLD	1040	
27	PER CENT DEATH LOSS	4.8	
28	PER CENT CALF CROP		

TABLE 15B - FEEDER CATTLE - 1968

	ITEMS	AVERAGE OF 40 FARMS	13 HIGHEST IN RETURN ABOVE FEED COST	13 LOWEST IN RETURN ABOVE FEED COST
1	AVERAGE NUMBER OF BEEF FEEDERS	78.4	170.2	25.8
2	POUNDS OF BEEF PRODUCED PER CWT. PRODUCED	52041	112813	17726
3	NET INCREASE IN VALUE OF ANIMALS	$ 26.57	$ 26.90	$ 24.56
4	POUNDS OF FEED FED			
5	GRAIN	581.5	569.1	607.4
6	PROTEIN, SALT AND MINERAL	46.5	48.8	52.9
7	LEGUME HAY	240.3	220.9	302.6
8	OTHER HAY AND DRY ROUGHAGE	1.5		13.9
9	SILAGE	689.7	704.3	766.6
10	FEED COST			
11	CONCENTRATES	13.17	12.96	14.29
12	ROUGHAGES	4.29	4.24	5.02
13	PASTURE	.10	.05	.17
14	TOTAL FEED COSTS	$ 17.56	$ 17.25	$ 19.48
15	RETURN OVER FEED COST	$ 9.01	$ 9.65	$ 5.08
16	SUPPLEMENTAL COSTS			
17	MISCELLANEOUS LIVESTOCK EXPENSE	.34	.41	.10
18	VETERINARY EXPENSE	.47	.58	.16
19	CUSTOM WORK	.67	.67	.66
20	TOTAL SUPPLEMENTAL COSTS	$ 1.48	$ 1.66	$ .92
21	RETURN OVER FEED & SUPPLEMENTAL COSTS	$ 7.53	$ 7.99	$ 4.16
22	SUPPLEMENTARY MANAGEMENT INFORMATION			
23	RETURN FOR $100 FEED FED	$151.30	$155.94	$126.09
24	PRICE PER CWT. SOLD	$ 25.10	$ 25.20	$ 25.48
25	AVERAGE WEIGHT PER HEAD SOLD	962.2	953.1	964.8
26	PRICE PER CWT. BOUGHT	$ 25.07	$ 24.95	$ 27.18
27	AVERAGE WEIGHT PER HEAD BOUGHT	555.2	573.2	421.7
28	NUMBER OF HEAD BOUGHT	119	295	23
29	PER CENT DEATH LOSS	.9	.8	--

THE FIGURES REPRESENTED HERE ARE CALCULATED FROM AN ANNUAL RECORD AND DO NOT FOLLOW THROUGH ANY PARTICULAR LOT FED. CATTLE NOT SOLD ARE INCLUDED IN THE CLOSING INVENTORY, WITH ESTIMATES OF WEIGHTS AND VALUES. PRICE PAID (LINE 26) IS THE PRICE PAID FOR CATTLE BOUGHT DURING THE YEAR, AND NOT FOR THOSE SOLD DURING THE YEAR.

TABLE 16A - SHEEP FLOCK - 1968

	ITEMS	AVERAGE OF 6 FARMS FLOCK TOTAL	PER EWE
1	AVERAGE NUMBER OF EWES	52.7	
2	POUNDS OF LAMB & MUTTON PRODUCED	4199	
3	POUNDS OF WOOL PRODUCED	573	
4	VALUE OF PRODUCE		
5	WOOL		6.09
6	NET INCREASE IN VALUE OF ANIMALS		19.22
7	TOTAL VALUE PRODUCED	$1334	$ 25.31
8	POUNDS OF FEED FED		
9	GRAIN		158.5
10	PROTEIN, SALT AND MINERAL		22.0
11	LEGUME HAY		597.7
12	OTHER HAY AND DRY ROUGHAGE		25.3
13	SILAGE		376.1
14	FEED COST		
15	CONCENTRATES		4.21
16	ROUGHAGES		7.02
17	PASTURE		2.18
18	TOTAL FEED COSTS	$ 707	$ 13.41
19	RETURN OVER FEED COST	$ 627	$ 11.90
20	SUPPLEMENTAL COSTS		
21	MISCELLANEOUS LIVESTOCK EXPENSE		$ .46
22	VETERINARY EXPENSE		$ .08
23	CUSTOM WORK		$ 1.48
24	TOTAL SUPPLEMENTAL COSTS	$ 106	$ 2.02
25	RETURN OVER FEED AND SUPPLEMENTAL COSTS	$ 521	$ 9.88
26	SUPPLEMENTARY MANAGEMENT INFORMATION		
27	RETURN FOR $100 FEED FED	$ 188.68	
28	PRICE PER CWT. LAMB & MUTTON SOLD	$ 23.37	
29	POUNDS OF WOOL PER SHEEP SHEARED	11.9	
30	NUMBER OF EWES KEPT FOR LAMBING	40	
31	PER CENT LAMB CROP	148	
32	PER CENT DEATH LOSS	13.1	

TABLE 17A - LAYING FLOCK CHICKENS - 1968

	ITEMS	AVERAGE OF 16 FARMS	5 FARMS HIGHEST IN RETURN ABOVE FEED COST	5 FARMS LOWEST IN RETURN ABOVE FEED COST
1	AVERAGE NUMBER OF HENS	712.3	1585.6	360.0
2	VALUE OF PRODUCE PER HEN			
3	EGGS SOLD AND USED	5.15	5.71	3.43
4	INC. IN VALUE OF FLOCK	(-.93)	(-.99)	(-.88)
5	TOTAL VALUE PRODUCED	$ 4.22	$ 4.72	$ 2.55
6	POUNDS OF FEED FED PER HEN			
7	GRAIN	73.5	68.7	86.0
8	PROTEIN, SALT & MINERAL	29.3	29.0	30.5
9	COMPLETE COMMERCIAL FEED			
10	TOTAL POUNDS OF FEED	102.8	97.7	116.5
11	TOTAL FEED COST PER HEN	$ 3.00	$ 2.90	$ 3.27
12	RETURN OVER FEED COST	$ 1.22	$ 1.82	$ (-.72)
13	SUPPLEMENTAL COSTS	$ .23	$ .21	$ .34
14	RETURN OVER FEED & SUPP. COSTS	$ .99	$ 1.61	$ (-1.06)
15	SUPPLEMENTARY MANAGEMENT INFORMATION			
16	RETURN FOR $100 FEED FED	$ 140.66	$ 162.77	$ 77.99
17	EGGS LAID PER HEN	225	239	169
18	PRICE PER DOZ. EGGS SOLD-CENTS	$ .27	$ .29	$ .24
19	FEED COST PER DOZ. EGGS-CENTS	$ .16	$ .15	$ .23
20	RETURN OVER FEED COSTS PER DOZEN EGGS-CENTS	$ .06	$ .09	$ (-.05)
21	PERCENT DEATH LOSS	6.8	5.6	8.9

ONLY LAYING OPERATIONS THAT WERE CONTINUOUS FOR TWELVE MONTHS ARE SHOWN IN THIS TABLE. FLOCKS OF LESS THAN 250 HENS WERE ALSO ELIMINATED.

LABOR EARNINGS CORRELATED WITH EXCELLED FACTORS

STUDIES OF EARNINGS OF FARMERS IN THIS REPORT WERE MEASURED BY NINE MANAGEMENT FACTORS CAUSING VARIATIONS IN EARNINGS AMONG FARMERS WITHIN A GIVEN YEAR. THESE NINE FACTORS SHOWN IN TABLE 8 ARE CROP YIELDS, CHOICE OF CROPS, GROSS RETURNS PER ACRE, RETURNS FROM LIVESTOCK, AMOUNT OF LIVESTOCK, SIZE OF BUSINESS, ACCOMPLISHMENTS PER WORKER, CONTROL OVER EXPENSES, AND INVESTMENT PER WORKER. GROSS RETURN PER ACRE AND INVESTMENT PER WORKER ARE EXPANSIONS OF OTHER MEASURES. THEY ARE OMITTED FROM THIS YEAR'S TABLE 18 IN ORDER TO AVOID ANY IMBALANCE OF EMPHASIS. THE COMBINED OR CUMULATIVE INFLUENCE OF SEVEN MANAGEMENT FACTORS ON EARNINGS IS SHOWN IN TABLE 18. COMPARISONS OF HOW INDIVIDUALS WERE RELATED TO INCOME LEVELS IS SHOWN IN TABLE 8.

TABLE 18 - 217 FARMS

NUMBER OF FACTORS IN WHICH FARMERS EXCELLED (SEVEN)	NUMBER OF FARMS	AVERAGE LABOR EARNINGS
0 OR 1	23	XX $1684
2	42	XXXXXXXXX $4564
3	32	XXXXXXXXXXXXX $6304
4	46	XXXXXXXXXXXXXXXXX $9587
5	40	XXXXXXXXXXXXXXXXXXX $11165
6 OR 7	34	XXXXXXXXXXXXXXXXXXXXXXX $13294

COMMENTS AND OBSERVATIONS

A TOTAL OF 284 FARM RECORDS WERE ANALYSED FOR 1968. BECAUSE OF THE SEVERE JANUARY WEATHER MANY OF THE BOOKS WERE SUBMITTED TOO LATE TO BE INCLUDED IN THE AVERAGES. VERY FEW OF THE EARLY BOOKS WERE SCREENED FROM THE WHOLE FARM AVERAGES. THESE WERE MOSTLY THOSE HAVING LESS THAN ONE FULL-TIME WORKER, OR MULTIPLEOPERATOR FARMING ARRANGEMENTS. BECAUSE THE LAST ACCOUNT BOOKS REACHED US AFTER MOST OF THE REPORTS HAD BEEN COMPLETED, IT IS NOT POSSIBLE TO GIVE THE LABOR EARNINGS AVERAGE FOR SIXTY-SEVEN COOPERATING FARMS AT THIS TIME.

THE GAIN OF 36 FARMS OVER LAST YEAR IS VERY ENCOURAGING WHEN ALL OF THE ADVERSE SITUATIONS ARE CONSIDERED.

THE PROMPTNESS OF AGRICULTURAL RECORDS COOPERATIVE IN GETTING AVERAGES BACK EARLY WAS MOST HELPFUL. EVEN THOUGH THERE WERE A FEW ERRORS IN THE INITIAL A.R.C. REPORTS, WE WERE ABLE TO PROCEED WITH A MINIMUM OF DELAY. MUCH CREDIT FOR CORRECTING PROGRAMMING ERRORS MUST BE GIVEN TO DR. EDGAR PERSONS AND RALPH PALAN.

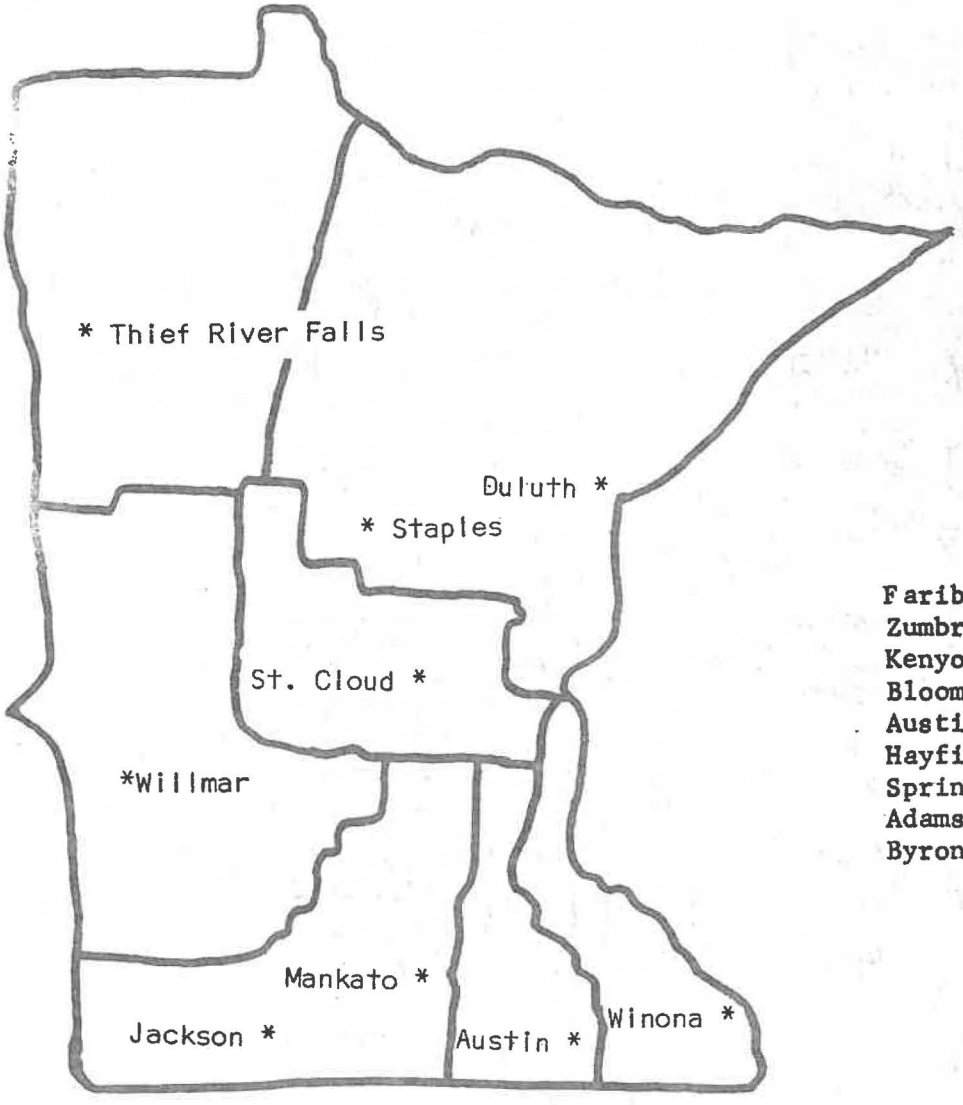
INSTRUCTORS ARE URGED TO ENCOURAGE COOPERATORS TO KEEP COMPLETE RECORDS. FAULTY DISTRIBUTION OF CROP AND FEED COSTS RESULTS IN QUESTIONABLE ANALYSIS INFORMATION. OF PARTICULAR CONCERN IS THAT MORE COOPERATORS SUBMIT HOUSEHOLD AND NET WORTH INFORMATION. SUCH INFORMATION WOULD ALSO PROVIDE MORE CASES FOR TABLES 6A AND 6B. OF STILL GREATER IMPORTANCE IS THE VALUE OF THIS INFORMATION TO THE COOPERATING FARM FAMILIES.

SUMMARY OF FARM EARNINGS BY YEARS

SALE OF LIVESTOCK & LIVESTOCK PRODUCTS	1965	1966	1967	1968
DAIRY CATTLE	$ 1722	$ 2068	$ 2577	$ 2373
DAIRY PRODUCTS	6154	7342	8112	8917
BEEF CATTLE	4781	5414	5795	5984
HOGS	10413	11688	10948	11901
SHEEP & WOOL	76	78	53	60
POULTRY & EGGS (INCL. TURKEYS)	505	690	312	341
SALE OF CROPS				
CORN	1981	2418	2670	2537
SOYBEANS & OTHER CROP SALES	3010	3859	4121	4365
DIVERTED ACRE PAYMENT	1552	1606	872	1749
CAPITAL ASSETS SOLD			1289	551
GAS TAX REFUND	343	509	229	227
OTHER FARM INCOME	835	753	1017	1202
TOTAL FARM SALES	31372	36425	37995	40207
INCREASE IN FARM CAPITAL	7170	9998	6018	5712
FAMILY LIVING FROM THE FARM	363	371	343	379
TOTAL FARM RECEIPTS	$38905	$46794	$44356	$46298
PURCHASE OF LIVESTOCK				
DAIRY CATTLE	$ 482	$ 529	$ 588	$ 480
BEEF CATTLE	2402	3141	2914	3214
HOGS	928	1738	1545	1432
SHEEP	2	2	6	18
POULTRY (INCL. TURKEYS)	88	119	107	25
MISCELLANEOUS LIVESTOCK EXPENSE	629	767	855	962
FEED BOUGHT	5246	5464	4906	5376
FERTILIZER	1612	1949	2420	2314
OTHER CROP EXPENSE	1325	1645	2002	2123
CUSTOM WORK HIRED	831	983	1235	1327
REPAIR & UPKEEP OF LIVESTOCK EQUIPMENT	167	207	194	225
REPAIR & UPKEEP OF FARM REAL ESTATE	386	441	392	423
GAS, OIL, GREASE BOUGHT (FARM SHARE)	1088	1216	1202	1224
REPAIR&OPER OF MACH,TRACTOR,TRUCK,AUTO (F.S.)	1182	1319	1264	1259
WAGES OF HIRED LABOR	531	589	546	657
PERSONAL PROPERTY & REAL ESTATE TAXES	1382	1488	1546	1257
GENERAL FARM EXPENSE	387	468	410	476
TELEPHONE EXPENSE (FARM SHARE)			86	89
ELECTRICITY EXPENSE (FARM SHARE)	320	351	376	419
TOTAL CASH OPERATING EXPENSE	$18988	$22416	$22594	$23300
POWER, CROP & GENERAL MACH BOUGHT (F.S.)	$ 3423	$ 4231	$ 4407	$ 3412
LIVESTOCK EQUIPMENT BOUGHT	498	830	814	692
NEW REAL ESTATE & IMPROVEMENT	2383	3888	5431	4114
TOTAL FARM PURCHASES	$25292	$31365	$33246	$31518
DECREASE IN FARM CAPITAL	--	--	--	--
INTEREST ON FARM CAPITAL	4122	4707	4900	5481
UNPAID FAMILY LABOR AND/OR PARTNER	633	842	948	988
BOARD FURNISHED HIRED LABOR	82	92	73	71
TOTAL FARM EXPENSE	$30129	$37006	$39167	$38058
LABOR EARNINGS (WHOLE FARM)	$ 8776	$ 9788	$ 5189	$ 8240

Area Coordinators

Thief River Falls.....Ed Sisler
Duluth.....Rodger Palmer
St. Cloud.....Ed O'Connell
Mankato.....Del Hodgkins
Austin.....Charles Painter
Winona.....Donald Walker
Staples.....William Guelker
Willmar.....John Thell
Jackson.....John Murray



COOPERATING
VOC. AG. DEPARTMENTS
In Austin Area

Faribault	Elkton
Zumbrota	Northfiel
Kenyon	Owatonna
Blooming Prairie	LeRoy
Austin	West Conc
Hayfield	New Richl
Spring Valley	Alden
Adams	Stewartvi
Byron	

Appendix G