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FARMER AND RANCHER USE OF THE

MONTANA COOPERATIVE EXTENSION SERVICE

by

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ABSTRACT

The primary purpose of this study was to determine the factors associated with farmers/ranchers using or not using the Montana Cooperative Extension Service as a source of agricultural information and to further try to associate this with farm/ranch size. The data upon which the findings, conclusions, implications and recommendations were developed are based upon the beliefs and opinions of 304 Montana farmers and ranchers.

It can be concluded from the data that small scale respondents receive a signficant proportion of their gross income from off-farm jobs. Small and large scale respondents indicated that agriculture journals/magazines, neighbors and the CES are the sources of agriculture information they use most. Extension bulletins, personal contacts, informatinn meetings and telephone calls are the media used by the CES that producers find the most useful. Further, producers in general find the CES to be a reliable and trustworthy source of information. The most often cited suggestions for improvement from respondents were for the CES to provide more technical crop and soil information and to keep agents and information up-to-date.

Chapter 1

INTRODUCTION

The diffusion of information to farmers has been the primary objective of the extension service since 1914. The degree to which any dissemination effort is effective is directly related to how well the agents know and consider certain characteristics of the farm clientele with whom they work.

Working with small part-time farmers, so prevalent in our agriculture industry today, offers a new and unique challenge to those associated with the extension service. Researchers in Missouri and Wisconsin are especially concerned with extension service research and programming, with regard to small and part-time farmers. Schell Brodenhamer, Associate Dean of Agriculture at the University of Missouri in Columbia, said, "Allocation of limited extension resources between commercial and small farmers is a continuing decision."[1]

Dr. Franklin Eggert, former Dean of Graduate School at the University of Maine, Department of Plants and Soils, commented regarding the extension service's educational patterns,

> "Historically, the university has looked at agriculture in terms of monoculture, a large scale chemical agriculture and the small farmer has not received as much attention as the larger farmer has from the extension service."[2]

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[1] Blobaum, Roger, "Organic Gardening and Farming", April 1976, p. 126.

[2] Goldman, M. C., "Organic Gardening and Farming", March 1976, p. 144.

Purpose of the Study

The purpose of this study is to determine the factors associated with farmers/ranchers using or not using the Montana Cooperative Extension Service as a source of agricultural information and to further associate these factors with farm/ranch size.

Need for the Study

In the United States with a population of 220 million, there are 2.4 million farmers and ranchers which constitute approximately nine-tenths of one percent of the total population. Within these 2.4 million producers it is stated that 20 percent produce 80 percent of the total food and fiber. Conversely, 80 percent of the farmers and ranchers share 20 percent of the agricultural income in our nation.[3]

The problems faced by small producers are unique from the larger producers. A few of these problems include: (1) how to produce marketable amounts of crops and livestock on small acreages, (2) how to improve management techniques on a small scale, (3) how to allocate management time between farming and, (4) off farm work.

Past surveys of farmers conducted by researchers from the Montana Agricultural Experiment Station in Bozeman have shown that small scale

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[3]"Census of Agriculture", 1978 Vol. 1, Part 51, pp. IX-2.

farmers find the Montana Cooperative Extension Service and its county agents as a somewhat less reliable source of agriculture information. In a recent study conducted by Dr. Anne Williams entitled, "Small Scale Farming", the researcher stated,

> "The least used sources of information were county agent/ Cooperative Extension Service and commercial salesmen. These two sources plus, 'own experimentation', were also considered the least reliable."[4]

The majority of all farmers, 58 percent in this study, gave a favorable rating to the Cooperative Extension Service. The majority of retirement and hobby farmers evaluated the Cooperative Extension Service favorably, while the majority of marginal business farmers, 55 percent rated the Cooperative Extension Service unfavorably and a significant minority of aspiring business farmers - 45 percent gave a neutral (neither favorable, nor unfavorable) rating. The marginal business farmers rated the extension service low as a major source of information and none considered it their most reliable source of information. And a majority, 55 percent, gave a negative evaluation to the Cooperative Extension Service.[5]

This study will provide information which will help the extension service develop a new and/or improved program for serving the needs of small scale farmers in particular and large scale farmers in Montana.

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[4]Williams, Anne, "Small Scale Farmers", November 1980, p. 21.

[5]Ibid., p. 22.

Objectives

The following objectives are proposed for this study:

1. To identify the factors associated with farmers and ranchers using or not using the Montana Cooperative Extension Service.
2. To relate these factors to farm and ranch size and gross income.
3. To provide descriptive data which will help the Cooperative Extension Service better serve the needs of farmers and ranchers in Montana.

Assumption

For the purpose of this study it is assumed that some dissatisfaction exists among Montana farmers and ranchers regarding the reliability of agricultural information from the Montana Cooperative Extension Service.

Limitations

1. This study is limited to a sample of farm and ranch producers in Montana.
2. Results are intended to be generalizable to the state of Montana.

Definitions

Small Scale Farmers/Ranchers: Farmers/ranchers whose gross sales do not exceed $40,000 per year.

Large Scale Farmers/Ranchers: Farmers/ranchers whose gross sales are more than $40,000 per year.

Cooperative Extension Service: The organization whose responsibility it is to disseminate information to producers from the land grant university and experiment stations in their respective states.

Experiment Station: The part of the land grant university whose job it is to perform research in the field to improve livestock, crops and agriculture product practices.

Reliability: Consistent, dependable judgment, character performance or result. For this study a consistent dependable source of accurate agricultural information.

Producers: Those people who raise some type of agricultural product and sell it for an income.

Land Grant Institution: College established as a result of the Land Grant Act of 1862, which granted free land in each state to build a college devoted in part to agriculture and engineering or mechanics.

Retirement Farmers: Farmers close to retirement but sill farming or retired and farming part-time.

Hobby Farmers: Farmers employed full-time off the farm and who farm only as a hobby.

Marginal Business Farmers: Farmers hoping to make the farm the economic base of the family unit. Generally these individuals are middle aged and believe in the protestant work ethic.

Aspiring Business Farmers: Farmers who are in the early stage of the family life cycle; farmers who expect the farm income to become the sole means of family support, further this economic goal is based upon a set of values which emphasizes achievement, competition and the materials aspects of one's culture.

Chapter 2

REVIEW OF RELATED LITERATURE

Cooperative Extension Service Historical Background

Kelsey and Hearne stated:

> "Extension work is an out of school system of education in which adults and young people learn by doing. It is a partnership between government, the land grant colleges and the people, which provide service and education designed to meet the needs of the people. Its fundamental objective is the development of the people."[1]

The extension service grew out of the Smith-Lever Act of 1914. However, the Morrill Act of 1862 signed by Abraham Lincoln, initiated the foundation for the Cooperative Extension Service, namely the land-grant college system. The Smith-Lever Act called for the Cooperation of the Federal Department of Agriculture and land grant colleges to serve the interests and problems of the American farmer. Support for both the Morrill and Smith-Lever Acts was generated by agricultural societies which date as far back as 1785, in Philadelphia. The purpose of these societies was to start other farmer organizations and disseminate agricultural information.

One very important factor leading to the creation of an official extension service was the boll weevil infestation problem in the South

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[1] Kelsey and Hearne, Cooperative Extension Work, Comstock Pub., 1949, p. I.

in the late 1890's and early 1900's. Actually, an extension department of the federal government was started in the 1890's. Dr. S. A. Knapp was one of the first advisors sent to the South to begin advising farmers there on how to cope with the cotton boll weevil. Knapp, along with 22 trainees, held over 1000 meetings in several southern states the first year of the extension department's existence. In 1906 W. C. Stallings became the first county agent anywhere, by taking charge of Smith County, Texas.[2]

Later farm associations throughout the nation were begun to serve the needs and problems of farmers. It should be noted that the Cooperative Extension Service has the additional responsibilities of serving young people through the 4-H as does the Home Economics Department of the extension service.

The Spirit and Philosophy of Extension Work

Just what is the philosophy of the extension service? M. L. Wilson stated:

> "The basic philosophy of extension work in the United States is not the product of any single individual or institution. It is the product of the thinking of the leaders of the Cooperative Extension Service and related fields over the more than a third of a century of its history."[3]

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[2]Smith, Clarence Beaman, Meredith C. Wilson, The Agriculture Extension System of the United States, 1930, p. 8.

[3]R. K. Bliss, The Spirit and Philosophy of Extension Work, Graduate

In 1952, M. L. Mosher outlined what he thought were five important points to achieve agricultural progress: (1) research that learns the facts on which sound agriculture is based, (2) education of many farm people in the facts learned through research, (3) application to farm practice, in an organized way, of the facts of research learned through education, (4) selection of the most valuable products or practices found by measuring the results, when established facts are applied by many farm people, and (5) distribution to all farm people of the most valuable products or practices developed by application of the facts of research, tempered by farm experience.[4]

People in the extension service have shown that they do have broad vision and foresight. H. H. Williamson, former assistant director, of extension work at the U.S.D.A. showed such foresight when he said:

> "Our objectives remain the same, but our scope and methods are changing. Let's not be afraid to expand our scope, to use new techniques . . . There is a need for more leaders, better use of leadership, and a better public understanding of the job being done."[5]

J. L. Boatman expounded further on some basics of the job of the extension service,

> "The Smith-Lever Act states that this work (extension) shall be carried on in such a manner as may mutually be agreed upon by the Secretary of Agriculture and the state agricultural

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3(Continued) School of U.S.D.A. and Eps. Sig. Phi. Honor. 1952, p. V.

[4]Ibid., p. 339.

[5]Ibid.

> college . . . These two words, 'mutually exclusive', characterize the spirit of extension. This principle is followed in all work between the two principals in the contractual relationship, namely, the Department of Agriculture and the state land grant colleges. It is also followed within the states between the colleges and people of the counties."[6]

General Problem Support

Because the extension service is relatively young and has developed slowly, there have been a limited number of evaluative studies on the job the extension service is trying to do. However, some of the earliest research on the use various types of farmers made of the service offered by the extension service was started in the late 1950's and early 1960's.

Glen Fuguitt, who was aware of the increasing numbers of part-time farmers in the early 1960's conducted a study in Wisconsin that compared the use that two different types of part-time farmers made of the extension service. The researcher believed that the extension service could make use of the results of his survey to adapt its educational patterns and techniques to serve a changing clientele.[7]

Fuguitt divided part-time farmers into former full-time farmers and former nonfarmers. In short his findings were as follows:

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[6] Ibid.

[7] Fuguitt, Glen, "Rural Sociology", "Career Patterns of Parttime Farmers and their contact with the Agriculture Extension Service," March 1965, p. 49.

Former full-time farmers made much greater use of the extension service than did former nonfarmers. Fuguitt's research showed that the sequence of nonfarm work experience in the career rather than simply the amount of experience was important in determining who sought information from the extension service. The researcher concluded from supporting information that agriculture was more central in the lives of former full-time farmers than former nonfarmers. Fuguitt said age, education, and length of residence on the farm did not lower the association between former nonfarmers and former full-time farmers.[8] Fuguitt generally went on to mention that more research on other variables involving other types of farmer characteristics needs to be conducted.[9]

Other work conducted by Hardee in North Carolina followed the progress of a five year program conducted by the extension service to make intensive frequent contact with a selected group of farmers in North Carolina. One hundred eight families were selected to receive regular management help from the extension service over a five year period.[10] It was concluded that farmers who relied on the extension

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[8] Ibid.

[9] Ibid., p. 50.

[10] Hardee, J. Gilbert, "Rural Sociology", "Planned Change and Systematic Linkage in a 5 year Extension Program with Part-time Farm Families, March 1965, p. 23.

service for much of their information also belonged to other farm organizations like the Farm Bureau and the Farmer's Union. Although this study does not point up any information about the size relationship, it does show that research can point out the characteristics of farmers who use extension information and those who don't.[11]

Lee Searle wrote an article for "Successful Farming" in which he explained the success of an extension program started in Wright County, Iowa. The program was based on a new record-keeping system designed to aid small farmers in their farm management work. It was further evidence that small farmers can be helped a lot when the extension service becomes actively involved with them.[12]

Early 1970's Related Research

A study in Wisconsin by Matteson and Thompson tried to discover some of the reasons why farmers persisted in or dropped out of young farmer instructional programs. They reached a number of conclusions after studying continuing and dropout students. Firstly, most dropouts were older and had more farming experience. Secondly, dropout

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[11] Ibid.

[12] Searle, Lee, "Successful Farming", "Small Farms, A Look at Some Good Ones", September 1975, p. 19.

students tended to operate larger farms than did continuing students. Thirdly, the major reasons given for dropping out were personal reasons (recreation, time, organizations, church, etc.) rather than dissatisfaction with the program. Finally, one important conclusion reached in the Wisconsin study was that more than half of the dropout students and more than a third of the continuing students believed that the purpose of the classes was to develop their problem solving ability.[13] So, the perception of what the role of the classes was in the students' eyes is important in understanding their responses to the rest of the questions.

Land Grant System Under Attack

It was the general lack of evaluation of the extension service and the entire land grant system in this country that led Jim Hightower, an agriculture department employee in Washington, to write his book, Hard Tomatoes, Hard Times. In short, Hightower accused the federal government and leaders of the land grant system in the states of failing to address the needs of the majority of commercial farmers. Hightower hoped such a scalding attack would get people in the land grant system to evaluate their work and see just who they were serving and why.

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[13] Matteson, H. R., J. F. Thompson. "Why Farmers Persist in or Drop Out of Young Farmer Instructional Programs", November 1972.

Hightower received some loud and swift feedback from people in the agriculture department and around the nation from people in the land grant system. But, he was also commended by people within the system for telling it like it actually was. In effect, Hightower's book and subsequent articles about it was a launching force for all kinds of evaluation research including a congressional hearing in 1972.[14]

Two major questions that Hightower's book and the hearing raised were: "How can research and extension make effective people use of tax dollars?" and, "How will a shift in priorities affect the level of research and extension help received by commercial farmers?" Continued research on the demographics and characteristics of people who use the extension service will point up what kinds of shifts in priorities need to be made as the needs of farmer clientele continue to change.[15]

Extension Service Programs and Farmer Attitudes

The need for and the success of small farmer programs by the extension service has been demonstrated in work in states around the country. One state which has devoted considerable extension time and resources to helping small farmers is Missouri. In selected counties

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[14]Carlson, Jerry, "Successful Farming", "More Research and Extension for Small Farmers", August 1972.

[15]Ibid.

in Missouri, extension workers are working directly with farmers to help them improve their production and management techniques.

Schell Brodenhamer, Associate Dean of Agriculture at the University of Missouri in Columbia, said "Allocation of limited extension resources between commercial and small farmers is a continuing decision. Limited financial resources is a problem. Direct contact has proven successful in parts of Missouri and it's spreading."[16]

In Maine the extension service realized that an increasing number of small farmers needed and sought help from the extension service. Here the extension service has developed a specific program of education to aid small and/or organic farmers (those using no sprays or commercial fertilizers).

In addition, small, part-time advisory boards have been established to help university agriculture departments and the extension service personnel determine how to better meet the needs of small and part-time farmers.[17]

Similar programs have been started or at least tried in South Dakota, Vermont, New Mexico, and Florida. Dr. Franklin Eggart stated the following regarding the extension service and their educational

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[16]Blobaum, Roger, "Organic Gardening and Farming", "Missouri's Program to Save the Small Farmer", April 1976, p. 131.

[17]Goldman, M. C., "Organic Gardening and Farming","Cultivate Your County Agent", March 1976, p. 144.

patterns,

> "Historically, the university has looked at agriculture in terms of monoculture, a large scale chemical agriculture and the small farmer has not received as much attention as the larger farmer has received from the extension service."[18]

What are farmer attitudes toward the extension service? John Gross, Extension Studies Specialist at the University of Missouri, conducted research on just that topic. The researcher asked a sample of young, middle age and old farmers to rate the extension service on many facets of their (extension's) work. The farmers were also classified according to education level and participation in other farm organizations. The data revealed the following information: Young farmers tended to use the extension service more than middle or older age farmers; and farmers belonging to other farm organizations tended to hold a more favorable attitude toward the extension service.

The farmers were asked how they received most of their useful information from the extension service. They could indicate in order which means were most helpful: meetings, mass media, office visits, mail, or telephone. Visits and meetings ranked at the top for usefulness. So, personal contact with farmers, especially on their farm, is probably the best means of farmer-educator communication.

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[18] Ibid., p. 146.

Defining the Small and Large Farm

The 1977 Agricultural Act, also called the Small Farm Research and Extension Act, called for more research of and aid to small farmers by the extension service. The U.S.D.A. defines small farmers as having gross sales of $20,000 or less per year, and includes the following criteria to define further small farmers. The individual must depend on farming for a significant portion of income, have a close relationship to the rural community, and want to be close to the family and nature.[19]

Defining the small and large farm is an exceedingly difficult task. It must usually be done in relationship to the region involved, because what is small in one state may not be small in another. Usually a stratification of the farmers involved is necessary. That is, researchers must divide the small and large farmers into different income or farm size levels.

An April, 1979 article entitled "You Have a Stake in Saving Small Farms" pointed out that there were approximately 1.2 million small farms in the United States, according to the U.S.D.A. definition described earlier. Steve Calm, author of the article, went on to say

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[19] Goldstein, Jerome, "Organic Gardening and Farming", "Organizing Knowledge for Small Farmers", January 1978, p. 144.

that small farmers receive more attention than large farmers from the land grant system because they represent about 60 percent of the total number of farmers. Calm stated that a large part of their income comes from off-the-farm employment, they vote in the general interest of larger farmers, and they carry considerable clout with the public.[20]

Along the same line, Farm Economist Harold Breimyer commented:

> "We are in a relentless trend toward larger farming operations that will come to a head in the 1980's. It is not a crisis yet, but (because it takes a crisis to get public attention) that is a disadvantage for small farmers."[21]

Ovid Bay, of the U.S.D.A., stated that the U.S.D.A. is working on a new three-part definition of the small farmer. The government official said a small farmer needs to meet the following characteristics: (1) a farmer is operating a farm by providing most of the management and labor, (2) have a family income from farm and nonfarm sources that is below the median non-metropolitan income in the state, (3) depends on the farm operation for a significant part, though not necessarily a majority, of their income.[22]

It should be pointed out that the bottom half of small farmers, according to the above definition, produce only about 3 percent of all

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[20] Calm, Steve, "Successful Farming", "You Have a Stake in Saving Small Farms", April 1979, p. 19.

[21] Ibid.

[22] Ibid.

farm produce but this level of production provides a substantial part of those farmers' incomes. Because this produce is an important part of their income, farmers require extension's help. But there is a need to find out why many of those small farmers are not relying on the extension service for information.

The Extension Service: Who Uses It?

In 1979 Michael Nolan and Paul Lasley researched the question, "What's the Current Situation Regarding the Use of Extension Services by Different Segments of the Agricultural Community?" and "What Client Group Should Extension be Working with in the Future?" They found that farmers seeking and receiving less contact from the extension service generally were younger, less educated, had lower socioeconomic status, and a lower level of living. Lasley and Nolan also discovered that farmers participating in the extension service tended to be higher in education, especially agricultural education, and usually ran large farms.

In looking back, Lasley and Nolan noted that in reviewing related literature back ten years they could find no research directly relating to the characteristics of farm audiences and their use of the extension service. There were reports on program awareness but nothing relating to the types of audiences.[23] It is important then that research be

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[23] Nolan, Michael, Paul Lasley. "Journal of Extension", Ag Extension: Who Uses It?" Sept./Oct. 1979, p. 21.

done to determine how farmer audiences are changing in the 1980's.

The Lasley, Nolan study focused on five variables, age of the operator, percent of family income from the farm, size of the operation, type of operation, and whether the farm operator worked off the farm. They categorized farm sizes into 127 acres or less, 128 - 262 acres, 263 - 540 acres, and 541 - 2700 acres.[24]

They also compared farmers on their use of different facets of extension service communication. They asked farmers how they received most of their information, through extension publications, office visits, meetings, or farm visits. Large farmers, they found, attended more meetings, 35 percent of them as compared to 6 percent of small farmers. Further, only 29 percent of larger farmers attended no meetings as compared to 71 percent of small farmers attending no meetings. Lasley and Nolan also found part-time farmers were less likely to attend extension meetings than full-time farmers. Part of that is probably due to the fact that extension meetings are usually held during the week and part-time farmers who often hold an off farm job are not available at that time of day.

The Lasley, Nolan study discovered that large farmers were those most often visited by extension agents.

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[24]Ibid., p. 22.

> "The criticism that extension programs are directed at 'large, successful' farmers is at least partially supported by this data, although not to the extent some would have us believe."[25]

One unanswered question Lasley and Nolan suggest for further research is: Do smaller farmers have less contact on the part of either extension personnel, publications, or programs, or do individual characteristics that may contribute to their being "small" in the first place also make them less likely to seek such help? "Unfortunately", Lasley says, "the answer can't be determined from our data."[26]

Finally, Nolan and Lasley say, "Expertise should be marshalled to adequately address the problems of large and small producers. To date this knowledge has clearly been slanted toward the former."[27]

Research in Montana

Very little research of large and small scale farmers and their interaction with the extension service has been done in Montana.

The 1980 study conducted by Anne Williams seems very relevant here and provides support for some of the objectives for this proposed study. Williams' report is entitled "Small Scale Farming", "Characteristics, Problems and Needs of 43 Montana Farm Families."

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[25] Ibid., p. 23.

[26] Ibid.

[27] Ibid.

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[25] Ibid., p. 23.

[26] Ibid.

[27] Ibid.

In her study, Williams selected in a purposive fashion 43 farm families in three western Montana counties. Farmers in the study were broken into four groups: (1) aspiring business, (2) marginal business, (3) hobby farmers, (4) retirement farmers.

Conclusions of the study included: The Cooperative Extension Service and commercial salesmen were listed as the least reliable sources of information for farmers even though 44 percent of the farmers interviewed indicated some use of the extension system; marginal business farmers rated the extension service the lowest; and retirement farmers rated the extension service favorably.

Williams' study pointed up some of the most important needs of small scale farmers. Soil testing and biological weed control were rated as two of the most important problems faced by small scale farmers.[28]

A statewide study conducted in Montana by the extension service called "Project 80" identified some of the major information concerns of farmers in Montana but it did not reveal or get at the objectives proposed in this study.

Finally, the latest work done in Montana relating to small scale farmers was done in the fall of 1981 by Dr. Anne Williams. It is

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[28] Williams, Anne S., "Small Scale Farming", "Characteristics, Problems and Needs of 43 Montana Farm Families", Nov. 1980.

called "Strategies for Successful Small Scale Farming." It proposed some ways of aiding management problems of small scale farmers in Montana. But, more importantly for this proposed study, it gives some logical, workable definitions of small scale and large scale farmers in Montana. It defined small scale farmers as those grossing less than $40,000 annually and in which gross nonfarm income did not exceed $25,000 annually. Farms with an income over $40,000 annually gross would be classified as large scale farmers by the United States Department of Agriculture.

Conclusion

Past research on the extension service has been helpful in improving service to farmers in other states. Such research should be helpful in Montana.

Chapter 3

METHODS AND PROCEDURES

Overview

This chapter outlines the research, methods, and procedures used to accomplish the major objectives and purpose of this study and is divided into the following sections: (1) description of the population; (2) development of the instrument; (3) data collection procedures; and (4) analysis of data procedures.

Description of Population

The population of this study consisted of all farmers and ranchers in Montana. Because the population was about 24,000 individuals a proportionate random sample was selected from all 56 counties in Montana. The names and addresses of potential respondents were obtained from the Agricultural Stabilization and Conservation Service state office in Bozeman, Montana. This list included all farm owners and operators in each county.

Twelve hundred fifteen farmers and ranchers, or approximately 5 percent of the total number of producers in Montana were randomly selected from the county lists. The approximate farm producer population for each county was calculated and this number was divided by the approximate total 24,000 farm producers in Montana. The percentage

obtained from this calculation was then multiplied by 1200 to obtain the number of individuals that were to be selected from a particular county (1200 is 5 percent of the approximately 24,000 farm producers in Montana). The producers were then selected from the county lists of each county by selecting a name from every other page or two pages depending on the size of the sample and the producer population for each county. In this way each county was accurately represented in the sample.

Each individual in the sample was assigned a code number by the investigator, enabling the investigator to conduct follow-up procedures with nonrespondents and to maintain the anonymity of the respondents. A master list was compiled listing the sample members by county and identifying them by code number, name and address.

Development of the Instrument

A mailed questionnaire was developed to obtain the required information to accomplish the main purpose and objectives of the study.

The survey instrument was developed by reviewing relevant literature and conferring with Dr. Anne Williams, a rural sociologist, in the Sociology Department at Montana State University, and members of the Agricultural and Industrial Education staff at Montana State University. Many of the "farmer attitude" questions in section B of the survey form were adapted from a Missouri extension study, conducted

by John C. Grass, Extension Studies Specialist at the University of Missouri in Columbia, and adapted for the state of Montana. In addition, demographic sections of the questionnaire were developed in consultation with Dr. Charles Rust of the Montana Cooperative Extension Service.

The survey instrument was validated by sending a tentative instrument and objectives of the study along with a self addressed stamped envelope to three Montana Cooperative Extension County Agents in different locations around the state of Montana. Also, professors Max Amberson, Doug Bishop, Anne Williams, and Charles Rust were asked to evaluate the questionnaire for clarity, completeness, and pertinence to the study's objectives.

After reviewing the comments and suggestions of the extension agents and university personnel, the questionnaire was revised and the instrument was completed. Dr. Anne Williams helped in setting up a coding system for the questionnaire to speed computer processing of the returned questionnaires.

The questionnaire that was developed consisted of three sections. Section A was to obtain information from the respondents on their sources of agriculture information and the frequency of use of the various sources as well as the season or seasons of the year that they sought this information. Section B was to elicit the opinion of the respondents to statements about the Montana Cooperative Extension

Service at the county level. Producers were to indicate whether they agreed or disagreed with statements about the Cooperative Extension Service by circling a 1 or 2 for disagreement or a 3 or 4 for agreement.

Section B included three open-ended response type questions for the respondents.

1. The major way the Montana Cooperative Extension Service could help me in my farming/ranching operation is by:

2. I tend not to use the Montana Cooperative Extension Service as a source of agricultural information because:

3. I tend to use the Montana Cooperative Extension Service as a source of agricultural information because:

Section C of the instrument was designed to elicit demographic information from the respondents including:

- Age
- Total years farming/ranching experience
- Major source of farm/ranch income
- Farm/ranch size in acres
- Gross farm income level in 1981
- Net farm income level in 1981
- Off farm job
- Range of total gross income from that off farm job
- Level of school completed.

Data Collection Procedure

On May 4th, 1982, the final questionnaire, a cover letter, and a self addressed, stamped envelope were mailed to 1215 or approximately 5 percent of all the farmers and ranchers in Montana.

On May 11th, 1982, a follow-up flyer letter was sent to all of the original 1215 producers in the 5 percent sample.

On June 1st, 1982, approximately 290 or 23.8 percent of the questionnaires had been received back from the respondents.

After consultation with Dr. Doug Bishop it was decided that a random subsample of telephone calls should be made to nonrespondents to encourage completion of the questionnaire or determine if a second questionnaire should be sent to nonrespondents.

On June 6 - 8, 1982, 76 random telephone calls were placed to non-respondents. After three rounds of calls, 65 percent or 50 of the nonrespondents called had been reached. Sixteen people, or 21 percent, of those called said they would like another questionnaire sent; 8 people or 11 percent of those called said they would fill out the questionnaire that they still had and send it in; 7 people or 9 percent of those called said they would not fill out the questionnaire as they were not farming anymore; 11 people or 14 percent of those called said they would simply not fill out the questionnaire; 8 people or 11 percent of those called were wrong numbers as the former residents had moved

or the correct number could not be found; 26 people or 34 percent of those called could not be reached after three different calls on three different days. The telephone calls were made on a Saturday morning and two evenings. The 76 telephone calls represent a 6 percent subsample of the 1215 member sample, or 8 percent of the total nonrespondents of 913.

The final response for the 5 percent, 1215 member sample was 24.8 percent or 302 respondents.

Analysis of the Data

As the questionnaires were received the responses were transposed to the coded column on the left hand side of each page of the survey form. This enabled easy on-line entry of the data to the computer print out. The data entries were completed by the Data Entry Service at Montana State University's Computer Center. The data were verified by the investigator in order to detect and correct errors.

Georgia Zeimba, a statistical consultant for the Montana State University Computer Center, assisted with the statistical organization and tests.

Objective one was to compare the farmer/rancher responses by scale of operation (defined by gross income).

Each question on the survey form was incorporated into a table to indicate if there were significant differences in the attitudes of small

scale farmers/ranchers vs. large scale farmers/ranchers toward the service provided by the Montana Cooperative Extension Service. Data pertaining to this objective were analyzed by simple frequencies and percentage for the two groups.

The purpose of objective two was to compare farmers/ranchers by age and education level on two factors, method of communication used by the Montana Cooperative Extension Service (i.e, radio, bulletins, meetings, . . . , etc.) and attitudes and opinions of the farmers/ranchers toward particular factors involved with the Cooperative Extension Service's assistance to producers.

Objective three was to provide data to help the researcher reach general conclusions for the Montana Cooperative Extension Service about farmer/rancher attitudes and information use patterns. Farmer/rancher attitudes toward statements about the extension service were measured by the measure of central tendency, the mean.

All statistical tests were conducted using the Statistical Package for Social Sciences System. The findings resulting from this analysis of data are reported in Chapter 4.

Chapter 4

PRESENTATION AND ANALYSIS OF DATA

This chapter presents the data that illustrate the factors that are associated with farmers/ranchers using or not using the Montana Cooperative Extension Service. Data are also presented that compare these factors against farmer/rancher gross income which is the factor that was used to define small and large scale farmers. Other demographic factors were also used to compare the data.

Throughout this report farmers/ranchers with a gross income per year of $40,000 or less will be referred to as "small scale farmers and ranchers." Farmers/ranchers who gross more than $40,000 per year will be referred to as "large scale farmers and ranchers." Also, the Cooperative Extension Service will be abbreviated as "CES".

Demographic Data

Tables 1 and 2 contain data that reveal the age ranges and education level of the respondents in this study. It is interesting to note in Table 1 that 73 or 85 percent of the small scale respondents are over 35 years of age and 28 percent are over 65 years of age.

One hundred fifty-four or 81 percent of the large scale respondents are over age 35. Using the midpoints of the age ranges to calculate the mean ages for small and large scale farmers results in means of 53 and

Table 1. Farmer/Rancher Age Ranges

Age in Years	Small Scale No.	Small Scale %	Large Scale No.	Large Scale %	Total No.	Total %
18 - 25	3	3	3	2	6	3
26 - 35	11	12	33	17	44	16
36 - 50	23	27	72	38	95	34
51 - 65	26	30	69	36	95	34
66 +	24	28	13	7	37	13
Total	87	100	190	100	277	100
Mean	53		48			

Table 2. Level of School Farmers/Ranchers Have Completed

Level	Small Scale No.	Small Scale %	Large Scale No.	Large Scale %	Total No.	Total %
High School	46	53	90	53	136	53
2 Year College	10	12	34	19	44	17
4 Year College	21	24	41	24	62	24
2 Year Vo. Tech.	5	6	3	2	8	3
Other	4	5	3	2	7	3
Med. Dr.	2				2	
Grad. Study	2		3		5	
Total	86	100	171	100	257	100

48 respectively. Large scale farmers in this study tend to be younger than small scale farmers.

As shown in Table 2, 136 or 53 percent of all respondents had completed high school while 47 percent of the respondents had continued their education beyond high school and 24 percent had completed a 4 year college degree.

Data in Table 3 indicate the relative size in acres of the respondents' farms and ranches. Large scale farmer/ranchers are, when based on dollar return, fairly evenly distributed in the five ranges of acreage size from 1 - 10,000 acres while 73 percent or 143 large scale

Table 3. Farm/Ranch Size In Acres

	Small Scale		Large Scale		Total	
Acres	No.	%	No.	%	No.	%
1 - 50	12	13	1	.5	13	5
51 - 160	15	16	2	1	17	6
161 - 640	19	20	13	7.5	32	11
641 - 1200	25	27	35	18	60	20
1201 - 10,000	23	24	120	62	143	50
10,001 +	0	0	23	11	23	8
Total	94	100	194	100	288	100

respondents are concentrated in the larger two acreage ranges, 1201 to more than 10,000 acres. This would support the idea that larger gross incomes tend to result from larger acreages. The total number of producers with 640 acres or more of land accounts for 78 percent of the population or 226 individuals.

Data in Table 4 are a reflection of the years of farming or ranching experience of the respondents. Seventy-three percent or 62 of the small scale respondents have more than 20 years of farming/ ranching experience, while 71 percent of the large scale respondents

Table 4. Total Years Farming/Ranching Experience

Years	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
1 - 10	13	15	17	9	30	11
11 - 20	11	13	38	20	49	18
21 - 30	11	13	49	25	60	21
31 - 40	21	24	42	22	63	23
41 - 50	11	13	17	9	28	10
51 - 60	10	12	10	5	20	7
61 +	0	0	1	1	1	1
Life	9	10	17	9	26	9
Total	86	100	191	100	277	100

had more than 20 years of farming or ranching experience. Nearly three-quarters of the respondents have been farming or ranching more than 20 years.

Farmer/Rancher Income Data

In Table 5 the data reveal the approximate gross vs. net income of the respondents. Because some respondents did not answer both the gross and net income questions, their data could not be compared in this table.

The majority of small scale farmers who grossed $10,000 or less netted $5,000 or less, 92 percent. Of the small scale farmers who grossed $10,001 to $40,000, 22 respondents or 48 percent netted $5,000 or less. In the first two gross income columns of large scale farmers the greatest number of respondents netted from $10,000 to $50,000.

Adding up the first four rows in the total percent column reveals that 74 percent of all respondents netted $25,000 or less in 1981.

As shown in Table 6 the major source of farmer/rancher income for both small and large scale respondents was grain and general crops, with 31 percent and 39 percent respectively. A check of the 1978 farm census reveals that 31 percent or 7616 of the farms in Montana are cash grain farms. Therefore, the sample appears to be representative of the population, although large scale farmers tend to be engaged in cash grain farming.

Table 5. Gross Income vs. Net Income in 1981

	Small Scale				Large Scale						Total	
	$10,000 or less		$10,001 to $40,000		$40,001 to $100,000		$100,001 to $1,000,000		$1,000,000+			
Net Income	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
$1,000 or less	18	46	12	26	17	16	11	18	0	-	58	22
$1,001 to $5,000	18	46	10	22	13	12	1	2	0	-	42	16
$5,001 to $10,000	3	8	13	28	18	17	4	6	0	-	38	15
$10,001 to $25,000	0	-	7	15	29	27	19	30	0	-	55	21
$25,001 to $50,000	0	-	3	7	21	20	12	19	2	40	38	15
$50,001 to $100,000	0	-	1	2	9	8	8	13	2	40	20	8
$100,000 +	0	-	0	-	0	-	7	11	1	20	8	3
Total	39	100	46	100	107	100	62	100	5	100	259	100

Table 6. Major Source of Farmer/Rancher Income by Scale

Enterprise	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
General Livestock	10	12	14	7	24	9
Grain and Livestock	12	14	56	29	68	24
Cattle	26	30	41	31	67	24
Grain and General Crops	27	31	75	39	102	36
Hay	11	12	7	5	18	6
Nursery	0	-	1	-	1	1
Rent	2	-	0	-	0	1
Total	86	100	103	100	279	100

Cattle ranked second as the major source of farm/ranch income of those who responded, small scale respondents 26 or 30 percent, large scale respondents 41 or 31 percent. Grain and livestock farming and ranching ranked third. Because the survey question on major source of farm/ranch income was a write-in, some respondents with more than one major enterprize may in fact be grouped in a singular type category like cattle, so the data may not represent the actual situation that exists.

Supplemental Income

The data in Table 7 reveal that of the 44 small scale farmers

Table 7. Number of Farmers and Ranchers Who Have an Off-Farm Job

	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Husband	44	52	42	48	86	55
Wife	33	46	38	54	71	45
Total	77		80		157	100

responding and 42 of the large scale farmers responding indicate they or their spouse have an off-farm job. In 46 percent of the small scale farmer cases the wife works, in 54 percent of the large scale cases the wife works.

An examination of the data in Table 8 reveal the categories and types of off-farm jobs held by the husbands. Thirteen or 31 percent of the small scale farmer respondents and 20 or 48 percent of the large scale farmer respondents have professional type jobs. Eleven or 27 percent of the small scale farmers have an off-farm job in construction or industry, along with 8 or 20 percent of the large scale farmers. General farm work accounts for 17 percent of the farmers in the combined small and large scale groups. Twenty-two percent of small scale farmers with an off-farm job have a job in transportation.

For the wives, as shown in Table 9, the largest single type of off-farm employment was professional type jobs with a combined average for small and large scale farm wives of 81 percent. Almost an equal

Table 8. Type of Off-Farm Job Held by Farmer/Rancher Husband

Type of Job	Small Scale No.	Small Scale %	Large Scale No.	Large Scale %	Total No.	Total %
Professional	13	31	20	48	33	40
Teacher	2		5		7	
Sales	1		2		3	
Engineer	1		0		1	
Resource Mgmt.	1		0		1	
Legislator	0		1		1	
Consultant	0		2		2	
Physician	1		0		1	
County Commission	0		1		1	
Lawyer	0		1		1	
State Worker	3		4		7	
Banker	1		1		2	
Military	1		0		1	
Postmaster	1		1		2	
City Council	0		1		1	
Professor	0		1		1	
Law Enforcement	1		0		1	
Construction & Industry	11	27	8	20	19	23
Carpenter	2		2		4	
Manufacturing	2		0		2	
Plumber	2		0		2	
Electronics	0		1		1	
Gas Bulk Plant	2		0		2	
Glazer	0		1		1	
Construction	2		1		3	
Gauger (oil)	0		3		3	
Well Driller	1		0		1	
General Farm	7	17	7	17	14	17
General	1		4		5	
Ranch Work	1		0		1	
Implement Shop	2		0		2	
Raise X-Mas Trees	0		1		1	
Farm Business	1		1		2	
Horseshoeing	0		1		1	
Irrigation	1		0		1	
Custom Cutting	1		0		1	
Investments	1	2	1	2	2	2
Transportation	9	22	5	12	14	17
Total	41	100	42	100	83	100

Table 9. Type of Off-Farm Job Held by Farmer/Rancher Wife

	Small Scale		Large Scale		Total	
Type of Job	No.	%	No.	%	No.	%
General Work	6	20	3	8	9	13
Cook and Clean	3		1		4	
Gas Bulk Plant	1		0		1	
Housework	0		1		1	
General	1		1		2	
Waitress	1		0		1	
Professional	23	77	32	86	55	81
Accountant	3		3		6	
Cashier	1		1		2	
Secretary	7		5		12	
Nurse	4		9		13	
Librarian	1		1		2	
Teacher	6		7		13	
Management	0		3		3	
Post Office	0		2		2	
Beautician	0		1		1	
State Worker	1		0		1	
Transportation	1	3	1	2	2	3
Artist	0		1		1	2
Total	30	100	37	100	68	100

number of wives from both groups are working off the farm or ranch.

The data in Table 10 indicate the range in percent of total gross income from the off-farm jobs of respondents. Twenty-seven of small scale farmers who responded to the question about percent of total gross income derived from their off-farm job receive more than 50 percent of their total gross income from those jobs as is shown in Table 10. Only 10 percent of large scale farmers responding indicate they received more than 50 percent of their total gross income from their off-farm jobs.

Table 10. Range in Percent of Total Gross Income Received From an Off-Farm Job

Percent	Small Scale No.	Small Scale %	Large Scale No.	Large Scale %	Total No.	Total %
0 - 25	14	24	41	61	55	44
26 - 50	17	29	19	28	36	29
51 - 75	7	12	4	6	11	9
76 +	20	35	3	4	23	18
Total	58	100	67	100	125	100

Sources of Agriculture Information

Objective one of this study was to identify the factors that are associated with farmers and ranchers using or not using the Montana Cooperative Extension Service as a source of agriculture information.

Table 11 shows the frequency that farmers and ranchers make use of informational meetings offered by groups and organizations other than the Cooperative Extension Service. The data indicate that 43 or 93 percent of small scale farmers attended 1 - 5 non-CES meetings, while 111 or 83 percent of large scale farmers attended non-CES meetings. Very few respondents attended more than ten non-CES agriculture information meetings.

In Table 12 the data reveal the groups and organizations that farmers/ranchers were seeking information from. Since respondents

Table 11. Number of Information Meetings that Farmers/Ranchers Attended that were Offered by Groups other than the CES

Number of Meetings	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
1 - 5	43	93	111	83	154	86
6 - 10	3	7	18	14	21	12
11 +	0	0	4	3	4	2
Total	46	100	133	100	179	100

Table 12. Frequency of Farmer/Rancher Use of Agriculture Information Groups other than the CES

Group or Organization	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Loan Association	14	21	71	30	85	28
*PCA	8		34		42	
*FLB	6		37		43	
Farm Organization	23	34	57	25	80	27
Grange	1		4		5	
*NFU	8		22		30	
*NFO	7		10		17	
Farm Bureau	7		21		28	
Vocational Ag. Dept.	8	12	22	9	30	10
Other	22	33	83	36	105	35
Ag. Companies	12		57		69	
Miscellaneous	4		13		17	
Agri Forum	1		8		9	
*AAM	1		3		4	
*ASCS	1		1		2	
*SBA	0		1		1	
Water Rights	1		0		1	
Total	66	100	233	100	299	100

*List of Abbreviations:

Production Credit Association
Federal Land Bank
National Farmers Union
National Farmers Organization
Small Business Administration
American Agriculture Movement
Agricultural Stabilization and Conservation Service

could indicate they attended meetings sponsored by more than one group or organization, the total responses for each group may total a number greater than the total number of farmers/ranchers in each of the two categories of small and large scale producers.

Small scale producers indicated that most of the non-CES information meetings they attended were offered by farm organizations or loan organizations 34 percent and 21 percent respectively. Large scale farmers attended loan association meetings more often than farm organization meetings, although both ranked high with 30 percent and 25 percent respectively. Because large scale farmers tend to require more capital to operate than small scale farmers, this may account for them attending more loan association meetings. It should be noted that within the "other" category are agriculture company meetings which ranked high for both small and large scale farmers. A look at the numbers of large scale respondents attending farm organization meetings shows a considerable number of large scale farmers attending farm organization meetings, 57 respondents. Thus, farmers and ranchers make appreciable use of meetings offered by loan associations, farm organizations and agriculture product companies.

In Table 13 the data show which sources of agriculture information farmers and ranchers use most, use least and use intermediately. Those sources used most were given a value of 1, those used intermediately were given a value of 2, and those used least were given a

Table 13. Sources of Information Used Most, Intermediately, and Least by Farmers/Ranchers N = 266

Sources	Small Scale Mean Score	Large Scale Mean Score
Neighbors	1.6	1.2
CES	1.7	1.8
Ag. Service Personnel	2.1	2.1
Farm Organizations	2.3	2.6
Experiment Stations	2.1	2.0
Vocational Ag Departments	2.4	2.6
Ag. Journals/Magazines	1.6	1.5
Ag. Salesmen	2.6	2.5
University Specialists	2.6	2.1
*Extension Column in Local Paper	3.0	3.0
Total Respondents	93	173

1 = used most, 2 = used intermediately, 3 = used least

value of 3. The mean value for each source of information has been calculated for small and large scale respondents. The smaller the mean value, the greater the use farmers made of a particular source of information.

Small scale farmers used agriculture journals/magazines the most, along with neighbors and the Cooperative Extension Service

with means of 1.6, 1.6 and 1.7 respectively. Small scale farmers ranked agriculture salesmen and university specialists as the least useful with a mean of 2.6 for both.

Montana agriculture magazines contain a number of popular articles researched and written by the Cooperative Extension Service so some overlap of CES information exists in those magazines. Also, university specialists are many times responsible for area or county extension information meetings. As a result producers may be making use of university specialists without realizing it.

The mean of 1.2 indicated that large scale farmers thought of their neighbors as a very useful source of information. Agriculture journals/magazines were ranked second with a mean of 1.5 and the CES third with a mean of 1.8. Large scale farmers/ranchers listed farm organizations, vocational agriculture departments, and agriculture salesmen as the least useful sources of information with means of 2.6, 2.6, and 2.5 respectively. Neighbors are evident as an important source of information for farmers and ranchers. The Cooperative Extension Service is an important source of agriculture information for farmers and ranchers and ranks ahead of all of the organized sources of information listed in Table 13 except agriculture journals and magazines.

Farmer/Rancher Use of CES

By far the greatest number of farmers and ranchers use the county level of the extension service with 67 or 89 percent of small scale farmers and 81 percent of large scale farmers indicating they used the county level, as is evident in Table 14. Montana State University Specialists were used by 7 percent of small scale farmers responding and 10 percent of large scale farmers. Seven percent of both indicated they use both county level agents and university specialists. As mentioned earlier, producers may be making use of univeristy or area CES specialists at county meetings and crediting county agents for the information, thus overlap of CES levels exists.

Table 14. Level of CES used by Farmers/Ranchers

Level	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
County	67	89	148	81	215	83
MSU Specialists	5	7	19	10	24	9
Both	2	3	15	8	17	7
Total	74	100	182	100	256	100

The number of visits that the respondents have received from county agents is revealed by the data in Table 15. A total of 52 respondents, both small and large scale have received one or more

Table 15. Frequencies of County Agent Visits to Farmers/Ranchers

Visits	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
1 - 2	7	87	31	70	38	71
3 - 5	1	13	12	28	13	26
6 - 10	0	-	0	-	0	-
11 +	0	-	1	2	1	2
Total	8	100	44	100	52	100

visits to their farm or ranch by a county agent in the past year. This represents 17 percent of all those farmers and ranchers who responded to the questionnaire.

The array of data presented in Table 16 indicate the number of times per year that farmers contact the CES for information. Sixty-

Table 16. Frequencies of Farmer/Rancher Contacts of the CES per Year

Number	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
None	20	23	28	14	48	16
1 - 2	35	39	78	38	113	39
3 - 5	29	33	76	37	105	36
6 - 10	4	4	19	10	23	8
11 +	1	1	2	1	3	1
Total	89	100	203	100	292	100

nine or 77 percent of the small scale farmers and ranchers who responded indicated that they had contacted the CES for information one or more times during the past year, while 86 percent or 175 of the large scale farmer/rancher respondents pointed out that they had contacted the CES for information one or more times during the past year. Twenty-three percent of small scale farmers stated that they had not contacted the CES for information in the last year.

When asked if there were any particular season or seasons of the year that they sought additional information from the CES, farmers and ranchers overwhelmingly responded that the spring was such a season, 106 respondents or 54 percent of the total respondents respectively. The spring may have emerged as the season farmers sought additional information because one-third of the respondents were cash grain farmers.

Table 17. Season or Seasons of the Year that Farmers/Ranchers Make Extra Use of the CES

Seasons	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Spring	44	61	62	50	106	54
Summer	10	14	25	20	35	18
Fall	14	19	19	15	33	17
Winter	4	6	18	15	21	11
Total	72	100	124	100	195	100

Nineteen percent of small scale respondents indicated they sought additional information from the CES in the fall, with 20 percent of large scale farmers using the CES in the summer.

Tables 18, 19, 20 and 21 contain data that reveal the reasons farmers/ranchers sought information during the four seasons. In the spring season crop planting and crop management was given as the most important reason why small scale farmers sought information, 65 percent or 26 individuals. Large scale farmers also indicated crop planting and management as important reasons for seeking information in the spring. Calving and planting was the second most important reason for both small and large scale farmers seeking information.

In Table 19 crop management is cited as the leading reason for four small scale farmers/ranchers and 9 large scale farmers/ranchers seeking information from CES. In the fall season crop management is also the primary motive for seeking CES information as is evident from the data in Table 20.

Farmers and ranchers tended to seek more information from the CES in the winter because they said they had more free time to seek help. Sixty-six percent of small scale farmers and 45 percent of large scale farmers responding to this question said they sought information because the had free time in the winter as shown in the data in Table 21.

Table 18. Reasons Farmers/Ranchers Contact the CES in Spring

Reasons	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Crop Management	26	65	46	78	72	72
Crop planting	13		30		43	
Fertilizer info.	4		3		7	
Seed varieties	3		4		7	
Seed & Fertilizer	0		5		5	
Weeds	3		4		7	
Insects	1		0		1	
Crop analysis	1		0		1	
Irrigation	1		0		1	
Calving and Planting	9	22	7	12	16	16
Wool Market	1	2	0	-	1	1
Farm Leases	1	2	0	-	1	1
Farming Season	1	2	5	8	6	6
New Technology	0	-	1	1	1	1
Fruit and Vegetable	1	2	0	-	1	1
Tree Planting	1	2	0	-	1	1
Total	40	100	59	100	99	100

Table 19. Reasons Farmers/Ranchers Contact CES in Summer

Reasons	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Crop Management	4	50	9	41	13	43
Crop analysis	0		2		2	
Weed and Chemical	4		6		10	
Irrigation	0		1		1	
General Farm Information	1	12	6	27	7	23
Grain Moisture Checks	0	-	1	5	1	3
Fly Control/Pasture	1	12	2	10	3	10
Harvest	0	-	1	5	1	3
4-H	0	-	1	5	1	3
Calving and Grain	2	25	0	0	2	6
Prairie Dog Control	0	-	1	5	1	3
Hay	0	-	1	5	1	3
Total	8	100	22	100	30	100

Table 20. Reasons Farmers/Ranchers Contact CES in the Fall

Reasons	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Crop Management	5	42	10	55	15	50
Fertilizer data	2		2		4	
Crop planting	1		5		6	
Crop reports	1		0		1	
Registered seed	0		1		1	
Weed problems	0		1		1	
Crop harvest	1		1		2	
Planning for next year	2	17	4	22	6	20
New Cattle Information	2	17	2	11	4	13
Canning and Fruit Harvest	2	17	1	5	3	12
4-H	0	-	1	5	1	3
Cattle and Sheep Prices	1	8	0	-	1	3
Total	12	100	18	100	30	100

Table 21. Reasons Farmers/Ranchers Contact CES in Winter

Reasons	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Crop Management	1	33	4	20	5	22
Irrigation	0		3		3	
Seed Varieties	1		1		2	
More Free Time to Seek Help	2	66	9	45	11	45
Livestock Feeding	0	-	2	10	2	9
Plan for Next Year	0	-	2	10	2	9
Calving	0	-	2	10	2	9
Shop Work/Maintenance	0	-	1	5	1	5
Total	3	100	20	100	23	100

Comparison of Medium Used by CES

Tables 22 and 23 contain data that display the types of information medium that the CES used that farmers/ranchers find the most

Table 22. Methods of Information Medium used by the CES that Farmers/Ranchers Find the Most Useful

Type of Medium	Small Scale Mean Score	Large Scale Mean Score
Bulletins/Publications	1.3	1.3
Television	2.3	2.5
AgNet	2.6	1.9
Personal Contacts	1.6	1.3
Telephone Calls	2.1	1.6
Radio	2.0	2.0
Field Days	2.1	2.0
Information Meetings	1.9	2.5
Other (extension column in local paper)	2.0	2.5

1 = most useful, 2 = intermediate use, 3 = least useful

useful. Mean scores are given with 1 being the most used, 2 an intermediately used medium, and 3 the least useful medium. Bulletins, with a mean score of 1.3, are ranked as the most used CES medium by both small and large scale farmers/ranchers. Personal contacts are ranked second by small scale farmers with a mean of 1.6 and 1.3 for large scale farmers. Information meetings rank third for small scale farmers with a mean of 1.9. Phone calls rank third for large scale farmers.

The AgNet system was ranked as the least used medium for small scale farmers with a mean of 2.6. Television ranked lowest for large scale farmers with radio and field days placed as intermediate with means of 2.0 for both.

Farmers and ranchers were compared by age and education level in their use of the same CES information medium in Table 23.

Bulletins and personal contacts were ranked very high as source of information by all ages and education levels of farmers. Older farmers tended to rank bulletins and personal contacts higher still than younger farmers with means of 1.1 and 1.4 respectively for bulletings and a mean of 1.4 for older farmers on personal contacts and 1.6 for younger farmers.

Information meetings were ranked relatively high for all ages of farmers with means of 1.9 for 18-35 year-olds, 1.6 for 36-50 year-olds, and 1.7 for farmers and ranchers over 50. Radio, television, and AgNet were ranked low by all ages. For all education levels bulletins and personal contacts ranked very high.

Interesting to note is that high school graduates only, ranked AgNet higher than all other education levels. Phone calls and field days were ranked high by 2 year college graduates. Also, radio was ranked somewhat higher with a mean of 1.8 for high school graduates compared to a mean of 2.3 for 4 year college graduates.

The group of "other" included CES column in the local newspaper.

Table 23. Farmer/Rancher Responses by Age and Education to Information Medium Used by CES

Medium	AGE			EDUCATION				
	18-35	36-50	50	High School	2 Yr. College	4 Yr. College	2 Yr College	Other
	Mean							
Bulletins	1.4	1.3	1.1	1.2	1.2	1.5	1.3	1.3
Television	2.5	2.8	2.2	2.5	2.7	2.0	2.4	2.8
AgNet	2.3	2.3	2.2	1.7	2.1	2.3	2.3	2.4
Personal Contacts	1.6	1.3	1.4	1.4	1.4	1.6	1.4	1.5
Phone Calls	1.8	1.6	1.7	1.8	1.3	2.2	1.5	1.9
Radio	2.4	2.3	1.8	1.8	2.2	2.3	2.4	2.0
Field Days	2.0	2.0	1.8	2.0	1.8	1.2	2.0	2.0
Information Meetings	1.9	1.6	1.7	1.7	1.6	1.2	1.6	1.8
Other (CES Column in local paper)	0.0	3.0	1.7	2.5	3.0	0.0	1.0	0.0

1 = most used, 2 = intermediate use, 3 = least used.

However, very few respondents chose to single out another medium besides those already listed on the survey form. Printed information, bulletins and personal contacts were ranked very high by respondents regardless of age, education level or size of producer gross income.

Farmer/Rancher Attitudes Toward the CES

In Section C of the survey form farmers and ranchers were asked to agree or disagree with statements about the CES. From these scores a mean was calculated and in Tables 24, 25, and 26 farmers and ranchers are compared by scale, age and education. A high mean score of 3 to 4 designates an "agree" response and a low mean score of 1 to 2 designates a "disagree" response.

Scale Comparison

Small and large scale farmers agreed that the CES is a reliable and trustworthy source of agriculture information with means ratings of 3.2.

Large scale farmers agreed more strongly than small scale farmers that the CES is a source of unbiased agriculture information with a mean of 2.8 as compared to 2.7. Both large and small scale farmers agree that the CES works cooperatively with other organizations. Both large and small scale farmers tended to agree that CES

Table 24. Results of Farmer/Rancher Responses to Statements Posed About the CES by Scale

	Small Scale			Large Scale		
	Dis.	Agree	Mean	Dis.	Agree	Mean
CES info. reliable & trust.	12	65	3.2	25	151	3.2
CES meets my needs as prod.	30	41	2.6	50	133	3.2
CES is a source of unbiased information	12	62	2.7	36	148	2.8
CES works cooperatively with other organizations	9	59	3.2	23	140	3.2
CES doesn't visit farms as it should	26	48	2.8	62	117	2.9
On whole, CES does a good job	14	64	3.0	30	153	3.1
CES bombards producers with information	64	13	1.7	157	19	1.6
CES agents waste time driving to meetings	61	11	1.6	158	19	1.5
A lot of info. from CES is practical to me	16	62	3.0	38	147	3.1
CES uses newsletters to inform me well	29	50	2.7	49	129	2.9
CES agents spend too much time at meetings	59	13	1.8	148	28	1.7
Have heard most of what CES has put out	50	24	2.8	112	69	2.2
CES agents move too much	54	18	1.8	130	45	1.9
CES agents difficult to contact	58	15	1.5	142	37	1.7
CES meetings are held when unable to attend	30	28	2.4	86	54	2.3

1-2 = disagree, 3-4 = agree

on the whole does a good job with means of 3.1 and 3.0.

Small scale farmers/ranchers tended to agree that they had heard most of the information that the CES has to offer. Both small and large scale farmers tended to disagree that the CES bombards farmers/ranchers with information with means of 1.7 and 1.6. Also, both small and large scale farmers disagreed that county agents waste time driving to meetings.

Small and large scale farmers disagree that CES agents are difficult to contact with means of 1.5 and 1.7 respectively.

Age Comparisons

A look at the data in Table 25 shows that older farmers find the CES more reliable and trustworthy than do younger farmers/ranchers age 18-35 with means of 3.2 and 2.8 respectively. Younger farmers strongly agree that CES agents don't visit farmers and ranchers as much as they should with a mean of 3.7 as compared to a mean of 3.0 for age 36-50 years of age and 2.8 for farmers over age 50.

All ages of farmers disagree that the CES bombards producers with information. All ages of respondents also indicated that they disagreed that CES agents spent too much time driving to meetings or attending meetings with means of 1.4 - 1.6 and 1.7 - 1.8 respectively.

Table 25. Farmer/Rancher Responses by Age to Statements About the CES

	18-35			36-50			50 +		
	d	a	m	d	a	m	d	a	m
CES info. reliable	6	42	2.8	11	77	3.2	18	89	3.2
CES meets needs as prod.	15	33	2.4	26	60	2.7	34	71	2.8
CES source unbiased info	12	38	3.0	11	77	3.2	22	84	3.2
CES works cooperatively with organizations	8	39	3.1	11	70	3.2	13	79	3.3
CES agents don't visit farms as should	18	31	3.7	25	60	3.0	40	64	2.8
On whole, CES does good job	10	39	3.0	12	73	3.1	20	93	3.2
CES bombards prod. with info.	45	5	1.5	77	9	1.6	88	15	1.6
CES agents waste time driving to meetings	45	5	1.4	74	10	1.5	88	14	1.6
A lot of info. from CES practical	12	38	3.0	16	70	2.3	23	86	2.7
CES uses newsletters to inform well	19	31	2.6	24	65	2.9	28	76	3.0
CES agents spend too much time meetings	42	8	1.7	67	15	1.8	88	14	1.7
Have heard most of CES info.	35	15	2.1	57	29	2.1	61	45	2.3
CES agents move too much	36	14	1.9	63	21	1.9	74	26	1.9
CES agents difficult to contact	44	6	1.7	66	20	1.7	80	22	1.8
CES meetings held when unable to attend	30	19	2.2	56	26	2.1	62	34	2.1

1-2 = disagree, 3-4 = agree

m - mean, d = disagree, a = agree

Education Comparisons

The array of data in Table 26 illustrate the comparison of farmer/rancher attitudes by education levels of the respondents. In row 1, all education levels, except 2 year vocational technical graduates, strongly agreed that the CES is a reliable and trustworthy source of information; a mean of 2.7 for vocational technical graduates as compared to 3.2 for high school and 2 year and 4 year college graduates.

The "other" category includes post secondary graduates who also agreed less strongly about the reliability and trustworthiness of the CES with a mean of 2.4.

When asked if the CES met their needs as a producer, respondents tended to agree less strongly as their years of education increased with means of 2.6 for 4 year college, 2.5 for 2 year vocational/technical, and 2.6 for "other". High school graduates and 2 year college respondents had means of 3.0 and 2.9 when asked if CES met their needs as producers.

High school graduates tended to agree less strongly that the CES is a source of unbiased information, they had a mean of 2.7 as compared to means ranging from 3.0 - 3.2 for the other educational levels.

All of the educational levels of respondents tended to agree that CES agents don't visit farms as much as they should.

Table 26. Farmer/Rancher Responses by Educational Level to Statements About the CES

	High School	2 year college	4 year college	2 year Vo.Tech.	Other
	mean				
CES info. in reliable and trustworthy	3.2	3.2	3.2	2.7	2.4
CES meets needs as producer	2.9	3.0	2.6	2.5	2.6
CES is source of unbiased information	2.7	3.2	3.1	3.0	3.1
CES works coooperatively with organizations	3.3	3.3	3.2	3.1	2.7
CES agents don't visit farms as they should	2.7	2.6	2.4	2.8	2.7
CES does a good job	3.1	3.3	3.0	2.2	3.1
CES bombards producers with info.	2.0	1.7	1.5	2.2	3.1
CES agents waste time driving	1.6	1.6	1.5	1.2	1.5
CES info. is practical	3.1	3.2	2.9	3.1	2.5
CES uses newsletters to inform well	3.0	2.8	2.6	2.7	2.3
CES agents spend too much time at meetings	1.7	1.6	1.8	1.8	1.6
Have heard most of what CES has put out	2.2	2.1	2.2	2.1	2.3
CES agents move too much	1.8	1.9	1.8	2.0	2.0
CES agents difficult to contact	1.7	1.7	1.8	2.1	1.6
CES meetings held when unable to attend	2.2	2.2	2.1	2.0	2.1

1-2 = disagree, 3-4 = agree

"Other" includes medical doctors and graduate students.

In row 6 of Table 26, vocational/technical graduates agreed much less strongly that on the whole the CES does a good job with a mean of 2.2.

All education levels indicated they disagreed that CES agents waste time driving to or attending meetings, means ranged from 1.2 - 1.8.

Two year vocational/technical graduates tended to agree that CES agents are difficult to contact. As a group, the respondents who were graduates of 2 year vocational/technical training rated the CES less favorably than the other education levels. However, the sample for vocational/technical respondents was small with only seven respondents in this category.

All education levels slightly agreed that the CES held meetings when they were unable to attend.

There are three counties in Montana that do not have county extension agents, Wheatland, Meagher, and Petroleum. There were no respondents from Wheatland or Meagher County and Petroleum County returns are mixed with Fergus County and can not be accurately separated from the total of 19 respondents from those combined counties.

Producer Suggestions for CES Improvement

The data in Table 27 reveal the respondents suggestions for

Table 27. Farmer/Rancher Suggestions for Improving the CES

Suggestions	Small Scale No.	Small Scale %	Large Scale No.	Large Scale %	Total No.	Total %
Technical crops & Soil Info.	8	24	30	27	38	29
Grain & Fertilizer	1		2		3	
Insects	1		2		3	
Soil identification	0		1		1	
New crops	1		0		1	
Weed control	1		5		6	
Soil & Crops	1		3		4	
Seeding	1		12		13	
Weed & Pest Regulation	0		2		2	
New Seed & Chemicals	1		0		1	
Seed Dealers	1		0		1	
Irrigated tests	0		1		1	
Range and Hay	0		2		2	
Keep agents and info. current	6	18	10	9	16	12
New technical info.	4		4		8	
Local application result	2		0		2	
Update ag. business info.	0		1		1	
Update information	0		3		3	
Update agents	0		2		2	
Technical Livestock Info.	2	6	3	3	5	4
Beef cattle info.	0		1		1	
Horses	0		1		1	
Livestock markets	2		0		2	
Hog information	0		1		1	
Make More Farm Visits	1	3	2	2	3	2
Hold More Meetings	3	9	6	6	9	7
Arrange More Field Trips	0	-	1	1	1	3
Continue Serving as Presently	10	30	31	28	41	31
Continue	4		15		19	
Information reliable	6		11		17	
Raise net income	0		1		1	
Continue experiment prog.	0		4		4	
Be More Available	2	6	13	12	15	11
Return calls	1		2		2	
Be in office more	1		3		4	
Be ready when called	0		2		2	
Use News Media to Better Inform	2	6	13	12	15	11
Local news articles	1		0		1	
Publish newsletters	2		9		11	
Inform public	0		4		4	

Table 27, Continued

Suggestions	Small Scale No.	%	Large Scale No.	%	Total No.	%
More AgNet Programs	0	-	3		3	
Hire More Agents	0		3		3	
Total	33	100	108	100	132	100

improving the CES. One hundred thirty-two respondents indicated suggestions they believed would help the CES improve service to them as producers.

Twenty-four percent of small scale farmers and 27 percent of large scale farmers suggested the extension service supply them more information on areas relating to crop and soil management. These percentages are nearly equal to the percent of cash grain farmers responding.

Eighteen percent of small scale farmers and 9 percent of large scale farmers suggested that agents and information be kept more current. Five respondents of both groups wanted more technical information on livestock. Three respondents of both groups suggested more on farm visits from county agents. Thirty-one percent of both small and large farmers combined felt the extension service was doing a good job and should continue as they had in the past.

Eleven percent of both small and large scale respondents thought the agents should be more available. Eleven percent of both groups

thought the extension service should use the news media more to distribute agriculture information.

These suggestions indicate some areas that farmers and ranchers are concerned about. Some producers had some specific suggestions. Several respondents wrote that they believed their county agents were sincere and hard working but were not up to date enough on new agriculture information, especially fertilizer and chemcials. Some respondents indicated that more regular CES radio spots would be helpful. One respondent said that he had heard enough last winter over the radio about how to construct a special Russian wood stove. Some producers expressed a desire for more AgNet programs also. A number of respondents explained that although CES information was helpful, it most of the time did not apply to their geographic area.

Producer Reasons For Not Using the CES

Of the respondents answering this question, 25 percent of small scale farmers felt that the technical information put out by the CES was outdated or did not apply to their area. Large scale farmers answering this question indicated that the extension service information was outdated, with 19 respondents or 33 percent respectively.

Twenty-eight percent of small scale farmers indicated they tended not to use the extension service because they had no real need for the information. Twenty percent of both groups indicated

Table 28. Reasons Farmer/Rancher Gave for Not Using CES

Reason	Small Scale No.	Small Scale %	Large Scale No.	Large Scale %	Total No.	Total %
Other information sources	6	19	12	21	18	20
Farm publications	0		2		2	
Other sources	6		10		16	
Technical Info. Outdated	8	25	19	33	27	30
Info. doesn't apply	4		4		8	
Info. outdated	2		9		11	
Info. not helpful	1		3		4	
No. Bio. Pest info.	0		1		1	
No potato info.	0		1		1	
Poor info.	1		1		2	
No need for info.	9	28	2	4	11	12
Small farm	3		1		4	
No need	3		1		4	
Retired	3		0		3	
Agents not helpful	4	13	3	6	7	8
Poorly informed	2		3		5	
Agents uncooperative	2		0		2	
Agents Inaccessible	5	16	17	30	23	25
Too far away	4		5		9	
Always gone	0		7		7	
Not accessible	1		1		2	
No county agent	0		1		1	
Too hard to attend meetings	0	-	3	6	3	1
Biased information	0	-	1	-	1	-
Total	32	100	57	100	89	100

that they tended not to use the extension service because they had other sources of information. Thirty percent of the large scale farmers indicated that county agents were too inaccessible to contact.

Producer Reasons For Using the CES

Table 29 details the reasons farmers and ranchers gave for using

Table 29. Reasons Farmers/Ranchers Gave for Using the CES

Reason	Small Scale		Large Scale		Total	
	No.	%	No.	%	No.	%
Good Technical Info.	7	18	15	15	22	16
Seeding and Planting	3		5		8	
Info. & Technology	3		9		12	
Sheep info.	1		0		1	
Land use planning	0		1		1	
Good Service	3	1	3	3	6	4
Friendly	2		1		3	
Quick pub. info.	1		2		3	
Available	7	18	26	26	33	24
Locally avail.	5		16		21	
Avail. when needed	2		7		9	
Good source	0		1		1	
Convenient to use	0		1		1	
Start pt. for help	0		1		1	
Reliable and Trustworthy	20	53	54	54	74	54
Not biased	4		2		6	
Agents informed	3		9		12	
Accurate	12		42		54	
AgNet Useful	1	3	1	1	2	
Total	38	100	99	100	137	100

the CES. The most commonly sited reason for using the CES was the reliability and trustworthiness of the extension service, 54 percent of both small and large scale farmers. One-fourth of the combined farmer/rancher groups used the extension service because it was readily available. Sixteen percent of both respondent groups used the extension service because it provided good technical information.

Chapter 5

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The primary purpose of this study was to determine the factors associated with farmers/ranchers using or not using the Montana Cooperative Extension Service as a source of agricultural information and to further try to associate this with farm/ranch size. The data upon which the findings, conclusions, implications and recommendations were developed are based upon the beliefs and opinions of 302 Montana farmers and ranchers.

It can be concluded from the data that large scale farmers tend to be younger than small scale farmers with a mean age of 48 as compared to 53. A considerable number 121 or 49 percent of respondents have continued their education beyond high school.

Farmers and ranchers responding to this survey had relatively low net incomes in 1981, with 38 percent of all respondents netting $5,000 or less in 1981. The major source of income for respondents was cash grain 31 percent that matches closely with statewide percentage of cash grain farmers as indicated by the 1978 farm census.

It can also be concluded that small scale respondents receive a significant portion of their gross income from off farm jobs, a total of 27 or 47 percent of small scale farmer/rancher respondents receive more than 50 percent of their total gross income from their off farm job, compared to 10 percent of large scale farmers.

Sources of Agriculture Information

Based on the data collected in this study Montana's small scale farmers attend fewer information meetings in general than do large scale farmers, 47 percent as compared to 66 percent respectively.

It can also be concluded that farm organizations, loan associations and agriculture company meetings comprise the majority of non-extension information meetings that farmers attend.

Small and large scale farmer respondents find agriculture journals/magazines, neighbors and the CES are the three most used sources of agriculture information. Further, agriculture salesmen, vocational agriculture departments, farm organizations, and university specialists were among the least used sources of information.

CES Contacts

One can conclude from the data no large differences between small scale farmers or large scale farmers in the number of contacts they made with the CES in 1981. Seventy-six percent of small scale farmers responding contacted the extension on one or more occasions during the year as compared to 83 percent of large scale farmers. The spring season was when the greatest number of both small and large scale farmers contacted the extension service. These producers contaced the CES in spring primarily for crop and/or crop related

information.

Fifty-one or 17 percent of the respondents reported receiving a visit at their farm or ranch from a county extension agent last year.

The county level of the CES was used most by local farmers and ranchers, 83 percent of all respondents reported using the county level of the extension service during 1981.

Extension bulletins, personal contacts, information meetings, and telephone calls are the media used by the CES that farmers and ranchers find the most useful. At the time of the survey television and Agnet were ranked as the least useful CES medium by small scale farmers.

Farmer Attitudes Toward the CES

Producers in general felt the extension agents do not make enough visits to farmers and ranchers.

Producers in general also find that the CES is reliable and trustworthy. Small scale farmers disagreed more often than large scale farmers that the extension service met their needs as a producer. All groups agreed strongly that the CES was an unbiased source of agriculture information. Producer respondents reported that they did not believe county agents wasted time driving around or attending meetings. Producers slightly agreed that CES meetings were held when they were

unable to attend. Further, both large scale and small scale respondents indicated that most of the information offered by the CES was practical for them to use.

Suggestions For Improvement

Most respondents felt the extension service was doing a good job and should continue to serve farmers as it has been. The most often cited suggestions for improving the CES were provide more technical crop and soil information and keep agents and information up-dated.

Reasons for not Using the CES

The most frequently cited reasons for not using the CES were that information was outdated and that agents were too inaccessible. Large scale farmers indicated the two aforementioned reasons more frequently than small scale farmers. Nineteen large scale farmers and 8 of the small scale farmers thought the CES information was outdated. Small scale farmers/ranchers also indicated that they did not have a need for CES information, because they were retired or had too small a farm. Twenty percent of both groups also indicated that they used other sources of information in place of the CES.

Reasons for Using the CES

The most common reason given for using the extension service as a source of information was that it is regarded by the respondents as

a reliable and trustworthy source of agriculture information. Fifty-four percent of both groups of farmers listed reliability as the reason for using the CES.

Implications

Based on the findings reported in chapter 4 it can be inferred that small and large scale farmers make considerable use of other sources of agricultural information. Also, the respondents tend to use agriculture journals/magazines, neighbors, and the CES as primary sources of information.

It can be further inferred that farmers and ranchers generally find the CES reliable and trustworthy regardless of scale, age or education level.

Most farmers and ranchers believed the CES was doing a good job on the whole.

It can be inferred that those small scale farmers who do use the extension service less, do so in part because they depend on outside sources of income and as small farmers feel they do not need additional agriculture information.

Inservice programs for county agents would help in updating them on new technical information. Perhaps more technical preparation for college students on the extension option would be called for also.

Getting proven research results to producers more quickly would help in keeping technical information up to date.

Recommendations for Improving the CES

As a result of findings, conclusions, and implications from this study, the investigator offers the following recommendations:

1. That an effort be made to make more personal contacts with farmers and ranchers as they find these contacts especially useful.

2. That a review of extension service technical information be made to update producer information, especially crop management material.

3. That the Agnet computer system be emphasized more heavily and more introductory training sessions be offered for farmers, since Agnet provides easy updating of information and quick access for producers.

4. That more emphasis be placed on serving the large scale producers because they depend more heavily on farming and ranching for their incomes than do small scale farmers who receive income from off farm jobs.

5. That inservice training be offered for county agents to keep them updated on technical information.

6. That county agents be placed in areas of the state where their strongest technical abilities are utilized.

Recommendations for Further Research

In conducting and evaluating this study the researcher recommends the following for further research:

1. A survey of extension agents to determine how they perceive their responsibilities could best be accomplished.

2. A study of how to make CES media ranked as useful in this study even more useful to farmers and ranchers.

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BIBLIOGRAPHY

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APPENDIX

MSU DEPARTMENT OF AGRICULTURAL & INDUSTRIAL EDUCATION

COLLEGE OF AGRICULTURE MONTANA STATE UNIVERSITY BOZEMAN 59717

April 27, 1982

Dear Mr. Farmer/Rancher:

Jerry Sullivan, a graduate student in the Agricultural & Industrial Education Department at Montana State University, is conducting a study on how producers use the Montana Cooperative Extension Service.

All the information obtained from this study will be kept confidential and a summary of the results will be mailed to you if you request it.

Please complete the survey enclosed and return it postage free in the envelope provided. Your participation is greatly appreciated.

Thank you.

Sincerely,

Max L. Amberson, Head
Agricultural & Industrial Education

As State Program Coordinator of the Montana Cooperative Extension Service, I urge you to take this opportunity to express your opinion and concerns with regard to the Montana Cooperative Extension Service. Your input is valuable.

Sincerely,

Charles H. Rust
State Program Coordinator
Agriculture and Natural Resources

I appreciate your cooperation and thank you for completing the survey.

Sincerely,

Jerry Sullivan, GRA
Agricultural & Industrial Education

TELEPHONE (406) 994-3271

Column #

1-4 _____

5-6 _____

A SURVEY OF FARMERS/RANCHERS ON THEIR USE OF THE MONTANA COOPERATIVE EXTENSION SERVICE

Section A - Sources of Agriculture Information

7 _____ 1. Have you in the last year attended any farmer/rancher agriculture information meetings offered by an organization other than the Cooperative Extension Service?

_____ Yes _____ No

8 _____ 2. If yes, how many times in the last year?

_____0-5 _____6-10 _____more than 10

9 _____ 3. Please indicate the groups offering the above mentioned meetings which you attended. (Check all that apply)

10 _____

11 _____

12 _____

13 _____

14 _____

15 _____

_____Production Credit

_____Grange

_____National Farmers Union

_____Vocational Agriculture Dept.

_____Federal Land Bank

_____National Farmers Organization

_____Farm Bureau

_____Other (Please specify)

_____

16 _____ 4. Please indicate how much agriculture information you seek from the following groups by marking a "1" for those groups used most, a "3" for those used least and a "2" for those which fall somewhere in-between.

17 _____

18 _____

19 _____

20 _____

21 _____

22 _____

23 _____

24 _____

25 _____

_____Neighbors

_____Cooperative Extension Service

_____Agriculture Service Personnel

_____Farm Organizations

_____Experiment Station

_____Vocational Agriculture Dept.

_____Ag Magazines and Journals

_____Agriculture Salesmen

_____University Specialists

_____Other (Please Specify)

_____

26 _____ 5. How many times during the year do you contact the Montana Cooperation Extension Service for information? (Check one)

27 _____

_____1-2 _____3-5 _____6-10 _____10 or more

28 _____ 6. Is there any particular season of the year in which you seek more agriculture information than usual from the Cooperative Extension Service?

_____Yes _____No

OVER

29 ____ If yes, to question 6 in which season or seasons do you seek this
30 ____ additional information?
31 ____ ____ Spring ____ Summer ____ Fall ____ Winter
32 ____ Why do you seek more information during the season or seasons you checked? (calving, lambing, etc.)

33-34 ____ In Spring _____
35-36 ____ In Summer _____
37-38 ____ In Fall _____
39-40 ____ In Winter _____

41 ____ 7. Has anyone from the local Cooperative Extension Service visited your operation during the past year?

____ Yes ____ No

42 ____ If yes, how many visits have they made during the past year? (Check one)

____ 1-2 ____ 3-5 ____ 6-10 ____ more than 10

43 ____ 8. Which level of the Cooperative Extension Service do you usually contact for agriculture information?

____ County ____ M.S.U. Specialists

44 ____ 9. Please indicate which three of the following methods of information
45 ____ communication that the Cooperative Extension Service uses that you
46 ____ find the most useful. (Please rank from 1-3, 1 being the most useful to you.)

47 ____ ____ Bulletins or Publications
48 ____ ____ Television
49 ____ ____ AGNET
50 ____ ____ Personal Contacts (In their office or on my farm/ ranch)
51 ____ ____ Phone Calls
52 ____ ____ Radio
____ Field Days
____ Information Meetings
____ Other (please specify)
_____

Section B - Extension Service Evaluation. Please evaluate your Cooperative Extension Service. Circle the number for each question that best expresses your opinion.

		Disagree			Agree
53 ____	1. Information from the Montana Cooperative Extension Service is reliable and can be trusted.	1	2	3	4

		Disagree			Agree
54 ____	2. The Cooperative Extension Service meets my needs as a producer.	1	2	3	4
55 ____	3. The county extension office is a source of unbiased information about agriculture and farming/ranching.	1	2	3	4
56 ____	4. The Cooperative Extension Service works cooperatively with other farm organizations.	1	2	3	4
57 ____	5. County extension agents don't get around to visit farms and ranches as much as I would like.	1	2	3	4
58 ____	6. On the whole, county extension agents do a good job.	1	2	3	4
59 ____	7. County agents bombard farmers and ranchers with information.	1	2	3	4
60 ____	8. County agents waste time driving to meetings or farm visits when they should be in their office.	1	2	3	4
61 ____	9. A lot of the information from the Cooperative Extension Service is of practical use to me.	1	2	3	4
62 ____	10. County extension agents, using newsletters, radio programs and news articles keep me well informed on agriculture information.	1	2	3	4
63 ____	11. Our county extension agent spends too much time going to meetings to be of any help to me.	1	2	3	4
64 ____	12. I have already heard or read most of what has been put out by the extension service.	1	2	3	4
65 ____	13. County agents don't stay in one place long enough to get acquainted with the community.	1	2	3	4
66 ____	14. I have difficulty contacting my county extension agent.	1	2	3	4
67 ____	15. County extension meetings are usually held when I am unable to attend.	1	2	3	4

OVER

A Survey of Farmers/Ranchers on Their Use of the Montana Cooperative Extension Service.

68 _____ 16. The major way that the Montana Cooperative Extension Service could help me in my farming/ranching operation is by:

_____

_____

_____

_____

On questions 17 and 18 please answer the one that applies to you.

71 _____ 17. I tend not to use the Montana Cooperative Extension Service as a source of agricultural information because:

72-73_____

_____

_____

_____

_____

74 _____ 18. I tend to use the Montana Cooperative Extension Service as a source of agriculture information because:

75-76_____

_____

_____

_____

_____

Section C - Please complete the following general information:

77 _____ 1. Age

_____18-25 _____26-35 _____36-50 _____51-65

_____over 65

78-79_____ 2. Total years of farming/ranching experience. _____

80-81_____ 3. Years farming/ranching on the farm/ranch you are presently working. _____

82-83_____ 4. Major source of farm/ranch income. _____ (cattle, wheat,...)

84 ____ 5. Farm/Ranch size in acres. (Check one)

__1-50 __51-160 __161-640 __641-1200 __1201-10,000

__More than 10,000

85 ____ 6. Gross farm income level in 1981. (Check one)

__$10,000 or less __$10,001-$40,000 __$40,001-$100,000

))$100,001-$1,000,000 __Over $1,000,000

86 ____ 7. Net farm income level in 1981. (Check one)

__$1,000 or less __$25,001-$50,000

__$1,001-$5,000 __$50,001-$100,000

__$5,001-$10,000 __$Over $100,000

__$10,001-$25,000

87 ____ 8. Do you or your spouse work off the farm?

____Yes ____No

88 ____ If yes, indicate whether one or both of you have a job off the

89-90____ farm.

91 ____ ____Husband, type of job _____

92-93____ ____Wife, type of job _____

Please check the range which most closely approximates the percent

94 ____ of your total gross income that you receive from that job off the farm.

__0-25% __26-50% __51-75% __Over 75%

95 ____ 9. Please indicate the level of school you have completed.

__High School __2 yr. College __2 yr. Vocational Technical

__4 yr. College __Other (please specify) _____

MSU DEPARTMENT OF AGRICULTURAL & INDUSTRIAL EDUCATION

COLLEGE OF AGRICULTURE MONTANA STATE UNIVERSITY BOZEMAN 59717

May 12,1982

Dear Farmer/Rancher:

Recently, you received a survey form on the use you, the producer, make of the Montana Cooperative Extension Service.

If you have already mailed it back, thank you. If not, I would like to encourage you to take a few minutes from your busy spring schedule to complete the survey.

This survey provides you with a unique opportunity to evaluate the Montana Cooperative Extension Service. Please,take this opportunity, as your input is important and valuable to us.

Thank you for your time and cooperation.

Sincerely,

Jerry Sullivan

Jerry Sullivan, GRA
Agricultural & Industrial Education

TELEPHONE (406) 994-3201

MSU DEPARTMENT OF AGRICULTURAL & INDUSTRIAL EDUCATION

COLLEGE OF AGRICULTURE MONTANA STATE UNIVERSITY, BOZEMAN 59717

June 10, 1982

Dear Farmer/Rancher:

Recently, I called you regarding a survey we are conducting on the use you, the producer, make of the Montana Cooperative Extension Service.

We sent you a survey previously that, because of the busy spring season you may have forgotten to fill out or possibly you never received the first survey form.

Whatever the case, we encourage you to take this opportunity to evaluate your Montana Cooperative Extension Service. Your input is valuable to us and we appreciate your completing the survey.

You may return the survey in the postage paid envelope provided. A summary of the results will be mailed to you if you request it. Thank you.

Sincerely,

Jerry Sullivan

Jerry Sullivan
Graduate Research Assistant

JS/jlr
Enclosures

TELEPHONE (406) 994 3201

SURVEY RETURNS BY COUNTY

County	No.	%	County	No.	%
Beaverhead	3	1.0	Lake	11	3.6
Bighorn	3	1.0	Lewis & Clark	4	1.3
Blaine	10	3.3	Liberty	4	1.3
Broadwater	2	.7	Lincoln	3	1.0
Carbon	2	.7	McCone	4	1.3
Carter	6	2.0	Madison	2	.7
Cascade	17	5.6	Jefferson	4	1.3
Chouteau	20	6.6	Meagher	0	0.0
Custer	3	1.0	Mineral	1	.3
Daniels	3	1.0	Missoula	4	1.3
Dawson	8	2.6	Musselshell	4	1.3
Deer Lodge	1	.3	Park	3	1.0
Fallon	2	.7	Phillips	3	1.0
Fergus & Petroleum	19	6.3	Pondera	7	2.3
Flathead	10	3.3	Powder River	5	1.7
Gallatin	13	4.3	Powell	0	0.0
Glacier	5	1.7	Prairie	5	1.7
Golden Valley	5	1.7	Ravalli	5	1.7
Granite	5	1.7	Richland	7	2.3
Hill	5	1.7	Roosevelt	5	1.7
Judith Basin	5	1.7	Rosebud	3	1.0

County	No.	%
Sanders	5	1.7
Sheridan	6	2.0
Silver Bow	1	.3
Stillwater	9	3.0
Sweetgrass	5	1.7
Teton	8	2.6
Toole	5	1.7
Valley	15	5.0
Wheatland	0	0.0
Wibaux	3	1.0
Yellowstone	6	2.0
Total	302	100.0