

AGRICULTURE PRODUCERS' PERCEPTIONS OF COOPERATIVE
EXTENSION SERVICE PROGRAM DELIVERY METHODS
IN WASHINGTON COUNTY, OKLAHOMA

BY

RANDY LEE PIRTLE

Bachelor of Science in Agriculture

Oklahoma State University

Stillwater, Oklahoma

1985

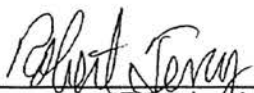
Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirement
for the Degree of
MASTER OF SCIENCE
December, 1989

Thesis
1989
7672a

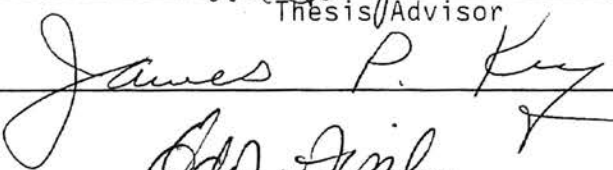
10
10 8876 10 10 10
10 10 10 10 10
10 10 10 10 10


AGRICULTURE PRODUCERS' PERCEPTIONS OF COOPERATIVE
EXTENSION SERVICE PROGRAM DELIVERY METHODS
IN WASHINGTON COUNTY, OKLAHOMA

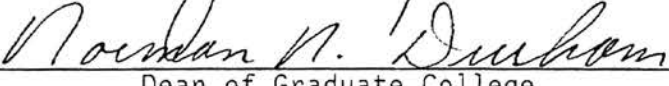
Thesis Approved:



Thesis Advisor







Dean of Graduate College

ACKNOWLEDGEMENTS

I would like to express my appreciation to all of the people who assisted me with this study. A special thanks goes to Dr. Robert Terry, my major advisor, who provided me with guidance and support. I am also grateful to the other committee members, Dr. James Key and Dr. Edward Finley.

I am grateful to the Oklahoma Cooperative Extension Service for allowing me the opportunity to accomplish this task and the support that Mr. Ron George, Northeast District Extension Director, has given me on this endeavor.

I am thankful to my family who instilled in me the desire to acquire a degree in higher education. To my late grandfather Billy Gaskill, whose personal dedication to agriculture has given me much self-motivation to help improve the field of agriculture and the lives of those involved.

I am most thankful to my wonderful wife, Susan, who typed the study many times and gave me encouragement and support continuously. Finally, to my two wonderful daughters, Aspen and Cassie, I appreciate our time that you shared so that this research could be conducted.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem.	2
Purpose of the Study.	3
Objectives of the Study	3
Assumptions	4
Scope of the Study.	4
Definition of Terms	5
II. REVIEW OF LITERATURE	7
Introduction.	7
Cooperative Extension's Role in Adult Agriculture Education.	7
Changing Behavior in Agriculture.	9
Individual Contact Methods.	12
Group Contact Methods	14
Mass Media Contact Methods.	17
Related Research Studies.	22
Summary	24
III. METHODOLOGY	25
Population.	25
Instrument.	26
Data Collection	27
Analysis of Data.	27
IV. PRESENTATION AND ANALYSIS OF DATA	29
Introduction.	29
Population.	29
Findings of the Study	30
Selected Characteristics of the Study.	30
Analysis of Effectiveness of Individual Contact Program Delivery Methods.	36
Analysis of Effectiveness of Group Contact Program Delivery methods.	39
Analysis of Effectiveness of Mass Media Contact Program Delivery Methods.	44
Analysis of Usage of Program Delivery Methods.	50

Chapter	Page
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.	56
Summary	56
Purpose.	56
Specific Objectives.	56
Procedures	57
Findings.	58
Conclusions	65
General Recommendations	66
Recommendations for Additional Research	67
SELECTED BIBLIOGRAPHY	69
APPENDIXES.	71
APPENDIX A - SAMPLE OF PRODUCER QUESTIONNAIRE.	72
APPENDIX B - CORRESPONDENCE.	75

LIST OF TABLES

Table	Page
I. Comparison of Respondents by Level of Agricultural Income.	31
II. Age Distribution of Respondents.	32
III. Comparison of Respondents by Level of Education.	33
IV. Agriculture Production Enterprises Utilized by Respondents	35
V. Ratings of Effectiveness of Individual Contact Program Delivery Methods by Level of Agricultural Income Groups.	38
VI. Ratings of Effectiveness of Individual Contact Program Delivery Methods by Age Groups.	40
VII. Ratings of Effectiveness of Individual Contact Program Delivery Methods by Level of Education Groups	41
VIII. Ratings of Effectiveness of Group Contact Program Delivery Methods by Level of Agricultural Income Groups.	43
IX. Ratings of Effectiveness of Group Contact Program Delivery Methods by Age Groups.	45
X. Ratings of Effectiveness of Group Contact Program Delivery Methods by Education Groups.	46
XI. Ratings of Effectiveness of Mass Media Contact Program Delivery Methods by Level of Agricultural Income Groups.	48
XII. Ratings of Effectiveness of Mass Media Contact Program Delivery Methods by Age Groups.	49
XIII. Ratings of Effectiveness of Mass Media Contact Program Delivery Methods by Level of Education Groups	51
XIV. Extent of Exposure to Selected Program Delivery Methods By Respondent Groups Within the Past 5 Year Period.	54

Table		Page
XV.	Summary Comparison of Ratings of Effectiveness of Individual Contact Program Delivery Methods by Level of Agricultural Income, Age, and Level of Education.	60
XVI.	Summary Comparison of Ratings of Effectiveness of Group Contact Program Delivery Methods by Level of Agricultural Income, Age, and Level of Education	62
XVII.	Summary Comparison of Ratings of Effectiveness of Mass Media Contact Program Delivery Methods by Level of Agricultural Income, Age, and Level of Education . . .	64

CHAPTER I

INTRODUCTION

The Cooperative Extension Service is a unique organization that has helped the lives and living of people for almost a century. It is unique not only in structure but also in program implementation.

The Cooperative Extension Service structure is unique because it is a federal, state, and county agency. It is a unit within the United States Department of Agriculture, a department within the state and land grant college, and an agency within county government. This makes the Cooperative Extension Service a very diversified educational organization truly designed to work with people. The local people have an opportunity for input of educational needs which is forwarded to the land grant college and USDA to work toward solutions for these needs.

The Cooperative Extension Service is also unique in program implementation. The Cooperative Extension Service provides research-based information to help people help themselves. It is the responsibility of the Cooperative Extension Service to translate and disseminate agriculture and home economics research from the land grant university into a practical and usable form to the people (USDA, 1983).

This dissemination process may take place through a variety of different delivery methods. The Extension professional will try to utilize the proper delivery methods for the subject matter and audience. The delivery method selection is not always simple because

the professional must select the technique that he/she thinks the audience will study and utilize. However, the Extension professional must evaluate how much time is spent because their roles are multi-faceted and time constraints are a very important consideration when making this delivery method selection.

Limited research has been done to evaluate the adult audience perception of Extension program delivery methods. Specifically, there has been very little research on how the adult agriculture audience perceives the methods being used. Questions often arise such as: What do the clientele think of the methods? Do they perceive any as being more effective? Should different methods be used with different groups? All of these questions and more have undoubtedly troubled Extension agents in their program delivery. This study will focus on locating which program delivery methods that agriculture producers feel are most effective. Relationships will be evaluated to observe if there are any differences among groups of producers. This study will hopefully be a first step in the identification of certain delivery methods to utilize with varied groups of agriculture producers.

Statement of the Problem

The Cooperative Extension agriculture agent has a very important and multi-faceted role in the improvement of the lives of the agriculture audience in that area. This agent must be able to translate the research-based information to the agriculture producer accurately, timely and effectively. The agent must know where to locate this information, when to deliver it, and how to deliver it. It is how to deliver the information that is becoming very challenging. A

great number of the Extension agriculture agents have a very limited background in formal education or behavior education type training. Gerling (1983) reported that only 28% of the Oklahoma Extension Agriculture agents had degrees in Agriculture Education. Most of the agents have received subject matter education and training which undoubtedly compounds the problem of not knowing which type of program delivery method to use. However, the basic underlying problem is knowing how the rapidly changing agriculture audience is perceiving the types of program delivery methods utilized by the Oklahoma Cooperative Extension Service. The agriculture producer is not the same as he was 40 years ago. Some producers are part-time while some are still full-time. The agriculture producers are much higher educated today than those of past years. The technological age he has allowed a more creative variety of problems and methods to solve these problems. These and many other factors have created an urgency for a study to examine agriculture producers' perceptions of the effectiveness of current program delivery methods.

Purpose of the Study

The purpose of this study was to determine and compare effectiveness of selected Cooperative Extension Service program delivery methods as perceived by different groups of agriculture producers located in Washington County, Oklahoma.

Objectives of the Study

The specific objectives of the study were:

1. To identify which program delivery methods agriculture

producers perceive as being most effective.

2. To determine if there are any major differences in program delivery method preference between part-time and full-time producers.

3. To determine if there are any major differences in program delivery method preference between older and younger agriculture producers.

4. To determine if there are any major differences in program delivery method preference based on education level of producers.

Assumptions

The following assumptions were made regarding this study:

1. The delivery methods in the questionnaire could be categorized in three different sections.

2. The agriculture producers understood what each of the delivery methods were and how they were used.

3. The agriculture producers from all group studies would respond and would interpret the questionnaire uniformly.

4. The agriculture producers would understand the relative importance of this study in future Extension program implementation.

Scope of the Study

The population of this study was limited to agriculture producers that have a regular contact with the Extension Service in Washington County, Oklahoma. A total of 175 producers were used for the population in this study. A questionnaire developed with the assistance of the researchers' committee and related studies was utilized for testing. After validity was established from a pilot

review process the questionnaire was mailed to the population.

Definition of Terms

To add clarity and interpretation to the study, the following terms were explained:

Agriculture Producer - An individual engaged in the profession of farming or ranching to produce food crops or livestock in the field of agriculture.

Cooperative Extension Service - the organization created by legislation in Congress (Smith-Lever Act) in 1914 to translate and disseminate research-based information in agriculture, home economics, and related areas to the public. The terms "Extension," "Cooperative Extension," and "Extension Service" will be used synonymously in this study.

Delivery Method - A tool of various types used by educators to deliver, distribute, or relate information to the audience seeking the information. The terms "Teaching Method" and "Teaching Tool" will be used synonymously in this study.

Extension Agent - Refers to personnel employed by the Cooperative Extension Service to perform the tasks designated of the organization. The terms "County Agent," "Agriculture Agent," "Change Agent," and "Extension Service Professional" will be used synonymously in this study.

Group Contact - Refers to an educator interacting with a group of more than one person at a given time.

Individual Contact - Refers to an educator interacting on a one-to-one basis with people.

Mass Media Contact - Refers to methods for an educator to reach large numbers of people in a particular situation.

Perceptions - A behavioral understanding or value of observation from a particular situation.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The purpose of this chapter is to present an overview of information relating to the topic of this study. The review was organized into five major areas which were as follows:

1. Cooperative Exrtension's Role in Adult Agriculture Education
2. Changing Behavior in Agriculture
3. Individual Contact Program Delivery Methods
4. Group Contact Program Delivery Methods
5. Mass Media Program Delivery Methods

The researcher was only able to locate a limited amount of research on this particular topic. To the knowledge of the author, no other research had been conducted in Oklahoma on this particular topic. Similar studies had been conducted on the topic in only a few states. However, the researcher did locate related studies on adult education in Cooperative Extension.

Cooperative Extension's Role in Adult Agriculture Education

The Cooperative Extension Service was developed in 1914 by the Smith-Lever Act to translate research-based information in Agriculture, Home Economics, and related areas from the land grant universities to

the people. The initial and on-going objective has been to help people help themselves by relating this much needed information in the assigned program areas of Agriculture, Home Economics, 4-H and Rural Development. The Cooperative Extension Service employs individuals referred to as Extension agents in each of the counties of the nation to accomplish this task. These extension agents receive support and assistance from area and state extension specialists but it is largely the responsibility of the county extension agent to initiate this translation process. According to Blauch (1969) it is the county agent who is responsible for bringing the service to the people for which the system was organized.

The audience for Extension programs are mainly adults. Gerling (1982) referred to the Extension Service as "the single largest program of adult education and learning." He also reported that Extension Service programs are definitely directed to adults, even in the 4-H youth program, because of it being largely conducted to assist adult volunteers.

The Extension Service's role is multi-faceted. According to Swisher and Smith (1986) the first step in any successful Extension program is to identify the audience. They also reported that after this was identified, the needs of the audience must be sought. The Extension Service determines this need by asking county people for input of priorities and needs every year in what is commonly referred to as a "Program Planning Committee" or "County Advisory Council" These individuals will assist the agents to locate the subject areas that need to be emphasized in the upcoming year. The agent will then forward the audience's needs to the land grant university to research

for solutions that can be disseminated back to the public.

The specific role of Extension in the field of agriculture is to promote change. Lionberger and Gwin (1982) referred to Extension personnel as "change agents." Their reasoning for this is the fact that these individual's purpose is to help agriculturists apply new technology, newly discovered methods, and increase efficiency in production agriculture to benefit both the producer and consumer. Rasmussen (1989) reported:

In the years since World War II, Extension's programs have helped American farmers achieve the greatest increase in agriculture productivity the world has ever seen. Extension's educational work in farm management has been particularly effective in increasing production and productivity. The American consumer has been the major beneficiary, enjoying a diversified supply of safe, healthful food at a lower cost in disposable income than do consumers in any other nation in the world. (p. 139)

The audience for Agriculture Extension programs is mainly adults as was stated earlier. However, the characteristics of this group have changed drastically through the years. According to Rasmussen (1989) the major agriculture audience used to be full-time producers in rural communities. He referred that this was changing and has evolved into a situation where there are fewer full-time producers, but the number of part-time producers are increasing. This means Extension programs must now be planned not only for full-time producers but also part-time. Rasmussen (1989) also reported that the number of farms has declined sharply and the size of commercial farms has increased. This will undoubtedly affect the programs of the Extension Service and how they are delivered.

The role of an Extension Agent is to promote change in agriculture, but there are many factors that affect this process of change.

One of the first items to consider is what influences people to change. Because they vary from person to person and community to community, they are commonly referred to as variables. According to Lionberger and Gwin (1982) reported:

variables include characteristics of individuals; the situation these individuals are in; both real and imagined; the kinds of help they get from outsiders' the help from outside agencies available to them; resources they have at their disposal; what their friends and relatives expect from them; what the friends and relatives will do if they make a change; the kind of educational strategies they are exposed to; how they are treated by outsiders who try to influence their behavior; and the value they place on changes. (p. 5)

Lionberger and Gwin (1982) added that we can assume that each individual has prior condition variables, including personal and situational. They added that we can assume that each individual or family has certain goals in mind that they are trying to reach. The "change agent" must take in consideration whether these goals are short-term or long-term. These individuals will have to get information, supplies or services to reach these goals. These information, supply, and service activities and behavior changes are called intervening variables because they take place between the time the new goals are started and reached.

A further examination of personal variables would illustrate that people vary greatly in their individual abilities. These are afflicted by educational level, experience level in that subject matter, and the inherited characteristics. Lionberger and Gwin (1982) reported that personal variables are very influential in consideration, a person's

ability in reasoning and adoption behavior.

Situational variables are considered to be external to the individual. Lionberger (1982) referred to situation variables as:

all of the social groups that people belong to or think they do, the belief system of the farmer, the farm resources that the farmer has at his disposal, and the off-farm systems on which he must depend to get the necessary services, supplies, information and credit to carry out his operations. (p. 10)

A study by Blacklock (1985) reported situation barriers to be one of the leading reasons to not participate in educational programs.

Intervening variables are the kinds that intervene between the time a person first becomes aware of an innovation and the time it is put to use to achieve the goals, according to Lionberger and Gwin (1982). Situations of this occurrence might include the availability of markets, services, and supplies. Loomis and Leagan (1971) reported that:

Extension education can have a substantial positive effect on the production incentives of farmers once essentials such as markets for farm products, local outlets for farm supplies and favorable price relationships exist. The Extension programs not only can take research results to farmers and impart knowledge and skills, but also can substitute new procedures for old traditions and values, overcome reservations about the risk and uncertainties involved in innovation and generally make agriculture planning more realistic and practical. (p. 107)

Communication system variables and goal variables are also important examples of intervening.

Loomis and Leagan (1971) reported that the situations of change give rise to the central question with which promoters of change leading to modernization are concerned: What must be done to introduce and sustain desirable change? They also reported that to create a dynamic situation requires the introduction of change incentives sufficient to create a greater force for change than is witnessed by

change inhibitors. Loomis and Leagan (1971) reported that to create such a force, four steps are necessary:

- (1) introduce forceful new incentives
- (2) strengthen change incentives already present
- (3) improve the complementarity of the change incentives
- (4) weaken or remove the change inhibitors present in the situation.

The Extension agent can better understand the variables, inhibitors, and solutions for his audience by involvement. Involving the agriculture clientele in the program planning process will undoubtedly help identify some of these factors. Hancock (1986) reported that local clientele involvement in the program planning process has been one of the cornerstones of Extension since its inception in 1914. Another way to identify these factors is to simply talk to the people in the area to evaluate variables and inhibitors present. After these factors have been identified the proper program implementation process can be selected.

Individual Contact Methods

Individual contact program delivery methods have been widely utilized by the Cooperative Extension Service. Swanson (1984) reported:

that individual contact methods are time consuming but its importance cannot be stressed enough, because it is through working individually with the clientele that the extension worker learns about the people of the area, how they think, what their needs are, and how they carry on their work. (p. 130)

There are many different types of methods used to accomplish this individual contact strategy for continuing education.

Farm and Home Visits: This method involves the meeting of the Extension worker with the agriculture producer or employees of the farm at the agriculture producer's farm or home. According to Wilson and Gallup (1955) the farm visit may serve a variety of purposes. They reported that the visit may be in the nature of a service call made upon request to give advice or assistance on a wide range of problems. The visit could be for the purpose of obtaining information about local problems or just to simply promote good public relations about programs or services.

Office Visits: The office visit is a personal visit made by the clientele to the Extension office to seek information or assistance. Wilson and Gallup (1955) pointed out the following two important differences differentiating an office visit from a farm visit: (1) with the office the learner seeks out the teacher rather than teacher seeking learner; and (2) the personal contact is removed from the farm setting. The office visit is generally regarded as an economical use of the agent's time because it is evident that the visitor is receptive to learning or they would not have sought this experience.

Telephone Calls: The telephone is another very important method of relaying information in Extension. The telephone is often used as a first step to acquire information which may later lead to a farm visit or other type of program delivery.

On-Farm Demonstration: The use of the demonstration is reported to be one of the earliest teaching methods of the Extension Service. The on-farm demonstration may involve a single agriculture practice or a combination of practices. Wilson and Gallup (1955) indicated that the chief purpose of the individual on-farm demonstration is the

establishment of confidence on the part of both the extension staff and the agriculture producer. They also reported that the on-farm demonstration was one of the most expensive methods of Extension teaching due to the large amount of the agents' time and travel required for the project.

Experiment Station Visits: Many research projects and experiment plots are available for the agriculture producer to view at various locations throughout the state of Oklahoma. These projects are maintained at University Experiment Stations which are operated to conduct research on agriculture-related topics for the producers of the state. The producers may monitor progress of experiments and stay abreast of developing technology.

Visits to the University: The Extension Service relays information from the land-grant university to the people. However, many producers may want to visit the university to examine projects taking place in agriculture, talk to researchers, or visit the library.

Visits by University Specialists: Extension specialists are available at the area and state levels to discuss highly technical topics with agriculture producers. These individuals have a highly specialized background to deal with complex issues that may arise.

Group Contact Methods

According to Swanson (1984) the group teaching methods are used in Extension work because they will generally reach more total people. There also was an indication that group delivery methods are being utilized because of the efficiency of both time and staff.

Contests: Swanson (1984) reported that contests are based upon the

principle of competition and community-oriented activities, to encourage participation and heighten the practical agriculture skills. The purpose of contests is simply to motivate farmers to excel in specialized subject matter and skills. The Extension staff will have the opportunity to develop close working relationships with agriculture producers in a contest format.

Workshops: The workshop is a method where those attending will be trained in a skill, procedure or practice and have a finished product at the end of the session (Swanson, 1984). Parrish et. al., (1988) studied the effectiveness of workshops in a specialized agriculture subject matter and reported that the participants knowledge level was successfully increased. This study was an indication that the workshop can still be a very effective teaching method.

Tours: The tour is used specifically to allow agriculture producers the opportunity to observe particular agriculture practices, skills or projects. The tour offers a tremendous enrichment through sensual stimulations because the student gets to use eyes, ears, nose and hands according to Warmbrod et. al. (1986). Waltz and Curry (1984) reported that people are generally curious but will usually only go places to investigate when they are invited. The tour gives these individuals the opportunity to satisfy their curiosity.

Conferences: This method is a procedure in which a group of people, each of whom has some experience in connection with the problem at hand, come together to discuss the situations (Swanson, 1984). This method will generally provide an opportunity for motivational thinking from the input of other participants.

Field Days: This method is a day in which an area containing

successful farming practices is open for people to visit (Swanson, 1984). There also may be exhibits of related subject matter displayed to enhance the learning experience. It gives the producer an opportunity to witness the production practice and develop questions.

Lecture: This method involves a speaker of authority or teacher delivering information to a group of people. Warmbrod et. al. (1986) pointed out that a lecture is a good group teaching technique for disseminating factual information. The teacher must plan the lecture so that the audience will want to listen and stay alert. Visual aids are often used to enhance the learning experience.

Panel Discussion: In this method, a group of 2 to 8 speakers participate in an information discussion on a topic for the benefit of the audience (Wilson and Gallup, 1955). Each of the speakers will generally give a short presentation on the topic and then debate or discuss the subject matter.

Group Demonstration: This is a very old teaching method for Extension. The teacher will show a group how something is done step-by-step (Wilson and Gallup, 1955). Depending upon the size of the group it may be possible to involve smaller groups in a hands-on experience where they will actively participate. The demonstration is an effective teaching tool but requires careful and detailed planning to be successful and to obtain full educational benefit (Swanson, 1984).

Seminar: A seminar generally comprises a small group of individuals who are engaged in a specialized area who gather to listen to an expert and have a general discussion (Swanson, 1984). The seminar is normally reserved for advanced study and provides an opportunity for an in-depth study and discussion with the expert according to Swanson (1984).

Clinic: This method is a meeting or series of meetings involving an analysis and treatment of specific problems. According to Swanson (1984), the clinic gives the participants an opportunity to examine a problem with a goal of finding solutions.

Mass Media Contact Methods

It is impossible for Extension staff to reach everyone who wants and needs information on a personal basis. Therefore, mass media methods are used to reach large numbers of people (Swanson, 1984). According to Wilson and Gallup (1955), the intensity of the teaching contact through mass media is less, but the large number of people reached and the low cost per unit of coverage more than offsets the lack of intensity. Boldt (1987), reported that the information age has forced Extension to radically change its methods of disseminating information and that they must deliver more information through more types of media to more diverse audiences but with less money. Swanson (1984), discussed the situation that mass media may stimulate agriculture producers to seek additional information through other methods. There are many different variations of types of mass media program delivery methods used by the Cooperative Extension Service.

Newsletters: The newsletter is an effective low-cost way to reach the public and yet can be localized and more specialized than many other communication methods (Swanson, 1984). According to Lionberger and Gwin (1982), the newsletter is an extremely useful tool to reach an audience that has specific interests in common. Nelson and Cudaback (1985) found that the newsletter was a practical, inexpensive, efficient way to provide people with timely information. According to

Swanson (1984), Extension personnel can publish their own newsletter, or newsletters, or they might submit news to newsletters published by other organizations.

Radio: The radio can be one of the most useful mass communication tools for Extension workers for several reasons (Swanson, 1984). It reaches large numbers of people very quickly. The local radio program can be personalized for problems, and activities of that area. Boldt (1987) reported that the radio has a high geographic and demographic selectivity and has a low cost of program delivery. The radio has some negative attributes also, such as the listeners cannot refer back to what they have heard or see what is being described. The radio works best when used as a teaching method for awareness and interest stages of behavior (Swanson, (1984).

Pamphlets/Leaflets: Prior to the establishment of the Cooperative Extension system under the Smith-Lever Act, the agriculture bulletin was the principal method employed to inform the public of recent research (Wilson and Gallup, 1955). Publications generally fit in and reinforce many other program delivery methods. Wilson and Gallup (1955) reported the following advantages and disadvantages of publications:

Advantages

1. In general, people have confidence in the printed page.
2. Publications of State Colleges and USDA are accepted as unbiased and reliable.
3. Written material can be read and studied at leisure and kept for future reference.
4. Supplements other teaching methods.

5. Information usually definite, well-organized, and readily understood.
6. Influences adoption of practice at a low cost.

Disadvantages

1. Not suited for teaching people with limited education.
2. Frequent revision is necessary to keep abreast of current research.
3. Information prepared for general distribution may not be suitable for local conditions.
4. Impersonal.

Newspaper: In terms of steps in the change process, newspapers are considered most useful to make people aware and create an interest in changing (Lionberger and Gwin, 1982). According to Wilson and Gallup (1955), the primary function of the newspaper or news story in Extension teaching is to stretch or expand coverage. It is the chief means of getting information about Extension activities and better farm and home practices to the many rural and urban people of the average county who are not contacted individually, do not attend meetings, or participate in other Extension activities. Lionberger and Gwin (1982), suggested that the newspaper has six uses in Agriculture Extension education: (1) advance stories about upcoming events, (2) follow-up stories on events, (3) timely information on agriculture practices, (4) feature or success stories about local people, (5) surveys, and (6) supplements for special activities. Wilson and Gallup (1955) reported that the teaching effectiveness and relative low cost of the news story as a method of Extension teaching indicates that the advantages far outweigh the limitations.

Television: Television as a program delivery method offers many possibilities for the Cooperative Extension Service. According to Wilson and Gallup (1955) the television is more personal than the radio because the audience can see as well as hear the teacher. All types of visual aids such as charts, graphs, live objects, and blackboards can be used to increase teaching effectiveness on television (Swanson, 1984). Wilson and Gallup (1955) reported the following advantages and limitations for television as a program delivery method.

Advantages

1. It comes as close to a face-to-face approach of all mass media.
2. Visual undoubtedly increase the effectiveness of just audio.
3. Reaches urban and rural people.
4. Reaches many of those who can't attend meetings.
5. Slow motion or emphasis on objects is possible.
6. Demonstrations or processes requiring much time can be telescoped into a few minutes.

Limitations

1. Intense competition with other programs on television.
2. Urban counties may be able to utilize it better because that's where the stations generally are located.
3. Viewer must be restricted to television while program is on so he/she can't do other things.
4. A certain amount of showmanship is required to put on the program.
5. The cost of television time is very expensive if the time is not complimentary.

Exhibits: Extension exhibits and displays may be a helpful means of acquainting the general public with Extension work and what it accomplishes. But from the standpoint of influencing agriculture producers to adopt improved practices, the exhibit is one of the least effective of all teaching methods (Wilson and Gallup, 1955). Swanson (1984) also reported that the exhibit should only be used for the purpose of stimulating an interest in a program or practice. According to Wilson and Gallup (1955), the exhibit as a method will usually reach large numbers of people but it is relatively expensive in terms of agent's time.

Video Tapes: The use of video tapes in the Cooperative Extension Service has increased tremendously in recent years. This increase has been done to the popularity of video-cassette recorders in the home and the efficiency of production of this method. Swanson (1984) related the use of video tapes to that of publications because it may be used as a reinforcement for other methods. The video tape may also be used at the audience's convenience.

Satellite Teleconference: The satellite videoconference is increasing in popularity as a program delivery method for the Cooperative Extension Service. Ullery (1986) reported that the biggest advantage with this method is the large amount of time and dollars for travel, both for those giving programs and for those attending. Other advantages would include the fact that many groups can be reached at one time; resource people are freed to do a variety of programs; and once initial costs are met, there is a potential for cutting expenses in a variety of ways. Ullery (1986) indicated that the audience responses on the use of this method have been very favorable indicating

it is not only cost effective but audience effective.

Posters: A poster is generally a sheet of paper or cardboard with an illustration and a limited amount of words. According to Swanson (1984) the poster is designed to catch the attention of a person, emphasize a fact or an idea and stimulate him or her either to support an idea, or to obtain more information. The poster is usually considered to be low in cost but the results are mainly for stimulation to acquire more information, not an in-depth educational practice.

Computer: The computer is a relatively new program delivery method for educating agriculture producers. Dorris (1982) reported that farmers use computers to make management, production, and marketing decisions. Most state Extension services are now developing computer programs for localized problems to help serve this need. The computer is considered by many to soon be as indispensable as a tractor (Dorris, 1982). The computer is also being used very effectively as a reinforcement for other methods; for example, it makes an excellent visual aid for some group contact methods. According to Lionberger and Gwin (1982) the biggest disadvantage is educating people fast enough to utilize the rapidly developing technology.

Related Research Studies

The research that has been conducted on this topic was very limited. This indicated an increasing importance for information such as this to be researched.

Richardson and Mustain (1988) indicated that the agriculture producers of North Carolina were found to prefer the traditional program delivery methods over some of the new methods. The study

showed that delivery methods most preferred included: newsletters, meetings, farm visits, telephone calls, and demonstrations. Those methods found to be least preferred included: teleconferencing, video tapes, audio cassettes, television and home study courses. The following conclusions were given in this study: (1) a slight variation existed among individual commodity groups, (2) Extension should not de-emphasize the traditional methods, (3) the agriculture producers indicated a desire for more direct information and (4) new methods of program delivery should be introduced very slowly.

Obahayujie and Hillison (1988) reported that part-time and full-time agriculture producers in Virginia should be reached by different methods. The part-time producers preferred more individual contact methods but full-time producers preferred mass media contact methods. The study indicated that both part-time and full-time agriculture producers agreed on the least favored methods which included: cartoons, posters, clinics, computers, and news stories. The study showed that the methods used must coincide with the maturity, education level, background, and objective of the audience.

Warner and Christianson (1984) found in a national study that individual contact methods were preferred by the public but they also are very costly on a cost per contact basis. The study found that farm visits were extremely popular but cost a tremendous amount of time and travel. Telephone contacts were found to be both cost effective and popular among users. All of the group methods were found to be as cost efficient, if not more so, than individual methods. Mass media methods were basically considered to be cost efficient. The study reported that the choice of appropriate educational method must be made not only

in light of cost considerations but also according to the nature of the message and the intended audience.

Summary

The literature reviewed in this chapter indicated that Extension education stimulates people to make changes that might result in better agriculture practices. The literature indicated that there are many factors that affect this process of change. The educator must consider these factors when implementing methods of program delivery to stimulate this change. These factors might include person variables, situational variables, or intervening variables.

The literature indicated many choices for program delivery methods to stimulate change. Individual contacts require a great amount of time from the educator and the student but are generally effective in accomplishing the task. Group contacts allow the educator to reach several people at once and is generally marginal in effectiveness. The mass media methods allow the Extension educator to reach large numbers of people at once and usually don't require a great amount of time from either educator or audience. The mass media methods were reportedly excellent for stimulating a desire to acquire more information.

A review of related research indicated a difference in agriculture producers' perceptions of delivery methods. There was an indication of a preference for certain methods. Related studies also reported that some methods definitely require more time from the Extension personnel and cost more to implement. This undoubtedly makes research to investigate audience perception of delivery methods even more important.

CHAPTER III

METHODOLOGY

The procedures used in the development and implementation of this study were dictated by the primary purpose. The purpose of the study was to identify which Cooperative Extension Service program delivery methods were more effective from perceptions of different groups of agriculture producers in Washington County, Oklahoma. The specific objectives of the study were:

1. To identify which program delivery methods agriculture producers perceive as being most effective.
2. To determine if there are any major differences in program delivery method preference between part-time and full-time agriculture producers.
3. To determine if there are any major differences in program delivery method preference based on age level of agriculture producers.
4. To determine if there are any major differences in program delivery method preference based on education level of agriculture producers.

Population

The population of this study included 175 agriculture producers located in Washington County, Oklahoma. These individuals were located on mail lists in the County Extension office as of August, 1989. This

was an indication that they were actively involved in Extension programs and could evaluate the delivery methods that were included in the questionnaire for the study.

A total of 75 questionnaires were returned which was 43% of the population. A follow-up reminder seeking additional participation was included with monthly correspondence sent out by the researcher to all potential respondents but yielded no more returned questionnaires. Ten non-respondents were contacted by phone to determine if there were any major characteristic differences on selected items of those from respondents.

Instrument

The survey instrument was limited to a questionnaire mailed to the agriculture producers. The questionnaire was constructed by utilizing related studies by Obahayujie and Hillison (1988) and, Wilson and Gallup (1955). Suggestions from the researcher's advisor, committee members, were also utilized in the development of this tool. A pilot instrument was examined by a group of 21 fellow graduate students to ensure the fulfillment of the objectives and purpose of the study including both county and district staff.

The instrument was approved by the Oklahoma State University Institutional Review Board to comply with all requirements for human subject research. The instrument and project did not violate the rights and welfare of any of the human subjects involved, so therefore, it was approved for usage.

The questionnaire asked the producers to rate the effectiveness of Extension program delivery methods on a scale of 1 to 4 with 4 being

most effective and 1 being not effective. The questionnaire divided the program delivery methods into 3 categories including: individual contact, group contact, and mass media contact. The instrument also asked the agriculture producers to indicate personal age, major commodity involvement, whether they were a full-time or part-time producer and educational level. A part-time producer was considered to be one with less than 50% of his/her income from agriculture and a full-time producer was one with more than 50% of his/her income from agriculture.

The questionnaire also asked the agriculture producers to indicate the amount of times they had received information from each of the Extension program delivery methods in the past 5 years. They were asked to rate this on a scale from 0 to 5+. The producers were also given an opportunity to include their personal opinion of the three most effective program delivery methods and why.

Data Collection

The data were collected by means of questionnaires that were mailed to the agriculture producers in Washington County, Oklahoma.

Analysis of Data

The analysis of data was completed by calculating the mean for each response. The mean score for each delivery method was calculated and rated by mean in the following categories: individual, group, mass media, part-time, full-time, older, younger, education level, and total. To permit a more accurate description and analysis of data, numerical values were assigned and real limits established for the

program delivery methods.

<u>Numerical Value</u>	<u>Range of Real Limits</u>	<u>Perception of Delivery Method</u>
4	3.50-4.00	Most Effective
3	2.50-3.49	More Effective
2	1.50-2.49	Less Effective
1	1.00-1.49	Not Effective

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The major purpose of this study was to determine and compare effectiveness of selected Cooperative Extension Service program delivery methods as perceived by different groups of agricultural producers located in Washington County, Oklahoma. In addition, the study was implemented to determine if there are any major differences in program delivery method preference based upon agricultural income level, age, and education level.

The data was collected from 75 Washington County agricultural producers. The objective of this chapter was to interpret and present information from the collection of data compiled in the study.

Population

The study population included 175 agricultural producers located in Washington County, Oklahoma, as of August 15, 1989. The 175 agricultural producers were past users of the Cooperative Extension Service programs and were on mailing lists used for correspondence in the Washington County office. There was a 43% response rate meaning 75 of the questionnaires were completed and returned. In an effort to encourage additional response, the researcher included a reminder to the study population in a monthly correspondence from his office. In

spite of that effort, there was no increase in returned questionnaires. To determine the potential influence on study results of non-respondents, the researcher made contact with 10 of these individuals to identify if there were any noticeable differences in selected characteristics of respondents and non-respondents. As a result, only minimal differences in terms of average age were noted with the non-respondents being 4+ years younger. However, the other comparison factors between the two groups were very similar. Therefore, it was felt that inputs from non-respondent groups would not have been much different from those of respondents.

Findings of the Study

Selected Characteristics of Respondents

The data presented in Table I give a proportional breakdown of respondents by level of agricultural income. The largest number of respondents were part-time producers, meaning less than 50% agricultural income, with 53 respondents or 71% of the population. The full-time producers, with more than 50% of their income being derived from agriculture, had 22 respondents or 29% of the population.

The data in Table II represents the distribution of respondents by age. A total of 20 respondents or 27% of the population were 50 years of age or younger at the time of the study. The 51-61 years of age group had 28 respondents or 37% of the population. A total of 27 respondents or 36% of the population were 62 years or older.

Inspection of the data in Table III reveals the level of education achieved by the respondents of the study. Only 1 respondent or 1.3% of the population had less than a high school education. A total of 20

TABLE I.
COMPARISON OF RESPONDENTS BY LEVEL OF AGRICULTURAL INCOME

Income Level	Distribution of Respondents	
	Number	%
Less than 50% from Agriculture	53	71
More than 50% from Agriculture	22	29
	<hr/> 75	<hr/> 100

TABLE II
AGE DISTRIBUTION OF RESPONDENTS

Age Category	Distribution	
	Number	%
50 years and under	20	27
51-61 years	28	37
62 years and over	27	36
	<hr/> 75	<hr/> 100

TABLE III
COMPARISON OF RESPONDENTS BY LEVEL OF EDUCATION

Level of Education	Distribution of Respondents	
	Number	%
Less than High School	1	1.3
High School	20	26.7
Some College Courses	21	28.0
4 Year College Degree	12	16.0
Courses Beyond 4 Year Degree	10	13.3
Graduate Level Degree	11	14.7
	75	100

respondents or 26.7% of the population reported their educational level to be high school graduate while 21 respondents or 28% of the population reported taking college courses. There were 12 respondents or 16% of the population reporting a 4 year college degree while 10 respondents or 13.3% of the population reported courses beyond a 4 year college degree. The graduate level degree group was represented by 11 respondents or 14.7% of the population.

The information and data in Table IV indicate the agriculture production enterprises that were utilized by the respondents for their agricultural income. Many of the respondents reported utilizing more than one agriculture production area for income, so there are more responses than total respondents in this category. Those individuals raising beef cattle were the largest in number with 55 respondents. This group was followed by other enterprise areas such as grass hay with 29 respondents; wheat with 23; soybeans with 15; alfalfa hay 10; and pecans 5. Other areas reported as agricultural income derivatives included corn with 4 respondents; horses with 3; sheep and dairy cattle with 2; also swine, dogs, vegetables and oats were all reported by 1 respondent.

The purpose of the remainder of this chapter is to present and interpret data that were collected in relation to agriculture producers' perceptions of Cooperative Extension Service program delivery methods in Washington County, Oklahoma. The findings of this study are presented under three major program delivery method categories and then evaluated on differences based on agricultural income level, age, and education level. A response mean was calculated for each category of response, along with a mean rating. There was

TABLE IV
AGRICULTURE PRODUCTION ENTERPRISES UTILIZED BY RESPONDENTS

Enterprise	<u>Number of Enterprises Reported</u>
Alfalfa Hay	10
Soybeans	15
Wheat	23
Milo	7
Corn	4
Grass Hay	29
Beef Cattle	55
Dairy Cattle	2
Horses	3
Sheep	2
Swine	1
Pecans	5
Dogs	1
Vegetables	1
Oats	1

also a mean and ranking calculated for the frequency of exposure to selected information delivery methods by groups within the past 5 year period.

To permit a more accurate description and analysis of data, numerical values were assigned and real limits established for the perceptions of delivery methods according to the following scheme:

<u>Numerical Value</u>	<u>Range of Real Limits</u>	<u>Perception of Delivery Method</u>
4	3.50-4.00	Most Effective
3	2.50-3.49	More Effective
2	1.50-2.49	Less Effective
1	1.00-1.49	Not Effective

Analysis of Effectiveness of Individual Contact

Program Delivery Methods

The data in Table V indicate the mean and rating responses for the effectiveness of individual contact program delivery methods according to agricultural income level. Office visits to the Extension office received the high mean and rating by both part-time and full-time categories with means of 3.62 and 3.41 respectively. Telephone calls to the Extension office received the next highest mean and rating from the part-time category with a mean of 3.30 and dropped to a mean of 2.91 for the full-time respondents, but still ended up with a "more effective" rating in both groups. Farm visits by Extension staff were considered "more effective" by both part-time and full-time producers with means of 2.98 and 3.23 respectively. Visits to experiment stations were "less effective" to the part-time producers with a mean of 2.48 but were "more effective" full time producers with a mean of

3.05. Visits by university specialists were a "more effective" delivery method for both part-time and full-time producers with respective means of 2.54 and 3.27. Effectiveness of visits to the university differed among the groups with the part-time producers considering it "less effective" with a mean of 2.00 and the full-time producers rating it as "more effective" with a 2.95. On-farm demonstrations were quite similar with both groups rating it as "more effective" with means of 2.98 for part-time producers and 3.14 for those who were full-time.

The data in Table VI illustrate a comparison of the mean ratings of effectiveness of individual contact program delivery methods as influenced by age. Office visits to the Extension office was the method with the highest rated method by all respondents grouped according to age. Telephone calls to the Extension office were rated as "more effective" by all three age categories with means of 3.2 for those 50 years and under, 2.96 for those who were 51-61 years, and 3.41 for the 62 years and over group. Farm visits by Extension staff were also considered a "more effective" method by all age groups with means ranging from 2.96 to 3.11. Visits to experiment stations were considered "more effective" by the under 50 years group and the 51-61 years group with mean ratings of 2.75 from each, but those 62 years and over rated this method as "less effective" with a mean of 2.35. A similar response also occurred on visits by the university specialists where those 50 years and under and 51-61 years rated it as "more effective" with means of 3.05 and 2.89 respectively, but those 62 years and over rated it as "less effective" with 2.38. Visits to the university was a much less popular method but still was rated a "more

TABLE V

RATINGS OF EFFECTIVENESS OF INDIVIDUAL CONTACT PROGRAM DELIVERY
 DELIVERY METHODS BY LEVEL OF AGRICULTURAL INCOME GROUPS

Contact Methods	<u>Less than 50%</u> <u>Agri. Income</u>		<u>More than 50%</u> <u>Agri. Income</u>	
	Mean	Ratings	Mean	Ratings
Telephone Calls to Ext. Office	3.20	more	2.91	more
Office Visits to Ext. Office	3.62	most	3.41	more
Farm Visits by Ext. Staff	2.98	more	3.23	more
Visits to Experiment Stations	2.48	less	3.05	more
Visits by Univ. Specialists	2.54	more	3.27	more
Visits to the University	2.00	less	2.95	more
On-Farm Demonstrations	2.98	more	3.14	more
OVERALL RATING	2.83	more	3.13	more

effective" method by the 50 years and under group with a mean of 2.75, but the other two age groups rated it as "less effective" on the average. On-farm demonstrations were considered "more effective" by all three groups with mean ratings ranging from 2.85 to 3.30.

The effectiveness of individual contact program delivery methods as influenced by education level was compared in Table VII. Office visits to the Extension office was again the highest rated method by all respondents grouped by this criterion. Telephone calls to the Extension office was also highly rated and was considered "more effective" by all levels of education groups. Farm visits by Extension staff were also regarded highly with ratings in the "more effective" range with means of 3.0 for those less than a 4 year college degree and 3.12 for those with a 4 year college degree or more. Visits to experiment stations and visits by university specialists were rated as "more effective" by both education level groups with means ranging from 2.56 to 2.94. Visits to the university were again rated much lower, "less effective" with a mean rating of 2.26. On-farm demonstrations were rated as "more effective" by both education levels with means of 2.93 and 3.16 respectively.

Analysis of Effectiveness of Group Contact

Program Delivery Methods

The data in Table VIII indicate the ratings of effectiveness of group contact program delivery methods as influenced by agricultural income level. Tours/field trips and field days were the highest rated methods by each group. For the part-time group, tours/field trips was the highest rated method, 2.98 "more effective," with field trips

TABLE VI
 RATINGS OF EFFECTIVENESS OF INDIVIDUAL CONTACT PROGRAM
 DELIVERY METHODS BY AGE GROUPS

Contact Methods	<u>50 Yrs. & Under</u> Mean Ratings		<u>51-61 Yrs.</u> Mean Ratings		<u>62 Yrs. & Over</u> Mean Ratings	
Telephone Calls to Ext. Office	3.20	more	2.96	more	3.41	more
Office Visits to Ext. Office	3.70	most	3.36	more	3.67	most
Farm Visits by Ext. Staff	3.10	more	3.11	more	2.96	more
Visits to Experiment Stations	2.75	more	2.75	more	2.35	less
Visits by Univ. Specialists	3.05	more	2.89	more	2.38	less
Visits to the University	2.75	more	2.33	less	1.88	less
On-Farm Demonstrations	3.30	more	2.85	more	3.00	more
OVERALL RATING	3.12	more	2.90	more	2.82	more

TABLE VII
 RATINGS OF EFFECTIVENESS OF INDIVIDUAL CONTACT PROGRAM
 DELIVERY METHODS BY LEVEL OF EDUCATION GROUPS

Contact Methods	<u>Less Than 4 Yr. College Degree</u> Mean Ratings		<u>4 Yr. College Degree or More</u> Mean Ratings	
Telephone Calls to Ext. Office	3.19	more	3.18	more
Office Visits to Ext. Office	3.60	most	3.52	most
Farm Visits by Ext. Staff	3.00	more	3.12	more
Visits to Experiment Stations	2.64	more	2.56	more
Visits by Univ. Specialists	2.62	more	2.94	more
Visits to the University	2.26	less	2.26	less
On-Farm Demonstrations	2.93	more	3.16	more
OVERALL RATING	2.89	more	2.97	more

receiving a 2.81 which was also interpreted as "more effective". This order of preference was reversed for the full-time producers. Workshops were also popular for both income level groups with a mean rating of 2.66 from part-time producers and 3.09 from full-time producers. Both of these ratings fell into the "more effective" classification. Contests were rated the lowest by both respondent groups and were regarded as "less effective" on the average. Conferences were rated as "more effective" by both groups with means of 2.57 for part-time and 2.86 for full-time producers. Group demonstrations were regarded as "more effective" with seminars also following in this same category. There was a difference in perception of effectiveness of clinics. Clinics were rated as "less effective" by part-time producers but "more effective" by full-time producers. However, the means were not greatly different with 2.42 being reported on part-time and 2.59 reported on full-time. There was also a difference among groups on the perception of panel discussion. The part-time groups perceived it as being "less effective" with a mean of 2.45 while the full-time group valued it as "more effective" with a mean of 2.73.

The data in Table IX indicate the perception of effectiveness of group contact program delivery methods as influenced by age. Tours/field trips were once again rated the highest group contact method with means ranging from 2.96 to 3.30 in the three age groups. Contests were considered the least effective among all of the age groups with means ranging from 1.62 to 2.55 and ratings of "less effective" in all age categories except 50 years and under which rated it as "more effective." Workshops, field days, and group

TABLE VIII

RATINGS OF EFFECTIVENESS OF GROUP CONTACT PROGRAM DELIVERY
METHODS BY LEVEL OF AGRICULTURAL INCOME GROUPS

Contact Methods	Less than 50% Agriculture Income		More than 50% Agriculture Income	
	Mean	Ratings	Mean	Ratings
Contests	1.84	less	2.41	less
Workshops	2.66	more	3.09	more
Tours/Field Trips	2.98	more	3.36	more
Conferences	2.57	more	2.86	more
Field Days	2.81	more	3.41	more
Group Demonstration	2.52	more	2.91	more
Seminar	2.58	more	2.82	more
Clinic	2.45	less	2.95	more
Lecture	2.42	less	2.59	more
Panel Discussion	2.45	less	2.73	more
OVERALL RATING	2.52	more	2.92	more

demonstrations were all regarded highly, illustrated by the ratings of "more effective" in each of the age groups. Conferences, seminars, clinics, lectures and panel discussions all received means high enough to be rated as "more effective" in the 50 years and under and 51-61 years groups but were considered as "less effective" by the 62 years and over group.

The perceptions of effectiveness of group contact program delivery methods by education level was indicated in Table X. Tours/field trips and field days received the highest mean rating with a declaration of "more effective" in both education groups. Field days had the highest mean in the less than 4 year college degree group with 3.05 while tours/field trips achieved the highest mean among those with a 4 year college degree or more with a mean of 3.09 which enabled both of them a "more effective" rating. Contests were again rated as "less effective" by both groups with means of 2.02 and 1.94, while workshops, conferences, group demonstrations, seminars and clinics were all rated as "more effective" by both groups. Lectures and panel discussions were rated "more effective" by those with less than a 4 year college degree but "less effective" by those with less than a 4 year college degree.

Analysis of Effectiveness of Mass Media

Contact Program Delivery Methods

Data in Table XI indicate the effectiveness level of mass media contact program delivery methods. Newsletters were considered to be "most effective" among both part-time and full-time producers with means of 3.77 and 3.55 respectively. Pamphlets/fact sheets were rated

TABLE IX
 RATINGS OF EFFECTIVENESS OF GROUP CONTACT PROGRAM
 DELIVERY METHODS BY AGE GROUPS

Contact Methods	50 Yrs. & Under		51-61 Yrs.		62 Yrs. & Over	
	Mean	Ratings	Mean	Ratings	Mean	Ratings
Contests	2.55	more	2.00	less	1.62	less
Workshops	3.05	more	2.82	less	2.56	more
Tours/Field Trips	3.30	more	2.96	more	3.07	more
Conferences	3.20	more	2.57	more	2.33	less
Field Day	3.25	more	2.96	more	2.81	more
Group Demonstration	2.70	more	2.56	more	2.67	more
Seminar	3.10	more	2.61	more	2.37	less
Clinic	2.95	more	2.61	more	2.33	less
Lecture	2.60	more	2.50	more	2.33	less
Panel Discussion	2.85	more	2.54	more	2.30	less
OVERALL RATING	2.96	more	2.61	more	2.45	less

TABLE X
 RATINGS OF EFFECTIVENESS OF GROUP CONTACT PROGRAM DELIVERY
 METHODS BY LEVEL OF EDUCATION GROUPS

Contact Methods	Less Than 4 Yr. College Degree		4 Year College Degree or More	
	Mean	Ratings	Mean	Ratings
Contests	2.02	less	1.94	less
Workshops	2.81	more	2.76	more
Tours/Field Trips	3.02	more	3.09	more
Conferences	2.52	more	2.82	more
Field Days	3.05	more	2.91	more
Group Demonstation	2.57	more	2.58	more
Seminar	2.60	more	2.73	more
Clinic	2.67	more	2.52	more
Lecture	2.50	more	2.42	less
Panel Discussion	2.60	more	2.45	less
OVERALL RATING	2.64	more	2.62	more

"most effective" by part-time producers with a mean of 3.58 and dropped slightly to 3.36 among full-time producers giving it a rating of "more effective" Radio programs, newspaper articles and television programs all received ratings of "more effective" in both income categories. Exhibits/displays and video tapes were perceived higher among full-time producers than by part-time producers with ratings of "more effective" and "less effective" in both income groups with posters displaying the lowest means with 1.83 from part-time to 2.14 from full-time.

Ratings of effectiveness of mass media contact program delivery methods by age group are indicated on Table XII. Newsletters once again displayed the highest means in all categories with ratings of "most effective." Pamphlets/fact sheets were rated as "most effective" by the 51-61 years and 62 years and over group but as "more effective" by the 50 years and under group. Newspaper articles and television programs were rated as "more effective" in all three age groups with means ranging from 2.95 to 3.30. Radio programs and Exhibits/Displays were perceived as being "more effective" by those 50 years and under and 62 years and over but dropped to a rating of "less effective" in the 51-61 years group. Video tapes were perceived as being "more effective" by the 50 years and under group while receiving "less effective" ratings in the older groups. Satellite teleconferences, posters, and computers were perceived as being "less effective" by all age groups with means ranging from 1.81 to 2.45.

The data in Table XIII indicate the means and ratings of effectiveness of mass media contact program delivery methods by level of education. Newsletters were perceived the highest among both education groups with a rating of "most effective." Pamphlets/fact

TABLE XI

RATINGS OF EFFECTIVENESS OF MASS MEDIA CONTACT PROGRAM DELIVERY
METHODS BY LEVEL OF AGRICULTURAL INCOME GROUPS

Contact Methods	<u>Less than 50%</u> <u>Agriculture Income</u>		<u>More than 50%</u> <u>Agriculture Income</u>	
	Mean	Ratings	Mean	Ratings
Newsletters	3.77	most	3.55	most
Radio Programs	2.58	more	2.64	more
Pamphlets/Fact Sheets	3.58	most	3.36	more
Newspaper Articles	3.15	more	3.00	more
Television Programs	3.00	more	3.27	more
Exhibits/Displays	2.48	less	2.55	more
Video Tapes	2.26	less	2.82	more
Satellite Teleconference	2.15	less	2.41	less
Posters	1.83	less	2.14	less
Computers	1.90	less	2.18	less
OVERALL RATING	2.68	more	2.79	more

TABLE XII
 RATINGS OF EFFECTIVENESS OF MASS MEDIA CONTACT PROGRAM
 DELIVERY METHODS BY AGE GROUPS

Contact Methods	<u>50 Yrs. & Under</u>		<u>51-61 Yrs.</u>		<u>62 Yrs. & Over</u>	
	Mean	Ratings	Mean	Ratings	Mean	Ratings
Newsletters	3.55	most	3.86	most	3.67	most
Radio Programs	2.60	more	2.36	less	2.85	more
Pamphlets/Fact Sheets	3.40	more	3.61	most	3.52	most
Newspaper Articles	2.95	more	3.07	more	3.26	more
Television Programs	2.95	more	2.96	more	3.30	more
Exhibits/Displays	2.55	more	2.41	less	2.56	more
Video Tapes	2.90	more	2.42	less	2.08	less
Satellite Teleconferences	2.45	less	2.33	less	1.96	less
Posters	2.10	less	1.89	less	1.81	less
Computers	2.35	less	1.89	less	1.81	less
OVERALL RATING	2.53	more	2.69	more	2.69	more

3-20-77

sheets were also well perceived with a mean of 3.75 and a "most effective" rating among those with a 4 year college degree or more. Newspaper articles and television programs were perceived very well in both categories with means ranging from 2.91 to 3.14 which interprets a rating of "more effective." Radio programs were perceived as being "more effective" by the less than 4 year college degree group but "less effective" by the higher education group. The lower education group perceived exhibits/displays and video tapes as "less effective" while the higher education group rated them "more effective." Satellite teleconferences, posters and computers were all rated as "less effective program delivery methods among both groups with means ranging from 1.86 on the lower education group to 2.39 on the higher education group.

Analysis of Usage of Program

Delivery Methods

The data in Table XIV indicate the number of times respondents were exposed to program delivery methods in the past five year period. An examination of the respondents with part-time agricultural income indicates that newsletters and pamphlets have been the two most often used methods with them, with means of 4.58 and 4.43 times on the average respectively. Other widely used methods include office visits to the Extension office at 3.92, newspaper articles at 3.44, and telephone calls to the Extension office at 3.40. The least often used methods among the part-time producers were clinics at .30, visits to experiment stations at .30, contests at .26 and computers at .19.

The level of usage methods with the full-time producers did not

TABLE XIII
 RATINGS OF EFFECTIVENESS OF MASS MEDIA CONTACT PROGRAM
 DELIVERY METHODS BY LEVEL OF EDUCATION GROUPS

Contact Methods	<u>Less than 4 Year College Degree</u> Mean Ratings		<u>4 Year College Degree or More</u> Mean Ratings	
Newsletters	3.81	most	3.58	most
Radio Programs	2.52	more	2.39	less
Pamphlets/Fact Sheets	3.57	most	3.45	more
Newspaper Articles	3.14	more	2.97	more
Television Programs	3.14	more	2.91	more
Exhibits/Displays	2.40	less	2.55	more
Video Tapes	2.21	less	2.65	more
Satellite Teleconference	2.05	less	2.39	less
Posters	1.88	less	1.91	less
Computers	1.86	less	2.16	less
OVERALL RATING	2.66	more	2.70	more

differ significantly from part-time with newsletters at 4.82, pamphlets at 4.50, newspaper articles at 3.6, office visits to the Extension office at 3.82 and telephone calls to the Extension office at 3.68 topping the usage list. There were some differences in the least used methods with clinics at .86, satellite teleconferences at .86, on-farm demonstrations at .77, group demonstrations at .64 and computers at .45. Demonstrations of both types were much higher ranked among part-time producers.

The usage data analyzed for the respondents separated by age level, again portrays the top five most often used methods among all age groups to be newsletters, pamphlets, office visits to the Extension office, telephone calls to the Extension office and newspaper articles. However, the methods used fewest times varied depending upon age with those respondents 50 years and under, panel discussions, on-farm demonstrations, computers, satellite teleconferences, and clinics had been used the fewest number of times with means ranging from .60 to .40. For the 51-61 year respondents, workshops, group demonstrations, clinics, computer, and contests had been employed the fewest number of times with means ranging from .43 to 0. The group 62 years and over had been exposed to contests, clinics, satellite teleconferences, visits by the university specialists, visits to the experiment stations, and computers the lowest number of times on the average with means ranging from .59 to .11.

An examination of the data broken down, on the education level of respondents revealed a repeat of the results for highest usage, with newsletters, pamphlets, telephone calls to the Extension office, office visits to the Extension office, and newspaper articles in the top five.

However, there were marked differences on those used least. For those in the lower education levels, satellite teleconferences, visits by university specialists, visits to the university, contests, and computers were the least used methods with means ranging from .48 to .26. Those respondents with a 4 year college degree or more had been taught via contests, satellite teleconferences, group demonstrations, clinics and computers the fewest amount of times with means ranging from .61 to .27.

Calculation of overall means and ranks reflects the top five to be totally consistent with the group breakdowns, with newsletters, pamphlets, office visits to the Extension office, newspaper articles, and telephone calls to the Extension office being the most used method by extension workers in the past five years. The overall ranking for least used methods indicates visits by university specialists, panel discussions, visits to experiment stations, contests, clinics, and computer to be the lowest in actual usage with means ranging from .67 to .27.

Respondents reported to have been exposed to many of the delivery methods to acquire information more than five times in the past five years. All of the top five used methods previously discussed were reported to have been used more than five times by numerous respondents. Twenty respondents reported being provided information more than five times by way of newsletters, fifteen respondents with pamphlets, thirteen with newspaper articles; ten with office visits to the Extension office. Several other methods also had 10 respondents or less indicating that they had received information more than five times from other selected program delivery methods.

TABLE XIV

EXTENT OF EXPOSURE TO SELECTED PROGRAM DELIVERY METHODS
BY RESPONDENT GROUPS WITHIN THE PAST 5-YEAR PERIOD

Mean Number of Times Experienced and Rankings by Selected Groupings of Respondents

Delivery Methods	Less Than 50% Ag Income		More than 50% Ag Income		50 yrs. and under		51-61 yrs.		62 yrs. and over		Less than 4 yr. degree		4 yr. Degree or more		Overall	
	Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking
Telephone Calls to Ext. Office	3.40	5	3.68	5	3.75	3	3.50	4	3.26	5	2.91	5	4.21	3	3.48	5
Office Visits to Ext. Office	3.92	3	3.82	4	3.65	4	3.75	3	4.22	4	3.76	3	4.06	4	3.89	3
Farm Visits by Ext. Staff	.85	14	1.45	11	1.30	12	.54	15	1.33	13	1.10	9	.94	15	1.03	12
Visits to Experiment Stations	.30	23	1.27	17	1.05	17	.46	21	.37	25	.50	21	.70	21	.59	22
Visits by Univ. Specialists	.57	19	.91	21	1.10	15	.50	17	.52	24	.48	22	.91	17	.67	20
Visits to the University	.51	20	1.59	9	1.75	10	.57	13	1.41	12	.45	24	1.30	10	.83	18
On Farm Demonstrations	.91	12	.77	24	.55	23	.50	17	1.48	10	.90	15	.82	19	.87	17
Contests	.26	25	1.00	20	1.00	18	0	26	.59	21	.38	25	.61	22	.48	24
Workshops	.74	17	1.45	11	1.15	14	.43	22	1.33	13	1.00	12	.88	18	.95	14
Tours or Field Trips	.96	10	1.32	14	1.10	15	.68	12	1.44	11	1.00	12	1.15	11	1.07	11
Conferences	2.04	6	1.32	14	1.35	11	.54	15	1.56	9	.90	15	1.39	9	1.12	9
Field Days	.70	18	1.50	10	1.30	12	.50	17	1.11	17	.86	17	1.03	13	.93	15
Group Demonstration	.79	16	.64	25	.65	21	.39	23	1.19	15	1.00	12	.42	24	.75	19
Seminar	.81	15	1.18	18	.80	20	.93	9	1.00	18	.86	17	1.00	14	.92	16
Clinic	.30	23	.86	22	.40	25	.39	23	.59	21	.60	19	.30	25	.47	25
Lecture	.87	13	1.32	14	.95	19	.86	10	1.19	15	1.05	11	.94	15	1.00	13
Panel Discussion	.45	21	1.18	18	.60	22	.71	11	.67	20	.60	19	.76	20	.67	20
Newsletters	4.58	1	4.82	1	4.80	1	4.46	1	4.74	2	4.57	1	4.76	1	4.65	1
Radio Programs	1.64	8	2.59	8	2.45	6	1.04	8	2.89	7	1.81	7	2.06	7	1.92	7
Pamphlets/Fact Sheets	4.43	2	4.50	2	4.20	2	4.21	2	4.89	1	4.43	2	4.48	2	4.45	2

TABLE XIV (Continued)

Delivery Methods	Less Than 50% Ag Income		More than 50% Ag Income		50 yrs. and under		51-61 yrs.		62 yrs. and over		Less than 4 yr. degree		4 yr. Degree or more		Overall	
	Mean Ranking		Mean Ranking		Mean Ranking		Mean Ranking		Mean Ranking		Mean Ranking		Mean Ranking		Mean Ranking	
Newspaper Articles	3.55	4	3.86	3	3.60	5	3.04	5	4.30	3	3.64	4	3.64	5	3.64	4
Television Programs	2.14	7	2.77	6	2.20	7	1.88	6	3.03	6	2.24	8	2.45	6	2.29	6
Exhibits/Displays	1.49	9	2.68	7	2.00	9	1.36	7	2.22	8	1.74	8	1.97	8	1.84	8
Satellite Teleconferences	.34	22	.86	22	.40	25	.50	17	.56	23	.48	22	.52	23	.49	23
Posters	.94	11	1.45	11	2.15	8	.56	14	.89	19	1.10	9	1.09	12	1.09	10
Computers	.19	26	.45	26	.55	23	.21	25	.11	26	.26	26	.27	26	.27	26

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Purpose

The major purpose of this study was to determine and compare the effectiveness of selected Cooperative Extension Service program delivery methods as perceived by different groups of agriculture producers located in Washington County, Oklahoma.

Specific Objectives

The following objectives were established to accomplish the primary purpose of the study:

1. To identify which program delivery methods agriculture producers perceive as being highest in effectiveness.
2. To determine if there are any major differences in program delivery method preference between part-time and full-time agriculture producers.
3. To determine if there are any major differences in program delivery method preference based on age level of agriculture producers.
4. To determine if there are any major differences in program delivery method preference based on education level of agriculture producers.

Procedures

A review of related research and literature was made and the following major tasks were involved to accomplish the major purpose and objectives of the study: (1) determining the population of the study, (2) development of the survey instrument, (3) collection of the data, and (4) analysis of the data.

The population of the study involved 175 agriculture producers located in Washington County, Oklahoma, as of August, 1989. These producers were on correspondence lists in the County Extension office indicating prior exposure of some type with the Cooperative Extension Service. Mailed questionnaires were utilized to derive their perception ratings of selected aspects of program delivery by the Extension Service. There were 43 percent of the questionnaires completed and returned indicating 75 respondents. A follow-up reminder seeking additional participation was included with monthly correspondence sent out by the researcher to all potential respondents but yielded no more returned questionnaires. Ten non-respondents were contacted to determine if there were any major characteristic differences on selected items of those from respondents. Only minimal discrepancies were located when comparing inputs from the non-respondents. As a result, it was felt that while additional responses would have been desirable, this group did not appear to be much different from respondents on the items compared.

The questionnaire to collect data was developed from related research studies, researchers' committee, other agents and 21 fellow graduate students selected to validate and offer suggestions.

After the data were collected, a mean was calculated in each category. The mean was assigned a perception rating of "most effective," "more effective," "less effective," or "not effective."

Findings

Characteristics of the respondents included that 71% of them were classified as part-time producers with the remaining 29 percent considered full-time producers. An age comparison illustrated 27% of the respondents to be 50 years of age or under; 37% of them were 51-61 years old; and the remaining 36% were 62 years or older. The education level was compared with 56% of the respondents being at a level below a 4 year college degree while 44% had a 4 year college degree or more.

The major focus of the research study was to determine agriculture producers' perceptions of program delivery methods used by the Cooperative Extension Service. For the study, these methods were grouped into the categories of "Individual Contact Methods," "Group Contact Methods" and "Mass Media Contact Methods." In order to clarify and compare the delivery methods, the researcher compiled three summary tables which will allow comparisons of all of the program delivery methods by category of respondents, based on mean perception ratings.

Data in Table XV summarize inputs from all respondents on perceptions of individual contact program delivery methods. The individual contact methods all received a "more effective" overall rating with the exception of office visits to the Extension office which received a "most effective" overall rating and visits to the university which received a "less effective" overall rating. Office visits to the Extension office and telephone calls to the Extension

office were the two highest rated overall methods with means of 3.56 and 3.19 respectively. Visits to the university and visits to the experiment stations were the two lowest overall rated methods with means of 2.29 and 2.61 respectively. A further comparison of differences by respondent characteristics illustrated moderate differences. Telephone calls to the Extension office varied only slightly among respondent characteristics with means ranging from a high of 3.41 for the 62 years and over group to a low of 2.91 for the full-time producer group. Very little differences were noticed on office visits to the Extension office as the high mean was 3.70 for those 50 years and under and the lowest mean was 3.36 for the 51-61 years group. The perception of farm visits by Extension staff varied little, as well, with a high mean response of 3.23 for full-time producers and a low of 2.96 for those 62 years and over. Visits to experiment stations were perceived more differently by groups with full-time producers rating it at 3.05 while those 62 years and over rated it very low at 2.35. Visits by university specialists also created a large difference of perception with those part-time, 62 years and over and less than a 4 year degree perceiving it relatively low while the others rated it near 3 or above. Visits to the university was rated very low by all groups except full-time producers. On farm demonstrations were rated very similar among all respondent characteristic groups. Overall, individual contact methods were rated as "more effective" with a mean of 2.93.

The data in Table XVI summarize responses from all respondents on perceptions of group contact program delivery methods. All group contact methods received an overall rating of "more effective" except

TABLE XV

SUMMARY COMPARISON OF RATINGS OF EFFECTIVENESS OF INDIVIDUAL CONTACT PROGRAM DELIVERY METHODS BY LEVEL OF AGRICULTURAL INCOME, AGE AND LEVEL OF EDUCATION

Contact Method	Less than 50%	More than 50%	50 yrs. and under	51-61 yrs.	62 yrs. and over	Less than	4 yr. Degree	Overall	
	Ag Income	Ag Income	Mean Rating	Mean Rating	Mean Rating	4 yr. degree	or more	Mean Rating	Mean Rating
Telephone Calls to Ext. Office	3.30 more	2.91 more	3.20 more	2.96 more	3.41 more	3.19 more	3.18 more	3.19	more
Office Visits to Ext. Office	3.62 most	3.41 more	3.70 most	3.36 more	3.67 most	3.60 most	3.52 most	3.56	most
Farm Visits by Ext. Staff	2.98 more	3.23 more	3.10 more	3.11 more	2.96 more	3.00 more	3.12 more	3.05	more
Visits to Experiment Stations	2.48 less	3.05 more	2.75 more	2.75 more	2.35 less	2.64 more	2.56 more	2.61	more
Visits by Univ. Specialists	2.54 more	3.27 more	3.05 more	2.89 more	2.38 less	2.62 more	2.94 more	2.76	more
Visits to the University	2.00 less	2.95 more	2.75 more	2.33 less	1.88 less	2.26 less	2.26 less	2.29	less
On-Farm Demonstrations	2.98 more	3.14 more	3.30 more	2.85 more	3.00 more	2.93 more	3.16 more	3.03	more
Overall Rating	2.83 more	3.13 more	3.12 more	2.90 more	2.82 more	2.89 more	2.97 more	2.93	more

lectures and contests, which received overall ratings of "less effective." Field days and tours/field trips were the two highest rated methods with means of 2.99 and 3.09 respectively. A comparison of differences by respondent characteristic had several noticeable distinctions. Contests appeared to be perceived higher by the full-time producers that were 50 years and under while the other groups had very low means of 2.00 or lower. Workshops were perceived very similar between groups with the full-time producers being the high mean with 3.09 and those 62 years and over the low mean with 2.56. Tours/field trips were perceived very similar with minimal differences between groups which had means ranging from 2.96 to 3.36. Conferences were perceived much more differently between groups with those 50 years and under rating it at 3.20 "more effective" and those 62 years and over rating it at 2.33 "less effective." Field days seemed to be popular among all characteristic groups but very popular among those full-time and 50 years and under. Group demonstrations were rated similar in all groups with means ranging from 2.52 to 2.91. Seminars had a noticeable popularity with those 50 years and under while those 62 years and under only had a mean rating of 2.37 "less effective." Clinics were not perceived very high by part-time producers or those 62 years and over, indicating a "less effective" rating while full-time and 50 years and under had a much higher perception and rated clinics at 2.95 which was "more effective." Lectures were not increasingly popular to any of the groups with the part-time, 62 years and over, and 4 year degree or more groups rating it as "less effective." Panel discussions were also low in perception in all of the groups with high mean being those 50 years and under at 2.85 and the low mean being those 62 years and over at

TABLE XVI

SUMMARY COMPARISON OF RATINGS OF EFFECTIVENESS OF GROUP CONTACT PROGRAM DELIVERY METHODS BY LEVEL OF AGRICULTURAL INCOME, AGE AND LEVEL OF EDUCATION

Contact Method	Less than 50% Ag Income		More than 50% Ag Income		50 yrs. and under		51-61 yrs.		62 yrs. and over		Less than 4 yr. degree		4 yr. Degree or more		Overall	
	Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating	
Contests	1.84	less	2.41	less	2.55	more	2.00	less	1.62	less	2.02	less	1.94	less	2.01	less
Workshops	2.66	more	3.09	more	3.05	more	2.82	more	2.56	more	2.81	more	2.76	more	2.79	more
Tours or Field Trips	2.98	more	3.36	more	3.30	more	2.96	more	3.07	more	3.02	more	3.09	more	3.09	more
Conferences	2.57	more	2.86	more	3.20	more	2.57	more	2.33	less	2.52	more	2.82	more	2.65	more
Field Days	2.81	more	3.41	more	3.25	more	2.96	more	2.81	more	3.05	more	2.91	more	2.99	more
Group Demonstration	2.52	more	2.91	more	2.70	more	2.56	more	2.67	more	2.57	more	2.58	more	2.64	more
Seminar	2.58	more	2.82	more	3.10	more	2.61	more	2.37	less	2.60	more	2.73	more	2.65	more
Clinic	2.45	less	2.95	more	2.95	more	2.61	more	2.33	less	2.67	more	2.52	more	2.60	more
Lecture	2.42	less	2.59	more	2.60	more	2.50	more	2.33	less	2.50	more	2.42	less	2.47	less
Panel Discussion	2.45	less	2.73	more	2.85	more	2.54	more	2.30	less	2.60	more	2.45	less	2.53	more
Overall Rating	2.52	more	2.92	more	2.96	more	2.61	more	2.45	less	2.64	more	2.62	more	2.64	more

2.30. The overall mean and rating for group contact methods was 2.64 and "more effective."

The data in Table XVII summarize responses from all respondents on perceptions of mass media contact program delivery methods. Newsletters and pamphlets/fact sheets were the two highest rated overall methods with means of 3.71 and 3.52 respectively and "most effective" ratings. Video tapes, satellite teleconferences, posters, and computers all received overall ratings of "less effective" with computers and posters the two highest overall with means of 1.99 and 1.92 respectively. Comparing the methods between respondent characteristic groups indicated some differences. Newsletters were popular among all groups and indicative of a "most effective" rating. Radio programs were least popular among those with a 4 year college degree or more and 51-61 years of age, which gave it a "less effective" rating. Pamphlets/fact sheets were popular among all groups with means ranging from 3.36 to 3.61. Newspaper articles were also similar among groups with those 62 years and over, rating it highest at 3.26 and those 50 years and under rating it lowest at 2.95. Very little differences were noticed on ratings of television programs with the full-time and 62 years and over groups being highest. Exhibits/displays were very closely rated among groups with means ranging from 2.40 to 2.56. Video tapes were noticeably different between groups with those 50 years and under and full-time characteristics being much higher than the others. Satellite teleconferences were rated "less effective" on all groups but it was more popular among those 50 years and under and full-time than it was with the others. Posters and computers were not perceived very high by

TABLE XVII

SUMMARY COMPARISON OF RATINGS OF EFFECTIVENESS OF MASS MEDIA CONTACT PROGRAM DELIVERY METHODS BY LEVEL OF AGRICULTURAL INCOME, AGE AND LEVEL OF EDUCATION

Contact Method	Less than 50% Ag Income		More than 50% Ag Income		50 yrs. and under		51-61 yrs.		62 yrs. and over		Less than 4 yr. degree		4 yr. Degree or more		Overall	
	Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating		Mean Rating	
Newsletters	3.77	most	3.55	most	3.55	most	3.86	most	3.67	most	3.81	most	3.58	most	3.71	most
Radio Programs	2.58	more	2.64	more	2.60	more	2.36	less	2.85	more	2.52	more	2.39	less	2.60	more
Pamphlets/Fact Sheets	3.58	most	3.36	more	3.40	more	3.61	most	3.52	most	3.57	most	3.45	more	3.52	most
Newspaper Articles	3.15	more	3.00	more	2.95	more	3.07	more	3.26	more	3.14	more	2.97	more	3.11	more
Television Programs	3.00	more	3.27	more	2.95	more	2.96	more	3.30	more	3.14	more	2.91	more	3.08	more
Exhibits/Displays	2.48	less	2.55	more	2.55	more	2.41	less	2.56	more	2.40	less	2.55	more	2.50	more
Video Tapes	2.26	less	2.82	more	2.90	more	2.42	less	2.08	less	2.21	less	2.65	more	2.43	less
Satellite Teleconferences	2.15	less	2.41	less	2.45	less	2.33	less	1.96	less	2.05	less	2.39	less	2.23	less
Posters	1.83	less	2.14	less	2.10	less	1.89	less	1.81	less	1.88	less	1.91	less	1.92	less
Computers	1.90	less	2.18	less	2.35	less	1.89	less	1.81	less	1.86	less	2.16	less	1.99	less
Overall Rating	2.98	more	2.79	more	2.53	more	2.69	more	2.69	more	2.66	more	2.70	more	2.71	more

any of the groups with the only exception being the 50 years and under group rating computers fractionally higher than the other respondent breakdowns. The overall mean and rating for mass media contacts were 2.71 and "more effective."

There was not a noticeable difference between the amount of usage and the perception rating of the most popular program delivery methods. There were minimal differences among moderately popular methods with the "less effective" rated methods generally being those that were used least by producers.

Conclusions

Based on the findings of this research study, the following conclusions were made:

1. Overall agriculture producers perceive most program delivery methods used by the Cooperative Extension Service to be effective.
2. Although there were categorical differences, the agriculture producers perceive the individual contact program delivery methods to be the more effective type of methods used by the Cooperative Extension Service.
3. Overall the group contacts were perceived as being the least effective group of methods used by the Extension staff.
4. Agriculture producers do perceive and regard some mass media contacts, such as newsletters, pamphlets/fact sheets and newspaper articles very high while others such as computers, video tapes, satellite teleconferences and posters are not accepted yet.
5. Differences were evident on how part-time and full-time producers perceive programs with part-time producers valuing mass media

as the highest and full-time producers valuing individual contacts the highest.

6. Age level differences were evident, especially with the younger producers, showing more acceptance to group programs and some of the electronic mass media methods as computers, video tapes, and satellite teleconferencing.

7. Education level of the producer did not appear to be a major factor determining the perception level of the programs.

8. Similarities did exist on the past usage of the program delivery methods and the perception level of these methods.

9. Although individual contact methods as a group were rated highest overall, there are some that are not as popular such as visits to the university, visits to the experiment stations, and visits by university specialists.

10. Newsletters, pamphlets/fact sheets and office visits to the Extension office are the most popular methods used by the Cooperative Extension Service in this county.

General Recommendations

As a result of the data analysis and findings of the research, the following recommendations are made:

1. Findings of this study to be utilized in planning future educational programs for Washington County agriculture producers.

2. The findings of this study to be communicated with appropriate administration so that counties with similar populations may implement these findings in program planning.

3. The program delivery methods that were most popular such as

newsletters, pamphlets/fact sheets and office visits to the Extension office should be continued and strengthened.

4. Tours/field trips and field days should be highly utilized when group contact type programs are used.

5. Lectures, contests, satellite teleconferences, posters, computers, video tapes, and visits to the university should only be utilized in program planning for certain groups because of the lack of popularity.

6. Mass media contact methods should be utilized to reach part-time producers whenever possible because of their preference for these methods.

7. Individual contact methods should be utilized as much as time allows to reach full-time producers because of their preference for these methods.

8. County, Area and State Extension Agents need to receive more training on how to recognize and select proper program delivery methods for the audience they are serving.

Recommendations for Additional Research

The following recommendations are made by the researcher with respect to additional research to be done on this subject area. These recommendations are made based on the findings and relative suggestions resulting from the research study. The recommendations for additional studies are that:

1. Research be conducted to analyze perceptions on county, multi-county, area and state programs delivered to agriculture producers.

2. Research be initiated to determine how Extension agents

perceive the effectiveness of program delivery methods used to reach the audience they serve.

3. Research be implemented to determine if there are differences in perception level of program delivery methods used by the Cooperative Extension Service based on the subject matter of the program.

4. Research be conducted to analyze the perception and acceptance of Extension agent in-service training on proper utilization of program delivery methods to reach the audience served.

5. Additional research on this subject matter should take the statistical analysis one step further which would allow the calculations of standard deviations to illustrate a more complete analysis.

6. Further research needs to be done to examine what percentage of the agriculture producers have degrees in agriculture and how this affects programming.

7. Similar research needs to be done on populations in other geographic regions to see if similarities exist.

SELECTED BIBLIOGRAPHY

- Blacklock, Kristine L. "Lifelong Learning for the Older Adult." Journal of Extension, Vol. 23 (1985), pp. 25-27.
- Blauch, Lloyd E. Federal Cooperation in Agricultural Extension Work; Vocational Education, and Vocational Rehabilitation. New York: Arno Press, 1969.
- Boldt, W.G. "Targeting Audiences and Using Creative Mass Media Approaches." Journal of Extension. Vol. 25 (1987), p. 31.
- Dorris, Eva. "Microcomputers-As Indispensable as Tractors." Extension Review. Vol. 53 (1982), p. 37.
- Gerling, J.F. "Oklahoma Cooperative Extension Service Agriculture Agent's Perceptions of Frequency of Practice of Adult Education Principles." (Unpub. Ed.D. dissertation, Oklahoma State University, 1982.)
- Hancock, Ann C. "Keys to Successful Program Planning Committees." Journal of Extension, Vol. 24 (1986), pp. 14-16.
- Lionberger, Herbert F. and Paul H. Gwin. Communication Strategies: A Guide for Agricultural Change Agents. Danville, IL: Interstate Printers, 1982.
- Loomis, J. Paul and Charles P. Leagan. Behavioral Change in Agriculture. Ithaca, NY: Cornell University Press, 1971.
- Obahayujie, Julius and John Hillisom. "Now Hear This!" Journal of Extension, Vol. 26 (1988), pp. 21-22.
- Parrish, K., J.P. Lassoie, G.R. Goff, and D.J. Decker. "Do Workshops Work?" Journal of Extension, Vol. 26 (1988), pp. 19-21.
- Rasmussen, Wayne D. Taking the University to the People. Ames, IA: Iowa State University Press, 1989.
- Richardson, John G. and R. David Mustian. "Preferred Methods for Delivery of Technological Information by the North Carolina Agriculture Extension Service: Opinions of Agricultural Producers Who Use Extension Information." (Paper presented at the Annual Meeting of the Agricultural Communications Section, New Orleans, LA, January, 1988).

- Swanson, Burton E. Agriculture Extension: A Reference Manual. Urbana, IL: University of Illinois, 1984.
- Swisher, M.E. and M.F. Smith. "The Best Little Programming Tool in Extension." Journal of Extension, Vol. 24 (1986), pp. 26-29.
- U.S. Department of Agriculture. Challenge and Change: A Blueprint for the Future. Washington D.C.: Extension Service, U.S. Government Printing Office, 1983.
- Ullery, Jacqueline M. "Traveling to Oklahoma - by Satellite." Extension Review. Vol. 57 (1986), pp. 8-9.
- Waltz, F.C. and T.L. Curry. "Using Tours to Teach Adults." Agricultural Education. Vol. 57 (1984), pp. 17-19.
- Warmbrod, J.R., L.H. Newcomb and J.D. McCracken. Methods of Teaching Agriculture. Danville, IL: Interstate Printers, 1986.
- Warner, Paul D. and James A. Christenson. The Cooperative Extension Service: A National Assessment. Boulder, CO: Westview Press, 1984.
- Wilson, Meredith C. and Gladys Gallup. Extension Teaching Methods. Washington D.C.: Extension Service U.S. Government Printing Office, 1955.

APPENDIXES

APPENDIX A
SAMPLE OF PRODUCER QUESTIONNAIRE

Please return by Sept. 1.

QUESTIONNAIRE

- (1) Please check the appropriate blank that applies to your agriculture income:
- Less than 50% of my gross income is agriculture related.
 More than 50% of my gross income is agriculture related.
- (2) Please check the types of agriculture production areas from which the majority of your agriculture income is derived:
- | | |
|--------------------------------------|--|
| <input type="checkbox"/> alfalfa hay | <input type="checkbox"/> beef cattle |
| <input type="checkbox"/> soybeans | <input type="checkbox"/> dairy cattle |
| <input type="checkbox"/> wheat | <input type="checkbox"/> horses |
| <input type="checkbox"/> milo | <input type="checkbox"/> sheep |
| <input type="checkbox"/> corn | <input type="checkbox"/> swine |
| <input type="checkbox"/> grass hay | <input type="checkbox"/> other (specify) _____ |
- (3) What is your age? _____
- (4) Please check the appropriate blank that applies to your education level:
- Less than High School
 High School
 Some College Courses
 4 year college degree (B.S. degree)
 Courses beyond B.S. degree
 Graduate level degree

Please circle the response that best indicates your perception of different types of program delivery methods used by the OSU Cooperative Extension Service. Please make a response for each listing provided.

<u>Individual Contact</u>	<u>Most Effective</u>	<u>More Effective</u>	<u>Less Effective</u>	<u>Not Effective</u>
Telephone Calls to Extension Office	4	3	2	1
Office Visits to Extension Office	4	3	2	1
Farm Visits by Extension Staff	4	3	2	1
Visits to Experiment Stations	4	3	2	1
Visits by University Specialists	4	3	2	1
Visits to the University	4	3	2	1
On-Farm Demonstrations	4	3	2	1
<u>Group Contact</u>	<u>Most Effective</u>	<u>More Effective</u>	<u>Less Effective</u>	<u>Not Effective</u>
Contests	4	3	2	1
Workshops	4	3	2	1
Tours or Field Trips	4	3	2	1
Conferences	4	3	2	1
Field Days	4	3	2	1
Group Demonstration	4	3	2	1
Seminar	4	3	2	1
Clinic	4	3	2	1
Conference	4	3	2	1
Lecture	4	3	2	1
Panel Discussion	4	3	2	1
<u>Mass Media</u>	<u>Most Effective</u>	<u>More Effective</u>	<u>Less Effective</u>	<u>Not Effective</u>
Newsletters	4	3	2	1
Radio Programs	4	3	2	1

(Continued on back)

<u>Mass Media (con't)</u>	<u>Most Effective</u>	<u>More Effective</u>	<u>Less Effective</u>	<u>Not Effective</u>
Pamphlets	4	3	2	1
Newspaper Articles	4	3	2	1
Television Programs	4	3	2	1
Exhibits/Displays	4	3	2	1
Video Tapes	4	3	2	1
Satellite Teleconferences	4	3	2	1
Posters	4	3	2	1
Computers	4	3	2	1

Please circle the response that indicates how many times you have received information from the OSU Extension Service in each of the different delivery methods in the past 5 years:

Telephone Calls to Extension Office	0	1	2	3	4	5	5+
Office Visits to Extension Office	0	1	2	3	4	5	5+
Farm Visits to Extension Staff.....	0	1	2	3	4	5	5+
Visits to Experiment Stations.....	0	1	2	3	4	5	5+
Visits by University Specialists.....	0	1	2	3	4	5	5+
Visits to the University.....	0	1	2	3	4	5	5+
On-Farm Demonstrations.....	0	1	2	3	4	5	5+
Contests	0	1	2	3	4	5	5+
Workshops.....	0	1	2	3	4	5	5+
Tours or Field Trips.....	0	1	2	3	4	5	5+
Conferences.....	0	1	2	3	4	5	5+
Field Days.....	0	1	2	3	4	5	5+
Group Demonstration.....	0	1	2	3	4	5	5+
Seminar.....	0	1	2	3	4	5	5+
Clinic	0	1	2	3	4	5	5+
Conference.....	0	1	2	3	4	5	5+
Lecture.....	0	1	2	3	4	5	5+
Panel Discussion.....	0	1	2	3	4	5	5+
Newsletters.....	0	1	2	3	4	5	5+
Radio Programs.....	0	1	2	3	4	5	5+
Pamphlets/Fact Sheets.....	0	1	2	3	4	5	5+
Newspaper Articles.....	0	1	2	3	4	5	5+
Television Programs.....	0	1	2	3	4	5	5+
Exhibits.....	0	1	2	3	4	5	5+
Satellite Teleconferences.....	0	1	2	3	4	5	5+
Posters.....	0	1	2	3	4	5	5+
Computers.....	0	1	2	3	4	5	5+

Please list the 3 most effective delivery methods used by the Extension Service and why?

Your input is greatly appreciated on this research study, please feel free to make any additional comments which might be helpful for the study. Please return this form in the self addressed stamped envelope provided by September 1.

THANK YOU!

APPENDIX B
CORRESPONDENCE



OSU EXTENSION CENTER
P.O. BOX 10
DEWEY, OK 74029
918/534-2216

August 16, 1989

To: Agriculture Producers

We need your help in the development of agriculture programs for the future. The OSU Cooperative Extension Service offers a tremendous amount of information to you every year in the subject of agriculture. However, it is a challenge in knowing which types of information delivery methods are best for your convenience and still be effective. The Cooperative Extension Service wants to use program delivery methods that you perceive as being effective. With this need evident, I am conducting research in conjunction with the Agriculture Education Department and the Graduate College at OSU to hopefully find a solution. But this solution can't be determined without your help. So would you please fill out the questionnaire and return it to me by September 1. We have enclosed a self-addressed stamped envelope for your convenience. Your assistance with this will allow the programs of the OSU Cooperative Extension Service to better serve agriculture and you in the future.

Sincerely,

A handwritten signature in cursive script that reads "Randy L. Pirtle".

Randy L. Pirtle
OSU County Extension Director
Washington County

Enclosure

VITA

Randy Lee Pirtle

Candidate for the Degree of

Master of Science

Thesis: AGRICULTURE PRODUCERS' PERCEPTIONS OF COOPERATIVE EXTENSION SERVICE PROGRAM DELIVERY METHODS IN WASHINGTON COUNTY, OKLAHOMA

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Oklahoma City, Oklahoma, June 21, 1962, the son of Garry Pirtle and Patti Waller, married July 31, 1982 to Susan Thornbrough, children Aspen Marie Pirtle, born June 11, 1987 and Cassie Lea Pirtle, born August 23, 1989.

Education: Graduated from Mountain View High School, Mountain View, Oklahoma, May, 1980; received the Bachelor of Science degree in Agriculture from Oklahoma State University, Stillwater, Oklahoma, May 1985; completed requirements for the Master of Science degree in Agricultural Education at Oklahoma State University in December 1989.

Professional Experience: Extension 4-H Agent, Washington County, Dewey, Oklahoma, July 1985 to December 1985; Extension Agriculture Agent, Washington County, Dewey, Oklahoma, December 1985 to April 1986; Extension Agriculture Agent and County Extension Director, Washington County, Dewey, Oklahoma, April 1986 to present.

Organizations: Oklahoma Association of County Extension Agents and National Association of County Extension Agents.