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Abstract

Nearly all farmers of burley in the mountains of North Carolina are small or part-time growers who have limited time for seeking information.

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Preferences of a Traditional Extension Audience for Self-Directed Delivery Methods

Allen E. Caldwell
John G. Richardson

Nearly all farmers of burley in the mountains of North Carolina are small or part-time growers who have limited time for seeking information. While they may desire accurate, user-friendly, and timely information, their willingness or opportunity to obtain information on a face-to-face basis with extension agents, or to attend meetings, is limited. This research sought to determine the feasibility of selected non-face-to-face delivery methods to meet the informational needs of burley growers for controlling three insect pests. These delivery methods included (1) fact sheets; (2) fact sheets plus audiocassette; and (3) the bulletin/pamphlet, AG-400 *Scouting Tobacco*. The major findings demonstrated that most of the farmers preferred the combination of the fact sheets and audiocassette. Age, education level, size of farming operation, or number of information sources generally had no influence on the farmer's preferences. Knowledge gained by the farmers increased substantially via the self-directed learning methods.

Introduction

The Cooperative Extension System seeks to deliver research-based technology and lifelong learning opportunities to the

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nation's citizens. To accomplish its mission, extension is constantly changing and adapting to meet the shifting needs and priorities of the people it serves. The ultimate goal is to reach targeted audiences and provide the information they need in a manner which they prefer.

In reaching those audiences effectively, selection of appropriate and creative teaching techniques are most important tools. In today's world, the agent cannot wait until the door opens and have someone tell her/him exactly how to implement an educational program. (Casey and Kruger, 1991). Vision and risk-taking are needed attributes as we strive to meet the needs of our new and traditional audiences. In extension educational programming, Iddings and Apps (1992) suggest that a wide variety of methods and resources should be available to audiences to encourage learning and remove potential barriers for those clientele who want to learn independently. Rollins and Yoder (1993) suggest that knowing the learning preferences of clientele can prove helpful in deciding how to develop programs and how to use available resources and instructional technology.

Considering the dynamics of today's society, extension educators need to try innovative ways to reach audiences that are not reached by, or those that do not attend, traditional extension educational programs (Mechenich, 1993). In striving for this goal, Sunnarborg, Bradley, & Haynes (1988) recommend that two essential ingredients to consider would be: (1) fit the subject matter to the needs of the target group, and (2) develop innovative training and delivery methods at the educational level of the target group. As we select appropriate delivery methods, we should recognize that new and innovative communication tools can enable target audiences to receive customized information at their convenience (DeYoung, 1992).

With these considerations in mind, this research sought to determine if some self-directed, program delivery methods could provide information to traditional clientele who have customarily received information through face-to-face interaction with extension personnel.

Clientele Preferences and Program Delivery

During recent times, increasing amounts of research have been conducted to determine clientele preferences for various program delivery methods utilized by extension. Mechenich (1993) implies that extension educators need to experiment with innovative delivery programs and conduct research into why certain

Caldwell and Richardson: Preferences of a Traditional Extension Audience for Self-Directed audiences do not attend or utilize traditional extension educational programs. The studies that follow illustrate some of the findings and implications concerning program delivery methods and clientele preferences, and helped to stimulate the questions that formed the basis of this research project.

How people prefer to learn often depends on what they are learning. Television, radio, and newspapers are the preferred sources of educational information on energy conservation (Iams & Wilhem, 1984). Change the subject to financial (Steinfelt, 1985) or health management (Epstein, 1988), and research shows that pamphlets, correspondence courses, and recorded telephone messages become the delivery method of choice. A successful learn-at-home program was pilot tested in Wisconsin in 1987-1988. The program consisted of three units of audio and print lessons concerned with teaching consumers how to manage their credit (Gibson et al., 1992). Sixty percent of respondents indicated they had made changes in their use of consumer credit because of their participation in the program. In this study, 96% of the participants stated a strong preference for this information delivery method.

Other research relating to self-study programs for small farm operators was conducted in Florida by Israel and Ingram (1991). This study used a combination of videocassettes and workbooks to deliver an educational program. Their findings included having a VCR had a strong positive affect on the likelihood of small farmers participating in a self-study educational program.

Program delivery research in North Carolina has shown that farmers prefer the traditional and well established methods such as newsletters, meetings, farm visits, telephone calls, and on-farm tests (Richardson, 1989, 1993). Those surveyed predicted they will make frequent use of these methods in the future. Richardson (1993) concludes that if the objective is provision of educational inputs for clientele who are interested in trying or testing new information which they have already evaluated, delivery methods such as demonstrations, tours, workshops, interactive meetings, audiocassette/fact sheet, videocassette, and other "how-to" methods are likely to be of greater value.

As the research review confirmed, audience targeting allows for the selection of appropriate delivery methods which coincide with those preferred and considered relevant by the audience. The review also confirmed that many audiences are receptive to nontraditional delivery methods if these meet their needs, schedules, and preferences. Thus, this study sought to determine

whether growers are amenable to using self-directed, non-face-to-face delivery methods, as well as their preferences of non-face-to-face methods for receiving needed information relative to insect scouting. Three delivery means were chosen. These methods include (1) fact sheets, (2) fact sheets plus an audiocassette, and (3) the extension bulletin AG-400, *Scouting Tobacco*.

Study Objectives

The problem addressed in this study identified preferences for selected individual delivery methods and combinations of methods, and knowledge gained by using these methods for insect scouting procedures used in burley production by growers farming in Cherokee and Clay Counties, North Carolina. The ultimate goal of this research was to determine the feasibility of using innovative delivery systems to meet the needs of a defined target clientele which may have received information in more traditional styles, such as grower meetings or through face-to-face consultation with the extension agent. The specific objectives were:

1. To study Cherokee and Clay County burley growers' preferences for three program delivery methods to receive information on scouting for three specific insects.
2. To seek to identify independent variables that may help predict the level of acceptance and preferability of certain program delivery methods by the target audience.
3. To identify the level of knowledge change with regard to scouting burley tobacco for aphids, flea beetles, and bud worms using three alternative delivery methods: extension bulletin AG-400 only, fact sheets only, and fact sheets with audiocassette combination.

Methodology

Subjects for this research were randomly selected from a list of burley growers with experience of ten years or less. A guided interview questionnaire was developed and tested, and all persons selected were interviewed face-to-face.

A major step in this project was to design a program delivery structure for insect scouting differing from the typical face-to-face contact method or the use of the available developed extension bulletin, *Scouting Tobacco*, AG-400. Because the stratified target audience consisted of growers with growing experience of ten years or less, simple scouting fact sheets were designed and developed by the local extension agent, to be compared to the

more technical *Scouting Tobacco* publication. The fact sheets utilized larger print, short sentences, and common, easy-to-understand words. Pictures and sketches of the insects were also used to help simplify the learning experience. An audiocassette supplemented the fact sheets. The audiocassette was recorded by the local extension agent so that the voice would be recognizable and familiar to the farmers. It was believed that this would allow the farmers to identify more closely with the delivery method and the Extension Service. Also, as with the fact sheets, simple words and familiar phrases were used. This design of the project gave three separate delivery methods: (1) fact sheets only, (2) fact sheets plus audiocassette, and (3) extension's publication AG-400, *Scouting Tobacco*.

The questionnaire was reviewed for validity and clarity by three extension agents and two specialists with expertise in research and questionnaire design, as well as pre-tested by five people representative of the target audience. Feedback revealed that minimal changes were necessary in wording and writing style to clarify some questions. Also, the number of choices in some questions was reduced and other choices were moved to a more meaningful category. In addition to determining preference levels, the questionnaire contained questions designed to obtain certain demographic information about the target audience. This demographic information included age, education level, use of other sources of information, and size of acreage of production.

To determine level of knowledge relating to insect scouting, a pre-test was administered at the time of the interview. One month later, a post-test was administered to determine knowledge gain and knowledge retained. The post-test gave farmers the opportunity to evaluate the three delivery methods and indicate their first, second, and third preference. In addition to stating their preferences, the farmers also were asked to name any potential topics for use of the fact sheet and audiocassette combination.

Findings

As shown in Table 1, the fact sheet/audiocassette delivery method was selected by 17 out of 20 producers as their first choice. Two of the farmers selected the fact sheet method alone as their first choice and only one preferred the Bulletin AG-400 as a first choice.

In a confirmation of the acceptance of the fact sheet/audiocassette as a teaching tool for insect control, all twenty of the farmers indicated that they would be willing to use this combination of

delivery methods again. This positive response was received even though all twenty had not used this means of receiving information previously.

Demographic Comparisons

Considering the high level of confidence expressed in the fact sheet/audiocassette for receiving insect scouting information, the various demographic factors tested produced little information in which meaningful inferences could be drawn. Each of the demographic factors will be discussed briefly.

Age

The three persons who preferred either the fact sheets or the bulletin were less than 30 years old. Two of those individuals preferred the agent-developed fact sheet, while the other preferred the university bulletin. Altogether, nine of the twenty farmers were under the age of thirty.

Education

Only three of the farmers had a formal education level higher than high school graduate. Six of the twenty had not graduated from high school. Two of the individuals with less than a high school education preferred the other means of delivery. One preferred the fact sheets while the other preferred the bulletin. The only high school graduate who did not prefer the combination of methods indicated a preference for the fact sheets only.

Acreage

The division of growers into groups of less than three acres and more than three acres of burley production failed to indicate any discernable differences between the two groups. However, an analysis of preferences for the second and third methods among both groups showed a strong trend toward the fact sheets. The

TABLE 1:

Program Delivery Preference of Clay/Cherokee Burley Farmers (N=20).

Method	First Choice	Second Choice	Third Choice
Bulletin AG-400	1	5	14
Agent Fact Sheets	2	13	5
Fact Sheet/Audiocassette	17	2	1

university bulletin was placed third by 14 of the 20 growers, apparently due to its greater level of complexity and lack of local context.

Comparison of Sources of Information

Those who use more than five sources of information were no different in their preferences than were those who use five or fewer sources of information.

Knowledge Gained

The pre- and post-tests indicated a knowledge gain among all growers who participated in this study. As indicated in Table 2, the average gain was 27 percent, ranging from a high of 69 percent to only 6 percent. Analysis of the data indicated that generally, those persons with higher knowledge levels at the beginning gained less knowledge than those who were less knowledgeable at the beginning.

Demographic Variables

Some of the variables were tested for any comparisons of knowledge gained in this educational program, regardless of the preferred means of delivery. This information is presented in the following sections.

Education Level

Those individuals with less than a high school education had a knowledge gain of 33 percent, while those with a high school education or more gained 23.3 percent.

Acreage

Those with more than 3 acres gained 30.7 percent more knowledge, while those with fewer than three acres gained 17.9 percent.

TABLE 2:

Comparison of Pre- and Post-Test Scores of Selected Growers (N=20).

	Mean	Range	Median
Pre-test	45%	14-71%	43%
Post-test	72%	50-90 %	70%
Gain	27%	6-69%	27%

Number of Information Sources

Those using fewer than five information sources gained 35.6 per cent new knowledge about insects in burley tobacco, and the farmers using more than five information sources had a gain of 21.7 percent.

Summary

This study confirms that a combination of traditional extension program delivery methods can be effectively combined with electronic technology in providing information to small farmers as well as less well educated ones. The confirmation that all of the twenty study participants had a positive attitude toward using the fact sheets/audiocassette in a self-directed learning situation demonstrates the acceptance of non-face-to-face means of program delivery, even with highly traditional audiences who have long been accustomed to direct contact by the extension agent.

Although 85 percent of the growers selected the fact sheet/audiocassette system as the first choice instead of the bulletin and the fact sheets, the farmers expressed some concerns that are worthy of note. Some of the participants commented on the "less personal" format of the fact sheet/audiocassette approach and a few commented that they were not able to clarify their questions as they normally could in person. The overwhelming majority gave this style of program delivery high marks as an effective way of providing training. They particularly applauded the convenience, completeness, readability, and timeliness of this self-directed delivery means.

Implications

The findings have implications for future decisions and directions about insect scouting programming in Cooperative Extension. The target audience, which could be classified as a traditional extension agricultural audience, expressed a desire for information delivery not only by traditional means but also for newer and innovative delivery systems.

Traditional extension program delivery has relied heavily on meetings and face-to-face teaching. Yet, when given the choice of self-directed delivery methods, this traditional extension audience demonstrated a decided willingness to use such methods, but showed a preference for a combination of such methods, as shown by the strong preference for the fact sheets and audio-

Caldwell and Richardson; Preferences of a Traditional Extension Audience for Self-Directed cassette combination. Positive aspects of the combination fact sheet/audiocassette mentioned by this audience included: ease of understanding the combination of two learning methods; the ability to learn at one's own pace; ability to use at any time; and adaptability to other situations, such as use with migrant labor.

The fact sheet-audiocassette delivery system, as a self-directed learning method, was positively received and participants unanimously agreed to actively participate in future educational opportunities using this mode of program delivery. Therefore, to respond to the expressed needs and preferences of the audience, agricultural agents who are accustomed to serving audiences which could be classified as "traditional", need to break out of past delivery traditions and paradigms and develop programs and delivery systems to meet clientele needs. Even though the audiocassette may be considered by some to be a fairly common means of information delivery, this technological medium, when used as a means of receiving information from extension, was new to the farmers involved. This demonstrates that newer and innovative communications methods, when appropriately combined, can enable audiences to receive customized information at their convenience and effectively provide viable learning experiences.

Extension's future depends on its ability to interpret trends and use appropriate technologies to deliver needed information via audience-preferred means. In order to meet the educational needs and expectations of diverse audiences, extension is currently being called upon to use innovative teaching techniques and program delivery systems. With rapidly developing communications technologies becoming readily available, it is likely that audience demands for creative program delivery will intensify in the future.

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