

# Factors Associated With Participation of Iowa Young Farmers in Agricultural Extension Programs

Robert A. Martin, Associate Professor  
Mahmoud Hassan Omer, Post-Doctoral Associate  
Agricultural Education  
Iowa State University

Accepted for Publication September 1987

Agricultural extension educators are continually searching for ways in which to better serve extension clientele. Without evaluative input from extension clientele, extension professionals may not know steps that should be taken toward providing viable information. Because of rapid changes in technology, various segments of the agricultural industry including vocational agriculture teachers, extension educators, and agribusiness persons should work together to deliver agricultural education programs. To deliver these programs effectively, it is necessary to determine the extent to which young farmers use the services of the various agricultural agencies, particularly the agricultural extension program.

## Problem

Agricultural extension educators have at various times expressed that young farmers have been a neglected group regarding the provision of educational activities (Crawford, 1969; Oparaugo, 1980; Smith, 1980). In a study of factors affecting the establishment of young farm operators in Iowa, Crawford (1969) found that young farm operators were not active in educational programs that were primarily designed to aid them in making farm management decisions. While there is a general recognition of the need to help young farmers (Martin & Bla, 1986), the authors found no other study that focused on the analysis of factors associated with participation of young farmers in agricultural extension education activities in Iowa. As a result, a number of questions became increasingly relevant:

1. How aware are young farmers of educational services offered by the Cooperative Extension Service?
2. How do young farmers become aware of the services of the Cooperative Extension Service?
3. What perceptions do young farmers have of the type and content of the cooperative extension educational programs?
4. What channels of communication are the most effective in reaching young farmers?
5. What are some reasons for young farmers' participation in extension education programs?

Current literature and information were unavailable to answer the questions that continue to be of concern to agricultural educators including vocational agriculture teachers, extension professionals, and agribusiness persons. Therefore this study was conducted in an attempt to provide some of the answers to these questions. The need for this study was also based upon the fact that basic information is needed by administrators and educators in order to coordinate planning and conducting educational programs for the members of Iowa Young Farmers Educational Association (IYFEA).

## Purpose and Objectives

The primary purpose of the study was to determine and analyze selected factors associated with awareness and **participation** of members of IYFEA in agricultural extension education programs. A secondary purpose of the study was to determine perceptions held by members of IYFEA regarding various **agricultural** education programs offered by the Cooperative Extension Service.

The specific objectives of the study were as follows:

1. To identify selected occupational and demographic characteristics of members of IYFEA.
2. To identify the types of contact and participation in agricultural extension programs by members of IYFEA.
3. To determine the importance of program planning in the Cooperative Extension Service as perceived by members of IYFEA.
4. To determine the importance of selected program areas provided by the Cooperative Extension Service as perceived by members of IYFEA.
5. To determine the importance of the methods of instruction used by the Cooperative Extension Service as perceived by members of IYFEA.
6. To identify the perceptions held by members of IYFEA based on selected demographic information.

## Procedures

The population of the study consisted of the membership of Iowa Young Farmers Educational Association (IYFEA). There were 400 members of the IYFEA in 1986. This number represented a very small percentage (5%) of the farmers in Iowa between the ages of 18 and 40. A survey of approximately 30% of the membership was determined to be appropriate for gathering input regarding the purpose of the study. The survey instrument was first distributed to the young farmers who attended the Winter Institute (an educational seminar) of the IYFEA on February 9, 1986. A total of 51 members of IYFEA completed the survey instrument. An additional random sample of 75 members of IYFEA was drawn from the population. Questionnaires were mailed the third week in April, 1986. Follow-up letters were mailed the third week in May. During the third week of June, phone calls to the remaining non-respondents were made. Of the 75 young farmers in the sample, 65 did not respond to the initial mailing. Through follow-up procedures, 41 of the non-respondents returned completed questionnaires for a final response rate of 51, or 68%.

Independent t-tests were used to determine if significant differences existed between the first group who attended the Winter Institute and the second group of young farmers (the random sample). The results of the t-test indicated there were no significant differences between the two groups. The two respondent groups were considered to be from the sample population.

A survey questionnaire was used to collect the data. The survey instrument included the following sections:

1. Importance of program planning. This section included twelve **activities** used by extension personnel in planning educational programs for young farmers.

2. Importance of selected program areas. This section included selected educational topics in livestock production, crop production, and general agriculture.

3. Importance of extension methods. This section included 17 selected methods that are commonly used by extension personnel in providing assistance to young farmers.

4. Demographic Information. This section included selected demographic variables such as sex, age, educational level, and income.

5. Types of contact and participation. This section included selected statements related to the extent of use, level of satisfaction, and level of participation in meetings sponsored by agricultural extension.

Likert-type scales were used for the first three sections: 1 = not important, 2 = of little importance, 3 = somewhat important, 4 = important, and 5 = very important.

Statistical procedures yielded percentages, means, standard deviations,  $t$ -tests, and one-way analysis of variance for various information presented in this study. A reliability estimate (Cronbach alpha) was computed for the Instrument, and it was determined to be appropriate for this study (.94). All analyses were conducted to answer the specific objectives of the study.

## Results

The results pertaining to demographic information are summarized as follows: (a) the majority of the respondents were between 20 and 39 years of age; (b) the respondents' educational level was relatively high (22.6% had bachelor's degrees); (c) the majority of the respondents lived on the farm; and (d) overall, the respondents' gross income was also fairly high (36.6% had gross incomes of \$50,000 or above).

The results pertaining to types of contact and participation in agricultural activities are summarized as follows:

1. Nearly 30% of the respondents first heard of the Cooperative Extension Service through mass media, 26.47% from family members, and 24.51% from friends/neighbors.

2. The majority (82.23%) of the respondents indicated that they had participated in meetings sponsored by the Cooperative Extension Service. Only 10% had never participated in meetings sponsored by the Cooperative Extension Service.

3. Seventy percent of the respondents indicated that they were satisfied or very satisfied with services/information provided by extension service. Only 8 respondents (7.84%) indicated that they were dissatisfied with the services/information provided by the extension service, and 18 respondents (17.64%) indicated that they had no opinion.

The results pertaining to the importance of program planning in the Cooperative Extension Service indicated that three planning activities received a rating of 4 or higher. These activities were as follows: analyze farming community situation (mean = 4.151, understand and provide educational programs to meet educational needs (mean = 4.08), and plan and prepare educational activities (mean = 4.03). The remaining activities were rated between 3.44 and 3.97 (Table 1).

Table 1

Means, Standard Deviations, and Rankings Regarding Level of Importance of Program Planning as Perceived by Iowa Young Farmers (N = 102)

Rank	Activities	Valid Cases	Mean	<u>SD</u>
1	Analyze farming community situation to identify educational needs	102	4.15	.86
2	Understand and provide educational programs to meet educational needs	100	4.08	.87
3	Plan and prepare educational <b>activities</b>	100	4.03	.85
4	Determine priorities of community needs	101	3.97	.85
5	Review past programs to identify their strengths and weaknesses	102	3.90	.90
6	Train county extension council to perform their jobs	98	3.87	1.05
7	Identify community resources, facilities and services to <b>assist</b> with extension programs	101	3.80	.88
8	Plan practical learning activities for target audiences	100	3.79	.95
9	Identify audience for specific programs	100	3.77	.96
10	Identify and involve appropriate community leaders in the program development	101	3.69	.97
11	Plan <b>activities</b> to help individual clientele with problems	99	3.65	.96
12	Involve county extension council in the program development process	101	3.44	.99

The results pertaining to the **importance** of selected educational program areas indicated that four topics in livestock production received a rating of 4 or higher on a 5-point scale. These topics were as follows: production records (4.16), marketing of livestock (4.14), production management (4.04), and health and diseases (4.01). The remaining topics in livestock were rated between 3.59 and 3.87 (Table 2). Five topics in crop production received a rating of 4 or higher on a 5-point scale. These topics were as follows: marketing of crops (4.26), production records (4.06), and soil fertility (4.01). The remaining topics in crop production were rated between 3.63 and 3.91 (Table 3).

Table 2

Means, Standard Deviations, and Rankings Regarding Level of Importance of Selected Topics in Livestock Production as Perceived by Iowa Young Farmers (N = 102)

Rank	Topic	Valid Cases	Mean	<u>SD</u>
1	Production Records	93	4.16	.86
2	Marketing of Livestock	94	4.14	.85
3	Production Management	93	4.04	.79
4	Health and Diseases	95	4.01	.86
5	Herd Records	94	3.87	.91
6	Feeds and Feeding	94	3.86	.87
7	Breeding and Reproduction	93	3.81	.92
8	Use of Computer	94	3.59	1.07

Table 3

Means, Standard Deviations, and Rankings Regarding Level of Importance of Selected Topics In Crop Production as Perceived by Iowa Young Farmers (N = 102)

Rank	Topic	Valid Cases	Mean	<u>SD</u>
1	Marketing of Crops	98	4.26	.80
2	Production Records	99	4.14	.76
3	Production Management	98	4.12	.75
4	Chemical Safety	99	4.06	.91
5	Soil Fertility	99	4.01	.95
6	Pests and Diseases of Crops	99	3.91	.92
7	Crop Pesticides	99	3.78	.97
8	New Crop Varieties	98	3.70	.93
9	Use of Computers	98	3.63	1.05

The results pertaining to the importance of the methods of instruction used by the Cooperative Extension Service indicated that the highest rated method was local community meetings (3.82). Two instructional methods tied for the second rating: newspaper articles and county meetings (3.73). The remaining methods were rated between 3.04 and 3.72 (Table 4).

The respondents were very similar in their perceptions regarding the importance of program planning when they were grouped and compared, based on selected demographic variables other than sex. Female respondents rated five planning activities significantly higher than

Table 4

Means, Standard Deviations, and Rankings Regarding Level of Importance of Selected Methods Used by Extension Service as Perceived by Iowa Young Farmers (N = 102)

Rank	Methods	Valid Cases	Mean	<u>SD</u>
1	Local community meetings	98	3.82	.92
2	Newspaper articles	99	3.73	.87
2				
4	County Newsletters meetings	99	3.73 3.72	1.00 90
4	Demonstrations	98	3.72	.83
6	Bulletins	99	3.63	.92
8	Area meetings	98	3.60	.98
9	Radio programs	99	3.59 3.49	.85
10		98		
11	Television farm visits programs	98	3.45 3.48	1.04 1.02
12	Use of computer	98	3.35	1.12
13	Educational displays	98	3.31	.94
14				
15	Office Self study conferences	99	3.27 3.09	1.96 .00
16	State meetings	98	3.07	.88
17	Telephone conferences	98	3.04	1.04

male respondents. These activities were: identify community resources, determine priorities, understand and provide educational programs, prepare educational activities, and plan learning activities.

The respondents were very similar in their perceptions regarding the importance of program areas when they were grouped and compared based on selected demographic variables, other than age and sex. Most of the observed differences involved Group 3 (40 years or over) which consistently rated the importance of the program areas lower than other groups. Female respondents rated livestock production and horticulture significantly higher than male respondents.

The respondents were very similar in their perception regarding the importance of extension methods when grouped and compared, based on selected demographic variables other than age and sex. Most of the observed differences involved Group 3 (40 years or over) which consistently rated the importance of extension methods lower than other groups. Female respondents rated educational displays, state meetings, and use of computers significantly higher than male respondents.

### Conclusions

The respondents seemed to have a fairly high level of awareness of the Cooperative Extension Service. They also seemed to have a fairly high level of satisfaction with the services/information provided by the Cooperative Extension Service.

The respondents indicated that activities of program planning were important. The three activity items rated most important, in descending order, were: analyze farming community situation, understand and provide educational programs, and plan and prepare educational activities.

The respondents placed a very high priority rating on educational programs on marketing, production records, and production management. The respondents also indicated that the highest rated methods of communication included local community meetings, newspaper articles, and county meetings.

### Implications and Recommendations

Understanding the profile of characteristics of the participants in terms of who participates and reasons for participation is important for those concerned with the process of planning educational programs for the members of IYFEA.

High priority rating for activities which should be considered for successful program planning reflects the need for some other considerations, such as coordination and cooperation among agencies, program planners, and the members of IYFEA.

High priority rating for educational programs in livestock production and crop production reflects the current situation among the members of IYFEA. Some of the potential educational topics included marketing, production management, and production records. This information was consistent with a study conducted by Martin and Bia (1986). These authors indicated that Iowa young and adult farmers placed high priority ratings on educational programs on marketing, planning, and management.

It appears from this study that extension program planning should be approached primarily from the point of the clientele served, and secondarily from a subject matter point of view. The Cooperative Extension Service should increase the involvement of members of IYFEA in planning and conducting educational programs. Training should be conducted for extension personnel on how to involve local people. Training should be made available for young farmers so they can contribute more to extension programming. Extension professionals, young farmers, and IYFEA leaders should identify and prioritize educational needs. Educational programs should be planned and/or revised for present and future young farmers to emphasize the educational topics with the highest priority (i.e., production records, marketing, and production management).

Because most of the significant differences in the ratings of the importance of program planning, program areas, and extension methods were attributed to the differences of sex and age, it is important to consider these factors when planning and conducting educational programs for members of IYFEA.

Local meetings, county meetings, and newspaper articles are methods that should be used in planning educational programs for young farmers.

The results of this study should be shared with extension administrators, IYFEA leaders, Iowa young farmers, and individuals responsible for planning and providing services for them.

In summary, results obtained from this study revealed information regarding characteristics, types of contact and participation, and needs of Iowa young farmers. These results are important for extension educators to be responsive to the needs of young farmers in Iowa.

## References

- Crawford, H. R. (1969). Factors affecting the establishment of young farm operators in Iowa and Implications for agricultural education. Unpublished doctoral dissertation, Iowa State University, Ames.
- Martin, R., & Bia, J. (1986). Educational programs for young/adult farmers: A needs assessment and analysis (final report). Ames: Iowa State University, Department of Agricultural Education.
- Oparaugo, S. M. (1980). Factors associated with the continued establishment of farm operators In Iowa. Unpublished doctoral dissertation, Iowa State University, Ames.
- Smith, K. L. (1980). Educational factors affecting the continued establishment of young farm operators In Iowa. Unpublished doctoral dissertation, Iowa State University, Ames.

---

(Flowers & Osborne--Continued from page 26)

## References

- Binkley, H. R., & Tulloch, R. W. (1981). Teaching vocational agriculture/agribusiness. Danville, IL: Interstate.
- Bloom, B. (1956). Taxonomy of educational objectives: Handbook I cognitive domain. New York: David McKay Co.
- Bruner, J. S. (1961). The act of discovery. Harvard Educational Review, 31, 21-32.
- Crunkilton, J. R., & Krebs, A. H. (1982). Teaching agriculture through problem solving. Danville, IL: Interstate.
- Dawson, M. D. (1956). Lecture **versus** problem-solving teaching elementary soil science. Science Education, 40, 395-404.
- Hays, W. L. (1973). Statistics for the social sciences. New York: Holt, Rinehart and Winston.
- Mehrens, W. A., & Lehman, I. J. (1973). Measurement and evaluation In educational psychology. New York: Holt, Rinehart and Winston.
- Moore, G. E., & Moore, B. A. (1984). The problem solving approach to teaching: Has It outlived its usefulness? The Journal of the American Association of Teacher Educators In Agriculture, 25(2), 3-10.
- Newcomb, L. H., McCracken, J. D., & Warmbrod, J. R. (1986). Methods of teaching agriculture. Danville, IL: Interstate.
- Philpps, L. J. (1980). Handbook on agricultural education In public schools. Danville, IL: Interstate.
- Thompson, O. E., & Tom, F. K. T. (1957). Comparison of the effectiveness of a **pupil** centered vs. a teacher centered pattern for teaching vocational **agriculture.** Journal of Education Research, 50, 667-678.
- Warmbrod, J. R. (1969). Some myths about problem solving. The Agricultural Education Magazine, 41, 231-232.