

## **Educational Needs of Beginning Farmers in Iowa as Perceived By Providers of Agricultural Education**

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### **Abstract**

The main purpose of this study was to identify the educational needs of beginning farmers in Iowa as perceived by providers of agricultural education and to draw implications for planning future agricultural education programs. High school agricultural education instructors, non-land grant college agricultural instructors, Extension directors and specialists, NRCS county conservationists and agribusiness professionals were surveyed.

The ag teachers were somewhat younger on average than any of the other provider groups and had correspondingly less experience; moreover, experience as an ag teacher may tend to lead toward some of the other professions. The providers reported spending different amounts of time with beginning farmers. It appeared that beginning farmer education is not a specific priority but is incidental to the primary objectives for many of the providers.

The respondents differed appreciably in their estimate of the future usefulness of educational providers but matched more closely in rating media alternatives. All of them placed the Internet high on the scale but gave low ratings to audio tapes and newspaper. They agreed that beginning farmer education should be taught using a variety of instructional methods, use input from farmers when developing programs, emphasize problem solving situations which involve primarily mental activity, emphasize production agriculture skill development and that beginning farmers need to consult a variety of information sources to make competent farming decisions. All three of the topics rated most important were in the business area, but several production skills were also rated highly.

The providers reported using different educational delivery methods to present selected topics to beginning farmers. Ag teachers and college teachers consistently used meetings or classes most frequently, one-on-one less frequently, and mass media much less frequently. The other provider group reported a different pattern of delivery, consistently using one-on-one instruction much more frequently than the teachers. Extension reported using the three methods in a more generally balanced manner.

## Introduction

As we enter the twenty-first century, researchers point with concern to the general aging of the farmers in America. In 1996, Lasley reported that approximately 16,000 new farmers would be needed in Iowa alone. The problem is compounded by the general increase of risk currently perceived by farmers. The 1999 Iowa Farm and Rural Life Poll Summary Report (Lasley, 1999) showed that 89 percent of Iowa farmers reported that risk levels had increased in the past five years.

To counter that risk, farmers are seeking better access to farm management information. This need is particularly vital to beginning farmers. With the proliferation of computers and other media, farmers have a plethora of information available. Questions have been raised regarding where they can get unbiased information, which information is most important, and how to access and understand that information. In a study of beginning farmers in Iowa, Trede and Whitaker (1998) identified five general groups which provide agricultural education including Cooperative Extension, high school agricultural educators, post-secondary schools, governmental agencies, and agricultural businesses.

In 1914 the Smith-Lever Act provided federal funding to establish the Cooperative Extension system. Agricultural education was initiated in public schools three years later with the passage of the Smith-Hughes Act. In 1965, the Iowa Area Vocational Education Act allowed funding provided by the federal government to bolster post-secondary agricultural education throughout the state at many community colleges (Sleight, 1978).

Since its creation, the Soil Conservation Service (SCS) has utilized demonstration projects and one-on-one visits to educate farmers regarding conservation practices (Helms, 1992). The SCS was renamed the Natural Resource Conservation Service (NRCS) in the Department of Agriculture Reorganization Act of 1994 as part of the continuing federal commitment to resource conservation efforts (Helms, 1998). Legislation over the decades has also broadened their responsibility substantially. The 1996 Farm Bill specifically directed the NRCS to provide technical and educational assistance relating to conservation to landowners dealing with range management, wildlife, forestry, and especially watershed protection in conjunction with other USDA agencies (NRCS, 1996).

It has become increasingly important for farmers to understand the proper applications, limitations and management of farm inputs and equipment which have become more sophisticated and specific. Many farmers have come to rely upon suppliers to provide educational material and information. Bazik and Feltes (1999) found that 70.7 percent of the farmers they surveyed rely on information from chemical, seed and feed dealers in making management decisions.

In this environment, agricultural educators are continually working to develop effective educational programs for beginning farmers. Research strongly supports focusing adult education upon practical applications and problems relevant to participants (Fell, 1999) and has shown that learner participation in developing the curriculum enhances adoption of ideas and practices presented (King, 1999). In 1998, Trede and Whitaker reported a study which examined educational needs and preferences of beginning farmers in Iowa as perceived by beginning farmers, but further study was needed to identify the current perceptions and offerings of educational providers. This study was funded by the Iowa State University Experiment Station

as part of a larger research project emphasizes needs assessment, program delivery, on-site education, and the development of new models for the delivery of beginning farmer education.

### **Purpose and Objectives**

The purpose of this study was to identify the educational needs of beginning farmers in Iowa as perceived by providers of agricultural education. The specific objectives of the study included the following.

1. Identify common characteristics of and differences between providers of agricultural education in Iowa.
2. Identify and compare the perceptions of providers regarding the
  - a. usefulness of selected agricultural information providers and media which have been identified and rated by beginning farmers,
  - b. delivery of agricultural education to beginning farmers in Iowa, and
  - c. current and future importance of selected agricultural topics which have been rated for importance by beginning farmers.
3. Identify what is currently being offered by providers and how it is being presented.

### **Methods and Procedures**

For the purpose of this study, “educational providers” was defined the same as in Whitaker’s (1998) study: those institutions and organizations that are actively involved in providing educational programs to beginning farmers. The providers surveyed were those rated by the beginning farmers in Whitaker’s study. Data were collected by self-administered questionnaires mailed to 527 providers of agricultural education in Iowa and presented to 167 high school agricultural education instructors (Ag Teachers) attending the 1999 summer conference in Ames. The mailing included the agricultural instructors (college teachers) at each of the colleges in Iowa except Iowa State University (ISU), ISU Extension Directors for each county and the Extension specialists with agricultural assignments (Extension), the NRCS County Conservationists (Conservationists) in Iowa, and 144 individuals involved in agribusiness (Ag Business).

The survey instrument included sections adapted from the instrument used by Trede and Whitaker (1998) dealing with the current and future usefulness to beginning farmers of educational providers and media, the perceptions of providers regarding the delivery of beginning farmer education and of the current and future usefulness of selected agricultural topics. The response for each item in these sections used a Likert-type scale with five response categories ranging from 1 as not useful, strongly disagree or extremely unimportant to 5 being extremely useful, strongly agree or extremely important. It was established a priori that ratings of 4 or above would indicate a perceived tendency to be useful, in agreement with, or important in the future.

The instrument also included sections dealing with the topics on which providers currently offer education and ranking which of three general presentation methods is used most frequently for each, as well as a section for demographic and background information. In the section dealing with current offerings respondents were first asked to indicate if they offered

activities dealing with selected topics. For each of the topic areas in which they provided activities, they were asked how frequently they used each of three presentation methods using a scale ranging from never or seldom used (1) to most frequently used (4). The instrument was reviewed prior to use by experts at ISU who had experience with beginning farmer education and was found to have content and face validity.

The data were tabulated using SPSS for Windows 9.0. Across the entire group, a total of 456 useable surveys were returned for a return rate of 66 percent. Non-response error was controlled by comparing early and late respondents (Miller & Smith, 1983). No significant differences were found between early and late respondents in any of the groups.

### **Findings**

The providers surveyed were similar demographically, but differences in age and experience were identified. Their ratings of the usefulness of providers differed as did their agreement with statements related to beginning farmer education. The groups showed more similarity in their rating of the usefulness of media and the importance of selected topics to beginning farmers.

Since census surveys were done with the college teachers, Extension and conservationists, the data collected for those groups can be used with confidence. In the case of the high school instructors, the data should only be considered representative of those who attended the 1999 summer conference. While approximately 74% of the high school agriculture teachers in Iowa were present, those who did not attend may have different opinions than those who attended.

The agribusiness group surveyed for this study included professionals in farm organizations and businesses registered with the Iowa Department of Agriculture and other professional agribusiness organizations known to exist in Iowa. Although the group included people involved in a diversity of agribusiness activity, caution must be used when interpreting the data since those surveyed may not be representative beyond the group.

A total of 456 usable surveys returned including 92 from high school ag teachers, 34 from community college instructors, 152 from Extension, and 178 from other providers of agricultural education. Of the ag teachers, 85% were male, 82% had a bachelor degree and 17% had a masters degree, all had an agricultural major in college, 92% were raised on a farm, and 65% had farming experience as an adult. Of the college teachers, 94% were male, 42% had a bachelor degree, 49% had a masters degree, and 6% had a doctoral degree. 94% majored in an agricultural major in college and 6% in another life science, 88% were raised on a farm and 91% had adult farming experience. Of the Extension group, 76% were male, 9% had a bachelor degree, 67% had a masters degree, and 24% had a doctoral degree. 67% had an agricultural major in college while 14% majored in another life science, and 19% had a non-life science major, 82% were raised on a farm and 62% had adult farming experience. Of other providers, 85% were male, 49% had bachelor degrees, 36% had a masters degree, and 12% had a doctoral degree. 73% had an agricultural major, 8% majored in another life science and 14% in another discipline, 82% were raised on a farm and 65% had adult farming experience.

The ag teachers averaged 36.9 years of age, 12.5 years of experience in their current occupation, and 13.9 years of experience in an agricultural profession. This compared to the

college teachers, Extension and other providers average ages of 45.4, 48.6 and 45.5 years, with 17.5, 15.1 and 16.0 years of experience in their current occupations, and 24.3, 18.7 and 20.8 years of total experience in agriculture respectively. Of the ag teachers surveyed, 74.4% had no experience in any other field. Conversely, 91.2% of the college teachers and 82.9% of the other providers had experience in one or more of the other professional areas. 58% of the college teachers had prior experience teaching at the secondary level as did 32% of the Extension field staff.

Of the ag teachers, only 39.9% indicated that they spent time with beginning farmers. That compared to 90% of the college teachers, 91% of Extension, and 78% of the other providers. Among those educational providers who indicated spending time with beginning farmers, ag teachers spent 8.4%, college teachers 38.4%, Extension 10.4%, and other providers spent 5.7% of their time.

The future usefulness rankings for each of the groups are shown in Table 1. All of the groups rated one or more information source as useful, but they differed appreciably in their ratings. The ag teachers rated Cooperative Extension and Community Colleges as most useful in the future to beginning farmers followed by high school ag programs, agribusiness firms and ISU courses. College teachers rated Community Colleges as most useful followed by ISU courses, Ag Consultants, Agribusiness Firms and Cooperative Extension. Extension rated Cooperative Extension most useful followed by Parents, Siblings & Relatives and ISU courses. Other providers rated Community Colleges and Parents, Siblings & Relatives highest, followed closely by Cooperative Extension.

The providers' ratings of the usefulness of media alternatives matched more closely. All of the providers gave a very high rating to the Internet - World Wide Web; none of the other media were rated above 4. The second highest rating from all groups was Farm Publications. The lowest rated media by all of the providers were Audio tapes and Newspaper.

As shown in Table 2, the providers agreed that beginning farmer education should be taught using a variety of instructional methods, use input from farmers when developing programs, emphasize problem solving situations which involve primarily mental activity, and emphasize production agriculture skill development. All of the groups showed the least agreement with statements that beginning farmer education should emphasize distance education and be taught using primarily non-formal rather than formal educational methods. The groups differed regarding the other statements. The other provider group agreed that beginning farmer education should emphasize the adoption of ag technology but did not agree that beginning farmer education should emphasize learning by experience in agriculture, individualized instruction, or problem solving situations which involve primarily physical activity. Ag teachers and college teachers agreed with all four of those statements whereas Extension agreed with none of them.

As shown in Table 3, all of the providers indicated strong agreement with the statement that beginning farmers need to consult a variety of information sources to make competent farming decisions. Only the college teachers agreed that, to keep up to date, farmers should participate in educational programs on a year-round basis. None of the other statements

Table 1. Ratings of future usefulness for providers and media <sup>a</sup>

<u>Providers</u>	Ag Teachers		College Teachers		Extension		Other Providers	
	mean	SD	mean	SD	mean	SD	mean	SD
Community colleges	4.21	.80	4.44	.76	3.55	.95	4.03	.91
Cooperative Extension	4.21	.82	3.75	.98	4.12	.66	3.95	.91
High school ag programs	4.08	.84	3.44	.88	3.40	1.04	3.69	1.05
Agribusiness firms	4.07	.73	3.78	1.13	3.45	1.08	3.57	.95
ISU courses	4.04	.79	3.88	.87	3.76	.84	4.12	.83
Commodity organizations	3.95	.64	3.47	1.02	3.13	1.06	3.30	.95
Farm organizations	3.87	.82	3.28	1.08	3.11	1.01	3.32	.93
Parents, siblings & relatives	3.78	.93	3.58	1.12	3.92	.93	4.02	.99
Government agencies	3.78	.84	3.28	1.20	2.95	.99	3.29	1.14
Agricultural consultants	3.82	.82	3.88	.91	3.33	1.07	3.78	1.02
<u>Media</u>								
Internet - World Wide Web	4.34	.70	4.50	.62	4.13	.90	4.08	.87
Farm publications	4.24	.67	3.81	1.12	3.88	.74	3.88	.83
Information services)	4.04	.84	3.90	1.04	3.65	.96	3.72	.93
Television or satellite dish	3.91	.89	3.71	.94	3.20	1.13	3.43	.98
Marketing Services	3.87	.73	3.75	.98	3.51	.93	3.55	.99
Radio	3.86	.81	3.19	1.26	3.23	1.05	3.35	1.01
Fiber optics network (ICN)	3.85	.92	3.81	.93	3.45	1.02	3.62	1.02
Extension pamphlets	3.73	.89	3.58	.96	3.79	.78	3.53	.95
Video tapes	3.66	.88	3.41	.98	3.01	1.06	3.03	1.05
Newspaper	3.65	.90	2.97	1.26	2.66	.99	2.91	1.09
Audio tapes	2.81	.99	2.94	1.13	2.40	.95	2.63	1.01
<sup>a</sup> scale: 1=not useful, 2=limited usefulness, 3=no opinion, 4=useful, 5=extremely useful								

Table 2. Level of agreement with statements about beginning farmer education <sup>a</sup>

Beginning farmer education should:	Ag Teachers		College Teachers		Extension		Other Providers	
	mean	SD	mean	SD	mean	SD	mean	SD
be taught using a variety of instructional methods	4.38	.76	4.66	.48	4.59	.59	4.25	.59
emphasize the adoption of ag technology	4.37	.69	4.34	.83	3.86	.92	4.05	.81
use input from farmers when developing programs	4.34	.66	4.72	.46	4.60	.56	4.36	.63
emphasize problem solving situations which involve primarily mental activity	4.26	.76	4.69	.54	4.31	.77	4.22	.76
emphasize learning by experience in agriculture	4.20	.65	4.31	.97	3.88	.91	3.90	.92
emphasize individualized instruction (site visits, etc.)	4.15	.79	4.38	.71	3.85	.82	3.93	.79
emphasize problem solving situations which involve primarily physical activity	4.14	.64	4.34	.70	3.90	.88	3.59	.94
emphasize leadership development in agriculture	4.12	.80	4.22	.71	3.87	.88	3.88	.84
emphasize production agriculture skill development	4.01	.84	4.16	.95	4.06	.89	4.03	.75
be taught primarily using non-formal rather than formal educational methods	3.71	.85	3.87	.81	3.54	1.00	3.20	1.08
emphasize distance education as a means of delivery	3.57	.78	3.50	1.02	3.53	.99	3.18	.95

<sup>a</sup> scale: 1=strongly disagree, 2=disagree, 3=no opinion, 4=agree, 5=strongly agree

about beginning farmer education delivery received ratings of 4 or higher. The providers gave low ratings to statements that beginning farmers should consult primarily with public institutions for unbiased information, are willing to travel up to one hour to attend educational activities, and are willing to pay tuition and fees to attend beginning farmer educational activities.

Table 3. Level of agreement with statements about beginning farmer education delivery <sup>a</sup>

Delivery of beginning farmer education:	Ag Teachers		College Teachers		Extension		Other Providers	
	mean	SD	mean	SD	mean	SD	mean	SD
Beginning farmers need to consult a variety of information sources to make competent farming decisions	4.40	.66	4.53	.57	4.40	.75	4.30	.64
Single meetings on specific topics should be emphasized	3.96	.69	3.97	.86	3.39	.96	3.70	.83
To keep up to date, farmers should participate in educational programs on a year-round basis	3.90	.86	4.44	.83	3.99	.89	3.67	.92
On site educational instruction (face-to-face) is preferred by farmers	3.88	.74	3.81	1.06	3.81	.83	3.85	.80
If it would reduce their travel, farmers would prefer to attend activities delivered by fiber optic, satellite, etc.	3.69	.85	3.84	.88	3.51	.94	3.61	.96
Series of meetings or workshops with in-depth analysis of a topic should be emphasized	3.67	.87	3.91	.93	3.61	.92	3.68	.83
Beginning farmers should consult primarily with public institutions for unbiased information	3.42	.99	3.56	1.11	3.52	1.02	3.06	1.06
Beginning farmers are willing to travel up to one hour to attend educational activities	3.16	.91	3.59	.95	3.38	.96	3.52	.85
Beginning farmers are willing to pay tuition and fees to attend beginning farmer educational activities	2.87	.93	3.16	1.08	3.05	.94	3.16	.93

<sup>a</sup> scale: 1=strongly disagree, 2=disagree, 3=no opinion, 4=agree, 5=strongly agree

The provider ratings of the current and future importance of selected agricultural education topics are shown in Table 4. All of the providers assigned the highest level of future

importance to the same three topics, farm markets, marketing strategies and pricing, financial management, records, budgets and analysis, and whole farm planning, long-term decision making, and strategic planning.

Table 4. Mean current and future importance of agricultural topics and subject matter <sup>a</sup>

subject area	Ag Teachers		College Teachers		Extension		Other Providers	
	current	future	current	future	current	future	current	future
Farm markets, marketing strategies & pricing	4.58	4.60	4.84	4.84	4.68	4.76	4.67	4.70
Financial mgmt, records, budgets and analysis	4.55	4.59	4.78	4.84	4.70	4.79	4.63	4.76
Farm planning, decision making, strategic planning	4.40	4.48	4.53	4.63	4.51	4.67	4.25	4.50
Technology transfer, computers, GPS, etc	4.24	4.44	4.53	4.63	3.94	4.30	3.83	4.23
Crop production, mgmt, & technology	4.16	4.09	4.34	4.34	4.27	4.18	4.40	4.37
Livestock production, technology & mgmt	4.09	4.02	4.13	4.16	4.09	4.05	4.19	4.12
Resource conservation & sustainability	3.92	4.13	4.16	4.28	3.90	4.17	3.93	4.12
Multi & inter-generational farming & estate planning	3.89	4.19	4.06	4.22	3.83	3.96	3.54	3.85
Machine selection, sizing, acquisition, maintenance	3.65	3.68	4.13	4.03	3.58	3.49	3.76	3.74
Facility selection, sizing, acquisition, maintenance	3.57	3.59	3.97	3.88	3.52	3.46	3.52	3.61

<sup>a</sup> scale: 1=extremely unimportant, 2=unimportant, 3=no opinion, 4=important, 5=extremely important

The lowest ranked topic and only topic which did not receive a rating of 4 or above from any of the providers was building & facility selection, sizing, acquisition, maintenance and repair.

Table 5 summarizes how frequently the providers used three different educational delivery methods to present selected topics to beginning farmers. Ag teachers and college teachers consistently used meetings or classes most frequently, one-on-one less frequently, and mass media much less frequently. The other provider group reported a somewhat different pattern of delivery, consistently using one-on-one instruction much more frequently than either of the other two delivery methods. They used meetings more frequently than mass media, but both were used much less frequently than one-on-one instruction. Extension reported using a more balanced approach, using meetings and one-on-one delivery slightly more on individual topics, but using mass media approaches only slightly less often to deliver information about crop and livestock production. In the other eight topic areas, Extension also reported using mass media less than the other two methods of delivery.

Table 5. Frequency of use of three methods of delivery for selected agricultural topics <sup>a</sup>

subject area	Ag Teachers			College Teachers			Extension			Other Providers		
	media	1:1	class	media	1:1	class	media	1:1	class	media	1:1	class
Crop production practices, technology and management	1.59	2.17	2.41	1.50	2.40	3.60	2.44	2.84	2.93	1.60	3.41	2.01
Livestock production practices, technology and management	1.73	2.31	2.38	1.80	2.30	3.50	2.34	2.88	2.78	1.60	3.15	2.03
Farm markets, marketing strategies and pricing	1.85	2.00	2.46	1.53	2.29	3.35	1.93	2.47	2.66	1.41	2.69	1.82
Financial management, records, budgets and analysis	1.42	2.37	2.47	1.70	2.30	3.50	1.90	2.89	2.50	1.23	3.21	1.67
Machinery & equipment selection, sizing, acquisition, maintenance	1.50	1.88	2.00	1.65	2.06	3.12	1.59	2.38	1.69	1.23	3.00	1.60
Building & facilities selection, sizing, acquisition, maintenance	1.13	2.00	2.38	1.88	2.00	3.00	1.61	2.85	1.83	1.36	2.79	1.46
Whole farm planning, long-term decision making, strategic plan	1.50	1.92	2.67	1.60	2.07	3.27	1.69	2.72	2.43	1.49	3.45	1.83
Resource conservation and sustainability	1.74	2.53	2.26	1.53	2.27	2.93	2.12	2.57	2.57	1.90	3.56	2.08
Multi & inter-generational farming & estate planning	1.27	1.82	2.73	1.82	2.45	2.82	1.95	2.40	2.24	1.14	3.07	1.64
Technology, computers, GPS, etc.	1.64	2.45	2.50	1.65	2.13	3.48	1.76	2.54	2.63	1.37	3.14	1.70

<sup>a</sup> scale: 1=never or seldom used, 2=occasionally used, 3=somewhat frequent use, 4=most frequently used

## Conclusions, Implications and Recommendations

The ag teachers are somewhat younger on average than any of the other provider groups and had correspondingly less experience. It also appears that experience as an ag teacher may tend to lead toward the other professions more strongly than the other way around since only 25.6% of the ag teachers surveyed had no experience in any other field while 91.2% of the college teachers and 82.9% of the other providers had experience in one or more of the other professional areas. This should be considered when deciding what to include in teacher education programs.

The groups of providers reported spending different amounts of time with beginning farmers. There is an implication that, for many of the providers, beginning farmer education is not a specific priority but is incidental to their primary objectives. If they are asked to contribute to future programs, their participation should be matched to the objectives of their individual organizations and appropriate incentives should be made available.

Both Extension and the other provider group appear to regard the input of parents, siblings and relatives more highly than do the ag teachers and college teachers, but all of the providers rated the need for input from farmers themselves very highly. This supports the involvement of user advisory committees in future program development and suggests involving relatives along with beginning farmers.

The providers rated the use of the Internet to deliver information very highly. By contrast, the use of distance education, satellite or ICN delivery was not preferred. The low rating of distance education is similar to findings by Miller in 1997. It may be that his observation that teachers were at the early stages of the adoption process applies to other providers as well. A review of the raw data showed that individual responses for most of the distance education related questions ranged from extremely low to the extremely high. Further research is needed in this area.

The most highly rated topics were in the business side of farming but several of the production skill topics were also highly rated. The business topics were also rated highly by beginning farmers (Whitaker, 1998). Program development should reflect these priorities and utilize problems meaningful to beginning farmers under the prevailing market conditions.

The providers reported using different educational delivery methods to present selected topics to beginning farmers. Ag teachers and college teachers consistently used meetings or classes most frequently, one-on-one less frequently, and mass media much less frequently. The other provider group reported using a different pattern of delivery, consistently using one-on-one instruction much more frequently than the teachers. Extension reported using all three methods for different topic areas in a more balanced approach. Much of this difference may be inherent to the nature of the organizations represented. Ag and college teachers have been traditionally employed primarily to teach classes and have been expected to give instruction in a relatively structured manner. Agribusiness has traditionally operated at the opposite extreme, primarily dealing with customers on an individual rather than group basis. Extension has traditionally bridged the span between the classroom and the farm, providing both group and individual instruction.

As educators and decision-makers work to improve the effectiveness of educational programs for beginning farmers, it will be essential to encourage and utilize input from the

farmers involved. Each of the providers have resources and expertise to contribute to the effort, but they also have preferences regarding their involvement and needs which must be considered. The providers rate each other highly and appear to agree more frequently than they differ on educational priorities. Further research is needed to clarify differences of opinion within the provider groups and how they can most efficiently cooperate to deliver agricultural education, but this study and the others referenced should provide a sound basis upon which future programs can be developed.

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## **Educational Needs of Beginning Farmers in Iowa as Perceived By Providers of Agricultural Education**

### **A Critique**

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The authors provide a good discussion of the rationale for a variety of providers to become involved in the education of beginning farmers. The general aging of farmers in America, the financial risks associated with farming and the speed of technological change are all factors that make continuing educational opportunities a necessity for those individuals involved in production agriculture. For beginning farmers, lack of capital and management experience also contribute to their needs.

The purpose of this study was to identify the educational needs of beginning farmers in Iowa as perceived by providers of agricultural education. The authors utilized a self-administered questionnaire to assess the characteristics and differences among providers of agricultural education, providers perceptions of the usefulness of selected agricultural information providers and media, delivery of agricultural education to beginning farmers, current and future importance of selected agricultural topics for agricultural for beginning farmers, and what is currently being offered by providers and how it is being presented.

The authors indicated that a census survey was completed with community college teachers, extension and conservationists and data from those three groups could be utilized with confidence but that data from high school agriculture instructors were only representative of those who attended the 1999 summer conference. The authors indicate that the groups were those identified in a study conducted by Whitaker. More information concerning how these four groups were picked from the study would have been helpful to this reader. While a total response rate was provided, individual group response rates would have been helpful. Why were no attempts made to obtain survey information from teachers not attending summer conference. It would also have been helpful to know the total numbers in the population of each group surveyed. The authors only indicate the number returned in each group. These issues raise questions concerning the selection of the population for the study and in tern, the validity of the results and conclusions.

After reading the results and conclusions sections of this study, this reader is forced to ask "So What?" The four groups identified have different missions and historical ways of working with beginning farmers. It is therefore not great leap of faith to predict that they would differ in their ratings of the usefulness of various providers of agricultural education. Any trained provider of adult education would also know that a variety of methods should be used, instruction should be problem based and input from the participants in critical when developing the education programs to be delivered. In light of the current economic conditions of agriculture, it is also predictable that all of the providers would identify needs in marketing, pricing strategies, financial management, records, budgets and analysis, whole farm planning, long-term decision making, and strategic planning as important topics for future educational programs. In light of their different operational styles, it is also not surprising that they differed

regarding their perceptions of the use of media, one on one, and classes as appropriate delivery methods for beginning farmers.