

The Current Status of Preservice Agricultural Education Programs in the United States

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Abstract

With the continued calls for reform and standardization in teacher education, it is important that the agricultural education profession evaluate the status of every preservice teacher education program in the United States. With this challenge in mind, preservice agricultural education programs in the United States were examined to determine the number of hours of credit required in specific categories for preservice teachers to gain certification to teach high school agricultural education. Specific areas of interest included: the number of hours required to earn a degree, the number of hours in technical agriculture areas, the number of hours in education areas, and the number of hours of agricultural education required to complete a degree in agricultural education.

Descriptive research methodology was used to complete the study. The target population was all postsecondary institutions in the United States that offered preservice programs in agricultural education. The department chair or head teacher educator at each institution was identified and served as the contact receiving the survey.

Useable responses were obtained from 65 agricultural education programs (74.7%). Fifty-five respondents (84.6%) indicated agricultural education was a 4-year baccalaureate degree program. For all programs, an average of 52.4 hours of technical agriculture, 16.0 hours of education courses, and 19.4 hours of agricultural education courses were required for the degree. Thirty-nine agricultural education programs (60.0%) have an agricultural experience requirement in addition to student teaching.

Introduction/Theoretical Framework

In 2001, the American Association for Agricultural Education completed a multi-year effort to develop *National Standards for Teacher Education in Agriculture*. The goal of the project was to identify a set of standards that all agricultural education preservice teacher education programs would maintain to insure continuity of programs across the United States. While creation of the *National Standards* was the latest attempt to standardize and/or reform agricultural education, proposals to reform teacher education programs have been a constant over the past decades. In *Models for the Preparation of America's Teachers*, Cruickshank (1985) identified 22 alternative teacher education curriculums.

For example in 1969, B. O. Smith called for “radical reform” in the preparation of teachers. He described two facets of subject matter that should be included in the preparation of teachers including subject matter of the discipline and subject matter in teaching behavior. Eleven years later B. O. Smith (1980) urged the development of a professional school of pedagogy where arrangements adhered from school-to-school.

In 1986, the Holmes Group called for the improvement of the quality of teacher preparation programs. In their report, the Holmes Group and their institutions committed to a broad strategy for reform of teacher education. Their commitment included making the education of teachers intellectually sound, recognizing differences in knowledge, skill, and commitment among teachers, creating relevant and defensible standards of entry to the profession of teaching, connecting schools of education with public schools, and making schools better places for practicing teachers to work and learn.

Agricultural education has not been immune to the reform movement. In 1988 the National Research Council, Board on Agriculture released the findings of their study of high school vocational agriculture programs. They found that vocational agriculture programs were uneven in quality and recommended that teacher preparation and in-service educational programs be revised and expanded to develop teachers that are more competent. Goecker (1992), in an article published in the *Journal of Agricultural Education*, argued that today's agricultural education teacher lacked the scientific and technical competence of their 1970s counterparts. He blamed a 50% reduction in education courses required for the preparation of agricultural education teachers as one of the reasons for this change.

With the continued calls for reform and standardization in teacher education and agricultural education specifically, it is important that agricultural education as a profession evaluate the status of every preservice teacher education program in the United States. Barrick (1989) challenged the profession to conduct a thorough examination of its philosophy, beliefs, and practices. He felt that an unexamined discipline may not last and could lead to the demise of agricultural education. With this challenge in mind, the goal of this research effort was to examine the preservice agricultural education programs in the United States to determine the number of hours of credit required in specific categories for preservice teachers to gain certification to teach high school agricultural education.

Review of Literature

Attempts to standardize agricultural education programs can be traced to the early twentieth century when the United States Department of Agriculture published a bulletin titled, *The Teaching of Agriculture*. Three years later in 1908, the United States Bureau of Education published Bulletin No. 1, *The Training of Persons to Teach Agriculture*, written by Liberty Hyde Bailey (Martin and Berkey, 1982).

In 1951, the American Vocational Association (AVA) and the Association of Land-Grant Colleges and Universities undertook an effort to establish criteria for institutions preparing teachers of agriculture (Martin and Berkey, 1982). Their efforts to develop standards for teacher education in agriculture were published in 1962 in *Guiding Principles for Preservice Training of Teachers of Vocational Agriculture*. Other efforts to establish guidelines included: *Guidelines for Agricultural Education*, prepared in 1968 by a group of agricultural teacher educators and supervisors; *Recommended Standards for Teacher Education*, published by the American Association of Colleges for Teacher Education in 1969; and *Teacher Education in Agriculture Guidelines*, approved by the AVA convention in 1971 (Martin and Berkey, 1982).

While several attempts were made to establish guidelines and standards for agricultural education programs, little research has been undertaken to determine if the goal of national standardization had been achieved. A review of literature discovered two research efforts, both completed in the past two years (McLean and Camp, 2000; Connors and Mundt, 2001).

McLean and Camp (2000) studied eleven programs nominated as being innovative, exemplary, or otherwise of good quality. The department chairs were asked to provide copies of their graduation checklists and syllabi of all courses they considered to be teacher professional development. The course syllabi data revealed 18 identifiable courses and 118 discrete topics. Forty-four topics were taught in at least half of the programs. The number of professional preparation courses ranged from 3 to 9. The most common course was Methods of Teaching Agriculture followed by Program Planning in Agricultural Education. The researchers grouped the 118 topics into five curricular areas; experiential components, foundations, program and curriculum, teaching methods, and teaching technology.

In 2001, Connors and Mundt published the results of their study to determine the length and location of preservice teacher education programs in agriculture, describe the requirements for admissions into the program, describe the characteristics of student-teaching, and determine if preservice programs were planning major changes in the future. The researchers found that a majority of preservice teacher education programs in agriculture were 4-year programs, the most often required grade point average for admission to teacher education was 2.5 on a 4.0 scale, the amount of course work in technical agriculture averaged 60 credits hours for quarter programs and 45 credit hours for semesterized programs, the overall credits for graduation averaged 162 hours for quarter based programs and 128 hours for semester based programs, most student teaching experiences occurred during the spring of the year, one program required a full-year internship for preservice students in agricultural education, agricultural education required an average of 13.78 weeks of student teaching time, and teacher educators made an average of 3.77 supervisory visits during student teaching that lasted an average of 5.44 hours per visit.

Purpose/Objectives

The purpose of the study was to examine preservice agricultural education programs in the United States and to determine the number of hours of credit required in specific categories for preservice teachers to gain certification to teach high school agricultural education. Specific objectives included:

1. Determine the number of hours required to earn a degree in agricultural teacher education.
2. Determine the number of hours in specific core agriculture areas that were required as a part of a degree in agricultural teacher education.
3. Determine the number of hours of specific education areas that were required as a part of a degree in agricultural teacher education.
4. Determine the number of hours of specific agricultural education areas that were required as a part of a degree in agricultural teacher education.

Methods/Procedures

Descriptive research methodology was used to complete the study. The target population was all postsecondary institutions in the United States that offered preservice programs in agricultural education. To eliminate frame error, a list of institutions (n = 87) was obtained by using the *AAAE Directory of University Faculty in Agricultural Education* (Dyer, 2001). The small number of institutions in the target population resulted in a decision to use a census as the accessible population thus avoiding sampling and selection error. The department chair or head teacher educator at each institution was identified and served as the contact to receive the survey.

The survey instrument was developed by the researcher and its validity and reliability established to avoid measurement error. The instrument was reviewed by agricultural education faculty at the researcher's land grant university to establish its content and face validity. A post hoc Cronbach's alpha reliability coefficient of .70 was established for the instrument. A cover letter explaining the purpose of the research and a questionnaire was mailed to each institution in May 2001. A second cover letter and questionnaire was mailed to all non-respondents four weeks later. Sixty-five useable responses were returned for a response rate of 74.7%. To control for non-response error, responses were coded by the response to the first or second mailing. No significant differences were found when early and late respondents were compared therefore, the findings were generalized to the target population (Miller & Smith, 1983). Data were analyzed using the Statistical Package for the Social Sciences. All quarter hours were converted to semester hours using a 3:2 quarter hour:semester hour ratio.

Results/Findings

Useable responses were obtained from 65 agricultural education programs. The respondents were divided into AAEE regions. The responses included eight from the Eastern Region, 25 from the Southern Region, 21 from the Central Region, and 11 from the Western Region. Fifty-five respondents (84.6%) indicated agricultural education was a 4-year Bachelors

degree program. One program was a 5-year Bachelors degree program and three programs were 5-year Master's degree programs. Six programs indicated a response other than the standard four or five year degree program categories (see Table 1). All six programs in the other category involved academic activities beyond the 4-year Bachelor's degree.

Table 1
Type of Degree Program

	4 Year Bachelors		5 Year Bachelors		5 Year Masters		Other		Total
	Degree		Degree		Degree				N
	N	%	N	%	N	%	N	%	N
Eastern	5	62.5	0	0.0	2	25.0	1	12.5	8
Southern	24	96.0	0	0.0	1	4.0	0	0.0	25
Central	19	90.5	1	4.8	0	0.0	1	4.8	21
Western	7	63.6	0	0.0	0	0.0	4	36.4	11
Total	55	84.6	1	1.5	3	4.6	6	9.2	65

Current Enrollment

Current enrollment in the 65 programs included 7,136 undergraduate students, 1,302 graduate students, and 228 doctoral students. In calendar year 2000, 668 students completed their student teaching and 650 graduates were certified to teach agriculture at the secondary level. An additional 528 students completed their student teaching experience during the first half of 2001. Respondents estimated that an additional 345 students would complete their student teaching during the second half of 2001 (see Table 2).

Table 2
Enrollment in Agricultural Education Programs

	<i>M</i>	<i>SD</i>	<i>Total</i>	<i>Min</i>	<i>Max</i>
Undergraduate Students	109.78	160.25	7136	0	840
Masters Students	20.03	24.49	1302	0	130
Doctoral Students	3.51	8.18	228	0	51
Student Teachers Jan-Dec 2000	10.44	9.10	668	0	42
Teachers Certified Jan-Dec 2000	10.16	9.40	650	0	42
Student Teachers Jan-Jun 2001	8.12	6.90	528	0	24
Student Teachers Jul-Dec 2001	5.31	6.04	345	0	21

Hours to Complete Degree

Respondents were asked to indicate the minimum number of credit hours that were required to earn a degree in agriculture teacher education. The average number of hours required to earn a degree was 125.2. The mode was 128 hours. The number of hours required to earn a degree in agriculture teacher education ranged from a low of 24 (five-year bachelors program –

did not include bachelor's degree requirements) to a high of 162. When the analysis was limited to 4-year programs, the mean number of credit hours was 125 and the mode was 128.

Technical Agriculture

Participants were asked to provide the total number of hours of technical agriculture that were required for the degree, the total number of core agriculture hours (required courses) that were required, and the number of hours required in eight technical agriculture areas. For all programs, an average of 52.4 hours of agriculture was required for the degree. The number of hours ranged from 0 to 144 with a mode of 48 hours. Of the total number of technical agriculture hours, more than half, 27.9 hours, were identified as core agriculture courses. Requirements included 5.9 hours in animal science, 5.3 hours in agricultural economics, 2.6 hours in plant science, 2.6 hours in soil science, 2.2 hours in horticulture, 2.1 hours in crop science, 1.2 hours in environmental science, and .6 hour in forestry.

The technical agriculture requirements of 4-year programs and non-4-year programs were compared. On the average, 4-year programs required fewer hours of agriculture (49.7) than their non-4-year counterparts (67.4). The core agriculture requirements were similar for 4-year programs (28.4) and non-4-year programs (25.1). There were also differences in the specific agriculture requirements. Specific agriculture requirements for 4-year programs included 6.0 hours in animal science, 5.4 hours in agricultural economics, 2.8 hours in plant science, 2.7 hours in soil science, 2.2 hours in horticulture, 1.9 hours in crop science, 1.2 hours in environmental science, and .5 hour in forestry. Specific agriculture requirements for non-4-year programs included 5.3 hours in animal science, 5.3 hours in agricultural economics, 2.9 hours in crop science, 2.0 hours in horticulture, 1.8 hours in soil science, 1.4 hours in plant science, 1.2 hours in environmental science, and .9 hour in forestry.

Education

Participants were asked to provide the total number of hours of education courses that were required for the degree and the number of hours required in four educational categories; professional inquiry, educational colloquium, educational psychology, and psychology. For all programs, an average of 16.0 hours of education courses was required for the degree. The number of hours ranged from 0 to 48 with a mode of 6 hours. Specific requirements included 4.2 hours of professional inquiry, 3.5 hours of educational colloquium, 3.2 hours of educational psychology, and 1.6 hours of psychology.

Students in 4-year programs were more likely to experience fewer educational courses than their non-4-year program counterparts. For the 4-year programs, an average of 15.3 hours of education courses was required for the degree. The number of hours ranged from 0 to 38 with a mode of 12 hours. Specific requirements included 3.7 hours of professional inquiry, 3.2 hours of educational psychology, 2.7 hours of educational colloquium, and 1.6 hours of psychology. An average of 19.8 hours of education courses was required for students in non-4-year degree programs. The number of hours ranged from 0 to 48 with a mode of 24 hours. Specific requirements included 7.8 hours of educational colloquium, 6.5 hours of professional inquiry, 3.4 hours of educational psychology, and 1.6 hours of psychology.

Table 3
Credits Required for Completion of Agricultural Teacher Education Program

	4-Year Program										All Programs				
	Yes					No					<i>X</i>	<i>Mode</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
	<i>X</i>	<i>Mode</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>X</i>	<i>Mode</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>					
Degree	125.0	128	16.42	27	138	126.5	24	38.60	24	162	125.2	128	20.91	24	162
Total Agriculture	49.7	48	22.84	0	132	67.4	35	37.10	35	144	52.4	48	25.98	0	144
Agricultural Economics	5.4	6	2.80	0	12	5.3	0	3.62	0	9	5.3	6	2.91	0	12
Animal Science	6.0	4	3.78	0	13	5.3	0	4.05	0	12	5.9	4	3.80	0	13
Crop Science	1.9	0	2.24	0	9	2.9	0	3.24	0	10	2.1	0	2.42	0	10
Environmental Science	1.2	0	1.83	0	6	1.2	0	1.55	0	3	1.2	0	1.78	0	6
Forestry	.5	0	1.17	0	4	.9	0	1.29	0	3	.6	0	1.19	0	4
Horticulture	2.2	0	2.46	0	10	2.0	0	2.57	0	8	2.2	0	2.46	0	10
Plant Science	2.8	0	2.92	0	12	1.4	0	1.84	0	4	2.6	0	2.82	0	12
Soil Science	2.7	4	1.91	0	7	1.8	0	1.62	0	4	2.6	4	1.88	0	7
Core/Required Agriculture Education	28.4	0	15.89	0	69	25.1	0	22.57	0	68	27.9	0	16.92	0	69
Educational Colloquium	15.3	12	10.04	0	38	19.8	24	13.34	0	48	16.0	6	10.62	0	48
Educational Psychology	2.7	0	3.79	0	12	7.8	0	15.25	0	47	3.5	0	6.95	0	47
Professional Inquiry	3.2	3	1.90	0	8	3.4	3	2.12	0	6	3.2	3	1.92	0	8
Psychology	3.7	3	3.88	0	21	6.5	0	8.07	0	21	4.2	3	4.78	0	21
Agricultural Education	1.6	0	1.92	0	6	1.6	0	2.22	0	6	1.6	0	1.95	0	6
Adult Education	19.9	15	11.05	6	71	16.3	12	5.48	7	24	19.4	15	10.44	6	71
Program Development	.5	0	1.05	0	3	.3	0	.67	0	2	.5	0	1.00	0	3
Internship	2.7	3	2.04	0	10	1.7	0	1.95	0	6	2.6	3	2.05	0	10
Youth Organizations	1.2	0	2.68	0	12	1.1	0	1.32	0	3	1.2	0	2.51	0	12
Student Teaching	1.6	0	1.89	0	12	1.2	0	1.32	0	3	1.5	0	1.81	0	12
SAE	7.6	12	4.67	0	15	7.2	0	4.57	0	12	7.6	12	4.62	0	15
Teaching Methods	1.0	0	1.11	0	3	1.1	0	1.20	0	3	1.0	0	1.11	0	3
Agricultural Mechanics	3.7	3	2.45	0	18	2.8	3	2.49	0	9	3.5	3	2.46	0	18
	6.6	6	4.64	0	21	5.5	0	5.29	0	15	6.4	6	4.71	0	21

Agricultural Education

Participants provided the total number of hours of agricultural education courses required for the degree and the number of hours required in eight specific agricultural educational categories. For all programs, an average of 19.4 hours of agricultural education courses was required for the degree. The number of hours ranged from 6 to 71 with a mode of 15 hours. Specific requirements included 7.6 hours of student teaching, 6.4 hours of agricultural mechanics, 3.5 hours of teaching methods, 2.6 hours of program development, 1.5 hours of youth organizations, 1.2 hours of internship, 1.0 hour of SAE, and .5 hour of adult education.

When compared against their non-4-year degree counterparts, students in 4-year programs were required to complete additional course work in the area of agricultural education. For all 4-year programs, an average of 19.9 hours of agricultural education courses was required for the degree. The number of hours ranged from 6 to 71 with a mode of 15 hours. Specific requirements included 7.6 hours of student teaching, 6.6 hours of agricultural mechanics, 3.7 hours of teaching methods, 2.7 hours of program development, 1.6 hours of youth organizations, 1.2 hours of internship, 1.0 hour of SAE, and .5 hour of adult education. For the non-4-year programs, an average of 16.3 hours of education courses was required for the degree. The number of hours ranged from 7 to 24 with a mode of 12 hours. Specific requirements included 7.2 hours of student teaching, 5.5 hours of agricultural mechanics, 2.8 hours of teaching methods, 1.7 hours of program development, 1.2 hours of youth organizations, 1.1 hours of internship, 1.1 hour of SAE, and .3 hour of adult education.

Agriculture Experience Requirement

Were agricultural education students required to have documented experience in the field of agriculture before they complete their degree and teacher certification requirements? Thirty-nine agricultural education programs (60.0%) have an agriculture experience requirement. Twenty-six programs (40.0%) did not have the requirement. Within the 39 programs with the agriculture experience requirement, the average number of required hours of agriculture experience was 1,299.38. The requirement ranged from 0 to 4,000 hours (see Table 4).

Table 4
Agriculture Experience Requirement

	<i>N</i>	<i>%</i>
Required		
Yes	39	60.0
No	26	40.0
Hours		
<i>M</i>	1299.38	
<i>SD</i>	1245.72	
<i>Min</i>	0 ¹	
<i>Max</i>	4000	

¹ Although required, no minimum level of experience was provided

Summary

The number of teachers certified by agricultural education programs has remained steady. In calendar year 2000, 650 individuals were certified to teach agricultural education. This is consistent with the average of 656 new teachers that entered the professional workplace each year between 1989 and 1998 (Camp, 2000).

The majority of agricultural education programs in the United States (84.6%) were 4-year programs. Approximately 125 semester hours ($X = 125.2$, $Mode = 128$) were required to complete a degree in agricultural education. This was consistent with the findings of Connors and Mundt (2001).

Slightly over 40% of the hours required for a degree in agricultural education were in technical agriculture. Within the requirement, there was a wide range of technical agriculture requirements for degree completion. The average technical agriculture requirement was 52.4 hours. Slightly over one-half of the technical agriculture hours ($n = 27.9$) were required courses. The technical agriculture requirements were distributed over eight subject areas, however, animal science ($n = 5.9$ hours) and agricultural economics ($n = 5.3$ hours) dominated the requirements. Less than one hour was required in forestry.

Less than 13% of the hours required for a degree in agricultural education were in professional education classes. An average of 16 hours of educational courses were required for degree completion. These included educational colloquium, educational psychology, professional inquiry, and psychology.

Approximately 15% of the required hours for a degree in agricultural education were in agricultural education courses. An average of 19.4 hours of agricultural education were required for degree completion. Three of the eight areas were noticeably low. They included youth organization ($n = 1.5$ hours), SAE ($n = 1.0$ hours), and adult education ($n = .5$ hours).

Forty percent of the agricultural education programs did not have an agriculture experience requirement. Of the 60% that required agriculture experience, the requirement ranged from 0 (experience requirement but not quantified) to 4000 hours with an average of 1299.38 hours.

Conclusions/Implications

The diverse nature of agriculture across the United States does not lend itself to standardization of the technical agriculture curriculum component of agricultural education programs. The researcher did not expect standardization in the specific technical agriculture subjects. With that said, the research uncovered areas of deficiency that could adversely affect the future of agricultural education in the United States. One such area was the very minimal requirement in forestry related coursework. Nearly 8% of the farmland listed in the 1997 *Census of Agriculture* was categorized as woodland. The forest component is one area that has tremendous potential for U.S. farmers. In addition to its role in environmental protection and conservation, farm woodlands, if properly managed, can be a valuable economic asset to

landowners. Eighty percent of agricultural education programs do not have a forestry requirement for their graduates, therefore, their graduates are not likely to include forestry topics in their course of instruction to assist their secondary school and/or adult students realize the economic impact of the farm woodland.

Goecker (1992) warned of the decline in the scientific and technical competence of agricultural education graduates. He felt the 1990 graduates could not compare with their counterparts from the 1970s. He cited the reduction in the number of required educational courses from 87 to 38 as support for his theory. Combined, the educational and agricultural education requirements did not reach the 38 hours of educational credits that concerned Goecker in 1992. While subject matter is extremely important, preservice teachers must be prepared in teaching and learning theory to effectively motivate their students and facilitate an outstanding learning environment. What is the magic number of education courses? Research should be conducted to assist in establishing a minimum requirement in this area.

Agricultural education was established on the principles of classroom activities, leadership development, and supervised experience programs. Dyer and Williams (1997) suggested an integral relationship between the three components of the total agricultural education program. FFA involvement was found to be significantly related to student achievement (Cheek, Arrington, Carter, and Randell, 1994; Arrington and Cheek, 1990). Barrick, Hughes, and Baker (1991) reported that SAE program partners generally regarded supervised experience as being of benefit to students and the agricultural industry. Are agricultural education preservice teachers being adequately prepared to incorporate the leadership and experiential learning components into their curriculum? The number of credits required in the area leads one to question the situation. Once again, research should be conducted to answer this question.

The number of secondary agricultural education programs offering education opportunities for their adult constituents has declined. In 1989, Birkenholz and Maricle (1991) found that while there were 5,852 secondary agricultural education programs in the United States, there were only 1,610 adult agricultural education programs. Based upon finding in this study, that figure will not improve. Nearly 77% of preservice agricultural education teachers do not receive instruction in teaching the adult learner. This is critical because it has been well established that the education of adults (andragogy) is different from the education of youth (pedagogy) (Knowles, 1962; 1970; Beder, 1989).

It once was assumed that agricultural education students came from an agricultural background and many had been active in high school agricultural education program. This is not the situation today. Hillison and Hagee (1980), in a study on why preservice teachers do not teach, found few of the agricultural education students in the study had a farm background. Hovatter (2002) found that 25% of teachers who graduated between 1998 and 2001 from institutions within the Five-Star Consortium came from an urban background. To be effective a teacher must have disciplinary knowledge and experience in the field. The number of programs (40%) that do not have a formal agricultural experience component raises some concern that many preservice teachers may not have adequate agricultural experience upon which to base their teaching and learning activities.

Recommendations

The total program; classroom and laboratory instruction, supervised experience programs, and leadership development (FFA); has been the backbone of secondary agricultural education programs. The value of each component has been established with research. Additional research is needed to determine the degree today's teachers are implementing the total program. If they are not fully implementing the total program, then preservice teacher education programs should examine their course requirements and determine how the program can be changed to better prepare preservice and existing teachers for their role in implementing a total agricultural education program.

This study should be repeated in five to ten years to determine if the AAAE *National Standards* had an impact on the standardization of preservice agricultural education programs in the United States. Because of the mobile nature of today's society, there should be some level of standardization of programs. A preservice teacher, who studied at a Northeastern university, should be able to enter and succeed in a teaching position in the Southwest and vice versa.

A national study involving current secondary agricultural education teachers should be conducted to evaluate the effectiveness of preservice agricultural education in the preparation of teachers. This type of research would not only examine the type of courses completed but the effectiveness of these courses in preparing teachers.

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A Critique

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Contribution and Significance of Research: The purpose of the study was to examine preservice agricultural education programs in the United States and to determine the number of hours of credit required for preservice teachers to gain certification to teach high school agricultural education. The author did a thorough job of identifying the number of preservice agriculture teacher programs nationwide and the credit hours needed to graduate from these programs. Although descriptive, I question the veracity of this study in helping preservice program administrators defend their current curricula when confronted by the occasional rants for a nationally standardized agricultural education curriculum. By his own admission, the author states “*the diverse nature of agriculture across the United States does not lend itself to standardization of the technical agriculture curriculum component of agricultural education programs.*” I agree. There is great value for inclusion of forestry-related coursework in the West Virginia preservice agriculture teacher program, but little or no value for its inclusion in the North Dakota program. Since agricultural educators understand that the agricultural industry is fragmented and holds great diversity nationwide, why do we concern ourselves with a call for national standards? Could we not expend more effort, with more desirable results, in a call for more “education” coursework in the preservice agriculture teacher programs? Where are the courses that educate teachers about students’ cultural differences, classroom discipline, and educational laws affecting the teaching and learning processes? We may find more value in researching agriculture teachers’ (preservice and current) knowledge about the legal systems governing education, rather than how many hours are spent in a welding booth.

Procedural Matters: Using an outdated reference (Miller & Smith, 1983) to verify that some attempt was made to control for nonresponse error (Lindner, Murphy, & Briers, 2001) is not a good idea. The author did a good job of providing a descriptive account of preservice agricultural education programs nationwide.

Questions for Consideration: “*Because of the mobile nature of today’s society, there should be some level of standardization of programs.*” Why? Doesn’t this sentiment go against the very findings of this study? Are agriculture teachers as mobile as the rest of society? What value can be obtained from a standardized (technical agricultural content) curriculum? Most states have their own testing standards. How well do preservice agricultural education programs prepare teachers to “teach” their future students to meet or exceed those state standards?

Lindner, J., Murphy, T., & Briers, G. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42(4), 43-53.

Miller, L. E. & Smith, K. L. (1983). Handling nonresponse issues. *Journal of Extension*, 21, 45.