

**Peer Rankings of the Leading
Agricultural Teacher Education Programs**

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Excellence is a difficult construct, not only to measure but also to attain. Striving for academic excellence, however, is a worthy goal for colleges and universities, as well as for divisions and departments within those institutions. Clearly the same is true of teacher education programs in agriculture across the country. Finn (1981) stressed that the unifying idea for a national consensus on education must be that of quality. Among 10 precepts Finn proposed for the establishment of a new consensus, teacher education is most important.

. . . because the indispensable ingredient of educational excellence is high-quality instruction by talented and well-trained teachers, the highest priority of American education in the years ahead must be the recruitment, selection, preparation, and retention of outstanding instructional personnel at every level from kindergarten through graduate school. The declining quality of those entering and staying in teaching poses the gravest long-term threat to the quality of the educational enterprise. (p. 62)

The Holmes Group (1986) reaffirmed the importance of attracting high-quality students to undergo a more rigorous preparation and training for the eventual establishment in a career in teaching, at secondary, postsecondary, or college level. The recruitment of these students into the profession is an important consideration if teacher education is to prosper in an upcoming time of speculation and evaluation. What are the criteria students consider when selecting an institution to attend? The answer in at least one study was academic quality (Krukowski, 1985). Students were more eager to pay for and attend a college with the reputation or programs they believe will lead to high-paying jobs and top professional schools. However, the school's perceived prestige, rather than some other measure of its academic quality, may be what attracts students to the institution. Moore (1982b) cited overall reputation of the institution and faculty reputation as important factors in the decision-making process for students in their selection of a university for doctoral study in agricultural education. Selection of an institution to attend is sometimes based on studies which rank or identify outstanding colleges or programs located within universities. This is one of a number of methods Webster (1981) identified for assessing program quality.

Perhaps the best known effort in establishing a reputational study was the one conducted by Alan Cartter (1966). His research on graduate programs was based on ratings from 4,000 scholars from more than 100 universities. The assumption made by the study was the higher the degree of agreement among experts, the greater the possibility their opinion is accurate. Frohreich and Sims (1973) conducted a study to rank departments of educational administration. They identified

criteria that were important for judging programs, such as quality of students, eminence of faculty, support services, and size of faculty. Margulies and Blau (1973) conducted a reputational study that resulted in the ranking of 17 types of professional programs. The deans of the professional schools were asked to identify the five most outstanding schools in their own profession. Studies such as the ones previously mentioned are noticeably absent from the profession of agricultural education. Moore's (1982a) analysis of the scholarly productivity of teacher educators is the only study known to the authors that recognizes individual contributions to the literature base in agricultural education.

Purpose of the Study

The purpose of this study was to answer the following research questions:

1. What criteria do agricultural teacher educators use in rating agricultural teacher education programs? What factors make a program stand out among its peers?
2. What agricultural teacher education programs in the United States are perceived as top programs by teacher educators currently active in the profession?
3. How do the perceived rankings of the institutions vary based on respondent's faculty rank, current American Association of Teacher Educators in Agriculture (AATEA) region of the respondent, and AATEA region of institution in which respondent earned the doctorate?

Procedures

An instrument entitled "A Survey of Teacher Education Perceptions" was developed for the study, based on a review of the reputational literature and validated by a panel of teacher educators in both agricultural education and in other vocational service areas. It was field tested on a second, similar panel of teacher educators. The final instrument consisted of three sections: demographics judged to be of interest in analyzing the results as specified in question 3 above; a section asking for the respondent to list, in rank order, the top 10 institutions as he or she perceived them, and give reasons for the rankings; and a section asking similar information regarding individual teacher educators. This article deals only with the program ratings and reasons.

The population for the study was defined as all agricultural teacher educators, $N = 324$, listed by Rogers (1985), with names of non-teacher educators excluded. Using interpolation in the Warmbrod (1965) procedure for determining sample size, it was determined that a sample of 162 would be appropriate. A systematic procedure with a random start was used to select the sample for the study.

In order to avoid biasing the results of the study, a system to insure the anonymity of the researchers was developed. Neither the mailing address of the institution collecting the data nor any reference to its name was made on the outside envelope, cover letter, or return envelope. Dr. Larry Case, United States Department of Education, agreed to assist by mailing pre-stamped envelopes from his Alexandria, Virginia, office and to receive the completed surveys and return them to the researchers. He also agreed to write a cover letter explaining the need for anonymity of the researchers and assuring participants that the study was legitimate. In order to avoid the appearance that the study

was officially sanctioned by the Department of Education, the cover letter was typed on plain stationery, with Dr. Case's name but without an official title.

The initial mailing was in January, 1986. After two follow-up mailings, 125 responses were received, for a total return rate of 77.2%; however, a small number of the surveys returned were not usable. The usable return rate was 69.1% ($n = 112$).

Analysis of Data

The reasons were analyzed using content analysis techniques with calculations done manually. The numerical data were analyzed using SAS descriptive statistics procedures to determine rankings. Ratings of institutions were weighted from 0 (not mentioned) to 10 (rated first) for each respondent.

To determine least significant difference between mean ratings, the following procedure was used. First, the hypothesis of homogeneity of variance was tested for the mean ratings among the top 10 programs (Hinkle, Wiersma, & Jurs, 1979). The hypothesis was tested using an F-ratio computed using the $\text{Max } s^2 / \text{Min } s^2$, which produced $F = 2.528$, which was not significant. Assuming homogeneity of variance, the pooled variances were taken (Hinkle et al., 1979), producing a pooled standard deviation of 3.477. The standard error of the means resulted from that operation was 0.328. Multiplying that figure (Pedhazur, 1982) by t , where t ($p < .05$) = 1.96, produced an LSD of 0.644.

Results

Criteria Used

Table 1 indicates that faculty was the primary criterion used by agricultural teacher educators in ranking peer programs. The category research/publications/scholarship was ranked second with overall program ranked third. Graduate programs/graduates were ranked fourth with undergraduate programs ranked fifth.

The faculty criterion had several specific comments concerning faculty such as "reaches beyond state," "responsibilities within profession," "high quality faculty," and "professional integrity."

Table 1

Rankings of Criteria Used by Agricultural Teacher Educators to Rank Peer Programs

Rank	Criteria	Number of Times Used
1	Faculty	328
2	Research/Publications/Scholarship	168
3	Overall Program	129
4	Graduate Program/Graduates	97
5	Undergraduate Program	91

Among the single word modifiers used to describe faculty were size, hardworking, leadership, creative and courage.

For the criterion research/publications/scholarship several specific descriptions were also used. Among these descriptions were visibility, amount, national program involvement, productivity and capabilities.

Top Programs

The minimum requirement for inclusion in the computation was for a program to be named among the top 10 by at least three respondents. The mean ratings for named institutions ranged from .038 to 6.314. The mean ratings for the 1st and 2nd ranked institutions (6.696 and 5.277, respectively) were clearly significantly different both from each other and from the other members of the top 10; however, the 3rd through 10th institutions were grouped more closely to each other (3.536 to 1.872, respectively), where the least significant difference was 0.644 ($p < .05$).

Table 2 indicates that Ohio State was ranked highest with a mean rating of 6.696. Iowa State was ranked second with a mean rating of 5.27. Also making the top 10 programs were Virginia Tech, Texas A & M, Pennsylvania State, Mississippi State, University of Minnesota, Cornell, Oklahoma State, and University of Florida. The latter eight programs had a range in mean scores from 3.536 to 1.872.

Table 2

Overall Rankings and Rank Means for Top 10 Agricultural Teacher Education Programs (n = 112)

Rank	Programs	Mean	<u>SD</u>
1	Ohio State University	6.696	4.280
2	Iowa State University	5.277	3.907
3	Virginia Tech	3.536	3.523
4	Texas A & M University	3.500	3.304
5	Pennsylvania State University	2.964	3.561
6	Mississippi State University	2.955	3.473
7	University of Minnesota	2.714	3.405
8.5	Cornell University	2.429	3.098
8.5	Oklahoma State University	2.429	3.284
10	University of Florida	1.872	2.692

Note. Based on a scale rank where 1st = 10, 2nd = 9, . . . unranked = 0. Least Significant Difference = 0.644 ($P < .05$) given homogeneity of variance and a pooled SD of 3.477.

The 11th through 20th ranked programs were as follows: (11) University of Missouri, (12) University of Illinois, (13) University of Arizona, (14) Louisiana State University, (15) University of Nebraska, (16) Purdue University, (17) University of California-Davis, (18) Michigan State University, (19) California Polytechnic State University-San Luis Obispo, and (20) Colorado State University.

Faculty Rank

Differences could be found among respondents' faculty ranks and their mean ratings of agricultural teacher education programs. Both Ohio State and Iowa State were ranked first and second, respectively, by respondents in all three ranks of assistant, associate, and full professor. On the other hand, Virginia Tech was ranked third, fourth, and fifth, respectively, by respondents in each rank starting with assistant professor.

Three institutions not named in the top 10 overall are also recognized in Table 3. Louisiana State University was ranked 10th by assistant professors and 14th overall. The University of Illinois was ranked 8.5 by full professors and 12th overall. The University of Missouri was ranked 10th by full professors and 11th overall.

Table 3

Rankings of Agricultural Teacher Education Programs by Faculty Rank of Respondents

Overall Rank	Programs	Faculty Rank		
		Assistant Professor (<u>n</u> = 24)	Associate Professor (<u>n</u> = 37)	Full Professor (<u>n</u> = 46)
1	Ohio State University	1	1	1
2	Iowa State University	2	2	2
3	Virginia Tech	3	4	5
4	Texas A & M University	7	3	4
5	Pennsylvania State University	6	6	8.5
6	Mississippi State University	5	5	6
7	University of Minnesota	9	8	3
8.5	Cornell University	4	10	7
8.5	Oklahoma State University		7	
10	University of Florida	8	9	
11	University of Missouri			10
12	University of Illinois			8.5
14	Louisiana State University	10		

AATEA Regions

Table 4 indicates a variation among respondents' AATEA regions and their rankings of agricultural teacher education programs. No program received the same ranking from all four regions. Ohio State was ranked first in the central, eastern, and southern regions but third in the western region. Iowa State was ranked first by the western region respondents and second by respondents in the other three regions. Pennsylvania State, Oklahoma State, and University of Florida were ranked among the top 10 by respondents in three of the four regions.

Three programs not in the top 10 are also recognized in Table 4. The University of Missouri, ranked 11th overall, was ranked ninth by respondents in the central region. The University of Illinois, ranked

12th overall, was ranked 10th by respondents in the eastern area. The University of Arizona ranked 13th overall, but was ranked fifth by respondents in the western region.

Table 4

Rankings of Programs by Current AATEA Region of Respondent

Overall Rank	Programs	Central (n=36)	Eastern (n=20)	Southern (n=40)	Western (n=16)
1	Ohio State University	1	1	1	3
2	Iowa State University	2	2	2	1
3	Virginia Tech	3	4	3	6
4	Texas A & M University	6	7	4	2
5	Pennsylvania State Univ.	4	3	8	
6	Mississippi State Univ.	7	8	5	8
7	University of Minnesota	5	9	9	7
8.5	Cornell University	8	5	7	9
8.5	Oklahoma State Univ.	10		6	4
10	University of Florida		6	10	10
11	University of Missouri	9			
12	University of Illinois		10		
13	University of Arizona				5

Region of Earned Doctorate

Table 5 shows the rankings of programs by AATEA regions of respondents' doctoral degree-granting institution. Ohio State was ranked 1st among three regions and 3rd in the western region. Iowa State was ranked 2nd in the central region, 4th in the eastern and southern regions, and 5th in the western region. Pennsylvania State and Cornell tied for 2nd in the eastern region. Texas A & M was ranked 2nd by doctoral degree recipients from the southern region. Oklahoma State and the University of Arizona tied for 1st in the western region.

There was a large difference in the number of respondents obtaining doctoral degrees from the four regions. The largest was the central region with 50 respondents. The smallest was the western region with five respondents.

Conclusions

The most important criterion used for rating programs of agricultural teacher education was associated with the people in the specific programs. It was concluded that the "people factor," represented by the faculty members and their associated public accomplishments, such as research, publications, and scholarship, most influenced the peer respondents. Another important people factor was represented by the graduate program, undergraduate program, and graduates of the program. It was concluded that factors other than people, such as prestige of the institution and impressive campus facilities, did not influence the peer perceptions.

Peer ratings across faculty rank of respondent were quite stable for the top five programs. None of these programs was rated outside the top 10 by any of the three respondent categories. Much less stability was shown for the programs rated sixth through fourteenth, with notable variability in ratings across faculty rank of respondent.

Table 5

Rankings of Programs by AATEA Region of Institutions Granting Respondent's Doctorate

Overall Rank	Programs	Central (n=36)	Eastern (n=20)	Southern (n=40)	Western (n=16)
1	Ohio State University	1	1	1	3
2	Iowa State University	2	4	4	5
3	Virginia Tech	3	6	3	
4	Texas A & M University	6	5	2	8
5	Pennsylvania State Univ.	8	2.5	7	
6	Mississippi State Univ.	5	8	5	4
7	University of Minnesota	4	7	10	
8.5	Cornell University	10	2.5		
8.5	Oklahoma State Univ.	7		6	1.5
10	University of Florida	9	10	8	
12	University of Illinois		9		
13	University of Arizona				1.5
14	Louisiana State University			9	
19	Cal Poly, San Luis Obispo				9
20	Colorado State University				7
27	Montana State University				6

Peer ratings across AATEA region of respondent was quite stable for the top five programs. Only one program was rated outside the top 10 by respondents in any of the four regions. Programs rated 6th through 13th were less stable, with some being listed in the top 10 by respondents in only one region.

Program rankings were fairly stable across AATEA region of institution granting the respondents' doctorate, but less so than on the two previous variables. Two of the top five programs were rated outside the top 10 by respondents with degrees from one region. Notably, one region's respondents rated three programs among the top 10, which were not rated by any of the other regions' respondents. The small number of respondents with degrees from the Western region should be noted. Clearly, the region from which the respondent received the doctoral degree affected the ratings of programs.

Overall, it was concluded that the people in the programs most influenced the program rankings. Additionally, in order to be rated among the top programs in agricultural education, an institution must develop a broad-based approach to secure national visibility of those people in scholarly and leadership roles.

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