

**A National Study of the Supply and Demand for
Teachers of Agricultural Education
in 1999-2001**

William G. Camp, Professor
Thomas Broyles, Ph.D. Candidate
Natasha Shantz Skelton, Undergraduate

Agricultural and Extension Education
College of Agriculture and Life Sciences
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061-0343

The "Supply and Demand Study" is an ongoing project sanctioned and sponsored by the Agricultural Education Division of the Association for Career and Technical Education since 1965

July 2002

Table of Contents

List of Tables----- 3

List of Figures ----- 3

Introduction ----- 4

Importance of the Study----- 4

Background ----- 4

Problem and Purpose ----- 6

Data Collection ----- 6

Regional and National Summary Data----- 7

Numbers of Teachers -----8

Personnel Turbulence----- 10

Graduates and Placements----- 11

Types of Teaching Positions ----- 13

State and Regional Data-----14

Programs of Agricultural Education ----- 14

Sources of New Teachers----- 14

Teacher Education Completers and Placements ----- 14

Program Structure----- 14

Race/Ethnicity and Gender of Newly Qualified Potential Teachers----- 15

Race/Ethnicity and Gender of Teachers of Agricultural Education----- 16

Faculty Numbers and Affiliation-----16

Discussion and Conclusions -----31

Stability----- 31

Potential Teachers ----- 31

Teacher Shortage ----- 32

Sources of New Teachers----- 32

Placement Rate----- 33

Diversity----- 33

Program Structure----- 33

Teacher Education ----- 34

Recommendations -----34

References-----34

News Release -----36

Fact Sheet-----37

List of Tables

Table 1	Trends in Selected Information on the Supply of Secondary Teachers of Agricultural Education in 1964-65 and Since 1977 -----	8
Table 2	Overview of Agricultural Education Teaching Positions and Personnel Turbulence in the United States for Selected Years ** -----	10
Table 3	Newly Qualified Potential Agricultural Education Teachers and Placement for Selected School Years -----	11
Table 4	Number Newly Qualified to Teach Agricultural Education Entering Various Occupations for Selected Years -----	12
Table 5	Types of Secondary Teaching Positions in Agricultural Education on September 1, 2001 -----	13
Table 6	Programs of Agricultural Education and Their Primary Program Focus by State and Region on September 1, 2001 -----	17

List of Figures

Figure 1.	Trend in Total Agricultural Education Teaching Positions, 1965-1998 -----	9
Figure 2.	Trend in Total Newly Qualified Potential Teachers of Agricultural Education, 1977-2001 -----	9
Figure 3.	Placement Patterns of Newly Qualified Potential Teachers of Agricultural Education in 2001 -----	12
Figure 4.	Sources of New Hires for Agricultural Education Positions in the United States, 2001 -----	15

A National Study of the Supply and Demand for Teachers of Agricultural Education in 1999-2001

Introduction

This is the 33rd volume and the 37th year of the national survey of the supply and demand for teachers of Agricultural Education in the United States. The study is sanctioned by the Agricultural Education Division of the Association for Career and Technical Education (formerly the American Vocational Association, AVA) and is conducted as a service to the profession. Dr. Ralph Woodin, initially of the Ohio State University and later of the University of Tennessee, Knoxville, conducted the annual studies from 1965 until 1973. Dr. David Craig of the University of Tennessee continued the study from 1974 through 1984. Beginning in 1985, the current researcher, Dr. Bill Camp of Virginia Tech, has been responsible for the annual study except for 1990 and 1991 when Dr. J. Dale Oliver, also of Virginia Tech conducted it. The 1995 study was the last annual study. At the 1994 annual convention of the American Vocational Association, the Agricultural Education Division elected to change the study to a 3-year cycle and the current volume (1999-2001) is the second triennial study. This report provides trend data in a number of tables that are drawn from Dr. Woodin's, Dr. Craig's, Dr. Oliver's, and my own reports for the respective years. The layouts of many of the tables, data regarding previous years, much of the instrumentation, and parts of the verbiage are taken directly from those earlier studies and we make no claim to the originality of any parts of the study. On close reading of this study, you will undoubtedly find errors in the tables.

I accept full responsibility for any data inconsistencies. Mr. Broyles, Ms Skelton, and I have worked to minimize the occurrence of errors but recognize fully that mistakes will have slipped by our review and I apologize in advance for those errors that may relate to your state or your teacher education program.

Respectfully,



July 1, 2002

Importance of the Study

Agricultural Education in the United States is in a constant state of flux. Not only is the profession changing rapidly, but the patterns by which new teachers are educated and brought into the profession are undergoing dramatic revisions in most states (Lynch, 1996). According to the National Center for Education Statistics, the number of elementary and secondary school teachers is projected to rise, primarily due to the increase in school enrollment⁷ during the early part of the 21st century (Gerald, 1999). Thus, it is as important as ever that data be available to illuminate the numbers and sources of new teachers in Agricultural Education. Moreover, it is important that data be available to track the changes as they are implemented in Agricultural Education programs throughout America.

Background

The profession's concern for the supply and demand for teachers of Agricultural Education is not a new phenomenon. In a bulletin published by the Department of the Interior only four years after the Smith Hughes Act, C. D. Jarvis (1921) reported a total of 283 graduates from specialized teacher preparation programs in Agricultural Education, for 38 colleges of

agriculture in the United States. He went on to quote C. H. Lane of the Federal Board for Vocational Education:

In the North Atlantic region 352 students were enrolled in resident teacher-training classes during the school year 1919-20, as against 247 for the previous year. In the southern territory 849 students were enrolled in 1919-20 compared with 389 for the previous year. The east-central region had an enrollment of 343 for 1919-20 as against 282 for the previous year. In the west-central region, for 1919-20, 491 students were enrolled as against 164 for the previous year. In the Pacific-coast region, 275 students were enrolled in 1919-20 compared with 252 for the previous year.

In summarizing the enrollment in resident teacher-training classes it is found that there were 2,310 students enrolled during 1919-20, compared with 1,334 for 1918-19. Experience has shown that many students who work in these classes do not become teachers. Furthermore, these enrollments represent the number of students of all years, and many of them will not be immediately available for service. In 1920, 444 students who had carried the work in agricultural education were graduated. (p. 9)

Estimating the supply and demand of teachers is a difficult and often frustrating task. Many people have tried over the years, and the results have been mixed at best. As recently as 1992, an Office of Educational Research and Improvement study (National Center for Educational Statistics, 1992) estimated the number of Agricultural Education teachers in the United States in 1987-88 at 10,598. This supply and demand study reported the total number of teachers at 11,072 for the same year, a difference of 474 teachers.

Moreover, agricultural educators have debated the reality of an agriculture teacher shortage. Parmley, Bowen, & Warmbrod (1979) examined data from previous national supply and demand studies by Woodin and Craig, attempting to make sense of a confusing situation. They concluded that the shortage reported by the ongoing studies resulted not from a shortfall in the number of graduates but from the low percentage of graduates choosing teaching as their initial profession. By extending their reasoning, the classic laws of supply and demand from the field of economics implied that the shortage was a function of salaries for beginning teachers rather than an inadequate numbers of graduates. More recently, Brown (1995) concluded:

Approximately half of those graduating with a bachelor's degree in agricultural education were electing not to enter the teaching profession. The problem was not created by insufficient numbers completing bachelor's degrees in agricultural education. The problem was created by insufficient recruitment of qualified individuals into the profession of teaching. (p. 11)

Regardless of the theoretical basis for the teacher shortage, a very real problem faced the profession of Agricultural Education in those years: how to recruit enough qualified people into teaching to fill the need of the profession for replacement teachers. A de-facto "teacher shortage" has been a constant problem for Agricultural Education for at least the 37 years covered by this study. Then, between 1976 and 1988, student enrollment in public school Agricultural Education declined from 697,000 to 522,000 (Scanlon, Yoder, Hoover, & Johnson, 1989). That student decline occurred during a concurrent but much less dramatic decline in the number of teachers in the profession, from 12,844 in 1978 to 11,204 in 1987, as reported later in this study. During the same general timeframe, the number of newly qualified potential teachers of agriculture fell from 1,749 in 1977 to 643 in 1994, again as reported later in this study. Many of the positions becoming vacant during that timeframe were not filled because of the decreasing number of teaching positions. Thus, even with fewer new potential teachers

available, not only did the placement rate for new teacher education graduates decline, but the shortage of the 1960s and 1970s appeared to become a very brief national teacher surplus in the mid-1980s, even though we have not experienced a single year since 1965 in which all teaching positions have been filled. Notably, the decline in the number of newly qualified teachers of agriculture continued throughout the 1980s, in spite of the general increase in teacher education enrollments during that period, as reported by Rodman (1987).

Today another potential major problem may loom on the horizon. Dykman (1993), drawing heavily from earlier work by Lynch (1991) asked the question, "who will teach the teachers" for career and technical education. The Lynch study pointed out that the numbers of vocational teacher education programs had been steadily declining in recent years. At the same time, federal policies have begun to place greater emphasis on career and technical education as a critical component of the public educational system. If the future holds more career and technical education (Dykman, 1993), including a revitalized Agricultural Education (National Research Council, 1988), more teachers will be needed, not fewer. Yet teacher education programs seem to be on the decline in vocational education in general (Lynch, 1996).

Problem and Purpose

The problem addressed by this ongoing study is twofold. Leaders of the profession need current, accurate estimates of the numbers of and demand for teachers of Agricultural Education to provide for meaningful policy decisions at all levels. Teacher organizations and teacher educators need current, accurate supply and demand information to use in recruitment activities and in counseling potential teachers of Agricultural Education. Yet, detailed data of that nature, specific to Agricultural Education, are not available outside this study.

The purpose of the study was to conduct a census of the field of public school Agricultural Education to determine the situation regarding the supply and demand of teachers in the United States, beginning after the previous study (1996-1998) through the end of school year 2000-2001. Specific questions to be addressed were:

1. What are the current numbers and trends in terms of total numbers of teachers of Agricultural Education nationally, by region, and by state?
2. What kinds of public school programs exist for Agricultural Education nationally, by region, and by state?
3. What are the numbers and trends in newly qualified potential teachers of Agricultural Education nationally, by region, and by agricultural teacher education institution?
4. What are the numbers and trends in teacher education programs nationally and by region?

Data Collection

This study is a population census and is descriptive in nature. The data came from two sources.

Supply Data -- e.g., teacher education programs, graduates, and placements. The head teacher educator in each Agricultural Education department with a program for the specific preparation of teachers of agriculture at institutions of higher education in the United States was surveyed. In several institutions, the head teacher educator passes responsibility for the study to another faculty member.

Demand Data -- e.g., numbers of teachers, numbers of replacements hired, sources of replacements hired, types of schools, and kinds of programs. The person in charge of Agricultural Education at each state department of education was surveyed. In several

states, the state department official does not have access to the data needed or for some other reason does not respond to the survey. In those states the survey was mailed to the head teacher educator at the relevant teacher education institution. In several other states, no state department of education official with access to the data needed could be found. In those cases, the most suitable source of information who could be located was surveyed, for instance the state FFA executive secretary or the state president of the teacher association might be used.

The initial surveys along with a cover letter and a return envelope were mailed in mid-September 2001. Repeated follow-ups by mail, e-mail, telephone, and in person resulted in usable responses for almost all states and institutions. The last data were not collected until summer 2002. The final response for the demand survey included 47 states plus Puerto Rico with three states not responding. The final response for the supply survey included 82 institutions, with five institutions not responding.

For those states that did not respond to the repeated attempts at data collection, previous-year data were used from the 1998 study. We realize that use of 1998 data is not a clean substitute for current information, but in the absence of current information, we elected to use the latest data available. States for which 1998 data were used are indicated in each table. Another complication in the data collection arising from the change of the study from an annual to a triennial basis is that total numbers of teachers in some states could not be reported for 1999 and 2000. In those cases, we elected to use 1998 numbers for 1999 and 2000. For those teacher education institutions that failed to respond, no attempt was made to provide data because in all five cases, the 1998 did not include data for any of those institutions and we suspect that those programs produced no teachers during the years of the study.

Regional and National Summary Data

This study will provide two perspectives on the data collected. National and regional data will be presented in this section, followed by state and local data in the next section. Throughout the report, the American Association for Agricultural Education (AAAE) regions were used to organize the data, by region. In that structure the regions and their states are:

- Central:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;
- Eastern:** Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia;
- Southern:** Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, Tennessee, Virginia, Puerto Rico;
- Western:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

The reader should note that detailed data regarding variables such as program focus, grade level of teaching assignment, gender, ethnicity, and many other are almost always incomplete due to underreporting. As a result, most tables reflect subtotals that do not add up to the total number of positions reported by region and nationally. We have tried to point out such discrepancies where they are most glaring, but please hold this limitation in mind as you use this study.

Numbers of Teachers

During the 37-year life of this study, the number of teachers of Agricultural Education in the United States has fluctuated greatly, ranging between a low of 9,981 in 1992 and a high of 12,844 in 1978, see Table 1 and Figure 1. Over the life of the study from 1965 through 2001, the net change in the number of teachers was + 811 or about a 7.8% increase. The trend for the past decade has been a slow but relatively steady increase in the total number of Agricultural Education teaching positions in the United States from a 37-year low of 9,981 in 1992 to the current level of 11,189.

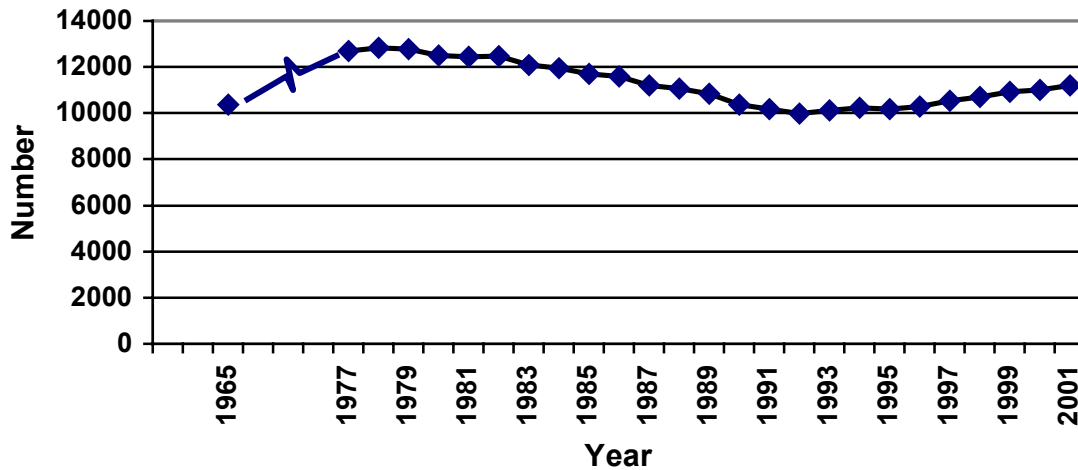
Table 1

Trends in Selected Information on the Supply of Secondary Teachers of Agricultural Education in 1964-65 and Since 1977

Year	Total number of positions on Sept. 1	Teachers needed but unavailable Sept. 1	Number of graduates newly qualified to teach during previous SY	Percent of those newly qualified entering teaching
1965	10,378	120	1,038	64.6
1977	12,694	221	1,749	60.8
1978	12,844	189	1,791	56.7
1979	12,772	144	1,656	54.9
1980	12,510	117	1,584	52.0
1981	12,450	98	1,468	52.2
1982	12,474	35	1,368	51.3
1983	12,099	42	1,277	45.6
1984	11,960	19	1,249	45.2
1985	11,687	8	1,207	40.8
1986	11,582	20	964	41.2
1987	11,204	14	952	41.6
1988	11,072	39	838	42.5
1989	10,840	25	588	52.9
1990	10,356	23	625	53.0
1991	10,176	9	638	50.9
1992	9,981	11	686	53.4
1993	10,118	20	636	54.2
1994	10,234	40	643	56.3
1995	10,164	51	625	60.2
1996	10,297	*	716	*
1997	10,532	*	657	*
1998	10,706	69.5	748	63.8
1999	10,915	*	789	*
2000	10,996	*	798	*
2001	11,189	67	857	59.4

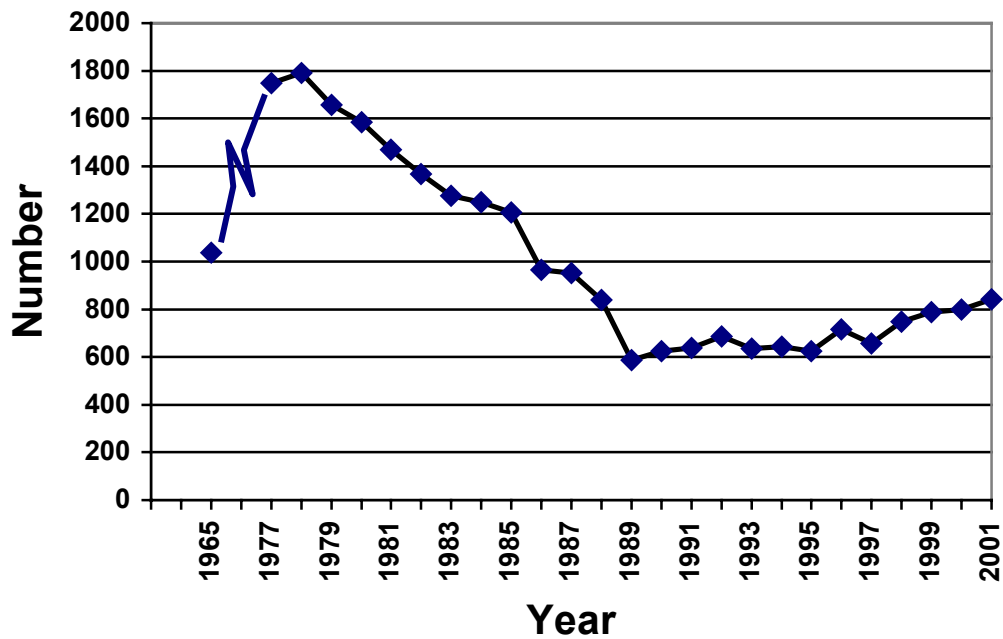
* – Data not collected for that year

Figure 1. Trend in Total Agricultural Education Teaching Positions, 1965-1998



The total number of newly qualified potential teachers of Agricultural Education prepared in the US annually remained over 1,000 from the inception of the study until 1985, when it dropped to 964. The number reached a low of 588 in 1989, but has shown a rather substantial increase since then. Since 1989, the profession seems to have begun a recovery that has resulted in a fairly steady increase in the number of newly qualified potential teachers to a 14-year high of 857 in 2001, representing a 45.7 % increase from the 1989 low. See Table 1 and Figure 2.

Figure 2. Trend in Total Newly Qualified Potential Teachers of Agricultural Education, 1977-2001



The proportion of newly qualified potential teachers entering teaching has historically hovered around 50%, from a low of 40.8% in 1985 to a high of 64.6% in 1965. The placement rate in 1998 was 63.8%, which was somewhat above historical norms. According to the reports provided for the current study, 59.4% of the newly qualified potential teachers accepted teaching positions in 2001, which is consistent with the historical placement rate. See Table 1.

Personnel Turbulence

Table 2 repeats some of the data in Table 1 but adds several dimensions for comparison. An interesting set of statistics involves the net number of replacement teachers needed in Agricultural Education classrooms. The total of “replacement teachers needed” ranged from a high of 1,273 in 1975 to a low of 824 in 1980, with 1,170.5 (FTE) replacements needed in 2001. That figure can be misleading, however, since many of those are simply moving from one school to another. The net number of replacement teachers needed could not be computed from earlier studies because data on school-to-school transfers were not collected. Since 1985, school-to-school transfer data have been available and the net number of replacements needed fell fairly steadily from 805 in 1985 to 574.9 in 1998. The net number of replacements needed increased substantially in 2001 to 1,170.5, an increase of 31.6% from 1998. To estimate the overall rate of teacher turbulence in Agricultural Education for 2001, we can divide the number of teacher replacements required (1,170.5, see Table 2) by the number of teaching positions at the end of the previous year (10,996, see Table 1) for a gross replacement rate of 10.6%. Correcting that figure for teachers who moved from one school to another, we find that the net replacement rate was almost 7.3% (798.5 / 10,996).

Table 2

Overview of Agricultural Education Teaching Positions and Personnel Turbulence in the United States for Selected Years **

	1975	1980	1985	1990	1995	1998	2001
Total positions on Sept. 1	12,107	12,510	11,687	10,355.5	10,164	10,706	11,189
Replacements Needed ***	1,273	824	1,043	979	977	888.9	1,170.5
Moving between schools	*	*	238	351	280	314	372
Net demand for replacements	*	*	805	628	697	574.9	798.5
Needed, not available Sept. 1	211	117	8	23	40	69.5	67
Teachers with emergency certification	607	454	140	110	119	175.5	242
Departments that will not operate due to lack of qualified teacher	78	55	3	9	41	55	35

* Data not collected for year indicated

** 3-year intervals are used after 1995 in this table because the study changed from annual to triennial in 1995

*** This figure is not the same as “teachers hired” that will be reported in Table 7.

“Replacements needed” is computed as follows:

Teachers Leaving Positions + New Positions + Vacancies remaining – Positions Lost.

The number of teachers needed but still unavailable at the start of the school year was 117 in 1980 but was down to 67 (FTE) in 2001, which is very close to the 1998 number of 69.5. The number of teachers working with various forms of temporary or emergency certification has risen fairly steadily from a low of 110 in 1990 to the 2001 level of 242 but the number of departments expected not to operate for the year remained reasonably steady at 35. See Table 2

Graduates and Placements

As we saw in Table 1 and Figure 2, the total number of new potential teachers of Agricultural Education qualified annually, declined steadily from 1980 to 1989, stabilized for about a decade in the range of the mid-600s, and increased slightly since the mid-1990s to 857 in 2001. An examination of Table 3 shows that, of the 857 persons newly qualified to teach during school year 2001, their professors estimated that only 693 "probably wanted to teach." As was discussed previously, the overall placement rate (in teaching agriculture) for the total was 59.4%, which is consistent with the historical norm. When the placement rate is computed based on the number of newly qualified teachers whom their professors rated as "probably wanted to teach," (n = 693), the effective placement rate was 73.4%. Assuming the estimate of those who "probably wanted to teach" is reasonably accurate, 184 (693-509) or 26.6% of newly qualified teachers who would like to teach were unable to secure satisfactory teaching positions.

From the standpoint of agricultural teacher education, an important consideration in interpreting Table 3 is the change in perspective between 1975 and the present. As late as the 1985 supply and demand study, the survey sought simply the number of Agricultural Education BS/BA graduates. Until that time, being an Agricultural Education graduate was generally considered equivalent to being qualified to teach. That is no longer the case. Since 1985 the survey has sought the number of newly qualified potential teachers, which includes only part of the undergraduate program completers but also includes many masters degree or non-degree program completers.

Table 3
Newly Qualified Potential Agricultural Education Teachers and Placement for Selected School Years

	1974-75	1989-90	1994-95	1997-98	2000-01
Total Newly Qualified	1,660	625	625	748	857
Probably Wanted To Teach	*	386	351	619	693
Of Newly Qualified, Number Entering Teaching	999	331	56.2	482	509
Percentage of Newly Qualified entering teaching	60.2	53	48.4	63.8	59.4
Percentage who "Probably Wanted To Teach" Teaching	*	85.8	72.5	77.9	73.4

* Data not collected for year indicated

Table 4 provides information concerning the placement of those persons newly qualified to teach Agricultural Education. The primary initial occupation for teacher education program, regardless of their specific program remains teaching agriculture (n = 509), with full time graduate study second (n = 87), with employment in agribusiness falling third place (n = 80). Full time farming has declined markedly over the past 20 years, from 136 in 1975 to 27 in 2001. Figure 3 provides a graphic illustration of the placement of this group in 2001. One distinction reported in this study for the first time is the number of newly qualified teachers accepting teaching positions in the same state in which they received their teacher preparation. Of the

509 teachers reported by teacher education institutions, 431 were teaching “in state” and 78 had taken teaching positions in other states.

Table 4
Number Newly Qualified to Teach Agricultural Education Entering Various Occupations for Selected Years

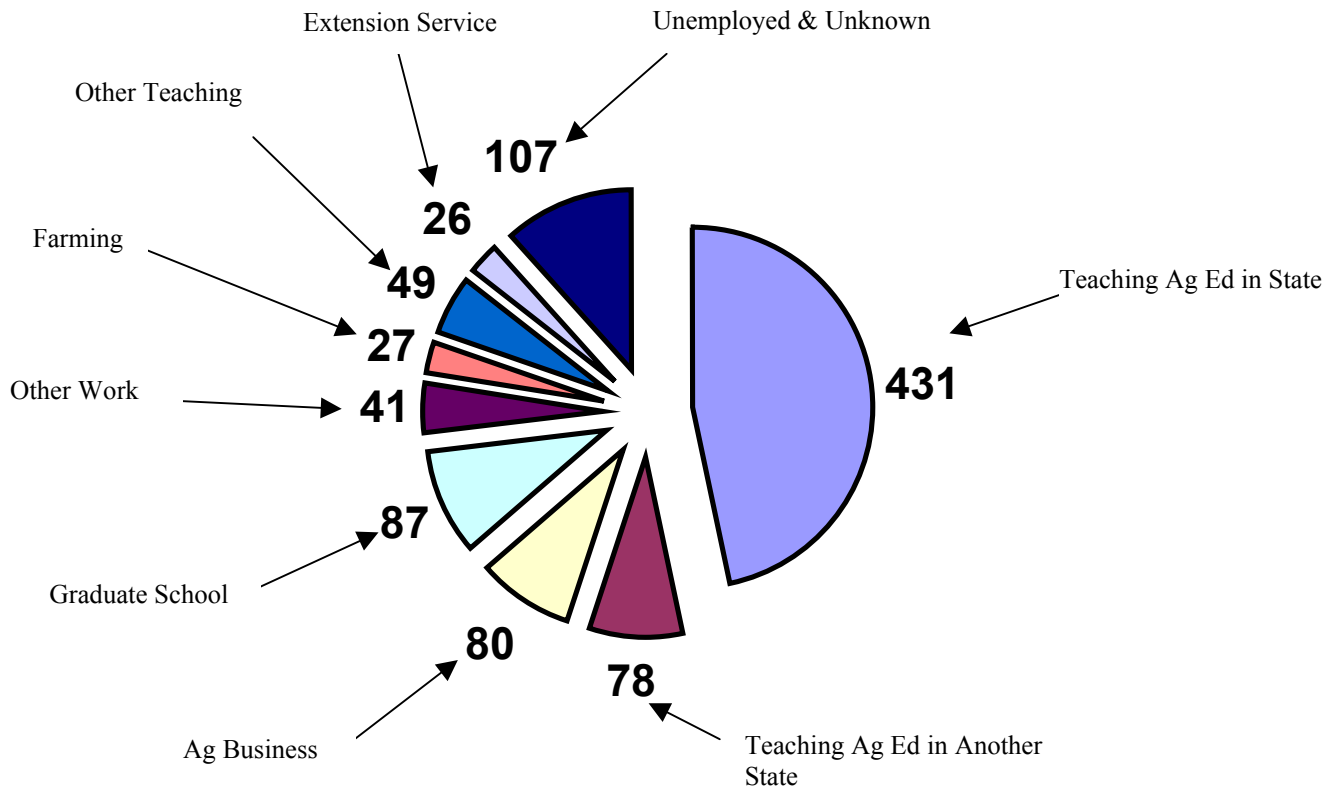
	1974-75	1989-90	1997-98	2000-01
Newly Qualified	1,660	625	756	857
Teaching Ag Ed	999	295	482	509***
Graduate Work	163	109	65	87
Ag Business	125	157	96	80
Other Teaching	55	19	30	49
Other Work	164	61	25	41
Armed Forces	18	3	**	**
Farming	136	46	15	27
Extension Service	*	29	18	26
Unemployed and Unknown	*	*	22	107

* Data not collected for year indicated

** Placement in the armed forces is now included in Other Work

*** Teaching in state = 431. Teaching in another state = 78.

Figure 3. Placement Patterns of Newly Qualified Potential Teachers of Agricultural Education in 2001



Types of Teaching Positions

Table 5 changes focus from teacher education program completers to teaching positions. As of fall term 2001, the Southern region of AAEE included almost half (47.6 %) of all Agricultural Education positions in the country, with the Eastern region having 9.4% of the positions. High school programs represented the clear majority (n = 8311, or 78.9%) of positions reported in this section of the table. (Please note that 10,528 positions were reported by school level, leaving 661 position levels unknown. The total reported was used in this calculation.) Middle school/junior high school programs making up only about 5.4% (n = 573) of all positions reported by school level. Full-time adult and/or Young Farmer teachers made up just 1.4% (n = 147) of the positions reported by level.

Table 5
Types of Secondary Teaching Positions in Agricultural Education on September 1, 2001

	Central	Eastern	Southern	Western	US Total *
TOTAL POSITIONS	3,004	1,054	5,327	1,804	11,189
GRADE LEVEL:					
Teaching high school only	2,020	977	3,758	1,566	8,311
Teaching junior high or middle school only	9	15	480	69	573
Combination high school and jr. high/middle sch	674	50	716	51	1,491
Adult and/or Young Farmer Only	63	9	68	7	147
Level Not Reported	238	3	315	111	667
ADULT EDUCATION					
Some adult and/or Young Farmer responsibilities	252	94.5	636	49	1,031.5
MULTIPLE SCHOOLS					
Teachers teaching in more than one school	171	11	151	32	365
DEPARTMENT SIZE					
Single teacher dept.	1,656	440	2,382	912	5,367
Multi teacher dept.	668	600	2526	762	4,520
Dept Size Not Reported	680	14	419	130	1243
PROGRAM FOCUS					
Comb of Ag Courses	1549	508	1460	343	3,860
Production Agriculture	467	45	454	265	1,231
Agriscience	211	20	385	227	843
Ornamental Horticulture	180	145	477	131	933
Agricultural Mechanics	91	42	214	219	566
Explore/Intro Ag	8	6	249	6	269
Natural Resources	40	30	65	44	179
Ag Sales & Service	99	0	43	36	178
Agricultural Products	10	1	94	0	105
Part Time Ag	6	4	35	19	64
Disadv/Handicapped	0	2	22	0	24
Program Not Reported	343	251	1,829	514	2,937

* Subtotals do not equal US Total because of underreporting by category.

The bottom section of Table 5 shows teaching position numbers by curriculum program of the teachers' primary program focus. The total number of teaching positions reported by curriculum focus was 8,252. In marked contrast to earlier years, production agriculture programs made up only about 14.9% of programs (n = 1,231), with a "combination" program representing over

46.8% (n = 3,878) of all programs reported. Ornamental horticulture (n = 933) and agricultural mechanics (n = 566) were third and fourth in size.

State and Regional Data

Programs of Agricultural Education

Table 6 provides region and state-specific data on Agricultural Education programs, organized by AAEE region. Southern Region had the largest number of teaching positions (n = 5,327). Central was second with 3,004. The largest state program, Texas, continued its domination of the field with 1,691 teaching positions, or 15.1% of all Agricultural Education teaching positions in the United States. California was second largest with 675 positions, followed by Ohio with 548. Alaska was the smallest with only 5 positions just behind Rhode Island, with 7. Of interest, and not shown in the tables, Texas reporting 1,490 positions in 1995 and 1,590 in 1998 has shown rapid and steady growth in teacher numbers over the last decade. Table 6 also provides data sorted by program/option for each state. By far the largest curriculum offering (n = 3,860) is a combination of Agricultural Education courses, rather than a dedicated program of agricultural production or any other single option. In terms of single-focus programs, production agriculture (n = 1,231) was second largest and ornamental horticulture (n = 933) was third.

Sources of New Teachers

Table 7 provides detailed data regarding the sources of the new teachers actually hired in 2001, for each state and region. An estimated total of 1,047.5 (FTE) teachers had been hired by September 1, 2001 for the 2001-2002 school year. Of those, 372 had simply moved from one school to another. As one might expect, the largest number of new hires was in the Southern region (n = 414) with the smallest number (n = 51) in the Eastern region. Alaska had no new hires and Texas had an estimated 160 new hires. The contribution to new hires of new master's degree graduates in Agricultural Education was surprisingly low (n = 26). As in previous years, the number of "new hires" was bolstered by previous Agricultural Education graduates (n = 28.5) and former Agricultural Education teachers (n = 75) returning to teaching. Figure 4 illustrates the relative importance of the various sources of new hires for Agricultural Education in 1998.

Teacher Education Completers and Placements

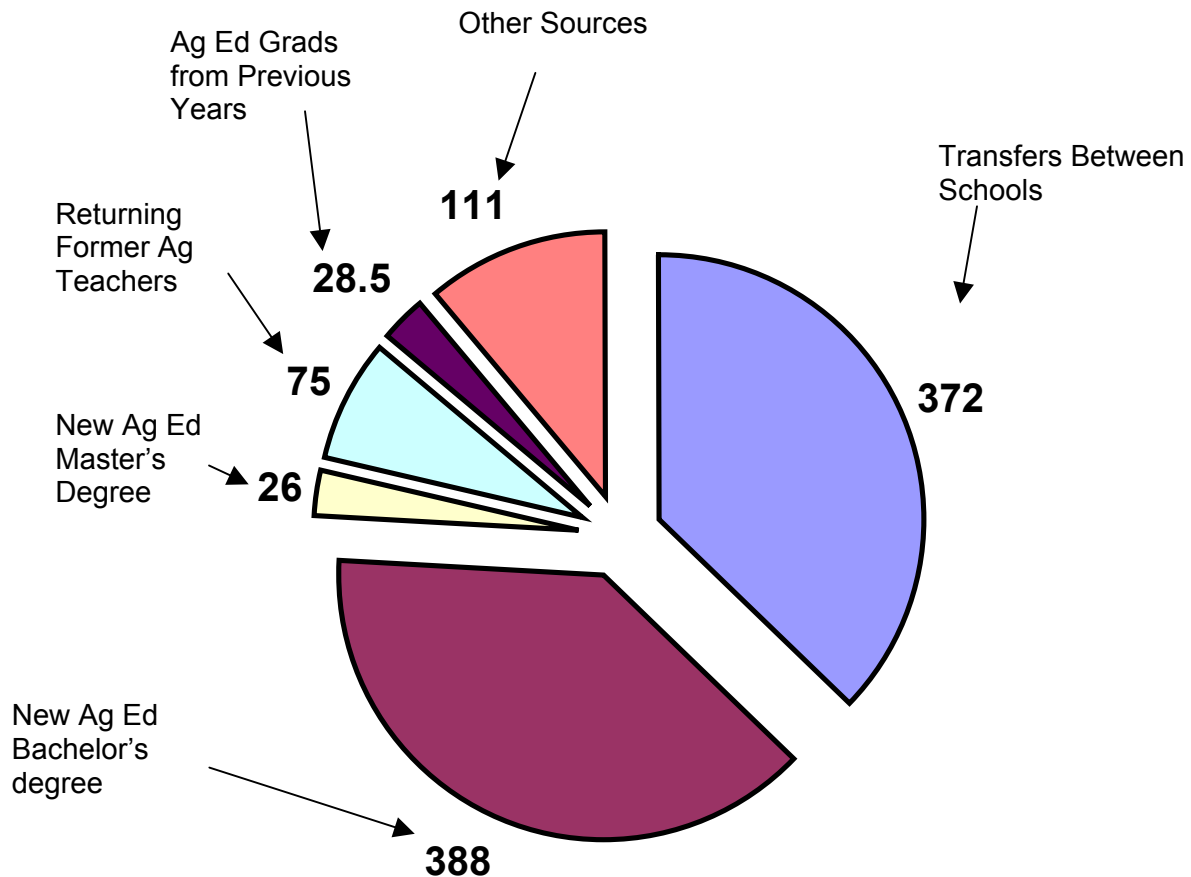
An examination of Table 8 shows the numbers and job placements of newly qualified graduates and other potential teachers, by region and by institution. As reported in Table 3, a total of 857 newly qualified potential Agricultural Education teachers were educated from all sources in 2001. Central region institutions produced 233 newly qualified potential teachers in 2001, with the largest number (n = 32) coming from The Ohio State University. A total of 56 potential teachers were prepared by Eastern Region institutions, with 13 coming from the Pennsylvania State University. In the Southern region, from a total of 387 newly qualified potential teachers, Texas A&M-College Station reported 36 and Texas Tech reported 34. Indeed, the eight teacher education institutions in Texas accounted for 154 newly qualified potential teachers, or over 40.3% of the Southern Region's total, or over 18.2% of all the teachers prepared in the country. In the Western region, California State University-San Luis Obispo produced 19 of the region's 181 newly qualified potential teachers.

Program Structure

Table 9 provides data by state and region of the program structure of Agricultural Education in the United States in 2001. Clearly the dominant pattern for program level remains that of the high school (n = 8,310 FTE). In 13 states, high school was the only level for which Agricultural Education programs were reported: Illinois, Iowa, Michigan, Minnesota, South Dakota, Connecticut, Maine, New Jersey, Vermont, Arizona, Hawaii, Nevada, and Wyoming. Only 148

dedicated Adult/Young Farmer programs remain. On the other hand, 1,031.5 (FTE) teachers are reported to have at least some Adult/Young Farmer responsibilities. Personnel in single-teacher departments (n = 5,390) outnumbered those in multi-teacher departments (n = 4,556). Teachers assigned to multiple schools numbered 365 and teachers with responsibilities for both high school and junior high/middle school classes numbered another 573.

Figure 4
Sources of New Hires for Agricultural Education Positions in the United States, 2001



Race/Ethnicity and Gender of Newly Qualified Potential Teachers

Table 10 shows the race/ethnicity and gender of newly qualified potential teachers of Agricultural Education by region and by institution. Data on race/ethnicity and gender of newly qualified teachers have been collected only since 1994. Males represented the majority (n = 489) of newly qualified teachers in 2001, as did white, non-Hispanic (n = 781). California State University-San Luis Obispo produced the only newly qualified male potential teacher of Asian or Pacific Island descent in 2001 and the University of Arizona produced the only female. Only five institutions, Oregon State, California State University-San Luis Obispo, Texas Tech, Tarleton State, and Louisiana Tech produced new potential teachers on Native American descent. A total of 34 African-Americans and 33 Hispanic potential teachers were prepared nationally in 2001.

Race/Ethnicity and Gender of Teachers of Agricultural Education

Table 11 shows the race/ethnicity and gender of active teachers of Agricultural Education by region and by state. The 1998 study represented the first time data had been reported on gender and race/ethnicity for practicing teachers although similar data have been collected regarding newly qualified potential teachers for several years. The numbers in this table are lower than the totals reported earlier because a number of states failed to report data for this set of questions. For the teachers reported by gender, males (n = 7,536) substantially outnumbered females (n = 2,079) by 3.6 to 1. White, non-Hispanic teachers (n = 9,002) represented 93.6% of all teachers reported by ethnicity (n = 9,067), with Hispanic teachers a distant second at 3.2% (n = 303), and African American teachers at 2.5% (n = 245), and Asian/Pacific Islanders at only 0.1 per cent (n = 10).

Faculty Numbers and Affiliation

Teacher education ranks in the profession increased slightly from 1998 to 2001. A total of 166.4 (FTE) ranked faculty members were assigned to positions with at least some agricultural teacher education responsibility in 2001 compared to 155 in 1998. Personnel assigned as instructors and graduate teaching assistants were also up for the three-year period. Although it is difficult to identify all teacher education programs that provide agricultural teacher education, those institutions generally recognized in the profession numbers about 83. An examination of Table 8 reveals 79 institutions that reported having producing at least one potential teacher for this census, of which 76 produced two or more potential teachers. In addition, 4 institutions responded but reported no newly qualified teachers in 2001. This study found 84 self-reported "active" agricultural teacher education programs in 1995 with 74 producing one or more newly qualified potential teacher. Thus, the number of agricultural teacher education programs producing teachers increased slightly (from 74 to 76) from 1998 to 2001. Agricultural teacher education programs also continued a trend noted in 1998 in moving from affiliation with colleges of education to colleges of agriculture. College of agriculture affiliations remained the dominant place for housing in terms of both faculty assignments and location of degrees.

Table 6
Programs of Agricultural Education and Their Primary Program Focus by State and Region on September 1, 2001

REGION STATE	Total Programs	Prod Ag	Agri- Science	Orn Hort	Nat Res/ Env Sci	Ag. Products	Ag. Mech.	Sales & Service	Ag Comb. Of Courses	Exploratory Ag	Disad. & Handicap	Part time ag & other
CENTRAL												
Illinois	380	0	0	0	0	0	0	0	380	0	0	0
Indiana	240	0	0	16	0	0	3	0	221	0	0	0
Iowa	241	24	0	0	0	0	5	2	0	0	0	0
Kansas	171	0	0	0	0	0	3	0	168	0	0	0
Michigan	135	0	105	28	0	0	0	0	0	0	0	0
Minnesota	236	197	5	13	6	0	6	0	0	3	0	6
Missouri	438	0	0	30	3	5	25	0	370	5	0	0
Nebraska	131	0	0	0	0	0	0	0	0	0	0	0
North Dakota	85	0	0	0	0	0	0	0	85	0	0	0
Ohio	548	226	56	92	25	5	47	97	0	0	0	0
South Dakota	83	0	0	0	3	0	0	0	80	0	0	0
Wisconsin	316	20	45	1	3	0	2	0	245	0	0	0
Subtotals	3,004	467	211	180	40	10	91	99	1,549	8	0	6
EASTERN												
Connecticut	77	0	0	0	0	0	0	0	76	0	0	0
Delaware	44	0	0	9	1	0	4	0	22	2	0	1
Maine	28	9	3	4	2	0	2	0	8	0	0	0
Maryland	70	8	0	21	0	0	1	0	40	0	0	0
Massachusetts *	102	19	4	45	7	0	11	0	6	0	2	2
New Hampshire	35	2	10	9	5	1	6	0	2	0	0	0
New Jersey	69	0	0	0	0	0	0	0	69	0	0	0
New York	235											
Pennsylvania	264	0	2	50	0	0	10	0	200	0	0	0
Rhode Island	7	0	0	0	0	0	0	0	7	0	0	0
Vermont	29	4	1	5	9	0	5	0	5	0	0	0
West Virginia	94	3	0	2	6	0	3	0	73	4	0	1
Subtotals	1,054	45	20	145	30	1	42	0	508	6	2	4

Table 6 (cont).

Programs of Agricultural Education and Their Primary Program Focus by State and Region on Sept. 1, 2001

REGION STATE	Total Programs	Prod Ag	Agri- Science	Orn Hort	Nat Res/ Env Sci	Ag. Products	Ag. Mech.	Ag. Sales & Service	Ag. Comb. Of Courses	Explor- atory Ag	Disad. & Handicap	Part time ag & other
SOUTHERN												
Alabama	341	0	0	24	0	0	4	0	287	26	0	0
Arkansas	273											
Florida	410	28	150	75	20	0	0	0	0	150	0	0
Georgia	332	16	15	53	1	0	8	0	137	25	0	0
Kentucky	246	50	10	40	5	1	30	5	100	5	0	0
Louisiana	238	35	50	25	20	13	40	20	15	20	0	0
Mississippi *	198	85	52	10	0	0	29	0	22	0	0	0
North Carolina	380	120	60	150	0	0	50	0	0	0	0	0
Oklahoma	439	0	0	0	0	0	0	0	435	0	0	0
Puerto Rico	114	80	0	26	2	80	6	0	80	1	15	33
South Carolina	100	10	0	27	0	0	25	0	29	2	1	0
Tennessee	277	0	0	10	0	0	0	0	267	0	0	0
Texas	1,691	0	0	0	0	0	0	0	0	0	0	0
Virginia	288	30	48	37	17	0	22	18	88	20	6	2
Subtotals	5,327	454	385	477	65	94	214	43	1,460	249	22	35
WESTERN												
Alaska	5	0	1	0	4	0	1	0	0	0	0	0
Arizona	91	11	37	3	6	0	4	0	20	6	0	4
California	675	63	122	83	19	0	137	36	0	0	0	0
Colorado	111	0	0	9	4	0	1	0	95	0	0	0
Hawaii	30	5	15	10	0	0	0	0	0	0	0	0
Idaho	116	33	25	1	11	0	46	0	0	0	0	0
Montana	80	0	0	2	0	0	0	0	75	0	0	3
New Mexico	99	85	4	5	0	0	5	0	0	0	0	0
Nevada	26	0	10	3	0	0	9	0	4	0	0	0
Oregon	125	0	0	5	0	0	5	0	113	0	0	2
Utah	96	16	13	10	0	0	11	0	36	0	0	10
Washington	298	*	*	*	*	*	*	*	*	*	*	*
Wyoming	52	52	0	0	0	0	0	0	0	0	0	0
Subtotals	1,804	265	227	131	44	0	219	36	343	6	0	19
US TOTALS	11,189	1,231	843	933	179	105	566	178	3,860	269	24	64

* Data not reported for 2001. Data shown are from 1998 study.

** Column subtotals will not equal overall total because some states did not report categorical data

Table 7

Sources of Agricultural Education Teachers Hired for Beginning of School Year 2000-01, by State and Region

REGION STATE	Total Hired	Moved Schools	New Ag Ed BS/BA	New Ag Ed MS/MA	Other New Ag Col Grads	Other Ed Col New Grads	Other New Col Grads	Previous Ag Ed Grads	Former Ag Teacher	Agri-business Farming	Non Degree	
CENTRAL												
Illinois	61	13	18	0	4	0	0	5	5	4	0	8
Indiana	31	11	14	1	0	0	0	0	3	0	0	2
Iowa	16	4	12	0	0	0	0	0	0	0	0	0
Kansas	21	8	9	0	0	0	0	0	4	0	0	0
Michigan	17	5	10	0	0	2	0	0	0	0	0	0
Minnesota	25	12	12	0	0	0	0	0	1	0	0	0
Missouri	83	34	33	0	1	1	1	1	6	4	1	0
Nebraska	15	3	7	0	0	0	0	3	0	2	0	0
North Dakota	5	1	2	0	0	0	0	0	2	0	0	0
Ohio	30	15	1	2	10	0	0	0	0	5	0	0
South Dakota	7	1	3	0	0	0	0	0	3	0	0	0
Wisconsin	32	7	16	1	0	0	0	0	5	1	2	0
Subtotals	343	114	136	2	15	3	1	9	29	16	3	10
EASTERN												
Connecticut	5	2	1	2	0	0	0	0	0	0	0	0
Delaware	7	1	2	0	1	0	0	0.5	0	2	0	0.5
Maine	2	0	0	0	2	0	0	0	0	0	0	0
Maryland	2	0	0	0	0	0	0	0	0	1	0	0
Massachusetts	8	0	2	0	0	2	0	1	1	1	0	0
New Hampshire	6	0	0	0	0	0	0	0	0	2	1	3
New Jersey	2	1	0	0	0	0	0	0	0	0	0	0
New York	6	0	0	2	0	0	0	2	2	0	0	0
Pennsylvania	9	1	8	0	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0	0	0	0	0
Vermont	2	0	0	0	0	0	0	0	1	1	0	0
West Virginia	2	0	2	0	0	0	0	0	0	0	0	0
Subtotals	51	5	15	4	3	2	0	3.5	4	7	1	3.5

* Data not reported for 2001. Data for 1998 also not reported. Number of "Total Hired" estimated based on net replacement rate reported earlier (7.4%) times 2001 reported "Total Number of Positions."

Table 7 (cont.)

Sources of Agricultural Education Teachers Hired for Beginning of School Year 2000-01, by State & Region

REGION STATE	Total Hired	Moved Schools	New Ag Ed BS/BAMS	New Ag Ed MA	Other	Other	Other	Previous Ag Ed	Former Ag Teacher	Agri-business Farming	Non Degree	
					New Ag Ed Grads	Ed Col New Grads	Ed Col New Grads					
SOUTHERN												
Alabama	12	4	3	2	0	2	0	1	0	0	0	
Arkansas	23	9	8	0	0	0	0	2	1	1	0	
Florida*	32	0	0	0	0	0	0	0	0	0	0	
Georgia	42	12	16	3	0	1	2	1	4	1	2	
Kentucky	20	3	15	2	0	0	0	0	0	0	0	
Louisiana	13	3	4	1	0	3	1	0	1	0	0	
Mississippi*	5	3	2	0	0	0	0	0	0	0	0	
North Carolina	18	2	6	2	2	0	0	0	2	4	0	
Oklahoma	31	0	25	0	0	0	0	0	6	0	0	
Puerto Rico	6	6	0	0	0	0	0	0	0	0	0	
South Carolina	9	4	3	1	0	0	0	0	0	1	0	
Tennessee	14	4	5	0	3	0	0	0	1	1	0	
Texas	160	95	65	0	0	0	0	0	0	0	0	
Virginia	29	6	8	2	0	0	0	2	5	2	0	
Subtotals	414	151	160	13	5	6	3	6	20	10	2	
WESTERN												
Alaska	0	0	0	0	0	0	0	0	0	0	0	
Arizona	19	1	6	0	1	0	0	0	8	2	0	
California	103	52	43	0	0	0	0	3	3	0	0	
Colorado	18	4	9	0	2	0	0	1	2	0	0	
Hawaii	1	1	0	0	0	0	0	0	0	0	0	
Idaho	11.5	6	3	0	0	0	0	0	1	0	0.5	
Montana	15	5	4	0	0	0	0	0	5	0	1	
New Mexico	8	7	0	0	0	0	0	0	0	0	0	
Nevada	3	0	0	0	0	0	0	0	2	0	0	
Oregon	17	7	0	6	1	0	0	0	0	2	0	
Utah	12	5	4	0	1	0	0	2	0	0	0	
Washington	22	9	8	1	0	1	0	3	0	0	0	
Wyoming	10	5	0	0	1	0	0	1	1	1	0	
Subtotals	239.5	102	77	7	6	1	0	10	22	5	2	
US TOTALS	1,047.5	372	388	26	29	12	4	28.5	75	38	8	

* Data not reported for 2001. Data for 1998 also not reported. Number of "Total Hired" estimated based on net replacement rate reported earlier (7.4%) times 1998 reported "Total Number of Positions."

Table 8
Newly Qualified Potential teachers of Agricultural Education for School Year 2000-01 and Their Job Placement as of September 1, 2001, by Institution and Region *

REGION	Institution	Newly Qualified	Teaching in State	Teaching in Different State	Teaching Other Subject	Working in Agribusiness	Working Ext. Service	Farming	Graduate	Other work	Unemployed	Unknown
CENTRAL												
Illinois	Southern Illinois University	13	7	1	2	0	0	1	2	0	0	0
Illinois	Western Illinois University	6	4	0	2	0	0	0	0	0	0	0
Illinois	Illinois State University	3	0	0	0	1	1	1	0	0	0	0
Illinois	University of Illinois	14	8	0	1	2	0	0	0	3	0	0
Indiana	Purdue University	18	7	3	2	3	0	0	2	0	1	0
Iowa	Iowa State University	22	10	0	1	4	0	2	0	2	0	0
Kansas	Kansas State University	12	9	0	0	0	0	1	1	1	0	0
Michigan	Michigan State University	9	9	0	0	0	0	0	0	0	0	0
Minnesota	U. of Minnesota-St. Paul	11	4	2	1	3	0	0	0	1	0	0
Missouri	Southwest Missouri State U.	12	11	0	0	0	0	1	0	0	0	0
Missouri	Northwest Missouri State U.	11	5	2	0	2	0	1	1	0	0	0
Missouri	University of Missouri	17	15	0	1	0	0	0	0	1	0	0
Nebraska	University of Nebraska	9	7	0	0	0	1	1	0	0	0	0
North Dakota	North Dakota State University	8	2	2	0	0	0	1	1	2	0	0
Ohio	Ohio State University	32	10	0	3	2	0	3	8	0	6	0
South Dakota	South Dakota State University	14	1	6	0	2	1	0	0	2	1	1
Wisconsin	U. of Wisconsin-River Falls	22	13	3	0	0	1	1	1	3	0	0
SubTotals		233	122	19	13	19	4	13	16	15	8	1
EASTERN												
Connecticut	University of Connecticut	1	1	0	0	0	0	0	0	0	0	0
Delaware	University of Delaware	4	1	1	0	0	0	0	0	1	1	0
Delaware	Delaware State University	0	0	0	0	0	0	0	0	0	0	0
Maryland	U. of Maryland-Eastern Shore	1	0	0	0	0	0	0	0	0	0	1
Massachusetts	University of Massachusetts	6	2	0	0	2	0	0	0	0	0	2
New Hampshire	University of New Hampshire	2	0	0	0	1	0	0	0	0	0	1
New York	Cornell University	8	3	0	1	1	1	0	0	1	0	1
New York	SUNY Oswego	3	0	1	1	1	0	0	0	0	0	0
Pennsylvania	Pennsylvania State	13	6	2	1	2	0	0	2	0	0	0

Table 8 (cont)

Newly Qualified Potential teachers of Agricultural Education for School Year 2000-01 and Their Job Placement as of September 1, 2001, by Institution and Region *

REGION	State	Institution	Newly Qualified	Teaching in State	Teaching in Different State	Teaching Other Subject	Working in Agribusiness	Working Ext. Service	Farming	Graduate	Other work	Unemployed	Unknown
	Rhode Island	University of Rhode Island	0	0	0	0	0	0	0	0	0	0	0
	West Virginia	West Virginia University	18	4	4	1	1	1	1	4	1	0	0
SubTotals			56	17	8	4	8	2	1	6	3	1	5
SOUTHERN													
	Alabama	Auburn University	14	5	6	0	0	0	0	1	1	0	0
	Arkansas	Southern Arkansas University	3	3	0	0	0	0	0	0	0	0	0
	Arkansas	U. of Arkansas-Fayetteville	1	1	0	0	0	0	0	0	0	0	0
	Florida	University of Florida	19	12	0	0	0	1	0	5	1	0	0
	Georgia	University of Georgia	21	13	0	1	2	0	0	5	0	0	0
	Georgia	Fort Valley State University	4	2	0	0	1	0	0	0	1	0	0
	Kentucky	Murray State University	8	1	2	0	0	0	0	3	1	0	0
	Kentucky	University of Kentucky	20	4	1	0	2	2	2	5	1	0	3
	Kentucky	Western Kentucky	9	3	2	1	1	0	1	1	0	0	0
	Louisiana	Louisiana Tech	3	3	0	0	0	0	0	0	0	0	0
	Louisiana	Southern University	6	3	0	1	1	0	0	1	0	0	0
	Louisiana	U. of Louisiana-Lafayette	2	2	0	0	0	0	0	0	0	0	0
	Louisiana	Louisiana State University	6	4	0	0	0	2	0	0	0	0	0
	Mississippi	Mississippi State University	9	5	1	0	1	0	0	2	0	0	0
	Mississippi	Alcorn State University	2	2	0	0	0	0	0	0	0	0	0
	North Carolina	North Carolina A & T	5	1	0	0	4	0	0	0	0	0	4
	North Carolina	North Carolina State	15	12	0	0	0	0	0	3	0	0	0
	Oklahoma	Oklahoma State	23	16	3	0	3	0	0	1	0	0	0
	Oklahoma	Panhandle State University	9	3	2	0	2	1	0	2	0	0	0
	Puerto Rico	U. of Puerto Rico - Mayaguez	9	5	0	0	2	0	0	1	0	0	1
	South Carolina	Clemson University	11	3	1	2	0	2	0	3	0	0	0
	Tennessee	Tennessee State University	0	0	0	0	0	0	0	0	0	0	0
	Tennessee	Tennessee Tech University	3	2	0	0	0	0	0	0	0	0	1
	Tennessee	U. of Tennessee-Martin	2	2	0	0	0	0	0	0	0	0	0
	Tennessee	Middle Tennessee State U.	6	4	1	0	1	0	0	0	0	0	0
	Tennessee	University of Tennessee	6	2	0	0	0	0	0	3	0	1	0

Table 8 (cont)

Newly Qualified Potential teachers of Agricultural Education for School Year 2000-01 and Their Job Placement as of September 1, 2001, by Institution and Region *

REGION	Institution	Newly Qualified	Teaching in State	Teaching in Different State	Teaching Other Subject	Working in Agribusiness	Working Ext. Service	Farming	Graduate	Other work	Unemployed	Unknown
Texas	Stephen F. Austin	6	2	1	0	0	0	0	0	3	0	0
Texas	Tarleton State University	28	19	1	1	1	1	0	3	0	0	2
Texas	Texas A&M-College Station	36	17	0	3	8	1	1	3	3	0	0
Texas	Southwest Texas State U.	7	4	1	1	1	0	0	0	0	0	0
Texas	Texas Tech	34	11	2	2	8	3	5	2	1	0	0
Texas	Texas A&M U. - Commerce	11	6	0	1	3	0	0	1	0	0	0
Texas	Texas A&M U. - Kingsville	13	5	0	3	2	1	0	1	0	1	0
Texas	Sam Houston State University	19	11	0	4	2	0	0	1	0	0	1
Virginia	Virginia Tech	15	9	0	0	0	2	0	3	0	0	1
Virginia	Virginia State University	2	1	1	0	0	0	0	0	0	0	0
SubTotals		387	198	25	20	45	16	9	50	12	2	13
WESTERN												
Arizona	Arizona State University	7	4	2	0	0	0	0	0	1	0	0
Arizona	University of Arizona	12	5	1	2	2	0	0	1	1	0	0
California	Cal. State-San Luis Obispo	19	17	0	0	0	0	0	0	0	2	0
California	California State-Pomona	4	4	0	0	0	0	0	0	0	0	0
California	California State	14	13	0	1	0	0	0	0	0	0	0
California	Cal. State University-Chico	11	7	1	1	1	0	0	0	1	0	0
California	University of California-Davis	7	4	0	1	2	0	0	0	0	0	0
Colorado	Colorado State University	8	6	1	0	0	0	0	0	0	0	1
Idaho	University of Idaho	17	2	6	0	1	0	4	2	0	2	5
Idaho	U. of Idaho-Boise Center	16	2	6	0	1	0	0	2	1	2	2
Montana	Montana State University	9	2	1	0	5	0	0	1	0	0	0
New Mexico	New Mexico State University	17	3	1	1	3	3	1	3	2	0	0
Nevada	University of Nevada, Reno	2	0	1	1	0	0	0	0	0	0	0
Oregon	Oregon State University	8	7	1	0	0	0	0	0	0	0	0
Utah	Utah State University	15	7	4	0	1	1	0	2	0	0	0
Washington	Washington State University	13	11	1	0	0	0	1	1	3	0	0
Wyoming	University of Wyoming	2	0	0	0	2	0	0	0	0	0	0
SubTotals		181	94	26	7	18	4	6	12	9	6	8
US Totals		857	431	78	44	90	26	29	84	39	17	27

Table 9
Types of Secondary Teaching Positions (FTE) in Agricultural Education on September 1, 2001, by Region and State

REGION STATE	Total Programs	Jr. Hi - HS				Adult YF	School Unknown	Some Adult or YF	Multiple Schools	Single Teacher	Multi Teacher	Area Center
		High School	Middle School	JHS	MS							
CENTRAL												
Illinois	380	380	0	0	0	0	0	0	364	15	4	
Indiana	240	238	2	0	0	0	44	3	143	97	8	
Iowa	241	241	0	0	0	0	0	0	223	18	3	
Kansas	171	146	0	25	0	0	10	2	147	24	1	
Michigan	135	135	0	0	0	0	0	2	99	34	26	
Minnesota	236	236	0	0	0	0	0	20	137	99	9	
Missouri	438	253	5	145	35	0	140	10	192	242	129	
Nebraska	131	0	2	129	0	0	8	125	6	0	4	
North Dakota	85	26	0	59	0	0	1	3	72	13	7	
Ohio	548	520	0	0	28	0	42	0	0	0	179	
South Dakota	83	83	0	0	0	0	7	1	78	5	2	
Wisconsin	316	0	0	316	0	0	0	5	195	121	0	
Subtotals	3,004	2,020	9	674	63	238	252	171	1,656	668	372	
EASTERN												
Connecticut	77	77	0	0	0	0	19	0	1	76	0	
Delaware	44	38	2	4	0	0	0	0	10	34	3	
Maine	28	28	0	0	0	0	0	0	21	7	11	
Maryland	70	68	2	0	0	0	0.5	4	27	43	12	
Massachusetts												
*	102	96	0	0	0	6	0	0	14	82	78	
New Hampshire	35	35	0	0	0	0	0	0	6	29	32	
New Jersey	69	69	0	0	0	0	0	0	37	32	35	
New York	235	190	0	45	0	0	2	2	133	102	80	
Pennsylvania	264	256	5	0	3	0	30	2	131	125	73	
Rhode Island	7	6	0	1	0	0.2	0	0	2	5	0	
Vermont	29	29	0	0	5	-5	5	0	9	20	24	
West Virginia	94	85	6	0	1	2	38	3	49	45	19	
Subtotals	1,054	977	15	50	9	3	94.5	11	440	600	367	

* Data from 1998 study

Table 9 (cont)

Types of Secondary Teaching Positions (FTE) in Agricultural Education on September 1, 2001, by Region and State

REGION STATE	Total Programs	High School	Jr. Hi - HS Middle JHS School MS	Adult YF	School Unknown	Some Adult or YF	Multiple Schools	Single Teacher	Multi Teacher	Area Center	
SOUTHERN						0					
Alabama	341	0	26	341	0	-26	0	4	304	37	28
Arkansas	273	0	3	0	0	270	273	0	0	0	2
Florida	410	155	150	100	0	5	0	0	100	318	5
Georgia	332	227	26	4	51	24	53	3	131	177	4
Kentucky	246	240	6	0	0	0	25	0	56	190	2
Louisiana	238	223	15	0	0	0	0	0	199	39	3
Mississippi *	198	184	4	10	0	0	3	5	122	76	41
North Carolina	380	320	60	0	0	0	0	0	125	145	0
Oklahoma	439	435	0	0	0	4	0	0	293	62	0
Puerto Rico	114	0	0	88	16	10	2	4	88	16	4
South Carolina	100	90	2	2	0	6	80	2	84	8	20
Tennessee	277	270	0	7	0	0	0	3	126	162	11
Texas	1,691	1,413	120	158	0	0	88	124	623	1,139	37
Virginia	288	191	68	6	1	22	112	6	131	157	22
Subtotals	5,327	3,748	480	716	68	315	636	151	2,382	2,526	179
WESTERN											
Alaska	5	5	0	0	0	0	0	0	4	2	2
Arizona	91	91	0	0	0	0	0	2	65	26	0
California	675	646	27	2	0	0	8	3	172	403	3
Colorado	111	111	0	0	0	0	32	0	79	32	16
Hawaii	30	30	0	0	0	0	0	0	28	2	0
Idaho	116	115	1	0	0	0	0	3	70	46	0
Montana	80	45	0	35	0	0	0	1	65	15	2
New Mexico	99	80	5	14	0	0	0	12	49	24	73
Nevada	26	26	0	0	0	0	1	0	15	11	2
Oregon	125	17	0	0	0	108	0	2	97	28	2
Utah	96	88	1	0	7	0	8	0	57	39	2
Washington	298	259	35	0	0	4	0	3	170	128	3
Wyoming	52	52	0	0	0	0	0	6	41	6	1
Subtotals	1,804	1,565	69	51	7	111	49	32	912	762	106
US TOTALS	11,189	8,310	573	1,491	147	667	1,031.5	365	5,390	4,556	1,024

* Data from 1998 study

Table 10

Gender and Race/Ethnicity of Newly Qualified Potential Teachers of Aq. Education on Sept. 1, 2001, by Region & Institution.

REGION	State	Institution	Newly Qualified	African American		Caucasian		Hispanic/Non-Cauc		Native American/Alaskan		Asian/Pacific Islander	
				M	F	M	F	M	F	M	F	M	F
CENTRAL													
	Illinois	Southern Illinois University	13	0	0	6	7	0	0	0	0	0	0
	Illinois	Western Illinois University	6	0	0	4	2	0	0	0	0	0	0
	Illinois	Illinois State University	3	0	0	0	3	0	0	0	0	0	0
	Illinois	University of Illinois	14	0	0	7	7	0	0	0	0	0	0
	Indiana	Purdue University	18	0	0	4	14	0	0	0	0	0	0
	Iowa	Iowa State University	22	0	1	13	8	0	0	0	0	0	0
	Kansas	Kansas State University	12	0	0	7	5	0	0	0	0	0	0
	Michigan	Michigan State University	9	0	0	4	5	0	0	0	0	0	0
	Minnesota	University of Minnesota-St. Paul	11	0	0	5	6	0	0	0	0	0	0
	Missouri	Southwest Missouri State University	12	0	0	6	6	0	0	0	0	0	0
	Missouri	Northwest Missouri State University	11	0	0	9	2	0	0	0	0	0	0
	Missouri	University of Missouri	17	0	0	11	6	0	0	0	0	0	0
	Nebraska	University of Nebraska	9	0	0	3	6	0	0	0	0	0	0
	North Dakota	North Dakota State University	8	0	0	7	1	0	0	0	0	0	0
	Ohio	Ohio State University	32	0	0	20	12	0	0	0	0	0	0
	South Dakota	South Dakota State University	14	0	0	6	8	0	0	0	0	0	0
	Wisconsin	University of Wisconsin-River Falls	22	0	0	13	9	0	0	0	0	0	0
	SubTotals		233	0	1	125	107	0	0	0	0	0	0
EASTERN													
	Connecticut	University of Connecticut	1	0	0	1	0	0	0	0	0	0	0
	Delaware	University of Delaware	4	0	0	2	2	0	0	0	0	0	0
	Delaware	Delaware State University	0	0	0	0	0	0	0	0	0	0	0
	Maryland	University of Maryland-Eastern Shore	1	1	0	0	0	0	0	0	0	0	0
	Massachusetts	University of Massachusetts	6	0	0	3	3	0	0	0	0	0	0
	New Hampshire	University of New Hampshire	2	0	0	1	1	0	0	0	0	0	0
	New Jersey	Rutgers University											
	New York	Cornell University	8	0	0	5	3	0	0	0	0	0	0
	New York	SUNY Oswego	3	0	0	2	1	0	0	0	0	0	0
	Pennsylvania	Pennsylvania State	13	0	0	4	9	0	0	0	0	0	0
	Rhode Island	University of Rhode Island											
	West Virginia	West Virginia University	18	0	0	11	7	0	0	0	0	0	0
	SubTotals		56	1	0	29	26	0	0	0	0	0	0

Table 10 (cont)

Gender and Race/Ethnicity of Newly Qualified Potential Teachers of Ag. Education on Sept. 1, 2001, by Region & Institution.

REGION	State	Institution	Newly Qualified	African American		Caucasian		Hispanic/Non-Cauc		Native American/Alaskan		Asian/Pacific Islander	
				M	F	M	F	M	F	M	F	M	F
SOUTHERN													
	Alabama	Auburn University	14	0	0	14	0	0	0	0	0	0	0
	Arkansas	Southern Arkansas University	3	0	0	2	1	0	0	0	0	0	0
	Arkansas	University of Arkansas-Fayetteville	1	0	0	1	0	0	0	0	0	0	0
	Florida	University of Florida	19	0	0	6	12	0	1	0	0	0	0
	Georgia	University of Georgia	21	0	0	15	5	1	0	0	0	0	0
	Georgia	Fort Valley State University	4	2	1	0	1	0	0	0	0	0	0
	Kentucky	Murray State University	8	0	0	6	2	0	0	0	0	0	0
	Kentucky	University of Kentucky	20	1	0	14	5	0	0	0	0	0	0
	Kentucky	Western Kentucky	9	0	0	8	1	0	0	0	0	0	0
	Louisiana	Louisiana Tech	3	0	0	2	0	0	0	0	1	0	0
	Louisiana	Southern University	6	6	0	0	0	0	0	0	0	0	0
	Louisiana	University of Louisiana-Lafayette	2	0	0	1	1	0	0	0	0	0	0
	Louisiana	Louisiana State University	6	0	0	3	3	0	0	0	0	0	0
	Mississippi	Mississippi State University	9	0	0	7	2	0	0	0	0	0	0
	Mississippi	Alcorn State University	2	1	1	0	0	0	0	0	0	0	0
	North Carolina	North Carolina A & T	5	4	1	0	0	0	0	0	0	0	0
	North Carolina	North Carolina State	15	0	0	7	8	0	0	0	0	0	0
	Oklahoma	Oklahoma State	23	0	0	15	5	0	0	3	0	0	0
	Oklahoma	Panhandle State University	9	0	0	6	3	0	0	0	0	0	0
	Puerto Rico	University of Puerto Rico at Mayaguez	9	0	0	0	0	6	3	0	0	0	0
	South Carolina	Clemson University	11	0	1	6	4	0	0	0	0	0	0
	Tennessee	Tennessee State University	0	0	0	0	0	0	0	0	0	0	0
	Tennessee	Tennessee Tech University	3	0	0	0	3	0	0	0	0	0	0
	Tennessee	University of Tennessee-Martin	2	0	0	1	1	0	0	0	0	0	0
	Tennessee	Middle Tennessee State University	6	0	0	3	3	0	0	0	0	0	0
	Tennessee	University of Tennessee	6	0	0	4	2	0	0	0	0	0	0

Table 10 (cont)

Gender and Race/Ethnicity of Newly Qualified Potential Teachers of Ag. Education on Sept. 1, 2001, by Region & Institution.

REGION	State	Institution	Newly Qualified	African American		Caucasian		Hispanic/Non-Cauc		Native American/Alaskan		Asian/Pacific Islander	
				M	F	M	F	M	F	M	F	M	F
Texas		Stephen F. Austin	6	0	0	5	1	0	0	0	0	0	0
Texas		Tarleton State University	28	0	0	22	5	0	0	0	1	0	0
Texas		Texas A&M-College Station	36	0	0	17	17	2	0	0	0	0	0
Texas		Southwest Texas State University	7	0	0	3	3	0	1	0	0	0	0
Texas		Texas Tech	34	0	0	24	9	1	1	1	0	0	0
Texas		Texas A&M University-Commerce	11	0	0	10	1	0	0	0	0	0	0
Texas		Texas A&M University-Kingsville	13	0	0	4	3	4	2	0	0	0	0
Texas		Sam Houston State University	19	0	0	7	11	0	1	0	0	0	0
Virginia		Virginia Tech	15	0	1	5	9	0	0	0	0	0	0
Virginia		Virginia State University	2	0	1	1	0	0	0	0	0	0	0
SubTotals			387	14	6	219	121	14	9	4	2	0	0
WESTERN													
Arizona		Arizona State University	7	1	0	4	2	0	0	0	0	0	0
Arizona		University of Arizona	12	0	0	2	8	1	0	0	0	0	1
California		California State-San Luis Obispo	19	0	0	6	10	0	0	1	1	1	0
California		California State-Pomona	4	0	0	1	3	0	0	0	0	0	0
California		California State	14	0	0	4	6	2	2	0	0	0	0
California		California State University-Chico	11	7	4	0	0	0	0	0	0	0	0
California		University of California-Davis	7	0	0	1	5	0	1	0	0	0	0
Colorado		Colorado State University	8	0	0	4	4	0	0	0	0	0	0
Idaho		University of Idaho	17	0	0	7	10	0	0	0	0	0	0
Idaho		University of Idaho-Boise Center	16	0	0	7	9	0	0	0	0	0	0
Montana		Montana State University	9	0	0	6	3	0	0	0	0	0	0
New Mexico		New Mexico State University	17	0	0	5	9	1	2	0	0	0	0
Nevada		University of Nevada, Reno	2	0	0	1	1	0	0	0	0	0	0
Oregon		Oregon State University	8	0	0	3	3	1	0	0	1	0	0
Utah		Utah State University	15	0	0	8	7	0	0	0	0	0	0
Washington		Washington State University	13	0	0	7	6	0	0	0	0	0	0
Wyoming		University of Wyoming	2	0	0	2	0	0	0	0	0	0	0
SubTotals			181	8	4	68	86	5	5	1	2	1	1
US Totals			857	23	11	441	340	19	14	5	4	1	1

Table 11
Gender and Race/Ethnicity of Agricultural Education Teachers by Region and State as of September 1, 2001

REGION State	Total		African American		White, Non- Hispanic		Native American		Hispanic		Asian/ Pac. Islander	
	M	F	M	F	M	F	M	F	M	F	M	F
CENTRAL												
Illinois	303	77	1	0	302	77	0	0	0	0	0	0
Indiana	188	52	0	1	187	51	0	0	1	0	0	0
Iowa	202	38	0	0	202	38	0	0	0	0	0	0
Kansas	155	16	1	0	154	16	0	0	0	0	0	0
Michigan	82	53	0	0	82	53	0	0	0	0	0	0
Minnesota	190	46	0	0	190	46	0	0	0	0	0	0
Missouri	361	77	0	0	360	77	0	0	0	0	0	0
Nebraska	107	24	0	0	107	24	0	0	0	0	0	0
North Dakota	80	5	0	0	80	5	0	0	0	0	0	0
Ohio	548	0	1	0	544	0	1	0	2	0	0	0
South Dakota	71	12	0	0	70	12	1	0	0	0	0	0
Wisconsin	241	75	0	0	240	75	0	0	1	0	0	0
Subtotals	2,528	475	3	1	2,518	474	2	0	4	0	0	0
EASTERN												
Connecticut	47	30	0	1	46	29	0	0	1	0	0	0
Delaware	23	21	2	0	21	21	0	0	0	0	0	0
Maine	18	10	0	0	18	10	0	0	0	0	0	0
Maryland	43	26	1	0	42	26	0	0	0	0	0	0
Massachusetts *	64	32	0	0	64	32	0	0	0	0	0	0
New Hampshire	22	13	0	0	22	13	0	0	0	0	0	0
New Jersey	42	22	0	0	42	22	0	0	0	0	0	0
New York	184	51	2	0	181	51	1	0	0	0	0	0
Pennsylvania	**	**	**	**	**	**	**	**	**	**	**	**
Rhode Island	5	3	0	0	5	3	0	0	0	0	0	0
Vermont	23	6	0	0	23	6	0	0	0	0	0	0
West Virginia	85	9	0	0	85	9	0	0	0	0	0	0
Subtotals	556	223	5	1	549	222	1	0	1	0	0	0

Table 11 (cont), Gender and Race/Ethnicity of Agricultural Education Teachers by Region and State as of Sept. 1, 2001

REGION /State	Total		African Amer.		White, Non-Hisp.		Native Amer		Hispanic		Asian/ Pac. Is.	
	M	F	M	F	M	F	M	F	M	F	M	F
SOUTHERN												
Alabama	335	6	57	1	278	5	0	0	0	0	0	0
Arkansas	**	**	**	**	**	**	**	**	**	**	**	**
Florida	236	182	18	2	212	180	0	0	6	0	0	0
Georgia	281	50	28	5	253	45	0	0	0	0	0	0
Kentucky	206	40	0	0	206	40	0	0	0	0	0	0
Louisiana	209	29	12	3	196	26	0	0	1	0	0	0
Mississippi *	180	10	30	0	150	10	0	0	0	0	0	0
North Carolina	**	**	**	**	**	**	**	**	**	**	**	**
Oklahoma	**	**	**	**	**	**	**	**	**	**	**	**
Puerto Rico	73	41	0	0	0	0	0	0	73	41	0	0
South Carolina	88	12	17	0	71	12	0	0	0	0	0	0
Tennessee	239	38	10	3	229	35	0	0	0	0	0	0
Texas	1,450	241	22	1	1,338	224	2	1	88	15	0	0
Virginia	211	77	21	0	190	77	0	0	0	0	0	0
Subtotals	3,508	726	215	15	3,123	654	2	1	168	56	0	0
WESTERN												
Alaska	5	1	0	0	5	1	0	0	0	0	0	0
Arizona	66	24	1	0	57	22	1	2	7	0	0	0
California	41	430	2	1	0	408	10	4	24	12	5	5
Colorado	88	22	0	0	88	22	0	0	0	0	0	0
Hawaii	27	3	0	0	0	0	0	0	0	0	0	0
Idaho	99	17	0	0	99	17	0	0	0	0	0	0
Montana	66	14	0	0	64	14	1	0	1	0	0	0
New Mexico	81	18	0	0	67	10	0	0	14	8	0	0
Nevada	22	4	0	0	22	4	0	0	0	0	0	0
Oregon	102	23	1	0	98	23	0	0	3	0	0	0
Utah	82	14	0	0	82	14	0	0	0	0	0	0
Washington	218	80	0	0	213	80	0	0	5	0	0	0
Wyoming	47	5	0	0	47	5	0	0	0	0	0	0
Subtotals	944	655	4	1	842	620	12	6	54	20	5	5
US TOTALS	7,536	2,079	227	18	7,032	1,970	17	7	227	76	5	5

* Data shown from the 1998 study.

** States not reporting their positions by gender and ethnicity.

Table 12**Agricultural Education Faculty and Colleges of Affiliation by Region in Fall 2001 and US Totals for 1998**

	FTE Positions				Degrees Housed in			Faculty Housed in		
	Asst Assoc Full Prof	Instr- uctor	Grad Teachi ng Asst	Other	College of Agri- culture	College of Educ- ation	Other College	College of Agri- culture	College of Educ- ation	Other college
Sept. 1, 2001										
Central	38.6	5.8	14.3	2.0	9.0	5.3	3.0	20.5	3.5	2.0
Eastern	17.0	4.5	2.0	0.5	6.0	4.0	0.0	7.0	2.0	0.0
Southern	75.1	6.3	39.5	2.0	27.0	4.0	3.0	26.0	7.0	3.0
Western	35.8	1.4	5.0	0.0	14.0	4.0	0.0	15.0	2.0	0.0
US Totals	166.4	18.0	60.8	4.5	56.0	17.3	6.0	68.5	14.5	5.0
US Totals Sept. 1, 1998	155.0	12.1	41.3	10.75	59	13	8	55.4	15.4	12

Discussion and Conclusions**Stability**

The apparent stability in the total number of positions for teachers of agriculture in the United States over the past three decades masks substantive fluctuations during the period. While 10,378 positions in 1965 were fairly close to the 11,189 positions reported in 2001, the numbers ranged from a low of 9,998 in 1992 to a high of 12,844 in 1978. Nevertheless, as of 2001, the number of Agricultural Education teaching positions in the United States has been relatively stable for several years, and is actually slightly higher than when the study began 33 years ago.

Conclusion: The profession is growing slowly in terms of numbers of teaching positions.

Potential Teachers

The number of newly qualified potential teachers of Agricultural Education increased somewhat over the past few years and in 2001 was the highest in over a decade at $n = 857$. Clearly that number represents an important trend of upward movement in the preparation of newly qualified potential teachers of Agricultural Education. The total of newly qualified potential teachers ($n = 857$) exceeded the net replacements needed ($n = 798.5$). Nevertheless, the number of newly qualified potential teachers actually seeking employment as teachers ($n = 693$) fell far short of the net number of replacements needed in 2001.

Conclusion: Given the net need for replacement teachers in 2001, teacher education programs qualified adequate numbers of potential new teachers but, according to their professors, not enough of those newly qualified "probably wanted to teach" to fill the need for replacements.

Teacher Shortage

Agricultural Education programs nationwide experienced a continuing shortfall in the number of fully qualified teachers prepared to accept available teaching positions. Three important indicators support that finding:

- Teachers needed but not available on September 1 (n = 67),
- Teachers with emergency certification (n = 242), and
- Departments that likely would not operate because a teacher was not available (n = 35).

Those conflicting indicators (excess potential teachers available, a shortage of potential teachers actively seeking employment as teachers, positions going unfilled by qualified applicants, and potential teachers failing to secure employment as teachers) indicate a continuing disconnect between available teaching positions and available, qualified potential teachers. Clearly, teachers and positions are not "getting together."

Partially as a result of this study, a national clearinghouse of teacher openings and potential teachers was established on the National FFA web site in 1996 to match available teachers with open positions. The clearinghouse was authorized by the National Council for Agricultural Education, produced with primary leadership from the National Association of Agricultural Educators (NAAE), and funded by the National FFA. State leaders and teacher educators need to make better use of that asset to help match excess teachers in one location to available positions on other locations.

At the same time, we should consider the arguments of those like Brown (1995) and Parmley, Bowen, & Warmbrod (1979), who contended that the shortfall of qualified teachers accepting teaching positions does not constitute a true teacher "shortage." From the perspective of the economist, a shortage exists as an artifact of the imbalance between price offered and price demanded. Whether we call it a teacher shortage or simply refer to the situation as a shortfall in the number of qualified teachers accepting teaching positions, is a matter of semantics. From a practical standpoint, the shortfall of teachers remains with us even though it is not at the critical levels of previous decades.

Two conclusions appear warranted:

Conclusion: A de-facto shortage of Agricultural Education teachers still exists.

Conclusion: Improvements are needed in systems for advising potential new teachers about available teaching positions.

Sources of New Teachers

Two important sources of replacement teachers are previous Agricultural Education graduates and former Agricultural Education teachers. We might speculate that some of those earlier graduates had initially been unable to secure teaching positions in suitable geographic locations initially, and that desirable positions subsequently became available. Other earlier graduates may well have reconsidered whether they wanted to teach after some experience in non-teaching occupations. Many previous teachers who had left the classroom may well have discovered that "the grass is not always greener on the other side of the fence," and decided to return. Regardless, but for a return to the classroom by members of these two groups, the relatively minor shortfall of replacement teaches for Agricultural Education would have been much more substantial in 2001.

Conclusion: Former teachers returning to the classroom and Agricultural Education graduates from previous years continue to make up an important source of replacement teachers for the profession.

Placement Rate

In the 1998 study, the placement rate (63.8 per cent) for newly qualified potential teachers represented a substantial increase over the historic norm of just over 50%. In 2001, that rate fell somewhat back toward its historical norm but remained high at 59.4%. Many non-placements probably result from new graduates who really do not want to teach. The placement rate of those who are newly qualified and who probably wanted to teach was higher still, at 73.4 per cent). Nevertheless, whether we look at the gross placement rate or the placement rate from the more selective group who were judged by their professors as “probably wanted to teach,” a substantial proportion of our newly qualified potential teachers fail to take teaching positions even though positions are going to under-qualified people or indeed remaining unfilled.

Conclusion: Agricultural Education remains a field in which the placement rate is relatively high for those who actually want teaching jobs.

Conclusion: A de-facto shortage of qualified potential teachers willing to accept available positions in the field of Agricultural Education remains a problem for the profession.

Diversity

A small but significant number of our teachers are African American and Hispanic, but only a minuscule number are of Native American or Asian/Pacific Islander descent. The same is true of females. Considering the proportions of the overall population represented by those various minority groups and by females, Agricultural Education teachers are disproportionately white, non-Hispanic males. Both racial and gender percentages vary somewhat by state and region but all minorities are under-represented in Agricultural Education teaching. The general population patterns of the regions may partially explain the racial/ethnic differences among Agricultural Education teachers. One might speculate that the larger percentages of female teachers in the Eastern and Western regions reflect less conservative attitudes toward gender stereotyping than is prevalent in the Southern and Central regions.

Conclusion: Although progress has been made in this area, efforts are still needed to recruit and prepare women into teaching in Agricultural Education.

Conclusion: Ethnic minorities are badly under-represented in Agricultural Education and major efforts should be made to recruit and prepare minority teachers for the profession.

Program Structure

Clearly, programs “labeled” as production agriculture no longer represent the predominant mode of delivery in Agricultural Education. Rather, teachers whose programs consist of various combinations of agriculture courses dominate Agricultural Education. On the other hand, for anyone familiar with the teaching patterns in Agricultural Education, it is a reasonable assumption that many of those combination programs are heavily influenced by production agriculture.

Conclusion: The curriculum in Agricultural Education remains heavily influenced by its historical roots in production agriculture and agricultural mechanics.

Teacher Education

Dykman's (1993) concerns regarding the declining number of teacher education programs in career and technical education holds true in Agricultural Education. The number of agricultural teacher education programs reported in this study in 1989 was 88. In 2001, only 79 programs reported producing any newly qualified potential teachers. A decline in the number of active programs of Agricultural Teacher Education programs may have even more serious long-term implications for the profession than the decline in the number of newly qualified teachers during the same period.

Conclusion: Major efforts are needed to expand the capability of teacher education programs to prepare teachers.

Recommendations

A major effort needs to be undertaken by the profession to further increase the number of newly qualified potential teachers of agriculture.

Research is needed to determine why students enroll in and complete teacher education programs, then choose not to seek teaching positions. Is there something that the profession should be doing to increase the proportion of our graduates and other program completers who seek teaching careers? How can the profession be made more attractive to newly qualified potential teachers of Agricultural Education?

As the number of teacher education programs in Agricultural Education declines, the profession needs to develop a mechanism for supplying qualified teachers for states in which adequate teacher preparation programs are unavailable. Regional or interstate consortia have been used in some places, most notably in the northeastern states where the programs in the University of Vermont, the University of Rhode Island, and the University of Maryland have all been discontinued in the past few years.

Research is needed to describe the kinds of Agricultural Education programs in the various states. What is being taught? Are curriculum reforms that are being reported actually affecting the instruction being delivered by the teachers in their classrooms and laboratories? These questions and many more allied questions have been answered for individual states, but cross-state, regional, even national data are needed.

References

- Brown, J. L. (1995). Patterns of supply and demand of teachers in agricultural education since 1965. Unpublished honors thesis, The Pennsylvania State University.
- Dykman, A. (1993). Who will teach the teachers? Vocational Education Journal, 68(6), 23-27, 53.
- Jarvis, C. D. (1921). Agricultural education, Bulletin 1921, No. 40. Washington, DC: Department of the Interior.
- Lynch R. L. (1991). A national data base on vocational teacher education. Berkeley: National Center for Research in Vocational Education, University of California.
- Lynch, R. L. (1996). In search of vocational and technical teacher education. Journal of Vocational and Technical Education, 13(1), 5-16.

Gerald, D. E. (1999). Projection of education statistics to 2008. Washington, DC: The National Center for Educational Statistics. Available online at <http://nces.ed.gov/pubs98/pj2008/>

National Research Council. (1988) Understanding agriculture: New directions for education. Washington, DC: National Academy Press.

National Center for Educational Statistics. (1992). A comparison of vocational and non-vocational public school teachers of grades 9 to 12, NCES 92-666. Washington, D. C.: Author.

Olson, S. J. (1993) A new source for teachers. Vocational Education Journal, 68(6), 36-39.

Parmley, J. D., Bowen, B. E., & Warmbrod, J. R. (1979, August). The supply and demand of teachers of agriculture: Can the situation be explained. Paper presented at the annual meeting of the Central Region Conference in Agricultural Education, Manhattan, KS.

Rodman, B. (1987, March 13). Teacher education enrollments seen rising in survey. Education Week, pp 1, 5.

Scanlon, D. C., Yoder, E. P., Hoover, T. S., & Johnson, S. S. (1989). Factors affecting past and prospective enrollments in secondary school agricultural education programs and FFA membership. University Park: Department of Agricultural and Extension Education, The Pennsylvania State University.

News Release

FOR IMMEDIATE RELEASE

For further information, contact:

William G. Camp
Department of Agricultural and Extension Education
288 Litton Reaves Hall
Virginia Tech (343)
Blacksburg, VA 24061
voice (540) 231-8188
fax (540) 231-3824
e-mail wgcamp@vt.edu

#####

The Agricultural Education classrooms in America are faced with a shortage of new teachers. An estimated 1,175 new agriculture teachers were needed in the nations' schools in fall of 2001. But, there were only about 693 new graduates looking for teaching positions. Over 300 schools were unable to hire fully qualified teachers of Agricultural Education by the beginning of school in September 2001.

Over 11,000 men and women of all ethnic backgrounds teach agriculture subjects in America's public schools. Agricultural Education teachers are probably best known as FFA advisors, but their main job is preparing students for entry into jobs in the industry of agriculture and agribusiness. Most people study to become agriculture teachers by majoring in Agricultural Education at their state agriculture colleges or land-grant universities.

#####

Fact Sheet
 A NATIONAL STUDY OF THE SUPPLY AND DEMAND
 FOR TEACHERS OF AGRICULTURAL EDUCATION
 IN 2001

Total number of agriculture teaching positions in US	11,189
Number of openings for 2001	1,170
Net number of new teachers needed	799
Number of newly qualified potential teachers	857
Estimated number of newly qualified teachers seeking teaching positions	693
Teachers needed but not available September 1, 2001	67
Teachers with emergency certificates	242
Departments expected to close for 2001-02 due to lack of qualified teacher	35
Types of teaching positions	
High school only	8,311
Middle/junior high school only	573
Full-time adult teachers	147
Others	2,169
Number of teachers with both in-school and adult or Young Farmer programs	1,032
Subjects taught	
Agriscience	843
Combinations of agriculture programs	3,860
Combinations of agriculture and some other subject	64
Ornamental Horticulture	933
Production Agriculture	1,231
Specialty programs, such as Natural Resources Management or Ag Mech.	4,258
Texas had the largest number of teachers	1,691
Alaska had the smallest number of teachers	5

#####

For further information, contact:
 William G. Camp
 Department of Agricultural and Extension Education
 288 Litton Reaves Hall
 Virginia Tech (0343)
 Blacksburg, VA 24061
 voice (540) 231-8188
 fax (540) 231-3824
 e-mail wgcamp@vt.edu