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AUTHOR	Camp, William G.
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ABSTRACT

The 30th annual national survey of the supply of and demand for teachers of agricultural education in the United States examined state, regional, and national supply and demand data for 1994. The supply data were collected from a survey of the head teacher educator in each agricultural education department with a program for specific preparation of teachers of agriculture at higher education institutions in the United States, and the demand data were collected in a survey of the individuals in charge of agricultural education at each state department of education. It was estimated that there were 10,234 agriculture teachers (9,435 of whom were white and non-Hispanic) in the United States in 1994. The total number of openings and net number of openings for new agriculture teachers were estimated at 992 and 694, respectively. It was further estimated that only 643 newly qualified agriculture teachers would be seeking teaching positions and 441 would not be seeking teaching positions, thereby leaving 40 positions unfilled as of September 1, 1994. It was concluded that research is needed to determine why individuals enroll in and complete teacher education programs but decide not to seek teaching positions. (Fourteen tables and 18 references are included.) (MN)

A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF AGRICULTURAL EDUCATION IN 1994

William G. Camp

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

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Table of Contents

List of Tables

A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF AGRICULTURAL EDUCATION IN 1994

This is the 30th annual national survey of the supply and demand for teachers of Agricultural Education in the United States. The annual study is sanctioned by the Agricultural Education Division of the American Vocational Association and is conducted as a service to the profession. The annual studies were conducted from 1965 until 1973 by Dr. Ralph Woodin, initially of the Ohio State University and later of the University of Tennessee, Knoxville. The study was continued by Dr. David Craig of the University of Tennessee from 1974 until 1984. Since 1984, either Dr. J. Dale Oliver or I have been responsible for the annual study. This report provides trend data in a number of tables which are drawn from Dr. Woodin's, Dr. Craig's, Dr. Oliver's, or 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. Since 1988, the costs of the study have been underwritten by Virginia Polytechnic Institute and State University.

Importance of the Study

The enterprise of public education in America is constantly evolving. It often seems totally resistant to management, or even accurate description, as Goodlad (1984) found. Of more immediate concern to the audience of this report, Agricultural Education is in the midst of what may well be radical changes in organization as well as in curriculum (National Research Council, 1988). 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 (Duenk, 1989; Iverson & Trussell, 1988). 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 overall kinds of changes as they are implemented in Agricultural Education programs throughout America.

Background

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. In a much broader study for the National Education Association, Graybeal (1931) reported a total of 1,200 newly qualified agriculture teachers available nationally at the end of school year 1980. Of those, he estimated 850 were available for teaching jobs. He further estimated a demand for only 525 teachers in fall 1980, thus indicating a nationwide surplus of 325 teachers for that year. For the same year, Craig (1983) reported a total of 1,584 newly qualified teacher education graduates; 824 actually entering teaching; 117 vacancies still remaining open as of September 1, 1981; and 454 teachers holding temporary or emergency certification. Clearly the two studies produced grossly different data and thus reached quite different conclusions. 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 yet included only teachers of grades 9-12. This study reported the total number of teachers at 11,072 for the same year.

In light of such discrepancies, there has often been some debate over 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.

Regardless of the theoretical basis for the teacher shortage, a very real problem faced the profession of Agricultural Education in those years--i.e., how to recruit enough people into teaching to fill the need of the profession for replacement teachers. The "teacher shortage" became a constant problem for Agricultural Education. 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 in this study (Camp & Hively, 1988). During the same general timeframe, the number of newly qualified potential teachers of agriculture fell from 1,749 in 1977 to 643 in 1994, as the current study reports. Many of the positions becoming vacant during that time frame were not being 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 became a teacher surplus in the mid-1980s. 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).

More recently, in a Michigan State University study, Scheetz and Slade (1993) found a "good demand" for Agricultural Education teachers, both in Michigan and nationally. Nicholas (1991) found that the balance between supply and demand for teachers of Agricultural Education varied widely by region. She found a slight surplus of teachers in the south-central states and a slight shortag in the middle-Atlantic states and in the northwestern states.

Shapiro (1993) reported on the changes that could be expected in teacher preparation with the development of national standards for teacher certification by the National Board for Professional Teaching Standards. Her contention was that by setting higher standards for teachers, and by improving the conditions under which they will teach, the profession should be able to attract more and better qualified teachers. Olson (1993) contended that an increasing number of highly skilled, technically competent vocational teachers may have to be recruited from industry. In the case of Agricultural Education, that might be interpreted as agri-business or farming.

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 vocational education. The Lynch study pointed out that the numbers of vocational teacher education programs has been steadily declining in recent years. At the same time, federal policies have begun to place greater emphasis on vocational education as a critical component of the public educational system. If the future holds more vocational 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. Does the same contradiction hold true in Agricultural Education?

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. Teachers organizations and teacher educators need current, accurate supply and demand information to use in recruitment activities and in counseling potential teachers of Agricultural Education.

The purpose of the study was to conduct a census of the field of public school Agricultural Education to determine the current situation regarding the supply and demand of teachers as of the end of school year 1993-94 and the beginning of school year 1994-95. Specific questions to be addressed were:

1. What are the current numbers and trends in terms of total numbers of teachers of Agricultural Education?

2. What kinds of programs (curriculum) are being taught by teachers of Agricultural Education?

3. What are the numbers and trends in newly qualified potential teachers of Agricultural Education?

4. What are the numbers and trends in teacher education programs?

Data Collection

This study was a population census. 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 regularly passes responsibility for the study to another faculty member. In those cases, to avoid delays or even losses in handling the instrument, the survey was mailed directly to the person who could be expected to respond.

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.

The initial surveys along with a cover letter and a return envelope were mailed in mid September, 1994. Collection of the data required five mailings, , numerous e-mail reminders on the Agricultural Teacher Education listserv operated by Purdue University, a number of telephone follow-ups, and a fax follow-up. As one might expect, many of the survey responses contained confusing or contradictory responses which required telephone follow-ups to correct or clarify. Even with repeated followups, this year there were a number of non-respondents. Demand (state) reports were not submitted from Florida, Maryland, Maine, New York, Vermont, and Hawaii. Supply (university) reports were not submitted from The University of Wisconsin - Platteville, West Virginia University, Alabama A & M, Louisiana Technological University, Southern University, and Tennessee State University. For those states and universities, 1993 data were used.

Regional and National Summary Data

Throughout the report, the American Association for Agriculturel Education (AAAE) regions were used to organize the data, by region. In that structure the regions and their states are: Central Region, IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI; Eastern Region, CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, WV; Southern Region, AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA; Western Region, AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.

Numbers of Teachers

There is good news for the profession again this year! For the second year in a row, the number of teachers of Agricultural Education in the United States increased slightly. An examination of Table 1, reveals that the total number of programs of Agricultural Education in the United States increased by 115.5 from 1993 to 1994, an increase of 1.1 %. The readers should note that the national total (N = 10,234) given here and cited throughout this report refers to the sum of the number of teachers employed as of September 1, 1994 (n = 10,194) and the number of positions which were still open and for which qualified teachers had not yet been employed as of that date (n = 40).

The number of teachers still needed as of September 1, doubled between 1993 and 1994, but at n = 40, that figure is still quite small. If we combine the number of remaining vacancies (40) with the number of non-operating departments (22), and the number of emergency certificates (84), the shortfall of teachers from all three sources is thus seen to be 146, or about 1.4 % of the total in 1994.

Table 1
Overview of Trends in Agricultural Education Teaching Positions and Personnel Turbulence in the United States for Selected Years

	1980	1991	1992	1993	1994
Total number of positions on September 1	12,510	10,176.5	9,981	10,118.5	10,234
Number of teachers leaving at end of previous sch year	NC	835	844	901	930
Net change in number of positions	+10	-179	-215.5	+137.5	+115.5
Teachers needed but unavailable on September 1	117	10	20	20	40
Teachers with emergency or temporary certificates on September 1	454	88	71	71	84
Departments which will not operate because of lack of qualified teacher	55	13.5	11	20	22

NC Data not collected for year indicated
Net change computed by subtracting total from current year from previous year total.

The total number of Agricultural Education teachers peaked in 1978 at almost 13,000 then declined to under 10,000 in 1992. The increases in the total number teachers in 1993 and again in 1994 were very small, but they came after a fairly steady decline lasting from 1978 to 1992. The number of newly qualified, potential teachers reached an all-time low in 1993 at 636, but climbed slightly in 1994. If both of those long-term downward trends have reached bottoms as of 1993 and 1994, the news for Agricultural Education would be very good, indeed. See Table 2.

Table 2
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 newly qualified to teach during prev SY	Percent of newly qualified entering teaching
1964-65	10,378	120	1,038	64.6
1976-77	12,694	221	1,749	60.8

Table 2 (Continued)
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 newly qualified to teach during prev SY	Percent of newly qualified entering teaching
1977-78	12,844	189	1,791	56.7
1978-79	12,772	144	1,656	54.9
1979-80	12,510	117	1,584	52.0
1980-81	12,450	98	1,468	52.2
1981-82	12,474	35	1,368	51.3
1982-83	12,099	42	1,277	45.6
1983-84	11,960	19	1,249	45.2
1984-85	11,687	8	1,207	40.8
1985-86	11,582	20	964	41.2
1986-87	11,204	14	952	41.6
1987-88	11,072	39	838	42.5
1988-89	10,840	25	588	52.9
1989-90	10,355.5	23	625	53.0
1990-91	10,176.5	9	638	50.9
1991-92	9,981	11	686	53.4
1992-93	10,118.5	20	636	54.2
1993-94	10,234	40	643	56.3

Graduates and Placements

The total number of new potential teachers of Agricultural Education qualified annually, declined steadily from 1980 to 1989, but has stabilized since that time in the range of the mid-600s. See Tables 2 and 3. Of those persons newly qualified to teach during school year 1994, 362 were placed in teaching positions in Agricultural Education. Of those, 313 were placed in Agricultural Education teaching positions in their home states and an additional 49 were placed in other states. When the number placed (n = 362), is compared to the total number of newly qualified teachers (n = 643), the placement rate was 56.3 %, which is consistent with historical results from previous editions of this study. When the placement rate is based on the number of newly qualified teachers who were rated by their professors as "probably wanted to teach," (n = 441), the placement rate was 68.6 %.

Table 3
Trends in Numbers of Newly Qualified Agriculture Teachers and Their Placement

	1974-75	1989-90	1990-91	1991-92	1992-93	1993-94
Total Newly Qualified	1,660	625	638	686	636	643
Probably Wanted To Teach	NC	386	445	475	497	441
Of Newly Qualified, Number Entering Teaching	999	331	325	366	345	362
Percentage of Newly Qualified	60.2	53.0	50.9	53.4	54.2	56.3
Percentage of "Probably Wanted to Teach"	NC	85.8	73.0	77.1	69.4	68.6

NC Data not collected for year indicated

Table 4 provides national data on the reported demand for new teachers over the past five years. The number of teachers hired for the fall term of 1994 was 992, substantially up from the fall 1993 total of 901. When that total was corrected by subtracting the reported 398 teachers who simply moved from one school to another, the replacement demand for new teachers in 1994 was calculated as 594. Thus, there was a net increase both in the total number of positions, and in the number of openings, At the same time, the number of new hires decreased almost 70 teachers, because a larger number of teachers simply moved from one school to another. According to these data, the total demand and for teachers of Agricultural Education in the US was higher in 1994 than it had been for the past 4 years.

Table 4
Trend in Estimated Net Demand for New Agriculture Teachers, 1990-94

	1990	1991	1992	1993	1994
Total Teachers Hired by Sept. 1	979	765.5	844	901	992
Transfers Between Schools	351	221	272	238.5	398
Net Demand for New Teachers	628	544.5	572	662.5	594

Table 5 provides two separate kinds of data. First it lists all Agricultural Education bachelors and masters degree graduates. Second, data are provided on "newly qualified" potential teachers and their placement. The table is thus organized to provide consistency with the format of supply and demand reports prior to the mid-1980s. The reader should note that early supply and demand studies assumed that all BS/BA graduates were teacher education students and that all of those individuals were qualified to teach. Those studies, therefore, reported graduation and placement data on all bachelors degree graduates. The early supply and demand studies also assumed that all newly qualified teachers were bachelors degree graduates. Although both assumptions might have been realistic when the study began in 1965, clearly, they have been invalid for many years. In an attempt to separate teacher education graduates from other graduates and to provide placement data for all teacher education program completers, the more recent surveys, including this one, have grouped together graduation data of all majors but have separated out placement data for all newly qualified teacher education completers. Thus, the first part of Table 5 reports BS/BA graduate totals by major. Clearly, teacher preparation remains the dominant part of the undergraduate program with 532 BS/BA teacher education graduates and an additional 32 graduates of combined teacher education and extension programs. Those two categories accounted for 74.8% of the total of all BS/BA graduates from Agricultural Education programs nationwide.

The second part of Table 5 shows the job-placement patterns of newly qualified teachers from all sources: 4-year, 5-year, and other programs combined (N = 643). The majority (56.3%) of those newly qualified Agricultural Education teachers entered the profession for which they had been educated. Agribusiness jobs (n = 93) and graduate study (n = 54) absorbed most of the remaining newly qualified teachers.

Table 5
Trends in Numbers of Agricultural Education Graduates and Newly Qualified Agricultural Education Teachers Entering Various Occupations

	1975	1980	1985	1990	1994
Graduates					
BS/BA Graduates	1,660	1,584	1,207	769	754
Teaching Majors	NC	NC	NC	529	532
Extension Majors	NC	NC	NC	41	38
Teaching/Extension	NC	NC	NC	54	32
Other Majors	NC	NC	NC	145	152
Masters Graduates	NC	NC	NC	NC	284
Newly Qualified to Teach	1,660	1,584	1,207	625	643
Teaching Ag Ed	999	824	493	295	362
Ag Business	125	219	222	157	93
Graduate Work	163	163	166	109	54
Other Work	164	139	118	61	24
Farming	136	120	115	46	24
Other Teaching	55	36	53	19	23
Armed Forces	[illegible]	25	18	3	NC
Extension Service	NC	NC	29	29	18
Unemployed	NC	57	88	16	15

NC Data not collected for year indicated
Note that not all BS or Masters teacher education graduates are certified to teach.

Types of Teaching Positions

An examination of Table 6, reveals that the vast majority of teachers of Agricultural Education worked exclusively in high school programs in 1994 (n = 8,303). Most of the remaining teachers (n = 1,245) taught in combination high school and junior high or middle school settings. When the number of teachers reported as teaching in two separate schools (n = 383) is considered, it appears that most of the "combination" teachers must be on adjacent or single campuses. Most teachers are in single-teacher departments (n = 6,155) and teach in either Agriscience (n = 1,481) or some combination of agriculture courses (n = 5,257). The number of teachers reported as "production agriculture" was only 776, which is consistent with the widespread curriculum reform movement reported in the Agricultural Education literature.

Table 6
Types of Secondary Teaching Positions in Agricultural Education on September 1, 1994

	Central	Eastern	Southern	Western	US Total
GRADE LEVEL:					
Teaching in high school only	1,972	845	4,040	1,446	8,303
Teaching in JUNIOR high or middle school only	7	10	268	22	307
Combination high school and junior high or middle school	717	65	347	116	1,245
Adult and/or Young Farmer only	55	9	107	0	171
ADULT EDUCATION:					
Teachers with at least some adult and/or Young Farmer responsibilities	487	465	892	369	2,213
MULTIPLE SCHOOLS:					
Teachers teaching in more than one school	218	40	55	70	383
DEPARTMENT SIZE:					
Single teacher dept.	832	1,181	2,354	1,788	6,155
Multi teacher dept.	631	728	1,958	571	3,888
PROGRAM FOCUS:					
Ag Sales & Service	152	2	47	1	202
Agricultural Mechanics	93	96	256	22	467
Agricultural Products	8	1	20	0	29
Agriscience	476	101	824	80	1,481
Comb of Ag Courses	1,462	274	2,315	1,206	5,257
Disadv Handicapped	0	23	115	0	138
Explore/Intro Ag	5	39	228	11	283
Natural Resources	38	70	47	17	172
Ornamental Horticulture	154	169	477	68	868
Part Time Ag	1	57	167	6	231
Production Agriculture	162	169	265	180	776

State and Regional Data

Programs of Agricultural Education

Data on the total number of programs of Agricultural Education and the program foci are presented in Table 7. The reader should note that the number of programs, as given here (N = 10,234) includes 10,194 teachers actually employed on September 1, 1994, plus the number of teachers still needed (n = 40) on that date. An examination of that table reveals that over half of all teachers teach some combination of Agricultural Education courses (n = 5,257). Of the remaining programs, AgriScience was reported as the largest single program (n = 1,481) followed by ornamental horticulture (n = 868) and production agriculture (n = 776). The Southern Region accounted for almost half (n = 4,854) of the total number of teachers of agriculture in the United States (n = 10,234) at the beginning of school year 1994-95. By far the largest state, in terms of teaching positions was Texas (n = 1,457), followed by California (n = 600) and Ohio (n = 532). The smallest programs are Alaska with 7 and Rhode Island with 10.

Sources of New Teachers

Table 8 provides detailed data by state and by region on the numbers of teachers hired and the sources of those teachers for school year 1994-95. The Southern Region also accounted for almost half (n = 435) of the teachers hired (n =992). Only 11 states reported any teachers still needed but unavailable at the beginning of the new school year. California reported the largest number at 6. Finally, table 8 reflects the sources of those newly hired teachers. Clearly, the largest single source of new teachers was not new teachers at all. rather, the largest group represented teachers who simply moved from one school to another (n = 398). The second major source of the newly hired teachers was new BS/BA graduates from Agricultural Education programs (n=335). Subtracting the teachers who "moved" from the total hired, there was a net demand of 594 new teachers in 1995, with 307 of those being hired in the Southern region. As one might expect, Texas had both the largest total number of teachers hired (n = 180) as well as the largest net number of new teachers hired (n = 125).

Teacher Education Completers and Placements

Table 9 shows the reported numbers of newly qualified teachers of agriculture during the 1993-94 school year by institution and by region and their placement on September 1, 1994. The reader should understand that the number of "newly qualified teachers" represents a composite of BS/BA graduates of teacher education programs, undergraduate certification-only program completers, and graduate teacher certification program completers. In fact, the number should be considered potential teachers, since just over half actually enter teaching. By adding the figures for both in-state and out-of-state placement, we find that Tarlton State University in Texas produced the largest number of actual new teachers in the nation in 1994 (n = 22), with Oklahoma State coming in second (n = 21). The primary occupation in which newly qualified potential teachers of agriculture found employment was in teaching agriculture (n = 362, 313 in the state in which they went to school and 49 in other states). The second largest was agribusiness (n = 93) followed by graduate school (n = 54).

According to the surveys returned in 1994, programs at the following institutions have either been discontinued or produced no newly qualified teachers in 1994: University of Connecticut, University of Maryland-Eastern Shore, University of Rhode Island, Tuskeegee Institute, University of Arkansas-Pine Bluff, and University of Nevada-Reno. In general, newly qualified potential teachers of agriculture who did not enter Agricultural Education, entered a wide range of occupations including agri-business, cooperative extension, full-time farming, graduate school, teaching subjects other than agriculture, and other work. Very few of these persons (n = 15) were known to be unemployed as of September 1, 1994. Of the total of 643, only 30 were not accounted for in the reports submitted.

Program Structure

Table 10 provides several different kinds of data to describe the structure of Agricultural Education programs by state and region. First, data on school level are provided. As was discussed earlier, the majority of Agricultural Education teachers teach solely at the high school level (n = 8,303) followed by teachers with a combination high school and junior high school or middle school responsibilities (n = 1,043). Interestingly, teachers in junior high or middle school programs are concentrated in the Southern Region (n=268) and in a few states, with Florida (n = 98) and Virginia (n = 67) having over half (53.7 %) of all such programs in the nation.

Very few Agricultural Education teachers teach solely in adult or Young Farmer programs (n = 171). Georgia, with 67 adult/Young Farmer teachers, reported over one-third (39.2 %) of all solely adult teachers in the country. On the other hand, a great many teachers have at least some adult or Young Farmer responsibilities (n = 2,213). Most Agricultural Education teachers teach in single teacher departments (n = 6,155) with multi-teacher departments accounting for 3,888 teachers.

Race/Ethnicity and Gender of Potential Teachers

Table 11 provides data regarding the racial/ethnic makeup of newly qualified, potential teachers of Agricultural Education, by institution and region. Clearly, if student needs and diversity are considered, the profession has little to brag about in this section. Only 17 African-Americans were among the newly-qualified potential teachers in the United States in 1994. They were graduates of only 9 institutions. The entire Central Region had no non-white newly qualified potential teachers in 1994. The Eastern Region produced only 2 non-white potential new teachers, both Hispanic, and the Western Region produced 2 Hispanic and 1 African-American newly qualified potential teacher in 1994.

Race/Ethnicity and Gender of Agricultural Education Teachers

Given the lack of diversity among our newly qualified potential teachers (Table 11), it is little wonder that the data in Table 12 reflects that 9,435 of the 10,234 Agricultural Education teachers in the US in 1994 were white, non-Hispanic. Of the total of 337 African American teachers of agriculture reported in the US in 1994, 295, or 87.5 % were in the Southern Region, with most of those concentrated in Alabama, Mississippi, North Carolina, and Virginia. Oklahoma reported over half (n = 27) of the 46 native American teachers in the country, with most of the rest teaching in California. Only 41 teachers were reported as Asian or Pacific Islanders in 1994. Hawaii reported 28, California reported 10, and New York reported 2.

Table 12 also provides data regarding the gender of teachers in the profession. Males dominated with 8,839 of the 10,234 total, or 86.4 % of the total. California reported 150 female teachers (15.4 %) out of the US total of 970. In general, Southern Region states and the Central Region states had fewer females (at about 6.6 % and 8.7%, respectively), than the Western region (14.9%) and Eastern region (16.9%). Interestingly, Utah and North Dakota reported all of their teachers were white males.

Other University Information

Extension Graduates and Placement

A breakout of the BS/BA extension graduates and their placement in Cooperative Extension positions are provided in Table 13. The total number of Agricultural Education BS/BA graduates with majors in extension education was 145 during school year 1993-94. The reader should note that this does not include people whose programs were reported as "Combination Teaching and Extension," but rather as "Extension Only." Of those, only 17 had been employed in extension positions by September 1, 1994, for an 11.7 % placement rate. See Table 13.

Table 7
Programs of Agricultural Education and Their Primary Program Focus by State and Region a

REGION STATE	Total Number of Programs	Comb of Ag Courses	Agri-Science	Orn Hort	Production Ag	Nat Res Mgt	Ag Prod-ducts	Ag Mech	Ag Sales & Svc	Explor Intro Ag	Disad & Hand	Ag & Other Subjects
CENTRAL												
IA	218	0	0	0	109	0	0	0	109	0	0	0
IL	337	275	10	48	0	0	0	2	0	0	0	0
IN	242	232	0	6	0	0	0	3	0	0	0	0
KS	168	151	3	0	6	0	0	6	2	0	0	0
MI	147	0	136	0	0	0	0	10	0	0	0	0
MN	202	0	0	0	0	0	0	0	0	0	0	0
MO	331	301	3	12	0	5	1	7	1	0	0	0
ND	79	79	0	0	0	0	0	0	0	0	0	0
NE	133	133	0	0	0	0	0	0	0	0	0	0
OH	532	0	292	85	26	27	6	55	33	0	0	0
SD	89	85	0	0	2	0	0	2	0	0	0	0
WI	291	207	32	3	19	6	1	8	7	5	0	1
Subtotals	2,769	1,462	476	154	162	38	8	93	152	5	0	1
EASTERN												
CT	65	65	0	0	0	0	0	0	0	0	0	0
DE	31	12	0	12	0	0	0	4	0	0	1	2
MA	76	5	0	31	17	4	0	11	1	2	1	3
MD	66	39	20	0	0	0	0	0	0	4	3	0
ME	25	3	0	3	0	6	0	0	0	13	0	0
NH	32	6	2	10	2	7	0	3	0	1	2	0
NJ	71	13	5	43	3	4	1	2	0	0	1	0
NY	270	89	0	29	36	25	0	15	0	15	12	49
PA	242	0	34	31	109	15	0	51	0	0	0	0
RI	10	0	0	0	0	0	0	0	0	0	0	0
VT	31	13	0	1	2	5	0	5	0	0	0	3
WV	95	29	40	9	0	4	0	5	1	4	3	0
Subtotals	1,014	274	101	169	169	70	1	96	2	39	23	57

a The reader should note that program, totals include 40 programs for which no teacher had been hired as of September 1, 1994, as well as 10,194 teachers who were actually employed as of that date

Table 7 (Continued)
Programs of Agricultural Education and Their Primary Program Focus by State and Region a

REGION STATE	Total Number of Programs	Comb of Ag Courses	Agri-Science	Orn Hort	Production Ag	Nat Res Mgt	Ag Products	Ag Mech	Ag Sales & Svc	Explor Intro Ag	Disad & Hand	Ag & Other Subjects
SOUTHERN												
AL	372	324	0	24	0	0	7	2	0	15	0	0
AR	261	167	0	0	0	0	0	7	0	7	0	80
FL	404	0	150	120	0	2	2	0	0	98	11	0
GA	275	60	5	0	50	0	0	34	10	24	0	25
KY	257	188	0	54	0	0	0	12	3	0	0	0
LA	227	227	0	0	0	0	0	0	0	0	0	0
MS	185	0	30	18	34	0	0	30	19	42	0	0
NC	310	102	10	70	60	15	0	26	0	16	0	10
OK	445	430	0	20	0	0	0	0	0	0	9	0
SC	123	23	0	14	48	3	0	14	0	0	0	20
TN	237	0	61	56	51	4	0	57	3	0	0	5
TX	1,457	671	543	72	0	5	1	50	0	0	85	25
VA	301	123	25	29	22	18	10	24	12	26	10	2
Subtotals	4,854	2,315	824	477	265	47	20	256	47	228	115	167
WESTERN												
AK	7	7	0	0	0	0	0	0	0	0	0	0
AZ	80	0	1	13	61	1	0	0	0	0	0	4
CA	600	596	0	0	0	0	0	0	0	0	0	0
CO	94	73	7	10	0	10	0	0	1	0	0	0
HI	32	32	0	0	0	0	0	0	0	0	0	0
ID	88	64	4	0	9	3	0	4	0	2	0	2
MT	73	72	0	0	0	0	0	0	0	0	0	0
NM	83	35	0	7	35	0	0	2	0	3	0	0
NV	27	23	0	3	0	0	0	0	0	0	0	0
OR	118	108	0	7	0	2	0	0	0	0	0	0
UT	68	5	30	10	20	1	0	2	0	0	0	0
WA	277	191	38	18	5	0	0	14	0	6	0	0
WY	50	0	0	0	50	0	0	0	0	0	0	0
Subtotals	1,597	1,206	80	68	180	17	0	22	1	11	0	6
US TOTALS	10,234	5,257	1,481	868	776	172	29	467	202	283	138	231

a The reader should note that program totals include 40 programs for which no teacher had been hired as of September 1, 1994, as well as 10,194 teachers who were actually employed as of that date. Also note that column totals will not sum to overall total because of under-reporting.

Table 8

Sources of Agricultural Education Teachers Hired for Beginning of School Year 1994-95, by State and Region

REGION STATE	Total Hired	Moved Between Schools	New Ag Ed BS/BA	New Ag Ed MS/MA	Other New Ag College Grads	Other New Ed College Grads	Other College New Grads	Previ-ous Ag Ed Grads	Former Ag Teacher	Agri-Bus-iness	Farm-ing	Non-Degree	Un-known
CENTRAL													
IA	25	6	16	0	0	0	0	0	3	0	0	0	0
IL	59	23	12	0	1	0	0	4	14	3	0	2	0
IN	13	0	4	1	0	0	0	0	8	0	0	0	0
KS	13	4	8	0	0	0	0	1	0	0	0	0	0
MI	15	6	4	0	0	0	0	0	4	1	0	0	0
MN	11	4	5	0	0	0	0	0	1	1	0	0	0
MO	51	16	26	0	0	0	0	0	9	0	0	0	0
ND	9	1	2	0	0	0	0	5	1	0	0	0	0
NE	9	4	2	0	1	0	1	0	1	0	0	0	0
OH	0	0	0	0	0	0	0	0	0	0	0	0	0
SD	13	5	5	0	0	0	0	0	2	1	0	0	0
WI	30	4	9	0	0	3	0	6	8	0	0	0	0
Subtotals	248	73	93	1	2	3	1	16	51	6	0	2	0
EASTERN													
CT	5	2	0	0	0	0	0	0	2	1	0	0	0
DE	5	1	2	0	0	0	0	0	0	1	0	0	1
MA	9	4	4	0	0	0	1	0	0	0	0	0	0
MD	8	2	0	0	0	0	0	1	1	2	0	2	0
ME	1	0	0	0	0	0	0	0	0	0	0	0	1
NH	4	0	1	0	0	0	0	0	2	1	0	0	0
NJ	2	2	0	0	0	0	0	0	0	0	0	0	0
NY	9	2	3	2	1	0	0	0	0	1	0	0	0
PA	12	3	8	1	0	0	0	0	0	0	0	0	0
RI	0	0	0	0	0	0	0	0	0	0	0	0	0
VT	4	0	1	0	0	0	0	0	1	1	1	0	0
WV	2	0	2	0	0	0	0	0	0	0	0	0	0
Subtotals	61	16	21	3	1	0	1	1	6	7	1	2	2

Table 8 (Continued)
Sources of Agricultural Education Teachers Hired for Beginning of School Year 1994-95, by State and Region

REGION STATE	Total Hired	Moved Between Schools	New Ag Ed BS/BA	New Ag Ed MS/MA	Otner New Ag College Grads	Other New Ed College Grads	Other College New Grads	Previ-ous Ag Ed Grads	Former Ag Teacher	Agri-Bus-iness	Farm-ing	Non-Degree	Un-known
SOUTHERN													
AL	20	9	11	0	0	0	0	0	0	0	0	0	0
AR	31	9	8	3	0	0	0	3	8	0	0	0	0
FL	23	3	8	0	2	0	0	0	0	0	0	0	10
GA	17	7	6	4	0	0	0	0	0	0	0	0	0
KY	22	3	9	2	0	0	0	7	1	0	0	0	0
LA	32	14	1	0	0	0	0	0	2	0	0	0	15
MS	6	2	3	0	0	0	0	0	0	1	0	0	0
NC	40	14	17	3	2	0	0	0	3	1	0	0	0
OK	26	0	22	0	0	0	0	0	4	0	0	0	0
SC	1	0	0	0	0	0	0	0	0	1	0	0	0
TN	13	8	5	0	0	0	0	0	0	0	0	0	0
TX	180	55	62	5	0	0	0	10	48	0	0	0	0
VA	24	4	11	0	0	0	0	3	3	3	0	0	0
Subtotals	435	128	163	17	4	0	0	23	69	6	0	0	25
WESTERN													
AK	0	0	0	0	0	0	0	0	0	0	0	0	0
AZ	17	2	4	1	0	0	0	1	6	0	0	0	3
CA	84	30	23	0	3	0	0	2	10	2	3	1	10
CO	20	7	10	0	0	0	0	0	3	0	0	0	0
HI	0	0	0	0	0	0	0	0	0	0	0	0	0
ID	11	4	3	0	0	0	0	1	3	0	0	0	0
MT	14	5	3	0	0	0	0	2	3	0	0	1	0
NM	23	12	6	0	0	0	1	1	1	1	0	0	1
NV	2	2	0	0	0	0	0	0	0	0	0	0	0
OR	18	2	0	8	0	0	3	0	4	0	0	0	1
UT	2	0	2	0	0	0	0	0	0	0	0	0	0
WA	52	15	6	1	9	7	0	7	1	5	1	0	0
WY	5	2	1	0	0	0	0	0	1	0	0	0	1
Subtotals	248	81	58	10	12	7	4	14	32	8	4	2	16
US TOTALS	992	398	335	31	19	10	6	54	158	27	5	6	43

Table 9

Newly Qualified Potential teachers of Agricultural Education and Their Job Placement on September 1, 1994, by Institution and Region

REGION STATE	INSTITUTION	Newly Qual-ified	Teach Ag, In State	Teach Ag Out of State	Teach Other Subject	Work In Ag Bus	Exten-sion Service	Farm Full Time	Grad School	Other Work	Unem-ployed
CENTRAL											
IA	Iowa State U.	15	7	0	1	3	0	1	2	1	0
IL	Illinois State	5	3	0	0	0	0	0	1	0	0
IL	Southern Illinois U.	4	3	0	0	1	0	0	0	0	0
IL	U. of Illinois	7	4	0	0	1	0	0	1	0	0
IL	Western Illinois U.	1	1	0	0	0	0	0	0	0	0
IN	Purdue U.	12	4	0	0	6	0	1	1	0	0
KS	Kansas State U.	2	0	0	0	1	0	0	0	0	0
MI	Michigan State U.	2	2	0	0	0	0	0	0	0	0
MO	NW Missouri State U.	6	1	1	1	1	0	0	1	1	0
MO	SW Missouri State U.	7	5	1	0	1	0	0	0	0	0
MO	U. of Missouri-Columbia	10	7	1	0	1	0	0	0	1	0
MN	U. of Minnesota	10	5	1	1	2	0	0	0	0	1
ND	North Dakota State U.	7	2	1	1	1	1	0	0	1	0
NE	U. of Nebraska	8	4	1	0	1	0	1	0	0	1
OH	Ohio State U.	14	9	0	1	3	2	0	0	0	0
SD	South Dakota State U.	8	6	1	0	1	0	0	0	0	0
WI	U. of Wisconsin-Madison	4	2	0	0	2	0	0	0	0	0
WI	U. of WI-Platteville	5	1	2	0	1	0	0	1	0	0
WI	U. of WI-River Falls	8	5	0	0	3	0	0	0	0	0
	Subtotals	135	71	9	5	29	3	3	7	4	2
EASTERN											
CT	U. of Connecticut	0	0	0	0	0	0	0	0	0	0
DE	Delaware State U.	1	0	0	0	0	0	0	0	1	0
DE	U. of Delaware	2	0	0	0	0	0	0	1	0	0
MA	U. of Massachusetts	7	5	2	0	0	0	0	0	0	0
MD	U. of Maryland-E Shore	0	0	0	0	0	0	0	0	0	0
NH	U. of New Hampshire	4	0	1	0	2	0	0	0	0	1
NJ	Rutgers U.	2	0	0	0	0	0	0	0	0	0
NY	Cornell U	8	2	0	1	0	0	2	3	0	0
PA	Pennsylvania State U.	17	9	1	0	4	0	1	0	0	0

Table 9 (Continued)

Newly Qualified Potential teachers of Agricultural Education and Their Job Placement on September 1, 1994, by Institution and Region

REGION STATE	INSTITUTION	Newly Qual-ified	Teach Ag, In State	Teach Ag Out of State	Teach Other Subject	Work in Ag Bus	Exten-sion Service	Farm Full Time	Grad School	Other Work	Unem-ployed
WV	West Virginia U.	4	2	1	0	0	0	0	1	0	0
	Subtotals	45	18	5	1	6	0	3	5	1	1
SOUTHERN											
AL	Auburn U.	17	5	1	1	2	0	1	1	0	0
AL	Tuskegee Institute	0	0	0	0	0	0	0	0	0	0
AR	Arkansas State U.	3	3	0	0	0	0	0	0	0	0
AR	U. of AR-Fayetteville	9	6	0	0	2	1	0	0	0	0
AR	U. of AR-Pine Bluff	0	0	0	0	0	0	0	0	0	0
FL	U. of Florida	9	5	0	0	0	0	0	0	0	0
GA	Fort Valley State U	2	1	0	0	0	0	0	0	1	0
GA	U. of Georgia	16	8	0	0	1	0	1	3	2	1
KY	Murray State U.	7	0	3	0	0	0	2	1	1	0
KY	U. of Kentucky	7	3	0	0	0	0	1	1	2	0
KY	Western Kentucky U.	17	8	2	0	3	1	1	2	0	0
LA	Louisiana State U.	5	4	0	0	1	0	0	0	0	0
LA	Southwest Louisiana U.	2	2	0	0	0	0	0	0	0	0
LA	Louisiana Tech U.	1	0	0	0	0	0	0	1	0	0
LA	Southern U.	2	0	0	0	0	0	0	2	0	0
MS	Alcorn State U.	6	3	1	0	0	0	0	1	1	0
MS	Mississippi State U.	4	1	1	0	0	0	0	1	1	0
NC	North Carolina A & T	4	4	0	0	0	0	0	0	0	0
NC	North Carolina State U.	17	10	0	0	2	1	1	2	1	0
OK	Cameron U.	4	1	0	0	1	0	1	0	0	1
OK	Oklahoma State U.	35	14	7	0	8	2	1	1	1	1
OK	Panhandle State U.	7	2	3	0	0	0	1	0	0	1
SC	Clemson U.	8	0	1	1	3	0	0	2	0	1
TN	Middle Tennessee State	3	1	1	0	1	0	0	0	0	0
TN	Tennessee State U.	1	1	0	0	0	0	0	0	0	0
TN	Tennessee Tech U.	3	0	0	0	0	0	1	0	0	2

Table 9 (Continued)
Newly Qualified Potential teachers of Agricultural Education and Their Job Placement on September 1, 1994, by Institution and Region

REGION STATE	INSTITUTION	Newly Qual-ified	Teach Ag, In State	Teach Ag Out of State	Teach Other Subject	Work In Ag Bus	Exten-sion Service	Farm Full Time	Grad School	Other Work	Unem-ployed
TN	U. of Tenn-Knoxville	5	3	1	0	1	0	0	0	0	0
TN	U. of Tenn-Martin	1	1	0	0	0	0	0	0	0	0
TX	East Texas State U.	9	6	0	1	1	0	0	1	0	0
TX	Sam Houston State U.	27	17	0	3	2	0	0	0	3	1
TX	Southwest Texas State	4	1	0	0	1	0	0	0	1	0
TX	Stephen F. Austin St. U.	12	5	0	1	3	0	0	3	0	0
TX	Tarleton State U.	39	22	0	0	12	1	0	4	0	0
TX	Texas A & M	26	9	0	5	1	1	0	6	0	2
TX	Texas A & M-Kingsville	8	6	0	0	1	0	0	0	1	0
TX	Texas Tech U.	39	10	3	0	4	7	7	8	0	0
VA	Virginia State U.	1	1	0	0	0	0	0	0	0	0
VA	Virginia Tech	7	4	1	0	0	0	0	0	2	0
	Subtotals	367	167	25	12	50	14	18	40	17	10
WESTERN											
AZ	U. of Arizona	7	5	1	0	1	0	0	0	0	0
CA	Cal. State Univ.-Chico	9	7	2	0	0	0	0	0	0	0
CA	U. of Cal.-Davis	6	5	0	1	0	0	0	0	0	0
CA	Cal. State U.-Fresno	6	5	0	0	0	0	0	0	1	0
CA	Cal. Poly State-Pomona	6	5	0	1	0	0	0	0	0	0
CA	Cal. Poly-San Luis Obispo	13	8	1	1	1	0	0	0	0	2
CO	Colorado State U.	6	3	0	0	2	0	0	1	0	0
ID	U. of Idaho	10	3	3	0	0	1	0	1	0	0
MT	Montana State U.	6	2	2	0	2	0	0	0	0	0
NM	New Mexico State U.	7	1	0	2	1	0	0	0	1	0
NV	U. Of Nevada-Reno	0	0	0	0	0	0	0	0	0	0
OR	Oregon State U.	5	4	0	0	1	0	0	0	0	0
UT	Utah State U.	4	3	1	0	0	0	0	0	0	0
WA	Washington State U.	6	6	0	0	0	0	0	0	0	0
WY	U. Of Wyoming	5	0	0	0	0	0	0	0	0	0
	Subtotals	96	57	10	5	8	1	0	2	2	2
	US TOTAL	643	313	49	23	93	18	24	54	24	15

Table 10
Types of Secondary Teaching Positions in Agricultural Education on September 1, 1994, by State and Region a

REGION STATE	High School	Jr Hi/ Mid Sch	HS/JHS /MS	Adult /YF	School Unk	Some Adult/YF	Multiple Sch	Single Teacher	Multi Teacher	Dept Unk
CENTRAL										
IA	218	0	0	0	0	3	142	222	67	0
IL	334	1	0	0	0	0	0	10	21	0
IN	0	0	237	0	0	0	0	7	68	0
KS	168	0	0	0	0	0	41	25	0	0
MI	146	0	0	0	0	0	0	6	4	0
MN	2	0	202	0	0	2	0	8	21	0
MO	305	0	0	25	0	49	12	50	45	0
ND	70	0	8	0	1	250	4	127	147	0
NE	0	0	133	0	0	129	12	64	172	21
OH	492	2	0	30	0	4	2	198	39	0
SD	89	0	0	0	0	31	0	69	25	0
WI	148	4	137	0	0	19	5	46	22	0
Subtotals	1,972	7	717	55	1	487	218	832	631	21
EASTERN										
CT	65	0	0	0	0	90	5	203	127	0
DE	31	0	0	0	0	0	6	74	4	0
MA	75	0	0	0	0	4	5	32	39	0
MD	4	0	0	0	15	8	2	126	144	0
ME	25	0	0	0	0	44	2	120	120	0
NH	30	2	0	0	0	207	0	217	10	0
NJ	58	0	13	0	0	19	2	108	77	0
NY	218	5	47	0	0	93	7	113	9	0
PA	232	2	0	6	0	0	0	7	0	0
RI	10	0	0	0	0	0	9	47	33	0
VT	8	0	1	2	0	0	1	21	6	0
WV	89	1	4	1	0	0	1	113	159	0
Subtotals	845	10	65	9	15	465	40	1181	728	0

a The reader should note that program totals include 40 programs for which no teacher had been hired as of September 1, 1994, as well as 10,194 teachers who were actually employed as of that date. Also note that column totals will not sum to overall total because of under-reporting.

Table 10 (Continued)
Types of Secondary Teaching Positions in Agricultural Education on September 1, 1994, by State and Region a

REGION STATE	High School	Jr Hi/ Mid Sch	HS/JHS /MS	Adult /YF	School Unk	Some Adult/YF	Multiple Sch	Single Teacher	Multi Teacher	Dept Unk
SOUTHERN										
AL	304	15	0	0	53	47	6	281	54	0
AR	24	7	230	0	0	35	4	215	26	0
FL	215	98	0	1	11	24	0	129	4	0
GA	250	22	2	67	0	160	5	224	300	0
KY	232	0	4	21	0	9	0	6	19	0
LA	207	10	10	0	0	5	0	12	20	0
MS	174	11	0	0	0	12	3	288	84	0
NC	296	13	0	0	0	0	5	288	114	0
OK	443	0	0	16	0	600	10	603	847	0
SC	120	1	1	0	0	0	10	150	446	0
TN	233	4	0	0	0	0	0	29	3	0
TX	1,340	20	95	0	0	0	8	69	19	0
VA	202	67	5	6	0	0	4	60	22	0
Subtotals	4,040	268	347	107	64	892	55	2,354	1,958	0
WESTERN										
AK	7	0	0	0	0	0	21	207	12	0
AZ	80	0	0	0	0	0	0	148	20	0
CA	586	10	0	0	0	0	2	104	42	0
CO	94	0	0	0	0	15	16	182	20	0
HI	24	0	8	0	0	0	3	77	12	0
ID	53	2	33	0	0	17	2	2	63	0
MT	32	0	40	0	0	41	2	193	68	0
NM	46	3	33	0	0	70	3	170	39	0
NV	25	0	2	0	0	55	4	393	66	0
OR	117	1	0	0	0	148	14	130	171	0
UT	66	0	0	0	2	15	0	57	15	0
WA	266	6	0	0	0	0	1	85	33	0
WY	50	0	0	0	0	8	2	40	10	0
Subtotals	1,446	22	116	0	2	369	70	1,788	571	0
US TOTALS	8,303	307	1,245	171	82	2,213	383	6,155	3,888	21

a The reader should note that program totals include 40 programs for which no teacher had been hired as of September 1, 1994, as well as 10,194 teachers who were actually employed as of that date. Also note that column totals will not sum to overall total because of under-reporting.

Table 11

Race and Ethnicity of Newly Qualified Potential Teachers of Agricultural Education on Sept 1, 1994, by Institution and Region

REGION STATE	INSTITUTION	Newly Qualified	African American	White, Non-Hispanic	Native American	Hispanic	Asian Pacific
CENTRAL							
IA	Iowa State U.	15	0	15	0	0	0
IL	Illinois State	5	0	5	0	0	0
IL	Southern Illinois U.	4	0	4	0	0	0
IL	U. of Illinois	7	0	7	0	0	0
IL	Western Illinois U.	1	0	1	0	0	0
IN	Purdue U.	12	0	12	0	0	0
KS	Kansas State U.	2	0	2	0	0	0
MI	Michigan State U.	2	0	2	0	0	0
MO	Northwest Missouri State U.	6	0	6	0	0	0
MO	Southwest Missouri State U.	7	0	7	0	0	0
MO	U. of Missouri-Columbia	10	0	10	0	0	0
MW	U. of Minnesota	10	0	10	0	0	0
ND	North Dakota State U.	7	0	7	0	0	0
NE	U. of Nebraska	8	0	8	0	0	0
OH	Ohio State U.	14	0	14	0	0	0
SD	South Dakota State U.	8	0	8	0	0	0
WI	U. of Wisconsin-Madison	4	0	4	0	0	0
WI	U. of Wisconsin-Platteville	5	0	5	0	0	0
WI	U. of Wisconsin-River Falls	8	0	8	0	0	0
	Subtotals	135	0	135	0	0	0
EASTERN							
CT	U. of Connecticut	0	0	0	0	0	0
DE	Delaware State U.	1	0	1	0	0	0
DE	U. of Delaware	2	0	2	0	0	0
MA	U. of Massachusetts	7	0	7	0	0	0
MD	U. of Maryland-E Shore	0	0	0	0	0	0
NH	U. of New Hampshire	4	0	4	0	0	0
NJ	Rutgers U.	2	0	2	0	0	0
NY	Cornell U.	8	0	7	0	1	0
PA	Pennsylvania State U.	17	0	17	0	0	0
WV	West Virginia U.	4	0	3	0	1	0
	Subtotals	45	0	43	0	2	0

Table 11 (Continued)
Race and Ethnicity of Newly Qualified Potential Teachers of Agricultural Education on Sept 1, 1994, by Institution and Region

REGION STATE	INSTITUTION	Newly Qualified	African Amer	White	Native Amer	Hispanic	Asian Pacific
SOUTHERN							
AL	Auburn U.	17	0	11	0	0	0
AL	Tuskegee Institute	0	0	0	0	0	0
AR	Arkansas State U.	3	0	3	0	0	0
AR	U. of Arkansas-Fayetteville	9	0	9	0	0	0
AR	U. of Arkansas-Pine Bluff	0	0	0	0	0	0
FL	U. of Florida	9	0	9	0	0	0
GA	Fort Valley State College	2	2	0	0	0	0
GA	U. of Georgia	16	1	15	0	0	0
KY	Murray State U.	7	0	7	0	0	0
KY	U. of Kentucky	7	0	7	0	0	0
KY	Western Kentucky U.	17	0	17	0	0	0
LA	Louisiana State U.	5	0	5	0	0	0
LA	Southwest Louisiana U.	2	0	2	0	0	0
LA	Louisiana Tech U.	1	0	1	0	0	0
LA	Southern U.	2	2	0	0	0	0
MS	Alcorn State U.	6	6	0	0	0	0
MS	Mississippi State U.	4	0	4	0	0	0
NC	North Carolina A & T U.	4	2	2	0	0	0
NC	North Carolina State U.	17	1	16	0	0	0
OK	Cameron U.	4	0	3	1	0	0
OK	Oklahoma State U.	35	0	31	4	0	0
OK	Panhandle State U.	7	0	7	0	0	0
SC	Clemson U.	8	0	8	0	0	0
TN	Middle Tennessee State	3	0	3	0	0	0
TN	Tennessee State U.	1	1	0	0	0	0
TN	Tennessee Tech U.	3	0	3	0	0	0
TN	U. of Tennessee-Knoxville	5	0	5	0	0	0
TN	U. of Tennessee-Martin	1	0	1	0	0	0
TX	East Texas State U.	9	0	9	0	0	0
TX	Sam Houston State U.	27	0	27	0	0	0
TX	Southwest Texas State	4	0	4	0	0	0
TX	Stephen F. Austin State U.	12	0	12	0	0	0

Table 11 (Continued)
Race and Ethnicity of Newly Qualified Potential Teachers of Agricultural Education on Sept 1, 1994, by Institution and Region

REGION STATE	INSTITUTION	Newly Qualified	African Amer	White	Native Amer	Hispanic	Asian Pacific
TX	Tarleton State U.	39	0	39	0	0	0
TX	Texas A & M U.	26	0	26	0	0	0
TX	Texas A & M U.-Kingsville	8	0	3	0	5	0
TX	Texas Tech U.	39	0	36	0	3	0
VA	Virginia State U.	1	1	0	0	0	0
VA	Virginia Tech	7	0	7	0	0	0
	Subtotals	367	16	332	5	8	0
WESTERN							
AZ	U. of Arizona	7	0	6	0	1	0
CA	Cal. State University-Chico	9	0	9	0	0	0
CA	U. of Cal.-Davis	6	1	5	0	0	0
CA	Cal. State U.-Fresno	6	0	5	0	1	0
CA	Cal. State Poly U-Pomona	6	0	5	0	1	0
CA	Cal. Poly -San Luis Obispo	13	0	13	0	0	0
CO	Colorado State U.	6	0	6	0	0	0
ID	U. of Idaho	10	0	10	0	0	0
MT	Montana State U.	6	0	6	0	0	0
NM	New Mexico State U.	7	0	7	0	0	0
NV	U. Of Nevada-Reno	0	0	0	0	0	0
OR	Oregon State U.	5	0	5	0	0	0
UT	Utah State U.	4	0	4	0	0	0
WA	Washington State U.	6	0	6	0	0	0
WY	U. Of Wyoming	5	0	5	0	0	0
	Subtotals	96	1	92	0	3	0
	US TOTAL	643	17	602	5	13	0

Table 12

Agricultural Education Teacher Gender and Race/Ethnicity, by State and Region, September 1, 1994

REGION STATE	TOTAL a,b	Males	Females	African American	White, Non-Hispanic	Native American	Hispanic	Asian/ Pacific Islander
CENTRAL								
IA	218	105	13	0	117	0	0	0
IL	337	298	37	13	321	0	1	0
IN	242	228	13	0	241	0	0	0
KS	168	166	2	0	167	1	0	0
MI	147	114	32	3	141	0	0	0
MN	202	187	15	0	202	0	0	0
MO	331	311	19	2	327	0	0	0
ND	78	78	0	0	78	0	0	0
NE	133	128	5	0	133	0	0	0
OH	532	473	51	0	524	0	0	0
SD	89	81	8	0	88	1	0	0
WI	291	242	47	0	289	0	0	0
Subtotals	2,768	2,411	242	18	2,628	2	1	0
EASTERN								
CT	65	46	19	0	65	0	0	0
DE	31	24	7	1	29	0	0	0
MA	76	50	25	0	75	0	0	0
MD	66	44	12	5	61	0	0	0
ME	25	23	2	0	25	0	0	0
NH	32	23	9	0	32	0	0	0
NJ	71	47	24	0	71	0	0	0
NY	270	237	33	11	256	0	2	2
PA	242	208	32	3	237	0	0	0
RI	10	0	0	0	0	0	0	0
VT	31	25	4	0	29	0	0	0
WV	95	91	4	0	95	0	0	0
Subtotals	1,014	818	171	20	975	0	2	2

a The reader should note that the number of programs reported earlier includes 40 programs for which no teacher had been hired as of September 1, 1994, as well as 10,194 teachers who were actually employed as of that date

b Totals are affected by non-reported gender and race.

Table 12 (Continued)
Agricultural Education Teacher Gender and Race/Ethnicity, by State and Region, September 1, 1994

REGION STATE	TOTAL a,b	Males	Females	African American	White, Non-Hispanic	Native American	Hispanic	Asian/ Pacific Islander
SOUTHERN								
AL	372	369	3	53	319	0	0	0
AR	261	250	11	14	247	0	0	0
FL	404	224	88	14	380	0	5	0
GA	275	250	24	17	246	0	0	1
KY	257	244	13	0	257	0	0	0
LA	227	223	4	20	207	0	0	0
MS	185	0	0	48	153	0	0	0
NC	310	263	46	42	265	2	0	0
OK	445	452	7	0	432	27	0	0
SC	123	117	5	24	98	0	0	0
TN	237	226	11	9	228	0	0	0
TX	1,457	1,390	60	20	1,360	0	70	0
VA	301	254	47	34	266	0	1	0
Subtotals	4,854	4,262	319	295	4,458	29	76	1
WESTERN								
AK	7	6	1	0	7	0	0	0
AZ	80	65	15	0	75	1	4	0
CA	600	446	150	4	548	11	20	10
CO	94	81	13	0	94	0	0	0
HI	32	31	1	0	4	0	0	28
ID	88	84	4	0	88	0	0	0
MT	73	67	5	0	71	0	1	0
NM	83	78	4	0	71	2	9	0
NV	27	24	3	0	26	1	0	0
OR	118	107	11	0	0	0	0	0
UT	68	68	0	0	68	0	0	0
WA	277	243	29	0	272	0	0	0
WY	50	48	2	0	50	0	0	0
Subtotals	1,597	1,348	238	4	1,374	15	34	38
US TOTALS	10,234	8,839	970	337	9,435	46	113	41

a The reader should note that the number of programs reported earlier includes 40 programs for which no teacher had been hired as of September 1, 1994, as well as 10,194 teachers who were actually employed as of that date

b Totals are affected by non-reported gender and race.

Table 13
Extension Graduates and Their Placement in Extension, by Region, September 1, 1994

REGION	Extension Grads, Male	Extension Grads, Female	Extension Grads, Total	Extension Graduates in Extension Jobs
CENTRAL	10	5	15	7
EASTERN	6	9	15	2
SOUTHERN	58	31	89	7
WESTERN	12	14	26	1
US TOTALS	86	59	145	17

Agricultural Education Faculty and College affiliation

In Fall, 1994, Agricultural Education departments reported a total of 225 ranked teacher education faculty, with almost half of those in the Southern Region of AAAE. See Table 14. An additional 17 instructors and 51 graduate teaching assistants were reported. Well over half of the Agricultural Education programs were located in colleges of agriculture, with most of the rest being in colleges of education. A total of 86 programs were included in the survey. This number (86) is two less than the total of 88 programs reported in the 1989 supply and demand study. The number of institutions includes the University of Wisconsin-Platteville, West Virginia University, Alabama A & M, Louisiana Technological University, Southern University, and Tennessee State University, for which no 1994 response was available. That number also included the University of Connecticut, the University of Maryland-Eastern Shore, Tuskeegee Institute, the University of Arkansas-Pine Bluff, and the University of Nevada-Reno, all of which have Agricultural Education faculty but none of which reported producing any newly qualified teachers of Agricultural Education in 1994.

In the data collection process, no attempt was made to verify that programs here described as inactive, were actually out of the "business" of producing Agricultural Education teachers. However, assuming that the six institutions not responding in 1994 all still have active Agricultural Teacher Education programs, and removing the five programs reported as producing no new teachers, it appears that there were 81 Agricultural Teacher Education programs active in the United States in 1994.

Table 14
Agricultural Education Faculty and Colleges of Affiliation in Fall, 1994 a

REGION	Ranked Faculty	Instructors	Grad Teaching Asst	Other Faculty	College of Agriculture	College of Education	Other College
CENTRAL	58	6	11	1	11	7	4
EASTERN	39	3	3	0	5	3	1
SOUTHERN	96	5	33	9	26	8	4
WESTERN	32	3	4	0	12	5	0
US TOTALS	225	17	51	10	54	23	9

a The number of programs (86) reported includes 6 non-responding institution and 5 Agricultural Education programs which produced no newly qualified teachers in 1994. It appears that the number of active programs of Agricultural Teacher Education programs in the US in fall, 1994, was probably 81. Where "ACTIVE" is defined as either having at least one faculty member in Agricultural Education, or having produced at least one newly qualified teacher of Agricultural Education in 1994.

Conclusions

The total number of teachers of agriculture in the United States reported in 1993 reversed an unbroken pattern of decline from 1978 to 1992. For the first time in at least 28 years, the total number of agriculture teachers had fallen below 10,000 in September 1992. Even more importantly, the current (1994) study found a total of 10,234 teaching positions -- an increase, albeit a slight one, for the second consecutive year. Thus, a tentative conclusion is that the numbers of teachers of Agricultural Education in the United States appears to be on a slight upward trend for the first time in almost 20 years.

There has been a relatively minor shortfall for several years in the number of newly qualified potential teachers of agriculture actively seeking teaching positions. The shortfall is evidenced by the number of teachers still needed on September 1 and by the number of emergency or temporary certificates in force. There was an apparent net demand for new teachers of 694 in 1994. But only 643 newly qualified potential teachers completed certification programs that year. Thus there was a slight shortfall in availability of newly qualified potential teachers. If we take into account only the newly qualified teachers who, according to their professors, "probably wanted to teach," the difference between the net demand for new teachers (n = 694) and the number of newly qualified persons seeking teaching positions (n = 441), becomes rather striking. What appears to be a severe potential shortage of newly qualified potential Agricultural Education teachers actively seeking employment in teaching, was alleviated by former agriculture teachers returning to the classroom, Agricultural Education graduates from previous years entering teaching for the first time, and by workers in agri-business making career changes into teaching. Thus we conclude that there was a relatively good balance between teacher availability (supply) and net demand for new teachers in 1994, and that the predicted teacher shortage was avoided for another year by the movement of persons into the Agricultural Education classroom from outside the traditional teacher education pipeline.

In 1994, the placement rate remained stable near the historic norm of just over 50%. Many non-placements 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 is much higher (68.8 %). Thus, Agricultural Education remains a field in which the placement rate is relatively high for those who actually want teaching jobs.

An allied conclusion is that graduation from an Agricultural Education program no longer means certification to teach. The number of programs other than teacher education which are included under the Agricultural Education umbrella appears to have expanded over the years. As recently as the 1984 national supply and demand study (Craig, 1985) the number of BS/BA Agricultural Education graduates was used directly as the estimate of the number of newly qualified potential teachers. That is obviously no longer a valid assumption as other majors such as agricultural extension and agricultural communications make up an important and growing part of our graduates.

This is the third year that gender and race/ethnicity data have been reported. Teachers of agriculture at the secondary level are primarily white males. Only a minuscule number of our teachers are of native American, Asian, or Pacific island descent. Both racial and gender percentages vary somewhat by state and region. The general population patterns of the regions probably 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.

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 and production agriculture has fallen to fourth place, behind both programs consisting of combinations of various Agricultural Education courses, programs listed as

agriscience, and ornamental horticulture programs. 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. Based on the findings of this study, a typical Agricultural Education teacher in the United States works in a high school, in a single-teacher department, teaching a variety of agriculture courses much of the day, and having no adult or Young Farmer responsibilities.

Dykman's (1993) concerns regarding the declining number of teacher education programs in vocational education holds true in Agricultural Education. Although the number of Agricultural Education teacher education programs reported in this study is the same in 1994 as in 1989, at least six of those programs reported no newly qualified teachers produced in 1994, thus, the number of "active" Agricultural Teacher Education programs is down again this year. 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.

Recommendations

A major effort needs to be undertaken by the profession to further increase the number of newly qualified potential teachers of agriculture. At a time when teacher education programs nationwide are bulging with students, why did the number of newly qualified teachers of agriculture fall by almost a third between 1985 and 1994? Research is needed to pinpoint the nature and cause of the problem and to determine what can and should be done to correct the problem.

A study needs to be conducted to examine the loss of teaching positions in agriculture from 1978 to 1992. Was the decline a function of a general decline in school-age population? Was the decline actually a result of a reduction in the proportion of students enrolling in agriculture at the secondary level? Was the loss concentrated in high schools or in middle/junior high schools? What can, and should the profession do to counteract the problem? Has the curriculum shift toward agriscience and technology contributed to the apparent leveling off in the long-term trend of decline in program numbers?

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 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. Perhaps, a national clearinghouse of teacher openings and potential teachers should be established to match available teachers with open positions.

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. This Supply and Demand study provides only a brief glimpse at some interesting and important questions. As sincere and dedicated professionals attempt to reform

Agricultural Education, do we really know what the curriculum is now? And if we do not really know what is being taught in local schools, how will we know when the profession has changed?

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For further information, contact:

William G. Camp
Agricultural Education Program
288 Litton Reaves Hall
Virginia Tech
Blacksburg, VA 24061-0343
voice (540) 231-8188
fax (540) 231-3824
e-mail wgcamp@vt.edu

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The Agricultural Education classrooms in America are faced with a shortage of new teachers. An estimated 694 new agriculture teachers were needed in the nations' schools in fall of 1994. But, there were only about 441 new graduates looking for teaching positions. Over one-hundred schools were unable to hire fully qualified teachers of Agricultural Education by the beginning of school in September, 1994.

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 agri-business. Most people study to become agriculture teachers by majoring in Agricultural Education at their state agriculture colleges or land-grant universities.

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FACT SHEET

A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF AGRICULTURAL EDUCATION IN 1994	
Total number of agriculture teachers in US	10,234
Number of openings for 1994	992
Net number of new teachers needed	694
Number of newly qualified potential teachers	643
Estimated number of newly qualified teachers seeking teaching positions	441
Teachers needed but not available September 1, 1994	40
Teachers with emergency certificates	84
Types of teaching positions	
High school only	8,303
Combination high with middle/jr high school	1,245
Middle/junior high school only	307
Adult teacher only	171
Number of teachers with both in-school and adult or Young Farmer programs	2,213
Subjects taught	
Agriscience	1,481
Ornamental Horticulture only	868
Production Agriculture	776
Specialty programs, such as Natural Resources Management or Ag Mechanics	1,089
Combinations of agriculture programs	5,257
Combinations of agriculture and some other subject	231
Texas had the largest number of teachers	1,457
Alaska had the smallest number of teachers	7

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