A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF VOCATIONAL AGRICULTURE IN 1986

William G. Camp
Associate Professor

June 1987

TABLE OF CONTENTS

A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF VOCATIONAL AGRICULTURE 1986

For many years, the results of the annual supply and demand study were used by agricultural teacher educators as a recruiting tool to show the "shortage" of agriculture teachers to potential undergraduate majors, or as a counseling and placement tool to help graduates examine the job situation around the country. Last year the report concluded that there was no vocational agriculture teacher shortage for 1985. This year the same conclusion will be reported. At the same time, a most disturbing, new finding, with grave implications for agricultural education nationwide, will be reported.

The early to mid-1980's appear to have been a time of declining interest in agricultural education as an undergraduate major and teaching as a career for new agricultural education graduates. There was a decline in the number of agricultural education graduates qualified to teach, of nearly one-fourth between 1980 and 1985. Last year that statistic gave rise in the 1985 supply and demand report to a warning to the profession that action was needed to reverse the downward trend in numbers of teaching majors. Unfortunately, that five-year decline was minor when compared to the precipitous drop in numbers being reported this year. The profession cannot long survive a continuation of the dramatic downturn in the number of teacher education graduates that occurred in 1986.

My personal and professional thanks go to the dedicated agricultural educators in colleges, universities, and state departments of education who took the time and made the effort to collect the data and respond to the surveys on which this study is based. The effort required in some cases was very great.

DATA SOURCES

Head teacher educators in all colleges and universities in the United States offering teacher education programs specifically for the training of vocational agriculture teachers were surveyed to provide supply data. The list was compiled by comparing Henry (1986), Rogers (1986), Craig (1985), and this mailing list from the previous edition of this study (Camp, 1986). Initial mailings produced several corrections. The total number of such programs in fall, 1986 was 89.

Head state officials with responsibility for administering programs of agricultural education in the 50 states were surveyed for information on teacher demand at both secondary and post-secondary levels. In several cases (Florida, Indiana, Pennsylvania, and California) those officials directed that the requests for teacher demand information should be referred to the head teacher educator in a state university (Florida, Purdue, Penn State, and Cal Poly-San Luis Obispo). In several states there was no state official with specific responsibility for agricultural education, and a teacher educator was the only source of information (Massachusetts and Rhode Island).

In September the first round of questionnaires was mailed. The Survey of Teacher Supply in Vocational Agriculture in 1986 (appendix 2) along with a cover letter (appendix 1) were mailed to head teacher educators. The Survey of Teacher Demand in Vocational Agriculture in 1986 (appendix 3) and the same cover letter were mailed to state officials at the same time. In October, the first follow-up letter and a second copy of the appropriate instrument were mailed to non-respondents. In November, a second follow-up letter and a third copy of the instrument were mailed. As a result of this follow-up, 100% of the supply instruments were returned. In December, a third follow-up was mailed. In January, telephone calls were placed to the state officials who had not yet responded. That step resulted in several more changes to the mailing list and was followed by a fourth follow-up. Subsequent telephone calls resulted in the return of the last demand survey in late May, 1987. Thus, the 1986 Supply and Demand Study is based on a 100% response rate from the field and represents a census of the professional population.

The questionnaires have evolved over the twenty-plus year history of the study, based on the initial work begun by Dr. Ralph Wooden in 1965, while recognizing the changes in the profession that have occurred during that time. The relative stability of the instruments and the continuity of the study have made possible longitudinal comparisons of the employment and placement status of the profession. Data for long-term comparisons were taken from Craig (1981, 1983, and 1984) and from Camp (1986).

The data were analyzed using the SAS (1985) package on the Virginia Tech mainframe computer. Because the study is a population census, only descriptive statistics are used.

NATIONAL ANALYSIS

Secondary Teaching Positions

An examination of table 1 reveals that the total number of teaching positions in vocational agriculture has continued its steady decline. The number of positions nationwide declined to 11,042 in 1986 from 11,687 in the previous year and from 12,474 in 1982. That represents a drop of 645 (5.5%) in the most recent year and 1432 (11.5%) over the five-year span. Notably, for the first time in many years, the number of replacements hired fell below one-thousand to 956.

The number of teachers still needed on September 1, rose slightly from last year, to 20. But the number of departments that could not operate in fall, 1986 because of the lack of a teacher fell for the first time to 0. The number of emergency certified teachers fell also, from 254 in 1982 and 140 in 1985 to just 94 in 1986 (table 1).

Table 1
Number of Secondary Teaching Positions in Vocational Agriculture in the United States, 1982-1986 a

Item	1982	1983	1984	1985	1986
Total positions as of June 30, 1986	12,474	12,099	11,960	11,687	11,042
Number of replacements hired	N/A	1,354	1,173	1,043	956
New graduates entering teaching	701	582	565	493	397
Change in number of positions (net) b	-81	-375	-139	-273	-645
Number of 1985 qualified teachers still available September 1 c	88	79	75	88	61
Teachers needed but unavailable September 1	35	42	19	8	20
Teachers with temporary/ emergency certificates	254	149	102	140	94
Departments which will not operate because of the lack of a teacher	15	9	4	3	0

a Source: head state supervisors

b The net change reported here differs from that shown in table 8. The figure reported here = 1985 grand total - 1986 grand total + total reported by state = -200.

c Source: head teacher educators

Agricultural Education Graduates

This is one of the most difficult areas to address clearly. Certification patterns are changing rapidly in the United States (Frantz, Strickland, & Elson, 1987). Only a few years ago the question of numbers was phrased in terms of the number of graduates of teacher education programs. Today, simply being a graduate of a 4-year program in agricultural teacher education does not necessarily imply qualification to teach. Additionally, only a few years ago, there was little distinction between the number of teacher education graduates and the number of agricultural education graduates. Today,

there are increasing numbers of agricultural education graduates majoring in extension education, communications, international agricultural education, and various other specialty areas. The majority of those are not qualified to teach and generally are not interested in teaching careers. Thus they should not be considered in the calculations regarding the teacher placement rates. Table 2 presents data that attempts to address the teacher education and teacher qualification and placement picture nationally.

The total number of graduates qualified to teach agriculture declined again in 1986, to 964 (table 2). This time, the decline was the most dramatic in the history of the study, and in fact the total reached the lowest level for which data are available. A decrease of 399 (24.0%) from 1,660 in 1975 to 1,207 in 1985 was worrisome, but a precipitous one-year drop of an additional 243 (20.1%) between 1985 and 1986 must give cause for concern. It should be noted that this number represents the sum of the number of teacher education majors and teacher education and extension double majors. The number of pure teacher education graduates was an even smaller 880. The largest number of graduates ever qualified to teach agriculture in one year was 1,791 in 1978. The total in 1960 was 1,324 and in 1965 it was 1,038.

Further examination of table 2, reveals that the proportion of graduates entering agribusiness, graduate work, farming, the military, other work, and remaining unemployed as of September 1, remained fairly stable. As in 1985, the number of graduates finding employment in the extension service was very small. Although not reflected in the tables, there were 55 graduates majoring in extension education and an additional 66 double majors in education/extension, for a total of 121. Five schools (see table 7) produced 70.2% (85) of that total (Western Kentucky 24, New Mexico State 20, Mississippi State 11, North Carolina A & T 11, Southern Illinois 10, and Cornell 9) with the remaining 36 graduating from 13 other institutions. The total of 23 persons finding extension jobs represents only a 19.0% placement rate, even assuming that all 23 were extension graduates. The data to examine that question are not available but questions to address the placement rate in extension will be added to the 1987 survey.

Table 3 reveals that the number of teaching positions in vocational agriculture, which peaked at 12,844 in 1978, has declined every year, except 1982, since that time. It reached the lowest point in at least a decade at 11,042 in 1986. One mildly encouraging piece of news is that the percentage of newly qualified teachers placed in teaching positions rose slightly from 40.8% in 1985 to 41.2% in 1986. The number of persons qualified to teach, as a proportion of the number of students in colleges of agriculture remained small.

A question asked for the first time in the 1986 study attempted to address the career desires of teacher education graduates. According to the perceptions of head teacher educators responding, of the total number qualified to teach, only 419 really wanted to teach. Another 505 were perceived as mildly interested in teaching careers. A full 386 were perceived as not being interested in a teaching career.

Table 2
Number and Percentages of Agricultural Education Graduates Entering Various Occupations during Selected Years a,b

Occupation	1975	1980	1985	1986
Total Number Qualified	1660	1584	1207	964
Teaching Vo-Ag	999 (60.2)	824 (52.0)	493 (40.8)	397 (41.2)
Ag Business	125 (7.5)	219 (13.8)	222 (18.4)	157 (16.3)
Graduate Work	163 (9.8)	163 (10.3)	166 (13.8)	130 (13.5)
Other Work	164 (9.9)	139 (8.8)	118 (9.8)	125 (13.0)
Farming	136 (8.2)	120 (7.6)	115 (9.5)	93 (9.6)
Unemployed	N/A	57 (3.6)	88 (7.3)	61 (6.3)
Other Teaching	55 (3.3)	36 (2.3)	53 (4.4)	40 (4.1)
Armed Forces	18 (1.1)	25 (1.6)	18 (1.5)	12 (1.2)
Extension Service	N/A	N/A	29 (2.4)	23 (2.4)

a Source: head teacher educators

b Column percentage in parentheses

Table 3
A Comparison of Selected Information on the Supply of Secondary Teachers of Vocational Agriculture in 1965 and During the Last Ten Years

Year	Total No. of Positions a	Teachers Needed But Not Available September 1 a	Total Qualified For Teaching b	Percent of Those Qualified Entering Teaching b
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	11,042	20	964	41.2

a Source: head state supervisors

b Source: head teacher educators

Types of Secondary Teaching Positions

As in previous years, the primary mode of vocational agriculture delivery in the public schools was by teachers who worked solely in high schools (6,606) followed by high school teachers who also taught adult classes and young farmer programs (1,920) then combination high school and junior/middle school teachers (1,236). See table 4.

The predominate type of school remained the comprehensive or general high school (8,581), with area vocational high schools coming in a distant second (769). Most teachers worked in single teacher departments (5,569) with an additional 4,545 teachers being housed in multiple teacher departments (table 4).

Production agriculture was still the largest single type of program, with 4,499 teachers full-time in that area. The second largest number (3,430) was in combinations of production agriculture and some other specialized program. Ornamental horticulture teachers came in a distant third at 1,060. See table 4.

Types of Post Secondary Teaching Positions

Information on post secondary agricultural education presents another difficult problem. Agricultural eduction at the post secondary level is offered through vocational-technical institutions, community colleges, private institutions, colleges, and universities. The officials who administer such programs are usually not the same ones who supervise secondary level vocational agriculture programs. In interpreting this section, the reader should consider that to be a limitation on the data.

The number of post secondary teachers of agriculture rose from 1,352 in 1985 to 1,456 in 1986. Of that total in 1986, 921 (63.3%) teachers were employed as full-time instructors. That proportion was down from 80.3% in 1985. The proportion of part-time instructors rose from 14.9% in 1985 to 27.1% in 1986. Most of the instructors were housed in community colleges (813) with the second largest number being in technical schools. See table 5.

Most of the instructors were in multiple teacher departments (691) compared to single teacher departments which housed 260 teachers. The largest number of teachers were in full-time production programs (579) with the second largest group being in other specialized programs, (table 5).

Table 4
Types of Secondary Teaching Positions in Vocational Agriculture, 1986 a

Type of Position	Number 1985	Number 1986	Percent of Total, 1986
By Kind of Students			
Teachers of junior high school classes only	257	290	2.6
Teachers of high school classes only	6,650	6,606	59.8
Teachers of both junior/middle and high school	2,428	1,236	11.2
Teachers of both high school and out-of-school classes (adult and/or young farmer classes)	2,620	1,920	17.4
Teachers of adult and young farmer classes only	180	194	1.8
Information not available		796	7.2
By Kind of School			
Teachers in general or comprehensive high schools	9,866	8,581	77.7
Teachers in area vocational high schools	943	769	7.0
Teachers in vocational high schools	673	422	3.8
Information not available	204	1,270	12.5
By Size of Staff			
Teachers in single-teacher departments	6,071	5,569	50.4
Teachers in multi-teacher departments	4,954	4,545	41.1
Information not available	661	928	8.4
By Kind of Program			
Teachers in full-time production agriculture programs	5,407	4,499	40.7
Teachers in full-time ornamental horticulture programs	1,021	1,060	9.6
Teachers in part-time production agriculture programs with one or more classes in specialized programs such as Agricultural Supplies, Agricultural Mechanics	2,992	3,430	30.0
Teaches full time in			
Natural Resources	NA	181	
Agricultural Products	NA	20	
Agricultural Mechanics	NA	632	
Agricultural Sales & Services	NA	173	
Teachers part time in ag and part time outside ag	482	112	1.0
Information not available	717	935	8.5

a Source: head state supervisors

b Percentages may not total 100% due to rounding. N = 11,042

Table 5
Types of Post Secondary Teaching Positions in Vocational Agriculture in 1985 and 1986 a

Type of Position	Number 1985	Number 1986	Percent of Total, 1986
By Employment Time			
Teachers who teach full-time	1,086	921	63.3
Teachers who teach part-time	202	394	27.1
Teachers who teach part-time as well as adult and/or young farmer classes	64	41	2.8
Information not available		100	6.9
Total		1,456	
By Kind of School			
Teachers in area schools	142	73	5.0
Teachers in community colleges	487	813	55.8
Teachers in technical institutes	349	305	20.9
Information not available	372	265	18.2
By Size of Staff			
Teachers in single-teacher departments	292	260	17.9
Teachers in multiple-teacher departments	935	691	47.5
Information not available	125	505	34.7
By Kind of Program			
Teachers in full-time production agriculture	479	579	39.8
Teachers in full-time ornamental horticulture	267	202	13.9
Teachers in part-time production agriculture and part-time in specialized programs such as agricultural supplies or other	178	177	12.2
Teachers in specialized programs such as agricultural mechanics or other	310	247	17.0
Information not available	48	251	17.2

a Source: head state supervisors

AATEA REGIONAL ANALYSIS

Agricultural Education Graduates

Information on the placement of agricultural teacher education graduates, by American Association of Teacher Educators in Agriculture (AATEA) region, is shown in table 6. As in the past, institutions in the Southern AATEA region qualified the largest number of agriculture teachers (4,893) but placed the smallest percentage (36.0%) in teaching positions. Eastern region institutions qualified the smallest number of teachers (1,302) and Western region graduates had the highest placement rate in teaching (58.6%). See table 6.

Table 7 gives a detailed breakdown by AATEA region, state, and institution of the numbers of persons: program graduates, qualified to teach, entering teaching, working in extension, entering agri-business, farming, unemployed, and working in other jobs (including the military). The reader should note that the number of agricultural education graduates differs from the number of teachers qualified (996 compared to 964). Of the total number of graduates entering teaching careers (408), 357 were teaching in their home states and 51 were teaching in some other state. Western Kentucky University exported the largest number of teachers (8) to other states. See table 7.

Table 6
Placement of Agricultural Education Graduates by Regions in 1986

	Teaching Positions [a]	Number of New Teachers Qualified [b]	Number of Graduates Placed in Teaching [b,c]	Percentage of Graduates Placed in Teaching
Southern	4,893	478	172	36.0
Central	3,321	270	109	40.4
Western	1,526	157	92	58.6
Eastern	1,302	59	24	40.7
Total	11,042	964	397	41.2

a Source: head state supervisors

b Source: head teacher educators

c Totals differ from those reported by supervisors given in table 9

Table 7
Graduates in Agricultural Education and Placement, by Region and Institution [a]

Institution	# Grads	# Qual	Teaching In	Teaching Out	Farming	Agri Bus	Extension	Grad Sch	Other Jobs	Unemployed [b]
Eastern Region										
U of Conn	6	4	1	1	0	1	0	1	0	0
Delaware State	0	0	0	0	0	0	0	0	0	0
U of Delaware	5	5	0	0	1	0	0	2	2	0
U of Mass	9	9	5	0	2	2	0	0	0	0
U of MD, Col Pk	5	5	0	0	0	0	0	2	1	2
U of MD, E Shore	1	1	1	0	0	0	0	0	0	0
U of Maine	0	0	0	0	0	0	0	0	0	0
U of New Hamp	3	2	0	1	0	1	0	0	1	0
Rutgers U	4	4	2	0	0	0	0	1	0	1
Cornell U	13	12	4	1	1	1	2	3	1	0
Penn State	13	7	7	0	0	0	0	0	3	3
U of Rhode Is	2	2	1	0	0	1	0	0	0	0
U of Vermont	0	0	0	0	0	0	0	0	0	0
West Va U	10	8	2	3	1	1	1	0	2	0
Totals, Region	71	59	23	6	5	7	3	9	10	6
Central Region										
Iowa State	30	29	11	4	4	3	0	3	4	1
Illinois State	5	0	3	1	2	1	1	1	1	0
Southern IL U	15	17	7	1	2	5	1	3	0	2
U of Illinois	16	14	4	0	2	2	0	5	3	0
Western IL U	9	9	2	0	2	2	1	2	0	0
Purdue U	17	13	13	0	0	0	0	0	3	1
Kansas State U	27	4	4	0	5	3	0	5	10	0
Mich State U	18	17	7	0	4	4	0	0	1	0
U of Minnesota	16	8	8	0	1	3	1	0	3	0
NW Missouri St	8	8	3	1	1	0	0	2	1	0
U of Missouri	18	14	4	2	0	3	1	2	1	1
North Dakota St	0	13	8	2	2	5	0	0	4	1
U of Nebraska	19	19	8	0	3	5	0	1	1	1
Ohio State U	42	28	8	2	3	9	0	5	8	7
South Dakota St	19	19	6	2	4	3	0	1	2	1
U WI Platteville	6	6	6	0	0	0	0	0	0	0
U WI Madison	17	43	4	1	1	3	3	0	3	2
U WI River Falls	0	9	4	1	1	1	0	0	1	1
Totals, region	282	270	110	17	37	52	8	30	46	18

Table 7 (continued)
Graduates in Agricultural Education and Placement, by Region and Institution [a]

Institution	# Grads	# Qual	Teaching In	Teaching Out	Farming	Agri Bus	Extension	Grad Sch	Other Jobs	Unemployed [b]
Southern Region										
Alabama A&M	5	4	2	0	0	0	2	0	1	0
Auburn U	12	10	7	0	0	1	0	1	1	0
Tuskeegee U	0	2	0	0	0	0	0	1	0	1
U Ark Pine Bluff	1	1	0	0	0	0	0	0	1	0
Arkansas St U	12	10	8	1	2	0	0	0	1	0
U Ark F-ville	9	7	7	0	0	2	0	0	0	0
U Florida	15	12	7	0	0	0	0	2	6	0
Ft Valley State	3	0	0	0	0	3	0	0	0	0
U Georgia	0	48	6	0	1	0	0	1	3	0
Morehead St U	2	2	0	0	1	0	0	1	0	0
Murray St U	9	9	2	3	0	1	0	1	0	2
U Kentucky	8	8	1	0	2	1	1	2	1	0
Western Ky U	25	24	2	8	2	3	0	6	4	0
LSU	6	6	2	0	0	0	0	3	1	0
Louisiana Tech U	8	8	3	0	0	2	0	2	1	0
SW Louisiana U	2	2	0	0	0	0	0	1	0	1
Southern U	0	5	0	0	0	0	0	0	5	0
Alcorn St U	4	2	2	0	0	0	0	0	2	0
Miss St U	24	13	6	0	1	1	0	2	1	1
N Carolina A&T	11	11	3	0	1	1	1	2	3	0
NC State	27	27	12	0	0	9	1	3	2	0
Cameron U	9	9	5	0	1	1	0	0	2	0
OK State U	38	23	12	0	5	4	0	3	12	2
Panhandle St U	7	7	0	0	3	1	0	0	2	1
Clemson U	10	10	1	0	1	1	3	4	0	0
Middle TN State	4	4	2	0	0	1	0	1	0	0
Tenn Tech U	5	5	2	0	0	1	0	0	1	1
Tenn State U	2	2	2	0	0	0	0	0	0	0
U TN Knoxville	10	10	5	3	1	0	0	0	0	1
U TN Martin	5	5	3	0	0	0	0	1	1	0
East TX State U	20	12	10	1	2	1	0	2	4	0
Prarie View A&M	8	2	0	0	0	2	0	2	4	0
Sam Houston St	38	38	10	0	1	7	0	7	14	1
Southwest TX St	14	4	4	0	0	3	0	3	4	0
Stephen F Austin	0	10	3	0	0	2	0	2	1	2
Tarlton State U	47	47	11	0	6	10	1	7	12	0
Texas A&I U	12	12	0	0	2	3	0	3	0	4
Texas A&M	41	34	7	1	2	8	2	5	14	2
Texas Tech U	21	21	8	1	1	8	0	0	1	2
Virginia St U	4	0	0	0	0	0	0	0	4	0
Virginia Tech	15	12	5	0	4	2	0	0	1	3
Totals, Region	493	478	160	18	39	79	11	68	110	24

Table 7 (continued)
Graduates in Agricultural Education and Placement, by Region and Institution a

Institution	# Grads	# Qual	Teaching In	Teaching Out	Farming	Agri Bus	Extension	Grad Sch	Other Jobs	Unemploy b
Western Region										
U of Alaska	0	0	0	0	0	0	0	0	0	0
U of Arizona	6	6	4	1	0	0	0	0	1	0
Cal St U Fresno	18	18	2	0	0	0	0	12	0	4
Cal Poly Pomona	0	2	3	0	0	0	1	0	0	3
Cal Poly San Luis Obispo	9	9	7	0	0	1	0	0	1	0
Cal state Chico	13	13	6	0	0	0	0	1	3	3
U Cal Davis	10	9	4	0	0	0	0	0	4	1
Colorado St U	13	13	6	1	1	2	0	2	1	0
U of Idaho	9	9	4	0	2	0	0	0	3	0
Montana State U	15	10	4	1	3	0	0	1	5	1
New Mexico St U	20	20	4	3	2	5	0	6	0	0
U Nevada Reno	0	6	1	0	0	1	0	2	4	0
Oregon State U	9	9	3	1	1	2	0	1	1	0
Utah State U	9	6	3	3	1	1	0	0	0	1
Washington St U	19	19	9	0	2	6	0	0	2	0
U of Wyoming	0	8	4	0	2	2	0	0	0	0
Totals, Region	150	157	64	10	14	20	1	25	25	13
Totals, US	996	964	357	51	95	158	23	132	191	61

a. Source: Head teacher educators

b. Meanings of column headings:

Grads = graduates of 4-year agricultural education programs
Qual = qualified to teach
Teaching In = teaching vocational agriculture in state trained
Teaching Out = teaching vocational agriculture out of state
Farming = farming full time
Agri Bus = working in agricultural businesses
Extension = employed by extension service
Grad Sch = attending graduate school full time
Other Jobs = teaching other than Ag + military + miscellaneous jobs
Unemploy = unemployed and looking for work on September 1, 1986

Secondary Positions by Region, State

Table 8 reports numbers of teaching positions, replacements, and discontinued positions, by region and state. With only 1,302 teaching positions in 1986, the Eastern region experienced a turnover of 90 teachers. Of those openings, 28 were not continued, leaving a net of 62 teacher replacements needed. Massachusetts experienced the largest loss of positions at 10 while Rhode Island added 1 position. As of September 1, 1986, 8 teachers were still needed to fill existing vacancies. In the Central region, there were 3,321 positions with 328 teacher vacancies, 38 positions discontinued, and a net 290 replacements needed. Minnesota and Illinois each lost 10 positions while Missouri added 1 position. There was only 1 vacancy remaining on September 1.

Further examination of table 8, shows that in the Western region, there were 1,526 positions, 141 openings, 11 positions lost, and 130 replacements hired, with no vacancies on September 1. California lost 4 positions but Colorado added 2. In the Southern region, there were 4,893 positions, 397 openings, 123 positions lost, and 274 teacher replacements needed. As of September 1, there were still 11 teaching vacancies. Again this year Texas lost the largest number of positions in the nation (57). Alabama added 1 position. Of the 200 positions reported lost by state, 123 came from the Southern region. See table 7. The reader should note that the total number of positions reported lost here is only 200, compared to the much larger number reported in table 1, which was computed by subtracting the 1986 total number of positions from the 1985 total. The total number of positions is regarded as a more reliable statistic than number of positions lost.

Table 8
Secondary Teaching Positions in Vocational Agriculture by Region and State, September 1, 1986 a

Eastern Region

	Total Positions	Number of Openings	Change b In No. of Positions from 1985	Net Total Teachers Needed	Teachers Still Needed
Connecticut	62	2	0	2	1
Delaware	42	0	0	0	0
Maine	35	0	0	0	0
Maryland	92	9	-3	6	0
Massachusetts	80	14	-10	4	1
New Hampshire	37	7	0	7	1
New Jersey	81	5	-1	4	0
New York	371	12	-12	0	0
Pennsylvania	339	27	-2	25	3
Rhode Island	12	1	+1	2	0
Vermont	35	3	-1	2	2
West Virginia	116	10	0	10	0
Total for Region	1,302	90	-28	62	8

Central Region

Illinois	405	35	-10	25	0
Indiana	264	28	-4	24	0
Iowa	271	17	-1	16	0
Kansas	177	20	-3	17	0
Michigan	183	13	-2	11	0
Minnesota	459	64	-10	54	0
Missouri	336	30	+1	31	0
Nebraska	136	18	-1	17	0
North Dakota	91	11	-1	10	0
Ohio	613	50	-1	49	1
South Dakota	82	12	-1	11	0
Wisconsin	304	30	-5	25	0
Total for Region	3,321	328	-38	290	1

Table 8 (continued)
Secondary Teaching Positions in Vocational Agriculture by Region and State, September 1, 1986 a

	Total Positions	Number of Openings	Change b In No. of Positions from 1985	Net Total Teachers Needed	Teachers Still Needed
Western Region					
Alaska	7	0	0	0	0
Arizona	67	4	-2	2	0
California	614	53	-4	49	0
Colorado	82	11	+2	13	0
Hawaii	27	1	0	1	0
Idaho	82	6	-1	5	0
Montana	79	9	-1	8	0
Nevada	21	4	0	4	0
New Mexico	72	7	+1	8	0
Oregon	120	11	-3	8	0
Utah	72	5	+1	6	0
Washington	232	22	-3	19	0
Wyoming	51	8	-1	7	0
Total for Region	1,526	141	-11	130	0
Southern Region					
Alabama	400	5	+1	6	0
Arkansas	267	44	-4	40	0
Florida	550	40	0	40	10
Georgia	329	0	-8	-8	0
Kentucky	252	14	-7	7	0
Louisiana	267	0	-5	-5	0
Mississippi	262	0	-17	-17	1
North Carolina	375	40	-2	38	0
Oklahoma	464	38	-11	27	0
South Carolina	161	28	-10	18	0
Tennessee	228	11	-1	10	0
Texas	999	152	-57	95	0
Virginia	339	25	-2	23	0
Total for Region	4,893	397	-123	274	11
Total for the United States	11,042	956	-200	756	20

a Source: head state supervisors
b Total of reported changes by state, does not equal the difference between grand total of positions in 1985 and 1986.

Table 9 shows the sources of teacher replacement, by region. The largest source of teacher replacement was current year graduates/completers at 386. The second largest source was inter-school transfer of teachers. The third largest source of replacements was the 143 former agriculture teachers returning to the classroom. For 1986, only 24 non-degree teachers were employed nationwide, with most (19) of those in the Central region.

Table 9
Sources of Teacher Replacement by Region in 1986 a

Sources of Teacher Replacement	Region				
	Central	Eastern	Western	Southern	Total
Transfers Between School	82	18	42	132	274
Ag. Ed. B.S. 1986 Graduates b	132	33	72	149	386
Ag. Ed. M.S. 1986 Graduates	6	5	0	14	25
Other Agriculture 1986 Graduates	3	8	0	1	12
Other Education 1986 Graduates	2	0	0	0	2
Previous Ag./Ag. Ed. Graduates	11	6	5	23	45
Former Vo. Ag. Teachers	38	9	51	45	143
Non-degree	19	2	0	3	24
Other	13	6	5	3	27
Total	306	87	175	370	938

a Source: head state supervisors

b Total graduates placed as reported by teacher educators differ from reported sources of replacement from new ag. ed graduates as reported here, see table 7

CONCLUSIONS

The job market for vocational agriculture teachers continued to be roughly balanced in 1986. Although the percentage of new graduates placed in teaching positions remained, at 41%, below the historical norm of about 50%, the number of former teachers re-entering teaching and the number of previous agricultural education graduates entering teaching for the first time, coupled with the low unemployment rate among current graduates, lead this researcher to conclude that neither a surplus nor a shortage existed in the profession in 1986. Beyond that, the small number of graduates who were perceived as interested in teaching as a career reinforces that conclusion.

On the other hand, a very real crisis appears to be closing rapidly on agricultural education. The number of graduates of programs of agricultural education has been declining at an accelerating rate for the past few years. The 20.1% drop from 1985 to 1986 was most disturbing. Even though the replacement needs of the profession were met in 1986, many of the teachers hired were from previous graduates and former teachers. The pool of such persons is not bottomless. Moreover, although the number of teaching positions lost remained high in 1986, that cannot offset the decline in the number of available new teachers for very long. It is clear that if the number of graduates continues to drop, a teacher shortage will reappear within the next few years. Simultaneously, the problems facing departments of higher education because of the rapid decline in student numbers is obvious. Declining numbers in higher education programs of agricultural education is not an isolated situation. It is nationwide and pervasive.

Post secondary programs of agricultural education are vastly different, in terms of administration, from public school vocational agriculture, and moreover, vary widely from state to state. The changing nature of agricultural education at the post secondary level is such that the supply and demand situation for teachers in those programs cannot be addressed adequately using the same methodologies and data sources as those appropriate for the secondary level. Although it is the only national information available, the accuracy and completeness of the information on post secondary programs contained in this study must be held suspect.

As colleges and universities expand extension education programs at the undergraduate level, the number of graduates of such programs finding employment with the extension service remains dismally low. It may well be that extension education, with the political and economic climate facing the Extension Service today, is not a currently viable alternative source of students for our programs.

The supply and demand study is still a viable and important study for the profession of agricultural education. It provides the only reliable source of information on vocational agriculture teacher positions and teacher education graduates available to the profession, on a national or regional basis. The nature of the study should be examined regularly, to address the changing patterns of teacher training and certification in the United States.

RECOMMENDATIONS

Serious, nationwide, coordinated efforts at recruitment need to be considered by the professional associations. Although that recommendation is mitigated by the current balance in the job market for teachers of agriculture, the pipeline cannot be allowed to continue to "dry up" for teacher replacements.

If post secondary teacher job market information is considered to be important to the profession, then a separate study should be authorized by the American Vocational Association, Agricultural Education Division, to examine the status of the supply and demand for teachers of agricultural education at the post secondary level.

The National Study of the Supply and Demand for Teachers of Vocational Agriculture should be continued. A panel of professionals should be convened to revalidate, and if appropriate, revise the survey instruments. Because this is not a private or individually initiated study, the Professional Personnel Recruitment Committee of the American Vocational Association, which authorizes this study, should accept responsiblity for the revalidation.

REFERENCES CITED

Craig, D.G. (1985). A national study of the supply and demand for teachers of vocational agriculture in 1984. Knoxville: The University of Tennessee.

Craig, D.G. (1984). A national study of the supply and demand for teachers of vocational agriculture in 1983. Knoxville: The University of Tennessee.

Craig, D.G. (1983). A national study of the supply and demand for teachers of vocational agriculture in 1982. Knoxville: The University of Tennessee.

Craig, D.G. (1981). A national study of the supply and demand for teachers of vocational agriculture in 1980. Knoxville: The University of Tennessee.

Camp, W. G. (1986). A national study of the supply and demand for teachers of vocational agriculture in 1985. Blacksburg: Virginia Tech.

Frantz, N. R., Strickland, D. C., & Elson, D. E. (1987). High school requirements and vocational education enrollment patterns. Journal of Vocational and Technical Education. 3(2).

Henry, S. (Ed.) (1986). Agriculture teachers directory. Greensburg, PA: Charles M. Henry Printing Co.

Rogers, R.A. (1985). Directory of agricultural teacher educators. Washington, DC: U.S. Department of Education.

VIRGINIA TECH

Division of Vocational &
Technical Education

College of Education
Blacksburg, Virginia 24061

September 3, 1986

Mr. Tommy Johnson
Virginia Department of Education
P.O. Box 6 Q
Richmond, VA 23216

Dear Mr. Johnson:

Annually, for the past 21 years, the Agricultural Education Division of the American Vocational Association (AVA) has conducted the National Study of the Demand and Supply for Teachers of Vocational Agriculture. At the request of our professional organization, I am again undertaking this very important study for 1986.

Because Virginia is important to agricultural education in America, accurate data from your state are important to this study. On behalf of the Agricultural Education Division of AVA, I would like to request your time and effort in providing the information indicated on the enclosed survey.

For your assistance in completing the survey, I am enclosing the form which you filled out last year as a part of the 1985 study. While I certainly recognize that your time is limited, please complete and return the survey promptly.

In the past, AVA has paid the cost of printing and distributing the study. This year, that funding has been discontinued, but I am attempting to secure some other source of funds. If I am successful, you will receive a complimentary copy of the completed supply and demand study report as soon as it is printed. Otherwise, there will have to be a small charge for a copy.

Sincerely,

William G. Camp
Associate Professor

SURVEY OF TEACHER SUPPLY IN VOCATIONAL AGRICULTURE IN 1986

Name _____ Institution_____ State _____

1. Total full-time, four-year degree undergraduate enrollment in your institution, during school year 1985-86.

   a. total number of students in all majors. _____

   b. in agriculture _____

   c. in agricultural education (total) _____

   (1) teaching only _____ (3) teaching & extension _____

   (2) extension only _____ (4) other _____

2. Total number of ag. ed. BS/BA graduates, from 7/1/85 to 6/30/86 _____

   (1) teaching only _____ (3) teaching & extension _____

   (2) extension only _____ (4) other _____

3. In your opinion, of your graduates qualified to teach, what number:

   a. really didn't want to teach vo-ag _____

   b. would have taken a vo-ag job, but only in certain schools _____

   c. would have been willing to move almost anywhere for a vo-ag job _____

4. Of your total graduates, indicate their employment status as of 9/1/86: (Please check your addition.)

a. teaching vo-ag in your state	_____	f. armed forces	_____
		g. extension	_____
b. teaching vo-ag outside your state	_____	h. graduate school	_____
c. teaching other subjects	_____	i. unemployed or still available	_____
d. farming	_____	j. other	_____
e. ag business	_____	Total (Note = # 2 above)	_____

5. Of the graduates who took Vo-Ag jobs in other states, please list the number going to each state.

STATE	NUMBER	STATE	NUMBER
_____	_____	_____	_____

==========

Please return by October 1, 1986 to: Dr. William G. Camp
121 Lane Hall
Virginia Tech
Blacksburg, VA 24061

A business reply envelope is provided

SURVEY OF TEACHER DEMAND IN VOCATIONAL AGRICULTURE IN 1986

PLEASE - Return by **OCTOBER 1, 1986** using the enclosed stamped envelope

Name_____Position_____State_____

SECONDARY

1. Number of SECONDARY teachers of vocational agriculture employed in your state during 1985-86 school year. _____

2. Total number of vocational agriculture job openings in your state during the past year. _____

3. Number of vocational agriculture teachers still needed on 9/1/86) but not available in your state _____

4. a. Number of new and additional positions in teaching vocational agriculture which became available during the past year (7/1/85 to 6/30/86) _____

   b. Number of positions discontinued _____

   c. Net gain or loss in number of positions 7/1/85 to 6/30/86 _____ (Note: 4a-4b=4c)

5. Of the teachers hired, how many were:

a. transfer from one school to another	_____	e. other education 1986 graduates	_____
b. ag. educ. B.S. 1986 graduates	_____	f. previous ag ed grads who have not taught	_____
c. ag. educ. M.S. 1986 graduates	_____	g. former vo-ag teacher	_____
d. other agriculture 1986 graduates	_____	h. non-Degree	_____
		i. other	_____

Total (NOTE: must = #2 above +/- #4c above) _____

6. Total number of vocational agriculture teachers last year who held emergency or temporary certificates _____

7. Number of departments which probably will not operate this year because of the lack of a teacher _____

8. How many teachers taught in:

a. jr high/middle school only	_____	d. adult/young farmer	_____
b. high school only	_____	e. jr high/middle & high school & adult/YF	_____
c. both high & jr high/middle	_____	f. uncertain	_____

Total (Note: must = # 1) _____

9. How many teachers taught in:

a. regular or comprehensive high schools _____

b. vocational schools _____

c. area vocational high schools _____

d. uncertain _____

Total (Note: must = # 1) _____

10. How many teachers taught in:

a. single teacher departments _____

b. multiple teacher departments _____

c. uncertain _____

Total (Note: must = # 1) _____

11. How many teachers taught primarily in programs of:

a. production agriculture _____

b. ag supplies & service (including ag business _____

c. agricultural mechanics _____

d. ag products (processing, marketing, inspection) _____

e. ornamental horticulture _____

f. ag resources/forestry _____

g. combinations including production ag _____

h. combinations not including prod ag _____

i. uncertain _____

Total (Note: must = # 1) _____

POST-SECONDARY

12. What was the total number (as of 6/30/86) of:

a. institutions offering agriculture programs _____

b. different programs of agriculture in those institutions _____

c. teachers in those programs (in FTE) _____

13. How many of those teachers taught:

a. full time (in-school) _____

b. part time (in-school) _____

c. in-school & adult _____

d. uncertain _____

Total (Note: must = #12.3, above) _____

14. How many teachers taught in:

a. area schools _____

b. community colleges _____

c. technical institution _____

d. uncertain _____

Total (Note: must = #12.3, above) _____

15. How many teachers taught in:

a. single teacher dept _____ | c. uncertain _____

b. multiple teacher dept _____ |

Total (Note: must = # 9.3, above) _____

16. How many teachers taught primarily in:

a. production agriculture _____ | d. combination of programs _____

b. ornamental horticulture_____ | e. uncertain _____

c. other specialized prog _____ |

Total (Note: must = #12.3, above) _____

==========

Return by October 1, 1986 to:

Dr. William G. Camp
121 Lane Hall
Virginia Tech
Blacksburg, VA 24061

A Return Envelope is provided for your use