A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF VOCATIONAL AGRICULTURE IN 1985

William G. Camp
Associate Professor

April 1986

Table of Contents

List of Tables

A NATIONAL STUDY OF THE SUPPLY AND DEMAND FOR TEACHERS OF VOCATIONAL AGRICULTURE 1985

Many forces have affected the supply and demand of vocational agriculture teachers nationwide, since this study was begun in 1965 by Dr. Ralph Woodin. For virtually all of the intervening years, there has heen a continuing shortfall in the number of qualified teachers seeking employment in teaching. Yet the very existence of a shortage was often a source of debate , even in years when substantial numbers of departments could not open because of a lack of qualified teachers seeking employment (Parmley, Bowen, & Warmbrod, 1979; & Craig, 1985,b). During that 20 year period, teachers' status in their communities declined in all parts of the country. During that time also, the public's confidence in the public schools appears to have declined markedly, as evidenced by the recent criticism of the educational system in the media and legislatures of the states and federal government.

Under the recent drive for "educational excellence," many legislatures and state departments of education appear to have concluded that the only source of educational excellence lies in "academic" courses designed for specific preparation for college. This trend has resulted in the widespread adoption of a variety of "strengthened" high school graduation requirements, typically translated to mean more math, science, and English, and less of everything else. That situation, coupled with the nationwide decline in the numbers of high school students during the first half of this decade, produced a general perception within the profession that agricultural education could be in trouble in many states.

On the other hand, the public criticism of education has produced an increased public concern and commitment to improve the educational system in this country, manifestations of which appear to imply improved status for the profession of teaching and increased salaries for teachers in most states. These improvements, coupled with the apparent, sudden realization by the American public that a serious teacher shortage in all areas is imminent, appears to be producing an upswing in the number of undergraduates entering teacher education programs.

It is important that we in agricultural education know the status of the supply and demand for teachers of vocational agriculture in the United States as we counsel with potential teacher education undergraduates and as we

make long range plans for program directions. This study is funded by the Agricultural Education Division of the American Vocational Association as a function of the Professional Personnel Recruitment Committee, chaired by Dr. Jacqueline Deeds, Assistant Professor, Mississippi State University. This is the twenty-first edition of the study. In deference to the long traditions of the "Supply and Demand Study," begun by Dr. Wooden, and continued for many years by Dr. David Craig, of the University of Tennessee, the current author will make only cosmetic changes in the format and tables reported.

This study has served many purposes and provided much information over its 20-year lifespan. As the Supply and Demand Study moves into its third decade, its importance and contribution to agricultural education remain undiminished. After over two decades of serving the profession of agricultural education, it may be time to consider what changes, if any, need to be made in the "Study." Accordingly, the reader is encouraged to make any suggestions or requests regarding the data collected, analysis, and format to the author.

Data Sources

The annual study, Teacher Supply and Demand in Public Schools, sponsored and published by the National Education Association regularly reports substantially different results from this study, in terms of the supply of agricultural education graduates and in terms of the balance between the required number of replacements and the number of graduates seeking jobs. That study, for example, showed 1200 graduates and 525 replacements needed in agricultural education in 1980, Graybeal (1981), as compared to a total of 1468 graduates, 824 of whom actually entered teaching, as reported by Craig (1981).

The logical source of new teacher supply data is the head teacher educator at each institution producing agricultural education graduates. The logical source of demand data is the person in each state having direct supervisory responsibility for agricultural education. It is from those two sources, with a 100% response rate, that this study estimates the supply and demand for teachers of vocational agriculture in the United States. An exhaustive population census of those two separate groups was conducted.

All institutions of higher education in the United States with specific programs for the training and certification of teachers of agriculture made up the first population. The list was compiled from three sources: Rogers (1985), Henry (1984) and Craig (1985, b). In September, 1985, a Survey of the Supply of Teachers of Vocational

Agriculture in the United States (see Appendix 2) was mailed to the head teacher educators at those institution along with a cover letter (Appendix 1), reminding them of the nature and purpose of the study. About a month later a follow-up letter and second copy of the instrument were mailed to the non-respondents. In November, a second follow-up letter and a third copy of the instrument were mailed to continuing non-respondents. In December, telephone calls were made to the remaining non-respondents, followed by a third note, this time hand written and a fourth copy of the instrument. One institution's response was taken by telephone interview. As a result, a 100% return rate was achieved among teacher education institutions.

The second population was that of head state supervisors of agricultural education. That list was compiled from Henry (1984), Craig (1985, b), and The United States Department of Education Directory of State Officials with Responsibility for Programs of Vocational Education in Agriculture (1985). A Survey of the Demand for Teachers of Vocational Agriculture in the United States (Appendix 3), and a cover letter (appendix 1), were mailed in September. All of the follow-up procedures listed above were used,except that additional telephone follow-ups were necessary. Of the 50 head state supervisors, 49 responded. For the data for that state, a senior faculty member in the teacher education institution provided the information needed to complete the survey. Thus, information from all 50 states was included.

Data for long-term comparisons were extracted from Craig (1981), Craig (1983), Craig (1984), and Craig (1985, a).

Analysis

The responses to the demand survey (state supervisors) and the supply survey (teacher educators), were entered into the Virginia Tech mainframe computer and analysed using the SAS 82 statistical package. Because the data represent a population census, only descriptive statistics are reported.

Findings

Secondary Teacher Positions

Table 1 presents the total number of vocational agriculture teaching positions nationwide in each of the last four years. That number has declined to 11,687 in 1985, continuing the downward trend begun in 1978 when the number peaked at 12,884. The decline for the most recent year was 273 from the 1984 total of 11,960 for a loss of 2.3%. The reader may note that the total loss of positions, reported by-state, of 179, see Table 8, is lower than this total; however, the grand total number of positions in 1984 and 1985

Table 1
Number of Secondary Teaching Positions in Vocational Agriculture in the United States in 1982, 1983, 1984, 1985 [a]

	Item	1982	1983	1984	1985
1.	Total positions as of June 30	12,474	12,099	11,960	11,687
2.	Number of replacements hired	N/A	1,354	1,173	1,043
3.	New graduates entering teaching	701	582	565	493
4.	Change in number of positions (net) [b]	-81	-98	-152	-273
5.	Number of 1984 qualified teachers still available September 1 [c]	88	79	75	88
6.	Teachers needed but unavailable September 1	35	42	19	8
7.	Teachers with temporary/ emergency certificates	254	149	102	140
8.	Departments which will not operate because of the lack of a teacher	15	9	4	3

a Source: head state supervisors
b The net change reported here differs from that shown in table 8. The figure reported here = 1984 grand total - 1985 grand total. The total reported by state = -179.
c Source: head teacher educators

can be assumed to be more reliable figures than the reported number of positions lost. That being the assumption, then the difference between the years' grand totals should be the better estimate of net loss in positions. The total decline in the number of secondary level vocational agriculture teaching positions since 1978 has been only 9.3%; however, the decline reported in 1985 is the largest for that entire period.

Agricultural Education Graduates

Table 2 shows that the number of agricultural education graduates qualified to teach declined from 1584 in 1980 to 1207 in 1985, a decrease of 377 graduates, or 24%. The decline from the 1975 total of 1660 to 1980 was only 76, or under 5%, indicating an accelerating rate of decline in recent years. The largest number of graduates ever qualified was the class of 1978, totalling 1791. In fact, the 1985 total is the smallest in over a decade. The 1960 total was 1324, see table 4, but the 1965 total was 1038, see table 3.

In 1965, 64.6% of the agricultural education graduates in the United States entered teaching in vocational agriculture. Over the next 17 years, that percentage dropped fairly steadily but remained over 50% until 1983. In that year, the placement rate in teaching fell precipitously to 45.6%. In 1984 the rate remained fairly steady at 45.2% but again in 1985 it fell substantially to 40.8%, the lowest placement rate in the 20+ year history of this study, see table 3.

On the other hand, the proportion of our graduates entering agribusiness rose dramatically from 7.5% in 1975 to 18.5% in 1985, see table 2. Other categories remained fairly steady, which indicates that agribusiness is now pulling away the majority of the graduates who historically would have sought teaching jobs.

One striking finding in table 2, was in regard to the number of agricultural teacher education graduates entering agricultural extension nationwide (N = 29). With the expansion of many teacher education programs to include extension training missions, one could expect a larger number of placements. The number of graduates entering extension ranged from 0 at 68 of the reporting 90 institutions, to 3 at Western Illinois and 4 at Tuskeegee University, see table 10. Of the total of 29 placements, these two institutions accounted for 7, or 24.1%. In contrast to these low numbers, the number of students reported as enrolled in extension options nationally was 372.

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

Occupation	1975	1980	1985
Total Number Qualified	1660	1584	1207
Teaching Vo-Ag	999 (60.2)	824 (52.0)	493 (40.8)
Ag Business	125 (7.5)	219 (13.8)	222 (18.4)
Graduate Work	163 (9.8)	163 (10.3)	166 (13.8)
Other Work	164 (9.9)	139 (8.8)	118 (9.8)
Farming	136 (8.2)	120 (7.6)	115 (9.5)
Unemployed	N/A	57 (3.6)	88 (7.3)
Other Teaching	55 (3.3)	36 (2.3)	53 (4.4)
Armed Forces	18 (1.1)	25 (1.6)	18 (1.5)
Extension Service	N/A	N/A	29 (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
1976	12,486	211	1,697	61.5
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

a Source: head state supervisors

b Source: head teacher educators

Table 4
Enrollment in Colleges of Agriculture Compared With Numbers Qualified in Agricultural Education in 1959 and During the Last Ten Years a

Academic Year	Enrollment College of Agriculture	Qualified in Agric. Education	Percent of 59-60 Number	Percent of Col. of Ag.
1959-60	33,968	1,324	100%	3.9
1975-76	97,941	1,697	128.2	1.7
1976-77	103,382	1,749	132.1	1.7
1977-78	101,440	1,791	135.3	1.8
1978-79	103,793	1,656	125.1	1.6
1979-80	105,755	1,584	119.6	1.5
1980-81	104,260	1,468	110.9	1.4
1981-82	96,486	1,368	103.3	1.4
1982-83	92,886	1,277	96.5	1.4
1983-84	86,961	1,249	94.3	1.4
1984-85	80,293	1,207	91.2	1.5

a Source: head teacher educators

Enrollments and Qualifications

Table 4 presents the enrollments in colleges of agriculture, as reported by agricultural education department heads (or equivalent). Following a trend begun in 1980, these enrollments fell again in 1985. Taken as a percentage of the total enrollment in agriculture at the institutions involved, agricultural education graduates have remained fairly constant for the last ten years, ranging from 1.8% in 1978 to 1.4% in 1980 through 1984.

Secondary Teacher Employment

Table 5 reveals that the vast majority of teaching positions in vocational agriculture continue to be at the high school level (54.8%) and concentrated in general or comprehensive high schools (87.4%). The second largest group, (21.6%), were combination in-school and adult teachers, followed by teachers with joint high school and junior high/middle school responsibility (20.0%).

The majority of teachers were in single-teacher departments (53.8%). Nearly half were in full-time production agriculture programs (47.9%), with another large proportion (26.5%) in part-time production agriculture and part-time agricultural mechanics or some other specialized agricultural program.

Thus a profile of the modern vocational agriculture teacher shows a production agriculture teacher in a regular or comprehensive high school, in a single teacher department, teaching only high school classes. This profile is little different from one that could have been drawn after the first Supply and Demand Study in 1965.

Post Secondary Teacher Employment

As shown in table 6, there were 1352 postsecondary agriculture teaching positions reported in 1985. That number was up by 15.1% from the 1984 total of 1175. The largest number of those (36.0%) were in community colleges. Another 25.8% were in technical institutions. The majority taught in multiple teacher departments (69.2%). The largest proportion (35.4%) taught full-time production agriculture with the second largest group (22.9%) teaching other specialized agricultural programs other than ornamental horticulture. Ornamental horticulture teachers made up another 19.7% of the total. Thus it appears that postsecondary agricultural education is the brightest spot in this entire report. The number of positions is up from the previous year in almost all categories.

Table 5
Types of Secondary Teaching Positions in Vocational Agriculture in 1983 and in 1984 c

Type of Position	Number 1984	Number 1985	Percent of Total 1985 b
By Kind of Students a			
.Teachers of junior high school classes only	521	257	2.1
.Teachers of high school classes only	7,673	6,650	54.8
.Teachers of both junior/middle and high school	N/A	2,428	20.0
.Teachers of both high school and out-of-school classes (adult and/or young farmer classes)	3,447	2,620	21.6
.Teachers of adult and young farmer classes only	147	180	1.5
By Kind of School			
.Teachers in general or comprehensive high schools	9,508	9,866	87.4
.Teachers in area vocational high schools	1,168	943	8.4
.Teachers in vocational high schools	317	673	6.0
.Information not available	N/A	204	1.8
By Size of Staff			
.Teachers in single-teacher departments	6,288	6,071	53.8
.Teachers in multi-teacher departments	5,315	4,954	43.9
.Information not available	N/A	661	5.9
By Kind of Program			
.Teachers in full-time production agriculture programs	5,496	5,407	47.9
.Teachers in full-time ornamental horticulture programs	1,045	1,021	9.0
.Teachers in part-time production agriculture programs and had one or more classes in specialized programs such as Agricultural Supplies, Agricultural Mechanics	4,083	2,992	26.5
.Teachers in full-time specialized programs such as Agricultural Supplies, Agricultural Mechanics, Agricultural Products	817	1,067	9.5
.Teachers part time in ag and part time outside ag	N/A	482	4.3
.Information not available	N/A	717	6.4

a Percentages in this section only are based on total number of positions reported in this section, N = 12,135. This number was the sum of the numbers reported by state supervisors, but it differs from the total reported elsewhere of N = 11,687

b Percentages may not total 100% due to rounding. Percentages are based on total N = 11,687, reported in Table 1, except in "Kind of Students" section, as noted in (2)

c Source: head state supervisors

Table 6
Types of PostSecondary Teaching Positions in Vocational Agriculture in 1984 and 1985 [a]

Type of Position	Number 1984	Number 1985	Percent of Total 1985
By Employment Time			
.Teachers who teach full-time	820	1,086	80.3
.Teachers who teach part-time	266	202	14.9
.Teachers who teach part-time as well as adult and/or young farmer classes	89	64	4.7
Total	1,175	1,352	
By Kind of School			
.Teachers in area schools	219	142	10.5
.Teachers in community colleges	521	487	36.0
.Teachers in technical institutes	396	349	25.8
.Information not available	216	372	27.5
By Size of Staff			
.Teachers in single-teacher departments	159	292	21.6
.Teachers in multiple-teacher departments	883	935	69.2
.Information not available	133	125	9.3
By Kind of Program			
.Teachers in full-time production agriculture	305	479	35.4
.Teachers in full-time ornamental horticulture	178	267	19.7
.Teachers in part-time production agriculture and part-time in specialized programs such as agricultural supplies or other	232	178	13.2
.Teachers in specialized programs such as agricultural mechanics or other	265	310	22.9
.Information not available	195	48	8.7

a Source: head state supervisors

Table 7
Placement of Agricultural Education Graduates by Regions in 1985

	Teaching Positions a	Number of New Teachers Qualified b	Number of Graduates Placed in Teaching b,c	Percentage of Graduates Placed in Teaching
Southern	5,479	601	228	37.9
Central	3,358	360	144	40.0
Pacific	1,535	172	92	53.5
North Atlantic	1,315	74	29	39.2
Total	11,687	1,207	493	40.8

Notes:
a Source: head state supervisors

b Source: head teacher educators

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

Placement of Graduates by Region

Information on the placement of agricultural education graduates is shown in table 7. Southern region institutions qualified the largest number of graduates (601) and placed the largest number of teachers (228). On the other hand the placement rate in vocational agriculture in that region was the lowest in the country (37.9%). On the other end on the spectrum, the North Atlantic region institutions qualified 74 graduates and placed 29 of those in teaching agriculture (39.2%). The reader should note that the number of graduates placed in teaching agriculture, as estimated by head teacher educators (N = 493, table 7), differs somewhat from the estimate of new agricultural education graduates employed, as estimated by state supervisors (N = 455, table 9).

Secondary Positions by Region, State

Table 8 displays data on the numbers and status of teaching positions in agriculture, considered by AATEA region. With a total of 1315 teaching positions, as of September 1, 1985, the North Atlantic region experienced turnover of only 82 positions. With a loss of 6 of those positions, the net number of new teachers needed was 76. As of September 1, 1985, there were still 2 departments for which no teachers had been found.

The Central region had 3,358 total positions with a turnover of 303 and a net loss of 25 positions. The number of replacements needed as of September 1, 1985 was 278, of which 3 were still unavailable. The Pacific region, with 1535 positions had a total of 160 openings, all of which were filled, table 8.

The Southern region, with a total of 5,479 positions had 498 openings. Of those, 148 positions were lost, for a net number of new teachers needed of 350. Texas experienced a severe loss of 99 teaching positions. In fact, of the total change in the number of teaching positions, reported by state (table 8), Texas's loss of 99 represented 55%. Of the computed total change in number of positions nationwide, table 1, of -273, the Texas loss represents 36%. There were no unfilled positions in the Southern region, as of September 1, 1985.

Sources of Teachers by Region

By far the largest source of teacher replacements in 1985 was new agricultural education graduates (N = 455, 43.6% of total), see table 9. The second largest source (N = 238, 22.8% of total) was from transfers between schools for experienced teachers. Only 16 non-degree teachers were hired in 1985 in the entire country. For other details and

Table 8
Secondary Teaching Positions in Vocational Agriculture by States and Regions, September 1, 1985 a

North Atlantic Region

State	Total Positions	Number Replacements Employed	Change In No. of Positions from 1984 b	Net Total Teachers Needed	Teachers Still Needed
Connecticut	64	7	-1	6	0
Delaware	38	0	0	0	0
Maine	49	3	-1	2	0
Maryland	90	5	-2	3	0
Massachusetts	85	7	-2	5	0
New Hampshire	37	3	1	4	0
New Jersey	82	6	1	7	0
New York	383	24	0	24	0
Pennsylvania	321	22	-2	20	1
Rhode Island	12	0	0	0	0
Vermont	39	1	0	1	1
West Virginia	115	4	0	4	0
Total for Region	1,315	82	-6	76	2

Central Region

Illinois	415	43	-2	41	0
Indiana	261	22	0	22	2
Iowa	280	28	-1	27	0
Kansas	180	19	0	19	0
Michigan	190	17	-2	19	1
Minnesota	458	37	-16	21	0
Missouri	334	34	-2	32	0
Nebraska	141	9	-2	7	0
North Dakota	92	8	-2	6	0
Ohio	615	45	1	46	0
South Dakota	88	15	1	16	0
Wisconsin	304	26	0	26	0
Total for Region	3,358	303	-25	278	3

Table 8 (continued)
Secondary Teaching Positions in Vocational Agriculture By States and Regions, September 1, 1985

Pacific Region

State	Total Positions	Number Replacements Employed	Change in No. of Positions From 1985	Net Total Teachers Needed	Teachers Still Needed
Alaska	7	0	0	0	0
Arizona	67	7	1	8	0
California	615	57	6	63	0
Colorado	88	7	-1	6	0
Hawaii	27	1	1	2	0
Idaho	82	12	0	12	0
Montana	80	14	-1	13	0
Nevada	21	5	0	5	0
New Mexico	73	18	0	18	0
Oregon	122	14	-2	12	0
Utah	71	5	0	5	0
Washington	232	17	-3	14	0
Wyoming	50	3	-1	2	0
Total for Region	1,535	160	0	160	0

Table 8 (continued)
Secondary Teaching Positions in Vocational Agriculture by States and Regions, September 1, 1985

Southern Region

State	Total Positions	Number Replacements Employed	Change in No. of Positions From 1984	Net Total Teachers Needed	Teachers Still Needed
Alabama	399	21	-5	16	0
Arkansas	265	34	-7	27	0
Florida	460	39	-7	32	0
Georgia	341	25	0	25	0
Kentucky	260	16	-10	6	0
Lousiana	278	13	-4	9	0
Mississippi	264	12	-3	9	0
North Carolina	164	12	-4	8	0
Oklahoma	464	39	4	43	0
South Carolina	164	12	-4	8	0
Tennessee	254	17	-1	16	0
Texas	1,596	206	-99	107	0
Virginia	345	29	-7	22	3
Total for Region	5,479	498	-148	350	0
Total for the United States	11,687	1,043	-179 b	864	8

a Source: head state supervisors

b Total of reported changes by state, does not equal the difference between grand total of positions in 1984 and 1985.

Table 9
Sources of Teacher Replacement by Region in 1985 a

Sources of Teacher Replacement	Region: Central	North Atlantic	Pacific	Southern	Total	Percent
Transfers Between School	67	9	33	129	238	22.8
Ag. Ed. B.S. 1984 Graduates b	156	22	71	206	455	43.6
Ag. Ed. M.S. 1984 Graduates	1	5	8	18	32	3.1
Other Agriculture 1984 Graduates	0	4	0	7	11	1.0
Other Education 1984 Graduates	0	10	2	0	12	1.1
Previous Ag./Ag. Ed. Graduates	13	9	21	31	74	7.1
Former Vo.Ag. Teachers	24	6	18	51	99	9.5
Re-entry, Ag. Business	10	5	3	21	39	3.7
Re-entry, Farming	10	4	2	12	28	2.7
Re-entry, Other	5	5	2	15	27	2.6
Non-degree	11	3	0	2	16	1.5
Other	6	0	0	6	12	1.2
Total	303	82	160	498	1,043	

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

Table 10
Graduates in Agricultural Education and Placement by States and Regions During the 1984-85 School Year.[a]

North Atlantic Region

State	Institution	Qualified to teach[c]	Teaching Vo Ag in state	Teaching Vo Ag out of state	Extension Service	Agri-Business	Farming	Grad School	Other[b]	Unemployed
CT	Univ. of Connecticut	4	1	0	0	0	0	1	2	0
DE	Delaware State College	0	0	0	0	0	0	0	0	0
DE	Univ. of Delaware	6	1	1	0	2	0	0	3	0
MA	Univ. of Massachusetts	4	2	0	0	2	0	0	0	0
MD	Univ. of Maryland	2	1	1	0	0	0	0	1	0
MD	Univ. of Maryland	2	0	0	0	0	0	1	1	0
ME	Univ. of Maine	0	0	0	0	0	0	0	0	0
NH	Univ. of New Hampshire	4	3	0	0	0	0	0	1	0
NJ	Cook College, Rutgers Un.	2	1	0	0	0	0	0	0	1
NY	Cornell Univ.	10	6	0	0	3	1	0	0	0
PA	Pennsylvania State Univ.	26	9	0	0	5	1	4	2	0
RI	Univ. of Rhode Island	3	0	0	0	1	0	1	1	0
VT	Univ. of Vermont	1	0	0	0	1	0	0	0	0
WV	West VA Univ.	10	5	2	0	2	0	1	0	2
	Totals	74	29	4	0	16	2	8	11	3

Pacific Region

State	Institution	Qualified to teach[c]	Teaching Vo Ag in state	Teaching Vo Ag out of state	Extension Service	Agri Business	Farming	Grad School	Other[b]	Unemployed
AK	Univ. of Alaska	0	0	0	0	0	0	0	0	0
AZ	Univ. of Arizona	7	2	0	0	1	1	3	0	0
CA	Cal Poly San Luis Obispo	20	14	0	0	1	0	0	1	4
CA	Cal Poly Univ Pomona	8	5	0	0	0	0	0	0	3
CA	Cal St Univ. Chico	12	9	0	0	0	1	0	0	2
CA	Cal St Univ. Fresno	14	7	0	0	0	0	0	5	2
CA	Univ. of Cal Davis	8	2	0	0	1	0	2	3	0
CO	Colorado St. Univ.	9	4	1	0	2	2	0	1	0
ID	Univ. of Idaho	6	4	0	0	0	0	0	1	1
MT	Montana St. Univ.	13	6	1	0	2	3	0	1	1
NM	New Mexico St.	22	7	1	0	6	2	3	2	2
NV	Univ. of Nevada	5	2	1	0	0	0	0	2	1
OR	Oregon St. Univ.	10	8	0	0	1	0	0	1	0
UT	Utah St. Univ.	8	5	3	0	0	0	0	2	1
WA	Washington State	19	12	2	0	3	0	1	1	2
WY	Univ. of Wyoming	11	5	2	1	1	0	2	2	0
	Totals	172	92	11	1	18	9	11	22	19

Table 10 (continued)

State	Institution	Qualified to teach [c]	Teaching Vo Ag in state	Teaching Vo Ag out of state	Extension Service	Agri-Business	Farming	Grad School	Other [b]	Unemploy
				Central Region						
IA	Iowa State Univ.	23	10	0	0	7	1	2	2	1
IL	Illinois St. Univ.	12	6	0	0	4	0	0	0	2
IL	Southern IL Univ.	10	3	1	0	0	2	4	1	0
IL	Univ. of Illinois	13	2	0	1	4	0	5	0	1
IL	Western IL Univ.	12	5	0	3	3	1	0	0	0
IN	Purdue Univ.	18	12	2	0	0	0	2	4	0
KS	Kansas St. Univ.	35	9	3	0	7	6	4	6	3
MI	Michigan St. Univ.	20	10	1	0	4	5	0	1	0
MN	Univ. of Minnesota	22	9	2	2	3	1	2	2	3
MO	Northwest MO St.	7	4	2	0	2	0	0	1	0
MO	Univ. of Missouri	34	10	1	0	6	7	4	4	3
ND	ND State Univ.	16	9	4	1	0	1	1	1	3
NE	Univ. of Nebraska	13	5	2	1	2	3	1	0	1
NE	Univ. of Nebraska	13	5	2	1	2	3	1	0	1
OH	The Ohio St. Univ.	39	17	1	0	6	1	3	6	6
SD	SD St. Univ.	24	9	3	0	4	6	1	1	3
WI	Univ. Wisc. Platteville	11	4	1	0	2	4	0	0	1
WI	Univ. Wisc. River Falls	30	13	2	2	5	0	3	5	2
WI	Univ. Wisc. Madison	8	2	1	1	2	1	1	1	0
	Totals	360	144	28	12	63	42	34	35	30
				Southern Region						
AL	Alabama A&M	7	1	1	0	1	0	1	2	2
AL	Auburn Univ.	16	11	2	0	1	0	0	4	0
AL	Tuskegee Univ.	22	1	0	4	0	0	4	13	0
AR	Arkansas St. Univ.	8	7	0	0	0	0	0	1	0
AR	Univ. of Arkansas	10	2	2	0	0	0	2	3	3
AR	Univ. of Arkansas	7	5	2	0	1	0	1	0	0
FL	Univ. of Florida	15	11	1	0	0	0	1	2	0
GA	Ft. Valley St.	3	0	0	0	0	0	1	1	1
GA	Univ. of Georgia	12	9	0	0	1	0	2	0	0

Table 10 (continued)

Southern Region (continued)

State	Institution	Qualified to teach [c]	Teaching Vo Ag in state	Teaching Vo Ag out of state	Extension Service	Agri-Business	Farming	Grad School	Other [b]	Unemployed
KY	Morehead State	7	1	0	0	1	2	2	1	0
KY	Murray St. Univ.	9	5	3	0	1	1	2	0	0
KY	Univ. of Kentucky	14	5	3	0	0	4	2	3	0
KY	Western Kentucky Univ.	18	3	3	1	5	2	5	2	0
LA	Louisiana St. Univ.	8	2	1	1	2	0	2	1	0
LA	Louisiana Tech Univ.	6	2	0	0	2	1	1	0	0
LA	Southern Univ.	6	1	3	1	0	0	0	4	1
LA	Univ. of SW LA	2	0	0	0	0	0	0	1	1
MS	Alcorn St. Univ.	4	2	0	1	0	0	1	0	0
MS	Mississippi St. Univ.	15	6	0	0	4	3	1	1	0
NC	North Carolina A&T	14	2	0	1	2	1	5	2	1
NC	North Carolina State	22	11	0	0	4	1	1	0	5
OK	Cameron Univ.	6	3	0	0	0	2	0	1	0
OK	Oklahoma St. Univ.	48	30	2	0	5	4	0	4	5
OK	Panhandle St. Univ.	12	4	1	0	4	2	0	0	2
SC	Clemson Univ.	14	6	1	1	4	1	2	0	0
TN	Middle TN State	13	3	2	0	2	4	1	3	0
TN	Tennessee St. Univ.	19	1	0	0	10	1	3	4	0
TN	Tennessee Tech Univ.	8	4	0	0	0	1	1	2	0
TN	The Univ. of Tenn.	4	1	0	0	2	0	0	1	0
TN	Univ. of Tennessee	7	5	0	1	0	1	0	0	0
TX	East Texas St. Univ.	14	9	0	0	1	0	0	4	0
TX	Prairie View A&M	5	1	0	0	0	0	1	3	0
TX	Sam Houston St. Univ.	35	9	0	1	8	2	3	11	1
TX	Southwest Texas St.	12	2	0	0	3	4	2	1	0
TX	Stephen F. Austin St.	10	10	0	0	3	1	4	11	0
TX	Tarleton St. Univ.	48	18	0	1	5	2	6	16	0
TX	Texas A&I Univ.	11	2	3	0	3	1	3	2	0
TX	Texas A&M Univ.	48	13	0	1	11	4	11	8	0
TX	Texas Tech Univ.	27	13	1	1	4	4	4	1	0
VA	Virginia St. Univ.	5	0	0	1	1	0	0	3	0
VA	Virginia Tech	30	7	2	0	7	4	2	6	4
	Totals	601	228	33	16	125	62	113	121	36
	Totals for United States	1,207	493	76	29	222	115	166	189	88

a Source: head teacher educators
b Other - number teaching other subjects + other types of jobs + military service.
c Number Qualified may not equal the sum of placements because not all graduates are in certification programs.

breakdown by region, see table 9. It is interesting to note that there are still 140 teachers, nationwide, with emergency or temporary certificates, as shown earlier in table 1.

Placement of Graduates by Region, State

Table 10 gives detailed information, by region, state, and institution, on the numbers of graduates qualified to teach agriculture, total numbers entering teaching agriculture, numbers of those entering teaching out of state (included in total), and number employed by the extension service. Also shown are numbers entering agribusiness, farming, graduate school, other jobs (including other teaching, military service, and miscellaneous jobs), as well as the number still unemployed as of September 1, 1985.

The largest program in each region, in terms of numbers of graduates qualified to teach were: North Atlantic - Penn State, N = 26; Central - Ohio State, N = 39; Southern - Texas A & M, N = 48; and Pacific - New Mexico State, N = 22. A total of 89 institutions reported graduates in agricultural education in school year 1984-85. For details, by institution, see table 10.

Conclusions

There was no nationwide teacher shortage in vocational agriculture in 1985. There were a few, very minor, localized shortages. Only 8 teachers were still needed nationwide as of that date and only 3 departments had closed for lack of a qualified teacher, while the number of qualified teachers unemployed and still available was many times higher. The number of emergency certified teaches was also very low. That is good news for the profession.

The bad news is that much of the decline in the severity of the teacher shortage can be attributed directly to the loss of teaching positions. That loss was felt most heavily in the South and particularly in Texas.

Not only did the number of teacher education graduates continue to decline in 1985 but the percentage placed in teaching fell dramatically. One might speculate that part of the decline in the placement rate was due to the unavailability of teaching positions. If that is the case, then 1985 saw the first teacher surplus in the 20+ year history of the Supply and Demand Study. On the other hand, one might speculate that the placement rate was dictated by the market factors of location, salary, and working conditions for teaching as opposed to agribusiness.

In spite of the rhetoric of the profession that we are not training primarily for farming occupations and that

agricultural education has changed dramatically, the typical agriculture program remains much as it was when the Vocational Education Act of 1963 was passed. Production agriculture, taught by a single teacher who graduated from an agricultural teacher education program, in a general high school, remains the norm.

One bright spot on the horizon appears to be post-secondary agriculture. Programs appear to be on the upswing in terms of teacher positions, based on the data reported by head state supervisors.

The promise of the extension option for most institutions has not been fulfilled. The high number of students enrolled in extension options and the low number of placements in extension give rise to a concern about the practicablity and appropriateness of what appears to be a national trend to more heavily emphasize undergraduate extension education programs.

Recommendations

1. The Supply and Demand Study should be continued. The information it provides may need to change and the need it serves may have already changed. After all, it was originally a result of a national perception that there was a teacher shortage in vocational agriculture. Nevertheless, it remains a valuable tool for recruiting and counseling prospective teachers. Beyond that, the current, apparent oversupply of teachers of vocational agriculture may well be short-lived.

2. Research should be undertaken to determine the backgrounds and characteristics of students in agricultural teacher education programs. What kinds of students are in our undergraduate programs? What are their career goals? What are their backgrounds in terms of occupational experience and vocational agriculture in high school?

3. Research should be undertaken to determine the proportion of teacher education graduates actually seeking teaching jobs or who would accept teaching positions if appropriate offers were made. The extent to which market factors or job scarcity are dictating the low placement rate in teaching should be determined.

4. The literature in agricultural education does not adequately treat postsecondary agricultural education. Research needs to be undertaken to rectify that situation. Who are the teachers in post-secondary agriculture programs? What training and experience do they have? What programs are

available and what are their enrollments? How does one secure a position in teaching agriculture at the post-secondary level?

5. Research should be undertaken to determine the nature and status of secondary programs in vocational agriculture, including junior high/middle school, on a regional and national basis. What programs are offered? Who teaches them? What are the enrollments? What training and experience do the teachers have? What are the types of schools? Such information is not currently available and the information provided by this study is not detailed enough to fill this obvious need.

6. Research needs to be conducted into the nature and status of extension education programs on a nationwide basis. What institutions offer such programs? What kinds of students are enrolled? Why is the placement rate so low? What percent of other majors (animal science, agronomy, and so forth) entered extension? Is there any advantage to a degree in extension education for graduates seeking employment in extension?

References Cited

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

Craig, D.G. (1985b). Interview conducted by Camp, W.G. Knoxville, TN.

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

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

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

Graybeal, W.S. (1981). Teacher supply and demand in public schools, 1980-81. Washington, DC: National Education Association.

Henry, S. (Ed.) (1985). Agriculture teachers directory. Greensburg, PA: Charles M. Henry Printing Co.

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

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

U.S. Department of Education (1985). State officials with responsibility for programs of vocational education in agriculture. Washington, DC: Author.

Appendices

Appendix 1

COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF VOCATIONAL & TECHNICAL EDUCATION

September 13, 1985

TITLE *FNAME* *LNAME*
INSTITUTION
ADDRESS1
ADDRESS2
CITY, *STATE* *ZIP*

Dear *TITLE* *LNAME*:

Each year for the past 2 decades, the Agricultural Education Division has conducted a National Study of the Demand and Supply for Teachers of Vocational Agriculture. At the request of our professional organization, I am undertaking this very important study for 1985.

Because your state 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 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 1984 study. While I certainly recognize that your time is limited, please complete and return the survey promptly. As always, you will receive a copy of the completed supply and demand study report as soon as it is printed.

Sincerely,

William G. Camp
Associate Professor

Appendix 2

SURVEY OF TEACHER SUPPLY IN
VOCATIONAL AGRICULTURE IN 1985

PLEASE - Return by **October 1, 1985** in the envelope provided.

Name _____ Institution_____

1. Total full-time, four-year degree undergraduate enrollment in your institution:

   1.1 In Agriculture (not including Home Economics, Business, Hotel Administration, etc). _____

   1.2 In Agricultural Education
   Teaching _____
   Extension _____

2. Number qualified for teaching vocational agriculture from your college or university from 7/1/84 to 6/30/85. _____

3. Given those qualified above, indicate their employment status as of 9/1/85: (Please check your addition.)

3.1 Teaching Vo-Ag	_____	3.6 Armed Forces	_____
3.2 Teaching other subjects	_____	3.7 Extension	_____
3.3 Ag. Business	_____	3.8 Other (including foreign students)	_____
3.4 Farming	_____	3.9 Unemployed or still available	_____
3.5 Graduate work	_____		

NOTE: Total = # 2 above _____

4. Of those qualified during 7/1/84 to 6/30/85:

   4.1 How many were employed in Vo-Ag outside your state? _____

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

STATE	NUMBER	STATE	NUMBER
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

========== Return by October 1, 1985 to: Dr. William G. Camp
(Envelope is provided) 121 Lane Hall
Virginia Tech
Blacksburg, VA 24061

Appendix 3

SURVEY OF TEACHER DEMAND IN
VOCATIONAL AGRICULTURE IN 1985

PLEASE - Return by **OCTOBER 1, 1985** using enclosed stamped envelope
Name_____Position_____State_____

1. Number of secondary teachers of vocational agriculture employed in your state during 1984-85 school year. (Do not include post-secondary teachers.) _____

2. Number of replacements required for the above teachers during the past year. _____

3. Of the replacements hired, how many were:

   a. Transfer from one school to another ____
   b. Ag. Educ. B.S. 1985 graduates ____
   c. Ag. Educ. M.S. 1985 graduates ____
   d. Other agriculture 1985 graduates ____
   e. Other education 1985 graduates ____
   f. Previous Agriculture or Ag. Educ. graduates ____
   g. Former vo-ag teachers _____
   h. Re-entry, Ag. Business _____
   i. Re-entry, farming _____
   j. Re-entry, other _____
   k. Non-degree _____
   l. Other _____
   Total replacements = _____
   (Note: = #2 above + #5 below)

4. a. Number of new and additional positions in teaching vocational agriculture which became available during the past year (7/1/84 to 6/30/85) _____

   b. Number of positions discontinued _____

   c. Net gain or loss in number of positions 7/1/84 to 6/30/85 _____
   (Note: 4c=4a-4b)

5. Number of vocational agriculture teachers still needed on 9/1/85) but not available in your state _____

6. 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 a shortage of teachers _____

SECONDARY

Of the total number of vocational agriculture teachers in 1984-85:

How many teachers taught in:

8.1 junior high school or middle school classes only _____

8.2 high school classes only _____

8.3 both high school and middle/junior high school classes _____

8.4 both high school and adult and/or young farmer classes _____

8.5 adult and/or young farmer classes only _____

Total teachers in state = _____

How many teachers taught in:

8.6 regular or comprehensive high schools _____

8.7 vocational schools _____

8.8 area vocational high schools _____

Total teachers in state = _____

How many teachers taught in:

8.9 single teacher departments _____

8.10 multiple teacher departments _____

Total teachers in state = _____

How many teachers taught:

8.11 full time in production agriculture programs _____

8.12 full time in ornamental horticulture programs _____

8.13 full time in other specialized agricultural programs _____

8.14 part time in production agriculture and part time in specialized agricultural programs _____

8.15 Part time agriculture and part time outside agriculture _____

Total teachers in state = _____

POST-SECONDARY

According to our records, your state has _____ institutions and _____ programs.

How many teachers:

9.1 Taught full time _____

9.2 Taught part time only _____

9.3 Taught part time and adult and/or young farmer classes _____

Total teachers in state = _____
(should = #1 on 1st page) How many teachers:

9.4 Taught in area schools _____

9.5 Taught in community colleges _____

9.6 Taught in technical institutions _____

Total teachers in state = _____

9.7 Taught in single teacher departments _____

9.8 Taught in multiple teacher departments _____

Total teachers in state = _____

How many teachers:

9.9 Taught full time in production agriculture programs _____

9.10 Taught full time in ornamental horticulture programs _____

9.11 Taught part time in production agriculture and part time in specialized programs such as agricultural supplies or other _____

9.12 Taught full time in specialized programs such as agricultural mechanics or other _____

Total teachers in state = _____

==========

Return by October 1, 1985 to: Dr. William G. Camp
121 Lane Hall
Virginia Tech
Blacksburg, VA 24061

A Return Envelope is provided for your use