To the Graduate Council:

I am submitting herewith a thesis written by Danny Wayne Montgomery entitled "A Study of Selected Factors Among Agricultural Education Programs in the United States." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Education.

John D. Todd

John D. Todd, Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Council:

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A STUDY OF SELECTED FACTORS AMONG AGRICULTURAL EDUCATION PROGRAMS IN THE UNITED STATES

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Danny Wayne Montgomery

December 1980

3046707

ACKNOWLEDGEMENTS

The writer wishes to express sincere appreciation to his chairman, Dr. John D. Todd, for his guidance, assistance, and cooperation in directing this study.

The writer expresses his gratitude to other members of his committee, Dr. Frank F. Bell and Dr. George W. Wiegers for their continued support and many suggestions.

The writer is especially indebted to the chairmen of the various agricultural education programs across the United States who provided the data for the study.

Sincere gratitude is expressed to his sister, Vickie Y. Ball, for her assistance in critiquing and typing the manuscript.

Deepest appreciation is expressed to the author's Mother and Father for their continued support and guidance during his educational endeavor and vocational pursuit.

ABSTRACT

The objective of the study was to identify the similarities and differences among agricultural education programs in the United States according to the following parameters: number of agricultural education majors, number and placements of graduates, curriculum in agricultural education, graduate programs in agricultural education, number of staff members, major duties of staff members, services performed for teachers of vocational agriculture, funding of the programs, and the use of an advisory council.

Comparisons were made concerning each parameter among the agricultural education programs according to regions, land-grant affiliation, and administrative units.

Seventy-six agricultural education programs were used in the study or approximately 89 percent of the total number of programs. The data were obtained from a 27-item questionnaire developed by the writer and sent to the chairman of each agricultural education program. The computer services of the University of Tennessee were used to statistically test the data and determine if significant differences existed among the factors being compared. The nominal data were statistically tested by the use of chi-square, and the interval data were statistically tested by the use of an analysis of variance.

The agricultural educational programs in the Central Region were found to be "above average" with many of the parameters studied when comparing programs among other regions. In the Central Region, a greater percentage of the programs offer the master's and doctoral programs than in the other regions. On the average, the staffs of the

Central Region spent more time in research, teaching, and preparation of curriculum materials than the staffs in the other regions. More agricultural education programs in the Western Region provided curriculum materials and field services to vocational agriculture teachers than in any other region, and more programs located in the Southern Region provided non-credit workshops to vocational agriculture teachers than any other region. The programs in the Eastern Region provided the least services to vocational agriculture teachers.

In the comparison of the parameter among the agricultural education programs according to land-grant affiliation, it was found that programs located in land-grant institutions had a better financial base than programs located in non-land-grant institutions. A larger percentage of agricultural education programs located in land-grant institutions received funds from the university and/or state department of education, and/or federal government for research and curriculum materials than programs located in non-land-grant institutions. Programs located in land-grant institutions averaged nearly one staff member more than programs in non-land-grant institutions.

In the comparison of the agricultural education programs according to administrative units, it was found that the programs were quite similar. However, programs administered by colleges of agriculture tend to have more agricultural education majors than programs administered by colleges of education. Also, the staff of the programs administered by colleges of agriculture spent more time in teaching than those administered by colleges of education.

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CHAPTER I

INTRODUCTION

Agriculture in the United States has made tremendous advances in the production and processing of food, fiber, and lumber for mankind. This could not have been accomplished without continued education and research in agriculture. Various organizations such as the extension service, experiment stations, and the agricultural industry can be credited for such work. However, agricultural education has also contributed to these advances through trained vocational agriculture teachers who are primarily responsible for training high school students and farmers in the basic job skills needed by the agricultural industry.

Agricultural education training programs are conducted in colleges and universities in most of the fifty states. Some of the states have only one teacher training program in agricultural education, whereas other states have multiple programs. Some of the agricultural education programs are located in land-grant institutions while others are located in colleges and universities with agricultural education "departments" or colleges of agriculture not supported by funds allocated to land-grant institutions. Some of the agricultural education programs are administered by the colleges of education and others by the colleges of agriculture or a joint program between both colleges.

There are probably many similarities between agricultural education programs among these institutions, but there are also many differences. It would be impossible to study all areas of the different programs in order to make comparisons, but there are certain factors that have

more influence than others on the quality and service of agricultural education programs.

Statement of the Problem

What are the similarities and differences among agricultural education programs in the United States? A comparison was made between land-grant and non-land-grant institutions and those administered in colleges of agriculture and those administered in the colleges of education. A comparison of agricultural education programs was also made among institutions in the different regions in the United States. The following parameters were used for comparison:

a. Number of agricultural education majors
b. Number and placement of graduates each year
c. Curriculum in agricultural education
d. Graduate programs in agricultural education
e. Number of staff members
f. Major duties of staff members
g. Services performed for teachers of vocational agriculture
h. Funding of the programs
i. Use of an advisory council

Significance of the Problem

The teaching of vocational agriculture has become increasingly complex and technical in nature. Thus, being a successful teacher requires that an individual have (or be endowed with) considerable knowledge, skill, and understanding. Vocational teachers are being trained in various types of agricultural education programs located all across the United States. This becomes an important factor when

it is realized that the success or failure of any vocational agriculture program depends both upon the quality of the students and the educational training of the teacher in charge. It is essential that the agricultural education programs provide the most up-to-date training in both technical agriculture and educational methodology (24).

The findings of the study identified some of the similarities and differences existing among agricultural education departments and programs. It is anticipated that from the findings and the comparisons, suggestions and ideas can be made that may initiate improvements in the quality and service of agricultural education programs in the United States.

Limitations of the Study

This study was limited to the agricultural education programs located in the United States. These programs include those located in both land-grant and non-land-grant institutions whose graduates are eligible to be certified teachers of vocational agriculture.

Definitions of Terms

Terms used in the study were defined as follows:

1. Agricultural education program includes the group of related courses or units of subject matter which are systematically organized for conducting learning experiences concerned with the preparation for occupations requiring knowledge and skills in agricultural subjects or improving competencies for upgrading employment in such occupations. The functions of educational theory, technical agriculture, and the services related thereto are emphasized in the instruction which is

designed to provide opportunities for persons to prepare for or improve their competencies as a vocational agriculture teacher (34,30).

2. Agricultural teacher educator is an individual who has the primary responsibility of organization, instruction, research, guidance and certification in the training of individuals who are preparing for a career of teaching vocational agriculture.

3. Vocational agriculture is a program of education designed to train individuals in the functions and skills of agricultural production, agricultural supply, agricultural mechanization, agricultural products, ornamental horticulture, forestry, and agricultural resources. The instruction is designed to provide opportunities for persons to prepare for or improve their competencies in agricultural occupations. This educational program includes persons in the secondary and post secondary school but less than college level (37).

4. Vocational agriculture teacher is a person who directs the learning process of individuals in developing or acquiring job skills, attitudes, and leadership abilities required for employment in the agricultural industry.

5. Land-grant institutions are those colleges and universities which received federal aid in land and money under the Morrill Act of 1862 and 1890. This act permitted each state to use public land to establish and support at least one agricultural college with the objectives of education, service, and research (37).

6. Curriculum is a specific series of studies or courses designed for instruction in a designated field in a school or college; or the whole range of studies in an institution.

7. Advisory council is a selected group of persons with the primary functions of (a) formulating and recommending adequate policies for agricultural education, (b) the evaluating of these policies as they are applied, and (c) the recommending of needed revisions in existing policies (24).

Procedure for Conducting Study

After discussing the need for a study to compare selected factors of agricultural education programs in the United States, the investigator developed a tentative questionnaire to be used in obtaining the desired information. This questionnaire was discussed among the agricultural education staff of the University of Tennessee and changes were made as a result of the discussion. The questionnaire was then sent to chairmen of five agricultural education programs selected for field testing and vertification of the validity of the questionnaire. These programs were selected as being representative of different types of agricultural education programs in the United States. The five selected programs are listed in Appendix A.

After the return of the questionnaires from field testing, certain questions were arranged or modified for clarity and accuracy. The investigator requested the opinion of the Dean of the College of Agriculture at the University of Tennessee relative to questions concerning expenditures of funds to conduct agricultural education programs. As a result of this conference, other changes were made and the revised questionnaire was approved for the study. A copy of the questionnaire is shown in Appendix B.

A letter (Appendix C) requesting cooperation with the study and a copy of the questionnaire were sent to the Human Subjects Committee of the Graduate Council at the University of Tennessee for review and approval of the methods being used. After the Committee's approval, the letter and questionnaire were mailed to 85 agricultural education programs (Appendix D) located across the United States. A list of all agricultural education programs in the United States was obtained from the files in the Agricultural Education Department at the University of Tennessee, Knoxville. A self-addressed, stamped envelope was also included to expedite the return of the completed questionnaire.

After receiving 60 responses, a second letter with a questionnaire and self-addressed, stamped envelope was sent to the persons who had not yet responded. As the result of the initial and follow-up mailings, 76 usable questionnaires were received. A return of approximately 89 percent was received throughout a period of 90 days. The agricultural education programs from which questionnaires were completed are identified with an asterisk in Appendix D.

Each institution from which a response was received was given a regional classification. This classification was based upon a list identifying the agricultural education programs and the regions in which they belong according to the American Association of Teacher Educators in Agriculture. The investigator obtained the list from the files of the Agricultural Education Department of the University of Tennessee.

The computer services of the University of Tennessee were used to statistically test the data and determine if a significant difference existed among the factors being compared. The nominal data were

statistically tested by the use of chi-square. The interval data were statistically tested by the use of an analysis of variance. Duncan's new multiple range test was used to determine where significant differences among group means existed.

The thesis was divided into four chapters. The statement of the problem and its significance is included in Chapter I. The review of related literature can be examined in Chapter II. Chapter III contains the presentation and discussion of data. The interpretations and conclusions as well as the recommendations are presented in Chapter IV.

CHAPTER II

REVIEW OF RELATED LITERATURE

Training teachers of vocational agriculture became federally subsidized with the passage of the Smith-Hughes Act in 1917. This act provided for a permanent and continuing appropriation for the preparation of teachers, supervisiors, and directors of agricultural subjects (33). This essential charge has been implemented in subsequent legislation and is one of the objectives of the Vocational Act of 1963, but the original legislation instituting vocational agriculture can be given credit for the national establishment of teacher training programs in the United States. Swanson, Specialist in Agricultural Education, United States Office of Education, identified the six basic functions of the institutions in a complete program of teacher training in agriculture. These same basic functions are the foundation of our present day teacher training programs. The six basic functions are:

1. Provide facilities for pre-employment preparation of teachers of agriculture which result in:

    (a) An adequate supply of capable, well trained beginning teachers. This involves an adequate plan for the elimination of persons in training who show themselves to be unsuited for teaching. It involves also a comparable qualifying plan for former college graduates who desire to enter or re-enter vocational teaching.
    (b) Training (technical and professional) based primarily upon participating experiences and carried to the point of developing "doing ability". This includes activities such as -

        (1) Discovering individual and community needs.

(2) Establishing and maintaining satisfactory working relationships with fellow school teachers, officials, and the public.
(3) Planning and maintaining adequate instructional facilities.
(4) Organizing and conducting all day, part time, and evening class instruction designed to assist young men to become established in farming and to assist others in improving their status in farming.
(5) Supervising the farm practice of all individuals reached by systematic instruction.
(6) Serving as advisior to a chapter of FFA and working with appropriate community organizations.
(7) Formulating the immediate and long time programs of agricultural education for the community.
(8) Keeping adequate records and preparing reports.
(9) Informing the public through press, exhibits, demonstrations, and fairs.
(10) Evaluating the outcome of the programs in agricultural education.

(c) Placing persons as teachers upon the completion of their training program. This involves the operation of a placement service in cooperation with the State Board for Vocational Education that will assist teachers not only in securing positions but discovering the opportunities for advancement commensurate with their experience and abilities.

2. Develop teaching aids for teachers in service by -

(a) Preparing professional and technical teaching materials embodying new developments and bringing together data bearing on significant units of instruction.
(b) Participating in district and State Conferences for the purpose of instructing employed teachers in the use of new professional and technical materials.

3. Provide continuing education for teachers in service through -

(a) Regular term graduate courses and seminars in professional and technical fields.

(b) Short intensive courses of two and three weeks duration, both professional and technical (on the campus and off the campus).
(c) Short technical-skills unit courses (on the campus and off the campus).

4. Provide for follow-up of resident teacher training through field contacts for the purpose of checking the effectiveness of all units of instruction, and thus improving the teacher training program. This type of follow-up is carried on primarily with beginning teachers. Up-grading or helping the man on the job under this function is carried on only at the direction of and in cooperation with the supervising State and local school officials.

5. Encourage improvement of college teaching (professional and technical) affecting the learning of prospective teachers. Teacher trainers should inform other college teachers of the objectives for vocational agriculture in the State and the abilities needed by teachers to meet vocational needs.

6. Conduct research and studies making direct contributions to the development of the program of vocational agriculture in the State (33).

Pre-service Training

In 1952, Kirkland, former head of the Agricultural Education Department at the University of Tennessee, stated that the success of a teacher training program in agricultural education is measured in terms of the ability of its graduates to perform the duties and responsibilities of their respective position. But the effectiveness of any pre-service training program in agricultural education is influenced by the quality of student enrolled, the thoroughness and comprehensiveness of the instructional program, the adequancy and appropriation of experience provided during the period of student teaching and the effective use of appropriate evaluation techniques (18).

In the study of the professional problems encountered by beginning teachers in 1953, Hutson indicated that 31 percent of the causes of major problems encountered by the beginning teachers of vocational agriculture were directed toward inadequancy of instruction in the professional courses. This condition could be attributed to the lack of, or limited to, participating experiences in selected activities during the period of pre-service training (17). In 1979, Pfister reported that only 36.8 percent of the beginning vocational agriculture teachers felt undergraduate courses met the needs of prospective vocational agriculture teachers. She further concluded from the study that the courses on youth groups and Future Farmers of America should be improved and, within the college curriculum, practical agricultural experience should be made available for those prospective teachers lacking such experience (26). Although these were not the major causes of problems for beginning teachers, the studies seem to indicate a considerable degree of inadequacy in the professional phase of pre-service training and the need for re-examination of the courses in the professional program of pre-service training (17, 12).

Boykin noted in his 1961 study of competencies needed by vocational agriculture teachers that a number of deficiencies indicated by the teachers revealed weaknesses in their backgrounds in physics and mathematics (3). In a similar study conducted by Sullivan, some teachers felt unqualified to teach farm mechanics as it should be taught (32). Both studies indicated that a change in the college curriculum was in order to allow more time for farm mechanics training (3, 32).

In the 1953 study of the agricultural education curricula of the 49 teaching - training centers, Loreen revealed that the agricultural

education curriculums show a wide variation in requirements. -

> The general education course requirements ranged from 0 to 19 semester hours, with an average of 7.47 hours. The agricultural education course requirement ranged from 3 to 15 semester hours with an average of 8.82 hours. Credit for student teaching ranged from 3 to 18 semester hours with an average of 6.84 hours. The length of the student teaching period was from 2 to 48 weeks, with an average of 9.34 weeks. Total hours of education required ranged from 15 to 38 semester hours, with an average of 24.57 hours. The total hours required for a Bachelor of Science degree was from 124 to 147 semester hours, with an average of 134.7 hours (22).

As a result of his study of the curricula of the teacher training programs Hill states, "Similarity of requirements appears only in the broad classification. Similarity breaks down to the common cause and the identification of terminology." This situation existed in each phase of this study, and with this in mind the only conclusion for Hill to draw was that each curriculum had not been planned according to the needs of the state, but had either just happened or had been planned to the satisfaction of the individual likes and dislikes of the authorities of these institutions (15).

It was also noted that in the states of the Northeastern, North Central, and Western Regions there was little evidence that the problems of agriculture producers were taken into account in the choice of technical agriculture courses which are expected to provide factual material essential to the solution of the problems. The Southern Region revealed more planning and similarity in requirements than any of the previous mentioned regions (15).

Andrews, Executive Vice-President of California Polytechnic State University stated that pre-service work provided the foundation and without the foundation you have nothing to build on in order to provide

quality programs (1). In June 1977, Stewart, Shinn, and Richardson reported as a result of their study on the concerns of professionals in agriculture education that -

> The five areas of greatest concern to teachers, supervisors, and teacher educators in agricultural education ranked in descending order were curriculum development, funding, teacher education, teacher shortage, and evaluation (31).

Teacher Placement

The placement of vocational agriculture teachers is a complicated process which is influenced by many outside forces. The teacher educators have little or no control over most of these outside forces or factors. In Cladwell's 1959 study, the staff at the South Carolina State College believed that the major cause for students transfering from the department was low income from teaching compared to other work (5).

In 1938, the principal factors which have influenced men to leave vocational agriculture teaching were found to be: opportunities for better advancement in other fields, uncertainity of employment from year to year as a teacher, inadequate income, desire for a more permanent home, and the lack of understanding between the vocational agriculture teacher and the school superintendent or state supervisory staff (27).

Forty years later, Knight noted some of the same reasons why vocational agriculture teachers leave the profession. The reason given most frequently was that their long-range occupational goal was different. This was followed by, in descending order; inadequate advancement opportunities, had students in class who should not have been, inadequate salary, and the long hours (20).

In the study of the supply and demand of qualified teachers of vocational agriculture, Craig noted that a total of 1,791 persons were qualified for teaching vocational agriculture in 1978. However, the percentage of individuals placed in vocational agriculture was only 56.7 percent, and a turnover rate of 11.1 percent also existed. These two factors have contributed to a vocational agriculture teacher shortage in the United States. In the past 14 years, the placement rate has ranged from 64.6 percent to 54.8 percent, and the turnover rate has ranged from 9 to 12 percent. But as of September 1, 1978, there was still a teacher shortage. One hundred and eighty-nine (189) teachers were needed, but were not available. Approximately 100 departments could not offer vocational agriculture during the 1978-79 school year because of lack of teachers (7).

Knight noted that there is a distinct need for more effective placement of agricultural instructors. Teacher educators and state supervisiors are the two principal forces in placing teachers. They agreed that character, personality, and professional factors are recommended criterion for placing beginning teachers, and accomplishment the main criterion of the experienced teacher. It was recommended that a closer "personal" contact of state supervisiors and teacher educators and other agencies with all departments of vocational agriculture be established and a more definite method of follow-up of existing teachers (17).

However, Zurbrick in his 1980 article, "Is there really a teacher shortage?" concluded the efforts of teacher placement in that -

> . . . we cannot overcome the availability of vocational agriculture teachers by graduating more students. With lower salaries and poor working conditions, we can expect

> a smaller percentage of graduates will enter the profession even with increased enrollment in our teacher education programs (39).

Teaching Aids

In 1949, a study by Davis was conducted to determine the teaching aids desired by vocational teachers of Texas. He concluded that, contrary to popular opinion, all teachers regardless of length of time they have taught, desire additional teaching aids. From this study four things were identified as needing improvements or updating. First, additional up-to-date subject matter material is needed in the principal fields of agriculture. Second, short in-service courses should be conducted for teachers of vocational agriculture. Third, the present sources of information are not sufficient to keep the teacher well informed. And, fourth, it was concluded that teachers would be more valuable to the community they serve if they were supplied with new research information regularly (10). In 1974, Cooper indicated that teachers of vocational agriculture look to teacher educators for leadership and assistance in identifying or developing appropriate curriculum materials for secondary and continuing education programs (6).

Obtaining reliable information to develop lessons has been a continuing problem for teachers. In Colorado 50 percent of the vocational agriculture teachers indicated a need for assistance in locating and securing materials for instruction (28). This same conclusion was indicated in Ohio where resource units were used extensively as a guide in preparing lessons, as a general reference, and as a source of related information. It was also noted in 1961 that teachers and teacher educators were most commonly mentioned as the proper group to develop

resource units (4). As a rule, the professional quality and content cannot be matched locally. Great rewards can be derived from professionally prepared instructional material (2).

There was general agreement that teachers should be provided resource material upon which they can use for developing their own content and teaching plans. Ekstrom in his study of curriculum expressed the crux of the problem . . .

> Research pertaining to the curriculum and to courses of study in agricultural education has been rather limited in scope. More research is needed for giving direction in analyzing needs, for allocating and distributing content, and for evaluating the effectiveness of curriculum patterns (21).

Teaching aids are affected by two conditions. First, vocational agriculture teachers are so busily engaged in various activities connected with their programs that they do not have the time to deal adequately with the problem of providing technical materials. The second was that teacher educators charged with subject matter responsibilities are more proficient than teachers in procuring and organizing materials which have general application for the teaching of vocational agriculture (13).

Continuing Education

Continuing education of vocational agriculture teachers has benefited the students of vocational agriculture by increasing their learning experiences and the techniques by which they learn. Agricultural technology has changed so fast that a teacher must regularly secure additional instruction if he or she is to properly serve vocational agriculture (8). In Grimes' study of courses taken and taught by vocational agriculture teachers, there was little relationship

between the number of credits a teacher had earned in a particular subject matter area and the time spent teaching in the same area. However, a relationship did exist in that the teachers were teaching the subjects they had been taught. It was further concluded that the best preparation a teacher can obtain to meet all situations in teaching vocational agriculture was to complete as wide a range of courses as possible with emphasis on the more important agricultural enterprises (13).

Continuing education has taken the form of graduate courses, in-service training, short courses, both on and off campus, and individualized conferences and meetings. However, summer schools and short unit courses have provided the most frequent means of obtaining professional improvement (28). Vocational agriculture teachers have usually rated off-campus courses as being the most effective in keeping up-to-date. Other methods receiving high ratings were: a screening/ reviewing service, summer conferences, agricultural publication, evening meetings, and one or two week summer session courses (14).

In Montgomery's study, and the study conducted by Young concerning in-service training, two recommendations were evident. In-service training programs should be developed by an advisory committee composed of supervisiors, teachers, and teacher educators who would assist in planning, promoting, and the evaluation of the program. There should be provisions made for exchanging ideas through the transfer of more resident credit between graduate schools, the exchange of teacher educators and staff members, and the use of visiting professors (23,38).

Follow-Up

Just as teachers of vocational agriculture have conducted follow-up studies of their former students, it is essential that follow-up of former students of teacher training programs be carried out. In Phipps' study of prospective teachers of vocational agriculture in Illinois, considerable evidence was shown that teachers of vocational agriculture at the University of Illinois were completing their undergraduate training without self-confidence, ability, or understanding in certain areas of technical agriculture. From this study the need for some type of systematic follow-up with first year teachers was shown (25).

In identifying some of the basic responsibilities in training teachers of vocational agriculture, Daniels and Carpenter indicated, in 1976, that first year teachers will probably need more help during that year than at any other time. In addition to providing regular in-service training, it was most helpful to offer a graduate course for credit to a first year teacher (9).

The type of follow-up assistance teachers desired was of a personal, "on the spot" nature. The teachers considered personal conferences with the college staff members and the three-way conferences, including the local school administrator, of most value. The next most desired type of in-service activity was workshops or conferences conducted specifically for first year teachers. But, overall, teachers desired follow-up visits soon after becoming employed (16). In-service is the final major responsibility of a "good" agricultural education department.

Review

In the review of the related literature, most of the studies have been made of the vocational agriculture programs at the secondary level. Very few studies have been made directly on the teacher training programs and their related duties and problems. On duties, Warmbrod, Professor at Ohio State University, stated -

> Teacher education personnel in the universities play an equally important role in fostering high quality agricultural education programs. Their most obvious role is that of pre-service and in-service education. Teacher education facilities have another unique contribution to make in building quality programs, research and development (35).

In regard to agriculture education problems, Woodin, Professor Emeritus of Agricultural Education at Ohio State University, said that -

> One of the best kept secrets of the profession during the past decade is the seriousness of problems confronting agriculture education departments in our colleges and universities. These departments face problems of reduced funding for higher education, of being small departments with little political muscle on the home campus (36).

Therefore, the information from the previously mentioned studies and reports may give a background to the teacher training program, their problems, and the duties they perform.

CHAPTER III

PRESENTATION AND DISCUSSION OF THE DATA

In the analysis of the data concerning selected factors among agricultural education programs, comparisons were made according to the regions, land-grant affiliation, and administrative units of the programs. Most of the data were presented in percentages because of the small number of programs assigned to cells which disallowed the use of chi-square as a statistical tool. The population and sample are the same with 76 cases. In the presentation and discussion of the data, Chapter III was examined according to the study's parameters as listed in Chapter I, page two.

Background

Each chairman of the agricultural education programs surveyed indicated whether the program was land-grant affiliated and the appropriate administrative unit of the program. In combination with those two factors a regional classification was assigned for further comparisons. The programs were examined on the basis of the three factors concerning each parameter of the study as mentioned previously.

Shown in Table 1 are the percentages of agricultural education programs by regions, land-grant affiliation and administrative units. It was found that 43.4 percent or 33 of the programs were located in the Southern Region. This was followed by 23.7 percent or 18 programs in the Central Region, 17.1 percent or 13 programs in the Eastern, and 15.8 percent or 12 programs in the Western Region. On land-grant affiliation, 71.1 percent of the programs were located in land-grant

TABLE 1

Agricultural Education Programs by Regions, Land-grant Affiliation and Administrative Units

	Number (N)	Percent
Regional		
Eastern	13	17.1
Central	18	23.7
Western	12	15.8
Southern	33	43.4
Total	76	100.0
Affiliation		
Land-grant	54	71.1
Non-land-grant	22	28.9
Total	76	100.0
Administrative Unit		
College of Agriculture	40	52.6
College of Education	25	32.9
Others	11	14.5
Total	76	100.0

institutions with the remaining 28.9 percent located in non-land-grant institutions. According to the administrative units of the agricultural education programs, colleges of agriculture were indicated as the administrative unit of 52.6 percent of the programs. Colleges of education were the administrative unit of 32.9 percent of the programs. The category "others" was the administrative units of the remaining 14.5 percent of the programs surveyed. "Others" included those programs under various administration and those which are jointly administered between colleges of agriculture and colleges of education.

A comparison was made among the programs according to regional location and land-grant affiliation of the programs as shown in Table 2. It was shown that 17.1 percent of the total programs were located in the

TABLE 2

Agricultural Education Programs by Regional Location and Land-grant Affiliation

Region	Land-grant N	Land-grant Total %	Land-grant Row %	Non-land-grant N	Non-land-grant Total %	Non-land-grant Row %	N Total
Eastern	13	17.1	100.0	0	0	0	13
Central	12	15.8	66.7	6	7.9	33.3	18
Western	9	11.8	75.0	3	3.9	25.0	12
Southern	20	26.3	60.6	13	17.1	39.4	33
Total	54	71.1		22	28.9		76

Eastern Region, and that all of the programs in the region were affiliated with land-grant institutions. Seventy-five percent or nine of the programs located in the Western Region were also affiliated with land-grant institutions. The Central Region followed next with 66.7 percent or 12 of the programs located in land-grant institutions, and in the Southern Region 60.6 percent or 20 of the programs were located in land-grant institutions. There was a total of 54 programs affiliated with land-grant institutions and 22 that were located in non-land-grant institutions.

A comparison of agricultural education programs by regional location and administrative units was also computed and is shown in Table 3. In the Eastern Region, it was found that 76.9 percent of the programs were administered by colleges of agriculture and 15.4 percent by colleges of education. In the Western Region, 66.7 percent were administered by colleges of agriculture and 25.0 percent by colleges of education. The Southern Region indicated 48.5 percent of the programs were administered by colleges of agriculture with 39.4 percent by colleges of education. The Central Region was almost evenly divided between the three

TABLE 3

Agricultural Education Programs by Regional Location and Administrative Units

	College of Agriculture			College of Education			Others			
Region	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	Total
Eastern	10	13.2	76.9	2	2.6	15.4	1	1.3	7.7	13
Central	6	7.9	33.3	7	9.2	38.9	5	6.6	27.8	18
Western	8	10.5	66.7	3	3.9	25.0	1	1.3	8.3	12
Southern	16	21.1	48.5	13	17.1	39.4	4	5.3	12.1	33
Total	40	52.7		25	32.9		11	14.5		76

administrative units. Thirty-three and a third percent of the programs in the Central Region were administered by colleges of agriculture with 38.9 percent by colleges of education and 27.8 percent by "others".

The comparison of programs by land-grant affiliation and administrative units is shown in Table 4. A sizeable difference did exist in the comparison. It was found that 50 percent or 27 programs affiliated with land-grant institutions were administered by colleges of agriculture. Forty and seven-tenths percent or 22 of the programs affiliated with land-grant institutions were administered by colleges of education. However, only 13.6 percent of the programs affiliated with non-land-grant institutions were administered by colleges of education. It was also noted that 27.3 percent of the programs in non-land-grant institutions were administered by "others" compared to only 9.3 percent of the land-grant programs.

Administration of Undergraduate Student

Although the agricultural education programs are somewhat divided among the different administrative units, one objective of the study was to determine if the majority of undergraduate agricultural education students were enrolled in colleges of agriculture. As shown in Table 5, 80.3 percent of the agricultural education programs indicated that their undergraduate students were enrolled in colleges of agriculture. But as shown in Table 1, page 21, only 52.6 percent of the programs were administered by colleges of agriculture.

A further comparison was made according to the enrollment of undergraduate agricultural education students in colleges of agriculture relative to regions, land-grant affiliation, and administrative units.

TABLE 4

Agricultural Education Programs by Land-grant Affiliation and Administrative Units

	College of Agriculture			College of Education			Others			
Affiliation	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	Total
Land-grant	27	35.5	50.0	22	28.9	40.7	5	6.6	9.3	54
Non-land-grant	13	17.1	59.1	3	3.9	13.6	6	7.9	27.3	22
Total	40	52.6		25	32.9		11	14.5		76

TABLE 5

Agricultural Education Programs with Undergraduate Students Enrolled in the College of Agriculture

	Number	Percent
Enrolled in College of Agriculture	61	80.3
Not enrolled in College of Agriculture	13	17.1
No Response	2	2.6
Total	76	100.0

As shown in Table 6, no sizeable difference was noted among the agricultural education programs by either regions or land-grant affiliation. In the Southern Region, 69.7 percent of the programs reported that their undergraduate students were enrolled in colleges of agriculture. This was followed by 83.3 percent of the programs in the Western Region, 88.9 percent in the Central, and 92.3 percent in the Eastern Region. Eighty-three and three-tenths percent of the programs, which were land-grant affiliated, had undergraduate students enrolled in colleges of agriculture compared to 72.7 percent of the programs located in non-land-grant institutions. However, a sizeable difference was recorded in regard to the administrative units of the programs. It was found that 97.5 percent of the programs administered by colleges of agriculture had their undergraduate agricultural education students enrolled in colleges of agriculture. In comparison, only 60 percent of the programs administered by colleges of education had their students enrolled in colleges of agriculture, and 63.6 percent of the programs administered by "others" had their students enrolled in colleges of agriculture.

TABLE 6

Agricultural Education Programs According to Undergraduate Students in the College of Agriculture by Regions, Land-grant Affiliation, and Administrative Units

	Enrolled in the College of Agriculture			Not Enrolled in the College of Agriculture			No Indication			
	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	Total N
Region										
Eastern	12	15.8	92.3	0	0	0	1	1.3	7.7	13
Central	16	21.1	88.9	2	2.6	11.1	0	0	0	18
Western	10	13.2	83.3	1	1.3	8.3	1	1.3	8.3	12
Southern	23	30.3	69.7	10	13.2	30.3	0	0	0	33
Total	61	80.3		13	17.1		2	2.6		76
Affiliation										
Land-grant	45	59.2	83.3	7	9.2	13.0	2	2.6	3.7	54
Non-land-grant	16	21.1	72.7	6	7.9	27.3	0	0	0	22
Total	61	80.3		13	17.1		2	2.6		76
Administrative Unit										
College of Agriculture	39	51.3	97.5	1	1.3	2.5	0	0	0	40
College of Education	15	19.7	60.0	9	11.8	36.0	1	1.3	4.0	25
Others	7	9.2	63.6	3	3.9	27.3	1	1.3	9.1	11
Total	61	80.3		13	17.1		2	2.6		76

Number of Agricultural Education Majors

One objective of the study was to determine what similarities and differences existed in the average number of undergraduate majors in agricultural education during the past five years using 1978-79 school year as the last year in the five year average. As shown in Table 7, sizeable differences existed among the programs according to the number of undergraduate majors either on a regional, land-grant affiliation, or administrative basis. A total of 23.7 percent of the programs indicated an average of over 100 undergraduate majors. This was followed by 19.7 percent with an average of 26 to 40, 17.1 percent with 41 to 60, and 15.8 percent with an average of 25 majors or less. On a regional basis, nine programs located in the Central Region indicated an average of over 100 students. The Southern Region followed with seven programs. According to land-grant affiliation, the majority of the programs indicated less than 60 majors a year for the past five years although nine programs in the land-grant institutions had less than 25 majors compared to three programs in non-land-grant institutions. In the comparison by administrative units, programs administered in colleges of agriculture tend to have more undergraduate majors than those programs administered by colleges of education. Seven programs administered by colleges of agriculture indicated an average of 61 to 80 students compared to one program with the same average administered by a college of education.

Number and Placement of Graduates

One of the parameters of the study was to determine the number of graduates and their placement into teaching. In order to determine the similarities and differences among the agricultural education programs,

TABLE 7

Agricultural Education Programs According to Five Year Average of Undergraduates Majors by Regions, Land-grant Affiliation, and Administrative Units

	No Response		25-less		26-40		41-60		61-80		81-100		Over 100		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
Region															
Eastern	0	0	4	5.3	5	6.6	1	1.3	2	2.6	0	0	1	1.3	13
Central	1	1.3	1	1.3	1	1.3	3	3.9	0	0	3	3.9	9	11.8	18
Western	0	0	2	2.6	3	3.9	1	1.3	3	3.9	2	2.6	1	1.3	12
Southern	0	0	5	6.6	6	7.9	8	10.5	4	5.3	3	3.9	7	9.2	33
Total	1	1.3	12	15.8	15	19.7	13	17.1	9	11.8	8	10.5	18	23.7	76
Affiliation															
Land-grant	0	0	9	11.8	12	15.8	10	13.2	5	6.6	6	7.9	12	15.8	54
Non-land-grant	1	1.3	3	3.9	3	3.9	3	3.9	4	5.3	2	2.6	6	7.9	22
Total	1	1.3	12	15.8	15	19.7	13	17.1	9	11.8	8	10.5	18	23.7	76
Administrative															
College of Agriculture	0	0	7	9.2	6	7.9	4	5.3	7	9.2	3	3.9	13	17.1	40
College of Education	1	1.3	4	5.3	5	6.6	5	6.6	1	1.3	4	5.3	5	6.6	25
Others	0	0	1	1.3	4	5.3	4	5.3	1	1.3	1	1.3	0	0	11
Total	1	1.3	12	15.8	15	19.7	13	17.1	9	11.8	8	10.5	18	23.7	76

the respondents were asked to indicate the average number of persons who completed the program during the past five years and were certified to teach vocational agriculture. Shown in Table 8 are the average number of graduates according to institutions. It was found that 54 percent of the institutions or programs had 20 or less graduates per year. Twenty-five of the programs had from 11 to 20 graduates each year. Nine programs had 21 to 30 graduates, and another nine programs had 31 to 40 graduates per year. Only six programs had over 60 graduates per year who were certified to teach vocational agriculture.

TABLE 8

Agricultural Education Graduates According to Institution*

Number of Graduates (Range)	Institution	Percent	Cumulative %
5 or less	4	5.3	5.3
6 to 10	12	15.8	21.1
11 to 20	25	32.9	54.0
21 to 30	9	11.8	65.8
31 to 40	9	11.8	77.6
41 to 50	8	10.5	88.2
51 to 60	2	2.6	90.8
over 60	6	7.9	98.7
No response	1	1.3	100.0
Total	76	100.0	

*1978-79 school year as the last year in five year average.

The camparison of the number of graduates per year by regions, land-grant affiliation, and administrative units is shown in Table 9. The Southern Region contained four programs or 5.3 percent with more than 60 graduates per year as did the Central Region with two programs or 2.6 percent. The Eastern and Western Regions did not have any programs with 51 or more graduates per year.

TABLE 9

Comparison of Agricultural Education Graduates According to Institutions by Regions, Land-Grant Affiliation, and Administrative Units*

	No Response		5-0		6-10		11-20		21-30		31-40		41-50		51-60		Over 60		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	Total
Region																			
Eastern	0	0	1	1.3	4	5.3	4	5.3	2	2.6	1	1.3	1	1.3	0	0	0	0	13
Central	1	1.3	0	0	0	0	4	5.3	4	5.3	5	6.6	2	2.6	0	0	2	2.6	18
Western	0	0	1	1.3	2	2.6	7	9.2	1	1.3	1	1.3	0	0	0	0	0	0	12
Southern	0	0	2	2.6	6	7.9	10	13.2	2	2.6	2	2.6	5	6.6	2	2.6	4	5.3	33
Total	1		4		12		25		9		9		8		2		6		76
Affiliation																			
Land-grant	0	0	3	3.9	11	14.5	17	22.4	8	10.5	6	7.9	4	5.3	0	0	5	6.6	54
Non-land-grant	1	1.3	1	1.3	1	1.3	8	10.5	1	1.3	3	3.9	4	5.3	2	2.6	1	1.3	22
Total	1		4		12		25		9		9		8		2		6		76
Administrative																			
College of Agriculture	0	0	3	3.9	6	7.9	14	18.4	2	2.6	6	7.9	4	5.3	1	1.3	4	5.3	40
College of Education	1	1.3	1	1.3	5	6.6	7	9.2	5	6.6	2	2.6	2	2.6	0	0	2	2.6	25
Others	0	0	0	0	1	1.3	4	5.3	2	2.6	1	1.3	2	2.6	1	1.3	0	0	11
Total	1		4		12		25		9		9		8		2		6		76

*Five year average using 1978-79 school year as the last year in average.

Of those programs located in land-grant institutions, 17 had from 11 to 20 graduates per year or 22.4 percent of the total programs. Only eight non-land-grant programs were in the same range of 11 to 20 graduates per year. Out of the six programs with over 60 graduates per year, five of those programs were located in land-grant institutions.

The programs were similiar in the number of graduates according to administrative units. However, 14 programs administered in colleges of agriculture had 11 to 20 graduates per year compared to seven programs that were administered in colleges of education. Fifteen programs under colleges of agriculture indicated over 30 graduates per year compared to only four programs under colleges of education.

The chairman of each agricultural education program was to indicate the percentage of persons certified to teach vocational agriculture during the past five years who entered the field of teaching vocational agriculture. Those percentages are shown in Table 10.

TABLE 10

Agricultural Education Graduates who Entered Teaching During the past Five Years According to Institutions*

Entered Teaching Vo-Ag. %	Institutions (Number)	Percentage
25% or less	8	10.5
26 to 50%	18	23.7
51 to 75%	35	46.1
Over 75%	15	19.7
Total	76	100.0

*Using 1978-79 school year as last year in five year average.

It was found that 46.1 percent of the programs had 51 to 75 percent of their graduates teaching vocational agriculture during the past five years. But it was indicated that 34.2 percent of the programs had less than 51 percent of their graduates teaching vocational agriculture. In the comparison of the graduates who entered teaching during the past five years by regions, land-grant affiliation and administrative units, it was found that no sizeable differences occurred. As shown in Table 11, the Southern and Eastern Regions contained the only programs in which 25 percent or less of the graduates taught vocational agriculture. But on a percentage basis, 66.7 percent of the programs in the Central Region indicated from 51 to 75 percent of their graduates taught vocational agriculture compared to 46.2 percent of the programs in the Eastern Region, 33.3 percent in the Western, and 39.4 percent in the Southern. It was found that 50 percent of the programs affiliated with land-grant institutions had from 51 to 75 percent of their graduates who taught vocational agriculture as compared to 36.4 percent of the programs that were not land-grant affiliated. By administrative units, programs administered by colleges of agriculture or by colleges of education were quite similar in that 25 and 24 percent of the programs, respectively, were reported having 26 to 50 percent of their graduates who taught. The same trend was found at the 51 to 75 percent level with 45 and 44 percent, respectively. It was reported from both administrative units that 15 percent of the programs had over 75 percent of their graduates who taught vocational agriculture. However, it was reported that 54.5 percent of the programs administered by "others" had from 51 to 75 percent of their graduates who taught. It was also reported that 27.3 percent of the "other" programs had over 75 percent of their graduates who taught vocational agriculture.

TABLE 11

Comparison of Agricultural Education Graduates who Entered Teaching During the Past Five Years by Regions, Land-grant Affiliation, and Administrative Units

	25% or less			26 to 50%			51 to 75%			Over 75%			Total
	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	
Region													
Eastern	3	3.9	23.1	3	3.9	23.1	6	7.9	46.2	1	1.3	7.7	13
Central	0	0	0	2	2.6	11.1	12	15.8	66.7	4	5.3	22.1	18
Western	0	0	0	3	3.9	25.0	4	5.3	33.3	5	6.6	41.7	12
Southern	5	6.6	15.2	10	13.2	30.3	13	17.1	39.4	5	6.6	15.2	33
Total	8	10.5		18	23.7		35	46.1		15	19.7		76
Affiliation													
Land-grant	7	9.2	13.0	12	15.8	22.2	27	35.5	50.0	8	10.5	14.8	54
Non-land-grant	1	1.3	4.5	6	7.9	27.3	8	10.5	36.4	7	9.2	31.8	22
Total	8	10.5		18	23.7		35	46.1		15	19.7		76
Administrative													
College of Agriculture	6	7.9	15.0	10	13.2	25.0	18	23.7	45.0	6	7.9	15.0	40
College of Education	2	2.6	8.0	6	7.9	24.0	11	14.5	44.0	6	7.9	15.0	25
Others	0	0	0	2	2.6	18.2	6	7.9	54.5	3	3.9	27.3	11
Total	8	10.5		18	23.7		35	46.1		15	19.7		76

Another area where response was requested was the percentages of graduates who entered teaching during the 1974-75 school year who were still teaching during the 1979-80 school year. As shown in Table 12, it was reported that 53.9 percent of the total programs had less than 51 percent of those individuals who entered teaching vocational agriculture in 1974 still teaching in 1979. Only 32.9 percent of the total programs had between 51 and 75 percent of their graduates still teaching in 1979. In the comparison by land-grant affiliation and administrative units, no sizeable differences existed among the programs concerning the percentage of graduates who entered teaching in 1974 that were still teaching in 1979. However, in the regional comparison some sizeable differences were found. In the Central Region, no program was reported having over 75 percent of their 1974 graduates who entered teaching still teaching in 1979. It was found that 23.1 percent of the programs in the Eastern, 72.2 percent in the Central, 41.7 percent in the Western, and 30.3 percent in the Southern Region reported that 26 to 50 percent of the individuals who entered teaching in 1974 were still teaching in 1979. In comparison, about one-third of the programs located in each region were reported having 51 to 75 percent of their graduates still teaching vocational agriculture in 1979. It was reported that the Southern Region had the largest percentage of programs (21.2 percent) with 25 percent or less of 1974 graduates not teaching in 1979. This compared to 7.7 percent for the Eastern Region and zero percent for the Central and Western Regions.

TABLE 12

Comparison of Graduates Teaching in 1979-80 who Entered Teaching in 1974-75 by Regions, Land-grant Affiliation, and Administrative Units

	No Response			25% or less			26 to 50%			51 to 75%			Over 75%			Total
	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	N	Total %	Row %	
Region																
Eastern	0	0	0	1	1.3	7.7	3	3.9	23.1	5	6.6	28.5	4	5.3	30.8	13
Central	0	0	0	0	0	0	13	17.1	72.2	5	6.6	27.8	0	0	0	18
Western	1	1.3	8.3	0	0	0	5	6.6	41.7	4	5.3	33.3	2	2.6	16.7	12
Southern	1	1.3	3.0	7	9.2	21.2	10	13.2	30.3	11	14.5	33.3	4	5.3	12.1	33
Total	2	2.6		8	10.5		31	40.8		25	32.9		10	13.2		76
Affiliation																
Land-grant	1	1.3	1.9	6	7.9	11.1	24	31.6	44.4	15	19.7	27.8	8	10.5	14.8	54
Non-land-grant	1	1.3	4.5	2	2.6	9.1	7	9.2	31.8	10	13.2	45.5	2	2.6	9.1	22
Total	2	2.6		8	10.5		31	40.8		25	32.9		10	13.2		76
Administrative																
College of Agriculture	1	1.3	2.5	5	6.6	12.5	14	18.4	35.0	15	19.7	37.5	5	6.6	12.5	40
College of Education	1	1.3	4.0	3	3.9	12.0	11	14.5	44.0	5	6.6	20.0	5	6.6	20.0	25
Others	0	0	0	0	0	0	6	7.9	54.5	5	6.6	45.5	0	0	0	11
Total	2	2.6		8	10.5		31	40.8		25	32.9		10	13.2		76

Curriculum in Agricultural Education

One objective of the study was to determine similarities and/or differences concerning the curriculum required by each of the agricultural education programs. The chairmen of the various programs were asked to identify the number of quarter hours or semester hours required in the following instructional areas: technical agriculture, agricultural education, professional education, general education, others and the total. No qualifying statements or interpretations were made on the questionnaire concerning the instructional areas. In order to compare the hours, all semester hours were converted to quarter hours using a ration of one semester hour to one-and-one-half quarter hours. The summary of the means and standard deviation for the total of all programs is shown in Table 13. The mean hours required for an average undergraduate student in the nation to graduate in agricultural education were as follows: technical agriculture, 68.4 hours; agricultural education, 23.5; professional education, 16.1; general education, 58.2; and others, 21.1 hours. It required an average of 187.3 hours to complete the agricultural educational curriculum. The range for technical agriculture was 31 to 90 hours. This meant that some of the programs required from 31 up to 90 hours in technical hours. General education had the highest range with 3 to 99 hours. For agricultural education the range was 8 to 44 hours followed by a range of 5 to 42 hours for professional education.

The comparison of mean hours required by agricultural education programs by regions is shown in Table 14. The programs located in the Western Region on an average required more hours in each of the instructional area except professional education than the other regions. The

TABLE 13

Summary of the Agricultural Education Programs' Curricula According to Mean, Range, and Standard Deviation

Areas	Quarter Hours (Mean)	Quarter Hours (Range)	Standard Deviation
Technical Agriculture	68.408	90	14.358
Agricultural Education	23.526	44	9.889
Professional Education	16.145	42	10.521
General Education	58.184	99	25.832
Others	21.105	86	24.266
Total Hours	187.329	235	31.163

N=76

TABLE 14

Hours in Different Instructional Areas According to Regions

	Southern (Mean)	Western (Mean)	Central (Mean)	Eastern (Mean)
Technical Agriculture	71.48	73.66	64.55	61.07
Agricultural Education	25.30	26.66	19.38	23.38
Professional Education	14.39	15.58	18.50	17.84
General Education	58.27	59.91	57.50	76.76
Others	21.84	22.50	19.55	20.07

N=76

Southern Region was next with the exceptions of professional education and general education. The Eastern Region required more hours in "other", general education, and agricultural education than the Central Region. But the Central Region required more hours in technical agriculture and professional education.

An analysis of variance was used to determine if significant differences existed among the programs according to each instructional area. As shown in Table 15, each instructional area was compared by the programs' regional location, land-grant affiliation, and administrative units. An analysis of variance for each instructional area, where the response was significant, is shown in Tables 16 - 19. Where more than three variables are compared, Duncan's new multiple range tests for determining where differences really existed are also shown. The multiple range tests were tested at the .05 level for significance.

An analysis of variance for technical agriculture hours by regions is shown in Table 16. The response difference was significant at .05 level. The multiple range test for technical agriculture hours is shown in Table 17. Significant mean differences existed between the Eastern and Southern Regions and between the Eastern and Western Regions. The Eastern Region's mean in technical agriculture hours was 61.07 compared to 71.48 for the Southern and 73.66 for the Western Regions.

An analysis of variance for agricultural education hours by land-grant affiliation is shown in Table 18. The response difference was also significant at the .05 level. The F probability was 0.0066. The agricultural education programs located in land-grant institutions required 30.8 mean hours in agricultural education compared to 41.0 mean hours required by non-land-grant programs.

Relative to the number of professional education hours required, the programs were quite similar as previously shown in Table 15, page 40. No significant differences were recorded in the number of professional education hours by either regions, land-grant affiliation, or administrative units.

TABLE 15

Analysis of Variance of Areas Comprising the Curricula of Agricultural Education Programs by Regions, Land-grant Affiliation, and Administrative Units

Area Hours	Region N=75**		Land-grant Affiliation N=75**		Administrative Unit N=64***	
	F Ratio	Probability less than	F Ratio	Probability less than	F Ratio	Probability less than
Technical Agriculture	2.7906	0.0466*	2.394	0.1260	3.095	0.0834
Agricultural Education	1.650	0.1854	7.803	0.0069*	0.893	0.3482
Professional Education	0.722	0.5421	2.321	0.1319	0.704	0.4045
General Education	0.161	0.3307	7.241	0.0088*	0.009	0.9245

*Significant at .05 level.

**No response from one program.

***Only programs administered in colleges of agriculture and colleges of education were compared.

TABLE 16

Analysis of Variance of Technical Agriculture Hours by Regional Location

Source	D.F.	Sum of Squares (S.S.)	Mean Squares (M.S.)	F Ratio	F Prob.
Between groups	3	1610.11	536.70	2.7906	0.0466*
Within groups	72	13850.22	192.36		
Total	75**	15460.33			

*Significant at .05 level.

**No response from one program.

TABLE 17

Duncan's Multiple Range Test for Technical Agriculture Hours by Regions

Group	Eastern	Central		
Mean	61.07	64.55		
		Central	Southern	Western
Mean		64.55	71.48	73.66

The analysis of variance for general education hours by land-grant affiliation is shown in Table 19. The F probability was .0088. The general education mean hours required by land-grant programs were 63.0 compared to a mean of 46.1 hours for non-land-grant programs.

TABLE 18

Analysis of Variance for Agricultural Education Hours by Land-grant Affiliation

Source	Df.	SS	MS	F Ratio	F Prob.
Land-grant Affiliation					
Between groups	1	699.66	699.65	7.803	0.0066*
Within groups	74	5535.25	89.66		
Total	75**	7334.91			

*Significant at .05 level.

**No response from one program.

TABLE 19

Analysis of Variance of General Education Hours by Land-grant Affiliation

Source	Df.	SS	MS	F Ratio	F Prob.
Land-grant Affiliation					
Between groups	1	4460.43	4460.43	7.241	0.0088*
Within groups	74	45586.86	616.03		
Total	75**	50047.29			

*Significant at .05 level.

**No response from one program.

Graduate Programs in Agricultural Education

One of the parameters of the study was the availability of graduate programs in agricultural education. Inquiry was made concerning the availability of a master's and doctoral degree in agricultural education. A comparison was made among the programs on the availability of a master's degree in agricultural education by regions, land-grant affiliation, and administrative units. As shown in Table 20, it was

TABLE 20

Comparison of Programs Offering a Master's Degree in Agricultural Education According to Regions, Land-Grant Affiliation, and Administrative Units

	Did Offer			Did Not Offer			
	N	Total %	Row %	N	Total %	Row %	Total
Region							
Eastern	7	9.2	53.8	6	7.9	46.2	13
Central	17	22.4	94.4	1	1.3	5.6	18
Western	8	10.5	66.7	4	5.3	33.3	12
Southern	26	34.2	78.8	7	9.2	21.2	33
Total	58	76.3		18	23.7		76
Affiliation							
Land-grant	43	56.6	79.6	11	14.5	20.4	54
Non-land-grant	15	19.7	68.2	7	9.2	31.8	22
Total	58	76.3		18	23.7		76
Administrative							
College of Agriculture	29	38.2	72.5	11	14.5	27.5	40
College of Education	20	26.3	80.0	5	6.6	20.0	25
Others	9	11.8	81.8	2	2.6	18.2	11
Total	58	76.3		18	23.7		76

found that 76.3 percent of the total programs offer a master's in agricultural education. The programs are quite similar in the availability by land-grant affiliation and administrative units. However, a sizeable difference did exist among the programs on a regional basis. Ninety-four and four-tenths percent of the programs located in the Central Region offered a master's program. This was followed by 78.8 percent in the Southern Region, 66.7 percent in the Western, and only 53.8 percent in the Eastern Region.

However, an examination of the programs relative to the availability of an advanced degree revealed that a master's degree was available in related fields such as extension education, vocational

education, administration, and other areas which were beyond the scope of the study.

The comparison of programs concerning the availability of a doctoral program in agricultural education by regions, land-grant affiliation, and administrative units is shown in Table 21. It was

TABLE 21

Comparison of Programs Offering a Doctoral Degree in Agricultural Education by Regions, Land-grant Affiliation, and Administrative Units

	Did Offer			Did Not Offer			
	N	Total %	Row %	N	Total %	Row %	Total
Region							
Eastern	4	5.3	30.8	9	11.8	69.2	13
Central	8	10.5	44.4	10	13.2	55.6	18
Western	0	0	0	11	14.5	91.7	11
Southern	2	2.6	6.1	31	40.8	93.9	33
Total	14	18.4		61	80.3		75*
Affiliation							
Land-grant	13	17.1	24.1	40	52.6	54.1	53
Non-land-grant	1	1.3	4.5	21	27.6	95.5	22
Total	14	18.4		61	80.3		75*
Administrative Unit							
College of Agriculture	7	9.2	17.5	33	43.4	82.5	40
College of Education	3	3.9	12.0	21	27.6	84.0	24
Others	4	5.3	36.4	7	9.2	63.6	11
Total	14	18.4		61	80.3		75*

*No response from one program.

found that only 18.4 percent of the total programs offered a doctoral program in agricultural education. Again, the programs were similar in the availability according to administrative units. However, a sizeable difference was noted among programs regionally. None of the programs located in the Western Region offered a doctoral program in

agricultural education. In the Southern Region only two programs out of 33 offered a doctoral program. The Eastern Region contained four programs out of 13. But eight out of 13 programs located in the Central Region offered a doctoral program in agricultural education. According to land-grant affiliation is was found that only one program in a non-land-grant affiliation offered a doctoral program in agricultural education. This was compared to 13 programs located in land-grant institutions which offered such a program.

One of the objectives of the study was the availability of a doctoral program in vocational technical education as shown in Table 22. It was found that 38.2 percent of the programs indicated that a doctoral program in vocational technical education was available. On a regional basis, there was little difference among the regions relative to the available doctoral programs in vocational technical education.

In the comparison according to land-grant affiliation and administrative units, some differences did exist. Forty-eight and one-tenth percent of the programs affiliated with land-grant institutions offered a doctoral program in vocational technical education compared to only 13.6 percent of the programs affiliated with non-land-grant institutions. On the administrative level, the largest number of doctoral programs in vocational education were found administered by colleges of education. Sixty-four percent of the programs indicated that a doctoral program in vocational technical education was available. In comparison, only 20 percent of the programs administered by colleges of agriculture indicated that a doctoral program in vocational technical education was available.

TABLE 22

Comparison of Agricultural Education Programs Concerning Availability of a Doctoral Program in Vocational Technical Education by Regions, Land-grant Affiliation, and Administrative Units

	No Response			Offered Doctoral in Voc Tech Ed			Did Not Offer A Doctoral in Voc Tech Ed			
	N	Total %	Row %	N	Total %	Row %	N	Total %	Fow %	Total
Region										
Eastern	0	0	0	5	6.6	38.5	8	10.5	61.5	13
Central	1	1.3	5.6	10	13.2	55.6	7	9.2	38.9	18
Western	1	1.3	8.3	4	5.3	33.3	7	9.2	58.3	12
Southern	2	2.6	6.1	10	13.2	30.3	21	27.6	63.6	33
Total	4	5.3		29	38.2		43	56.6		76
Affiliation										
Land-grant	1	1.3	1.9	26	34.2	48.1	27	35.5	50.0	54
Non-land-grant	3	3.9	13.6	3	3.9	13.6	16	21.1	72.7	22
Total	4	5.3		29	38.2		43	56.6		76
Administrative										
College of Agriculture	4	5.3	10.0	8	10.5	20.0	28	36.8	70.0	40
College of Education	0	0	0	16	21.1	64.0	9	11.8	36.0	25
Others	0	0	0	5	6.6	45.5	6	7.9	54.5	11
Total	4	5.3		29	38.2		43	56.6		76

Number of Staff Members

One of the objectives of the study was to determine the average number of staff members per program and the percentage of staff members on 12 month appointment. It was found that the average was three staff members per program. The number of staff members ranged from one to seven with a standard deviation of 2.1. Also, it was noted that 65.5 percent of the total number of staff members were on a 12 month appointment.

An analysis of variance in the number of full time staff members by regions, land-grant affiliation and administrative units is shown in Table 23. A significant difference did not exist either by regions or

TABLE 23

Analysis of Variance of the Number of Full Time Staff Members According to Regions, Land-grant Affiliation, and Administrative Units

Source	Df.	SS	MS	F Ratio	F Prob.
Region					
Between groups	3	1738.37	579.45	1.327	0.2724
Within groups	72	31449.01	436.79		
Total	75**	33187.38			
Land-grant Affiliation					
Between groups	1	2766.33	2766.32	6.729	0.0114*
Within groups	74	30421.00	411.09		
Total	75**	33187.33			
Administrative Unit					
Between groups	1	1026.92	1026.91	2.376	0.1282
Within groups	63	27231.26	432.24		
Total	64***	28258.18			

*Significant at .05 level.

**No response from one program.

***Only programs administered in colleges of agriculture and colleges of education were compared.

administrative units. A significant difference at the .05 level did exist according to land-grant affiliation. An examination of the raw data showed that the average number of staff members for programs affiliated with land-grant institutions was 3.3 and 2.1 for programs in non-land-grant institutions.

An analysis of variance for the percentage of full time staff members on a 12 month appointment by regions, land-grant affiliation, and administrative units is shown in Table 24. Differences among the programs were not significant either by regions or administrative units.

TABLE 24

Analysis of Variance of the Percentage of Full Time Agricultural Education Staff on A 12 Month Appointment by Regions, Land-grant Affiliation, and Administrative Units

Source	Df.	SS	MS	F Ratio	F Prob.
Region					
Between groups	3	3011.70	1003.90	0.495	0.6871
Within groups	72	146119.11	2029.43		
Total	75**	149130.81			
Land-grant Affiliation					
Between groups	1	1478.02	1478.01	4.045	0.0479*
Within groups	74	27037.85	365.37		
Total	75**	28515.87			
Administrative Unit					
Between groups	1	1625.80	1625.80	0.816	0.3699
Within groups	63	125583.92	1993.39		
Total	64***	127209.72			

*significant at .05 level.

**No response from one program.

***Only programs administered in colleges of agriculture and colleges of education were compared.

A significant difference at the .05 level was recorded according to land-grant affiliation. The average percentage of full time staff members located in land-grant institutions on a 12 month appointment was 97 percent compared to 90 percent for programs located in non-land-grant institutions.

Major Duties of Staff Members

Another parameter of the study was the major duties of the agricultural education staff. The chairman of each program was asked to indicate the approximate percent of time the agricultural staff spent in performing the following functions: teaching, research, service, curriculum development, professional improvement, and "other". The summary of the means, ranges, and standard deviations is shown in Table 25. It was found that an average agricultural education staff spent 56 percent of its time in teaching followed by 17.2 percent in service, 10.4 percent in research, 5.0 percent in "other", 4.4 percent in curriculum development, and 4.3 percent in professional improvement.

TABLE 25

Summary of the Means, Ranges and Standard Deviation of the Time Expended by Agricultural Education Staffs in Various Instructional Areas

Areas	Mean %	Range	S.D.
Teaching	56.0	90.0	19.499
Research	10.487	40.0	9.241
Service	17.237	57.0	12.829
Curriculum Development	4.447	20.0	5.300
Professional Improvement	4.316	25.0	5.126
Others	5.013	75.0	13.069

A summary of the percentage of time expended by agricultural education staffs in various instructional areas by regions is shown in Table 26. The staffs in the Central, Western, and Southern Regions spent more time in teaching than the staffs in the Eastern Region. The agricultural education staffs in the Central Region spent 15.38 percent of its time in research, while the rest spent from 8 to 11 percent. The staff in the Western Region spent 23.08 percent of its time in service, while the rest of the staffs in the regions expended from 14 to 19 percent in the area. In curriculum development, the staffs in the Central Region expended 5.27 percent of its time, while the rest were under 5 percent. The staff in the Western Region spent 5.25 percent of the staff time in professional improvement. This was followed by 4.36 percent in the Southern Region, 3.92 percent in the Eastern, and 3.88 percent in the Central Region.

TABLE 26

Summary of the Means of the Time Expended by Agricultural Education Staff in Various Instructional Areas by Regions

Areas	Eastern Mean	Central Mean	Western Mean	Southern Mean
Teaching	49.23	57.94	57.33	57.12
Research	11.53	15.38	8.16	8.24
Service	10.00	14.83	23.08	15.72
Curriculum Development	2.84	5.27	4.33	4.66
Professional Improvement	3.92	3.88	5.25	4.36
Others	6.53	2.66	1.83	6.84

A comparison was made concerning each instructional area in which the agricultural education staff spent time according to regions, land-grant affiliation, and administrative units. This is shown in Table 27.

TABLE 27

Analysis of Variance of the Time Expended by Agricultural Education Staffs in Various Work Areas by Regions, Land-grant Affiliation and Administrative Units

Work Areas (percent)	Region N=75**		Land-grant Affiliation N=75**		Administrative Unit N=64***	
	F Ratio	Probability less than	F Ratio	Probability less than	F Ratio	Probability less than
Teaching	0.627	0.5996	4.045	0.0479*	7.812	0.0069*
Research	2.840	0.0438*	3.335	0.0718	2.462	0.1216
Service	1.290	0.2843	0.506	0.4790	1.637	0.2058
Curriculum Development	0.553	0.6475	0.924	0.3394	0.993	0.3229
Professional Improvement	0.194	0.8999	0.541	0.4645	0.225	0.6368
Other Activities	0.698	0.5565	0.039	0.8437	0.468	0.4963

*Significant at .05 level

**No response from one program.

***Only programs administered in colleges of agriculture and colleges of education were compared.

An analysis of variance for each instructional area, where the response difference was significant, is shown in Tables 28 - 30. Duncan's new multiple range test is also included where there are more than three subsets.

TABLE 28

Analysis of Variance of the Percent of Time the Agricultural Education Staffs Spent Teaching According to Land-grant Affiliation, and Administrative Units

Source	Df.	SS	MS	F Ratio	F Prob.
Land-grant Affiliation					
Between groups	1	1478.02	1478.01	4.045	0.0479*
Within groups	74	27037.85	365.37		
Total	75**	28515.87			
Administrative Unit					
Between groups	1	2760.38	2760.38	7.812	0.0069*
Within groups	63	22261.73	353.36		
Total	64***	25022.11			

*Significant at .05 level.

**No response from one program.

***Only programs administered in colleges of agriculture and colleges of education were compared.

An analysis of variance of the percentage of time the agricultural education staffs expended in teaching according to land-grant affiliation and administrative units is shown in Table 28. The level of significance for land-grant affiliation and administrative units was at the .05 level. Agricultural education staffs located in land-grant institutions spent 53.2 percent of their time teaching compared to 62.9 percent of the time of agricultural education staffs located in non-land-grant institutions. It was also found that staffs which were administered by colleges of

TABLE 29

Analysis of Variance of the Percent of Time Spent by The Agricultural Education Staffs in Research According to Regions

Source	Df.	SS	MS	F Ratio	F Prob.
Region					
Between groups	3	677.75	225.91	2.840	0.0438*
Within groups	72	5727.23	79.54		
Total	75**	6404.98			

*Significant at .05 level.

**No response from one program.

TABLE 30

Duncan's Multiple Range Test; Percent of Time of the Agricultural Education Staffs Spent in Research by Regional Location

Subset 1

Group	Western	Southern	Eastern
Mean	8.1667	8.2424	11.5385

Subset 2

Group	Eastern	Central
Mean	11.5385	15.3889

agriculture spent 60.0 percent of their time teaching compared to 49.3 percent by staffs administered by colleges of education.

An analysis of variance for the percentage of time spent by the agricultural education staffs in research by regions is shown in Table 29. The F probability was 0.043. The Duncan's new multiple range test

is shown in Table 30. The differences were between the Western and Central Regions, and between the Southern and Central Regions. The agricultural education staffs in the Central Region spent 15.38 percent of their time on research compared to 11.5 percent in the Eastern Region, 8.2 percent in the Southern Region, and 8.1 percent in the Western Region.

Services Performed for Vocational Agriculture Teachers

Another objective of the study was to determine the services performed for vocational agriculture teachers by the various agricultural education programs. Each respondent was asked to indicate the types of service the agricultural education programs provided vocational agriculture teachers. The services were: on-campus credit courses, off-campus credit courses, non-credit workshops, credit workshops, curriculum materials, assist with Future Farmers of America activities, and field services. Field services were defined as efforts expended to help teachers or others on an individual or small group basis for non-credit, excluding non-credit workshops. Comparisons were made among the agricultural education programs concerning each type of service provided to vocational agriculture teachers by regions, land-grant affiliation, and administrative units. The comparisons are shown in Tables 31 - 37. In the comparison of on-campus credit courses, as shown in Table 31, 96.1 percent of the total programs provided on-campus credit courses. Ninety-seven percent of the programs in the Southern Region provided such service. The Central and Western Regions provided 100 percent compared to only 84.6 percent in the Eastern Region. One hundred percent of non-land-grant programs provided on-campus credit courses compared to 94.4 percent of those located in land-grant institutions. Also, 100 percent of the pro-

TABLE 31

Comparison of On-Campus Credit Courses Provided for Vocational Agriculture Teachers by Agricultural Education Programs According to Regions, Land-grant Affiliation and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	11	14.5	84.6	2	2.6	15.4	13
Central	18	23.7	100.0	0	0	0	18
Western	12	15.8	100.0	0	0	0	12
Southern	32	42.1	97.0	1	1.3	3.0	33
Total	73	96.1		3	3.9		76
Affiliation							
Land-grant	51	67.1	94.4	3	3.9	5.6	54
Non-land-grant	22	28.9	100.0	0	0	0	22
Total	73	96.1		8	3.9		76
Administrative Unit							
College of Agriculture	37	48.7	92.5	3	3.9	7.5	40
College of Education	25	32.9	100.0	0	0	0	25
Others	11	14.5	100.0	0	0	0	11
Total	73	96.1		3	3.9		76

grams administered under the colleges of education and "others" provided such services compared to 92.5 percent administered by colleges of agriculture.

A comparison of off-campus credit courses provided for vocational agriculture teachers by agricultural education programs according to regions, land-grant affiliation, and administrative units is shown in Table 32. Eighty-three percent of the total programs provided off-campus credit courses. It was found that 33.3 percent of the programs in the Southern Region did not provide off-campus credit courses. Twenty-three and one-tenth percent in the Eastern Region did not provide off-campus

TABLE 32

Comparison of Off-Campus Credit Courses Provided for Vocational Agriculture Teachers by Agricultural Education Programs According to Regions, Land-grant Affiliation, and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	10	13.2	76.9	3	3.9	23.1	13
Central	18	23.7	100.0	0	0	0	18
Western	11	14.5	91.7	1	1.3	8.3	12
Southern	22	28.9	66.7	11	14.5	33.3	33
Total	61	80.3		15	19.7		76
Affiliation							
Land-grant	48	63.2	88.9	6	7.9	11.1	54
Non-land-grant	13	17.1	59.1	9	11.8	40.9	22
Total	61	80.3		15	19.7		76
Administrative Unit							
College of Agriculture	30	39.5	75.0	10	13.2	25.0	40
College of Education	21	27.6	84.0	4	5.3	16.0	25
Others	10	13.2	90.9	1	1.3	9.1	11
Total	61	80.3		15	19.7		76

credit courses, along with 8.3 percent in the Western Region. In comparison, 100 percent of the programs in the Central Region provided off-campus credit courses. Of the programs located in land-grant institutions, 88.9 percent provided off-campus credit courses, and only 59.1 percent in non-land-grant institutions.

A comparison of agricultural education programs in providing non-credit workshops for vocational agriculture teachers by regions, land-grant affiliation, and administrative units is shown in Table 33. It was found that 80.3 percent of the total programs provided non-credit

TABLE 33

Comparison of Non-Credit Workshops Provided for Vocational Agriculture Teachers by Agricultural Education Programs According to Regions, Land-grant Affiliation, and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	7	9.2	53.8	6	7.9	46.2	13
Central	15	19.7	83.3	3	3.9	16.7	18
Western	9	11.8	75.0	3	3.9	25.0	12
Southern	30	39.5	90.9	3	3.9	9.1	33
Total	61	80.3		15	19.7		76
Affiliation							
Land-grant	44	57.9	81.5	10	13.2	18.5	54
Non-land-grant	17	22.4	77.3	5	6.6	22.7	22
Total	61	80.3		15	19.7		76
Administrative Unit							
College of Agriculture	32	42.1	80.0	8	10.6	20.0	40
College of Education	21	27.6	84.0	4	5.3	16.0	25
Others	8	10.5	72.7	3	3.9	27.3	11
Total	61	80.3		15	19.7		76

workshops. The programs were quite similar according to land-grant affiliation and administrative units. However, a sizeable difference did exist on a regional basis. It was found that 90.9 percent of the programs located in the Southern Region provided non-credit workshops for vocational agriculture teachers. This was followed by 83.3 percent in the Central Region, 75 percent in the Western Region, and 53.8 percent in the Eastern Region.

A comparison of agricultural education programs in providing credit workshops for vocational agriculture teachers by regions, land-grant affiliation and administrative units is shown in Table 34. Sixty-seven

TABLE 34

Comparison of Credit Workshops Provided for Vocational Agriculture Teachers by Agricultural Education Programs According to Regions, Land-grant Affiliation, and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	6	7.9	46.2	7	9.2	53.8	13
Central	15	19.7	83.3	3	3.9	16.7	18
Western	12	15.8	100.0	0	0	0	12
Southern	18	23.7	54.5	15	19.7	45.5	33
Total	51	67.1		25	32.9		76
Affiliation							
Land-grant	39	51.3	72.2	15	19.7	27.8	54
Non-land-grant	12	15.8	54.5	10	13.2	45.5	22
Total	51	67.1		25	32.9		76
Administrative Unit							
College of Agriculture	26	34.2	65.0	14	18.4	35.0	40
College of Education	20	26.3	80.0	5	6.6	20.0	25
Others	5	6.6	45.5	6	7.9	54.5	11
Total	51	67.1		25	32.9		76

percent of the total programs provided credit workshops. It was found that 100 percent of the programs in the Western Region provided credit workshops. This was followed by 83.3 percent in the Central Region, 54.5 percent in the Southern Region, and 46.2 percent in the Eastern Region. It was also noted that 72.2 percent of the programs which were land-grant affiliated also provided such services compared to 54.5 percent of the programs not land-grant affiliated. Eighty percent of the programs administered by colleges of education provided credit workshops compared to 65 percent for programs administered by colleges of agriculture.

A comparison of agricultural education programs in providing curriculum materials to vocational agriculture teachers according to regions, land-grant affiliation, and administrative units is shown in Table 35. It was found that 57.9 percent of the total programs provided curriculum materials. The programs are somewhat similar in providing curriculum materials according to land-grant affiliation and administrative units. However, a sizeable difference was noted among the programs on a regional basis. It was found that 83.3 percent of the programs located in the Western Region provided curriculum materials. This was followed by 72.2 percent in the Central Region, 51.5 percent in the Southern Region, and only 30.8 percent in the Eastern Region.

TABLE 35

Comparison of Agricultural Education Programs in Providing Curriculum Materials to Vocational Agriculture Teachers According to Regions, Land-grant Affiliation, and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	4	5.3	30.8	9	11.8	69.2	13
Central	13	17.1	72.2	5	6.6	27.8	18
Western	10	13.2	83.3	2	2.6	16.7	12
Southern	17	22.4	51.5	16	21.1	48.5	33
Total	44	57.9		32	42.1		76
Affiliation							
Land-grant	35	46.1	64.8	19	25.0	35.2	54
Non-land-grant	9	11.8	40.9	13	17.1	59.1	22
Total	44	57.9		32	42.1		76
Administrative Unit							
College of Agriculture	21	27.6	52.5	19	25.0	47.5	40
College of Education	17	22.4	68.0	8	10.5	32.0	25
Others	6	7.9	54.5	5	6.6	45.0	11
Total	44	57.9		32	42.1		76

In the comparison of agricultural education programs in providing assistance with Future Farmers of America activities according to regions, land-grant affiliation, and administrative units is shown in Table 36. It was found that the services offered were quite similar. Ninety-seven percent of the total programs provided assistance with Future Farmers of America activities.

A comparison of agricultural education programs in providing field services for vocational agriculture teachers according to regions, land-grant affiliation, and administrative units is shown in Table 37. It was found that 86.8 percent of the total programs provided field services.

TABLE 36

Comparison of Agricultural Education Programs in Providing Assistance with FFA Activities According to Regions, Land-grant Affiliation, and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	12	15.8	92.3	1	1.3	7.7	13
Central	18	23.7	100.0	0	0	0	18
Western	12	15.8	100.0	0	0	0	12
Southern	32	42.1	97.0	1	1.3	3.0	33
Total	74	97.4		2	2.6		76
Affiliation							
Land-grant	52	68.4	96.3	2	2.6	3.7	54
Non-land-grant	22	28.9	100.0	0	0	0	22
Total	74	97.4		2	2.6		76
Administrative Unit							
College of Agriculture	39	51.3	97.5	1	1.3	2.5	40
College of Education	24	31.6	96.0	1	1.3	4.0	25
Others	11	14.5	100.0	0	0	0	11
Total	74	97.4		2	2.6		76

TABLE 37

Comparison of Agricultural Education Programs in Providing Field Services for Vocational Agriculture Teachers According to Regions, Land-grant Affiliation, and Administrative Units

	Did Provide			Did Not Provide			Total
	N	Total %	Row %	N	Total %	Row %	
Region							
Eastern	11	14.5	84.6	2	2.6	15.4	13
Central	16	21.1	88.9	2	2.6	11.1	18
Western	12	15.8	100.0	0	0	0	12
Southern	27	35.5	81.8	6	7.9	18.2	33
Total	66	86.8		10	13.2		76
Affiliation							
Land-grant	49	64.5	90.7	5	6.6	9.3	54
Non-land-grant	17	22.4	77.3	5	6.6	22.7	22
Total	66	86.8		10	13.2		76
Administrative Unit							
College of Agriculture	35	46.1	87.5	5	6.6	12.5	40
College of Education	22	28.9	88.0	3	3.9	12.0	25
Others	9	11.8	81.8	2	2.6	18.2	11
Total	66	86.8		10	13.2		76

One hundred percent of the programs in the Western Region provided field services, followed by 88.9 percent in the Central Region, 84.6 percent in the Eastern Region, and 81.8 percent in the Southern Region. It was also found that 90.7 percent of the programs affiliated with land-grant institutions provided field services. However, only 77.3 percent of the programs located in non-land-grant institutions provided such service.

Funding of the Agricultural Education Programs

The similarities and differences in the funding of the agricultural education programs was one of the major parameters of the study. The

respondents were asked to indicate the type of funding which supported the agricultural education programs. The areas of funding from which the chairmen could choose were: the university, the state department of education, partial funding from state department of education, partial funding from federal government or other agency for contracted projects, and "other". The summary of the sources from which the programs derived their funds is shown in Table 38. Ninety-six percent of the programs received funding from the university. Thirty-nine percent indicated that they received funding from the state department of education. Another 52.6 percent of the programs received partial funding from the state department of education. Twenty-seven percent received partial funding from the federal government, and 13.2 percent received funding from "other" sources.

In order to determine the amount of funds received from outside the university, those responding to the study were asked to indicate the percentage of the budget which came from sources other than the university. The mean percentage was 22.6 percent.

Another objective of the study was to determine the average expenditure (or approximation) per agricultural education student. The respondents to the study were asked to take the total amount of their 1979-80 appropriated budget, including staff salaries, and divide by the number of agricultural education majors including both undergraduate and graduate students. The respondents were to approximate if necessary. The summary of the agricultural education programs concerning expenditure per student is shown in Table 39. It was found that 19.7 percent of the programs had an expenditure per student between $1,001 and $1,250. Another 17.2 percent had an expenditure between $751 and $1,000, and 13.2

TABLE 38

Summary of the Sources of Funding for Agricultural Education Programs

Source	Received Funding		Did Not Receive Funding	
	N	%	N	%
University	73	96.1	3	3.9
State Department of Education	30	39.5	46	60.5
Partial funding state department of education	40	52.6	36	47.5
Partial funding federal government	21	27.6	55	72.4
Partial funding "other"	10	13.2	66	86.8

TABLE 39

Summary of Agricultural Education Programs in the Expenditures per Student

Expenditure/Student	N	Percent	Cumulative %
$500 or less	9	11.8	11.8
$501 to $750	10	13.2	25.0
$751 to $1,000	13	17.2	42.2
$1,001 to $1,250	15	19.7	61.9
$1,251 to $1,500	8	10.5	72.4
$1,501 to $1,750	3	3.9	76.3
$1,751 to $2,000	6	7.9	84.2
Over $2,000	3	3.9	88.1
No Response	9	11.8	100.0
Total	76	100.0	

percent had expenditure between $501 and $750. Eleven and eight-tenths percent had an expenditure of $500 or less, and 11.8 percent had an expenditure of over $1,751 per student. But overall, 42.2 percent of the programs had an expenditure of less than $1,000 per student.

A comparison of the expenditure per student was made according to regions, land-grant affiliation, and administrative units of the agricultural education programs. As shown in Table 40, no sizeable differences were noted among the programs in the amount of expenditures per agricultural education student concerning these variables.

To further analyze funding, the respondents were asked to indicate the average amount of funds each staff member was allowed for travel. The funds were to include both in-state and out-of-state travel based on the 1979-80 budget. As shown in Table 41, it was found that 25 percent of the programs received $500 or less for travel for each staff member. Another 23.7 percent of the programs indicated that each staff member received $501 to $1,000 for travel. Fifteen and eight-tenths percent of the programs indicated that each staff member received over $2,500 in travel funds per year. According to regional location, land-grant affiliation, and administrative units, the programs were quite similar in the amount of travel funds per staff member.

The chairmen also were asked to indicate the source of funding for curriculum materials, research, and field services if they were provided by the program. The percentages of programs receiving funds from various areas are shown in Table 42. Forty-six and one-tenth percent of the programs, where curriculum materials were provided, received funding from the state department of education for that purpose. This was followed by 28.9 percent of the programs receiving funds from the university, and 13.2 percent receiving funds from the federal government in providing curriculum materials.

In those programs which conducted research, the state department of education was the source of funding for 56.6 percent of the programs.

TABLE 40

Comparison of the Expenditure per Student According to Regions, Land-grant Affiliation, and Administrative Units

	No Response		500-less		501-750		751-1000		1001-1250		1251-1500		1501-1750		1751-2000		Over 2000		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	Total
Region																			
Eastern	2	2.6	1	1.3	1	1.3	2	2.6	4	5.3	0	0	2	2.6	0	0	1	1.3	13
Central	1	1.3	2	2.6	4	5.3	4	5.3	4	5.3	1	1.3	0	0	1	1.3	1	1.3	18
Western	1	1.3	0	0	2	2.6	2	2.6	2	2.6	1	1.3	1	1.3	3	3.9	0	0	12
Southern	5	6.6	6	7.9	3	3.9	5	6.6	5	6.6	6	7.9	0	0	2	2.6	1	1.3	33
Total	9	11.8	9	11.8	10	13.2	13	17.2	15	19.7	8	10.5	3	3.9	6	7.9	3	3.9	76
Affiliation																			
Land-grant	6	7.9	5	6.6	6	7.9	8	10.5	11	14.5	6	7.9	3	3.9	6	7.9	3	3.9	54
Non-land-grant	3	3.9	4	5.3	4	5.3	5	6.6	4	5.3	2	2.6	0	0	0	0	0	0	22
Total	9	11.8	9	11.8	10	13.2	13	17.2	15	19.7	8	10.5	3	3.9	6	7.9	3	3.9	76
Administrative Unit																			
College of Agriculture	5	6.6	3	3.9	6	7.9	7	9.2	10	13.2	3	3.9	1	1.3	4	5.3	1	1.3	40
College of Education	2	2.6	4	5.3	3	3.9	4	5.3	3	3.9	4	5.3	2	2.6	2	2.6	1	1.3	25
Others	2	2.6	2	2.6	1	1.3	2	2.6	2	2.6	1	1.3	0	0	0	0	1	1.3	11
Total	9	11.8	9	11.8	10	13.2	13	17.2	15	19.7	8	10.5	3	3.9	6	7.9	3	3.9	76

TABLE 41

Comparison of the Travel Funds per Staff Member by Regions, Land-grant Affiliation, and Administrative Units

	No Response		500-less		501-1000		1001-1500		1501-2000		2001-2500		Over 2500		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	Total
Region															
Eastern	0	0	7	9.2	3	3.9	2	2.6	0	0	0	0	1	1.3	13
Central	1	1.3	6	7.9	6	7.9	0	0	0	0	3	3.9	2	2.6	18
Western	1	1.3	1	1.3	3	3.9	2	2.6	2	2.6	0	0	3	3.9	12
Southern	1	1.3	5	6.6	6	7.9	8	10.5	5	6.6	3	3.9	5	6.6	33
Total	3	3.9	19	25.0	18	23.7	12	15.8	7	9.2	6	7.9	11	14.5	76
Affiliation															
Land-grant	2	2.6	13	17.1	13	17.1	10	13.2	6	7.9	4	5.3	6	7.9	54
Non-land-grant	1	1.3	6	7.9	5	6.6	2	2.6	1	1.3	2	2.6	5	6.6	22
Total	3	3.9	19	25.0	18	23.7	12	15.8	7	9.2	6	7.9	11	14.5	76
Administrative Unit															
College of Agriculture	2	2.6	9	11.8	9	11.8	5	6.6	4	5.3	5	6.6	6	7.9	40
College of Education	1	1.3	7	9.2	6	7.9	6	7.9	2	2.6	0	0	3	3.9	25
Others	0	0	3	3.9	3	3.9	1	1.3	1	1.3	1	1.3	2	2.6	11
Total	3	3.9	19	25.0	18	23.7	12	15.8	7	9.2	6	7.9	11	14.5	76

TABLE 42

Summary of the Source of Funding for Curriculum Materials, Research, and Field Services

Source	% Provided Curriculum Materials		% Provided Research		% Provided Field Service	
	N	%	N	%	N	%
State Department of Education	35	46.1	43	56.6	49	64.5
University	22	28.9	39	51.3	43	56.6
Federal Government	10	13.2	28	36.8	0	0
Other	1	1.3	9	11.8	3	3.9

The university was the source for 51.3 percent of the programs which conducted research, and the federal government was the source for 36.8 percent. Sixty-four and five-tenths percent of the programs which conducted field service received funding from the state department of education for that purpose. This was followed by 56.6 percent by the university, and 3.9 percent by "others".

A comparison of the state department of education as the source of funding for curriculum materials by land-grant affiliation is shown in Table 43. Chi-square was used to determine if the differences were significant. It was found that a significant difference did exist at the .05 level. Fifty-seven and four-tenths percent of the programs located in land-grant institutions received funding from the state department of education for the preparation of curriculum materials. This was compared to only 18.2 percent of the programs located in non-land-grant institutions that received funds from the state department of education for the preparation of curriculum materials.

TABLE 43

Comparison of the State Department of Education as the Source of Funding of Curriculum Materials by Land-grant Affiliation of the Agricultural Education Programs

	State Department of Education					
		Yes			No	
Affiliation	N	Total %	Row %	N	Total %	Row %
Land-grant	31	40.8	57.4	23	30.3	42.6
Non-land-grant	4	5.3	18.2	18	23.7	81.8
Corrected Chi=8.16644		Df=1		N=76	Sign=0.0043	

A comparison of the sources of funding for research by agricultural education programs is shown in Table 44. Chi-square was used to determine if significant differences did exist. As the state department of education as a source of funding for research, it was found that a significant difference existed concerning land-grant affiliation. Sixty-six and seven-tenths percent of the programs located in land-grant institutions received research funds from the state department of education. Only 31.8 percent of the programs located in non-land-grant institutions received research funds from the state department of education.

In the comparison of the university as a source of funding for research, it was found that a significant difference existed concerning land-grant affiliation and administrative units of the agricultural education programs. Fifty-nine and three-tenths percent of the programs affiliated with land-grant institutions received research funds from the university and only 31.8 percent of the programs not land-grant affiliated received research funds from the university. According to the

TABLE 44

Source of Funding for Conducting Research Activities

Research	As A Source			Not As A Source		
	N	Total %	Row %	N	Total %	Row %
			State Department of Education			
Land-grant	36	47.4	66.7	18	23.7	33.3
Non-land-grant	7	9.2	31.8	15	19.7	68.2
Corrected Chi=6.37368		Df=1	N=76	Sign=0.0116		
			University			
Land-grant	32	42.1	59.3	22	28.9	40.7
Non-land-grant	7	9.2	31.8	15	19.7	68.2
Corrected Chi=3.67719		Df=1	Sign=0.0552			
College of Agriculture	21	27.6	52.5	19	25.0	47.5
College of Education	16	21.1	64.0	9	11.8	36.0
Others	2	5.1	18.2	9	24.3	81.8
Corrected Chi=6.46639		Df=2	Sign=0.0394			
			Federal Funds			
Land-grant	25	32.9	46.3	29	38.2	53.7
Non-land-grant	3	3.9	13.6	19	25.0	86.4
Corrected Chi=5.83087		Df=1	Sign=0.0157			

administrative units, 64 percent of the programs administered by colleges of education received research funds from the university. In comparison, it was found that 52.5 percent of the programs administered by colleges of agriculture received research funds from the university and only 18.2 percent of the programs administered by "others".

In the comparison of the federal government as a source of funding of research, it was noted that the programs differed significantly according to land-grant affiliation. Forty-six and three-tenths percent of the programs affiliated with land-grant institutions received research

funds from the federal government, and only 13.6 percent of the programs located in non-land-grant institutions received research funds from this source.

Use of Advisory Councils

The use of an advisory council was the last parameter of the study to be examined. A summary of the use of advisory councils by agricultural education programs is shown in Table 45. It was found that 64.5 percent

TABLE 45

Summary of Agricultural Education Programs in the Use of Advisory Councils

	N	Percent
Advisory Council Used		
Yes	49	64.5
No	27	35.5
Total	76	100.0
Average Number Meetings/Year		
No Response	30	39.5
1 to 2	34	44.7
3 to 5	9	11.8
6 to 10	3	3.9
Total	76	100.0
How Selected*		
No Response	28	36.8
University Staff	25	32.9
Committee	14	18.4
By Holding Public Office	5	6.6
Other	10	13.2

*Some programs use two or more methods.

of the agricultural education programs used an advisory council. Of the programs which had an advisory council, 34 had from one to two meetings per year. Nine programs had from three to five meetings per year, and

three programs had from six to ten meetings per year. However, in the comparison of the number of programs that had an advisory council and the number of programs indicating meetings, it was found that three programs which had an advisory council had no meetings at all.

Another objective was how the advisory councils were selected. As shown in Table 45, in 32.9 percent of the programs it was found that the advisory councils were appointed by the university staff. It was also found in 18.4 percent of the programs that the advisory council was appointed by a committee representative of the university, state department of education, teachers and others. Six and six-tenths percent of the programs had advisory councils which were selected as a result of holding an office or position in agriculture, and 13.2 percent of the programs had advisory councils which were appointed by other means.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

The results of the study seem to indicate that meaningful differences and relationships existed among the agricultural education programs concerning the parameters being studied. The parameters were: the number of agricultural education majors, the number and placement of graduates each year, curriculum in agricultural education, graduate programs in agricultural education, the number of staff members, services performed for teachers of vocational agriculture, funding of the programs, and use of an advisory council. Each of the previous mentioned parameters were examined according to land-grant affiliation, administrative units, and regional location of the agricultural education programs.

Summary Characteristics of the Sample

The objective of the study was to determine the similarities and differences among agricultural education programs in the United States. Seventy-six agricultural education programs were studied. It was found that 71.1 percent of the agricultural education programs studied were land-grant affiliated. According to administrative units, 52.6 percent of the programs were administered by colleges of agriculture, 32.9 percent by colleges of education and 14.5 percent were administered by "others". Also, it was found that 43.4 percent of the programs were located in the Southern Region, 23.7 percent in the Central Region, 17.1 percent in the Western Region, and 15.8 percent in the Eastern Region. All of the programs located in the Eastern Region were land-grant affiliated, followed by 75 percent in the Western, 66.7 percent in the Central, and 60.6 percent in the Southern Region.

Implications/Conclusions

In reviewing the findings of the study, the writer cautions the reader against using the data out of context in making further comparisons.

1. According to the number of agricultural education majors, the majority (52.6%) of the agricultural education programs averaged less than 60 agricultural education majors per year. The agricultural education programs administered by colleges of agriculture tend to have more undergraduate majors than programs administered by colleges of education and "others", but not at a significant level.

The majority of undergraduate students in agricultural education were enrolled in colleges of agriculture, but only 52.6 percent of the programs were administered by colleges of agriculture. This situation may lead to problems as a result of the students being enrolled and administered by colleges which are not the administrative units of the agricultural education programs of which they are majoring.

2. The majority of agricultural education programs produced 50 or fewer graduates per year for the past five years. Nearly one-half of the programs had from 51 to 75 percent of their graduates enter the field of teaching vocational agriculture. But over one-third of the agricultural education programs had less than 51 percent of their graduates enter teaching. Therefore, the number of placements of agricultural education graduates into vocational agriculture teaching positions were relatively small compared to the number of graduates per year.

Of the agricultural education graduates in 1974-75 who entered the teaching field and were still teaching in 1979-80, it was found that 53.9 percent of the total programs had less than 51 percent of those graduates still teaching. The Southern Region had the lowest retention rate of the regions in graduates still teaching. The low placement and retention rate may be attributed to several factors such as the salary level and advancement in teaching versus agricultural businesses and industries, discord with present policies and practices of education, and the ultimate occupational objective among teachers may not have been teaching vocational agriculture.

3. In the number of required hours in technical agriculture, a significant difference was found between the Eastern and Southern Regions and between the Eastern and Western Regions. The agricultural education programs in the Eastern Region required ten quarter hours less in technical agriculture than the programs located in the Southern and Western Regions. The reason may be the decline of production agriculture in the Eastern Region due to urbanization and industrialization and the growth of agriculture and agribusiness in the Southern and Western Regions.

According to land-grant affiliation of the programs, significant differences were found among the programs in the number of required hours in agricultural education and in the number of required hours in general education. Agricultural education programs in land-grant institutions required significantly less hours in agricultural education than programs in non-land-grant institutions. But in the number of general education hours, programs affiliated with land-grant institutions

required significantly more hours than programs in non-land-grant institutions. The agricultural education programs may be similar in the number of hours required in agricultural education and general education because what was considered in one program as general education in another program it may have been considered as agricultural education and vice versa. This results in balancing the differences, but cannot be said conclusively.

Overall, it was found that the number of required hours in the various areas of the agricultural education curriculum varied widely from program to program.

4. Availability of a master's program in agricultural education was found in 76.3 percent of the agricultural education programs studied.

In a further examination of graduate programs in agricultural education, less than 20 percent of the agricultural education programs offered a doctoral program in agricultural education. The programs which offered a doctoral program were located in land-grant institutions except for one program, which was located in a non-land-grant institution. On a percentage basis, the Central Region contained more programs offering a doctorate than any of the other regions. The Eastern Region was second to the Central Region in the percentage of agricultural education programs offering a doctoral program in agricultural education. This probably is due to the prominence of the agricultural education programs in the Eastern Region during the early growth of agriculture in the United States.

Agricultural education programs administered by colleges of education offered nearly two times more doctoral programs in vocational-technical education than agricultural education programs administered

by colleges of agriculture. This situation was compatiable because of the fact that nearly all vocational-technical education programs were administered by colleges of education.

5. Agricultural education programs differed significantly in the number of staff members according to land-grant affiliation of the programs. Agricultural education programs located in land-grant institutions averaged nearly one staff member more than programs located in non-land-grant institutions. This is probably related to the funding framework of land-grant institutions compared to that of the non-land-grant institutions.

6. In the examination of how agricultural education staffs spent their time, it was found that the staffs in the Central Region spent more time in research, teaching, and curriculum material development than the agricultural education staffs in any of the other regions. The agricultural education staffs in the Western Region spent more time in service and professional improvement than the staffs in any of the other regions.

A significant difference was found among the agricultural education programs according to land-grant affiliation and administrative units in the percentage of time spent by staff members in teaching. Agricultural education staffs in non-land-grant institutions spent more time teaching than agricultural education staffs in land-grant institutions. The percentage of time spent in teaching would be lower for land-grant affiliated programs when considering that the average number of staff members was greater in land-grant programs than in non-land-grant programs. However, staffs of agricultural education programs administered

by colleges of agriculture spent significantly more time in teaching than the staffs of programs administered by colleges of education.

A significant difference was found regionally among the programs in the time spent on research by agricultural education staffs. The agricultural education staffs in the Central Region spent significantly more time in research than the agricultural education staffs located in either the Western or the Southern Regions.

7. In the type of services provided for vocational agriculture teachers, it was found that nearly all of the agricultural education programs provided on-campus credit courses and assisted with Future Farmers of America activities. All the programs in the Central Region provided off-campus credit courses, but only two-thirds of the agricultural education programs in the Southern Region provided such services. Also, more agricultural education programs located in land-grant institutions provided off-campus credit courses than programs located in non-land-grant institutions.

More agricultural education programs located in the Southern Region provided non-credit workshops to vocational agriculture teachers than the programs in the other regions. However, more programs located in the Central Region provided credit workshops to vocational agriculture teachers than programs in other regions. The agricultural education programs in the Eastern Region provided the least services of all the regions. Concerning land affiliation, more agricultural education programs located in land-grant institutions provided credit workshops than agricultural education programs in non-land-grant institutions.

More agricultural education programs in the Western Region provided curriculum materials than the programs in the other regions. Fewer

programs in the Eastern Region provided curriculum materials than programs in any other region.

8. Funding of the agricultural education programs is probably one of the greatest factors to consider in determining the "quality" of the agricultural education program. The major sources of funding for agricultural education were the universities and the state departments of education. The average agricultural education program received 22.6 percent of its budget from sources other than the university.

In the examination of expenditures per agricultural education student, it was found that 42.2 percent of the agricultural education programs averaged less than $1,000 per student. However, this should be considered as only as estimate because participants in the survey may have had to approximate their responses.

In the amount of travel funds, it was found that 25 percent of the programs allowed only $500 or less per staff member for both in-state and out-of-state travel. It is highly unlikely that those programs could adequately provide the type of services and follow-up necessary for quality programs on such a small travel expense budget.

9. Significant differences were recorded among the agricultural education programs concerning the sources of funding for research and curriculum materials. It was found that more programs located in land-grant institutions received funding from the state department of education for research and curriculum materials than programs located in non-land-grant institutions. This was also the case concerning funding for research with the university and the federal government as sources of funding. Programs located in land-grant institutions seemed to have a more positive approach in funding than programs in non-land-grant

institutions. This funding difference may be attributed to federal support normally given land-grant universities. A larger percentage of the agricultural education programs administered by colleges of education tend to receive funds from the university for research than programs administered by colleges of agriculture.

10. Only 64.5 percent of the agricultural education programs had an advisory council. The number of advisory council meetings ranged from zero to ten per year. However, as any vocational agriculture program must be responsive to the needs of the community and students through the use of an advisory council, it is obvious that the same principle must apply to agricultural education programs.

Recommendations

In review of the findings of the study, the following recommendations were suggested to improve and advance agricultural education programs and agricultural education in the United States.

1. More research should be conducted in each previously mentioned parameter of the study.

2. A similar study should be conducted using an interval type of questionnaire or survey form.

3. Better communications should be established between agricultural education programs in regard to programs and research conducted in the programs.

4. More research should be conducted on the agricultural education programs concerning administrative units and land-grant affiliation.

5. More research is needed in the placement of agricultural graduates into teaching and the retention of those graduates in teaching vocational agriculture.

6. More research and coordination is needed in planning agricultural education curriculums among agricultural education programs.

7. More research is needed concerning the major duties of staff members and the services provided to agricultural education students and vocational agricultural teachers.

8. More research is needed in the funding of the agricultural education.

9. More agricultural education programs should develop an advisory council and utilize the recommendations of that advisory council.

10. Efforts should be made to increase the number of doctoral programs in agricultural education in the Southern and Western Regions.

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APPENDICES

APPENDIX A

AGRICULTURAL EDUCATION PROGRAMS USED IN FIELD TESTING

AGRICULTURAL EDUCATION PROGRAMS USED IN FIELD TESTING

Paul E. Hemp, Chairman, Division of Agricultural Education, 357 Education Building, University of Illinois, Urbana, Illinois

Jasper S. Lee, Professor and Head, Department of Agriculture and Extension Education, Mississippi State University, Mississippi State, Mississippi

J. Robert Warmbrod, Professor and Chairman, Department of Agriculture Education, The Ohio State University, 208 Agricultural Administration Building, 2120 Fyffe Road, Columbus, Ohio

LeeRoy W. Kiesling, Associate Professor and Department Chairman, Occupational Education Department, Room 109 Gooch Hall, University of Tennessee, Martin, Tennessee

John R. Crunkilton, Professor and Head, Agricultural Education Virginia Polytechnic Institute and State University, Blacksburg, Virginia

APPENDIX B

SURVEY QUESTIONNAIRE

SURVEY QUESTIONNAIRE

TEACHER EDUCATION PROGRAMS IN AGRICULTURAL EDUCATION

1. Name of university or institution _____

_____

2. Name and title of the person completing the survey instrument ___

_____

3. Indicate if the Department of Agricultural Education is located in a Land-Grant institution. Yes _____ No _____

4. Indicate the appropriate administrative unit where the agricultural education program is administered.

College of Agriculture _____
College of Education _____
Other (specify) _____

If the program is not administered in the College of Agriculture, are the undergraduate students enrolled in the college of Agriculture? Yes _____ No _____

5. Indicate the average number of agricultural education undergraduate majors during the past five years.* (Include double majors.)

25 or less	_____	61 - 80	_____
26 - 40	_____	81 - 100	_____
41 - 60	_____	over 100	_____

6. Indicate the average number of persons who completed the agricultural education program during the past 5 years and were certified to teach vocational agriculture:*

5 or less	_____	31 - 40	_____
6 - 10	_____	41 - 50	_____
11 - 20	_____	51 - 60	_____
21 - 30	_____	over 60	_____

7. Indicate the percentage of persons certified to teach vocational agriculture during the past 5 years who entered the field of teaching vocational agriculture.*

25% or less _____
26 - 50% _____
51 - 75% _____
over 75% _____

*Use 1978-79 as the last year in the 5-year average.

8. What percentage of those persons certified through your agricultural education program and who entered teaching during the 1974-75 school year were still teaching vocational agriculture during the 1979-80 school year?

25% or less _____
26 - 50% _____
51 - 75% _____
over 75% _____

9. Indicate the number of hours in the undergraduate curriculum comprised of the following areas:

	Quarter Hrs.	Semester Hrs.
Technical Agriculture	_____	_____
Agricultural Education	_____	_____
Professional Education	_____	_____
General Education	_____	_____
Others _____	_____	_____
_____	_____	_____
Total Hours	_____	_____

10. Does the program offer a Master's degree in agricultural education?

Yes _____ No _____

11. If there is no Master's degree available in agricultural education, can teachers obtain an advanced degree in other fields of education?

Yes _____ No _____

If yes, indicate the areas:
Vocational-Technical Education _____
Extension Education _____
Other fields such as adult education, school administration, etc. _____

12. Is there a doctoral program available in agricultural education?

Yes _____ No _____

13. Is there a doctoral program available in vocational-technical education?

Yes _____ No _____

14. Indicate the number of equivalent full-time staff members in agricultural education.

1 _____ 3 _____ 5 _____ 7 _____
2 _____ 4 _____ 6 _____ 8 or more _____

15. Is the agricultural education staff on 12 month appointment?

Yes _____ No _____

Note: If some are on 12 month and others are not, indicate the percentage on 12 month appointment.

16. Indicate the approximate percent of time the agricultural education staff spends in performing the following functions:

Teaching _____ Curriculum development _____

Research _____ Professional improvement _____

Service _____ Others (specify) _____ _____

17. Indicate the types of services the agricultural education program provides the vocational agriculture teachers. (Check appropriate items.)

a. On-campus credit courses _____

b. Off-campus credit courses _____

c. Non-credit workshops _____

d. Credit workshops _____

e. Curriculum materials _____

f. Assist with FFA activities _____

g. Field services* _____

18. Indicate the types of funding which support the agricultural education program. (Check appropriate items.)

a. University _____

b. State Department of Education _____

c. Partial funding from State Department _____

d. Partial funding from Federal Government or other agency for contracted projects _____

e. Others (specify) _____

_____

*Efforts expended to help teachers or others on an individual or small group basis for noncredit, excluding noncredit workshops.

19. If funds are received from sources other than the university, indicate the approximate percent these funds comprise of the total agricultural education budget. (Approximate if necessary.)

less than 10% _____ _____

11 - 20% _____ _____

21 - 30% _____ _____

31 - 40% _____ _____

41 - 50% _____ _____

over 50% _____ _____

20. Indicate the average expenditure or appropriation per agricultural education student including both graduate and undergraduates. (Suggestion: Take the total amount of the appropriated budget including staff salaries and divide by the number of agricultural education majors. Approximate if necessary.)

$ 500 or less	_____	$ 1251 - 1500	_____
501 - 750	_____	1501 - 1750	_____
751 - 1000	_____	1751 - 2000	_____
1001 - 1250	_____	Over 2000	_____

21. Indicate the average amount of funds each agricultural education staff member has for travel including both instate and out-of-state travel based on the 1979-80 budget. (May want to subtract funds received for teaching extension or extramural courses.)

$ 500 or less	_____	$ 1501 - 2000	_____
501 - 1000	_____	2001 - 2500	_____
1001 - 1500	_____	over 2500	_____

22. If curriculum materials are developed by your department, indicate the sources of funding.

_____ State Department of Education

_____ University

_____ Federal grant or project

Others (specify) _____

23. If research is conducted by your department, indicate the sources of funding.

_____ State Department of Education

_____ University

_____ Federal grant or project

Others (specify) _____

24. If field services are available to teachers by the department, indicate the sources of funding.

_____ State Department of Education

_____ University

Others (specify) _____

25. Does the agricultural education department use an advisory council?

Yes _____ No _____

26. Indicate the average number of times an advisory council has met with the agricultural education department to discuss, advise and/or evaluate the programs in the past year.

1 - 2 _____ 3 - 5 _____ 6 - 10 _____

27. If applicable, indicate how the advisory council is selected.

_____ Appointed by university staff

_____ Appointed by a committee representative of university, State Department of Education, teachers and others

_____ Selected as the result of holding an office or position in agriculture

Others (specify) _____

APPENDIX C

REQUEST FOR COOPERATION WITH THE STUDY OF AGRICULTURAL EDUCATION PROGRAMS IN THE UNITED STATES

The University of Tennessee
COLLEGE OF EDUCATION
Knoxville 37916

Department of Vocational-Technical Education
Agricultural, Business, Distributive,
Home Economics and Industrial Education

TO: Selected Teacher Educators in Agricultural Education

FROM: John D. Todd, Associate Professor and Chairman, Agricultural Education

DATE: February 19, 1980

SUBJECT: Request for Cooperation with a Study of Agricultural Education Programs in the United States

Mr. Danny W. Montgomery, a graduate student at the University of Tennessee, is conducting a study of agricultural education programs in colleges and universities in the United States. Mr. Montgomery will use the information he receives from the study to complete his Master's degree.

An attempt is being made to obtain basic information about agricultural education programs, such as: number of students, follow up of graduates, curricula, duties of staff, services to vocational agriculture teachers, fundings of programs, and other pertinent information. It is anticipated that a compilation of this information and comparison among programs can be used to bring about overall improvements to agricultural education programs in the United States.

Your cooperation with the study will be appreciated. An abstract of the findings will be made available to each person cooperating with the study. A self-addressed and stamped envelope is enclosed to expedite returning the completed questionnaire.

If you do not have the exact data for some of the questions, please furnish the most accurate information you have based upon your knowledge of the situation.

The return of the questionnaire signifies your consent to use the information in the study.

JDT/el

Enc. 2

225 Morgan Hall
Telephone (615) 974-7371

APPENDIX D

AGRICULTURAL EDUCATION PROGRAMS SURVEYED

AGRICULTURAL EDUCATION PROGRAMS SURVEYED

Alabama

*Gordon D. Patterson, Assistant Professor and Coordinator Agricultural Education, Department of Vocational and Adult Education, 5032 Haley Center, Auburn University, Alabama

*Ruebin Ellia, Head, Department of Vocational, Technical and Adult Education, Extension Building, Tuskegee Institute, Tuskegge, Alabama

Taylor Byrd, Jr., Professor and Head, Department of Agribusiness Education, School of Agriculture, Environmental Sciences and Home Economics, Alabama A & M University, Normal, Alabama

Arizona

*Floyd G. McCormick, Professor and Head, Department of Agricultural Education, College of Agriculture, University of Arizona, Tuscon, Arizona

Arkansas

*Edwin L. Love, Professor and Agricultural Education Coordinator Department of Vocational Education, College of Education, University of Arkansas, Fayetteville, Arkansas

*Amos B. Rougeau, Professor of Agriculture Education, College of Agriculture, Arkansas State University, Jonesboro, Arkansas

*Robert C. Haynie, Associate Professor, Agricultural Education and Chairman, Department of Vocational Teacher Education, University of Arkansas at Pine Bluff, Pine Bluff, Arkansas

California

*Richard A. Rogers, Associate Professor and Head, Agricultural Education, California State University, Fresno, California

*Floyd J. Lark, Head, Department of Agricultural Science, Vocational Agriculture, School of Agriculture, California State Polytechnic University, Pomona, California

James Leising, Teacher Educator, Agricultural Education, University of California, Davis, California

*Larry P. Rathbun, Professor and Head, Agricultural Education Department, California Polytechnic State University, San Luis Obisop, California

*Participated in study

Colorado

*Irving C. Cross, Professor and Head, Agricultural Education Section, Department of Vocational Education, College of Professional Studies, Colorado State University, Fort Collins, Colorado

Connecticut

*Alfred J. Mannebach, Associate Professor of Education, Department of Higher, Technical, and Adult Education, School of Education, University of Connecticut, Storrs, Connecticut

Delware

*Ralph P. Barwick, Associate Dean and Head Teacher Educator, Agricultural Education, College of Agricultural Sciences, University of Delaware, Newark, Delaware

*Ulysses S. Washington, Jr., Associate Professor and Head, Department of Agriculture and Natural Resources, Delaware State College, Dover, Delaware

Florida

*Junious D. Brown II, Teacher Educator, Department of Agricultural Education, Florida A & M University, Talahassee, Florida

*Carl E. Beeman, Professor and Chairman, Agricultural and Extension Education, College of Agriculture, University of Florida, Gainesville, Florida

Georgia

*Ira A. Dickerson, Acting Head, Department of Agricultural Education, College of Education, University of Georgia, Athens, Georgia

Josia Phelps, Program Concultant, Agricultural Education, State Department of Education, Fort Valley State College, Fort Valley, Georgia

Idaho

*Douglas A. Pals, Assistant Professor and Head, Department of Agricultural Education, College of Agriculture, Agricultural Science Building, University of Idaho, Moscow, Idaho

*Participated in study

Illinois

*Paul E. Hemp, Chairman, Division of Agricultural Education, University of Illinois, Urbana, Illinois

*Eugene S. Wood, Professor and Chairman, Agricultural Education, School of Agriculture, Southern Illinois University, Carbondale, Illinois

*Leonard A. Harzman, Assistant Professor, Agricultural Education, Department of Agriculture, College of Applied Sciences, Western Illinois University, Macomb, Illinois

*Kenneth E. James, Professor and Head Teacher Educator Agricultural Education, Department of Agriculture, Illinois State University, Normal, Illinois

Indiana

*William B. Richardson, Associate Professor and Chairman, Agricultural Education Section, Department of Education, Purdue University, West Lafayette, Indiana

Iowa

*Harold R. Crawford, Professor and Head, Agricultural Education, Iowa State University, Ames, Iowa

Kansas

*Richard Welton, Coordinator, Pre-Service Agricultural Education, Department of Adult and Occupational Education, College of Education, Kansas State University, Manhattan, Kansas

Kentucky

*Herbert Bruce, Acting Chairman, Department of Vocational Education Professor, Agricultural Education, College of Education, University of Kentucky, Lexington, Kentucky

Joe F. Bendixen, Professor, Agricultural Education, Department of Agriculture, Morehead State University, Morehead, Kentucky

*Lloyd P. Jacks, Professor, Department of Agriculture, College of Environmental Sciences, Murray State University, Murray, Kentucky

*James E. McGuire, Professor and Chairman, Agriculture/Agribusiness Education Division, Department of Agriculture, Western Kentucky University, Bowling Green, Kentucky

*Participated in study

Louisiana

*L. D. Virdure, Professor and Head, Director of the Division of Vocational Education, Department of Agricultural Education, Southern University, Southern Branch Post Office, Baton Rouge, Louisiana

*John H. Mitchell, Professor and Head, Agricultural Education, Department of Vocational Agricultural Education, U.S.L. College of Agriculture, University of Southwestern Louisiana, Lafayette, Louisiana

*Larry D. Allen, Associate Professor and Head, Department of Vocational Agricultural Education, College of Life Sciences, Louisiana Tech University, Ruston, Louisiana

*Charlie M. Curtis, Associate Dean, College of Agriculture, and Director, School of Vocational Education, Professor and Head, Agricultural Education Department, Louisiana State University, Baton Rouge, Louisiana

Maryland

*Clifford L. Nelson, Professor and Chairman, Department Agricultural and Extension Education, University of Maryland, College Park, Maryland

*Harrell Smith, Professor and Head, Department of Agriculture, University of Maryland, Eastern Shore, Princess Anne, Maryland

Maine

Robert D. Rhoads, Coordinator of Agricultural Education, College of Life Science & Agriculture, University of Maine, Orono, Maine

Massachusetts

*William L. Thuemmel, Associate Professor and Head, Agricultural Education, Department of Education, University of Massachusetts, Amherst, Massachusetts

Michigan

*Harrison Gardner, Professor and Program Coordinator, Natural Resources Education, Department of Secondary Education and Curriculum, College of Education, Erickson Hall, Michigan State University, East Lansing, Michigan

*Participated in study

Minnesota

*R. Paul Marvin, Professor and Head, Division of Agricultural Education, Department of Vocational and Technical Education, College of Education, University of Minnesota, St. Paul, Minnesota

Mississippi

*Jasper S. Lee, Professor and Head, Department of Agriculture and Extension Education, Mississippi State University, Mississippi State

Missouri

*Curtis R. Weston, Coordinator, Agricultural Education, Department of Practical Arts and Vocational-Technical Education, University of Missouri, Columbia, Missouri

Montana

*Max L. Amberson, Professor and Head, Department of Agricultural and Industrial Education, Montana State University, Bozeman, Montana

Nebraska

*Osmund S. Gilbertson, Professor and Head, Department of Agricultural Education, College of Agriculture, Institute of Agriculture and Natural Resources, East Campus, University of Nebraska, Lincoln, Nebraska

Nevada

*Ronald Squires, Professor and Chairman, Division Agricultural and Industrial Mechanics, Max C. Fleischmann, College of Agriculture, University of Nevada, Reno, Nevada

New Hampshire

*William H. Annis, Professor and Chairman, Occupational Education, Thomas March, Assistant Professor, Thompson School of Applied Sciences, University of New Hampshire, Durham, New Hampshire

New Jersey

*Authur W. Edwards, Chairman, Department of Education, Cook College, Rutgers University, New Brunswick, New Jersey

*Participated in study

New Mexico

*Leon A. Wagley, Professor and Head, Agricultural Extension Education, New Mexico State University, Las Cruces, New Mexico

New York

*William E. Drake, Professor and Coordinator, Agricultural and Occupational Education, College of Agriculture and Life Sciences, Cornell University, Ithaca, New York

North Carolina

*Larry R. Jewell, Assistant Professor and Director, Agricultural Education Program, Department of Occupational Education, North Carolina State University, Raleigh, North Carolina

A. P. Bell, Professor and Chairman, Department of Agricultural Education, School of Agriculture, North Carolina Agricultural and Technical State University, Greensboro, North Carolina

North Dakota

*Donald Priebe, Professor and Chairman, Department of Agricultural Education, College of Agriculture, North Dakota State University, Fargo, North Dakota

Ohio

*J. Robert Warmbrod, Professor and Chairman, Department of Agricultural Education, The Ohio State University, Columbus, Ohio

*Wayne E. Asche, Coordinator, Agricultural Education Section, Department of Vocational Education, Kent State University, Kent, Ohio

Arnold L. Mokma, Assistant Professor, Agricultural Education, Assistant Director for Academic Affairs, Agricultural Technical Institute, Wooster, Ohio

Oklahoma

*H. Robert Terry, Professor and Head, Department of Agricultural Education, Oklahoma State University, Stillwater, Oklahoma

*Participated in study

Oregon

*John D. Oades, Head, Department of Agricultural Education, Oregon State University, Corvallis, Oregon

Pennsylvania

*Gene M. Love, Professor and Head, Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania

Rhode Island

*Donald McCreight, Head, Department of Agricultural Education, College of Resource Development, University of Rhode Island, Kingston, Rhode Island

South Carolina

*Earl T. Carpenter, Professor and Head, Department of Agricultural Education, Clemson University, Clemson, South Carolina

South Dakota

*Hilding W. Gadda, Professor, Supervisor of Teacher Education in Agriculture, Division of Education, South Dakota State University, Brookings, South Dakota

Tennessee

*Gul M. Telwar, Professor and Head, Department of Rural Development, Tennessee State University, Nashville, Tennessee

S. Clifton Ricketts, Assistant Professor, Agricultural Education, Department of Agriculture, Middle Tennessee State University, Murfreesboro, Tennessee

*LeeRoy W. Kiesling, Associate Professor and Department Chairman, Occupational Education Department, University of Tennessee, Martin, Tennessee

*Edwin Lamberth, Associate Professor, Agricultural Education, Tennessee Technology University, Cookeville, Tennessee

*John D. Todd, Associate Professor and Chairman, Agricultural Education, University of Tennessee, Knoxville, Tennessee

*Participated in study

Texas

*Earl H. Knebel, Professor and Head, Department of Agricultural Education, Texas A & M University, College Station, Texas

*Clifton Don Knotts, Agricultural Education, Department of Agriculture, School of Applied Arts, Southwest Texas State University, San Marcos, Texas

*T. J. Honeycutt, Head Teacher Educator, Agricultural Education, Sam Houston State University, Huntsville, Texas

*Cecil L. Strickland, Sr., Head, Agricultural Education Department, Prairie View A & M University, Prairie View, Texas

*A. C. Hughes, Professor, Head Teacher Trainer, Department of Agricultural Education, East Texas State University, East Texas Station, Commerce, Texas

*Billy F. Irick, Professor and Head, Department of Agricultural Education, School of Agriculture and Business, Tarleton State University, Stephenville, Texas

*Eugene Jekel, Chairperson, Department of Agricultural Education, Texas A & I University, Kingsville, Texas

S. B. "Sunny" Langham, Head, Department of Agricultural Education, Stephen F. Austin State University, Nacogdoches, Texas

*Jerry D. Stockton, Associate Professor and Chairman, Department of Agricultural Education, Texas Tech University, Lubbock, Texas

Utah

Gilbert A. Long, Head, Department of Agricultural Education, College of Agriculture, Utah State University, Logan, Utah

Vermont

*Gerald R. Fuller, Professor and Chairman, Department of Vocational Education and Technology, College of Agriculture, Agriculture Engineering Building, University of Vermont, Burlington, Vermont

Virginia

*John R. Cruckilton, Professor and Head, Agricultural Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

*Participated in study

Virginia continued

*M. A. Fields, Chairman, Department of Agriculture, Virginia State College, Petersberg, Virginia

Washington

*Joseph G. Cvancara, Professor and Head, Agricultural Education Phase II, Washington State University, Pullman, Washington

West Virginia

*Warren G. Kelly, Professor and Chairman, Department of Agricultural Education, West Virginia University, Morgantown, West Virginia

Wisconsin

*John F. Thompson, Professor and Chairman, Department of Continuing and Vocational Education, University of Wisconsin, Madison, Wisconsin

*Robert L. Campbell, Program Director, Agricultural Education, Department of Agricultural Industries, University of Wisconsin, Platteville, Wisconsin

*Marvin D. Thompson, Professor and Chairman, Department of Agricultural Education, College of Agriculture, University of Wisconsin, River Falls, Wisconsin

Wyoming

*James R. Durkee, Professor of Agricultural Education, Department of Vocational Education, College of Education, University of Wyoming, Laramie, Wyoming

*Participated in study

VITA

Danny Wayne Montgomery, son of James W. Montgomery and Lavada C. Montgomery, was born in Elizabethton, Tennessee on June 22, 1955. He attended Happy Valley Elementary School and graduated from Happy Valley High School in May, 1973. In July of that same year he entered the University of Tennessee, Knoxville, and in August, 1976, received a Bachelor of Science Degree in Agriculture with highest honors.

Also, in August, 1976, he accepted a vocational agriculture teaching position at Hampton High School, Carter County School System. After teaching two years of vocational agriculture, he joined the General Shale Corporation in November, 1978, as a production supervisor in Marion, Virginia. He is presently located in Atlanta, Georgia at General Shale's Chattachocchee Plant 31.

The author is a member of Phi Kappa Phi, Gama Sigma Delta, and Alpha Zeta.