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AN ANALYSIS OF THE STUDENT POPULATION IN AGRICULTURAL EDUCATION AT NORTH CAROLINA STATE UNIVERSITY.

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IN THE FACE OF DECREASING NUMBERS OF STUDENTS PREPARING TO TEACH VOCATIONAL AGRICULTURE IN THE LAND-GRANT INSTITUTIONS AND THE INCREASING DEMAND FOR VOCATIONAL AGRICULTURE TEACHERS, A STUDY WAS UNDERTAKEN TO DETERMINE THE SOURCE OF PAST AND PRESENT AGRICULTURAL EDUCATION STUDENTS IN NORTH CAROLINA. DATA WERE GATHERED FROM STUDENT FILES ON 554 AGRICULTURAL EDUCATION STUDENTS WHO GRADUATED BETWEEN 1954 AND 1961 AND ALL UNDERGRADUATES IN THE PROGRAM FROM 1962 THROUGH SPRING 1966. IT WAS FOUND THAT 49.7 PERCENT OF THE STUDENTS CAME FROM 18 PERCENT OF THE COUNTIES, THOSE COUNTIES WHICH HAD MORE VOCATIONAL AGRICULTURE PROGRAMS. DISTANCE FROM THE STATE UNIVERSITY DID NOT SEEM TO BE AN INFLUENCE, BUT ECONOMIC OR OCCUPATIONAL FACTORS MAY HAVE BEEN. THE NUMBER OF YEARS A TEACHER HAD BEEN AT A PARTICULAR SCHOOL DID NOT APPEAR TO BE RELATED TO THE NUMBER OF STUDENTS ENTERING AGRICULTURAL EDUCATION. TRANSFER STUDENTS FROM OTHER CURRICULUMS WITHIN NORTH CAROLINA STATE UNIVERSITY AND FROM OTHER COLLEGES AND UNIVERSITIES ACCOUNTED FOR 47 PERCENT OF THE AGRICULTURAL EDUCATION STUDENTS. (JM)

AN ANALYSIS OF THE STUDENT POPULATION IN AGRICULTURAL EDUCATION AT NORTH CAROLINA STATE UNIVERSITY

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FOREWORD

The North Carolina Research Coordinating Unit in Occupational Education is pleased to have the opportunity of disseminating this report of a study recently completed in the Agricultural Education Department, School of Education, North Carolina State University, Raleigh, North Carolina.

This publication and others to follow are a result of the partial fulfillment of the commitment of the North Carolina Research Coordinating Unit to:

(a) Stimulate research in occupational education.

(b) Identify problems for research.

(c) Develop a system by which national, state, and local data may be organized and made available.

(d) Maintain communication between people who are working in occupational education and research workers.

(e) Assist in conducting training programs on activities involved in the research-action continuum.

(f) Provide consultant services in state, local and area research developmental activities.

Joe R. Clary
Director

Preface

For some time it has been noted that students in Agricultural Education come from several parts of the state. This varies from one group of students to another. However, in spite of some changes some areas seem to always be represented while other areas rarely ever "produce" Ag Ed students. It was known that certain teachers were found in areas from which a number of students came year after year.

A shortage of teachers of vocational agriculture occurring at the same time that the Ag Ed enrollment reached the lowest numbers since World War II caused us to want to clarify the source of the student population, the major reason being that such an analysis might be helpful in understanding the recruiting problem and the role of the teacher of vocational agriculture in helping keep an adequate supply of teachers for the profession.

Henry Pasour, Graduate Assistant, Agricultural Education, gathered the data necessary for this analysis. Professor T. R. Miller assisted in arranging the data for analysis and writing the report. It is hoped that this report will serve to clarify the source of the student population by identifying some of the factors in the situation. Further study in depth may be needed.

C. C. Scarborough
Head of Department

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INTRODUCTION

The land-grant institutions have had the responsibility for the training of Teachers of Vocational Agriculture since the Nelson Amendment of 1907 and the Smith-Hughes Act of 1917.[1] These acts made available to these institutions funds to be used in the training of Vo Ag teachers. As a result, the land-grant colleges have been the primary source of Vo Ag teachers.[2] North Carolina State University, as a land-grant institution, has accepted the responsibility for training Vo Ag teachers and has been the major source of teachers of vocational agriculture for North Carolina.

A nationwide shortage of Vo Ag teachers has been the picture in the past and is the outlook for the present and the forseeable future. John Russell in his staff study prepared for the Advisory Committee on Education in 1938 recognized a shortage of Vo Ag teachers at that time.[3] In 1965, a study at Ohio State University, which included every state, revealed that 1003 persons entered Vo Ag positions that year, with 120 positions unfilled when school began.[4] Figures from the U. S. Office of Education indicate that a decline in the enrollment of Agricultural Education majors preparing

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[1] Russell, John D., and others, Vocational Education, Staff Study Number 8, G.P.O., Washington: 1938, p. 163.

[2] Ibid., p. 171.

[3] Ibid., p. 172.

[4] Woodin, Ralph J., "Teachers Key Men in Recruitment Drive", The Agricultural Education Magazine, Vol. 38, No. 12, June, 1966, p. 272.

for teaching has occurred every year from 1961 to 1965 - decreasing by almost 9%. At the same time, supervisors have predicted that the number of positions opening annually will increase by 47% from the 1965-66 to the 1968-69 school year. N. C. State University, as a primary source of Vo Ag teachers in the state is directly concerned with an under-supply of teachers in North Carolina.

With a national shortage of Vo Ag teachers, the land-grant institutions of other states cannot be depended upon to provide North Carolina with enough teachers to overcome a shortage in this state. It seems reasonable to suggest that more graduates must be provided by the North Carolina State University Department of Agricultural Education, which means that more students must be recruited. This study took a look at the sources of students for the Agricultural Education Curriculum at North Carolina State University for the purpose of providing a better understanding of the recruiting situation in the state.

Hypothesis

The following hypothesis was formed as a basis for making this study:

> "The homes of present or former Agricultural Education students have not been evenly distributed across the state, either by county or by individual high schools."

Scope of the Study

This study included 554 Agricultural Education students. These 554 students included the graduating seniors from 1954 through 1961, and all undergraduate Ag Ed students from 1962 through the Spring

of 1966. It is important to note that there were many students in the curriculum during the years 1954-1961 who did not graduate in Agricultural Education, and these are not included in this study.

Design of the Report

This report was primarily concerned with three major areas:

1. The distribution of student sources by counties.
2. The distribution of student sources by individual schools.
3. The distribution of sources of transfer students by curriculum and by colleges.

Method of Analysis

The data in this study was obtained from the files of each of these 554 students. A filing system was made consisting of one 3" x 5" card for each high school in North Carolina operating a department of vocational agriculture. Each card contains the following information:

1. The names of each of these 554 Ag Ed students that graduated from that high school.
2. The years which that student was enrolled in Agricultural Education at N. C. State University.
3. For each student which transferred into Ag Ed, the name of the curriculum or college from which he transferred.

The data on the cards was arranged to facilitate keeping it up-to-date and to note the individual's progress in school.

This report is a summary of the data found in the file described above.

PRESENTATION OF FINDINGS

Distribution of Ag Ed Students' Homes by Counties

The homes of Agricultural Education students at North Carolina State University have not been evenly distributed in the counties over the state. Instead, as illustrated in Figure 1, 49.7% of the 554 Agricultural Education students included in this study were from 18, or 18% of the counties. The uneven distribution across the state is also illustrated in Figure 2. There is a larger number of counties included in the 0-4 category than in the other 4 categories combined. A complete listing of individual counties in North Carolina along with the number of Ag Ed students from each is included in Appendix A of this study.

The top counties in North Carolina were those from which 12 or more of these 554 Agricultural Education students came. Columbus County is recognized as the leading county, having sent 37 of these students. These leading ten counties along with the number of Ag Ed students representing each are listed in Table 1.

Table 1. Comparison of the leading ten counties by number of Agricultural Education students from each, 1954-66.

Name of County	No. of AED students
Columbus	37
Johnston	27
Harnett	19
Wayne	18
Duplin	16
Wake	16
Martin	15
Sampson	15
Bladen	13
Union	12

Figure 1: The distribution of 18 counties which provided 49.7% of the Agricultural Education students, 1954-66.

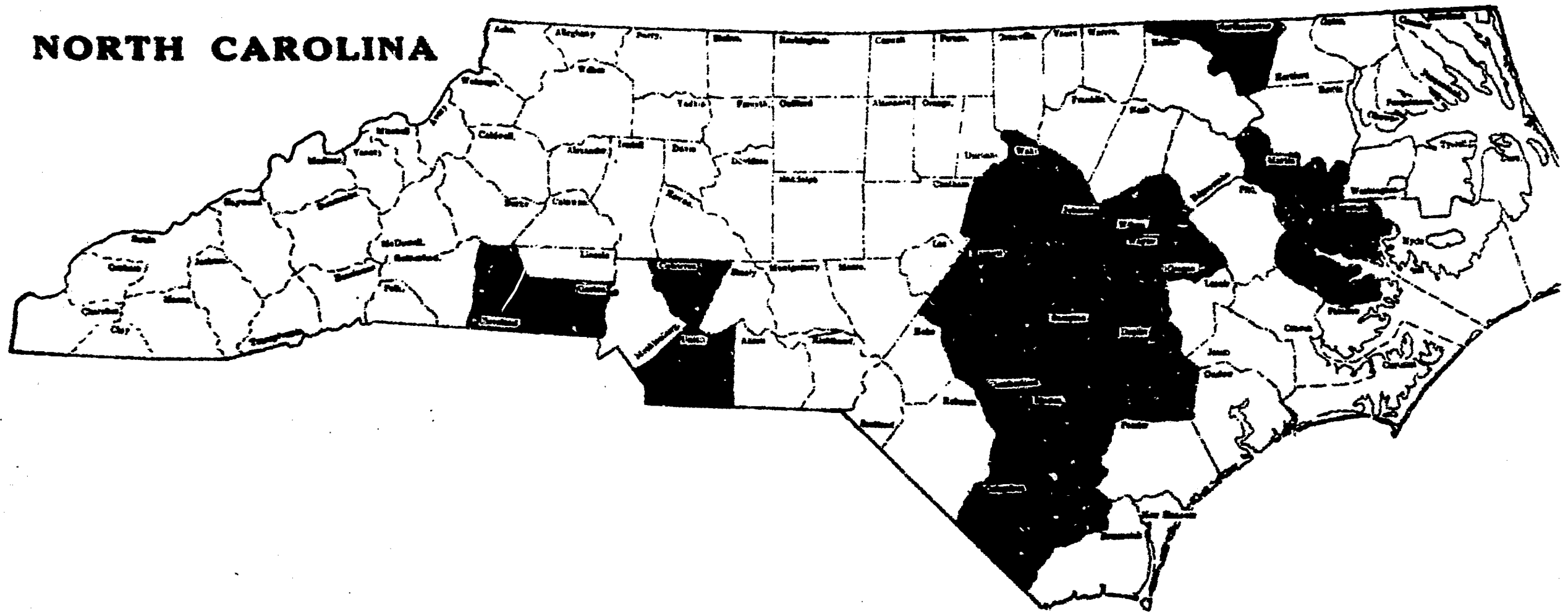
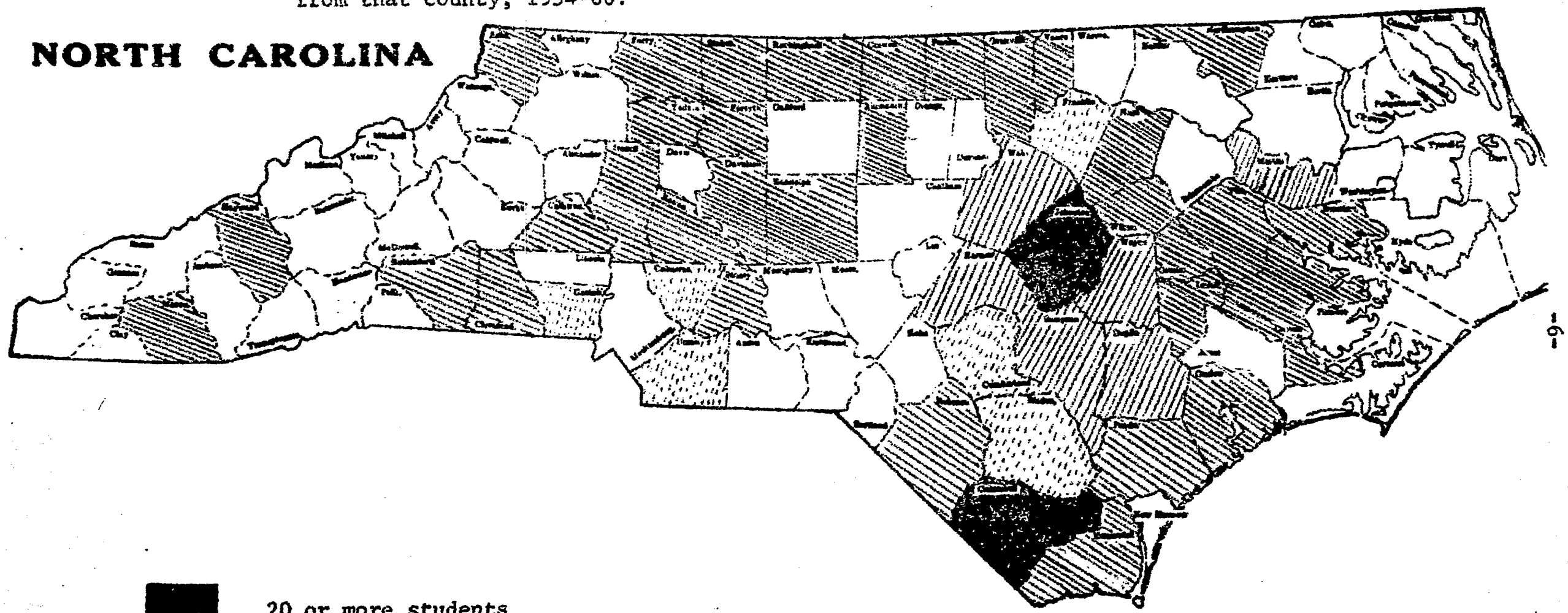


Figure 2: The relative position of each county in the state, in terms of number of AED students from that county, 1954-66.



However, all counties have not been as successful in encouraging boys to enter the Agricultural Education Curriculum. Of the 554 boys represented in this study, none were representatives of ten of the 100 counties of North Carolina. Those ten counties are: Yancey, Scotland, Transylvania, Mitchell, Madison, Davie, Hertford, Polk, Dare, and New Hanover. (Dare and New Hanover have no Vo Ag Programs.)

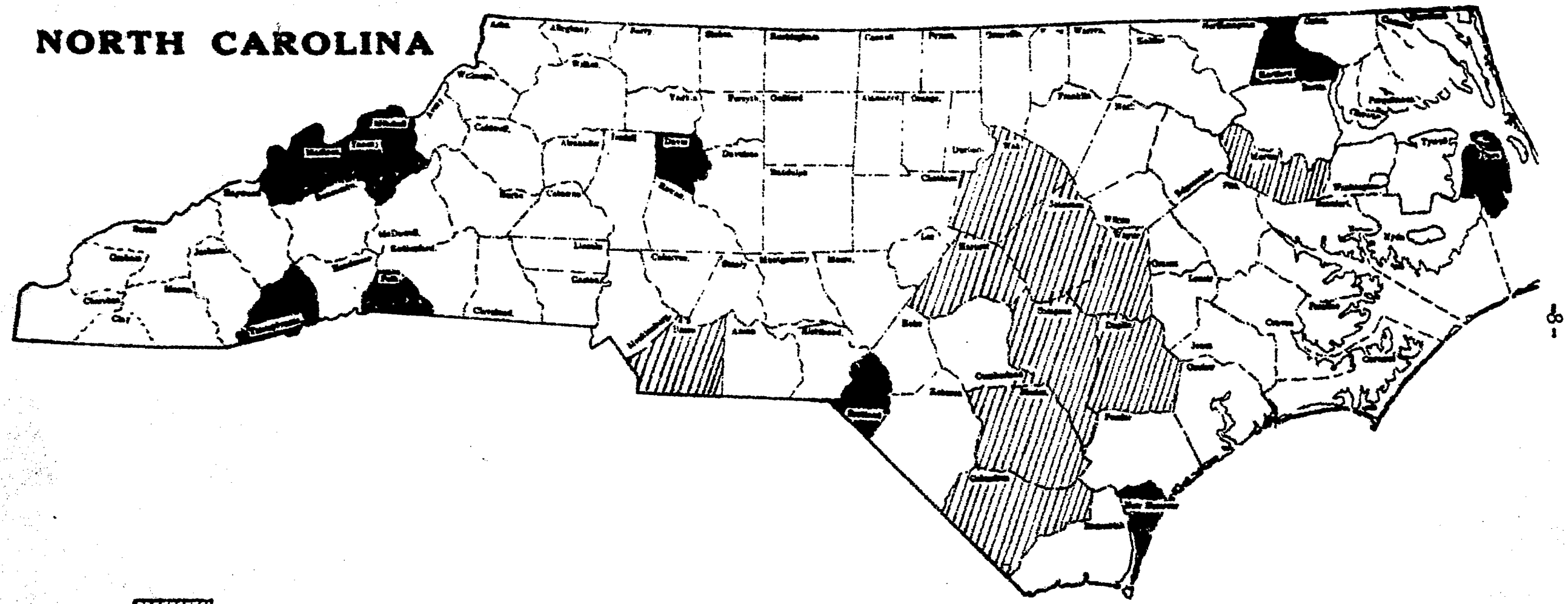
However, the fact that some counties have sent more students does not necessarily mean that these counties are putting forth more effort than the others. As illustrated in Table 2 there tends to be a direct relationship between the leading counties and the number of schools per county. In other words, the counties which have sent the most boys would be expected to do so because they tend to have more Vo Ag Programs than the other counties.

Table 2: The relationship between the number of schools per county and the counties which send the most or fewest students to N. C. State University to study Agricultural Education.

Position of county in state by no. of students sent	Average no. of Vo Ag programs per county
Top ten counties	6.60
Following 8 counties	5.00
Total state average	3.59
Lower ten counties	1.80

The problem of recruiting students in Agricultural Education does not seem to be one of distance. As illustrated in Figure 3, instead of being clustered around Raleigh, the leading counties tend

Figure 3: Counties which have sent the most or the fewest Agricultural Education students to North Carolina State University.



to be clustered south of Raleigh. Also, of the top ten counties the leading county is one of the two most distant from Wake County, the county within which N. C. State University is located; whereas, two counties adjacent to Wake are included in the 0-4 students category. It is interesting to note that the area south of Raleigh is the major tobacco producing area of the state, which suggests that occupational or economic factors of a particular area may be an influencing factor in getting boys to enter the Agricultural Education Curriculum.

Table 3: Comparison of the leading high schools in North Carolina, by number of students represented in the Agricultural Education Curriculum, 1954-66*.

Name of High School	County	No. of Ag Ed Students
Dallas	Gaston	10
Grantham	Wayne	9
Tabor City	Columbus	8
Fair Bluff	Columbus	6
Williams	Columbus	6
Wallace-Rose Hill	Duplin	6
Benson	Johnston	6
Burgaw	Pender	6
Elizabethtown	Bladen	5
Central	Cumberland	5
Boone Trail	Harnett	5
Franklin	Macon	5
Robersonville	Martin	5
Piedmont	Union	5
Chocowinity	Beaufort	4
Maury	Greene	4
Mount Pleasant	Cabarrus	4
Bartlett-Yancey	Caswell	4
No. 3 Township	Cleveland	4
Nakina	Columbus	4
Stedman	Cumberland	4
Stem	Granville	4
Lillington	Harnett	4
Waynesville	Haywood	4
Glendale	Johnston	4
Meadow	Johnston	4
Williamston	Martin	4
Coopers	Nash	4
Woodland	Northampton	4
Clement	Sampson	4
Knightdale	Wake	4

*A continuation of this list down to 1 student per school is given in Appendix B.

Distribution of Ag Ed Students' Homes By Schools

To recognize only the county effort would be an injustice to many schools. Thirty-one schools in North Carolina are recognized for their individual efforts, having sent 4-10 boys to study Agricultural Education at N. C. State University during the time period included in this study. These schools, their county, and the number of students from each school during this period, are given in Table 3 (page 10).

Other recognition due to the leading 8 schools can be seen in Table 4. The table shows the percentage of the total number of students from the counties represented by these 8 schools that each of the 8 schools provided. In each case, these schools provided a larger percentage of the county's representatives than would normally be expected. This however, again does not necessarily indicate

Table 4: Comparison of eight schools by percentage of county's representatives in the Agricultural Education Curriculum at N. C. State University, 1954-1966.

Name of School	No. of Vo Ag Depts. in county in which school is located	% of the county's representatives provided by this school
Dallas	3	91.0
Grantham	11	50.0
Tabor City	10	21.6
Fair Bluff	10	16.0
Williams	10	16.0
Wallace-Rose Hill	12	37.0
Benson	12	25.0
Burgaw	4	50.0

that these schools are working harder than others in the county. Other factors could have an influence on the number of students from a particular school, such as size of the school, or the population characteristics (per cent rural, urban, etc.) of the particular area.

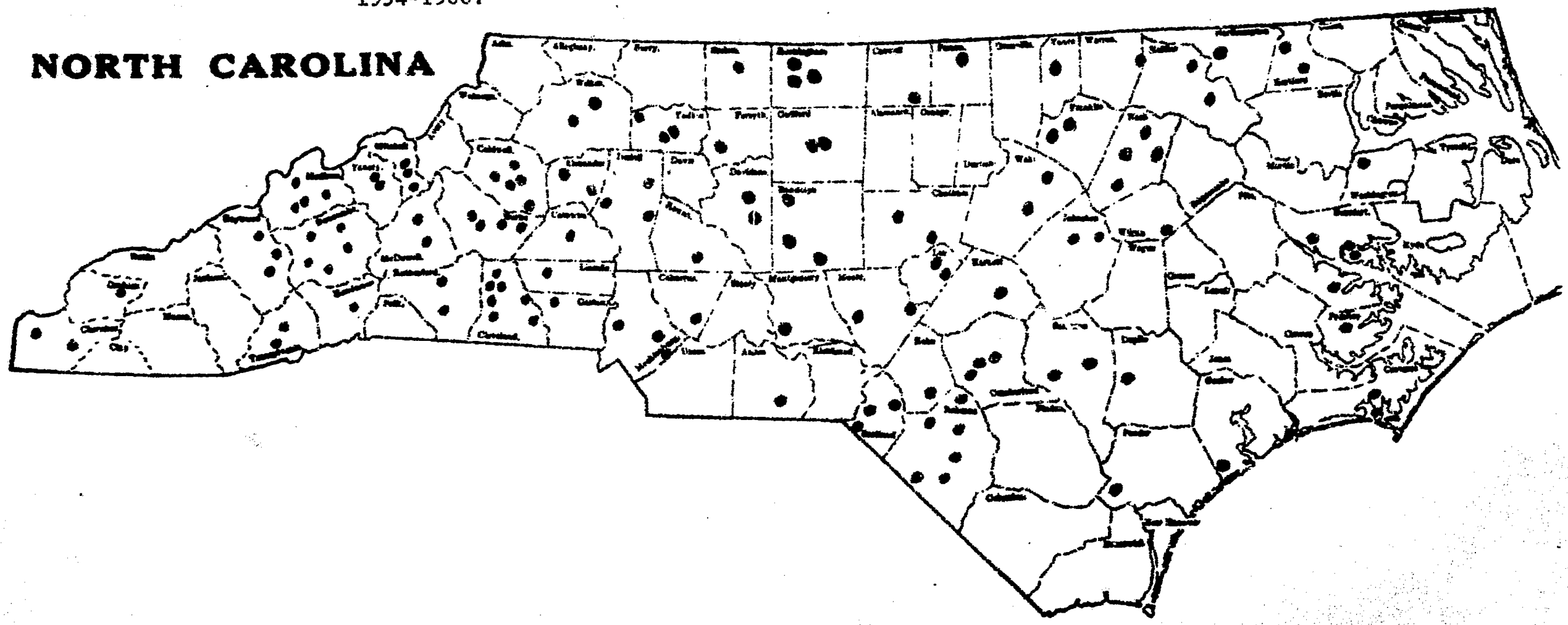
Just as with the distribution by counties, we do not have an equal distribution of students by high schools over the state. Of the 358 white Vocational Agricultural Departments operating in North Carolina in 1966, 128 of these, or 35.8% were not represented by any of the 554 Ag Ed students.

Why were there no representatives from these 128 Vocational Agriculture Departments during this time period? One may try to answer this question by asking another -- "Has there been a frequent teacher change in these schools?" If a department changes teachers rapidly, the particular teacher may not have as much influence on the boys as a long-term teacher who has been established in, and is accepted as a part of the community.

However, this factor does not seem to be the main reason why these 128 departments have not been represented. At least one of the Vocational Agriculture teachers at each of 64 of these schools have been at that school during the entire period of this study. An additional 24 of these schools have had the same Vo Ag teacher for 10-15 years during this period.

Again, the reason why these departments were not represented during this period does not seem to be one of "distance" from N. C.

Figure 4: The distribution of 128 Vo Ag Departments that were not represented by AED students, 1954-1966.



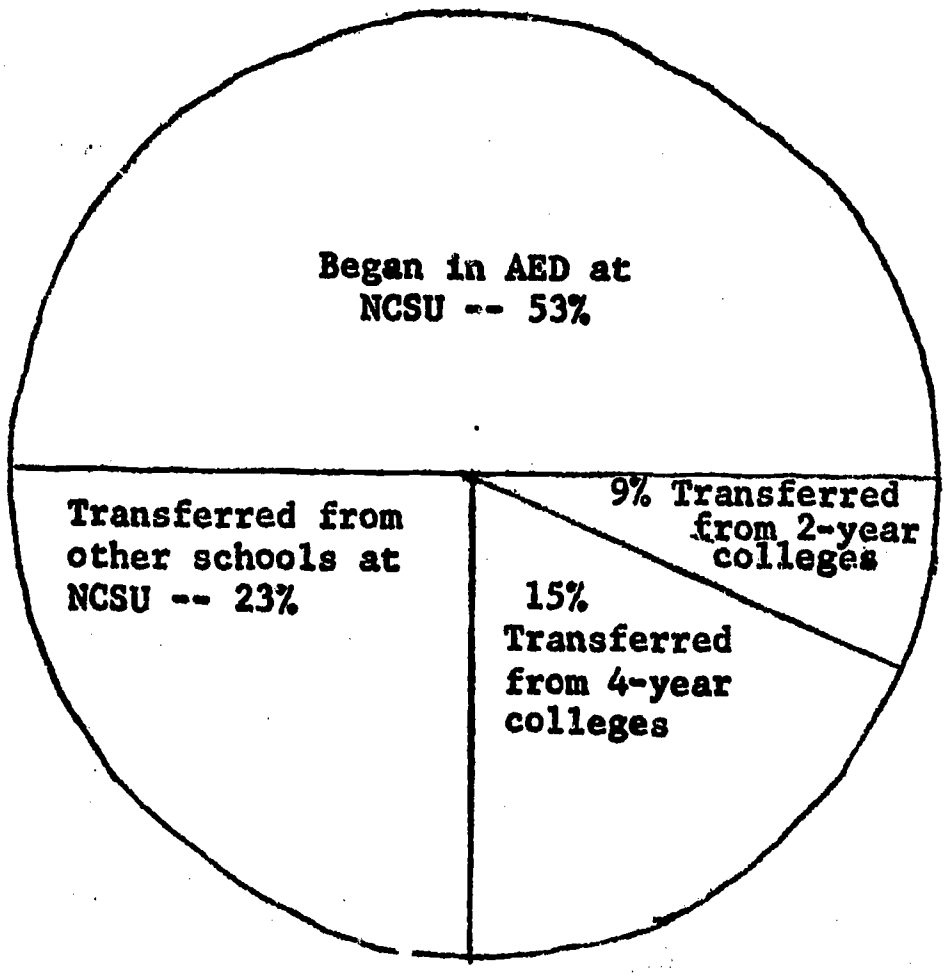
Note: Schools are concentrated near Wake County, as well as in the western portion of the state.

State University. As shown in Figure 4, these schools are distributed in the nearby counties as well as the more distant ones.

Distribution of Sources of Transfer Students

All Agricultural Education students do not come directly from their high schools; in fact, 47% do not. These students transfer from junior colleges and senior colleges, but mostly from other schools within N. C. State University. Figure 5 illustrates the percentage of transferring students and where they transfer from. Most of these transfer students from other schools of N. C. State University were from areas in General Agriculture; however, a sizable number of students have transferred from areas of engineering, especially mechanical.

Figure 5. The percentage of Agricultural Education students that began in AED, and those that transferred into AED, by type of school from which transferred.



Transfer students from other colleges came from 12 junior colleges and 15 senior colleges. A listing of colleges represented along with the number of students from each is given in Table 5.

Table 5: The eight colleges from which 5* or more students have transferred into the Agricultural Education Curriculum, 1954-66.

Name of School	Number of Students
Campbell	36
Wingate	16
Louisburg	12
ASTC	9
East Carolina	7
Gardner-Webb	5
Western Carolina	5
Chowan	5

*Schools represented by 1-4 students: Mars Hill, UNC, Pineland Jr. College, Presbyterian, Catawba, Lees-McRae, Lenoir Rhyne, Pfeiffer, Clarke, Pembroke, Atlantic Christian, Mitchell, Clemson, Elon, Brevard, Spartanburg, Mt. Olive, Charlotte

SUMMARY

This was a study of the source of students for the Agricultural Education Curriculum at North Carolina State University. The study included 554 students -- the graduating seniors from 1954 through 1961, and all undergraduate Ag Ed students from 1962 through the Spring of 1966, a total of 16 classes of Ag Ed students. The findings of this study are summarized in the following paragraphs.

Agricultural Education students' homes have not been distributed evenly across the state. Eighteen counties supplied 49.7% of the 554 students represented in this study. Also, there were 10 counties not represented by any of these 554 students.

There was also a variation in the number of students from high schools which have Vo Ag Departments. Numbers of students from individual schools ranged from a high of 10 from one school to a low of 0 from 128 schools. There does not seem to be a clear relationship between the number of students per school and the number of years a particular Vocational Agriculture teacher has been at that school. There have been very few boys in the Agricultural Education Curriculum in the past from high schools without Vo Ag programs. Only 10 of these schools were represented by the students in this study.

Transfer students have made up a large portion of the Agricultural Education students. Forty-seven per cent of the Agricultural Education students transferred into the curriculum, more than half of which came from other curriculums within N. C. State University.

It would be impossible to conclude that this study has answered all questions related to problems in recruiting Ag Ed students.

However, the data in this study does suggest that there are problems which have resulted in this uneven distribution of students over the state, and that the discovery of the nature and the correction of these problems would be an aid to the improvement of the recruiting process.

Appendix A. The 554 Students in Ag Ed, the graduates of '54 through the freshmen of '66 by counties

Alamance	6	Cumberland	11	Johnston	27	Randolph	6
Alexander	1	Currituck	1	Jones	3	Richmond	4
Alleghany	2	Dare	0	Lee	4	Robeson	8
Anson	4	Davidson	8	Lenoir	8	Rockingham	7
Ashe	5	Davie	0	Lincoln	2	Rowan	6
Avery	4	Duplin	16	McDowell	3	Rutherford	6
Beaufort	9	Durham	4	Macon	5	Sampson	15
Bertie	2	Edgecombe	3	Madison	0	Scotland	0
Bladen	13	Forsyth	5	Martin	15	Stanly	7
Brunswick	7	Franklin	10	Mecklenburg	3	Stokes	5
Buncombe	2	Gaston	11	Mitchell	0	Surry	7
Burke	2	Gates	2	Montgomery	2	Swain	2
Cabarrus	10	Graham	2	Moore	2	Transylvania	0
Caldwell	3	Granville	8	Nash	8	Tyrrell	1
Camden	1	Greene	9	New Hanover	0	Union	12
Carteret	2	Guilford	3	Northampton	9	Vance	8
Caswell	5	Halifax	4	Onslow	6	Wake	16
Catawba	5	Harnett	19	Orange	2	Warren	4
Chatham	3	Haywood	5	Pamlico	1	Washington	2
Cherokee	1	Henderson	4	Pasquotank	1	Watauga	2
Chowan	3	Hertford	0	Pender	8	Wayne	18
Clay	1	Hoke	1	Perquimans	2	Wilkes	4
Cleveland	9	Hyde	1	Person	5	Wilson	9
Columbus	37	Iredell	6	Pitt	7	Yadkin	5
Craven	5	Jackson	2	Polk	0	Yancey	0

Appendix B. High Schools in North Carolina represented by 1 to 3 Ag Ed students, by counties

County	High Schools represented by: 3 students	2 students	1 student
Alamance		Eastern Southern	*Alexander-Wilson Western
Alexander			Hiddenite
Alleghany			Piney Creek Sparta
Anson		Anson High	*Ansonville High *Lilesville
Ashe		*Jefferson	Beaver Creek *Lansing *Riverview
Avery		Newland	Cranberry Crossnore
Beaufort	Bath	Pantego	
Bertie			*Windsor *Colerain
Bladen	Bladenboro Clarkton		Tar Heel White Oak
Brunswick	Waccamaw Bolivia		Shallotte
Buncombe			A. C. Reynolds *Lee Edwards
Burke		Glen Alpine	
Cabarrus		Harrisburg	Odell Winecoff
Caldwell	Hudson		
Camden			Camden
Carteret		*Newport	*Cobb-Memorial
Catawba	Maiden		Bandys Bunker Hill

*Now Consolidated into another school system
**No Vo Ag program in these schools

County	3 students	2 students	1 student
Chatham			Pittsboro Central Jordan-Matthews
Cherokee			Andrews
Chowan		Chowan	**Edenton
Clay			Hayesville
Cleveland		Burns-Fallston	Belwood Mooresboro **Central
Columbus	*Chadbourn	*Cerro-Gordo	Acme-Delco
	Hallsboro		*Evergreen
Craven		Farm Life Jasper	Dover
Cumberland		Pine Forest	
Currituck			Knapp
Davidson	Welcome	Denton *Churchland	Ledford
Duplin		*Chinquapin	*Beulaville North Duplin *Warsaw *Wallace
Durham		*Bethesda	Northern Southern
Edgecombe		North	South
Forsyth			East Senior High *Kernersville North Forsyth *Old Town **Griffith
Franklin	Edward Best	Bunn Epson Youngsville	**Mills
Gaston			Tryon
Gates			Gates County *Gatesville

County	3 students	2 students	1 student
Graham		Robbinsville	
Granville		*Oxford	*Berea South Granville
Greene	Greene Central		*Walstonburg *Snow Hill
Guilford			Northeast *Monticello Southeast
Halifax	Enfield		Aurelian Springs
Harnett	Angier Coats	Dunn	Benhaven Lafayette
Haywood			Fines Creek
Henderson		Edneyville	*Dana Hendersonville
Hoke			Hoke County
Hyde			*Englehard
Iredell		Troutman Union Grove	Celeste Henkel Central
Jackson			Glenville
Johnston	Cleveland Princeton	Micro Selma	Corinth-Holder Four Oaks Pine Level
Jones	Jones Central		
Lee	Greenwood		Sanford Central
Lenoir		Pink Hill	North Lenoir *Moss Hill *Lagrange *Contentnea *Deep Run Southwood
Lincoln			Rock Springs *North Brook
McDowell		Glenwood	Old Fort

County	3 students	2 students	1 student
Mecklenburg		West	North
Montgomery			*Candor *Biscoe
Moore			Aberdeen North
Nash		Bailey Spring Hope	
Northampton	*Woodland **Severn		*Woodland-Olney *Jackson *Rich Square
Onslow	Richlands		Jacksonville Swansboro White Oak
Orange			*Chapel Hill *Aycock
Pamlico			**Stonewall
Pasquotank			Central
Pender		*Long Creek-Grady	Penderlea
Perquimans		Perquimans	
Person	Roxboro	Helena	
Pitt	Bethel	Grifton	Chicod Farmville
Randolph		Liberty Ramseur Randleman	*Franklinville
Richmond		Ellerbe Rockingham	
Robeson		Magnolia Orrum	Fairmont Pembroke Prospect
Rockingham			Bethany Ruffin China Grove

County	3 students	2 students	1 student
Rowan		*Mt. Ulla	*Rockwell *Granite Quarry *Woodleaf *Sherrills-Ford
Rutherford		Central	*Tri-Hi *Spindale East Sunshine
Sampson	Clinton	Garland Hobbton	**Piney Grove *Halls *Plainview **Ingold
Stanly		North *Norwood *Oakboro	*Stanfield
Stokes		*Walnut Cove	South **King **Germanton
Surry		*Mountain Park	East *Westfield *Pilot Mountain *Flat Rock **Elkin
Swain		Swain Co. High	
Tyrrell			Columbia
Union		*Wingate	Forest Hills *Prospect *Fairview **Indian Trail *Wesley Chapel
Vance	Zeb Vance	Middleburg	**Townsville
Wake	Apex	Fuquay Springs *Rolesville	Cary Millbrook Wakelon *Wendell *Green Hope
Warren		John Graham Norlina	
Washington		Creswell	

County	3 students	2 students	1 student
Watauga		*Cove Creek	
Wayne		Fremont Rosewood *Mt. Olive	*Pikeville *Eureka New Hope
Wilkes	East Wilkes		West Wilkes
Wilson	Lucama Rock Ridge	Elm City	John Smith
Yadkin	West Yadkin		Boonville East Bend