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ABSTRACT

Students from 24 southern 1862 and 1890 land-grant universities were mailed questionnaires focusing on 5 topics of concern to persons in agricultural education administration, teaching, and counseling--family and personal backgrounds, high school and college experiences, work and employment experiences, personal goals (aspirations), and attitudes toward selected issues related to agriculture and agricultural occupations. A return rate of 60% from 1890 schools and 74% from 1862 schools provided a sample of 3,178 students, of whom 27.2% were female, 5.3% were black, 13.7% were married, 58% were juniors and seniors, 44.1% were oldest-youngest-only child, 62.8% grew up on a farm or in a rural area smaller than 10,000 population, and 14.1% came from a city 500,000 or larger. Almost all the students had been employed in a part-time or full-time job which was agricultural but nonfarm in nature. Sixty-five percent of the students were influenced in their choice of an agricultural major by family members. The virtually universal reason for choosing an agricultural major was to prepare for a career. That agricultural students are considerably different from their predecessors of a generation ago was vividly portrayed by the sizeable proportions of women and urban students, and the increased number of black students. (BRR)

Higher Education in Agriculture

Students at Southern Land-Gran

JULY 1982

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PREFACE

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Higher Education in Agriculture:

Students at Southern Land-Grant Universities

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INTRODUCTION

Agriculture has been referred to as "the first science—the mother of sciences, ...a science which makes human life possible" (13). The advancement of agricultural science allowing the agricultural industry to progress with the challenge to assure an adequate supply of high quality food is dependent on a stable flow of human resources in the form of well educated recruits into agriculture. Agriculture in both the South and the Nation is dependent upon the recruitment of youth and on their training for entry into the wide variety of contemporary agricultural occupations and careers. Only so long as youth of high ability and motivation are attracted to agriculture can a productive, adaptive, food industry be maintained. For more than a century Land-Grant universities in the United States have contributed significantly to this process.

The Land-Grant System was created following passage of the Morrill Act of 1862, which authorized establishment of a state Land-Grant college in each state. This legislation was designed to provide educational opportunities to youth from farm backgrounds and the working class. Instruction emphasized agriculture and the mechanical arts as the foundation undergirding a strong agricultural production and marketing system, and was an important link in providing trained young people for agricultural occupations.

The second Morrill Act, passed by the U.S. Congress in 1890, expanded federal resources for agricultural training and stipulated that equivalent opportunities in higher education be provided black youth (14). Seventeen Southern and Border States, in areas where concentrations of black citizens lived, designated a second state Land-Grant college. Because black people were concentrated in

particular areas, none of the 1890 institutions is located in Appalachia or in the Ozarks. Almost all were originally normal schools or teachers colleges and none received the level of state support provided the initial 1862 schools (22).

AGRICULTURAL EDUCATION TODAY

In recent years there has been increasing demand for useful and relevant college programs as students have come to place renewed emphasis on education specifically tailored for occupations. Traditionally, Land-Grant universities have emphasized the practical and useful aspects of education and their schools of agriculture have offered a broad choice of basic and applied curricula. As new demand has appeared, many students have found the kinds of educational experiences desired within the available agricultural curricula.

Increased student interest in agricultural education was a nationwide phenomenon during the last two decades. Undergraduate enrollments in schools of agriculture increased by 199 percent during the 15 years from 1961 to 1976 (15). These increases included more women and blacks majoring in agricultural curricula. Increased enrollments of black students are particularly significant, given the dramatic decline that has occurred in black land ownership and farm operation in the South (16). This growth in the number of black agricultural students has been most marked at the 1890 universities. Between 1974 and 1975 alone, agricultural enrollments at these schools increased by 37 percent, from 1,424 to 1,851 students (22). But in total numbers, black agricultural students still represent a small proportion of all agricultural students.

Within the 10-year period, 1967-1976, the number of women studying agriculture has increased phenomenally (20). The average agricultural enrollment of women in all Land-Grant colleges in the United States during the 1976-77 academic year was approximately 25 percent. The increase has occurred at both 1862 and 1890 schools. Although the number of women students enrolled in agriculture at 1890 schools was only 132 in 1975, Seals reports that this represents a 91 percent increase between 1974 and 1975 (22).

By the close of the decade the enrollment picture for agriculture had changed. Enrollments peaked during the 1977-78 academic year. Nationwide, undergraduates decreased from the high of more than 98,000 to 92,833 in 1980 (19). However, the proportion of women enrolled in agriculture remained relatively stable at 36 percent; while the number of minority students showed a slight

increase. Agricultural enrollments have reflected the same downward trends as have university enrollments generally. A number of factors contribute to this turn-around. One major cause is the shrinking size of the annual pool of high school graduates (21). This trend is projected to continue throughout the decade and suggests an increased demand for agricultural graduates during the 1980's.

OPPORTUNITIES IN AGRICULTURAL OCCUPATIONS

Agriculture, in the eyes of a growing number of students, is an area offering attractive occupational and career opportunities. Two interrelated phenomena may underlie this perception. First, there has been a fundamental change in the structure of U.S. agriculture as farms are fewer, larger, and require higher capital investment. Today greater recognition is given to the important role that agriculture plays on the national and world economic and political scenes (12). Second, as the "psychology of surplus," is replaced by the "psychology of shortage," the importance of food production and distribution is underscored. The result is an increasing consciousness of agriculture and a renewed student interest in agricultural majors available at Land-Grant universities.

An increase in specialization and differentiation of agricultural occupations is reflected in a rising demand for personnel with technical skills and advanced managerial training (23). Jobs have proliferated in off-farm industries that supply and service the farmer, while independent farmers themselves have diminished in number (1). Vertical integration and corporate farming have effectively eliminated the family farm as a viable alternative for many young people (3). Capital demands of modern agriculture often discourage the entry of the young into farming. The interests and aspirations of these youth frequently are deflected into farm-related occupations in the agribusiness sector (10). These occupations usually resemble those of the larger society; that is, they are white collar jobs indirectly associated with the production enterprise (4). Farming and agriculture are viewed less as a way of life and more as a growing source of jobs and occupational advancement.

As the spectrum of agricultural occupations has broadened, so has the range of people seeking agricultural careers (17). Increasingly, agricultural students have urban backgrounds and are female (9). In the not-too-distant past, an agricultural student was generally the son of a farmer, possessing practical experience in farming. Today, an increasing number of agricultural students are not farm reared (18).

For this reason the teaching of agricultural science now needs to include more experiential training programs to acquaint students with even the most basic agricultural concepts and practices (6).

While minorities generally may have broader choices in today's agricultural job market, the growing number of women training in agriculture may encounter difficulty in finding employment in a traditionally conservative, male-dominated agribusiness (8). Also, the tendency of women to concentrate in animal science and/or ornamental horticulture may curtail their occupational opportunities because many of the new jobs are in business and related areas or require managerial skills (11,14). As a result, these individuals may not be in the best position to take advantage of new opportunities associated with the increasingly specialized needs of the agricultural industry. The growth in agricultural opportunities is centered in the agribusiness corporations that provide capital, chemicals, machinery, and a wide range of services to farmers.

A survey conducted in 1976 among school of agriculture administrators provides insight into their perceptions of the future need for college graduates with agricultural training (23). The survey revealed some concern that the heavy increases in agricultural enrollments of the early 1970's might result in a surplus of graduates, which could create a weakening of the job market in some areas while demand remains strong in others. Assuming that the rate of student enrollment stabilized at its current level, they saw the demand for agricultural students trained in agricultural business, food science, agricultural education, agronomy, plant production, animal production, poultry science, and agricultural engineering as remaining strong. A surplus of graduates at current matriculation levels was anticipated in the areas of general agricultural science, fisheries and wildlife, landscape architecture, horticulture, environmental studies, animal science, forestry, conservation, and botany. However, these surpluses may not occur if industry and government continue to expand their agricultural activities. Such action might serve to broaden the demand for individuals trained in these academic disciplines as well.

There have been changes in the occupational structure of U.S. agriculture in the past 30 years which have influenced the curricula offered by universities with agricultural programs. At most Land-Grant universities in the 1950's, the number of curricula available to agricultural students was limited to about a half dozen. Today, many schools offer three or four times that many. One listing of agricultural curricula includes 32 offerings (see Appendix A) (23).

OBJECTIVES OF THE STUDY

The primary purpose of this report is to provide a profile of students enrolled in the varied curricula offered by schools or colleges of agriculture that are responsible for educating the majority of students studying agriculture in the South. The intention is to offer a detailed profile of the "new generation" of agricultural students reflecting the characteristics of the expanded and changing agricultural enrollment of the 1970's. Designers of agricultural curricula, advisors of youth making educational and occupational plans, and employers of agricultural graduates should find this broad-ranging and systematic profile useful. Certainly the insights gained into the aspirations and expectations of agricultural students should reveal emerging themes and trends pertinent to agricultural education.

STUDY DESIGN

Source of Data

The scope of this research report is limited to students attending Land-Grant universities in the South. The U.S. Census definition of the South used here includes 13 states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. Within these states a dual system of agricultural education reflects the unique cultural and historical circumstances which led to passage of the second Morrill Act in 1890. Because of the differences between the two types of universities, particularly regarding the composition and size of their student bodies, each type of institution (1862 and 1890) was considered an independent population in the design of the study. (See Appendix B for a listing of 1862 and 1890 universities by state). During the 1976-1977 academic year, undergraduate enrollment lists for each school or college of agriculture were obtained for all Land-Grant universities in the region (7).

On a precautionary note it must be emphasized that this study does *not* include all students majoring in agriculture in the South, although it is inclusive of the vast majority. Students enrolled at regional state colleges and universities offering instruction in agriculture are not included. These schools, which generally have only a few agricultural faculty and a limited number of agricultural courses, do enroll several thousand additional students who have interest in agriculture and are preparing for agricultural occupations.

1862 Sample. The 1862 Land-Grant universities are the predominantly white institutions with large student bodies, including sizeable student enrollments in schools or colleges of agriculture, see Appendix C. Enrollments in 1977 ranged from 691 agricultural students attending the University of Arkansas at Fayetteville to 4,151 agricultural students attending Texas A&M University. The median enrollment was approximately 1,500 students. Because of the large number of agricultural students at these universities, a 15 percent random sample was drawn from the enrollment lists for each school. This resulted in a sample of 3,304 students after adjusting for students who had resigned from school or changed to a non-agricultural curriculum after the beginning of the semester or for cases where an insufficient address was provided.

1890 Sample. The 1890 Land-Grant universities are the predominantly black institutions. A complete enumeration of all agricultural students was attempted at these universities. Most of the 1890 schools were small in both total enrollment and in agricultural enrollment. There were as few as 16 agricultural students at Langston University (Oklahoma) and as many as 201 students at Alcorn State University. The median number for all 1890 schools was approximately 110 students.

Data Collection

A questionnaire was developed focusing on five major lines of inquiry. These were related to various concerns of persons in agricultural education administration, teaching, and counseling. The topics were: family and personal backgrounds, high school and college experiences, work and employment experiences, personal goals (aspirations) and attitudes toward selected issues related to agriculture, and agricultural occupations.

During the spring of 1977, a cover letter explaining the survey and a questionnaire were mailed to the identified sample of 1862 and 1890 agricultural students. Subsequent followup efforts to obtain completed questionnaires included the mailing of a second copy of the questionnaire with an appropriate cover letter and a later mailing of a reminder postcard to those who had not returned questionnaires to that point. Some variation in timing of these three mailings was unavoidable primarily due to different school schedules and quarter versus semester systems. However, this variation is not considered to have affected the quality of the data.

Return rates were 60 percent for students attending 1890 schools and 74 percent for those attending 1862 universities, see Appendix C.

Considerable variation in response rates occurred among both 1862 and 1890 institutions.

In addition to the student survey, a special questionnaire was mailed to the dean or head of agriculture in every 1862 and 1890 Land-Grant university in the study. Information was requested about the institutional context within which the students were being trained. Institutional questionnaires were received from 22 of the 24 institutions in the study.*

Design of Report

There are three basic sections to this report. The first section is an overview of the institutional context of higher education in agriculture as it exists at Southern Land-Grant universities. A descriptive profile of contemporary agricultural students at these Southern Land-Grant universities is the focus of the second section. Profiles for 1862 and 1890 students consider family background and personal characteristics, high school and college experiences, work experiences, adult goals, and attitudes. The third section consists of a number of short narratives that profile special student types such as females, blacks, and those expecting to be farmers and farm owners.

I. INSTITUTIONAL CONTEXT

According to information reported by the National Association of State Universities and Land-Grant Colleges, enrollments in member colleges or schools of agriculture have increased dramatically (15). Both college administrators and teachers have become aware that the student composition of this expanded enrollment is different from that of the past. Responding to this change in students and to the challenges of contemporary agriculture and rural society, these Land-Grant universities have assumed new tasks and developed a wider variety of academic curricula. The following represents an overview of what these Land-Grant universities providing higher education in agriculture were like during the 1976-1977 academic year.

Enrollment and Enrollment Changes

Land-Grant colleges and universities included in this study varied in size from a student body of about 1,200 to one of almost 30,000.

*Completed questionnaires were not obtained from the University of Arkansas—Fayetteville and North Carolina A&T University.

Average total enrollment for institutions providing enrollment data was 13,800. Total enrollment differed substantially between the 1862 and the 1890 institutions with averages being 20,750 and 3,850 respectively. The largest student body in an 1890 institution was at Southern University in Louisiana where total reported enrollment was 9,200. The smallest student body in an 1862 institution was 10,814 at Clemson University in South Carolina.

As a proportion of total enrollment, students majoring in agriculture ranged from a high of almost 24 percent at Texas A&M University to a low of 1.5 percent at Southern University. The total number of agricultural majors reported for all schools was 28,454, with Texas A&M providing about 20 percent of the total. Fort Valley State College was the only predominantly black institution where agricultural majors exceeded 10 percent of total enrollment, while at only five of the predominantly white institutions—Mississippi State, North Carolina State, Oklahoma State, Texas A&M, and Virginia Polytechnic Institute—was enrollment in agriculture equal to or greater than 10 percent of total enrollment.

Nine of the reporting institutions were found to have experienced increases of more than 100 percent in agricultural enrollment from 1970 to 1977. At Alabama A&M the increase was 291 percent, from 55 to 160 agricultural majors. Other institutions where enrollment in agriculture more than doubled were Alcorn A&M, 130 percent, Fort Valley State, 143 percent, University of Kentucky, 109 percent, Mississippi State, 135 percent, Texas A&M, 118 percent, and Virginia Polytechnic Institute, 166 percent. Decreases were noted only at two institutions—University of Arkansas, Pine Bluff, -25 percent, and Prairie View A&M, -14 percent. The average increase for 1890 institutions was 80.3 percent for the 7-year period.

Enrollment of Women in Agriculture

Females constituted a significantly larger proportion of the agricultural majors in 1977 than they did in 1970. Growth in the number of women students in agriculture was phenomenal at schools such as the University of Tennessee which went from 62 to 466 women in 7 years. The average enrollment of females per school increased from 65 in 1970 to more than 280 in 1977. Many of the schools registered gains in women students in the 200 to 400 percent range. Not only did the number of women students increase, but they also accounted for a larger proportion of the total agricultural enrollment. In only four of the institutions did females constitute more than 20 percent of the

agricultural majors in 1970; but by 1977, thirteen of the institutions reported female agricultural majors had reached or surpassed this level. Eleven of these were 1862 schools. At Texas A&M, where there were no women agricultural majors in 1970, women constituted 24 percent of all agricultural majors by 1977. The increase of female students in agricultural curricula has been much less dramatic at 1890 universities, but modest increases occurred there too.

Administrative Structure and Degree Programs

In some colleges and universities where enrollments in agriculture and home economics have been traditionally small, the two programs are often combined in the same administrative unit. Institutions in this study where majors are offered in both agriculture and home economics are about equally divided between those with the two types of programs in the same administrative unit and those with separate units. As might be expected, the largest home economics enrollments were in those institutions where home economics was administratively separate from agriculture. However, at two of the institutions where home economics and agriculture were located in the same administrative unit (college), enrollment in home economics was only slightly below the average for all institutions, these were Louisiana State and Mississippi State universities.

Undergraduate degrees in agriculture were listed by participating institutions under 92 different titles. These titles represented a wide array of subject matter ranging from general agriculture to zoology and including several non-traditional agricultural majors such as park administration, landscape architecture, medical technology, and rural sociology. With 92 titles there occurred several name variations for the same specialty. For example, there were four majors with entomology in the title. Eight titles were reported using the words agricultural engineering and/or mechanization.

Nineteen different majors were listed as those having the largest enrollments. Heading the list was animal science, which was indicated by 18 institutions as one of the three largest majors. Other majors listed by four or more of the institutions as one of the three largest were agricultural education, agricultural economics, horticulture, plant and soil science, forestry and wildlife, and pre-veterinary medicine. These majors, however, were not evenly distributed between 1890 and 1862 schools. Agricultural education was identified as one of the largest majors only at 1890 schools—six of them. (In a number of 1862 institutions this curriculum was in the School of

Education and those majors were not included in the present study.) Horticulture, forestry, and wildlife were large majors only at 1862 schools—five schools for the first two and eight schools for the latter. Agricultural economics was listed by three 1862 and four 1890 schools, but plant and soil science was listed only by 1890 schools. Other "largest enrollment" majors reported by at least one institution were biological sciences, dairy science, agronomy, food and resource economics, electric technology, natural resources, industrial education, general agriculture, landscape architecture, and rural development.

Significant enrollment increases were reported by five institutions for all their majors. Other schools reported increases in 21 different majors, but only eight of these were listed by two or more schools: animal science, agricultural economics, plant and soil science, forestry and wildlife, ornamental horticulture, horticulture, food science, and pre-veterinary medicine. Enrollment decreases were reported by two 1862 schools in dairy science, by three 1890 schools in agricultural education, by one 1890 school in electric technology, and by one 1862 school in poultry science.

Recruiting, Financial Aid, Residential Background, Transfers

Of the several new student recruiting techniques initiated by the institutions since 1970, the most common involved some type of organizational change, reported by nine schools. These were primarily the formation of recruiting teams, the appointment of an assistant dean with recruiting as part of the job description, or the delegation of recruiting responsibility to a faculty member. Six of the schools—three 1862 and three 1890—mentioned some new form of personal contact with prospective students and five had initiated special campus visitation days for prospective students.

Fifty percent or more of the students majoring in agriculture were on scholarships or were receiving some kind of financial aid at ten of the reporting institutions; eight of these were 1890 schools. Financial assistance of some kind—scholarships, loans, student aid—was fairly widespread among all schools. Only four of the institutions reported that less than 10 percent of their agricultural students were receiving such assistance.

These data provided by the deans or heads of agricultural units at 22 of 24 Land-Grant universities in the South reveal the wide variation that exists among them as they attempt to meet the needs for higher education in agriculture for their state and area. There is no single

model or prototype that adequately describes these institutions. This must be borne in mind as we develop a profile of agricultural students. Obviously, differences exist between schools regarding student characteristics. Nevertheless, an aggregate profile may provide an overview of the contemporary agricultural student.

II. PROFILE OF AGRICULTURAL STUDENTS

Survey information was provided by 3,084 agricultural students; 703 represented 1890 schools and 2,381 represented 1862 schools in the South. The profile is presented in a series of eleven tables focusing on five topics of concern. Although each table presents three profiles—1890 students, 1862 students and all agricultural students, it is primarily the aggregate profile that is discussed here. This profile is based on the combined sample of 1862 and 1890 agricultural students adjusted for variable sampling and response rates (7).

Personal Characteristics (Table 1)

The decade of the 1970's has been marked by an increased enrollment of women students in agricultural curricula at Land-Grant universities (21). Slightly more than one-fourth of the students in this study were women. Another trend of the past several decades has been the disappearance of black Americans from U.S. agriculture (22). Since practically all of the black farmers have been in the South, this has been a predominantly Southern trend. The minimal presence of black students in training for agricultural occupations at Land-Grant universities is indicative of this societal condition. Only about 5 percent of all agricultural students in the South are black and some of these are foreign nationals studying in the United States. In general, however, Southern Land-Grant universities have not attracted significant numbers of foreign students to their undergraduate agricultural programs.

Across the South the majority of agricultural students are juniors and seniors. This is partially a result of the broadly available system of 2-year junior or community colleges, a point that will be considered in another section. Because a larger proportion of students are juniors and seniors, there are probably more who are married than there would be otherwise, however, this proportion is only 14 percent.

Birth order within the family may sometimes be a determinant of occupational choice. Becoming a farmer is traditionally linked to birth order and sex because of the intergenerational need to transfer land and capital investment. Transfer is most often made to male

children who are either the oldest, youngest or only child in their families. Among agricultural students nearly half, 44 percent, were in one of these three birth order positions. Because of the tendency for black families to be larger than white families, 1890 students were predominantly middle children, 70 percent.

Agricultural students are a very heterogeneous group in terms of their childhood residence. Less than half, 43 percent, grew up in places of fewer than 10,000 inhabitants. Those raised on farms accounted for about half of these students. On the other hand, about 14 percent were raised in large cities of 500,000 or more people. When considered against the fact that there are few large cities of 500,000 or more people in the South, this proportion has added significance.

TABLE 1. PERSONAL CHARACTERISTICS OF AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Personal characteristics	Universities		
	1890	1862	All students*
	Pct.	*Pct*	*Pct.*
Females	14.5	28.1	27.2
Blacks	80.2	0.8	5.3
Other nonwhites	8.2	4.4	4.8
Foreign citizens	9.2	2.5	2.9
Juniors and seniors	53.1	58.1	58.0
Married	17.6	13.4	13.7
Oldest, youngest or only child	29.6	45.0	44.1
Residence while growing up:			
Rural smaller than 10,000	59.2	41.6	42.7
Farm	23.6	19.9	20.1
City 500,000 or larger	10.9	14.3	14.1
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

Family Characteristics (Table 2)

Parents play an important role in the socialization of their children by providing role models and normative standards. To better understand the young, it is helpful to know something about the fathers and mothers, particularly those of nonfarm and nonrural agricultural students.

Almost two-thirds of the parents had grown up in rural areas and towns of less than 10,000 inhabitants. There was little difference between fathers and mothers with regard to rural background. Those reared on a farm accounted for about half of the rural-reared parents,

with fathers somewhat more likely to be farm reared than mothers. Students at 1890 schools were slightly more likely to have parents from rural backgrounds than were 1862 students.

Educational levels attained by the parents differed considerably between fathers and mothers. Fathers were much more likely to be college graduates than were mothers, 42 percent compared to 28 percent, respectively, while similarly small proportions, 14 and 10 percent, had not completed high school. Parents of 1890 students were much less likely to be college graduates than were parents of 1862 students. The wide educational gap of a generation ago between parents and their college-oriented children has narrowed considerably for 1862 students but has remained large for the vast majority of 1890 students (22).

Only a fourth of the parents currently lived on a farm, but additional families had some tie to farming. About 39 percent of the parents either owned, leased or rented a farm, although fewer families, 31 percent, considered agricultural production to be their primary

TABLE 2. FAMILY CHARACTERISTICS OF AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Family characteristics	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Fathers:			
Raised rural or town	75.5	62.9	63.3
Raised on farms	34.5	33.1	33.2
Completed college	12.3	44.2	42.5
Farm occupation	24.7	34.3	14.9
Professional occupation	7.4	26.4	25.5
Mothers:			
Raised rural or town	72.1	60.2	60.8
Raised on farms	31.4	26.5	26.7
Completed college	14.9	28.9	28.0
Parents:			
Living on farm (present)	31.8	24.9	25.3
Own, lease or rent farm	39.0	38.6	38.6
Farm major income source	34.7	31.4	31.4
Annual income below $15,000	77.4	26.7	29.8
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

source of income. At the same time, the proportion of fathers for whom farming was reported as their principal occupation was small, 15 percent. This profile is definitely not one that suggests a strong farming background among contemporary agricultural students.

The largest single occupational category for the fathers of agricultural students was that of professional. A quarter were in this category with a similar proportion in managerial and administrative occupations. Annual incomes below $15,000 in 1977 were reported for 30 percent of the families, while 35 percent had incomes above $25,000. The 1890 students came mostly from limited-income families, as fewer than 25 percent reported annual incomes above $15,000.

High School Experiences (Table 3)

The high schools attended by agricultural students varied widely in size. More than a third had attended small or moderate sized schools with fewer than 150 students per graduating class. A much larger proportion of 1890 students, 60 percent, came from small schools. Overall, only a few students, 13 percent, were products of small schools with classes of fewer than 50 students.

High school grades were high. The vast majority, 82 percent, reported grade averages of A or B in high school. A fourth reported A averages. However, only 8 percent of 1890 students reported having been A students.

Almost half of the students attended schools offering courses in agriculture. Nevertheless, fewer than a fourth had taken at least one agricultural course; and only a quarter had participated in the Future Farmers of America (FFA) or in the 4-H Youth Programs. Students involved in either 4-H or FFA totaled only 30 percent, revealing the overlapping membership in these two farm-oriented activities.

TABLE 3. HIGH SCHOOL EXPERIENCES OF AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

High school experiences	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
High school attended:			
Small (fewer than 150 in graduating class)	59.6	35.7	37.3
Large (400 or more in graduating class) ..	12.0	29.9	29.6
Offered agricultural courses	71.8	45.9	46.7
High school grade point of A	8.1	27.9	26.5
Completed Agricultural course(s)	57.4	21.9	23.8
4-H and/or FFA participation	66.8	28.7	30.3
Participated in 4-H	49.6	23.0	24.5
Participated in FFA	59.3	22.3	24.1
Sample size	703	2,379	3,178

*The proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

Agricultural students in the 1890 universities differed appreciably from the 1862 students in these experiences. They were more likely to have attended a high school offering vocational agriculture courses and well over half had completed one or more such courses. Moreover, half had participated in 4-H and an even larger proportion, 59 percent, in FFA. More than twice as many 1890 as 1862 students had participated in either or both of these agricultural related groups.

College Experiences (Table 4)

A striking characteristic of these agricultural students is the extent to which they had begun their post-high school education at a college or university different from the one in which they were currently enrolled. More than a third, 35 percent, had transferred to their current Land-Grant university. Transfer students were equally drawn from 2- and 4-year schools. The pattern of tranferring was less common for 1890 students, who were more likely to have entered their present school directly from high school. To some extent this is probably influenced by the predominantly black student bodies at the 1890 schools and the continuing tradition of attending black colleges. Nevertheless, many agricultural students opt to complete their basic nonagricultural courses at an educational institution close to home before initiating their more specialized agricultural studies, while others decide they want to major in agriculture after beginning college at another university.

Slightly more than half of all agricultural students reported having changed majors at least one time. This phenomenon is less common, but still pronounced, among 1890 students. Since the students surveyed include freshmen through seniors, it is clear that an even higher percentage of any given college class will have changed majors before they graduate. While some of the changes of curriculum involve shifts from one area of agriculture to another, especially to more specialized areas from a general curriculum, others involve students shifting into agricultural majors. No doubt many of these latter changes represent drastic redirections in educational and occupational goals.

Student grade point averages (GPA) revealed a slightly skewed distribution toward high grades. More than a third said that their GPA was B (3.0) or better, while only 8 percent reported average grades below C (2.0). Although 1890 students had reported substantially lower high school grades than 1862 students, their college GPA's were fairly similar. The college grade distribution for agri-

TABLE 4. COLLEGE RELATED EXPERIENCES OF AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

College experiences	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Transferred from another school:			
2-year junior or community college	9.4	18.3	18.1
4-year college	10.4	17.5	17.1
Changed college major since enrolling	34.7	52.8	51.5
College GPA 3.0 and above	35.9	36.7	36.6
College Activities:			
Curriculum club	54.4	48.8	48.9
Member of college judging team	23.4	12.2	12.9
Member of college 4-H or FFA groups ..	39.5	8.5	10.1
Member of agricultural council	19.6	5.3	5.9
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

cultural students parallels closely that of students in other parts of the university.

Except for clubs associated with the students' college curriculum, relatively few agricultural students are actively involved in voluntary school organizations available on campus that relate to their agricultural goals. The curriculum club is participated in by almost half the students. No other agricultural-related voluntary organization accounted for more than 13 percent of the students. Most often mentioned were judging teams for such areas as livestock, soils, and weeds. The college level adjuncts to the 4-H and FFA programs involved about 10 percent of the students. Participation was more characteristic of 1890 than 1862 students, probably reflecting greater emphasis given to such activities on these campuses.

Work Experiences (Table 5)

How much direct contact with farming do the agricultural students of today have? Already the fact that the majority of students are not farm-reared has been documented. Thus, it is consistent to observe that less than half reported ever working on their family's farm. A similar proportion, 47 percent, had done hired farm work at some time. Combining these two types of farm work experience reveals that a substantial majority, 59 percent, have been exposed to work on a farm and that many had both kinds of experience. Students at 1890 universities are more likely than 1862 students to have worked on their home farm, but less likely to have done hired farm work.

TABLE 5. WORK EXPERIENCE OF AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Work experience	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Either home farm or hired farm work	66.3	58.4	48.8
Worked on home farm	41.7	47.0	47.7
Hired farm worker	49.8	46.7	46.6
Nonfarm agricultural work	83.8	88.4	88.1
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample size and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

Almost all agricultural students, 88 percent, reported that they had been employed in some type of part-time or full-time job which was agricultural but nonfarm in nature. Most students, at one time or another, had varied agricultural work experiences involving both types of employment.

Choosing an Agricultural Major

Two types of concerns were addressed with regard to how a student comes to choose a college major and particularly, a major in agriculture. The first concern involves the human dimension associated with interpersonal contacts that people experience which mold and guide their choice of goals and means of attainment. The second concern focuses on the kinds of reasons perceived as important factors in the ultimate choices made.

Significant Others Influences (Table 6)

Significant other is a term used to indicate persons holding status positions in a group and serving as points of identification to others. Because of the visibility of a particular position and its accompanying prestige, the holder often serves as a role model or source of information and encouragement for another. In this study, each agricultural student was presented a list of 15 significant other statuses and asked to indicate whether such people had been very influential, of some influence, or of no influence in the choice of their present college major. The assessments of very influential and of some influence are combined in this presentation.

Several clusters of significant other statuses were considered. First are family members, to whom the students generally attributed greatest influence. Parents are the key figures here, with the influence of fathers indicated slightly more often than that of mothers.

Other family members, such as brother(s), sister(s), or other relatives, were perceived as influencing this choice much less often than the parents.

Significant others during the high school years are a second cluster of important interpersonal contacts and potential influentials. High school friends were mentioned most frequently as influential, 26 percent, followed by high school teachers or principals. Least often mentioned, only 16 percent and 18 percent respectively, were the agricultural teacher and the counselor. This finding suggests that attempts to acquaint high school personnel with opportunities in agriculture might best be directed toward all teachers and principals rather than narrowly focused on agricultural teachers and counselors.

Another cluster of potential significant others is represented by occupational role models that have traditionally provided a professional linkage between rural communities and the larger society. The county extension agent, veterinarian, and clergyman have served in

TABLE 6. SIGNIFICANT OTHERS INFLUENCE ON CHOICE OF A COLLEGE MAJOR BY AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Significant others	1890	1862	All students*
	Pct.	*Pct.*	*Pct.***
Family:			
Father	58.2	65.4	65.1
Mother	64.6	60.6	60.8
Brother	47.2	21.7	23.2
Sister	42.7	16.7	17.9
Other relatives	48.3	28.7	29.7
High School Contacts:			
Friend	44.5	25.2	26.2
Teacher or principal	42.6	22.5	23.2
Counselor	42.6	16.5	17.9
Agricultural teacher	49.9	14.5	16.1
Occupational Contacts:			
Veterinarian	18.0	22.6	22.3
County extension agent	27.8	10.1	10.9
Clergyman	11.7	5.8	6.0
College Contacts:			
College teacher or advisor	55.8	36.6	37.3
College friend	52.7	34.7	35.6
College dean of agriculture	27.1	11.8	12.5
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

**Percents show the proportions of students rating each source of influence as either very influential or of some influence.

this capacity. The data indicate that of the three statuses, the veterinarian plays the most prominent role being mentioned by about 22 percent. The county extension agent is considered influential only half as often, 11 percent. It is highly probable that the greater influence attributed to the veterinarian is associated with the interest of many students in veterinary medicine as a professional career.

The final cluster of significant others is identified with the college environment and is particularly important because of the curriculum-shifting that most college students do. More than a third of the students indicated that college peer friends and college teachers or advisors had influenced them in the choice of their current major. Much less often mentioned was the dean of agriculture, which is understandable in that this individual rarely has direct and frequent contact with students until after the curriculum decision is made.

Overall, a wide variety of significant others is perceived by some students as having an influence on their educational decisions. This is particularly true among 1890 students, who almost uniformly listed each of the significant others more frequently than did 1862 students. Father and veterinarian were the only ones not listed more often by 1890 students. The data clearly suggest decisions to major in an agricultural field are not made in a vacuum and involve interactions with many people over a long period of time, especially for the students who eventually attend an 1890 institution.

Reasons for Choosing Major (Table 7)

Many events and experiences can enter into a person's choice of goals and the means to these goals. Here attention is directed to the kinds of reasons students perceive as having entered into the decision to choose their current college agricultural major. Each student was asked to indicate the extent to which each of thirteen potential reasons were very important, of some importance, or of no importance in their choice. Reasons rated either very important or of some importance were combined for presentation.

The virtually universal reason given for choosing an agricultural major was to prepare for a career. Two other reasons mentioned by a large majority of students were a preference for country life and a desire to help others. Only two other reasons were mentioned by half or more of the students. A smaller majority perceived the income prospects for jobs related to their agricultural major to be attractive. Similarly, about half said they had been encouraged by prior successful experiences in agriculture.

TABLE 7. REASONS IMPORTANT IN THE CHOICE OF AN AGRICULTURAL MAJOR BY AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Reasons	1890	1862	All students*
	Pct.	*Pct.*	*Pct.***
Career preparation	95.1	96.7	96.7
Prefer country life	68.6	76.7	76.6
Able to help others	88.6	72.4	74.4
Field ensures a good income	78.7	56.5	57.5
Prior successful agricultural experience	59.2	47.9	48.5
Completed related college course	39.0	31.2	31.5
Suggested by college teacher or advisor	44.4	19.9	21.1
Family encouragement	33.8	19.7	20.4
Completed related H.S. course	44.1	18.9	20.0
Available financial assistance	57.4	17.2	19.4
Friends in agricultural majors	26.1	16.5	17.1
Offered chance for better grades	37.1	16.1	16.9
Suggested by H.S. teacher or advisor	47.2	11.5	12.9
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

**Percents show the proportions of students rating each item either important or very important.

It should be noted that none of the most common reasons for choosing an agricultural major are people- or school-related. Completion of a college agricultural course was reported as an important influence by about 30 percent of the students, while other justifications of this type were mentioned by fewer than 20 percent. The important motivators tend to stem from a positive perception of agriculture as an occupational field offering opportunities for a satisfying and prosperous life style.

The 1890 students generally identified more reasons for choosing an agricultural major than did 1862 students. Six of the 13 reasons listed were given importance by half or more of these students. The biggest differences between the two groups of students were in the importance of available financial assistance, 57 percent versus 17 percent, high school teacher or advisor recommended it, 47 percent versus 12 percent, college teacher or advisor suggested it, 44 percent versus 20 percent, and completed a high school course in agriculture, 44 percent versus 19 percent.

Desired and Expected Goals (Table 8)

Clearly observable is a strong professional career orientation among Southern agricultural students. A large proportion, 40 percent, wanted to continue their formal education through a profession-

al or doctoral degree and an additional 27 percent wanted to complete a master's degree. There appears to be a widely held view among agricultural students that advanced training is a desirable goal.

But students also recognize that circumstances might arise which would limit their opportunity for achieving their desired education. Perhaps some have no serious intention of pursuing their education beyond college. When asked what they thought they really would do about their formal education, a large number indicated that they expected less education than they would like to have. For example, only half of those saying they would like to have a professional or doctoral degree actually expected to attain this goal. Almost three-fifths fully expected that their formal education would end with college graduation. Of those who expected to continue their education, the vast majority, 84 percent, indicated that they planned to remain in an agriculturally-related area for any further degrees.

Occupational goals are of obvious importance, of course, to all young people. In order to profile the occupational goals of agricultural students, both the general type of occupation desired and whether it was related to agriculture were considered. A majority of students said they desired professional occupations and two-thirds wanted agriculturally-related occupations. Yet only a small proportion, 17 percent, actually wanted to farm even though the question was worded in terms of "if you could do anything you wanted." Clearly not all students in agriculture at Land-Grant universities are oriented toward the traditional occupational role of farmer.

A more realistic assessment of occupational goals in terms of what students expect they really will do reveals a consistent pattern of deflection to lower ranking and non-agricultural occupations. However, the rate of deflection is not large, suggesting considerable stability of occupational goals. Those desiring to enter professions were most likely to identify other occupational goals, indicated by a decline of 12.5 percentage points. A majority still expected to enter agriculturally-related occupations, although this percentage was down 10 percent from the proportion desiring such occupations. The proportion of students expecting to enter farming shrank to 13 percent, further suggesting that only a small portion of agricultural students today need training for actual (self-employed) farming occupations (See also Appendix D).

Income expectations were not excessively high for the first employment after college. Using $12,500 to indicate a good starting salary for 1977, only about a quarter had expectations for incomes this high. Interestingly, 1890 students were more likely than others to have this

TABLE 8. FREQUENCY WITH WHICH CERTAIN LIFE ADULT GOALS ARE DESIRED AND EXPECTED BY AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Adult goals	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Education: (Professional or doctoral degree)			
Desired	40.2	39.2	39.6
Expected	26.6	18.8	19.0
Desired occupation:			
Profession	52.2	52.7	52.5
Farmer or manager	9.0	18.0	17.4
Agriculture related	60.5	66.7	66.6
Expected occupation:			
Professional	39.5	40.1	40.0
Farmer or manager	6.8	13.3	13.1
Agriculture related	49.1	56.1	56.0
Expected first job income ($12,500 or more)	37.9	27.3	27.7
Desired residence:			
Rural nonfarm	24.4	29.8	29.6
Farm	22.8	38.6	37.7
Expectation of owning farm:			
Will own farm	28.9	26.8	26.7
May inherit farm	44.2	48.0	47.5
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

high expectation. Such an expectation is consistent with their high educational and occupational goals.

Residential goals were framed in the perspective of the population of the community in which the student would most like to live. Choosing from six size alternatives, 67 percent desired to live in a rural area or a town with fewer than 10,000 people. The residential alternative most often desired was to live on a farm, 38 percent. Hardly any wanted to live in a large metropolis with a population of 500,000 or more. The data do not permit assessing the extent to which these residential desires influence occupational goals, but some reluctance to live in large cities is implied. The 1890 students show this anti-urban orientation less strongly than 1862 students, as more of them opt for city residence.

Another area of goal expectation is that related to perceived prospects for obtaining a farm. When asked whether they might eventually own a farm or ranch, almost half of these agricultural students held such an expectation. A followup question inquired

whether or not they actually expected to inherit a farm or ranch someday. Again almost half indicated that this was a possibility, but only 16 percent believed they would definitely obtain a farm through inheritance. Clearly, the expected ownership of a farm is not directly linked to the desire or expectation to farm as a principal occupation, since far fewer list farming as their occupational goal.

Sources of College Funds (Table 9)

Going to college today is an expensive proposition for most students and their families. Where a local college is available and daily commuting possible, costs can be greatly reduced or at least spread more evenly over the year. Students interested in agriculture often find that only one or two schools in their state provide this type education. This may mean going off to college and experiencing higher costs. For this reason, one dimension of this agricultural student profile focuses on the various sources of funds used to support college attendance.

A listing of nine possible sources of college funds was presented to each student along with the instruction to indicate the sources of funds used to cover college costs, including living expenses. No attempt was made to determine the proportion of the costs met through each source used. The most widely used source was the most traditional—their parents. Two additional sources relied upon by three-fourths of the students were summer jobs and personal savings. Half of the students were covering at least some of their college costs

TABLE 9. FREQUENCY WITH WHICH VARIOUS SOURCES OF FUNDS ARE USED BY AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Sources of funds	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Parents	66.9	84.9	83.9
Summer jobs	67.2	78.2	77.5
Personal savings	63.9	75.3	74.7
Part-time job while attending college	62.2	53.6	53.8
Scholarships	38.7	26.9	27.5
Student loans or grants	74.0	24.7	27.5
Employed spouse	11.6	10.3	10.4
Other relatives or friends	21.4	9.9	10.3
Veterans benefits	12.2	7.6	8.0
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

through part-time jobs, both on- and off-campus, during the academic year.

More than a fourth of the agricultural students also report having scholarships and a similar proportion indicate receiving loans and grants. While each student used his or her own mix of sources for meeting the costs of college, jobs continue to be the main way that students contribute personally to these costs and parents provide the basic support in the majority of cases.

Rather distinct differences in funding college education were revealed between 1890 and 1862 students. The 1890 students relied less, but still heavily, on parents, 67 percent, summer jobs, 67 percent, and personal savings, 64 percent. The void was filled by far greater dependence on student loans and grants, 74 percent, and more on part-time jobs, 62 percent, scholarships, 39 percent, and assistance from relatives and friends, 21 percent.

Student Self-Perceptions (Table 10)

How do agricultural students perceive their group relative to other groups of students on their campus? A series of nine descriptive phrases were presented as endings for the lead phrase "agricultural

TABLE 10. AGRICULTURAL STUDENTS' RATINGS OF THEIR GROUP COMPARED TO OTHER NONAGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Characteristics	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Agricultural students are (more):			
friendly and helpful to other people	49.4	55.0	54.9
sure of what they want to do in life	40.7	42.3	42.2
seriously concerned about the state of the nation and of the world	52.8	29.1	30.4
tolerant of people who come from a different background	41.4	20.4	21.8
willing to accept new and unusual ideas	41.8	16.2	17.6
interested in having a good time at college	10.7	7.9	10.3
interested in competing for high grades	22.9	7.3	8.2
interested in making a lot of money	24.8	5.6	6.6
interested in classical music and good literature	8.6	3.0	3.3
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

students are." Responses offered were: more, the same, or less than nonagricultural students.

In most instances, half or more of the students saw agricultural students as no different from nonagricultural students. The most distinctive positive image characteristic was that of being friendly and helpful, with 55 percent saying agricultural students are more friendly than nonagricultural students. Another generally positive perception was that agricultural students are more sure of what they want to do in life, 42 percent. Perhaps the most interesting thing, however, is the very favorable image that 1890 students hold of their fellow agricultural students. On most of the characteristics considered, they compared their group more favorable than did 1862 students rate theirs.

Attitudes (Table 11)

Students were presented with several statements designed to reveal their attitudes on a variety of issues relating to agriculture. These involve agriculture as an industry and profession along with environmental concerns. Alternate responses for each attitude statement were strongly agree, agree, undecided, disagree, strongly disagree.

Students were highly favorable toward agriculture. The vast majority, for instance, believed that career opportunities were good and denied the contention that agriculture was a declining industry. Most students, 74 percent, denied the contention that one does not need much education to work in agriculture.

Two statements relating to the protection of the environment also related directly to agriculture. Both are concerned with government regulation of the industry for the public good. Three-fifths, 59 percent, of the students agreed that greater regulation of the use of chemicals in agriculture is needed and almost half, 48 percent, agreed that government should be able to "force" farmers to use soil conservation practices, if they have erosion problems.

More general environmental concerns were observed with two additional statements. Three-fourths, 75 percent, agree that the preservation of natural beauty is more important than economic "progress." Similarly, three-fifths, 59 percent, disagree with the statement that stripmining coal for energy needs is more important than keeping the countryside in its natural condition. These potential holders of agricultural positions in the future do not appear opposed to government regulation of their industry and they are generally for

TABLE 11. ATTITUDES TOWARD AGRICULTURE AND ENVIRONMENT AMONG AGRICULTURAL STUDENTS ATTENDING 1890 AND 1862 LAND-GRANT UNIVERSITIES IN THE SOUTH

Statements	1890	1862	All students*
	Pct.	*Pct.*	*Pct.***
Agriculture as occupation:			
Most work in agriculture can be done by people with little education. (Disagree)	64.5	73.9	73.5
Agriculture is a declining industry. (Disagree)	78.3	85.3	85.0
There are good career opportunities in agriculture. (Agree)	94.4	86.8	87.2
Environmental concern:			
The government should be able to force farmers to adopt soil conservation practices if they have erosion problems. (Agree)	60.6	47 6	48.4
Greater regulation is needed on the use of chemicals in agriculture. (Agree)	79.8	58.2	59.4
Strip mining coal to provide energy for our country is more important than keeping the countryside in its natural condition. (Disagree)	44.5	59.4	58.6
Economic progress that results in the destruction of places of natural beauty needs to be stopped. (Agree)	69.3	74.8	74.6
Women in the workplace:			
Women are capable of performing as well as men at work outside the home. (Agree)	61.5	61.6	61.6
A woman who does the same work as a man should receive the same pay. (Agree)	93.7	95.7	95.6
Most agricultural occupations are unsuited to women. (Disagree)	60.8	57.4	57.5
Sample size	703	2,379	3,178

*These proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

**The percent of students indicating a favorable attitude toward agriculture either by agreeing with a positive statement or by disagreeing with a negative statement.

protecting the environment, even when this may mean slower economic growth.

In general, the attitudes of 1890 and 1862 students are similar on these issues. The most visible divergences are with regard to government's role in agriculture. Greater acceptance of governmental regulation of chemical usage, 21 percent, and in requiring farm

conservation, 13 percent, distinguished the 1890 students. They were less environmentally concerned, on the other hand, than 1862 students.

A third issue relates to the position of women in the workplace. In 1977 when this survey was conducted, American society was experiencing a period of considerable activity and controversy over a variety of issues concerning women. The Equal Rights Amendment (ERA) to the U.S. Constitution was being hotly debated. Within this context a majority, 58 percent, of agricultural students disagreed with the statement that most occupations in agriculture are unsuited to women, but a sizeable minority held a negative image of women in agriculture.

Three-fifths of the students agreed that women were as capable as men in performing work outside the home. Moreover, there was virtual unanamity on the issue of equal pay for equal work with 96 percent agreeing. A very positive set of attitudes seems to prevail among agricultural students toward greater opportunity for women in the workplace and in agricultural occupations.

III. SPECIAL SUB-GROUP PROFILES

To this point we have described only Southern agricultural students attending Land-Grant universities as a group. Some other important concerns within agricultural education and the future of agriculture in the South can be addressed by comparing particular subgroupings of students. One of these concerns is for the future of blacks in Southern agriculture. The strong involvement of blacks in the past contrasts dramatically with their rapidly declining role during the past half century. This problem is taken up by profiling the black agricultural students and comparing them to their white counterparts. Also, the increasing number of women in agricultural curricula raises a serious question about their future. In the past women have not had much involvement in agriculture except on the farm as wives and widows. The growing presence of women in agricultural education programs leads to questions about their similarities and differences with men relative to attitudes and goals. Other subgroupings look at students desiring a farm occupation, those who have farm work experience, and those expecting to eventually own a farm.

Profile of Black Students

The focus here is on black agricultural students compared to white students without regard to whether they attend 1890 or 1862 univer-

sities. A large majority of the black students enrolled in agriculture are attending 1890 schools although the total enrollment in these predominantly black colleges is small compared to that of the 1862 universities (2). Moreover, the number of agricultural curricula offered at the 1890 colleges is relatively limited. This explains the fact that five curricula enroll more than two-thirds of the black students—animal science, pre-veterinary medicine, agronomy, agricultural economics, and agricultural education—with general agriculture accounting for another 12 to 15 percent. Black students are rather evenly distributed across the freshman through senior classes.

Women represent a small segment of the black students in agriculture, 15 percent, and the majority of these are enrolled in pre-veterinary medicine and animal science. Predominantly, black students in agriculture are from rural areas and small towns, 59 percent, with almost a fourth raised on farms. Because of the larger average size of black families only 30 percent are either the oldest, the youngest or the only child in their family. Eighteen percent are married. Each of these characteristics, and others to be highlighted, point up distinctive points of black-white difference. Many of these differences were observed in the previous section as distinguishing 1890 and 1862 students. It is quite clear that black and white students are different in many ways yet share a number of other characteristics.

Parental and family backgrounds are important sources of distinctiveness. Black parents are not generally affluent. Only small proportions of the black mothers and fathers have completed college, (high proportions have not completed high school) and more than three-fourths of the families had incomes less than $15,000 in 1977. The number of black fathers in professional occupations was very small, 7 percent, while about a fourth were farmers. Socio-economically, black students in agriculture come from more limited backgrounds than do white students.

Being from rural areas has a noted impact on the kinds of high school experiences black students have had. The schools attended were small in size and usually offered courses in agriculture. A majority of black students had completed an agricultural course in high school. Similarly a majority had been involved with the additional socialization experiences provided through the 4-H and/or the FFA programs. Compared to whites, black agricultural students are much more likely to conform to the traditional background and socialization patterns associated with white agricultural students in the recent past.

Black students were distinct from white students in several ways regarding their selection of an agricultural major. They tended to attribute considerable importance in this decision to all family members as well as to both high school and college significant others. It appears that interpersonal contacts play a more important role in the choice of an agricultural major by these students, as well as in the other reasons they express for choosing an agricultural major. They also tend to give more reasons and to identify *more* influences than do white students.

Divergent experiences occur in several areas. Because being reared on a farm is more typical of black than white agricultural students, the former are more likely to have worked on a family farm; but they are no more likely than whites to have done hired farm work or to have had nonfarm agricultural work experience. Black students almost always enroll directly in a Land-Grant university; less than 20 percent transferred from either a 2-year junior college or another 4-year school. They are more likely to stay in their original curriculum than white students; however, this may merely be a function of the 1890 schools having fewer curricular alternatives. Black students, in contrast, tend to participate more in agriculturally-related college activities such as curriculum clubs, judging teams, 4-H and FFA clubs and agricultural councils.

The relatively disadvantaged socioeconomic situation of many black students is reflected in their sources of college financing. Although parents are a source of some funds for two-thirds, this is a smaller proportion than is characteristic of white students. Personal savings are a less frequently noted source of funds. Conversely, student loans or grants are relied upon by three-fourths of black agricultural students, and they are more dependent than white students on part-time jobs, scholarships, relatives or friends, and veterans benefits to cover their educational costs.

Black student self-perceptions comparing agricultural with non-agricultural students on their campus are very positive. There appears to exist little apologetic feeling for being in agriculture. Compared to white students, they are more likely to rate agricultural students positively. The only instances in which substantially more blacks failed to rate their fellow agricultural students more positively was on the characteristics of being more friendly and helpful to other people and being more sure of what they want to do in life. But even here half the black students rated agricultural students more favorably.

Several attitudinal differences also distinguish black from white agricultural students. They are more accepting of government's role in regulating farmers' erosion practices and chemical use. They are more likely to see agriculture as a declining industry, 22 percent, but also more likely to perceive good career opportunities there, 94 percent. However, black-white differences never exceeded 20 percent and were usually much smaller.

Concerning the environment, the attitudes of black students tend slightly more toward an exploitive or developmental philosophy than do the attitudes of white students. Differences here were 15 percent and less, indicating a widely held favorable orientation toward conservation of the environment.

There was little difference between blacks and whites on attitudes about the role and status of women. Blacks were distinct only in the feeling that a woman's real fulfillment in life comes from motherhood rather than from her work outside the home. They were much more likely to accept this traditional sex-role position than were white students.

Profile of Women Students

One of the most important and interesting transformations in higher education during the seventies has been the movement of increasing numbers of women into traditionally male occupations and areas of study. Like medicine, law, and engineering, agricultural programs in America's Land-Grant universities saw the proportion of women grow substantially—from about 19 percent of undergraduate enrollments in 1973 to 28 percent in 1976 (5). The proportion had risen to 36 percent by 1980 (19). In this study of Southern agricultural students, women account for more than one-fourth of the total sample.

These women are remarkably similar to the men in a number of respects. Like their male counterparts, most are unmarried, 85 percent, are white, 90 percent, and come from homes where the family income is over $20,000 per year, 50 percent. Their backgrounds also differ from men in a number of interesting ways. About one-fourth of the men come from farm backgrounds, compared to only 12 percent of the women. Another one-fourth of the men were reared in rural or nonfarm areas or small towns, while only 17 percent of the women grew up in these areas. Not surprisingly, more men, 31 percent, took agricultural courses in high school than did women, 7

percent. On the other hand, about 46 percent of the women took home economics courses compared to none of the men.

About one-fourth of both the men and the women felt that one particular course in high school influenced their decision to pursue an agricultural degree in college. Almost half of the men saying this indicated that the course was agricultural, while only 9 percent of the women saying this were influenced by an agricultural course. Most of the women, 78 percent, attributing influence on the choice of a major to a high school course indicated a course in biology.

As to previous agricultural experiences, more than a third of the men had participated in either 4-H or FFA prior to entering college but less than 20 percent of the women reported such participation. Furthermore, almost 55 percent of the men noted previous work on a home farm, almost 60 percent reported other farm work experience, and more than 65 percent said they had held a nonfarm agricultural job. The proportion of women with these agriculturally-related work experiences was much lower. Only 31 percent said they had worked on a home farm, 19 percent had worked in other farm-related jobs, and 40 percent reported other nonfarm agricultural experiences. Thus it is clear that men enter college agricultural programs with much more agriculturally-related educational and work experiences than do women.

Women agricultural students entered college with better academic records than men. Almost 45 percent reported having graduated from high school with an A average and another 50 percent indicated graduating with a B average. Only 20 percent of the men reported an A average in high school while close to 60 percent graduated with a B average. These differences continued in college, but at a lower level. Almost 20 percent of the women reported an A average in college, compared to less than 10 percent of the men.

About 45 percent of both the men and women expected to obtain at least some post-graduate training and almost all planned to remain in an agricultural discipline for their graduate studies. When they enter the workplace both men and women expect to hold rather prestigious jobs. However, at least in their first jobs, men expect to earn higher incomes.

Female agricultural students also hold rather different views from their male peers regarding the appropriate role of women in the workplace. Over 40 percent of the men believed that it was all right for a woman to work, but that her real fulfillment in life should come from motherhood, whereas, only 15 percent of the women agreed with the statement. Half of the men felt that women were capable of

performing as well as men in work outside the home, while more than 85 percent of the women said this. Almost 30 percent of the men thought that most agricultural occupations were unsuited for women, whereas only 10 percent of the women thought this.

On the other hand, some similarities in sex role attitudes were also evident in the data. About 95 percent of each sex felt that men and women should receive equal pay for equal work. And 90 percent of each group felt that men and women should be equal partners in marriage.

Overall, the patterning of sex role attitudes suggests that if these male attitudes reflect those prevailing in the labor market, then women may confront a somewhat hostile environment when they seek employment in the agricultural industry. However, it seems likely that as more and more women enter the agricultural work force, the conservative sex role views of their male counterparts will be changed.

Profile of Students with Farm or Ranch Experience

Career aspirations and decisions by young people about their futures are influenced by many factors, including their work experiences prior to entry into the labor force. About 60 percent of the students enrolled as agricultural majors had some previous farm or ranch experience. Males greatly outnumbered females among these students. Proportionately more blacks, 64 percent, than whites, 59 percent, reported having specifically worked on a farm or ranch.

Virtually all students who had spent most of their lives on a farm or ranch indicated farm or ranch work experience. This group, however, constituted only a third of all farm work-experienced students. About 40 percent of the students who had lived most of their lives in small, medium or large cities also reported some farm work experience. The residential background of parents (and grandparents) also helps determine the work experiences of students. Almost half, 46 percent, of the work-experienced students reported that their fathers had been raised on a farm or ranch. Slightly more than a third of their mothers had been raised on a farm. About 40 percent of their parents were currently living on a farm or ranch.

Almost a fourth of the fathers of farm work-experienced students were in managerial and administrative occupations, with a similar proportion being farm operators or managers. Of the fathers having an agricultural job, two-thirds were self-employed in agriculture. Fifty percent of the work-experienced students reported that their

parents' annual income was less than $20,000. Fewer than 15 percent of the fathers had not completed high school, and 58 percent had some formal education beyond high school. Mothers were only slightly less educated than were the fathers.

In general, farm work-experienced students attended smaller schools than students without similar experience; almost 50 percent of the former but only 21 percent of the latter finished high schools with graduating classes of less than 150 students. Three-fourths of the work-experienced students indicated that agricultural courses were offered in their high schools, but only one-third had taken an agricultural course. Of the students who took agricultural courses, 39 percent reported these courses influenced their choice of a college agricultural major more than any other high school courses. Also, farm work-experienced students were more likely than those with no farm work experience to have participated in and served as leaders or officers in 4-H and FFA clubs.

Forty percent of the work-experienced students had transferred from other colleges to those they were presently attending. About equal proportions had previously attended 2- and 4-year colleges. Almost half reported they had changed their majors since enrolling in college.

Individuals exerting the most influence on the choice of college major by farm work-experienced students were their parents, with fathers more often rated influential than mothers. However, a third reported that their parents had exerted no influence on this choice. In comparison, students with no previous farm or ranch work experience rated their parents as less influential. Of the other types of individuals who might have influenced the choice of a college major none was mentioned by any sizeable number of students.

By far the most frequently listed reason for the choice of an agricultural major, as reported by students with farm work experience, was to prepare for an occupation. Three-fourths rated this factor very important in their choice. Other factors rated very important by at least 25 percent of the students were: the opportunity to help others, a preference for country life, and a prior successful experience in agriculture.

Forty percent of the work-experienced students expected to continue their education by entering graduate programs after completing college. Of these, the majority expected to stay in an agricultural discipline and to remain at their undergraduate university.

Concerning expected occupational attainment, 20 percent of the work-experienced students listed occupations that were not classifi-

able as agricultural. For the remaining 80 percent who expected agriculturally-related occupations, 20 percent expected to be involved in agricultural production as farm operators.

Two-thirds of the farm work-experienced students reported no expectation of eventually owning a farm or ranch. When farm ownership was anticipated, it was almost always expressed in terms of a family inheritance.

Forty-five percent of the students with farm work experience had lived most of their lives either on a farm or ranch or in the country. Only 6 percent of those lacking farm work experience reported having grown up on a farm or ranch. However, two-thirds of these same students expressed a preference for eventually living on a farm or in a rural area.

Agricultural students with farm work experience tended generally to reflect a more conservative view of the role of women. For example, only 55 percent of the students with such experience expressed the view that women are capable of performing as well as men at work outside the home compared to 70 percent among other agricultural students. Of course, this response is influenced by the fact that few of the women students are in the farm work-experienced group.

Farm work-experienced students reflect a more conservative attitude toward governmental control of agricultural practices designed to protect the environment, such as regulation of soil practices and use of chemicals. A larger number of work-experienced students were opposed to controls. As regards to general environmental protection and agriculture, farm work-experienced students reflected attitudes highly consistent with those held by all agricultural students. They were almost unanimous in their positive evaluation of career opportunities in agriculture and the strength of the industry in the American economy.

Profile of Students Who Expect to Own a Farm or Ranch

Ownership of a farm or ranch, or the desire to do so, has been a basic aspect of American agriculture. In this study, 71 percent of the students thought they might eventually own a farm or ranch either alone or with others. More than one-half expected they would inherit a farm or ranch someday.

Numerous background characteristics are related to this expectation. Males were much more likely to think they would own a farm or ranch than were females (three-fourths and one-fourth, respective-

ly). Age differences enter into this too, with students 22 years and older tending to think they will be owners more often than those younger than 20. Similarly, juniors and seniors are more likely to expect ownership than are freshman and sophomores. Married students too are much more likely to expect ownership than are single students. All three factors of age, level in college and marital status are interrelated. Having been reared on a farm or ranch in contrast to all other types of residential backgrounds is highly associated with contemplated ownership.

Many parental traits are related to anticipated farm or ranch ownership. Students whose parents were raised on a farm or ranch are much more likely to think they would become owners. Moreover, students whose parents owned and lived on a farm or ranch, which provided the families' primary source of income (more than half), tend to expect ownership more often than those either not living on a farm or ranch or having no farm or ranch income. Students expecting ownership tend to have fathers who are self-employed and farmers, in contrast to the students not expecting ownership. Fathers of students who thought they would own a farm or ranch are more likely to have graduation from high school as their highest level of education, while fathers of students who do not expect to be owners are more often college graduates. Students who expect to own a farm or ranch tend to be only-children. Conversely, being the youngest child greatly reduces the likelihood of anticipating ownership.

A number of high school factors are related to the expectation of owning a farm or ranch. Size of the high school attended is related to anticipated ownership, with those from schools having fewer than 150 graduates per year tending to expect ownership while those from schools having 400 or more graduates not doing so. This is a reflection of the fact that the larger schools are located in the less rural areas. Overall grade-point average is related to potential farm or ranch ownership. Expectant owners tend to have "B" averages while those not expecting ownership are more likely to be "A" students.

More students who expect ownership have taken agricultural courses and they are more likely to cite one of these courses, if they choose any, as influencing their choice of a college major. High among the high school activities in which potential owners tend to participate are 4-H and FFA clubs. Students expecting farm or ranch ownership are more likely to have actually worked on a farm or ranch, either at home or as a hired employee, and to have done other agriculturally-related work to a much greater extent than students not expecting to be owners.

College experiences of students expecting to own a farm or ranch differed markedly from those not expecting ownership. They were more likely to have attended a 2-year college and to report having been influenced by a variety of persons and considerations in choosing their college majors. A preference for country life and successful prior experiences in agriculture are extremely important considerations in these students' choices of majors. Students expecting to own a farm or ranch tend to have changed majors more often than those not anticipating ownership. Those who expect ownership are more likely than others to have an overall college-grade point average of C or below and less likely to have a B average or higher. College activities in which potential owners tend to participate more often include departmental clubs, judging teams, collegiate 4-H or FFA groups and student agricultural councils. They are more likely to depend on their own savings, part-time work, or their spouse to finance their college education.

The goals of students who think they will own a farm or ranch are rather distinct. These students desire to complete professional degrees but are less likely to desire other graduate degrees. However, on other types of educational plans they differ little from students not expecting to own a farm or ranch. Those expecting to do graduate work expect to remain in agriculture and, to a lesser degree, to stay at the same university. Farming is clearly the predominant occupational goal and expectation of these students, but many of them want or expect to be engaged in providing services for agriculture. They do not want or expect to enter jobs outside of agriculture. They have higher income expectations than potential nonowners. As might be anticipated, they overwhelmingly prefer to live on a farm or ranch rather than in a city of any size.

These students expecting to own a farm or ranch have very different attitudes about the role of women, the environment, and the agricultural industry, compared to those not anticipating ownership. They are more traditional with regards to the appropriate woman's role, in that they tend to believe "It is all right for a woman to work but her real fulfillment in life comes with motherhood." They are more likely to disagree or strongly disagree with the statement that "greater regulation is needed on the use of chemicals in agriculture."

IMPLICATIONS

Expanding enrollment trends in higher education that have marked much of the past three decades peaked toward the end of the seventies. Key reason for the reduced number of college students is

the fact that the annual pool of youth 18 years of age has begun to decline (19). Projections are for this decline to fall even further during the decade of the eighties (21). Obviously, such a decline portends serious consequences for schools or colleges of agriculture at the Land-Grant universities.

This profile of agricultural students attending Land-Grant universities in the South caught agricultural enrollments as they were apparently approaching an enrollment crest (18,21). The changing composition of students in agriculture at Southern Land-Grant universities is vividly portrayed by the sizeable proportions of women and urban students and the increased number of black students. Enrollment growth during the past decade was due largely to an increased demand among these nontraditional students for curricula offered in agriculture. Maintaining this new student clientele will require that, as college graduates, these nonfarmers can be assimilated into the various agricultural occupations with industry and business for which they have been prepared.

Many questions about the agricultural student of today are addressed in this report. Detailed information describing the personal and family background, work experience, high school and college experiences, as well as their subjective perceptions, future goals, and attitudes of the agricultural student is presented.

When the attitudes, preferences, and motives of these students are considered, there is reason to conclude that the agricultural students of today are considerably different from their predecessors of a generation ago. Information presented here can be viewed as further evidence of an emerging neo-agrarianism among some American youth. Their preference for country life and their sense of altruism are important motivations behind their choice of a major in agriculture. With this in mind, it seems appropriate that colleges of agriculture at Land-Grant universities might try to enhance their appeal to potential students by emphasizing the "close-to-nature" or "back-to-the-basics" aspect of many agriculturally-related occupations and careers. Yet at the same time, the emphasis should not stress preparation for production agriculture.

Throughout this report a distinction has been made between two historically different sets of Land-Grant universities unique to the South. The most common premise might be that dramatic differences exist between the students enrolled in agriculture at these institutions. Such a premise is substantiated on several points; however, the far more impressive finding is the high degree of similarity between the two groups of students. True, these 1862 and

1890 institutions are largely comprised of racially different student bodies, but the students share very positive attitudes toward agriculture as an area offering employment and career opportunities. Since American high schools are currently graduating about 70 percent of all 18-year-old minority youth a further expansion of enrollments in agriculture may depend on the ability to recruit more minority youth into agricultural curricula as the number seeking a college education increases (21). Just as women students contributed much to the growth of agricultural enrollments during the seventies, black and other minority students may be the key to enrollment trends in the eighties.

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APPENDIX A

CURRICULA MOST COMMONLY OFFERED BY COLLEGES OR SCHOOLS OF AGRICULTURE AT 12 MAJOR LAND-GRANT UNIVERSITIES IN THE U.S.

Curricula	Number of institutions*
Animal Agriculture	
Animal Science	12
Animal Industries	8
Dairy Science	7
Meat Science	5
Food Science and Management	5
Food and Nutritional Science	
Food Science	11
Food Industries	5
Plant Agriculture	
Agronomy (Plant and Soil Science)	11
Soil Science	7
Crop Science	7

Horticulture	9
Crop and Plant Protection	8
Entomology and Pest Control	7
Plant Pathology	5
Ornamental Horticulture and/or turf	11
Natural Resources	
Forestry and Wood Science	6
Conservation	5
Environmental Education	5
Fisheries and Wildlife Management	5
Social Science, Economics and Business	
Agricultural Economics	12
Rural Sociology	5
Agricultural Industry and Business	7
Agricultural Marketing	5
Farm Management	5
Agricultural Credit	5
Engineering	
Agricultural Engineering	9
Agricultural Mechanization	8
General Agriculture	
Agricultural Science	7
Education and Communications	
Agricultural Education	11
Agricultural Extension	8
Agricultural Communications	6
Agricultural Journalism	5

*Only curricula reported by five or more universities are included.

Source. Wessels, Warren K. (Undergraduate) Placement Projections. *RICOP REPORT*. David L. Armstrong, Editor. (East Lansing. Michigan State University, 1977). p. 113.

APPENDIX B

STATES, 1890 AND 1862 LAND-GRANT INSTITUTIONS INCLUDED IN THE SOUTHERN REGIONAL SURVEY OF AGRICULTURAL STUDENTS

State	1890 Schools	1862 Schools
Alabama	Alabama A&M University	Auburn University
Arkansas	University of Arkansas-Pine Bluff	University of Arkansas-Fayetteville
Florida	Florida A&M University	University of Florida
Georgia	Fort Valley State College	University of Georgia
Kentucky	Kentucky State University	University of Kentucky
Louisiana	Southern University	Louisiana State University
Mississipi	Alcorn State University	Mississippi State University
North Carolina	North Carolina A&T University	North Carolina State University, Raleigh
Oklahoma	Langston University	Oklahoma State University
South Carolina	South Carolina State College	Clemson University
Tennessee	Tennessee State University	University of Tennessee
Texas	Prairie View A&M University	Texas A&M University
Virginia	Virginia State College	Virginia Polytechnic Institute and State University

APPENDIX C

STUDENT AGRICULTURAL ENROLLMENT, SAMPLE SIZE AND SURVEY RETURN RATE, SPRING 1977, 1862 AND 1890 LAND-GRANT UNIVERSITIES, INCLUDED IN THE SOUTHERN REGIONAL SURVEY OF AGRICULTURAL STUDENTS

University	Enrollment	Sample size*	Return rate
			Percent
Alabama A&M	169	169	51
Alcorn	201	201	33
University of Arkansas at Pine Bluff	98	98	48
University of Arkansas at Fayetteville	691	104	76
Auburn	1,340	180	76
Clemson	839	116	82
University of Florida	895	121	78
Florida A&M	107	107	66
Fort Valley State	85	85	52
University of Georgia	1,398	205	63
University of Kentucky	1,295	185	81
Langston	16	16	69
Louisiana State	1,294	194	71
Mississippi State	1,161	173	76
North Carolina A&T	138	138	91
North Carolina State at Raleigh	2,538	371	91
Oklahoma State	1,905	285	70
Prairie View A&M	85	85	72
Southern	123	123	72
Tennessee State	176	176	41
University of Tennessee	1,422	205	77
Texas A&M	4,151	593	85
Virginia Polytechnic Institute and State University	2,473	371	62
Virginia State	79	79	51
Total sample	22,679	4,380	—

*Sample adjusted for loss of students who could not be contacted because of resignation from school, change to nonagricultural curricula or insufficient address information.

APPENDIX D

TABLE 1. TYPES OF OCCUPATIONS BY AGRICULTURAL AREA DESIRED BY AGRICULTURE STUDENTS ATTENDING SOUTHERN LAND-GRANT UNIVERSITIES

Occupations and agricultural areas	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Self-employed in ag production farm or ranch operator	12.2	23.6	23.0
Hired ag production farm manager or craftsman (horse trainer, farrier, etc.)	1.9	3.9	3.6

Custom work	0.5	0.1	0.1
Ag Production Services			
Veterinarian,[1] farm consultant, government agent, etc.	33.3	30.3	30.7
Ag Supply and Mechanics	0.7	2.5	2.4
Ag products (meat, dairy, grain, etc.)	1.6	0.6	0.7
Ornamental horticulture	4.0	9.7	9.3
Ag Resources			
Fish and wildlife	0.2	1.0	0.9
Forestry	—	0.9	0.9
Ag Professions			
Science and technology	16.5	6.3	6.8
Education	13.6	3.7	4.2
Business and industry	0.9	0.8	0.8
Specialized Ag Services	0.5	0.1	0.1
Ag comunications	2.8	0.8	0.9
Conservation and recreation	11.3	15.7	15.6
Sample size**	425	1,584	2,119

*The proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

**Percentages are based on the total number of students indicating occupations classifiable as agricultural.

[1]No distinction is made between small and large animal veterinarians, although the few students oriented to small animal practice will provide little service to the agricultural industry.

TABLE 2. TYPES OF AGRICULTURAL OCCUPATIONS EXPECTED BY AGRICULTURAL STUDENTS ATTENDING SOUTHERN LAND-GRANT UNIVERSITIES

Occupations and agricultural areas	1890	1862	All students*
	Pct.	*Pct.*	*Pct.*
Self-employed in Ag Production			
Farm or Ranch operator	12.2	19.0	18.3
Hired Ag Production			
Farm manager or craftsman (horse trainer, farrier, etc.)	1.5	5.1	4.9
Custom work	0.3	0.7	0.7
Ag Production Services			
Veterinarian,[1] farm consultant, government agent, etc.	32.7	26.1	26.5
Ag Supply and Mechanics	1.7	4.5	4.4
Ag Products (Meat, Dairy, Grain, etc.)	3.4	1.0	1.1
Ornamental Horticulture	4.1	11.5	10.9
Ag Resources			
Fish and wildlife	—	1.5	1.3
Forestry	0.6	1.3	1.4
Ag Professions			
Science and technology	12.8	7.7	8.1
Education	13.6	4.1	4.6

Business and industry	1.2	1.6	1.6
Specialized ag services	0.6	0.2	0.2
Ag communications	2.0	0.3	0.4
Conservation and recreation	13.3	15.4	15.6
Sample size**	345	1,332	1,783

*The proportions are based on the combined totals for 1890 and 1862 Land-Grant universities adjusted for unequal sample sizes and variable response rates. The 1890 and 1862 profiles represent unadjusted response frequencies.

**Percentages are based on the total number of students indicating occupations classifiable as agricultural. Deflection from desiring agricultural occupations to expecting nonagricultural occupations occurs for 17% of the agricultural students.

[1]No distinction is made between small and large animal veterinarians, although students oriented to small animal practice will provide little service to the agricultural industry.