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ABSTRACT

Data were obtained in 1977 via mail questionnaires sent to students at all 1890 and 1860 Land Grant Universities in the South with programs in agriculture, to examine selected background characteristics and subjective perspectives of agricultural economics majors, compared with majors in production sciences and all agriculture curricula. The weighted sample included 272 agricultural economics majors, 1,328 majors in production sciences, and 2,801 agriculture students. Of the three groups analyzed, agricultural economics majors were more likely to have farm backgrounds, education/work experience in agriculture, and greater commitment to careers in production agriculture: parents had primary influence in choice of major. Agricultural economics majors perceived themselves as being friendlier and more altruistic, more sure of their career orientation, more seriously concerned with the state of the nation and the world, and more willing to accept new ideas than other agriculture students relative to non-agriculture students. Implications for education included probable increases in agricultural enrollment, particularly from among students lacking farm backgrounds/experiences, and thus a challenge for agricultural faculty to use experiential learning programs (cooperative arrangements, internships), expose students lacking farm experience to knowledge of occupational alternatives in agriculture, and augment curricula to compensate for agricultural deficiencies in student background. (CM)

AGRICULTURAL ECONOMICS STUDENTS AT SOUTHERN LAND GRANT UNIVERSITIES*

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ABSTRACT

The purpose of this article is to examine selected background characteristics and subjective perspectives of agricultural economics majors in comparison with majors in the production sciences and all agriculture curricula. Data were obtained in 1977 via mail questionnaires sent to students at all 1890 and 1860 Land Grant Universities in the South offering programs in agriculture. The weighted sample included 272 agricultural economics majors, 1,328 majors in the production sciences, and 2,801 agriculture students. Of the three student groups analyzed, agricultural economics majors were more likely to have farm backgrounds, educational and work experience in agriculture, and a greater commitment to a career in production agriculture. Implications for curriculum development and placement are explored.

AGRICULTURAL ECONOMICS STUDENTS AT SOUTHERN LAND GRANT UNIVERSITIES

Agricultural economics occupies a unique position in most Schools of Agriculture in the Land Grant system in that it, in combination with rural sociology, is the only social science discipline.[1] As social, economic, technological, and other changes have added to the complexity of the U.S. economy, the relative importance of this discipline has increased. Individuals with knowledge of the technical aspects of agriculture and ability to evaluate the social and economic ramifications of alternative actions are increasingly more in demand.

To meet these needs, programs in agricultural economics must attract and retain capable individuals and impart to them the skills desired for employment. Also, as Snodgrass (p. 1155) notes, programs should be concerned with "individual development for self understanding and fulfillment, good citizenship, and living harmoniously with other people and the physical environment." Most writings dealing with teaching programs in agricultural economics have concentrated on curriculum design (Sjo, Orazem, and Biere; Kropp; Manderscheid), training (Snodgrass, Roberts and Lee, Walker), and markets for graduates (Helmberger). Other studies, such as Coutu's, have analyzed departmental strategies for the profession relative to the overall structure of higher education. No current studies exist which characterize the primary input (students) into this system. A better understanding of students as a human resource input could improve system management in such areas as student recruitment, curriculum design and course content and thus, enhance the quality of educational program outputs.

The purpose of this article is to examine selected background characteristics and subjective perspectives of agricultural economics majors in comparison with majors in the production sciences as well as the aggregate of agriculture students. Three major sets of issues are addressed: the background characteristics of undergraduate students, their occupational goals and aspirations, and selected attitudes and self-perceptions they hold. These profiles are intended to generalize to all agriculture students at 1862 and 1890 Land Grant Universities in the Southern region.[2]

METHODOLOGY

Data were obtained from a survey of agricultural students at Land Grant Universities in 13 states comprising the Census South.[3] Agriculture student enrollment lists for Spring 1977 were obtained for each of these institutions. The total undergraduate enrollment of 1890 agriculture students and a 15 percent random sample of 1862 students stratified by university formed the sample consisting of 4,380 students.

Mailed questionnaires were completed and returned by 76 and 53 percent of the 1862 and 1890 school students, respectively. Adjustments considering differential sampling and return rates for the 24 universities were made to allow aggregation of the respondent data (Howell and Parent). The resulting weighted regional sample consisted of 3,178 agriculture students. Among these students were 377 who reported a variety of majors unique to specific universities and not directly identifiable with agricultural education. A weighted sample consisting of 2,801 agriculture, 272 agricultural economics, and 1,328 production sciences students resulted when responses from these students were eliminated.[4] Freshman comprised 18 percent, sophomores 22 percent, juniors 27 percent, and seniors 33 percent of the sample.

RESULTS

Background Characteristics

This section profiles various aspects of the students' personal background in terms of family origins, high school and college experience, and contact with agriculture.

Personal Background. During the past decade, increased attention has been focused on enrollment of women in agricultural curricula. While females comprised a fourth of all students surveyed, their presence in the agricultural economics curriculum was notably less (11%), Table 1.[5] Predominance of men in agricultural economics reflects the traditional male involvement in farm management and production agriculture, although increased numbers of women are choosing farming as a career (Pearson).

Agricultural economics students were more likely to be nonwhite and single than were either production sciences or all majors. They were also more likely to be foreign citizens than all majors, but less likely than production sciences majors.

Student's place of origin can have important implications for curriculum design and alternative teaching methods for School of Agriculture faculty. Agricultural economics students were much more likely to come from farm backgrounds than students in either of the other categories. Over a third of the agricultural economics students were farm-reared while only a fifth of all agriculture students had farm origins. More than half of all students (57%) were from city backgrounds involving places larger than 10,000 population; whereas, only 39 percent of the agricultural economics students had comparable origins.

TABLE 1. BACKGROUND CHARACTERISTICS OF AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Characteristic	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
Female	10.9	32.3	25.4
Nonwhite	13.8	10.7	10.2
Foreign citizen	3.5	4.7	3.1
Married	12.5	16.1	13.4
Residence most of life:			
Farm	37.8	23.3	21.0
Rural nonfarm (less than 10,000 population)	23.3	22.0	22.6
Urban (10,000-500,000 population)	30.8	39.5	41.2
Major metro (above 500,000 population)	8.1	15.2	16.2

Family Background. Education and occupation characteristics of parents can have important influences on children, especially in agriculture because of the family farm tradition in the U.S. The occupational endeavors of parents are an important source of knowledge about alternative careers and the entry paths to various occupations.

Fathers of agricultural students were more likely than mothers to have been reared on a farm, Table 2. This was especially true for agricultural economics majors. Half of the fathers of agricultural economics students and almost two-fifths of the mothers were reared on the farm. This compared to 35 and 29 percent for production sciences majors and 35 and 27 percent for all majors. Thus, for agricultural economics parents', farm origins seemed to be especially important in the child's selection of a college major.

Fathers had higher levels of educational attainment than mothers among all categories of agricultural students. Differences were most pronounced with respect to completion of college. For all students, 42 percent of the fathers and 28 percent of the mothers were college graduates. The gap in educational attainment was much less pronounced between mothers and fathers for agricultural economics majors although the percentage of mothers with college degrees more nearly paralleled that for students in other agriculture curricula. The difference for fathers was 9 percent. Fathers of agricultural economics majors were somewhat more likely to have not completed high school and less likely to be a college graduate than fathers in other categories.

Nonfarm managerial and professional occupations were the most common job types held by fathers of agricultural students. Only a fourth of the fathers held occupations associated directly with agriculture and only 16 percent were involved in production agriculture as farmers or farm managers. Conversely, fathers of agricultural economics students were much more likely to farm, 34

TABLE 2. FAMILY CHARACTERISTICS OF AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Family Background Characteristic	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
Father's Residence			
Reared on farm	51.4	35.3	34.5
City (50,000 or more)	11.4	21.7	21.8
Father's Education			
Less than high school graduate	18.8	15.8	14.8
College graduate	32.8	41.4	42.2
Father's Occupation			
Managerial or professional	38.9	53.1	51.2
Farm production	33.6	18.6	15.9
Ag. related non-production	6.2	6.7	5.2
Mother's Residence			
Reared on farm	38.7	28.9	27.1
City (50,000 or more)	14.4	22.9	22.8
Mother's Education			
Less than high school graduate	11.3	11.1	10.9
College graduate	26.5	27.1	27.6
Mother's Occupation			
Managerial or professional	20.7	22.4	22.9
Employed	46.1	47.1	48.2
Parents:			
Live on farm	43.9	29.0	26.5
Own or rent farm	63.1	41.8	39.8
Primary income from farm	43.2	35.2	32.3
Income below $15,000	32.7	31.2	30.1
Income above $25,000	37.7	34.3	33.8

percent, and less inclined to hold managerial or professional jobs than students in other categories. Occupation of the mother varied little among categories. Almost half of the mothers were employed outside the home and slightly more than a fifth were involved in managerial or professional careers.

Parents of agricultural economics students were much more likely to live on a farm (44%) and to own or rent a farm (63%) than were other parents. Also, farming was a more important source of income for parents of agricultural economics students, 43 percent versus 35 and 32 percent for parents of production sciences and all majors, respectively. Little difference was noted by income level among categories except that slightly more of the parents of agricultural economics majors had incomes over $25,000.

High School and College Background. Students in agricultural economics were more likely to have graduated from smaller schools and less likely to have graduated with an A average than students in other categories, Table 3. This resulted because farm residence of many economics students placed them in less populated areas served by smaller rural schools.

Exposure to agriculture either directly on the farm or through agricultural coursework can have important impacts on career selections by students. Majors in agricultural economics showed a stronger tendency to be involved in agricultural activities in high school than production sciences or all majors. Approximately 40 percent of the agricultural economics majors had completed agriculture courses or had been members of 4-H or FFA organizations while in high school. This was in contrast to the 25-30 percent of the production sciences and all majors who had similar experiences.

Student transfers among colleges and within a college among disciplines are important to agriculture programs at Land Grant Universities in the South.

TABLE 3. HIGH SCHOOL AND COLLEGE BACKGROUND CHARACTERISTICS OF AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Background Characteristics	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
High school:			
Attended private high school	14.7	13.2	12.5
Size of high school:			
Fewer than 150 in class	55.1	39.9	38.4
400 or more in class	17.4	27.5	27.6
Graduated with A average	20.3	25.4	26.7
Completed agriculture course	39.1	24.5	24.7
4-H member	40.6	28.2	25.4
FFA member	42.0	25.6	25.8
4-H and/or FFA member	46.8	32.9	31.8
College:			
Transferred from:			
Junior college	15.7	21.3	18.0
Other college	16.6	20.9	16.6
Had changed major	59.4	54.4	49.7

Approximately a third of the agricultural economics and agriculture majors and two-fifths of the production sciences majors transferred to their current college of residence from junior or other college programs with each source contributing almost equally. Half of all agriculture students and 59 percent of all agricultural economics majors indicated that they had changed majors during their college career.

Agricultural Work Experience. As the majority of agricultural students do not have farm backgrounds, the acquisition of practical skills and knowledge of farm production practices is a concern for curriculum planners and potential employers (Thrift and Robertson). Students were asked about three kinds of work experiences: work on the home farm or ranch, farm or ranch work as an employee, or other nonfarm agriculture related work. Almost half of all agriculture and production sciences students had some farm work experience, while approximately two-thirds of the students in agricultural economics had been so involved, Table 4. Economics majors also were more likely to have had other agriculturally related work experience.

Occupational Aspirations and Goals

This section addresses two major questions: why students choose agriculture majors and whether agricultural economics majors differ in their choices from production sciences and all agriculture majors. Attention is given to occupational goals, residential preferences, and educational and income goals of students enrolled in agriculture.

Occupational Goals. A fundamental reason for college education is occupational or career preparation. College students are generally assumed to select a curriculum which will enhance their potential for reaching occupational

TABLE 4. WORK EXPERIENCE OF AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Agricultural Work Experiences	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
On home farm or ranch	70.8	53.9	48.8
Hired labor (farm or ranch)	65.9	50.7	48.5
Either home farm or hired farm labor experience	80.3	65.2	60.5
Other agricultural work	66.6	61.7	58.9

goals. Many agriculture curricula such as agricultural engineering, pre-veterinary medicine, agronomy, and forestry seem to be rather specific from this standpoint. However, the occupations to which these curricula lead are quite diverse. This section considers several dimensions of occupational choice. Occupational desires of aspirations are distinguished from more realistic occupational expectations and a more detailed examination of the specific kinds of agricultural occupations the students sought is provided.

The majority (54%) of all agriculture students desired a professional and technical career, Table 5. Veterinarian, forester or conservationist occupations accounted for more than half of these professionally oriented students. Only 18 percent wanted to be farm operators or managers. This represents an important consideration when determining the emphasis of an agriculture education program.

As with all students, a high proportion of production sciences majors indicated a desire for professional and technical careers (40%), while farm operation and management were next most preferred (27%), Table 5. Aspirations of students in agricultural economics differed. They indicated less desire for professional and technical careers and greater desire for farm related employment, especially when related to all majors (18 versus 31%). Also, agricultural economics majors were more predisposed to careers involving nonfarm management and administration.

Individuals tend to differentiate their occupational aspirations from their more realistic career expectations (Kuvlesky and Bealer). Differences in desired and expected occupations were reflected in two ways across all curriculum types, Table 5. First, there was an appreciable increase in the level of uncertainty displayed relative to their future occupation, as more than 10 percent who gave an aspired occupation failed to note an expected occupation.

TABLE 5. DESIRED AND EXPECTED OCCUPATIONAL CATEGORIES FOR AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Occupational Category	Students' Desired Occupation			Students' Expected Occupation		
	Agricultural Economics	Production Sciences	All Agriculture	Agricultural Economics	Production Sciences	All Agriculture
	percent					
Professional & Technical	25.6	40.3	54.4	15.3	27.8	42.0
Nonfarm Managers & Administrators	25.9	19.0	13.4	32.5	22.2	15.4
Farm Operators & Managers	30.7	26.9	18.3	20.7	21.0	13.8
All other nonfarm	6.0	2.8	2.8	7.9	6.2	5.2
Not reported	11.8	10.9	11.1	23.7	22.8	23.6

Second, the number of students expecting to enter professional and technical occupations and farming declined.

Only 21 percent of the agricultural economics students expected to be farm operators and managers, a decline of 10 percent from the desired career goal. Similarly, the number expecting professional and technical careers declined by 10 percent. Declines were offset primarily by increases of 6.6 and 11.9 percent for nonfarm managers and administrators and the not reported categories, respectively.

Residential Preferences. Closely allied with agricultural occupations are aspirations and expectations for residential preferences. Traditionally, agricultural careers have been identified with farms, ranches, or small rural trade centers. This is not necessarily true today with the rapid expansion of occupations in the agribusiness sector, especially in the facilitative area. Still, the residential preferences of agriculture students is of interest as the backgrounds of students become more diverse.

Almost 40 percent of all agriculture students desired to live on a farm or ranch, while 54 and 44 percent of the production sciences and agricultural economics majors, respectively, had similar aspirations, Table 6. This seemed incongruent with the fact that almost half or more of the agriculture and production sciences students anticipated inheriting a farm or ranch and 45 percent expected to own a farm or ranch in the future. The situation was magnified even further among agricultural economics students where two-thirds anticipated the possibility of inheriting a farm or ranch yet only 39 percent expected to be a farm owner. These expectations denote a nonfarm orientation for many of these agriculture students. This nonfarm attitude prevailed even though some students foresaw an opportunity for future residence on a farm.

TABLE 6. GOALS AND EXPECTATIONS OF AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Goals and Expectations	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
Desire to live on farm or ranch	43.6	54.2	39.1
Expect to own farm or ranch someday	39.1	45.7	45.3
Expect to inherit a farm or ranch	65.4	50.4	48.6
Educational aspiration: Professional degree	16.4	15.9	21.8
Graduate degree	39.1	45.2	46.1
Educational expectation: Professional degree	2.9	7.5	13.8
Graduate degree	26.0	27.7	29.2
Expect first job incomes of $12,500 or more (1977)	29.6	25.0	28.7

Educational Goals. A college education usually presents multiple career opportunities for the student. Among these are opportunities to pursue business, professional or academic career lines requiring advanced education. Students were questioned relative to these post-college educational aspirations and expectations to ascertain the nature of their educational goals.

Almost a fifth of all agriculture students aspired to a professional degree while 46 percent aspired to a graduate degree, Table 6. However, when evaluated on an expectations basis only 13 and 29 percent, respectively, felt they would attain these goals. Students in agricultural economics expressed less interest in professional programs but more on graduate programs. Only 16 percent aspired to a professional degree and 39 percent expressed the desire for a graduate degree. However, they were not optimistic that these goals would be reached. Only 3 percent felt they would attain a professional degree while 26 percent expected to complete a graduate degree. Aspirations and expectations of production sciences students were not greatly different from those of economics students. Variable job markets and differential returns to an undergraduate degree influence the proportion of students willing to defer gratifications in pursuit of advanced degrees.

Income Goals. Occupation and education goals must ultimately relate to income goals. Students were asked to indicate their anticipated salary from the first job after completing their education. A wide spectrum of income levels, ranging from a minimum of $5,000 to a maximum of $20,000, with six intervening $2,500 categories was used in the analysis.

Income expectations of agriculture students were not high, Table 6. Only 29 percent expected their first job to generate more than $12,500 annual income, with more than half of these in the $12,500 to $15,000 bracket. The most common

expectation was for $10,000 to $12,500 which accounted for more than one-third of all students. Expectations of students in agricultural economics showed a similar tendency.

Attitudes and Self-Perceptions

This section focuses on factors affecting the decision to enroll in an agricultural curriculum. Four sets of influences are evaluated: 1) perceptions of the people who influence the choice of agriculture as a major, 2) perceptions of the importance of different experiences in this choice, 3) assessments of agriculture as compared to non-agricutlure students, and 4) the nature of attitudes toward selected aspects of the agriculture industry and its relationship to society.

Perceptions of Influentials. In attempting to gain insight relative to the reasons college students select a particular curriculum in the School of Agriculture, an analysis of interpersonal contacts with selected individuals was conducted. These individuals may be influential because of the intimacy of the personal relationship or because of knowledge and prestige that is inherent in their position.

A student's choice of college major was found to be influenced by many people, Table 7. Dominant among these were the student's parents. This perceived influence probably emanates from socialization during the childhood and teenage years plus the financial dependence of many students. No other individuals were considered to be influential by a majority of the students. However, four other contact groups were noted as being important by more than a fourth: college teacher or advisor, college friends, other relatives, and high school friends. Influentials identified by production sciences majors varied little from those for all students.

TABLE 7. PERSONS PERCEIVED AS INFLUENCING THE CHOICE OF PRESENT COLLEGE MAJOR FOR AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Influence Source[a]	Students: Agricultural Economics	Production Sciences	All Agriculture
	percent		
Family			
Father	74.3	66.0	66.0
Mother	61.3	62.7	61.4
Brother	32.3	23.6	23.6
Sister	21.8	17.6	17.7
Other relatives	37.0	30.1	29.7
High School			
School friends	32.2	23.4	26.8
School counselor	18.1	16.9	18.5
Vocational agricultural teacher	27.1	17.4	17.4
Other teachers or principal	20.5	20.6	23.1
College			
College friends	43.8	37.0	35.6
College teacher or advisor	47.2	40.3	37.6
Agriculture dean	26.3	12.2	13.1
College alumni	31.6	23.8	23.1
Professional Contacts			
Veterinarian	13.9	23.9	24.4
County extension agent	16.3	14.5	11.1
Clergyman	6.5	5.7	6.3

[a]Includes only responses of "very important."

As with all agriculture students, parents (especially fathers) had primary roles in influencing the choice of a college major for agricultural economics students. Beyond the parents, economics majors noted important influences on the choice of a college major from a larger number of other individuals. While college teachers or advisors, college friends, other relatives, and high school friends were also identified by 25 percent or more of the agricultural economics students, a brother, college alumni, vocational agricultural teacher, and college dean were added to this group.

Perceptions of Important Experiences. Students were asked to identify reasons for their choice of an agriculture major so as to evaluate their motivations for entering the field. Career preparation was the reason offered by a sizeable majority (about three-fourths) of the students in each curriculum grouping, Table 8. Almost half of the students in each grouping noted their "preference for country life" as being important. The only notable differences among curriculum groupings were that agricultural economics majors were much less inclined to select agriculture for altruistic reasons and more inclined to select it for economic reasons. Also, successful agricultural experiences were more important for agricultural economics majors than all students.

Very few seemed to have selected a major in agriculture because they perceived it as a way to obtain good grades. Similarly, college friends and teachers were rarely considered important reasons for the choice of an agriculture major. College teachers or advisors were important for only 5 to 7 percent of the students, with agricultural economics students noting the greatest importance. However, this ranking may be somewhat misleading because significant course experiences, the direct result of stimulating and effective teaching, often influence a student's orientation toward a career line or field of study in less direct ways.

TABLE 8. REASONS FOR CHOOSING AN AGRICULTURE MAJOR RATED VERY IMPORTANT BY AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Reasons[a]	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
Career preparation	76.2	73.0	73.7
Preference for country life	44.6	52.5	48.7
Desire to help others	16.0	26.7	28.6
Successful agriculture experiences	31.2	29.6	24.1
Better chance to earn a good income	22.9	15.6	16.4
Related college course	14.6	13.6	12.0
Related high school course	6.6	5.0	6.4
College teacher or advisor suggested	7.1	5.2	5.0
Better chance to make good grades	4.1	3.4	3.1
Friends were agriculture majors	4.9	3.1	2.9
Family encouragement	3.5	3.3	2.7
High school teacher or counselor suggested	3.5	2.7	2.7

[a]Includes only responses of "very important."

Perceptions of Agriculture Students. A consideration affecting choice of major and eventually an occupation, is the individuals's perception of people in or associated with a particular major or line of work. Students visualize the occupational choice as a point of reference for making plans or evaluating their performance (Shibutani). During college, the critical reference group is composed of students who are enrolled in the College or School of Agriculture. Students were asked to compare students enrolled in agriculture with non-agriculture students. They were asked to rate agriculture students as "more," "the same," or "less" than non-agriculture students on eight descriptive characteristics. The larger of either the more or less ratings was presented. Generally, the opposite rating was virtually nonexistent with the "no difference or same" rating accounting for almost all of the remaining proportion.

A majority of agriculture students perceived themselves as being more friendly and helpful to other people, Table 9. Agriculture students also saw themselves as being more sure of what they wanted to do in life, more seriously concerned about the state of the nation and world, and less interested in making a lot of money. With regard to academic standards, 18 percent perceived their peers as being less interested in competing for high grades. Production sciences majors differed little from the profile for all agriculture students.

Agricultural economics students' perception of themselves relative to non-agriculture students showed some differing tendencies from those displayed by production sciences and all agriculture majors. Agricultural economics majors perceived themselves as being friendlier and more altruistic, more sure of their career orientation, more seriously concerned with the state of the nation and world, and more willing to accept new ideas than other agriculture students relative to non-agriculture students. A slight decline was noted only

TABLE 9. GROUP SELF-PERCEPTIONS FOR AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Self-Perception	Students: Agricultural Economics	Students: Production Sciences	Students: All Agriculture
	percent		
Agriculture Students Are:			
More friendly and helpful to other people	64.8	57.7	56.2
More sure of what they want to do in life	50.2	45.3	43.1
More seriously concerned about the state of the nation and world	34.6	30.2	31.4
Less interested in making a lot of money	17.8	22.2	24.5
Less tolerant of people who come from a different background	19.5	20.2	19.2
Less interested in competing for high grades	21.5	19.2	18.3
More willing to accept new and unusual ideas	20.9	18.3	17.7
More interested in having a good time at college	11.1	9.9	10.6

in their perception of agriculture students being less interested in making a lot of money. Economics students were more likely to view their fellow students as economically oriented.

Attitudes Toward Agricultural Issues. Respondents were asked to express their position relative to a number of issues facing agriculture and society as a whole. These issues included the role of women, government regulation, and future prospects for agriculture. Responses were categorized as "strongly agree," "agree," "undecided," "disagree," and "strongly disagree" with the first two categories reported in Table 10.

Students were optimistic about the future of agriculture. Eighty-eight percent agreed with the statement that good career opportunities existed in agriculture. Only eight percent indicated that agriculture was a declining industry and only 13 percent agreed that agricultural activities can be performed by people having little education. These attitudes reflect the positive orientation to be expected among students preparing themselves for agricultural occupations.

Traditionally, agriculture has been a male-dominated occupation. However, today there is increasing interest among women for careers in this field. Student attitudes varied regarding the suitability of most agriculture occupations for women, although a large portion (76%) held a positive attitude. Agricultural economics majors were more apprehensive about the role of women in agriculture with only two-thirds positive while production sciences majors held attitudes similar to all agriculture students.

Students evidenced fairly strong support for government intervention in agriculture relative to use of chemicals (58%) and soil conservation practices (48%), Table 10. Little difference was noted between production sciences and

TABLE 10. ATTITUDES TOWARD OCCUPATIONS IN AGRICULTURE FOR AGRICULTURAL ECONOMICS STUDENTS CONTRASTED WITH ALL AGRICULTURE AND PRODUCTION SCIENCES STUDENTS

Statement[a]	Students		
	Agricultural Economics	Production Sciences	All Agriculture
	percent		
There are good career opportunities in agriculture	91.9	91.0	87.9
Greater regulation is needed on the use of chemicals in agriculture	42.2	57.2	58.3
The government should be able to force farmers to adopt soil conservation practices if they have erosion problems	42.3	46.2	48.4
Most agricultural occupations are unsuited for women	33.8	25.4	23.9
Most work in agriculture can be done by people with little education	13.1	15.4	12.5
Agriculture is a declining industry	8.3	8.2	7.9

[a]Percentages represent the proportion of the students either agreeing or strongly agreeing with each statement.

all agricultural students relative to these issues. However, agricultural economics majors were much more resistant to supporting government intervention in these areas. Responses by agricultural economics majors were probably influenced by a more extensive familiarity with the economic implications of government regulations.

IMPLICATIONS

Seldom do educators have primary data available to them from a wide cross-section of students in their specialty area. More specifically, we know of no other study that addresses the subjective goals of college students specifically majoring in agriculture and agricultural economics. In these changing times which are marked by a renewed awareness and concern for an agricultural education, it is important that educators in the various agriculture disciplines acquire a better understanding of their student clientele.

The goals and aspirations of agriculture students, as examined in this paper, exhibit much diversity which is reflected to some extent by the variety of curricula encompassed in Schools or Colleges of Agriculture. The small proportions of students who desired or expected occupations in production agriculture reflect the shifting structure of the industry. Fewer individuals are directly involved in the production process, but many play a role in supporting the farmer in such areas as research, technical assistance, marketing, and the provision of inputs and services.

The profile of agriculture students enrolled in Southern Land Grant Universities varied considerably from the stereotyped image of the traditional agriculture student as only about half of them had some experience on the home farm or ranch and a similar portion had hired farm labor experience. Of the groups analyzed, agricultural economics majors more nearly reflected this image because

they were more often from farm backgrounds, had greater educational and work experience in agriculture, and were more devoted to a career in production agriculture. They seemed to have a stronger allegiance to farming as a source of income and way of life. The more frequent farm origins of their parents, students' farm work experiences, and the possibility of inheriting the land resource evidently affected this attitude.

Today, there exists a revived realization of the importance of agriculture in assuring an ample supply of food and fiber for both domestic consumption and world trade. For these reasons, attitudes toward agriculture and agricultural occupations have become more favorable. As a result, agricultural careers have become more attractive to a broader range of young people. Agriculture students appeared to draw a considerable amount of identity from their academic choice, as observed in strong positive perceptions of their agriculture peer group. Additional support for this contention can be found in the optimistic attitudes expressed relative to the agricultural industry and its potential for young people seeking career opportunities.

These attitude changes have been instrumental in the growth and stability of agricultural enrollments at the nation's Land Grant Schools. Increased enrollments have occurred concurrently with a decrease in the rural farm population from which agriculture students have come in the past (U.S. Department of Agriculture). This change and the fact that the number of 18 year-olds and high school graduates in the U.S. population peaked in 1979 (Helmberger) present an important issue for consideration by College of Agriculture administrators and faculty. Agricultural economics will probably continue to draw heavily from students having family ties to production agriculture. However, growth in student enrollments must come from among students lacking farm backgrounds and experiences.

Parents were found to be perceived as the primary influentials affecting the student's decision to enroll in an agricultural related major. College related friends were a second source of influence. Also, personal motivations relating to career preparation and the associated desire to have a career compatible with country living affected this decision. As the number of farms and farmers declines, how do we as administrators and faculty cope with fewer role models and influentials for agriculture? Can increased recruiting efforts effectively substitute for this void? Will economic factors provide the incentives?

The challenge for faculty in agriculture is to develop and incorporate experiential learning opportunities outside the traditional classroom setting into educational programs (Carter and Miller, Thomas). These may include such activities as more attention given to cooperative education arrangements with farm and ranch organizations and with a variety of agribusiness firms. Internship programs with onsite faculty visitation similar to those used by Schools of Education may be another source of agricultural experience for individuals with nonfarm backgrounds. Also, it may be important to expose students who lack farm experience to the realities of agriculture by developing some type of contact early in their college programs with the range of agriculture careers. Perhaps, a course taught on an interdisciplinary basis which describes the various disciplines in agriculture plus the diverse opportunities available within each discipline would facilitate career decisions by students. More complete knowledge of occupational alternatives early in the student's program hopefully would reduce shifts among curricula and enhance allocation of the human resource.

Curriculum and course content should be augmented to compensate for agricultural deficiencies in the backgrounds of students. Also, since almost a third

of the students in agriculture transferred from junior and other colleges, administrators and faculty must be conscious of the nature of these programs and strive to enhance the educational experience. Faculty and administrators can no longer assume that students have a basic familiarity with the industry as a whole or with any of its major subdivisions. Failure to recognize and deal with this situation could result in students having undue difficulty in completing their programs or even worse, being able to graduate with only a cursory understanding of the nature of this system. These concerns gain added significance when one considers that many of the leaders in agriculture come from our Land Grant college campuses.

Agriculture is a more complex industry than it was in years past. However, the agriculture student is different. Educators in agriculture are faced with attemptimg to cope with these shifts by taking an input (students) which has fewer farm experiences and less understanding of the nature of agriculture and developing in it the skills necessary to contribute to a more complex environment. Success in this endeavor will likely necessitate new or expanded forms of field experiences and innovative teaching techniques in all agriculture curricula.

Footnotes

1. The term "agricultural economics" is used broadly to encompass those Departments which perform similar social science activities in the School or College of Agriculture but possibly under different titles.

2. The terms 1862 and 1890 institutions refer to the separate Morrill Acts that created agriculture schools for whites and blacks in 13 Southern and five border states. The 1862 institutions are the larger, predominantly white institutions in each state. In this study, 1890 respondents were approximately 15 percent white, and the 1862 respondents were approximately 5 percent black.

3. Thirteen 1862 and 11 of the 1890 institutions providing agriculture education programs are included as part of this study. The 1890 institutions represented are: Alabama A&M University, Alcorn State University (MS), University of Arkansas-Pine Bluff, Florida A&M University, Fort Valley State College (GA), Langston University (TX), and Virginia State College. The 1862 institutions are: University of Arkansas-Fayetteville, Auburn University (AL), Clemson University (SC), University of Florida, University of Georgia, University of Kentucky, Louisiana State University, Mississippi State University, North Carolina State University-Raleigh, Oklahoma State University, University of Tennessee, Texas A&M University and Virginia Polytechnic Institute and State University.

4. Production sciences majors included: horticulture, except ornamental; agronomy; and animal, dairy, and poultry sciences, excluding pre-veterinary medicine.

5. No statistical tests of comparison are presented because many of the percentages are selected cells from more complex crosstabulations and statistical tests would be inappropriate without benefit of the full table. As the sample is large, the strategy of analysis is to compare percentage differences on a large number of characteristics. We consider differences of 5 percentage points or more to be substantively more meaningful, and less likely attributable to measurement or sampling error.

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