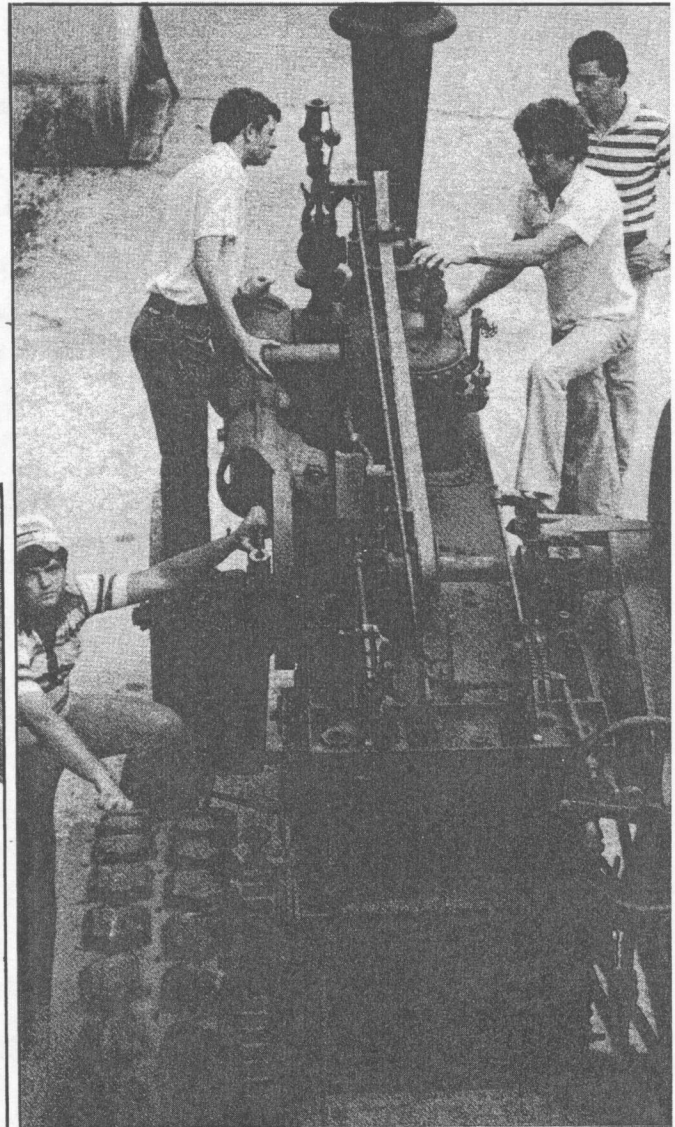
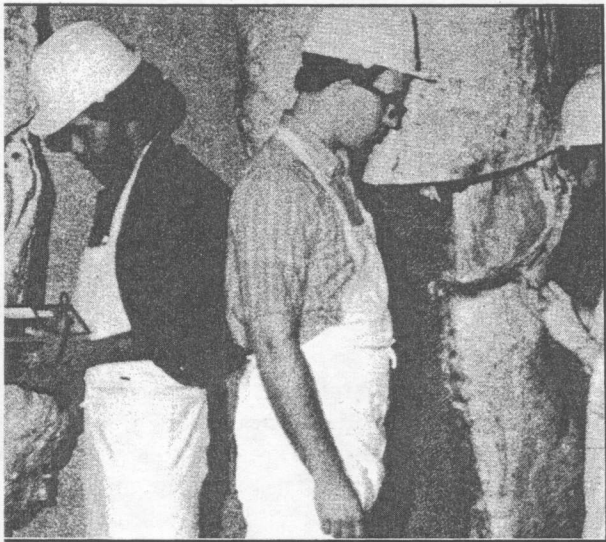


AUBURN

UNIVERSITY

SCHOOL OF
AGRICULTURE





Message From The Dean

TO: High School and Junior College Students

The School of Agriculture programs encompass almost the total spectrum of the sciences that come to play in the living world. At Auburn, all the basic biological sciences, including botany, microbiology, and zoology, are in the School of Agriculture. Included in this School are other professional areas associated with the production, processing, and marketing of food and fiber. These include soil and its management, field and horticultural crop production, agricultural engineering, agricultural economics, poultry, animal and dairy sciences, food science, entomology, and fisheries. Forestry, wood technology, wildlife, marine biology, and landscape and ornamental horticulture are other areas of study for the enhancement of our environment or the furnishing of products in our normal activities.

The basic requirements of human and all other biological life are air, water, and food. Programs of the School of Agriculture include those relating to all three requirements of life-maintaining or improving the quality of water and air, efficient use of water, and the efficient production and wise use of food and fiber for use here and throughout the world.

The School of Agriculture, then, is almost an anomaly; with its diversity of programs it can be almost all things to all people.

This booklet is designed to present a brief insight into the curriculums and majors offered by the School of Agriculture. More interestingly perhaps, it will give you some idea of the variety of careers open to its graduates.

If you find the information in the booklet interesting but you still have questions, please consider this an open invitation to write for more information or, better yet, an invitation to visit with us in Auburn. We would also encourage you to bring your parents or counselor for this visit.

There are many avenues open to graduates in the School. We are anxious to discuss them with you.

Sincerely,

R. Dennis Rouse
Dean

You and Agriculture

AGRICULTURE HAS NEVER been more important than it is now. This is recognized more and more every day - in the United States and throughout the world. Even the fear of wars takes second place to worries about feeding and clothing the world's rapidly growing population.

America's greatest success story has been its abundant production of food and fiber by only a small part of the nation's labor force. This capability has played a major role in keeping the nation on top economically and militarily.

A vital link in this strong agricultural chain has been the agricultural teaching program of schools of agriculture at land-grant colleges like Auburn University. Auburn's School of Agriculture has provided trained men and women needed in all phases of Alabama agriculture, from the actual production through all supporting industries and agencies. And there is no slackening of the demand for technically qualified men and women in this dynamic industry.

A Choice of Careers

But production agriculture - farming - is only one of many careers that are available for graduates of the School of Agriculture. The list of professional opportunities runs into the hundreds, covering such widely varying jobs as agricultural engineer, bacteriologist, biologist, teacher, conservationist, entomologist, extension agent or specialist, farm manager, fertilizer salesman, florist, food technologist, forester, geneticist, golf course superintendent, land appraiser, livestock buyer, market analyst, nutritionist, park manager, pathologist, radio or TV farm director, newspaper farm editor, wildlife manager, and zoologist. Many of these provide excellent career opportunities for women, as well as for men.

Eight separate curriculums are offered by the School of Agriculture, with 12 available majors. Degrees are awarded in agricultural science, with majors in agronomy and soils, animal and dairy sciences, poultry science, horticulture, and agricultural journalism; agricultural business and economics; agricultural engineering; biological sciences, with majors in botany, microbiology, fisheries management, wildlife management, entomology, zoology, and marine biology; food science; forest management; landscape and ornamental horticulture; plant protection, and wood technology. Regardless of the curriculum, the courses provide a broad foundation in the basic sciences, a general knowledge of the applied sciences, and a reasonable number of humanities and social sciences.

Graduate study is available in many specialized areas and qualified students are encouraged to continue study beyond the undergraduate level.

Specialized Teachers, Advisors

Each of the subject matter departments in the School has a specialized teaching staff with more than three-fourths holding a Ph.D. degree. Most teachers also do research at the Agricultural Experiment Station, and all are associated with the research division. This association helps keep them up-to-date on the latest developments in their field, which can be a tremendous advantage to their students.

Another advantage enjoyed by students is the advisor system used by the School of Agriculture. Each student is assigned an advisor who aids in class scheduling or with any special problems he or she may have.

A good background in English, mathematics, and science is needed for successful completion of courses in School of Agriculture curriculums. For this reason, high school students who want to enter the School of Agriculture should take these subjects each year while in high school. Alabama residents are required to complete the American College Test (ACT) on one of the announced national testing dates. Applicants from other states may complete the ACT or Scholastic Aptitude Test (SAT) of the College Entrance Examination Board.

The Junior College Transfer Program at Auburn makes it possible for students to attend other colleges and, by taking suggested courses, to graduate at Auburn University with a minimum loss of time after transfer. All Alabama junior colleges have copies of this program, and information is available from faculty advisors at those schools. Transfer students who fail to follow this program transfer with a distinct loss of time.

Transfer credit is normally not given for any course passed with a grade lower than C. Credit is not allowed for technical agricultural subjects taken at colleges where these courses are taught by faculty who do not have graduate degrees in the subject matter area, unless the student passes validating examinations in the subjects after entering Auburn.

Detailed information about curriculums in each department is presented on the following pages.

Additional information is available by writing to:

Dean
School of Agriculture
Auburn University
Auburn, Alabama 36830

or you may contact the head of department in which you are particularly interested, using the School of Agriculture address. Applications for Admission are directed to the Admissions Office, Auburn University, Auburn, Alabama 36830.



Agricultural Business and Economics -Agribusiness-

Agricultural Business and Economics students are taught the concepts and methods of solving economic problems of agricultural and related businesses. Knowledge of economic concepts contributes to effective management and decision making not only in agribusiness but in everyday life.

The agricultural business and economics (agribusiness) curriculum is administered by the Department of Agricultural Economics and Rural Sociology at Auburn University. Agricultural economics is a social science dealing with producers, processors and distributors, and consumers of agricultural products. The curriculum is designed to train students for employment in both business and agriculture, as well as for careers in governmental agencies serving agriculture.

Agricultural economists in research, teaching, or government service help solve problems that arise in producing, selling, and consuming agricultural products. The business principles learned also help in operation of one's own farm or other business.

Opportunities

Employment opportunities are increasing for graduates with the combined business and agricultural training offered in the agricultural business and economics curriculum. There is already a shortage of college graduates with such training. Increasing emphasis on social and economic problems by business and government agencies is expanding the demand for agribusiness graduates in sales, public relations, services, management, farm organizations, teaching, and research. Most land-grant universities list agribusiness job opportunities as one of their areas of strongest demand, and starting salaries are highly competitive.

Recent graduates are self-employed as farmers or employed by private business firms in positions such as sales managers in poultry and livestock processing firms, sales representatives for agricultural chemical firms, public relations with poultry associations, management trainees for agricultural cooperatives, and

Ag economics students study a computer readout in the computer center, housed in the Department of Agricultural Economics and Rural Sociology.



research analysts with agribusiness firms. Graduates going into public service have accepted employment with agencies such as the Farmers Home Administration, Statistical Reporting Service, Soil Conservation Service, Cooperative Extension Service, Farm Credit Administration, and the Federal Reserve System. Largely because of the economics, business, and statistics courses taken, administrators of these agencies are increasingly interested in hiring agricultural business and economics graduates. Some graduates continue academic study for advanced degrees. Surveys of B.S. graduates reveal that 80 percent of those responding were in careers relating to agriculture and agribusiness.

Course of Study

The curriculum is administered through a faculty advisory system so that individual student programs of study can be developed. During the freshman and sophomore years, emphasis is placed on science, liberal arts, and general agricultural courses. Upperclassmen are offered courses in broad areas of agricultural production, farm management, business, marketing, economics, and policy. Flexibility in selection of elective courses permits students to emphasize training in areas of special interests and to prepare for specific vocational occupations. The curriculum leads to a degree of Bachelor of Science in Agricultural Business and Economics.

Faculty and Facilities

The faculty in the Department of Agricultural Economics and Rural Sociology consists of 14 professional staff members, 13 of whom hold doctoral degrees. The department has a research reference room and electronic calculators, and computer facilities are available for teaching and research.

Field trips are made to business firms, local farms, and other agribusiness enterprises. Surveys of graduates are important in determining the kind of academic training needed as preparation for agribusiness careers.

A limited number of undergraduate students may be employed on an hourly basis to work on research projects in the Department.

Subjects Studied

Principles of Agricultural Economics
Mathematics and Statistics
Credit, Finance, and Farm Record
Analysis and Income Taxes
Agricultural Price Analysis
Land and Water Economics
Agricultural Business Management
Farm Management and Agricultural Production
Cooperative Principles of Agricultural Marketing
Rural Sociology
Agricultural Policies and Programs
Agricultural Law



Students in the Auburn student chapter of the American Society of Agricultural Engineers are shown 'sprucing-up' Old Nancy, a project which won the Auburn chapter a first runner-up award in the annual Farm and Industrial Equipment Institute competition.

Agricultural Engineering

Agricultural Engineering

Agricultural Engineering is the branch of the engineering profession that serves the world's largest industry-agriculture. Agricultural engineers deal with engineering problems associated with the production, processing, and handling of food and fiber.

How Agricultural Engineering Differs

Nearly every problem encountered is associated in some way with biological systems. Agricultural engineers are unique in that they receive fundamental training in the biological sciences, and therefore are specially prepared to help solve the complex engineering problems in agriculture.

Future for Agricultural Engineers

The requirements for food and agricultural raw materials in a rapidly expanding population provide a growing number of opportunities for agricultural

engineers. The demand continues to exceed the supply of agricultural Engineers.

Agricultural Engineering Curriculum

Agricultural engineering includes engineering sciences, engineering design, and agricultural sciences. Also involved are courses in physics, chemistry, mathematics, English, history, and the social sciences. These engineers also complete special agricultural-engineering courses in various areas of specialization. Agricultural engineering is a rigorous engineering curriculum leading to a career in professional engineering. The curriculum is accredited by the Engineer's Council For Professional Development.

Specialities in Agricultural Engineering

The training an agricultural engineer receives in the biological sciences makes him a highly specialized engineer. However, there are opportunities to concentrate on a number of special interest areas. The agricultural engineer can work or specialize in any of the following areas.

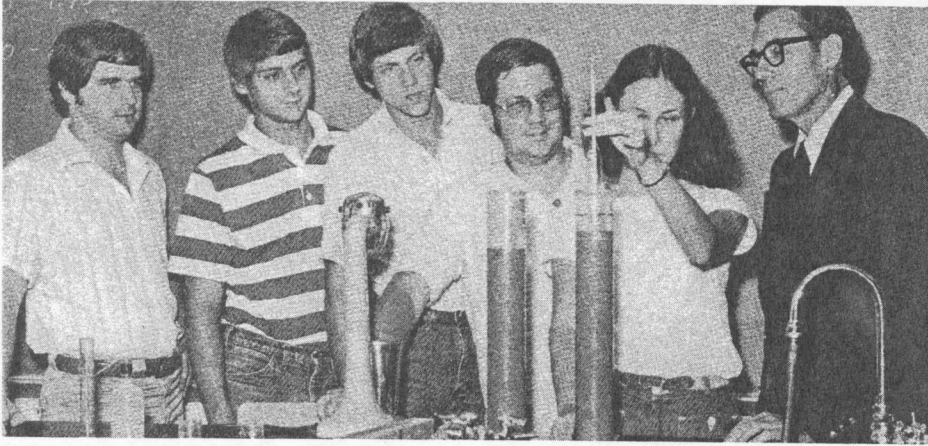
Power and Machinery involves the research design, development, and service of farm tractors, machinery, and equipment. Improved modern equipment demands more engineering training

and competence. The declining farm population means more mechanization ahead. Agricultural engineers with imagination are needed to adapt new energy sources and materials to the refinement and improvement of tillage, planting, cultivating, harvesting, and handling equipment. Much work is yet to be done in machinery automation and the application of microcomputer technology to agricultural processes.

Soil and Water includes irrigation, drainage, erosion control, land and water management practices to conserve and utilize our vital soil and water resources. As the world's population increases, demand for food and fiber will require that larger arid areas of the world be irrigated. The engineering involved in shaping field surfaces, terracing, canal design, and dam construction is a major factor in modern economic crop production. Increasing demands on existing water supplies and reduced stream pollution will require sound water conservation engineering practices.

Electric Power and Processing includes the application and use of electrical energy for moving, grading, sizing, and mixing food and feed crops. In the future farming will require extensive use of electronics, quality-control devices, electrical systems, materials-handling equipment, and basic engineering science. Growing opportunities exist for constructive thinking to improve human and animal environment for agricultural production through automatic control of light, temperature, and humidity and the purification of air and water.

Farm Structures and Environment includes research, design, sale, and fabrication of structures for use by the agricultural industry. It also involves equipment storage buildings, processing centers and environmentally controlled units for maximum plant and animal production and storage. These engineers design buildings complete with materials handling equipment for processing the raw material, removing and disposing of the waste material, and moving the marketable product.



Soils students are shown doing a particle size analysis experiment.

Agronomy and Soils

Agronomy and soils deals with the study and application of crop and soil sciences. Field crops and pastures are the main source of food and fiber for humans and feed for livestock, and they also provide raw materials for many industries. Crop science deals with the study of seeding, cultivating, harvesting, managing, and improving the various crops. Soil science involves study of the chemical, physical, and biological properties of the soil and how to modify these properties for maximum production. With the sudden swelling of the earth's population and the accompanying worldwide demand for more food and fiber, the crop and soil sciences are more important than ever before.

The increase in leisure time in this country has resulted in demands for more and better outdoor recreation areas where there is a need for turfgrass.

The agronomy and soils major in the agricultural science curriculum has two options - crops and soils, and turf management.

For students with a keen interest in biology, chemistry, physics, or earth sciences, agronomy offers a great opportunity to pursue these inclinations and abilities. Students in agronomy include men and women from both urban and rural high schools. Four years of study in this curriculum lead to a bachelor of science degree. For those interested in additional study, both the M.S. and Ph.D. degrees, with majors in either crop science or soil science are offered.

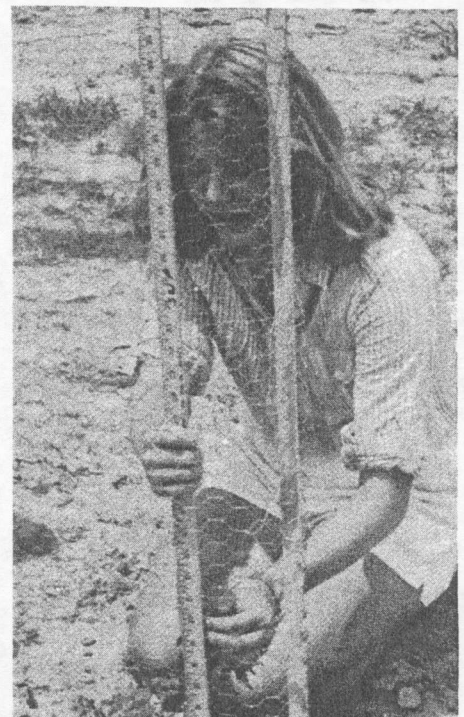
The program of study for a B.S. degree includes courses in science, technology, and the humanities. The basic sciences of biology, chemistry, mathematics, and physics make up the central core and serve as a foundation for a study of the technical courses in crops and soils. There are courses in crops designed to give a student a thorough knowledge of the principles involved in the economic production of grain, forage, fiber, and oil crops. Courses dealing with turf, herbicides, and genetics and plant breeding are also available. There are courses in soils that give special attention to the principles of soil formation and classification; others stress soil fertility and management, including soil conservation and the use of fertilizers.

The Agronomy and Soils Department is located in a modern agricultural science building with well-equipped classrooms and teaching laboratories, a computerized soil testing laboratory, and many research laboratories in which students majoring in agronomy and soils frequently secure part-time jobs. There are greenhouses and growth chambers for various phases of work in crop and soil sciences. Equipment is available for X-ray diffraction and fluorescent analyses, radioactive assay, respiration studies, and cytological work. Special studies on root growth are conducted in a recently completed rhizotron, the first to be built in the United States.

Young men and women with B.S. degrees in agronomy may obtain positions with such agricultural industries as those dealing with fertilizers, pesticides, and seed. They may work in selling, consulting, and managing. There are many opportunities for employment with such agencies as the U.S. Soil Conservation Service and the cooperative exten-

sion services. Many graduates return to the farm and others become involved in such activities as land use planning or turf management. Those with advanced degrees have further opportunities for employment in research or college teaching. Salaries are in line with positions that require commensurate training.

This Agronomy student is shown checking the growth rate of weeds.





How much is a lot of bull—that's what these animal science students are trying to determine in a livestock judging lab.

Animal and Dairy Sciences

Animal and Dairy Sciences embrace all the technical, professional, and business aspects of producing, processing, and distributing meat and dairy products and animal fiber.

Specialized training needed to fill positions in this broad industry is offered by Auburn's Department of Animal and Dairy Sciences. A pre-veterinary option is also offered that provides an opportunity to meet the pre-veterinary requirements and to obtain additional courses in animal and dairy sciences. In addition to the undergraduate major, both M.S. and doctoral programs are available in specialized areas of animal biochemistry, animal breeding, animal nutrition, meats and dairy products, and physiology of reproduction.

Career Opportunities

Varied and rewarding careers are open for qualified animal and dairy science graduates in this expanding field.

Animal and dairy production training prepares students to work as farm operators, breed association field representatives, livestock consultants, sales managers, and livestock dealers.

Meats offer many opportunities, including livestock buying, meat plant management, grading and inspection, quality control, and wholesale and retail meat sales.

Dairy products training qualifies graduates to work in processing plant management, quality control, sales and promotion.

Allied industries, such as banks and other credit agencies, drug, pharmaceutical and chemical companies, feed companies, and agricultural supply companies, employ many college graduates with a background in animal and dairy science.

Communications work with livestock publications, breed magazines, farm magazines, newspapers, and radio and TV stations attracts many animal and dairy science majors.

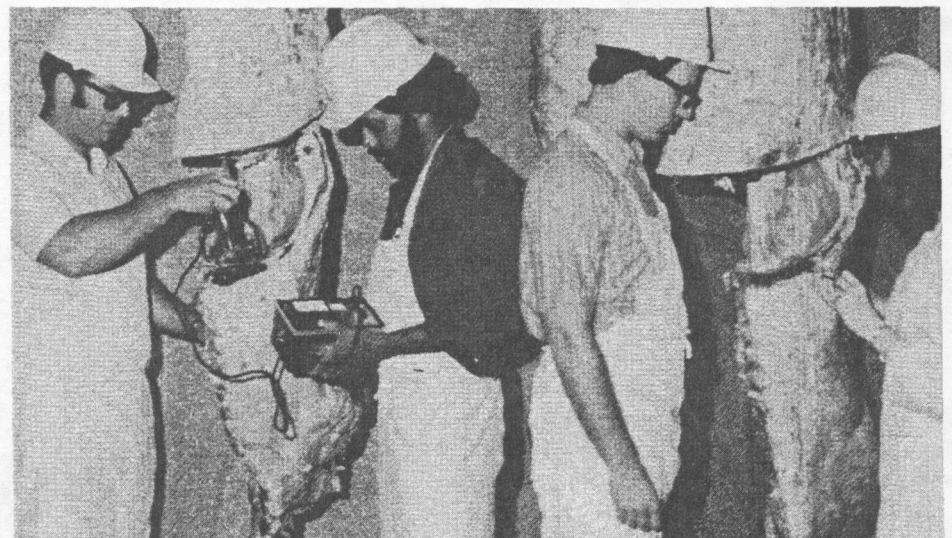
Research and teaching opportunities are many and varied, particularly to majors with advanced degrees. Colleges and universities, foundations, industry, governmental agencies, and cooperative extension services would all be possible employers.

Field of Study

Major courses provide an opportunity for the student to become knowledgeable in all areas of animal and dairy sciences. Subject matter areas include beef production, dairy cattle production, swine production, horse production, livestock judging, carcass judging and grading, animal biochemistry and nutrition, animal breeding and genetics, animal reproduction, meat and dairy product technology, feeds and feeding, and animal physiology.

Supporting work in agronomy and soils, zoology, entomology, chemistry, microbiology, agricultural engineering, economics, mathematics, physics, English, journalism, speech, history, and government is offered by other departments of the University.

These students are grading beef at the Lambert Meats Lab; a unit of the Animal and Dairy Sciences Department.





Botany and Microbiology

Auburn's Department of Botany and Microbiology offers curriculums leading to the B.S., M.S., and Ph.D. degrees in both botany and microbiology. All forms of life ultimately depend for their existence on the activity of plants. In this age of expanding world population with an ever decreasing store of natural resources, the understanding and efficient management of plants is even more important than it has been in the past.

Botany is probably the oldest of the sciences. It originated as a natural response to man's need to identify those species he uses as sources of food, fiber, and medicine. But many professional botanists feel that their science has an ill-conceived and somewhat dull image in the minds of a large section of the public. Unfortunately, the image of the botanist as a person whose sole activity consists of collecting, identifying, and classifying plants has tended to persist. Taxonomy, as this aspect of botany is called, is indeed an important cornerstone of the subject, but in reality it occupies only a minor part of the time of a student enrolled in a modern botany curriculum. If a botanist who graduated fifty years ago were to wander through a present day botany department he would have great difficulty in recognizing much of what he saw as pertaining to the discipline he had studied.

Auburn's botany curriculum includes, among other topics, studies of: cell structure (cytology); tissue structure and organization (anatomy and morphology); the growth, functioning and develop-

ment of plants (physiology and plant biochemistry); reproduction and inheritance (genetics); and the relationship of plants to their environment and to other species (ecology). Courses are also offered dealing with special groups of plants such as the algae and the fungi. Because of the importance to the world's economy of healthy plants showing high crop yields, courses are also offered that consider the nature, causative agents, and control of plant diseases (plant pathology) and the problem of weeds and their control (weed science).

Botany courses, primarily in the areas of plant pathology, microbiology, and weed science are an integral part of the new multi-disciplinary curriculum in plant protection. This relatively new branch of applied biological science offers a fascinating and challenging program to students, and one which is currently available at only a very few universities.

Career opportunities for professional botanists exist in a wide range of areas. In industry, botanists are employed by agricultural chemical companies, the pharmaceutical industry, fermentation industries, food processing companies, seed producing and marketing companies, etc. Federal and state agricultural and scientific agencies, agricultural experiment stations, and state and national park services all employ botanists on their staffs. Some botanists choose a career in teaching at the high school, junior college, or university level. As national needs and interests change with time new areas for the employment of botanists continue to open; currently, graduates in botany from Auburn are employed in pollution monitoring and control, and as environmental quality consultants. As with all other sciences, obtaining the more senior jobs with greater responsibilities usually requires the student to continue his botanical education to the M.S. or Ph.D. level.

Unlike botany, microbiology is a relatively young science. It deals specifically with the nature and activities of those organisms, such as bacteria, viruses, micro-fungi, and algae which are too small to be seen with the naked eye.

It is only in the past 100 years that the fundamental importance of microorganisms in man's affairs has come to be appreciated. Certain species are the causative agents of the majority of plant and animal diseases. Some microorganisms are however essential symbionts for good health, and others are the principal agents of decay and are important in recycling of nutrients through the ecosystem.

Like the student of botany, a major in microbiology studies both basic and applied aspects of the subject. Microbiology courses currently offered include: microbial taxonomy, microbial physiology, virology, immunology, clinical microbiology, and sanitary microbiology.

Graduates in microbiology find employment in a wide range of professions. The medical profession employs microbiologists in research, medical technology, virology, and immunology. In the food, pharmaceutical, and fermentation industries they are employed as research workers and in quality control. Increasingly, microbiologists are finding their talents needed in those public service professions concerned with the maintenance of health and a quality environment.

In summary, both botany and microbiology curriculums offered at Auburn present interesting and challenging courses of study with the prospects following graduation for a worthwhile, responsible, career in the service of mankind.

This microbiology student is shown looking for mold on grain samples.



Fisheries and Allied Aquacultures

Trained fishery biologists, aquatic ecologists, and aquaculturists can help provide additional sport fishing opportunities, the protection of our valuable aquatic resources, and the increased supplies of food fish that will be needed in the future. The Department of Fisheries and Allied Aquacultures excels in presenting a variety of classroom and laboratory experiences and research opportunities in the areas of sport fish management, aquatic ecology, and aquaculture. Training is offered leading to the B.S., M.S., and Ph.D. degrees. The first two years of the undergraduate curriculum are devoted to enhancement of basic skills in chemistry, mathematics, biology, physics, English, and history. A wide variety of fishery courses is available during the junior and senior years. Students with above average records are encouraged to participate in a special problems course where an opportunity is given to develop and implement a research project. Advanced degree students can specialize in such areas as:

- sport fish management
- aquaculture
- limnology, water quality, and plankton dynamics
- fish parasites and diseases
- fish nutrition, fish processing and technology
- ichthyology

Both undergraduate and graduate students find ample opportunity to contribute to the Department's varied activities, and in doing so obtain valuable experience in a variety of specialties.



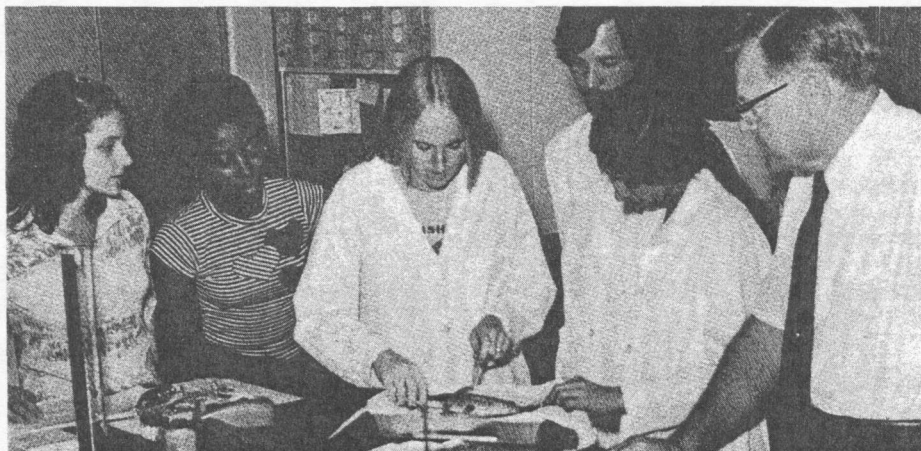
Fisheries students examine rainbow trout, which were over-wintered for the first time at Auburn.

The Department's warm water research station is recognized as being one of the world's best. Approximately 700 experimental units are available, ranging in size from small tanks to a 26-acre pond. The research facilities are extensively used as a "laboratory" for teaching. Having first-hand experience handling fish and observing their reproduction, growth, and mortality are opportunities few institutions can offer.

Because fish are primarily a public resource, management of fisheries is mostly a state or federal function. However, private fish farms, especially in the southeast, are becoming aware of the need for trained managers. For many positions, a M.S. degree is an increasingly frequent requirement. Avenues of employment are: State fish and game

departments, such as the Alabama Department of Conservation and Natural Resources; federal agencies, such as the U.S. Fish and Wildlife Service; fishery research laboratories, private fish hatcheries; fish and bait farms; handlers and producers of tropical fish; and international organizations; such as the Food and Agricultural Organization of the United Nations.

The profession offers many intangible benefits for those who enjoy working with renewable resources. For example, fishery biologists manage aquatic ecosystems to provide quality fishing year after year. Fish culturists operate hatcheries, or intensively raise fish in ponds as a cash crop. In either case, the biologist spends much time throughout the year outdoors. However, simply liking to hunt and fish in itself is not enough. Management and research activities demand considerable skill in the basic as well as the applied sciences. In fisheries, as in all biological sciences, mathematics, computer programming, and statistical analysis are being used in problem-solving. Also, the ability to communicate effectively is essential. High school students should acquire a good academic background that should include courses in biology, mathematics, chemistry, and physics. Languages and humanities are as important to fisheries as to other sciences.



Fisheries students are shown examining diseased catfish.



Students in a food science lab are shown cutting up a side of beef into steaks.

Food Science

The American consumer has been brought up on a wide variety of wholesome, tasty, convenient, and abundant foods. Americans enjoy the world's highest living standard, and only a small percentage of the nation's work force is required to provide the food products that help make life pleasant. All of this is possible because of the productivity of the American farmer and the ingenuity and efficiency of the nation's food industry.

With a rapidly expanding population throughout the world, providing enough food is the major global problem. The U.S. not only has responsibility of providing food and fiber for American consumers, but is the world's major exporter of food for hungry nations across the world. The vast food industry complex in the U.S. is the most efficient in the world, but food demands at home and abroad dictate that we further expand and increase food processing efficiency.

To help provide technologists and scientists needed by the food industry, Auburn University has a Food Science Curriculum. This course of study in the

School of Agriculture is administered by a committee from the departments of Animal and Dairy Sciences, Horticulture, and Agricultural Engineering. It provides coursework in the following areas:

- basic sciences
- food sciences and technology
- other applied sciences
- social sciences
- communications
- physical education and military science
- electives

As students progress through their training they first gain a knowledge of the basic sciences - chemistry, physics, microbiology, and mathematics. This basic knowledge is then applied to the manufacturing, processing, preserving, and distributing of foods. Through their choice of elective courses, the students may gain additional competence in the areas of business administration, science and technology, or public health. This training will prepare the graduate for a career in one of the many facets of food technology such as research, development, processing, packaging, quality control, marketing, governmental regulation, and foreign trade.

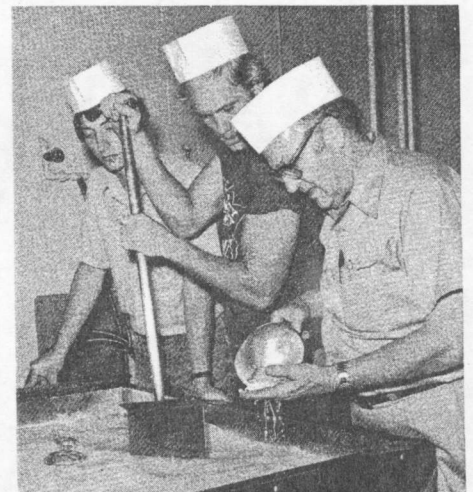
Your Future in Food Science

In Alabama there are more than 300 food processing establishments and, in

the U.S., more than 40,000. Graduates in these programs, thus, have a bright future, as consumers here and abroad demand increasing amounts and variety in convenient, high quality, economical foods.

Starting salaries in the food science and technology field are good - comparable to those in other scientific fields. Opportunities for advancement are unlimited for the well-trained food science graduate.

Food science professor and students are shown making cottage cheese.



Forestry

The academic program in the Department of Forestry involves two broad career areas: forest management and wood technology. While these two areas are related they are also noticeably different.

Forest managers are prepared primarily for positions involving the management and administration of rural lands not being used for crop, pasture, or other agricultural purposes. Foresters' responsibilities frequently focus on the timber resource, but other natural resources are also involved. In their capacities as land managers, foresters may be employed by industrial firms; federal, state or local governments; individual land owners; or by consultants or contractors supplying services needed by land owners of all categories. The field of forestry, however, is broader than just land management. Persons with forest management degrees are employed to buy and sell timber, perform public relations and promotional services, appraise land, teach, and do research and extension work. Furthermore, since the field is broad it touches many other professional areas and many foresters have been successful in developing careers that form bridges to other diverse areas such as remote sensing, banking, and law.

It is the responsibility of many foresters to manage land to produce crops of trees. This includes the establishment of stands, their protection and cultivation, and finally, their harvest. Once the trees have been cut, however, the wood technologist takes over. The wood technologist is concerned with converting logs into products useful to man. The logs may be turned into posts, poles, or pilings; sawed into lumber; chipped for particle board or wood pulp; turned into veneer or plywood; or subjected to processes which yield one or more chemicals. These products, in turn, may be used in buildings or other structures, furniture, musical instruments, paper, or in any of a host of other products. Wood technologists are prepared primarily to design and control the processes used to produce these products, and also to manage the manufacturing plants in which these processes take place. Since production usually is a function of private enterprise, most wood technologists are employed by industrial firms; however, many are engaged in research in governmental or university laboratories, in promotional activities with trade organizations, in consulting, and in university level teaching and extension. The field is broad and career opportunities are abundant.



Forestry students learn about the complete growth cycle of trees and their use after cutting. This young forester is shown examining a loblolly pine seedling in the greenhouse.

The program of the Department of Forestry is comprehensive. Both the forest management and wood technology curriculums lead to the bachelor of science degree. In addition, the Forestry Department is approved to offer graduate work leading to both the master of science and doctor of philosophy degrees in forest management and wood technology. At the undergraduate level, the Department of Forestry has an honors program which may be entered by students completing the first two years of the forest management curriculum with a sufficiently high academic record. Students in the honors program pursue highly individualized programs of study which permit them to explore specialized areas of interest, prepare for graduate school, or obtain a more rounded education.

The administration and teaching functions of the Department of Forestry are centered in M. White Smith Hall, a

modern building with excellent classroom and laboratory facilities. Wood technology research is centered in the Auburn Forest Products Research Laboratory, which was dedicated in 1977. In addition, the Department has a greenhouse and a weather station. An 80-acre woodlot, which is within walking distance of the forestry building, is available for outdoor study. Other areas, including the Tuskegee National Forest, and forest industry properties are available within a half-hour's drive of campus. An extensive, up-to-date collection of literature on forestry and supporting subjects is housed in the Biological Sciences Section of the Ralph Brown Draughon Library.

The faculty of the Department of Forestry consists of more than 20 foresters and wood technologists. All members at the level of assistant professor or higher hold doctorate degrees and have had non-academic field experience.

Horticulture

A challenging and rewarding career - one tailored to your temperament and greatest ambition - awaits you in the field of horticulture. Horticulture combines the arts and technical sciences into a pleasing blend. Graduates trained in horticulture enjoy a feeling of personal well being, along with good earning power, while working in a dynamic field that is necessary for the enrichment of our lives with nutritious, flavorful foods and the beauty and utility of decorative plants.

Training Horticulture Students

Both ornamental and general horticulture students take a basic core of courses in the communication arts, physical and life sciences, and humanities. In addition, students take courses in landscape gardening, entomology, plant physiology, soil sciences, and plant pathology. The horticulture curriculum is divided into general horticulture and ornamental and landscape horticulture with specific options in each area.

General Horticulture

This curriculum trains students for work in production, marketing, and utilization of fruits and vegetable crops. These students take courses in orchard management, plant propagation, genetics, vegetable crops, production of fruit and nut crops, crop storage, packaging and marketing, and food sciences.

Landscape and Ornamental Horticulture

A blending of the arts and sciences, this curriculum is one of the life sciences, but is concerned with the art of using plants for enrichment and personal well being rather than for food, fiber, or shelter. Ornamental horticulture students select one of the following options: florist crop production, flower shop management, nursery crop production, or landscape horticulture.

In Florist Crop Production and Flower Shop Management students study flower arranging, vegetable crops, fundamentals of florist crop production, flower shop management, and other management and salesmanship courses. Emphasis in these options is on production and use of greenhouse crops such as cut flowers, potted plants, tropical foliage plants, and bedding plants.



A crops class is shown looking at a row of cabbage plants in a garden at the Horticulture Farm.

Nursery Crop Production students study nursery crop production, orchard management, turf management, care and maintenance of ornamental plants, nursery management, plant propagation and identification of trees, evergreen, and deciduous shrubs and vines. Emphasis in this option is on production and marketing of nursery plants.

Landscape majors study principles of landscape design, intermediate landscape design, advance landscape design, graphics, care and maintenance of ornamental plants and identification of trees, evergreen, and deciduous shrubs and vines. The emphasis of this option is to train students in the principles and practices of landscape design.

Employment Opportunities

Positions are available in direct production of horticultural crops as owner or manager; sales, services and consulting that support production of horticultural crops; sales of horticultural crops at wholesale and resale levels; landscape designing, controlling and maintenance of homes and businesses.

Positions are also available in management and consulting, regarding public and private recreational areas; teaching horticulture in high schools, trade schools, and colleges; carrying out research at state and federal experiment stations and for private companies.

Involvement in regulatory agencies governing foreign plant introductions, plant and harvested crop inspections, use of pesticides, and industrial import studies is also available to horticulture graduates.

This ornamental horticulture student is shown during a greenhouse lab.





Students in the plant protection curriculum get training in many areas, including plant and row spacings as this class sees.

Plant Protection Curriculum

Diseases, insects, vertebrate and invertebrate pests, and weeds cause annual losses of billions of dollars each year in agricultural production in this country. Not reflected in these annual losses are those incurred in recreational areas, parks, and home lawns and gardens. These losses would be considerably greater were it not for the closely coordinated programs in plant protection which utilize biological, cultural or cropping, and chemical integrated management or control of these pests.

In recent years major reliance for pest control has been with chemicals including bactericides, fungicides, herbicides, insecticides, nematicides, rodenticides, etc. Since improper and excessive use of chemicals can contribute to resistant strains of pests, damage to the environment, the replacement of one pest with another, and human controversy, scientists have been stimulated to research other means of pest control such as: biological and cultural control, mechanical means of control and integrated pest management.

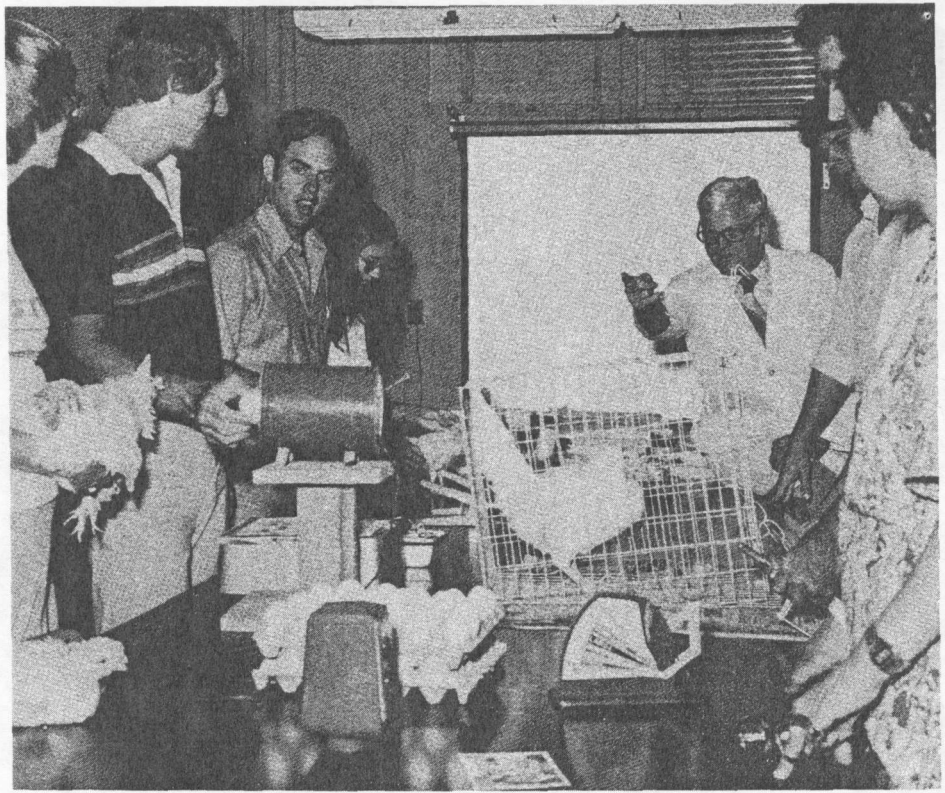
This has led to the development of an interdepartmental curriculum in plant protection. It is designed to teach students how to control pests by utilizing cultural, biological, physical, and

chemical means in integrated programs that will keep pest populations below crop damaging levels. The control of crop pests requires a broad knowledge of the ecology of the agriecosystem and management of such a system. Pest control measures should be such that control of one does not increase the problems with another. A combination of measures should be utilized to suppress the pest while producing the least damage to natural enemies and other components of the ecosystem. Protection of crops requires a blend of disciplines with entomologists, plant pathologists, and weed scientists, integrating their sciences with those of the agronomists, geneticists, chemists, horticulturists, engineers, and economists. This curriculum is interdepartmental between the departments of Agronomy and Soils, Botany and Microbiology, and Zoology-Entomology.

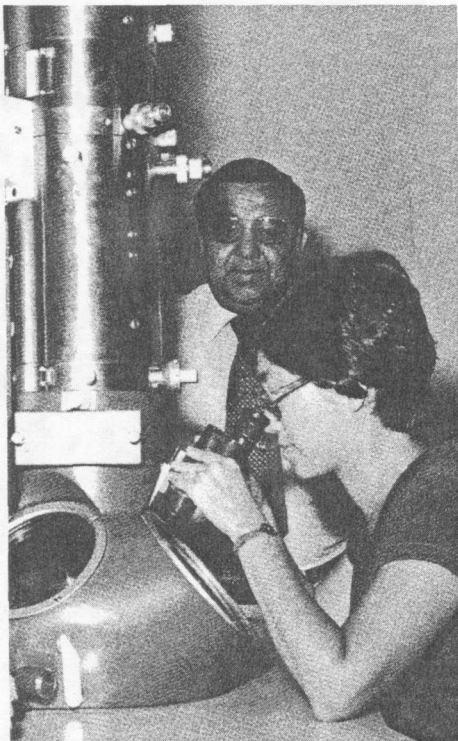
Recent emphasis by the public and government on environmentally safe pest control has created employment opportunities for individuals well trained in plant protection. Specific employment opportunities include positions with the Environmental Protection Agency, sales and research and management positions with agricultural chemical industries and other agribusinesses, positions as quarantine and pest control inspectors with USDA Animal and Plant Health Inspection Service and state regulatory agencies, positions as research scientists, extension agents, and specialists with state and federal programs, and careers as private consultants in plant pest management and control.



Plant identification is a major part of plant protection and these students are shown identifying plants in a lab.



Students in a poultry science lab get the 'lowdown' on the characteristics of an efficient egg laying chicken.



This poultry science student is shown examining cell structure of a diseased chicken, using the department's electron microscope.

Poultry Science

Undergraduate studies in Poultry Science are designed to equip bright, enthusiastic students for future leadership in a dynamic food production industry. The poultry industry is highly specialized. Its leaders must be well qualified in basic and technical areas, as well as in communication and business subjects. In the poultry science curriculum, an attempt is made to give the student a wide base in the sciences and humanities as the foundation on which technical knowledge can be added. With the broad areas of available employment, no attempt is made at the undergraduate level to make specialists of the students.

The Poultry Science Department has staff competence and course offerings in the areas of production and hatching management, processing, genetics, nutrition, physiology, and diseases of poultry. In formal course work, the student is acquainted with basic concepts of avian biology and the interrelationship of the bird to its environment. Students with inquisitive minds are encouraged to select, as juniors or seniors, a poultry problem course, where an opportunity is given for them to design and complete a research project of their choice. This enables them to become familiar with library techniques, report writing, and interpretation. Business training in this curriculum is offered in cooperation with the Department of Agricultural Economics and Rural Sociology and the School of Business.

The departmental research facilities are used as an important part of teaching. Where possible, students are employed to assist in research where they may have close contact with the professional staff and apply knowledge obtained in formal study. This enables the student to obtain some competence in specialized areas. Upper level undergraduates are encouraged and assisted by faculty and industry to obtain summer employment with one of the major poultry companies to become familiar with commercial poultry production.

The poultry industry has made enormous growth in the past 25 years and is currently the leader in Alabama agriculture. Coupled with this growth has been a drastic change in complexity - from the farm flock, where the housewife was the caretaker—to large environmentally controlled units where engineers and poultry graduates work as a team with business managers. This growth and complexity has created need for more technical and managerial people than the universities have supplied.

The complexity and business-like nature of the poultry industry has demanded a continuous search for personnel in areas such as sales, service, purchasing, business management, disease control, feed manufacturing, personnel management, hatchery management, and farm management. The Poultry Science Department is in a position to be of vital service in supplying bright young men and women for industry at the B.S. and advanced levels of training.



Entomology students are shown identifying butterflies.

Zoology- Entomology

The Department of Zoology-Entomology is the largest and perhaps the most diverse department on the Auburn campus. Educational opportunities are offered, which in turn will lead to the B.S. degree in the general area of zoology, as well as in the more specialized areas of entomology, marine biology, and wildlife. M.S. and Ph.D. degrees are offered in entomology and wildlife as well as in the basic zoological sciences.

ZOOLOGY

This curriculum includes all of the animal-oriented basic biological sciences. Opportunities exist for the study of both laboratory-oriented (anatomy, embryology, genetics, and physiology) and field-oriented zoological sciences (ecology, systematics, and natural history). Advanced training in specialized areas of most laboratory and field-related disciplines is open to qualified individuals.

Depending upon the specific training of the individual, employment opportunities include:

- (1) Research and/or teaching positions with colleges, universities, and museums.
- (2) Research, administrative, and consulting positions with various state

and federal agencies and with private industry.

- (3) Public relations and sales positions in private industry.

In general, opportunities are much greater for those holding advanced degrees.

ENTOMOLOGY

Insects are major competitors with man for possession of the earth. There are more than 700,000 different kinds of insects, and, although many are beneficial, others destroy crops, harm animals, spread diseases, and cause other types of damage and annoyance. The Department offers opportunities for study of various aspects of entomology: identification (taxonomy), life history, physiology and control by chemical, cultural, biological and pest management methods.

Employment opportunities for individuals trained in entomology include:

- (1) State agricultural experiment stations, the federal government and private industry,
- (2) teaching, agricultural extension, and regulatory work,
- (3) chemical companies and pest control organizations for research and development, sales, public relations, and practical control work,
- (4) land-use projects where entomologists develop environmental impact assessments.

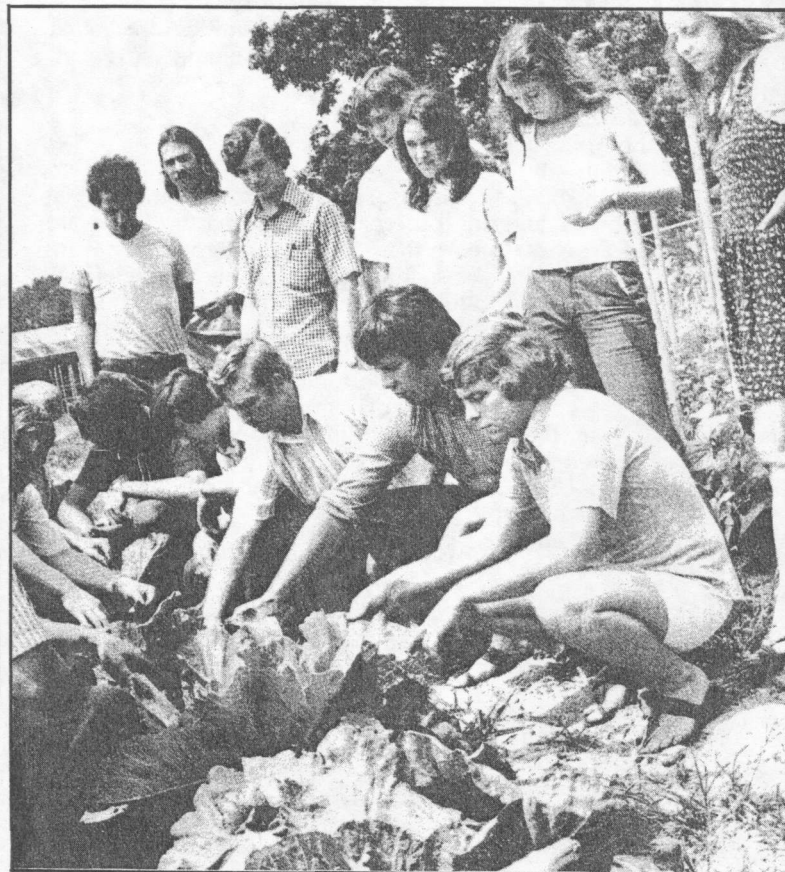
MARINE BIOLOGY

Training leading to the B.S. degree in marine biology is available. Students take basic and background courses at Auburn and spend at least one summer, and preferably two, taking courses at an approved marine station such as the Gulf Coast Research Laboratory at Ocean Springs, Mississippi or the Marine Environmental Sciences Consortium at Dauphin Island, Alabama. Marine biology is a fascinating but highly competitive area. Students should strive for high scholastic records and plan to do graduate work after earning the B.S. degree. Employment opportunities are enhanced by high levels of achievement in undergraduate and graduate studies.

WILDLIFE

America's wildlife is enjoyed by millions each year. Game and non-game species provide endless hours of recreation for hunters, campers, photographers, and for people in all walks of life. Outstanding opportunities for studying wildlife and game management are offered at Auburn University leading to careers in wildlife management, conservation, and research, including:

- (1) Owners of large estates and large pulp and timber producing companies,
- (2) state conservation departments for research and game management programs, supervisors on state-owned lands, and conservation officers,
- (3) the U.S. Fish and Wildlife Service and many other Federal agencies,
- (4) conservation organizations such as Ducks Unlimited.



*Auburn University is an equal
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