

is a mutually advantageous arrangement for the student, for the teaching program, and for the agricultural research program. At the present time, enrollment in the College of Agriculture is about 900 students, 160 of whom are pursuing advanced degrees for either the Master of Science or the Doctor of Philosophy.

This is an internationally unique system of teaching and research for agriculture, where the federal and state governments work closely together, where the states are organized and cooperate among themselves, and where the teaching and research programs show highly significant results. This system deserves continued preservation and support by our people in the future.

THE TEACHING FUNCTION of the COLLEGE of AGRICULTURE

P. A. Nystuen
Assistant Dean

Opportunities

Many dynamic careers await youth in agriculture. Academic degrees in agriculture offer rewarding careers, not only in farming and ranching, but also in business, industry, education, research, government services, communications, conservation and recreation.

Agriculture is one of the oldest arts and one of the newer sciences. It includes the production of plants and animals useful to man and the preparation of these products for man's use and their distribution through marketing.

Agriculture is much more than farming. It is science at work for the well-being of the world. It includes business and industry furnishing supplies and equipment to producers, as well as the buying, selling and processing of crops and livestock which turn these products by mechanized magic into appealing packages on the store shelf. Amazing advancements in agricultural efficiency have made possible the production of more food and fiber for the world by fewer people than ever before.

Great opportunities exist for young people of integrity and ambition who have the capacity for hard work, for leadership and for acceptance of responsibility. Agriculture employs people in a

broad range of positions including everyone from the day laborer to the college or corporation president. Many fields of agriculture are actively seeking recruits, both men and women, for jobs more often located in the city than on the farm. These fields are asking constantly for more college graduates to devote their energies to tasks which make the United States a worldwide symbol of abundance. Not all of the demands for graduates are being met.

Many of the thousands of jobs in hundreds of occupations were relatively unknown a few years ago. North Dakota State University graduates in agriculture have made successful careers locally, nationally and internationally.

Employment opportunities in agriculture are available in eight major areas.

Farming and Ranching: production of bees, beef cattle, cotton, dairy cattle, flowers, fruits, grains, greenhouse crops, hay, nursery stock, sheep, swine, poultry, timber, tobacco, vegetables and other specialized crops.

Research: investigation into conservation methods, crops, equipment, ecology, forestry, livestock, soil, rural sociology, management, marketing, processing, production methods, health and recreation.

Education: teaching in extension services, high schools, colleges, farm organizations, government agencies, private industries and foreign countries.

Industry: dealing with the production or processing of farm equipment, fats and oils, feed, fertilizers, food, forest products, fuel, herbicides, machinery and pesticides.

Business: including banking, credit, insurance, grading, land appraisal, marketing, merchandising, packaging, public utilities, transportation, sales and warehousing.

Services: consulting and working with federal, foreign, state or local governments and private enterprise on agricultural problems such as inspection and grading of farm products.

Communications: telling the agricultural story through advertising, exhibits, motion pictures, photography, publications, public relations, radio and television.

Conservation and Recreation: management of forests, soil, water, wildlife, game preserves, golf courses, parks and playgrounds.

Jobs in Agriculture

Actual jobs in agriculture are of an amazing variety. Some of the many possible careers that the College of Agriculture can help students prepare for are as follows:

Agricultural Attache
Agricultural Chemical Salesman
Agricultural Consultant
Agricultural Commodities Broker
Agricultural Economist
Agricultural Engineer
Agricultural Instructor
Agricultural Missionary
Agricultural Editor
Agricultural Statistician
Aerial Applicator
Agronomist
Animal Husbandman
Bacteriologist
Baker
Bakery Manager
Banking Official
Beekeeper
Biochemist
Biologist
Biophysicist
Botanist
Breeding Technician
Brewer
Cereal Chemist
Cereal Technologist
College Faculty Member
Commodity Grader
Commodity Fieldman
Conservationist
Cooperative Manager
County Extension Agent
Dairyman
Dairy Plant Manager
Dairy Technologist
Director of Research
Elevator Manager
Entomologist
Extension Specialist
Farm Appraiser
Farm Credit Manager
Farmer
Farm Equipment Specialist
Farm Machinery Dealer
Farm Manager
Farm Operator
Farm Planner
Farm Realtor
Farm Store Manager
Feed Dealer

Feed Salesman
Fertilizer Salesman
Field Crop Grower
Florist
Flour Miller
Food Processor
Food Retailer
Food Technologist
Foreign Agriculturist
Forester
Fruit Grower
Geneticist
Golf Course Superintendent
Grain Buyer
Grain Processor
Greenhouse Operator
Herdsman
Horticulturist
Inspector - Food or Feed
Insurance Agent
Laboratory Technician
Land Appraiser
Landscape Architect
Livestock Breeder
Livestock Buyer
Livestock Feeder
Macaroni Processor
Machinery Salesman
Maltster
Market Analyst
Market Reporter
Meat Department Manager
Nurseryman
Nutritionist - Plant or Animal
Organization Fieldman
Park Manager
Park Ranger
Pathologist - Plant or Animal
Physiologist - Plant or Animal
Poultryman
Produce Department Manager
Public Relations Director
Purchasing Agent
Quality Control Supervisor
Radio Farm Director
Rancher
Rural Sociologist
School Administrator
Seed Grower
Seed Merchandiser
Soil Scientist
Turf Specialist
TV Farm Director
Vegetable Grower
Veterinarian
Wildlife Manager
Zoologist

Employment

Recent B.S. graduates from the NDSU College of Agriculture have found employment as follows:

5 Year Summary 1968 to 1972 Inclusive

	Number	Percent
Farming & Ranching	272	31.9
Graduate Study	106	12.4
Government	77	9.0
Teaching	60	7.1
Business	150	17.6
Military Service	164	19.2
Extension Service	17	2.0
Miscellaneous	7	0.8
Total	853	100.0

Admission

To prepare for study in the College of Agriculture, a high school student should attain proficiency in English, mathematics, biology, chemistry and physics. High school graduates generally qualify for admission and others may qualify by special request.

Applications for September admission must be received by the Office of Admissions and Records at NDSU by July 1.

Upon arrival on campus, students are provided with a faculty advisor. Advisors help students to select their program of courses, to exploit their talents and to reach their academic objectives.

Programs of Study

Students enrolling in the College of Agriculture at NDSU may pursue studies leading to the Associate, Bachelor of Science, Master of Science and Doctor of Philosophy degrees.

The Associate degree in Agriculture recognizes that the student has completed 92 quarter credits and has fulfilled the prescribed scholastic requirements outlined in the University Bulletin. It is completed normally in two academic years of study. Full college credit is given for all courses taken toward the Associate degree. Consequently, a student may later return to school, continue study and complete the requirements for a Bachelor of Science degree.

The Bachelor of Science degree recognizes completion of 183 quarter credits, normally achieved in four academic years of study. The student must attain the prescribed scholastic requirements outlined in the University Bulletin. This degree

may be obtained by majoring in any of 10 courses of study.

Agricultural Economics: deals with farm management, marketing, the business of agriculture and develops an understanding of the economic forces and environment in which agriculture plays a prominent role. Options are offered in Business, Production, Pre-professional and Farm Operation.

Agricultural Education: provides the professional and technical training necessary to qualify a student for certification as a teacher of vocational agriculture.

Agronomy: offers instruction in field and forage crop production and management, general and plant genetics, plant breeding and experimental design. Options are offered in Production, Science and Farm Operation.

Animal Science: offers instruction in the judging, breeding, production, feeding and management of livestock including the processing of dairy and poultry products and meat. Options are offered in Business, Production, Science and Ranch Operation.

Bacteriology: covers the life processes of bacteria, viruses and related microorganisms including studies in metabolism and genetics, as well as soil, dairy and food microbiology.

Entomology: offers instruction in the identification and control of insects, including life processes, classification, biology and physiology. Options are offered in Business, Production and Science.

Horticulture and Forestry: prepares the student for occupations in landscaping, with growing plants as in nurseries or greenhouses, turf management and preliminary background for forestry. Options are offered in Production, Science and Landscaping.

Mechanized Agriculture: deals with technical modern agriculture and gives broad training in the agricultural sciences, farm mechanization, rural electrification, farm structures and irrigation. Options are offered in Business, Production and Farm Operation.

Plant Pathology: offers instruction in many phases of plant diseases, including their origins, symptoms and control, as a basic foundation for graduate study or professional employment. Options are offered in Production and Science.

Soils: offers instruction in fertility, management, conservation, physics, chemistry, genesis and classification of soil. Options are offered in Conservation, Production, Science and Earth Science.

The Business option is intended to prepare students for careers in agricultural business or industry, the Production and Farm and Ranch Operation and Management options for careers in farming and ranching, and the Science option for graduate work or careers in teaching and research.

Elective courses are available in Cereal Technology, General Agriculture and Veterinary Science. A two-year Veterinary Science curriculum is offered at NDSU for students planning to enter one of the 18 accredited colleges of veterinary medicine in this country.

Graduate Study

Graduate study is available to students who wish to continue beyond the bachelor degree. Study leading to the Master of Science degree in agriculture is offered by all of the departments which offer the B.S. degree, plus the Department of Cereal Chemistry and Technology and by special arrangement in General Agriculture.

Qualified students can continue their studies and earn a Doctor of Philosophy degree in the following departments: Agronomy, Animal Science, Botany, Cereal Chemistry and Technology, Entomology, Plant Pathology, or Soils.

Facilities

Comfortable modern residence halls with lounges and study areas are provided for men and women. Arrangements for room and board should be made with the Director of Housing. Housing for married students is available.

The North Dakota Agricultural Experiment Station and the Cooperative Extension Service are located at NDSU. Over 2,400 acres of land and many modern facilities are devoted to research on a great variety of agricultural problems.

Buildings on campus devoted to teaching, research and extension in agriculture include Morrill Hall, Walster Hall, Agricultural Engineering, Dairy Science, Sheppard Livestock Arena, Waldron Laboratory, Harris Laboratory, Van Es Hall and the greenhouses.

Located a mile northwest of the campus is the farm unit with additional educational facilities in the Animal and Poultry Research Centers; Dairy, Sheep, Swine and Beef Barns; and the Farm Shop.

Financial Information

The cost of attending NDSU is an individual matter. However, in-state residents should plan for a minimum of approximately \$420 to \$450 per quarter, or \$1,260 to \$1,350 per academic year. Out-of-state residents should plan for an additional minimum of \$729 per year.

Students who need financial help should con-

tact the NDSU Financial Aids Office for information regarding part-time employment, scholarships and loans. A placement service also is maintained on campus to assist students who seek part-time employment during the school year.

THE RESEARCH FUNCTION of the AGRICULTURAL EXPERIMENT STATION

H. R. Lund
Assistant Director

Location

Agricultural research at NDSU is conducted on the main station at Fargo, and on seven branch experiment stations located at Carrington, Casselton, Dickinson, Hettinger, Langdon, Minot and Williston. Administratively the research is coordinated from Fargo. The Agricultural Experiment Station is closely integrated with the College of Agriculture, and many staff members of the Agricultural Experiment Station also have assignments and responsibilities in the College of Agriculture.

Approximately 1,800 acres of NDSU's 2,400 total acres are devoted to plots, fields, pastures, barn areas and other similar uses for the teaching and research programs. The rest of the land is occupied by campus buildings, housing, athletic facilities, etc. The branch experiment stations total approximately 6,200 acres, for a total of 8,000 acres in use by the College of Agriculture and Agricultural Experiment Station in North Dakota.

The main station, branch stations and discipline organization are summarized as follows:

Main Station departments and chairmen

Agricultural Economics	Dr. Fred Taylor
Agricultural Education	Dr. Donald Priebe
Agricultural Engineering	Mr. W. J. Promersberger
Agronomy	Dr. Jack Carter
Animal Science	Mr. M. L. Buchanan
Bacteriology	Dr. Kenneth McMahan
Biochemistry	Dr. Harold Klosterman
Botany	Dr. Warren Whitman
Cereal Chemistry and Technology	Mr. Orville Banasik
Entomology	Dr. John Callenbach
Horticulture and Forestry	Dr. E. P. Lana
Plant Pathology	Dr. R. L. Kiesling
Soils	Dr. E. B. Norum
Veterinary Science	Dr. Myron Andrews