Illinois

Agriculture Education

Growing Careers

In Food And Fiber For The 21St Century

Illinois is gifted...

With some of the richest agricultural resources in the world: Fertile soil... Favorable climate... Excellent transportation... A productive workforce. These resources combine to make Illinois a world leader in the production of food and fiber.

Illinois has more than 75,000 farms, covering 28.1 million acres of land. The state ranks 1 in the nation in soybeans, producing 100 million bushels... enough to fill 111,700 railroad box cars, forming a train that would stretch from Peoria to Boston.

Illinois farmers are no. 2 in corn—producing more than 15 percent of the U.S. corn crop... enough to fill the Sears Tower in Chicago nearly 18 times.

Skilled workers are needed to meet the user input, research, processing and marketing system that comprises today's agriculture. More than 20 percent of the United States' workforce is employed in some phase of agriculture, which accounts for more than 6,000 job titles. Several people work in agriculture for every American farmer.
Experts predict world population will increase by nearly 2.5 billion people in the next 25 years. Their first priority will be to eat.

World population is growing at a rate equivalent to adding a new China to the globe every decade. Each year, there are millions of new mouths to feed. That task will fall to an efficient and productive agriculture. Much of it will be American agriculture.

In the 1960s, one farmer supplied 25.8 persons in the United States and abroad. Now, one farmer supplies food for 129 people — 97 in this country and 32 abroad. U.S. farmers account for 42.7 percent of the world’s production of soybeans and 34.4 percent of the world’s production of corn. Agriculture is America’s No. 1 exporter and, by the year 2000, agriculture is expected to generate 25 percent of the U.S. Gross Domestic Product.

Food and fiber production still relies on the good earth, water and sunlight. But today’s agriculture is based on technology, bringing a new level of sophistication to the industry. For example:

- Precision farming boosts crop yields and reduces waste by using satellite maps and computers to match seed, fertilizer and crop protection applications to local soil conditions.
- Global Positioning System (GPS) can identify specific plants and then send a signal to a pump to spray a precise amount of herbicide under the seed.
- Through biotechnology, a particular trait can be implanted directly into the seed to protect the seed against certain pests.

Thanks to technology, the products coming from today’s agriculture are also improved:

- Farmers and ranchers are producing meat lower in fat and cholesterol. This has resulted in leaner cuts that are 15 percent leaner, giving consumers better value for their dollar.
- Advancements in biotechnology have resulted in newer fruits and vegetables that stay fresh longer and are not damaged by insects.
- Consumers derive health benefits from new discoveries. Functional foods such as soybeans have been shown to reduce the risk of heart disease and some cancers.
Today's Agricultural Education Is A Whole New Subject

Thanks to improving efficiency, fewer farmers are needed to till the soil. But job opportunities outside of production agriculture are increasing dramatically:

- During 1995-2000, average annual employment opportunities for college graduates with expertise in the food and agricultural sciences are projected to be 47,018.
- In contrast, only 51,675 graduates with expertise in agriculture, natural resources and veterinary medicine are expected to be available to compete each year for the available positions, an annual shortfall of qualified people.

A changing agriculture has brought about a need for changes in agricultural education. Agriculture is considered an applied science, and qualifies for science credit in schools and for college entrance. Curricula today include hands-on practical concepts that meet state goals for learning in science, math, social studies and language arts, K-12.

Educators are developing new tools and new curricula to bring more relevance to agricultural education and to better prepare our young people for the many challenging careers in agriculture.

It's Working: Ag Education Is Growing In Illinois

School boards, administrators, teachers, legislators, students and parents are recognizing the importance of the “new” agricultural education in Illinois. Since 1990, Illinois has had an annual increase in enrollment in high school agriculture courses. Currently, more than 17,000 students are studying agriculture in 302 Illinois high schools, a 46-percent increase in the past eight years (Table 4). Illinois FFA membership currently exceeds 13,000, a 35-percent increase over the past nine years (Table 5).

In the late 1970s and early 1980s, student enrollment in agriculture suffered both at the high school and university levels. As high schools increased graduation requirements and colleges increased entrance requirements, it became more difficult for students to complete the “college prep” curriculum and still take agriculture courses. However, the new science-based agriculture courses are helping college-bound students meet admission requirements while still being able to enroll in high school agriculture courses. High school agriculture prepares students to attend the state’s major universities. For example, more than one-third of the freshmen enrolled in agriculture at the University of Illinois, Southern Illinois University, Illinois State University and Western Illinois University during fall 1997 had completed at least one high school course in agriculture.
"The wealth of Illinois is in her soil and her strength lies in its intelligent development."

Andrew C. Moore, President
University of Illinois

Illinois has been blessed with the resources that help feed a hungry world and provide meaningful employment for its citizens. In the words of Andrew Sloan Dipple, a noted Illinois educator, it is our responsibility to ensure the intelligent development of these resources. Agricultural education holds the key.

By teaching agricultural sciences, students learn through "hands-on" programs, develop problem-solving skills, learn to interact and communicate effectively, and develop strong work ethics. If young people learn the basic skills and concepts in agriculture, they will not only be sought out as a potential employee in any number of occupations, but they will have better choices in life.

Perry Schmidt, President
American Agribusiness

The global agricultural industry is undergoing rapid change, creating many opportunities. We will continue to have a great need for scientists, educators, farmers, and technicians. But we will also need economists, lawyers, and people who think globally and market their minds into people who know how to raise food and make it from consumer and consumers.

William E. Kirk, Senior Vice President
Pfizer

Many people think of agriculture as only a crop and livestock production. However, the industry is more encompassing, and includes such areas as finance, marketing, and some real estate. This is just a few. There is a real need for graduates with solid agricultural skills in each part of the agricultural industry.

Jeff Campbell, Senior Manager
Market and Product Development
Chicago Board of Trade

The multibillion-dollar food system in the past has changed dramatically with the introduction of biotechnology, process agriculture and the focus on the sustainability of our natural resources. It is important to educate our population on the risks of agriculture, biotechnology and the need to consider productivity.

Terry Crisp, Conservation Tillage Specialist
Monsanto Life Sciences

I have always had a strong attraction for agriculture. I was inspired by my high school agriculture teacher, who made me aware of the numerous opportunities I have to help people realize the importance of agriculture to their everyday life and bring awareness of the needs for conservation and the need for skills.

Chad Carter, Agriculture Student
Western Illinois University

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Employment Opportunities In Agriculture

According to the U.S. Department of Agriculture, more than 48,000 jobs are available each year in agriculture. Students don’t have to come from a farm to hold a position in agriculture, but it is helpful if they have training in agriculture. More than 250 specific career areas are available. Following are just some of them...

Marketing, Merchandising and Sales Representatives
- Account Executive
- Commodity Broker
- Export Sales Manager
- Forest Products Merchandiser
- Insurance Agent
- Market Analyst
- Purchasing Manager
- Sales Representative

Scientists, Engineers and Related Specialists
- Agricultural Engineer
- Biochemist
- Environmental Scientist
- Geneticist
- Microbiologist
- Nutritionist
- Plant Scientist
- Soil Scientist
- Veterinarian

Managers and Financial Specialists
- Accountant
- Auditor
- Business Manager
- Economist
- Food Service Manager
- Insurance Risk Manager
- Policy Analyst

Communication and Education Specialists
- College Teacher
- Computer Systems Analyst
- High School Teacher
- Information Specialist
- Personnel Development Specialist
- Radio/Television Broadcaster

Social Services Professionals
- Career Counselor
- Conservation Officer
- Dietitian
- Naturalist
- Outdoor Recreation Specialist
- Peace Corps Representative
- Rural Sociologist

Agricultural Production Specialists
- Aquaculturist
- Feedlot Manager
- Fruit and Vegetable Grower
- Nursery Products Grower
- Rancher
- Viticulturist

Grain and/or Livestock Farmer
Forest Resources Manager
Greenhouse Manager
Farm Manager
Horticulturist
Wildlife Manager