

# Agriculture Education

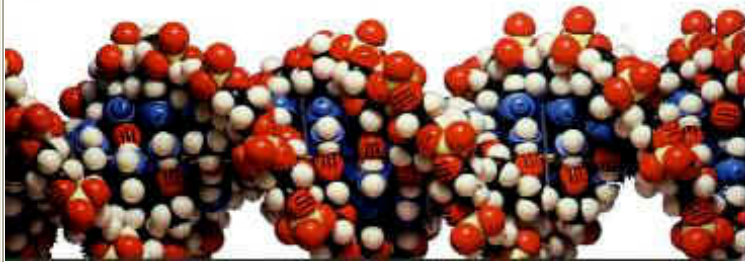
## Illinois

### 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...A favorable climate...Excellent transportation...A productive work force. These resources combine to make Illinois a world leader in the production of food and fiber.

Illinois has more than 75,000 farms, covering 38.1 million acres of land. The state is no. 1 in the nation in soybeans, producing 400 million bushels... enough to fill 113,700 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 vast input, research, processing and marketing system that comprises today's agriculture. More than 20 percent of the United States' work force is employed in some phase of agriculture, which accounts for more than 8,000 job titles. Seven people work in agribusiness for every American farmer.



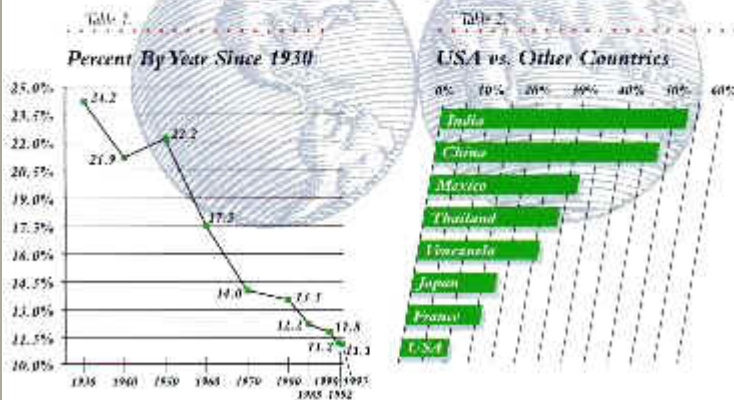
## Experts Predict World Population Will Increase By Nearly 2.5 Billion People

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.

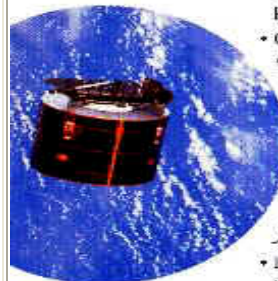
In the 1960s, one farmer supplied 25.8 persons in the United States and abroad. Now, one farmer supplies food for 129 people – 97 in this country and 32 abroad. U.S. farmers account for 42.7 percent of the world's production of soybeans and 34.4 percent of the world's production of corn. Agriculture 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.

### Percent Of U.S. Income Spent On Food



Food Costs... From Food & Retailer - 1993, P. 104, USDA

## Today's Agriculture Is A Whole New Field



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 Satellites (GPS) can identify specific plants and then send a signal to a pump to spray a precise amount of herbicide onto the weed.
- Through biogenetics, 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 retail cuts that are 15 percent leaner, giving consumers better value for their dollar.
- Advancements in biotechnology have resulted in tastier 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 47,918.
- In contrast, only 45,675 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.

Table 3.  
**Agricultural Workers By Career Area**

Marketing, Merchandising, & Sales Representatives 39%

Scientists, Engineers, & Related Specialists 29.0%

Managers & Financial Specialists 11.7%

Agricultural Production Specialists 8.1%

Social Services Professionals 10.1%

Communication & Education Specialists 11.1%



*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 15,000, 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 freshman 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.

Table 4.  
**Illinois Agricultural Education Enrollment**

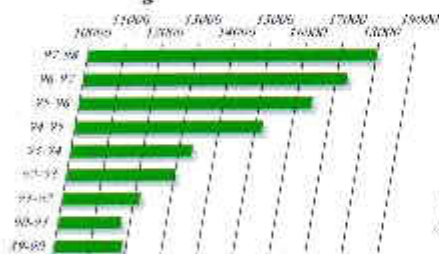
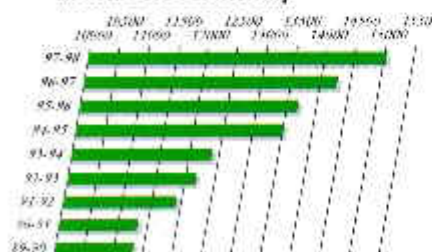


Table 5.  
**Illinois FFA Membership**



***“The wealth of Illinois is in her soil and her strength lies in its intelligent development.”***

Andrew Logan, Chairman and CEO  
University of Illinois, 1991-1993



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 Draper, a noted Illinois educator, it is our responsibility to ensure the intelligent development of those resources. Agricultural education holds the key.

*By taking agricultural courses, students learn through “hands on” projects, develop workplace problem-solving skills, learn to interact and successfully communicate ideas, and develop a strong work ethic. If young people learn the basic skills and complete the education process, they will not only be sought out as a potential employee for any number of agribusinesses, but by other industries as well.*

**Perry Schneider, President**  
Agri Placements, Ltd.  
Lincoln, IL

*The global agricultural industry is undergoing rapid change, thereby creating many opportunities. We will continue to have a great need for scientists, agronomy chemists and biologists. But we will also need technicians, business people who think globally, and marketing and sales people who know how to listen to and learn from customers and consumers.*

**William E. Kirk, Senior Vice President**  
DuPont  
Wilmington, Del.

*Many people think of agriculture as relating only to crop and livestock production. However, the industry is more encompassing and includes such disciplines as finance, marketing and the sciences, to name 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 traditional agriculture we knew in the past has changed dramatically with the introduction of biotechnology, precision agriculture and the focus on the sustainability of our natural resources. It is imperative we educate our population on the link of agriculture's food production and our overall economic productivity.*

**Iarni Craig, Conservation Tillage Specialist**  
Monsanto Life Sciences  
St. Louis, Mo.

*I have always had a strong admiration for agriculture. I was inspired by my high school ag teacher, who made me aware of the numerous opportunities I could help people realize the importance of agriculture in their everyday life and bring awareness of the endless possibilities within the field of agriculture.*

**Chad Carty, Agriculture Student**  
Western Illinois University

## ***Today's Agricultural Education Is A Whole New Subject***

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For further information contact:  
**Facilitating Coordination in  
Agricultural Education (FCAE),**  
200 South Fredrick,  
Rantoul, Illinois 61866-2433

## 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	Advertising Manager
Commodity Broker	Consumer Information Manager
Export Sales Manager	Food Broker
Forest Products Merchandiser	Grain Merchandiser
Insurance Agent	Landscape Contractor
Market Analyst	Marketing Manager
Purchasing Manager	Real Estate Broker
Sales Representative	Technical Service Representative

### Scientists, Engineers and Related Specialists



Agricultural Engineer	Animal Scientist
Biochemist	Entomologist
Environmental Scientist	Food Scientist
Geneticist	Landscape Architect
Microbiologist	Natural Resources Scientist
Nutritionist	Pathologist
Plant Scientist	Research Technician
Soil Scientist	Statistician
Veterinarian	Water Quality Specialist

### Managers and Financial Specialists



Accountant	Appraiser
Auditor	Banker
Business Manager	Credit Analyst
Economist	Financial Analyst
Food Service Manager	Grants Manager
Insurance Risk Manager	Landscape Manager
Policy Analyst	Retail Manager



### Communication and Education Specialists



College Teacher	Computer Software Designer
Computer Systems Analyst	Editor
High School Teacher	Illustrator
Information Specialist	Journalist
Personnel Development Specialist	Public Relations Representative
Radio/Television Broadcaster	Training Manager

### Social Services Professionals



Career Counselor	Community Development Specialist
Conservation Officer	Consumer Counselor
Dietitian	Food Inspector
Naturalist	Nutrition Counselor
Outdoor Recreation Specialist	Park Manager
Peace Corps Representative	Regional Planner
Rural Sociologist	Youth Program Director

### Agricultural Production Specialists



Aquaculturist	Grain and/or Livestock Farmer
Feedlot Manager	Forest Resources Manager
Fruit and Vegetable Grower	Greenhouse Manager
Nursery Products Grower	Farm Manager
Rancher	Hurf Producer
Viticulturist	Wildlife Manager