



K-5 Kids Use Databases to Learn About Agriculture

A State / University / School Initiative

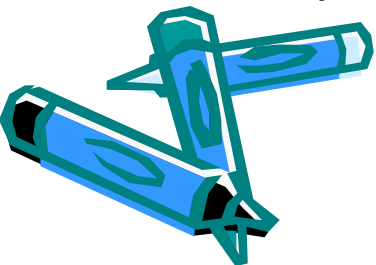
Fritz Getze, Assoc. Librarian & UDLib/SEARCH Coordinator, Univ. of Delaware Library

USAIN Conference, Ithaca, NY, Oct. 11, 2006



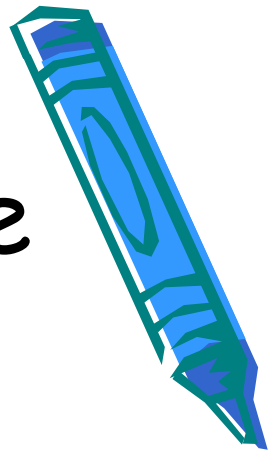
Views from the *Chronicle of Higher Education*

- ...the Commission ... stopped short of calling for mandatory testing of college students, [but] other provisions in the final draft of its report have caused consternation among some higher-education leaders.
- The report also pushes for changes to make the accreditation process more open, urges professors to take the lead in defining educational objectives for their students, and supports a database that would allow parents, students, and policy-makers to compare institutions. *Chronicle*, Sept 1, 2006, p42
- College-bound students face not only the issues of access [to college], but also that of readiness. . . When students arrive unprepared to do the work, it's time-consuming and costly to get them up to speed. *Chronicle*, Oct 14, 2005, p16



UD Lib/SEARCH Home Page

<http://udlibsearch.lib.udel.edu/>



High Schools

- [Databases](#)
- [People](#)
- [Schools](#)
- [Training](#)

Middle Schools

- [Databases](#)
- [People](#)
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Elementary Schools

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- [People](#)
- [Schools](#)
- [Training](#)

Home Access Via


Press Releases

Frequently Asked Questions (FAQ)

UDLib/SEARCH Trial Products

Other Program Information



UDLib/SEARCH

Online magazines, journals, encyclopedias and training for all Delaware public schools



[About UDLib/SEARCH](#)

[For Educators](#)

[For Parents](#)

About UDLib/SEARCH

The UDLib/SEARCH program provides a virtual library of online resources for all K-12 public schools in Delaware. Since 1997, the UDLib/SEARCH program has provided access via the Web to online periodical and encyclopedia databases and related teacher training.

Every computer in every K-12 public and charter school in Delaware that is wired for Internet access through the state network has access to the thousands of articles and images from periodicals and encyclopedias included in UDLib/SEARCH resources. This includes computers in classrooms, libraries, computer labs and offices in schools, school district offices, and the State Department of Education.

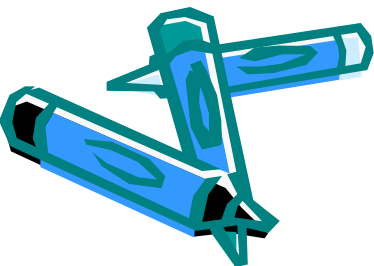
The University of Delaware Library receives funding for UDLib/SEARCH from the State of Delaware Department of Education as recommended by Governor Ruth Ann Minner and approved by the Delaware General Assembly. UDLib/SEARCH funding has been approved for the period from July 1, 2006 through June 30, 2007.

The UDLib/SEARCH databases are selected by the UDLib/SEARCH Advisory Board based on recommendations made by school librarians. The Advisory Board, which consists of University of Delaware librarians, Delaware school library media specialists, and Delaware Department of Education staff, meets annually to discuss issues concerning the UDLib/SEARCH program such as database selection and training.

The University of Delaware Library manages UDLib/SEARCH, including negotiating and funding subscriptions and license agreements for all Delaware public schools to access UDLib/SEARCH databases through the Internet on the existing state network. The University of Delaware Library also provides all training and support related to UDLib/SEARCH databases to school librarians, teachers, and administrators in all Delaware public K-12 schools.

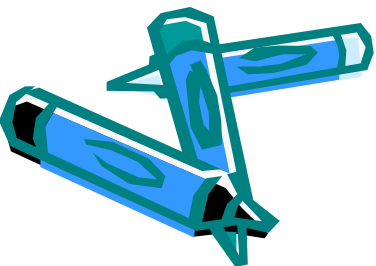
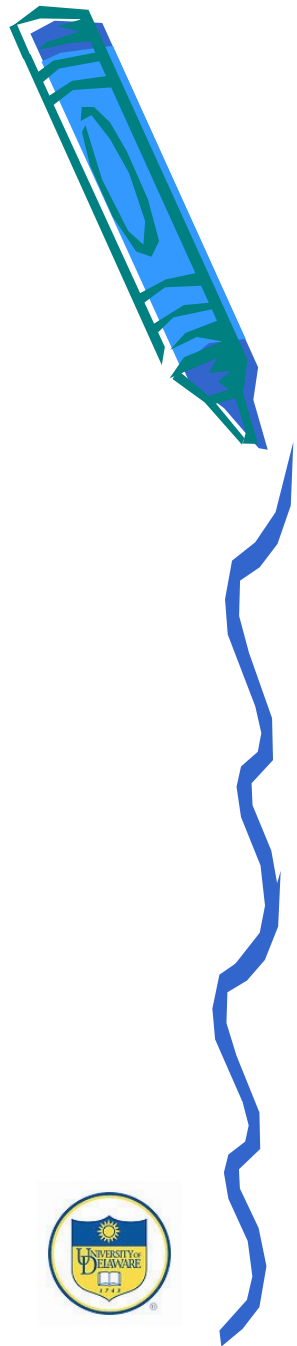
This page is maintained by Erin Daix, UDLib/SEARCH Training Coordinator, University of Delaware Library

*Questions or comments to daix@udel.edu
Last modified: 03/09/06*



The Coordinator in Action!

Maple Lane Elem. School, May 2006



University of Delaware

College of Agriculture & Natural Resources



College of Agriculture & Natural Resources

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Events Calendar

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Research and Education Center

Publications:

- Horizons
- UDaily
- Garden Check
- Talk of Townsend

Community Links

Alumni & Friends

Welcome to the College of Agriculture & Natural Resources at the University of Delaware. One of seven colleges at the University, we offer more than 20 academic programs related to science, business, economics, and engineering technology. With a faculty of 70 and a student body of just over 700, we have a warm, family-like feel to our College.

Please browse this website to learn more about all of the unique opportunities we offer, and be sure to **contact us** if you would like further information. If you are a prospective student, please see the sections that apply specifically to you under "Student Resources." Finally, we welcome you to visit!

Enjoy your trip through our website, and we hope to see you on campus very soon!

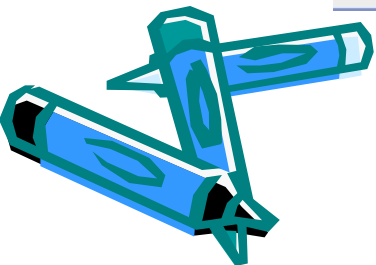
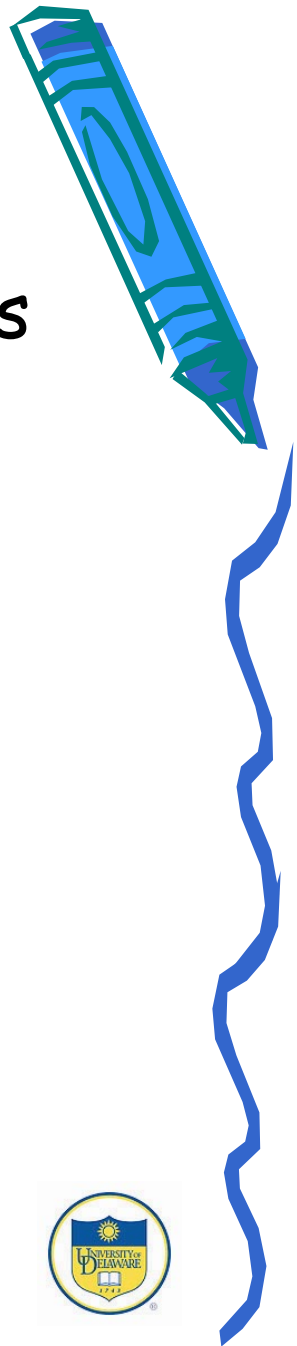
Student and Alumni Profiles:



Greta Thorson
Major: **Entomology**

[Find out more about her experience...](#)

- View Student Profiles
- View Alumni Profiles



UD Admission Requirements

<http://www.udel.edu/apply>

Apply for Admission

- Freshman applicants (US Citizens and Permanent Residents)
- Transfer applicants (US Citizens and Permanent Residents)
- International applicants
- Readmission
- Distance Learning



The 2007 application is now available:

- Complete it Online
- Download it (Fall only)
- Request a paper copy of the Fall application by adding yourself to our mailing list or calling (302) 831-8123

Freshman Applicants: What We're Looking For

The University of Delaware seeks academically ambitious and creative applicants from a variety of cultural and ethnic backgrounds and geographic regions. For information about the academic qualifications and background of our current freshman class, see our [freshman class profile](#).

As the Admissions Committee evaluates an application for admission, it weighs the rigor of the student's high school program, academic record (especially the trend in grades), SAT Reasoning and/or ACT with Writing scores, class rank (if available), student essays, letters of recommendation, and personal statement. Special talents and abilities, Delaware residency, and alumni/ae affiliation are taken into consideration. The SAT Subject tests are recommended for all freshman applicants, especially those to the Honors Program, and if these scores are submitted the Admissions

Freshman Application Dates	
SPRING 2007 ADMISSION	
November 1	Submit the Online Application for Admission
FALL 2007 ADMISSION	
Applicants who want full consideration for all programs and scholarships and the University Honors Program:	
December 1	Submit the UD Application for Admission at the Common Application and Supplement
Applicants who want to be considered for admission to the fall semester should apply no later than the following date:	
January 15*	Submit the UD Application for Admission at the Common Application and Supplement
Mid-March	Admission Decision Notification Date
May 1	Deposit Deadline for all Regular

Subject	Years Required	Years Recommended
English	4	4
Mathematics	3	4
Science	3 (2 must include a lab)	4 (3 must include a lab)
History/Social Sciences	4*	4*
Foreign Languages	2 of same	4 of same
Academic Electives	2 units	0-2
Total	18 units	20-22 units

*at least two of the units must be history, and one of those must be world history

* An additional year of math or science may be substituted for the 4th year of history/social science.

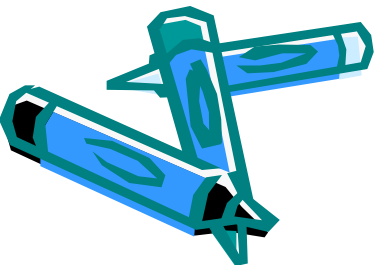
* Foreign language courses taken before the ninth grade do not count.

* American Sign Language does not fulfill the foreign language requirement.

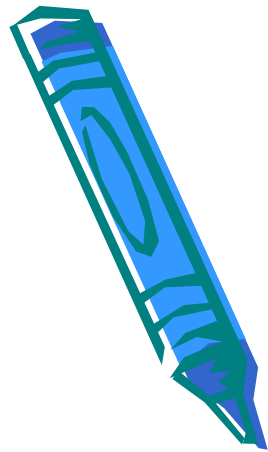
Some programs at the University require additional preparation in math and science:

- Prospective majors in mathematics, engineering, business, computer science, or other sciences should have completed four years of mathematics, including trigonometry, pre-calculus, and/or calculus.
- Prospective majors in engineering and other science fields are strongly urged to take physics, chemistry, and biology.
- Prospective majors in nursing must have completed at least one year of both biology and chemistry.

The above criteria represent the minimum requirements to be considered for admission. Applicants typically present credentials that exceed the minimum. The academic profiles of the most competitive candidates well exceed the minimum requirements.



UD Undergraduate Research Program



UNIVERSITY OF DELAWARE **Undergraduate Research Program**



Research apprenticeships with faculty mentors give talented, motivated University of Delaware undergraduates a chance to see and take part in what is happening on the front lines of discovery at UD today. Every UD college, department and research center provides opportunities for interested students to get their hands on the source of learning. About 700 students participate each year. Explore the many challenging options you have for bringing learning to life.

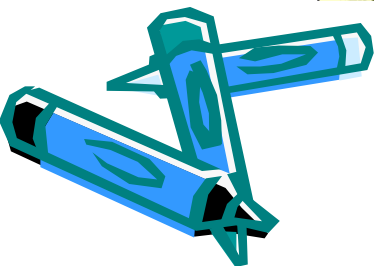


[2006 Arts, Humanities & Social Science In View](#)

[Summer Undergraduate Research Science Symposium Program](#)

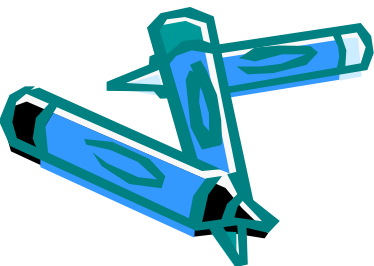
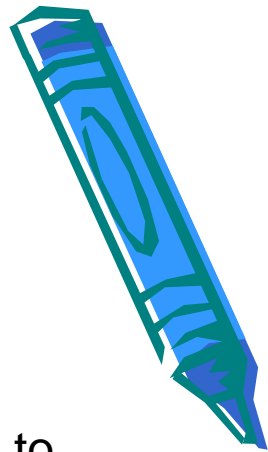


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Curriculum Standards Plusses and Minuses

- The pressure of NCLB accountability has led principals and teachers to direct time and resources toward language arts and mathematics, and, due to limited hours . . . , to diminishing time for science. *Marx & Harris, 2006, p 469*
- Standards-based biology instruction would begin with engaging inquiry with materials, followed by discussion and then explanations, the opposite sequence from traditional instruction. *Leonard & Penick, 2005, p 74*
- There is now a greater emphasis on quality teaching and accountability at the local level. Agricultural education must make sure that its curriculum is current and viable. Changes have been so rapid in agriculture that often it is difficult for agricultural education to keep pace. *Stewart, et al, 2004, p 61*



UDLib/SEARCH Access



UDLib/SEARCH

Online magazines, journals, encyclopedias and training for all Delaware public schools

[About UDLib/SEARCH](#)

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[For Parents](#)



About UDLib/SEARCH

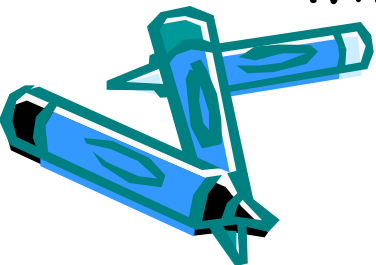
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- Where found
- How funded
- Who selects



UDLib/SEARCH Elementary Databases



UDLib/SEARCH Elementary School Program

Online Magazines, Newspapers,
Encyclopedias, & Images for Young Delaware Learners



Databases for Elementary Schools

Primary Search on
 Kids Search

[EBSCO Primary Search on Kids Search](#)

 Kids InfoBits

[Gale Kids InfoBits](#)

SIRS Discoverer on the Web 

[SIRS Discoverer](#)

 BRITANNICA ELEMENTARY

[Britannica Elementary](#)

 WORLD BOOK
ONLINE REFERENCE CENTER

[World Book Online](#)

UDLib/SEARCH is a University of Delaware Library/State of Delaware partnership.

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[Information for Teachers & Librarians](#)

[Information for Parents](#)

[Schools](#)

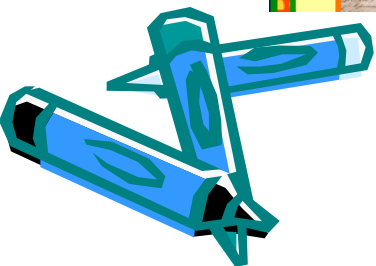
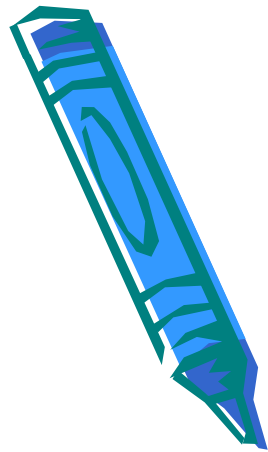


World Book Online Reference Center

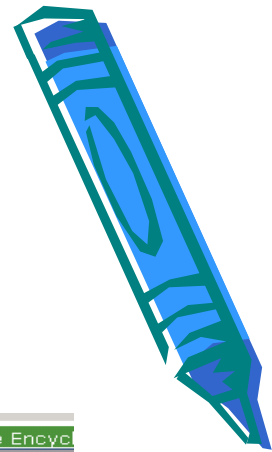
<http://www.worldbookonline.com/wb/Home>



The screenshot shows the homepage of the World Book Online Reference Center. At the top, there is a blue header with the "WORLD BOOK" logo and "ONLINE REFERENCE CENTER" text. Below the header is a navigation menu with links for Home, Search, Maps, Dictionary, Encyclopedic, Educators' Tools, and Explore Delaware. A search bar is prominently displayed with a "GO" button. The main content area features several interactive tiles: "World Book Kids" with a dog, "Student Activities" with a dinosaur, "Current Events" with newspaper clippings, "Explore the U.S.A. & Mexico States" with flags, "Today's in History" with a document, "Explore Canada's Provinces & Territories" with a maple leaf, and "NASA" with the agency logo. A "FUN FACT:" section highlights "What is the Royal Flying Doctor Service?" with an image of a medical plane.



World Book Curriculum Correlations



ONLINE REFERENCE CENTER World Book Kids | Spanish-Language Encyclopedias | [Change Display](#)

Home Search Atlas Dictionary Encyclopedia Educators' Tools Explore Delaware SEARCH WORLD BOOK [Advanced Search](#)

Educators' Tools

- [Curriculum Correlations](#)
- ▣ [Professional Links](#)
- ▣ [Lesson Plans](#)

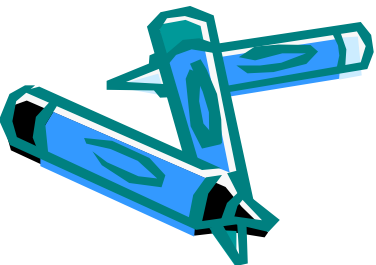
[Back](#)
Curriculum Correlations

Delaware Standards
View the Curriculum Correlations:


All Grade Levels

All Subjects

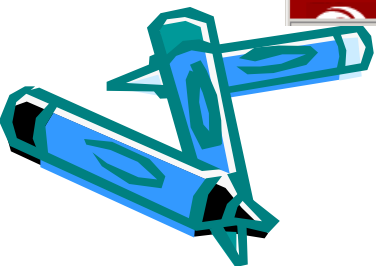
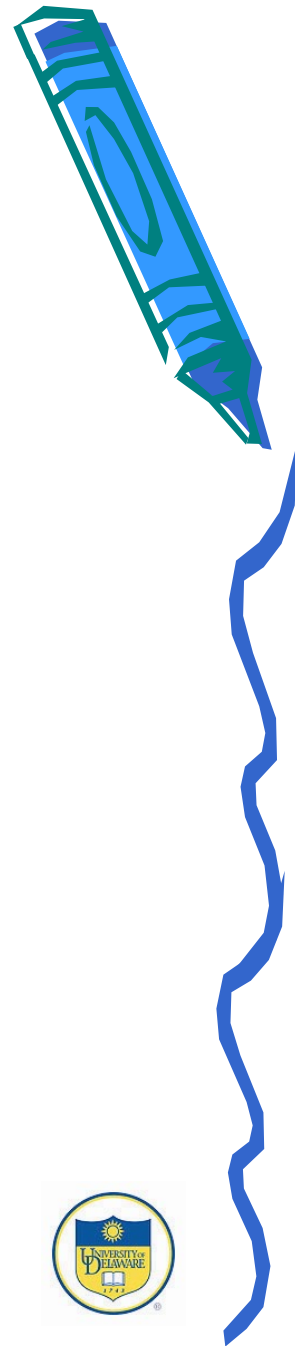
CONTENT STANDARD	DE.7.	Diversity and Continuity of Living Things: The natural world consists of a diversity of organisms that transmit their characteristics to future generations. Students will study how living things reproduce, develop, and transmit traits, and how theories of evolution explain the unity and diversity of species found on Earth. Students will also study how knowledge of genetics, reproduction, and development is being applied to improve agriculture and human health.
STUDENT PERFORMANCE	7.1.	Heredity and Reproduction: Students should know that physical characteristics are passed on from parent to offspring. Organisms with two parents inherit characteristics of both. materials correlated to this standard
STUDENT PERFORMANCE	7.2.	Diversity: Students should know that organisms have many distinct and unique features which they use for survival. Specialized features include those for finding food, building shelters, evading predators, and reproducing. Scientists use similarities and differences in these features to classify and group organisms. materials correlated to this standard



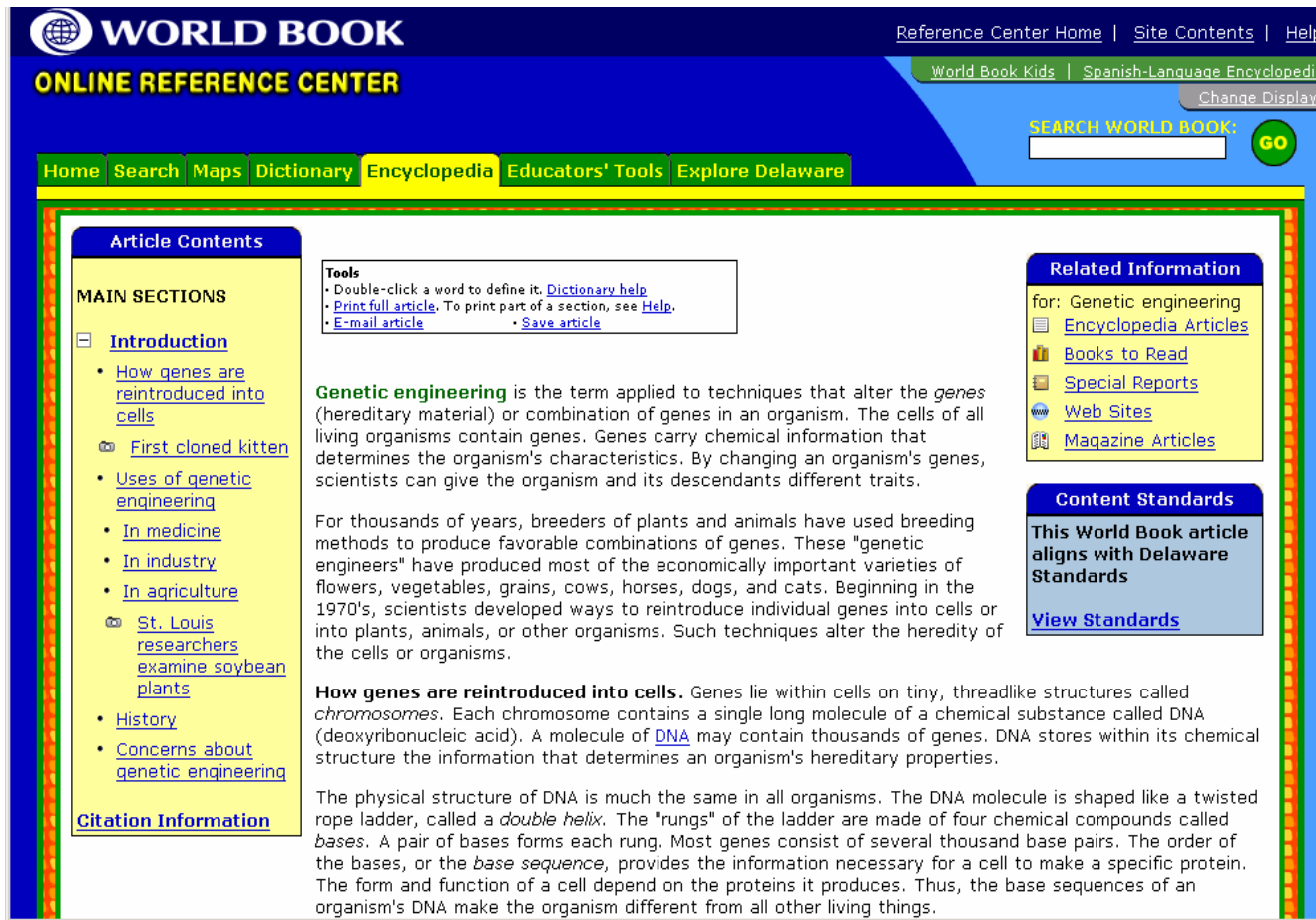
World Book



The screenshot shows the World Book website interface. On the left, there is a sidebar with a '+ Lesson Plans' link. The main content area has search filters: 'All Grade Levels' and 'All Subjects', both with dropdown arrows, and a green 'GO' button. Below the filters, a search result is displayed for 'Delaware Standards: Science - Grade 4'. The result text reads: '7.4. - Biotechnology and Its Applications: Students should know that the climate and soils in Delaware are ideal for growing a great variety of fruits and vegetables. Delaware scientists continue to explore ways to improve the growing conditions and quality of these crops.' Below this, it says 'Results 1 - 7 of 7'. A list of seven related articles follows, each with a blue underlined title and the text 'World Book Online article.': Agriculture, Chocolate, Cotton, Drought, Famine, Farm and farming, and Wheat. At the bottom of the page, there is a navigation bar with links: Reference Center Home, About World Book, Customer Training Guide, Site Contents, Customer Service, Help, Subscriber News, Accessibility Statement, Terms & Conditions, and Privacy Policy. The footer text reads: © 2006 World Book, Inc. All rights reserved. WORLD BOOK and the



World Book



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SEARCH WORLD BOOK: **GO**

Home Search Maps Dictionary Encyclopedia Educators' Tools Explore Delaware

Article Contents

MAIN SECTIONS

- Introduction
 - How genes are reintroduced into cells
 - First cloned kitten
 - Uses of genetic engineering
 - In medicine
 - In industry
 - In agriculture
 - St. Louis researchers examine soybean plants
 - History
 - Concerns about genetic engineering

Citation Information

Tools

- Double-click a word to define it, [Dictionary help](#)
- [Print full article](#). To print part of a section, see [Help](#).
- [E-mail article](#) [Save article](#)

Genetic engineering is the term applied to techniques that alter the *genes* (hereditary material) or combination of genes in an organism. The cells of all living organisms contain genes. Genes carry chemical information that determines the organism's characteristics. By changing an organism's genes, scientists can give the organism and its descendants different traits.

For thousands of years, breeders of plants and animals have used breeding methods to produce favorable combinations of genes. These "genetic engineers" have produced most of the economically important varieties of flowers, vegetables, grains, cows, horses, dogs, and cats. Beginning in the 1970's, scientists developed ways to reintroduce individual genes into cells or into plants, animals, or other organisms. Such techniques alter the heredity of the cells or organisms.

How genes are reintroduced into cells. Genes lie within cells on tiny, threadlike structures called *chromosomes*. Each chromosome contains a single long molecule of a chemical substance called DNA (deoxyribonucleic acid). A molecule of [DNA](#) may contain thousands of genes. DNA stores within its chemical structure the information that determines an organism's hereditary properties.

The physical structure of DNA is much the same in all organisms. The DNA molecule is shaped like a twisted rope ladder, called a *double helix*. The "rungs" of the ladder are made of four chemical compounds called *bases*. A pair of bases forms each rung. Most genes consist of several thousand base pairs. The order of the bases, or the *base sequence*, provides the information necessary for a cell to make a specific protein. The form and function of a cell depend on the proteins it produces. Thus, the base sequences of an organism's DNA make the organism different from all other living things.

Related Information

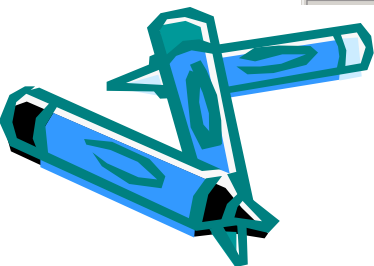
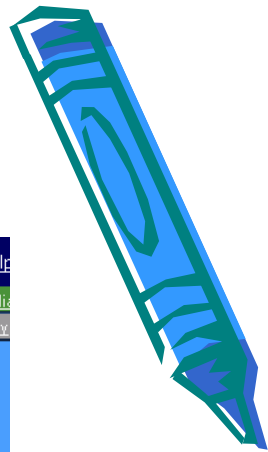
for: Genetic engineering

- Encyclopedia Articles
- Books to Read
- Special Reports
- Web Sites
- Magazine Articles

Content Standards

This World Book article aligns with Delaware Standards

[View Standards](#)



Britannica Elementary



ENCYCLOPEDIA
Britannica Online *School Edition*

BRITANNICA ELEMENTARY

HOME :: DICTIONARY :: LEARNING MATERIALS :: TEACHERS' RESOURCES :: WORKSPACE :: GUIDED TOUR :: HELP



SEARCH

GO

- Elementary Encyclopedia
- Dictionary & Thesaurus
Unsure of the meaning of the word?
Double-click it to look it up.

Suggested Searches:

[Vikings](#) | [horse](#) | [cricket](#)

BROWSE



Art

Religion



Geography

Science



Language Arts

Social Studies



Mathematics

Sports



September 5, 2006

Other Features



A-Z Browse



Biographies



Video Browse



Learning Materials



World Atlas



Timeline



Merriam-Webster

Discover America

Instant access to statistics and summary information for every state! [Learn More](#)



Animal of the Day



tarantula

The spiders called tarantulas were named after the city of Taranto, Italy, where the first tarantula bites were reported centuries ago.

News by Student News Net

Steve Irwin killed in accident: Sept. 4, 2006

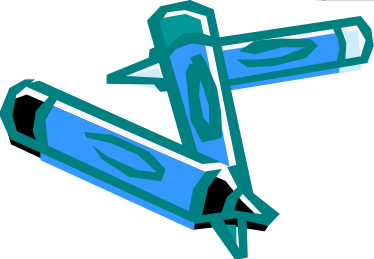
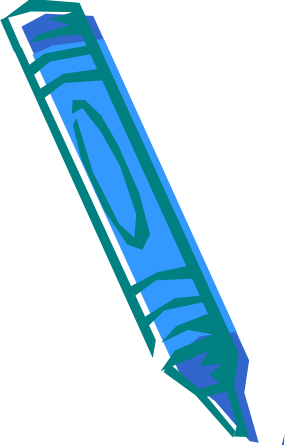


- Steve Irwin, ebullient crocodile hunter loved by millions of Animal Planet fans, died Monday in a rare accident while filming a documentary.

- ▶ [Full Story](#)
- ▶ [Wild Planet water toys recalled](#)
- ▶ [Labor Day history](#)
- ▶ [Back to the Moon](#)
- ▶ [Ernesto may dampen weekend plans](#)



Britannica Teachers' Resources



ENCYCLOPEDIA
Britannica Online *School Edition*

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[HOME](#) :: [DICTIONARY](#) :: [LEARNING MATERIALS](#) :: [TEACHERS' RESOURCES](#) :: [WORKSPACE](#) :: [GUIDED TOUR](#) :: [HELP](#)

TEACHERS' RESOURCES: LEARNING MATERIALS

Take advantage of Britannica's study guides, interactive lessons, online activities, printable worksheets, and other exercises that help students excel. You can find materials for all levels of language arts, mathematics, science, and social studies.

	Grades K-5	Grades 6-12
Language Arts	Reading Writing	American Literature English Literature Literary Genres Writing
Mathematics	Numbers and Operations	Algebra Geometry Pre-Algebra Statistics
Science	Earth and Space Life Sciences Physical Sciences	Biology Chemistry Earth and Space

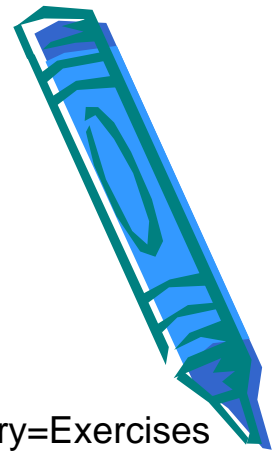
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Britannica Curriculum Matrix

Munching Veggies




<http://www.school.eb.com/elementary/browse/learning?subject=Life%20Science&level=&category=Exercises>

ENCYCLOPEDIA Britannica Online *School Edition* COMPTON'S BY BRITANNICA

Compton's by Britannica Matrix: Delaware Standards

Curriculum Matrix LOGIN Matrix Search Search Results VIEW ALL STANDARDS

 [Munching Veggies](#)
Summary: Britannica Exercise
Source: Compton's by Britannica

Grade: K Subject: SCIENCE

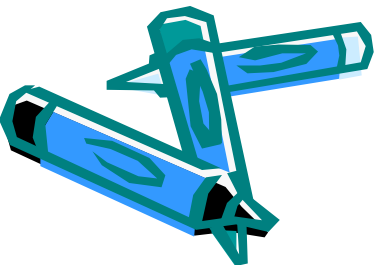
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STUDENT PERFORMANCE	7.4. Diversity: Students should know that many different kinds of plants and animals live throughout the world and can be classified into groups based upon appearance and behavior.

Grade: 1 Subject: SCIENCE

CONTENT STANDARD	DE.7. Diversity and Continuity of Living Things: The natural world consists of a diversity of organisms that transmit their characteristics to their offspring. Students will study how living things reproduce, develop, and transmit traits, and how theories of evolution explain the diversity of species found on Earth. Students will also study how knowledge of genetics, reproduction, and development is applied to improve agriculture and human health.
STUDENT PERFORMANCE	7.4. Diversity: Students should know that many different kinds of plants and animals live throughout the world and can be classified into groups based upon appearance and behavior.

Grade: 2 Subject: SCIENCE

CONTENT STANDARD	DE.7. Diversity and Continuity of Living Things: The natural world consists of a diversity of organisms that transmit their characteristics to their offspring. Students will study how living things reproduce, develop, and transmit traits, and how theories of evolution explain the diversity of species found on Earth. Students will also study how knowledge of genetics, reproduction, and development is applied to improve agriculture and human health.
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SIRS Discoverer

SIRS Discoverer on the Web

Search
SIRS Discoverer [Advanced Search / Search Tips](#)
 Subject Headings
 Keyword/Natural Language Sort by: relevance date

Browse Subject Tree

- Animals
- Arts
- Countries
- Cultures
- Drugs & Alcohol
- Environment
- Health & Human Body
- History & Government
- Kids Corner
- Notable People
- Personal Growth
- Science
- Social Issues
- Sports
- Technology

Web
Discoverer WebFind **Web Sites for Kids**

Reference
Current Events **Spotlight of the Month** **The 2006 World Almanac for Kids** **Encyclopedia**

Discoverer's Top Pick
"Labor Day Parade, Main Street," c

[The Very First Labor Day](#)

Database Features

- [Pathfinders](#)
- [Activities](#)
- [Biographies](#)
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SIRS Curriculum Framework

State of Delaware Science Curriculum Framework

- ▼ Grades 6-8
 - ▶ Standard One - Nature and Application of Science & Technology
 - ▶ Standard Two - Materials and Their Properties
 - ▶ Standard Three - Energy and Its Effects
 - ▶ Standard Four - Earth in Space
 - ▶ Standard Five - Earth's Dynamic Systems
 - ▶ Standard Six - Life Processes
 - ▼ Standard Seven - Diversity and Continuity of Living Things
 - ▶ Heredity
 - ▼ Reproduction and Development
 - ▶ 1. In asexual reproduction, a new organism grows from a single cell or a cluster of cells provided by the parent and results in offspring genetically identical to the parent.
 - ▶ 2. In sexual reproduction, gametes (egg and sperm), which are produced in specialized structures of the parents, fuse during fertilization to form an organism. Since each gamete contributes a set of chromosomes, the offspring have traits of both parents.
 - ▶ 3. After the egg is fertilized, it undergoes an orderly series of changes involving cell division and differentiation as a new organism is formed. Each of the new cells in the developing organism receives an exact copy of the genetic information contained in the fertilized egg.
 - ▶ Evolution
 - ▶ Diversity
 - ▼ Health and Technology Applications
 - ▼ 1. Selective breeding is used to produce new varieties of cultivated



SIRS Matrix Search "Birds"

State of Delaware Science Curriculum Framework

Grades 6-8

Standard Seven - Diversity and Continuity of Living Things

Health and Technology Applications

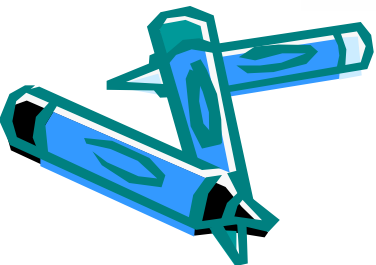
1. Selective breeding is used to produce new varieties of cultivated plants and domesticated animals with enhanced traits.

Use a variety of resources to develop a report on selective breeding. Select a cultivated plant (e.g., Super Sweet Corn, Sugar Baby Watermelon) or domesticated animal (e.g., Ovenstuffer Roaster, Low Fat Hogs) and trace its history of development and the traits of the plant or animal that were enhanced by selective breeding.

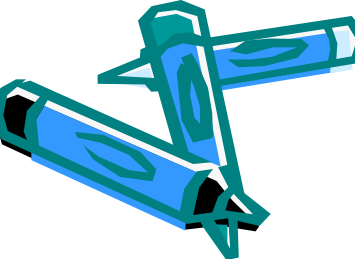
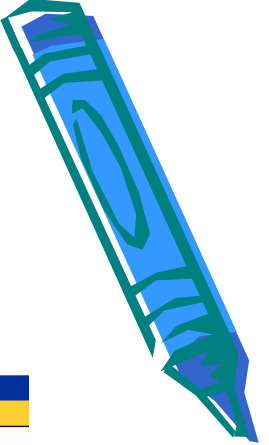


Birds

Mammals



SIRS "Birds" Search -> Avian Flu



SIRS Discoverer on the web Subject Tree Search








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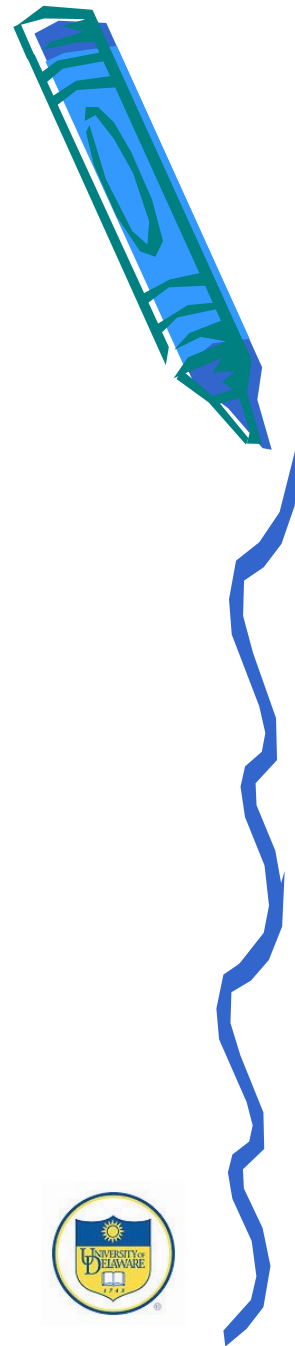
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- [The Race Against Avian Flu](#)   
Teen Newsweek (Vol. 7, No. 8); Oct. 31, 2005; Lexile Score: 970; 13K.
Summary: "Health officials in Romania and around the world are alarmed about an exceptionally lethal virus called avian influenza, or bird flu. Although all birds are thought to be vulnerable to the disease, some wild birds can carry the virus for a while without getting sick. For domesticated birds, such as chickens and turkeys, however, bird flu strikes fast and is usually fatal. Among birds, the virus is very contagious. Normally, avian influenza viruses infect only birds. But a strain of bird flu known as H5N1 can infect humans." (*Teen Newsweek*) Learn more about avian influenza and find out how people are trying to stop the spread of this virus. A vaccine for avian influenza and the spread of the "Spanish flu" in 1918 are highlighted. Background information and discussion questions are presented.
Descriptors: [Avian influenza](#), [Birds as carriers of disease](#), [Communicable diseases](#), [Prevention](#), [Epidemics](#), [Public health](#), [Vaccines](#), [World Health Organization](#), [Zoonoses](#), [Communicable diseases](#), [Treatment](#), [2001: A Space Odyssey \(Film\)](#)
- [A Day in the Life of a Chicken Farmer](#)  
Clubhouse Jr. (Vol. 18, No. 2); Feb. 2005; Lexile Score: 710; 6K.
Summary: "Six-year-old **Christopher** and his brother **Ethan**, 3, are glad for their dad. He's a real-life chicken farmer from Indiana! His name is **Anthony Rust**, and he knows more than most people do about raising birds." (*Clubhouse Jr.*) Follow Farmer Anthony through a day of work at his chicken farm. Learn how he takes care of his chickens and sorts their eggs. Some facts about raising chickens are presented.
Descriptors: [Agriculture](#), [Chickens](#), [Farmers](#), [Eggs](#), [Eggs](#), [Grading](#), [Eggs](#), [Production](#)
- [Critic Card Cutouts \(September 2004\)](#)  
Kind News; Sept. 2004; Lexile Score: 990; 2K.
Summary: Meet three winners of from the Humane Society's 11th annual Farm Animal of the Year contest. The personal stories of Ezell the goat, Chester the Yorkshire hog and Slick the rooster are presented.
Descriptors: [Chickens](#), [Contests](#), [Goats](#), [Livestock](#), [Swine](#), [Animal sanctuaries](#)
- [Bird Flu: Know More About It!](#) 
Young Generation (Bukit Merah Central, Singapore) Issue No. 275; March 2004; Lexile Score: 1250; 5K.
Summary: "Avian influenza, or 'bird flu', is a contagious disease of animals caused by viruses that normally infect only birds and, less commonly, pigs. It was first identified in Italy more than 100 years ago. While all bird species are thought to be vulnerable, domestic poultry is especially prone to such infections. This *bird flu* can rapidly reach epidemic proportions if measures are not taken to prevent or control it." (*Young Generation*) Learn how the bird flu virus can be transmitted outside a country's borders and find out what steps can be taken to stop the spread of this costly disease. The signs and symptoms of the two forms of bird flu are described.
Descriptors: [Avian influenza](#), [Birds as carriers of disease](#), [Chicken industry](#), [Communicable diseases](#), [Prevention](#), [Zoonoses](#), [Poultry](#), [Diseases](#)



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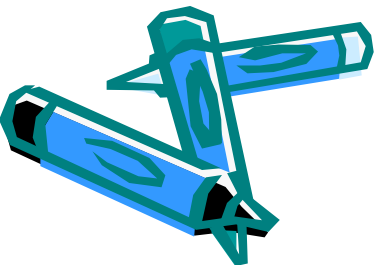
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Document Type:	Article	
Subject Terms:	GENETIC engineering SCIENTISTS -- United States GENETICALLY modified foods	
Geographic Terms:	UNITED States	
Abstract:	Reports the prevalence of genetically modified foods in the U.S. Use of gene splicing technique in transplanting genes from an organism to another; Effort of the researchers to create cooking oils with less saturated fats and high in vitamin E; Benefit of the technique in feeding the hungry through creating seeds yielding more food.	
Lexile:	1040	
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SUPERFOOD OR DOUBLE TROUBLE?

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Contents

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Section: Nutrition/Food Safety

Genetically modified foods cook up a sizzling debate By Nancy Fitzgerald & Nicole Dyer

Stroll down a supermarket aisle and pick up any of your favorite munchies — corn chips, soda, ice cream. Sounds good. But how would you feel if you knew these foods contained microscopic bits of fish, or even bacteria? Hard to believe?

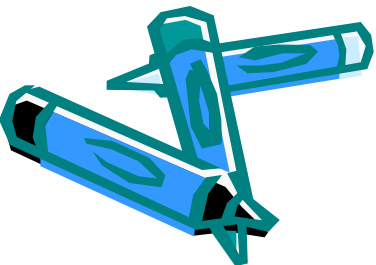
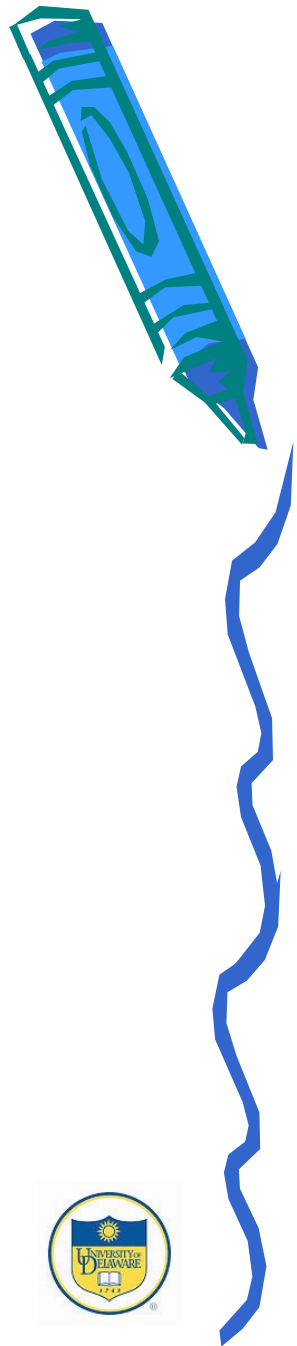
Today, nearly 70 percent of processed foods sold in the United States contain ingredients that have been injected with foreign genes, hereditary information in cells that control an organism's growth. The lab technique, gene splicing (see diagram on page 17) lets scientists transplant genes from almost any organism into another. These types of creations are called genetically modified organisms (GMOs). GMOs are in everything from corn flakes to dog chow.

Genetic engineering shows remarkable real-life potential: worm-proof corn or cancer-fighting tomatoes, for example. But genetically modified foods have also ignited a firestorm of protest. Critics warn of unforeseen side effects: allergic reactions in people, environmental damage, and poisoned wildlife. Only about a third of Americans believe that GMOs are safe to eat, according to a recent ABC News survey.

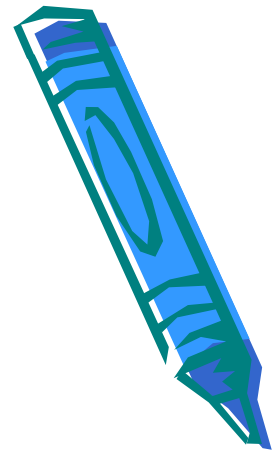
Do we know enough about **genetic engineering** to experiment with the world's food supply? Read the pros and cons fueling the GM-food debate — then make up your own mind.

PROS

- **GMOs help fight disease.** Work is under way to create foods with "built-in" medicines that thwart disease. For instance, scientists at the Boyce Thompson Institute at Cornell University in Ithaca, New York, isolated genes from the hepatitis B virus, infectious particle that causes deadly liver disease. Then they spliced the virus genes into a banana's **DNA** to create an edible vaccine, a medicine used to triqquer the body's



Student Opportunities at the University of Delaware



Delaware Biotechnology Institute

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Welcome

The Delaware Biotechnology Institute is a partnership among government, academia and industry to help establish the First State as a center of excellence in biotechnology and the life sciences. The Institute mission is to facilitate a biotechnology network of people and facilities to enhance existing academic and private-sector research, catalyze unique cross-disciplinary research and education initiatives, and to foster the entrepreneurship that creates high-quality jobs.

Faculty Profile

Sylvain G. Cloutier
Assistant Professor
 Department of Electrical & Computer Engineering

Light constitutes a most powerful way to understand and provide unique control over the fundamental properties of materials.

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Highlights

Symposium showcases undergrad science research

August 16, 2006

A total of 135 undergraduate students from UD, Delaware State University, Delaware Technical and Community College and Wesley College gathered on the ground floor of McKinley Laboratory Wednesday afternoon...

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INSTITUTE OF SOIL AND ENVIRONMENTAL QUALITY
 AT THE UNIVERSITY OF DELAWARE

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 Newark, DE 19716-2170

Phone: 302-831-0847
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The breadth and complexity of environmental problems we face today calls for well-focused, interdisciplinary efforts. The Institute of Soil and Environmental Quality (ISEQ) is a center of excellence for research, outreach, and education programs that provide science-based solutions to the many environmental problems involving our soil resources.

Overview/Mission Statement

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Affiliated Graduate Students and Research

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Summer Environmental Camp

Undergraduate Internships

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Scholarship Opportunities

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NEW Summer Workshops for High School Teachers

NEW Educational Activities

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 Created June 26, 2002
 Last updated August 23, 2006

College of Agriculture & Natural Resources

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Allen Biotechnology Lab

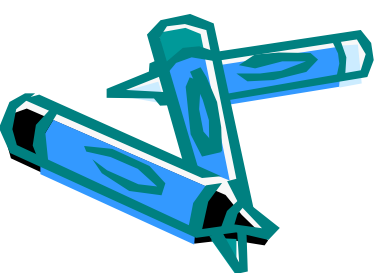
The Poultry Health System
 Laboratory Facilities
 Tour Offices and Conference Rooms
 Tour Interior Laboratory Facilities
 Tour Mechanical Mezzanine
 Tour Exterior
 Related Articles
 Avian Influenza Information

• Other Resources

Charles C. Allen Jr. Biotechnology Laboratory

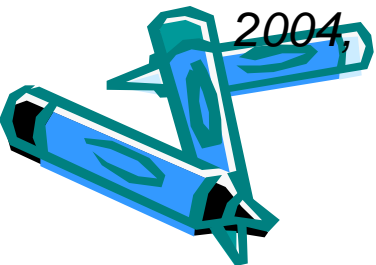
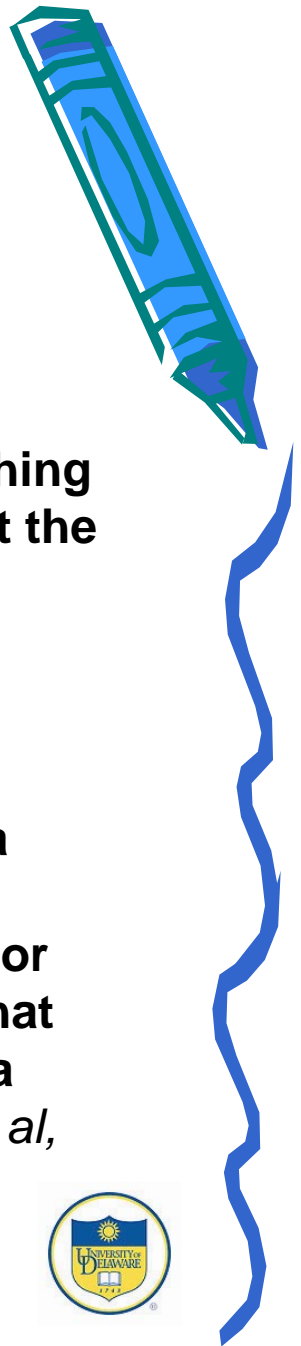
The University of Delaware has internationally recognized laboratories dedicated to poultry disease research and diagnostics. These facilities are supported in part by the State of Delaware, United States Department of Agriculture and the Delmarva poultry and allied industries. The Charles C. Allen Laboratory located on the University's main campus in Newark is a world class research laboratory that is used to address basic and applied research in infectious diseases with emphasis on epidemiology, pathogenesis, vaccine development and evaluation. The Lasher Laboratory, located on the University's campus in Georgetown, is the primary poultry diagnostic laboratory in the State. The laboratory provides rapid and comprehensive diagnostic services to commercial poultry producers as well as to the owners of small non-commercial hobby and backyard flocks.

University personnel at the Allen and Lasher Laboratories work closely with health professionals in the poultry industry, as well as those in the State of Delaware, the Delmarva region and USDA to ensure the health of poultry and the productivity of the local industry.



Last Words . . .

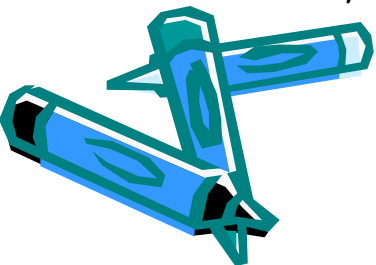
- **Major improvements are needed in our approach to the teaching of science . . . at the college and university level as well as at the pre-college level, and we should not leave it to any separate group to lead the way toward improved learning and understanding. --Moore, 2006**
- **Agricultural experts indicated that youth in agriculture was a significant issue, . . . a positive sign for the agricultural education community since it indicates that there is a need for more youth to pursue involvement in agriculture. The fact that agricultural experts see this . . . need indicates that there is a high need for what agriculture education does. --Stewart, et al, 2004, p. 63.**



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Post Script

Measuring up 2006: the state report card on higher education. Delaware.

State Reports: (Delaware, 2006)

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Strength & Weaknesses | **Preparation** | Participation | Affordability | Completion | Benefits | Learning | International Comparisons | State Facts

PREPARATION

2006 Grade: **C** | Change Over Time:

Despite improvement, Delaware lags much of the nation in preparing students to succeed in college. Delaware receives a C in preparation this year.

PREPARATION	DELAWARE		Top States 2006
	1992*	2006	
HIGH SCHOOL COMPLETION (20%)			
18- to 24-year-olds with a high school credential	87%	83% \uparrow	94%
K-12 COURSE TAKING (35%)			
9th to 12th graders taking at least one upper-level math course	28%	39% \pm	64%
9th to 12th graders taking at least one upper-level science course	18%	25% \pm	40%
8th grade students taking Algebra	n/a	25% \pm	35%
12th graders taking at least one upper-level math course	n/a	n/a	66%
K-12 STUDENT ACHIEVEMENT (35%)			
8th graders scoring at or above "proficient" on the national assessment exam:			
in math	15%	30%	38%
in reading	25%	30%	38%
in science	21%	29%	41%

