

## Look What Has Happened in 100 Years

The University of Wisconsin-Madison's College of Agricultural and Life Sciences is 100 years old.

On April 6, 1889, an act of the legislature directed the university to establish a college that "shall embrace instruction and experimentation in the science of agriculture and in those sciences which are tributary thereto."

But the college's roots go deeper. The University had offered agricultural classes for more than 20 years. It had established a campus experimental farm in 1866 and appointed its first professor of agriculture — W.W. Daniells — in 1868.

But Daniells had trouble attracting students and had only one graduate from his department. Admission to the University required high school graduation — something few farm youths had. Those who did were more likely to be attracted to medicine or law.

A lot of people weren't happy with the University's agriculture program, including members of farm organizations, farmer-Regent Hiram Smith, and even Daniell's successor, William Arnon Henry, who came to the job in 1880. In 1884 they launched a movement to establish a separate institution for agriculture. That movement ended in 1889 when the University was reorganized into colleges, including the College of Agriculture.

Henry worked closely with Regent Smith and W.D. Hoard to make University activities relevant to farmers. Together they convinced the legislature to provide research funds in 1881 and to establish the Agricultural Experiment Station in 1883. In 1885 they started the Farm Short Course, and soon after, Farmers' Institutes.

They gained an ally when Thomas Chamberlin was appointed the University's new president, who gave more support to the University's programs in agriculture and engineering.

In 1891 Chamberlin appointed Henry as the first dean for agriculture.

### Research Boosts Enrollments

But undergraduate education in the new college wasn't an immediate success. That changed, surprisingly, because of an early research success. Henry had hired Stephen Moulton Babcock as a chemist in 1888; just two years later, Babcock perfected his famous test for butterfat, which put dairying on a scientific basis. Babcock's Dairy Schools, set up to show dairy plant personnel how to use the test, were an immediate success. Some 10 years later, with a new agricultural career open to them, students began enrolling as regular students in the four-year course.

Henry was succeeded in 1907 by

Harry L. Russell, who quickly set about reorganizing the college. In his first few years he established eight new departments: poultry science, agricultural economics, agricultural education, plant pathology, entomology, genetics, agricultural journalism and bacteriology.

Russell hired Noble Clark to supervise research administration. The University's famous vitamin research flowered, the cabbage breeding program got underway, and bacteriologists made great strides in studying nitrogen fixation. The new agricultural economics department introduced the study of farm management, land economics, rural social problems and even wildlife management.

### Extension Comes Aboard

Formal extension work began during Russell's administration with a 1909 state appropriation of \$30,000 and hiring of the first county agricultural agent, E.L. Luther in 1912. In 1914, federal legislation established the Cooperative Extension Service.

Russell left the deanship in 1931 to head the Wisconsin Alumni Research Foundation and was succeeded by Chris Christensen, an agricultural economist who had been executive secretary of the Federal Farm Board and a U.S. Department of Agriculture economist before that.

Christensen brought new innovations to the Farm Short Course and established the college's Artist-in-Residence program by hiring John Steuart Curry. The college's natural resource efforts flowered during his administration. The Upper Mississippi Valley Soil Conservation Station was opened at La Crosse, the Coon Valley Watershed conservation plan was established as the first in the nation, the University arboretum was established, and the department of wildlife management was created.

Plant breeders released Vicland oats and Wisconsin's first corn hybrid, and researchers developed the first practical  
(Continued on page 33)



In 1908 campus ended at Ag Hall and Picnic Point was out in the country.

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This early food processing class stirred up delectables on the second floor of the college's heating plant.

cal soybean oil meal rations for livestock and poultry. The state's first Dairy Herd Improvement Association was formed, as well as the first artificial breeding cooperatives, and Wisconsin biochemists worked out methods to preserve bull semen.

Agricultural economists published on principles and practice of organizing cooperatives, and worked out the first rural zoning ordinance in the nation for Oneida County.

### A Silver Lining in Spoiled Hay

Biochemists identified nicotinic acid as a pellagra preventive and found that spoiled sweet clover hay contained a chemical which would later be developed into a medical blood clot preventive and the world's best rodenticide. Bacteriologists began developing methods for mass production of penicillin which dramatically increased the supply of the drug badly needed in wartime.

When Christensen resigned in 1943, E.B. Fred, a bacteriologist working on nitrogen fixation, took over until he was appointed University president in 1945. Another bacteriologist, Ira Baldwin served as the next dean, leaving three years later to become vice-president under Fred.

Under Fred and Baldwin, the University began experiments in irrigation in the central sands area which eventually resulted in the reclamation of a former wasteland into a productive vegetable crop production area.

Agricultural engineers began experimenting with loose housing for dairy cattle, the normal method of housing cattle today, and invented a mechani-

cal tree planter which kept the state's reforestation program going strong in spite of a severe labor shortage for continuing the work.

During this time, Joshua Lederberg in genetics made his observations of sexual processes in bacteria, for which he received the Nobel prize some ten years later.

Rudolph Froker, a dairy economist who had developed a system for paying for milk on the basis of non-fat solids, served as dean from 1948 to 1964. Research funding increased greatly during Froker's administration. Warfarin rat killer was perfected, the first embryo transplants were made, and the first sterile concentrated milk was developed.

Wisconsin veterinary scientists developed a detection and vaccination method for brucellosis that essentially wiped out the disease in five years. Grassland farming got a big boost from a well-coordinated campaign, as well as from release of the Vernal alfalfa variety, development of a three-cut management system, the Sure-Fire Alfalfa campaign, and machinery developments such as hay crushers.

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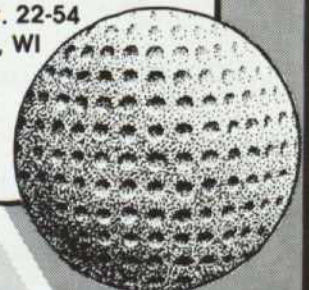
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The Land Tenure Center was established in 1962, and the Arlington Research Station was purchased in 1955. First experiments with no-till corn were conducted and the Pacemaker's Corn Club showed farmers how to double corn yields.

### The College Gets A New Name

Plant pathologist Glenn S. Pound was appointed dean in 1964. Pound's tenure saw several important administrative changes — extension work was taken out of the college, and the University of Wisconsin System was created. The college became the College of Agricultural and Life Sciences, accompanied by a complete overhaul of the curriculum.

The Food Research Institute moved to the college from Chicago, and the School of Natural Resources was established. The metabolically active form of vitamin D was identified and later used to treat milk fever in cows, and experimentally to treat human bone disorders. The second Wisconsin scientist to get the Nobel Prize — biochemist Har Gobind Khorana — synthesized the first gene in 1970.

Landscape architects started working with Wisconsin towns on historical preservation and other types of community improvement, starting with Bayfield in the early '70s. A few years later, they developed "Old World Wisconsin" at Eagle.

A non-surgical technique for transferring cattle embryos made the process much more practical.

### The College To Come

Soil scientist Leo Walsh became dean in 1979. The ensuing ten years have been some of the most exciting, and most troubling, that the college has experienced. While CALS re-



In 1931 students were proud to pose with the cutting edge of farm technology.

searchers scored some tremendous successes, the farm and rural sector faced severe economic problems.

The 1980s have seen the rapid development of biotechnology, with many key advances made on the Madison campus. In 1980 UW-Madison horticulturists were able to clone a plant gene, and six years later were the first to insert a gene for herbicide resistance into a woody plant.

In 1981, animal scientists successfully matured and fertilized cattle eggs outside of the cow's body — a key step in the search for ways to multiply genetically superior cattle. In 1987, researchers were able to clone calves by transferring nuclei from multi-cell embryos to one-cell embryos. The same year, agronomists began experiments on alfalfa to change plants into "biochemical factories" able to produce industrial enzymes.

But much of the college's attention has been focused on the financial stress that has plagued farmers and rural communities.

There are no simple or quick solutions. CALS faculty and staff have worked long hours helping farmers find

ways to cut costs, improve efficiency and pay down debt. More than ever, interdisciplinary efforts have become important.

For example, animal scientists have teamed with economists to create software and worksheets that let farmers calculate their best feed buy, or to find their best option under various government farm programs. Rural sociologists, dairy scientists and economists have attempted to predict the consequences of technologies such as bovine somatotropin. Social scientists in various fields have worked to help rural communities revitalize their economies.

The need to cut farming costs, coupled with environmental concerns and farmers' desire to minimize their use of pesticides, have generated a great deal of interest in low-input, sustainable farming.

These trends — biotechnology, improving farm profitability, low-input agriculture — will doubtlessly be major themes as the college steps into its second decade.

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