

Delaware Ag Experiment Station Celebrates 100th Birthday

NEWARK, Del. — One hundred years ago this March, Congress passed the federal Hatch Act establishing agricultural experiment stations at land-grant colleges across the country. One year later, Delaware's Agricultural Experiment Station was established on the campus of what was then Delaware College.

Since its founding in 1888, Delaware's station has expanded both its physical plant and its range of research. The station was first housed in a two-story brick building on the present University of Delaware campus in Newark. Built for \$2,900, it contained eight laboratories and a library. Station "officers" included a botanist, a meteorologist, an entomologist/horticulturist and a chemist. Two years later, the state purchased 10 acres behind the building for local variety trials and experiments. By 1907 the station had experimental plots on 50 cooperating farms around the state.

The present day Delaware Agricultural Experiment Station comprises an experimental farm of over 400 acres within the city limits of Newark and a Research and Education Center of 310 acres in Georgetown. Its research laboratories number 31 and, instead of four officers, its staff includes 54 scientists with teaching appointments in the College of Agricultural Sciences in addition to 39 research professionals.

Although research at the station has always been aimed at economical production, as Delaware agriculture has changed over the years the research emphasis has changed too, from orchard crops and forages to corn, soybeans and poultry. Though some research concerns remain the same, scientists today have more information and more sophisticated tools to do their work.

For example, the first station director, A.T. Neale, helped to eradicate anthrax from Delaware cattle herds by bringing in European vaccines that he had read about in overseas journals. Today station virologists can themselves isolate and identify viruses of poultry diseases and so assist in the rapid development of new, more effective vaccines.

Field studies in the early 1900s led to a general recommendation to plant red clover, a nitrogen-fixing plant, for winter soil improvement of cornfields. Today Delaware farmers can base their fertilizer decisions on soil test results from the station's high speed computerized equipment. These complex chemical analyses make it possible to tailor fertilizer recommendations for specific fields—a cost-saving process for the farmer.

As in the past, control of insect pests remains a research concern. In the late 1800s when a disease known as "peach yellows" threatened Delaware's vital peach industry, station researchers discovered that leafhoppers were transmitting the pathogen. Unfortunately, no effective means of controlling the insects and no resistant peach varieties were discovered before the state's peach orchards were devastated. Today, besides testing biological control agents, habitat management and chemical insecticides for their effectiveness against insect pests, station entomologists are studying insect-induced resistance in vegetable plants in hopes of finding a way to "trick" plants into protecting themselves from harmful insects.

First In Broiler Research

Delaware may well have been the first land-grant college to enter broiler research. Leghorn layers were popular in the state as early as 1914 when the experiment

station hosted an international egg laying competition. But the sale of meat birds became a Delaware industry after word spread in 1923 that Mrs. Wilmer Steel of Ocean View had sold her first broiler flock for 62 cents a pound. Four years later there were 500 broiler growers in the state, and by 1950 poultry had become the most profitable element in Delaware agriculture. Today the industry accounts for roughly two-thirds of the state's farm cash receipts for a total value of \$311 million.

The experiment station hired its first poultry specialist in 1925, who immediately began work on pullorum disease, a bacterial illness fatal to young chickens. By 1940 Delaware was the only state outside of those in New England that could boast of an effective control program for the disease.

Station scientists also began to study the nutritional needs of chickens. This work led to the development in 1959 of a computerized least-cost broiler rations program, which was soon adopted nationwide and saved millions of dollars per year. Improved breeding, feeding and management techniques suggested by station poultry specialists have helped shorten the

growth period of a broiler from 12 weeks to 7 weeks.

During the fuel crunch of the 1970s, experiment station engineers developed an energy saving computer program that showed producers how to dramatically cut costs by insulating and ventilating broiler houses more effectively.

Over the years, experiment station scientists have developed drug treatments for many poultry diseases. In the 1970s a station virologist showed how infectious bursal diseases (better known then as Gumboro disease) could destroy the immune systems of young broiler chicks, leaving them susceptible to other diseases. This disease was costing the broiler industry millions of dollars a year. He isolated the infectious bursal disease virus and used it to develop a vaccine that is now routinely administered to hens in breeder flocks. Last year, this research identified new variant strains of this virus and developed and tested a new vaccine to control them.

Corn and soybean production to provide feed for Delaware's broiler industry has expanded greatly over the last 50 years. First studied at the station in the 1930s, soybeans became a major field

crop in postwar Delaware. New varieties of soybeans resistant to some of the costly soil diseases were developed at the station, as well as two green seeded types—

Verde and Emerald—that are eaten as vegetables.

Crop production practices developed at the experiment (Turn to Page E9)



Established in 1888, Delaware's Agricultural Experiment Station was first housed in this two-story building, now the home of the University of Delaware's graphic arts studio.

