

# Sick of blurred identity, US plant pathologists formed own society

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Spinach with fungus, malnourished cabbage, spots on cauliflower and peaches injured by frost. No matter the malady, a group of people who fashioned themselves as "plant doctors" assembled for the first time 100 years ago this week to discuss those and other plant problems.

Their gathering in Boston set in motion a new field of science called [plant pathology](#), whose researchers would help the young U.S. establish a healthy agriculture industry, according to a Texas AgriLife Research scientist.

But studying the diseases of plants proved almost easier than launching a new professional identity, according to Dr. Karen-Beth Scholthof, AgriLife Research plant pathologist. Scholthof, and her collaborator Dr. Paul Peterson of Clemson University, examined the creation of the American Phytopathological Society in an article in the January 2010 journal *Phytopathology*.

Scholthof became interested in the history of science more than a decade ago and became passionate about archival research.

"What I find going back through the records is that a lot of work was done, published and then lost track of," Scholthof said. "There is a lot of room to reinterpret what has happened (since the early studies)."

This research has increased her awareness of the history of the viruses she normally studies and also helps her bring new ideas to the classroom.

Scientists in the U.S. began to recognize and study the diseases of plants in the late 1880s when all research concerning plants was lumped into botany. By 1908, science had evolved to include microscopes and cell-staining techniques that enabled researchers to take a closer look at the diseases that impact plants, Scholthof explained.

"They were also part of a new emphasis on plant morphology and physiology instead of the earlier focus on taxonomic classification," she wrote. "This scientific wave of 'new botany' brought plants into the laboratory as experimental material."

"Because of this, U.S. researchers were able to accurately diagnose and predictably control several plant diseases by 1908," she added. "U.S. plant pathologists were also making progress in identifying and utilizing plants with resistance to diseases of economic importance, although genetics and plant breeding were still in their infancy."

Despite these successes, however, the new-style plant doctors felt a need to distance themselves from botanists in order to define their profession, Scholthof explained, and they also needed a specific journal in which their studies could be published for peers.

"Scientists professionally are defined by where they come together as a group and where they publish their research," noted Peterson, a plant pathologist and historian.

Leaders in the U.S. Department of Agriculture and several agricultural experiment stations in various states pushed to get a separate section to meet during the 1909 American Association for the Advancement of Science.

They invited scientists from across the nation and urged them to present their findings "to put together the strongest possible program ... that

would command respect and attention," Scholthof and Peterson wrote.

As a result, 38 men and three women from 15 states - as far away as California - made their way to Boston on Dec. 30-31, 1909 to present 45 scientific papers, according to Scholthof. They covered virtually every crop still of importance to U.S. agriculture - from fruits and fibers to forages, field crops and forests. Many of the diseases described in that first meeting are no longer of economic consequence because plant pathologists helped develop methods to control outbreaks.

"The early researchers in the field were incredibly insightful," Scholthof said. "They observed and learned what they did with what we would consider rudimentary tools."

Their lead in developing the study of plant diseases as a profession, she noted, has enabled researchers since to specialize and target problems in order to maintain a stable agriculture economy and food supply for the nation.

"Plant pathologists will continue to emerge as economically important agents of diagnosing disease, ensuring a need for plant pathologists today and in the future," Scholthof said.

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