



Steven V. Beer

July 19, 1941 – January 12, 2022

Dr. Steven V. Beer, Professor Emeritus of Plant Pathology and Plant Microbe Biology, died on January 12, 2022, at 80. He is missed by his family and his many colleagues, advisees, and friends across the globe.

Beer graduated from Cornell with a Bachelor's in Biochemistry in 1965, then earned a doctoral degree in Plant Pathology at U.C. Davis before joining the Cornell faculty in 1969. During his more than 50 years in CALS, Beer ("like the beverage") directed a pioneering research program that improved our understanding of the molecular basis for plant diseases caused by bacterial pathogens, and of plant immunity. His focus was on fire blight of apple and pear, which damages orchards around the world, and for which control measures are limited. In later years, Beer turned his attention also to sour rot of onion, another difficult to control disease important to growers in New York and elsewhere. Much of his work explored new approaches to disease control based on fundamental discoveries made in his lab and through his many collaborations.

The greatest example is harpins, a set of proteins produced by

bacterial pathogens in the early stages of attack. Discovered and first characterized in Beer's lab by then postdoctoral associate Zhongmin Wei, in collaboration with the research group of fellow Cornell Plant Pathology Professor Alan Collmer, harpins are extracellular components of a bacterial apparatus that injects virulence factors into plant cells. The discovery of the first harpin, and the groundbreaking finding that harpins can trigger an immune response in some plants, spurred progress in both fundamental and applied plant science. Harpins became an important tool to dissect the genetic and biochemical components of plant immunity, and Beer and colleagues commercialized several products based on harpin technology for environmentally friendly crop disease production and yield enhancement. One of these products earned the team a Presidential Green Chemistry Challenge award from the Environmental Protection Agency.

Other examples include genetic modification of apple trees for resistance to fire blight, carried out with Herb Aldwinckle's group at the then New York Agricultural Experiment Station in Geneva, New York (now Cornell AgriTech), and biocontrol using bacterial competitors of the fire blight pathogen that do not cause the disease, work that benefitted from long-time collaborations with then Ithaca College Professor Rich Wodzinski and New Zealand Institute for Plant & Food Research scientist Joel Vanneste.

In addition to his many research accomplishments, Beer advanced the CALS and Cornell mission through dedicated service, teaching, and advising. Notable service examples include memberships on the CALS Academic Integrity Board and the University Faculty Committee on Academic Freedom and Responsibility, and multiple terms as Speaker of the Faculty Senate. Beer's many teaching contributions included a long-running lecture and lab course in phytobacteriology (Plant Pathology 707), and one that merged two of his passions, "Microbes and Food: Contemporary Issues Affecting Humanity" (Plant Pathology 4161). In addition, during his time as Director of Graduate Studies in Plant Pathology, and through his leadership of a USDA National Needs Fellowship Program in Molecular Plant Pathology, Beer recruited many excellent graduate

students to his field. And, he personally advised dozens of undergraduate and graduate students, as well as postdocs and visiting scholars.

As one of his advisees (Ph.D. 1997), I will remember Steve Beer for his kindness and for challenging students to think for themselves. He advised in the best way - not by giving instructions, but by asking questions. There were two questions I remember him asking often, in his booming, barrel-chested baritone. The first, a kind but serious “Who cares?”, taught me to think about why my research matters, to do research that matters, and to articulate clearly why it matters. The second, a sincere and cheery “How’s Adam?”, expected a no-less considered answer. And if the answer was that you needed something - help with an experiment, a professional connection, who to call to get your washing machine fixed - Steve saw that you got it. Among his many contributions, Beer’s support of new generations of plant pathologists is indeed perhaps his most enduring.

Beer is survived by his wife of 58 years, Beverly; his three children, David Beer ’89, Rachel Beer, and Jennifer Beer Fiorino ’90; and five grandchildren.

Written by Adam Bogdanove