Carl Severin Pederson

April 30, 1897 — September 2, 1987

A son of Norwegian emigrants, Carl Pederson was born in South Milwaukee, Wisconsin. Following graduation from high school, he enrolled at the University of Wisconsin where he obtained the Bachelor of Science degree in food chemistry in 1924 and the Master of Science degree in biochemistry in 1925. He joined the Department of Bacteriology at the New York State Agricultural Experiment Station in 1925 as an assistant in research. He received a Ph.D. from Cornell in 1929 with a major in bacteriology. He became the equivalent of an assistant professor in 1929 and a professor in 1931. He retired from Cornell in 1967.

Carl was a world recognized leader in food microbiology. His areas of expertise were vegetable fermentations, the preservation of tomato products, sanitation in food processing, and the microbiology of fruit juice beverages. Over 200 publications resulted from his investigations. His book, *Microbiology of Food Fermentations*, was widely acclaimed by food microbiologists.

Dr. Pederson was perhaps best known for his research on the sauerkraut fermentation, an area that he first studied at the University of Wisconsin under the guidance of Professors W.H. Peterson and E.B. Fred. Pederson's greatest contribution was his discovery that a specific sequence of bacteria was needed for the production of quality sauerkraut. He found that this sequence could be achieved by regulating factors such as concentration of salt, temperature of fermentation, exposure to air, and proper sanitation. His research also demonstrated that sauerkraut could be successfully preserved when canned at a lower temperature than was customarily used at the time, a change that not only improved flavor and texture but also reduced processing costs.

Dr. Pederson's research on vegetable fermentations led to his interests in the taxonomy and physiology of the lactic acid bacteria. He contributed to a number of editions of Bergey's *Manual of Determinative Bacteriology* and his paper with G.J. Hucker on the genus *Leuconostoc* served as the definitive taxonomic reference for many years.

Spoilage of tomato products was a serious problem for the canning industry when Carl first arrived at the Experiment Station. By studying the physiology of the microorganisms that were responsible he discovered that certain combinations of salt, sugar and vinegar prevented their growth in catsup and chili sauce and, as a result, spoilage of these foods is now a rare event. His research on tomato juice showed that spoilage by heat resistant sporeforming bacteria could be prevented by the addition of a small amount of citric acid to lower the pH.

His research on fruit juices involved the preparation of beverages from all of the important New York fruits and the development of processing methods for their successful preservation. His studies on apple juice revealed that undesirable browning reactions resulted from the activity of certain enzymes present in the apple and that by adding vitamin C to the juice immediately after pressing, these changes could be prevented. This discovery resulted in the development of a new light colored, fresh tasting apple juice.

In 1965 Pederson accepted a two-year assignment at the University of the Philippines in Los Baños under Cornell's International Agricultural Development Program. While there he established a research and teaching program in food science, a program that greatly aided the Cornell food scientists who followed him.

Carl possessed an outstanding ability of applying scientific research to practical problems and throughout his career, worked closely with the food processing industry. He spent long hours in the different factories that freeze, can, and ferment fruits and vegetables and was well-known to company managers as well as to the most junior technician. His zest to help the food processor stayed with him throughout his professional life: while in the Philippines he collaborated with Philippine companies to improve the quality of their cucumber pickles.

Although extension was not an official responsibility for Carl, he played an active role in numerous programs designed to transfer information to the food industry. For many years, he hosted a mold count school for the tomato industry that was co-conducted with the New York State Canners and Freezers and the National Canners Association. In his campaign to improve the quality of sauerkraut, he held annual "cutting bees" with the National Kraut Packers Association to assess samples of sauerkraut from all over the United States.

Pederson received the Forty-Niner Service Award in 1968. This most prestigious award of the Canning Machinery and Supplies Association is given annually to the individual who has made the most significant contributions to the food processing industry. He was a founding member of the Institute of Food Technologists and of Phi Tau Sigma, a fraternity for food scientists. He was a fellow of the American Public Health Association and a member of the American Society for Microbiology, Phi Lambda Upsilon, Alpha Zeta, and Sigma Xi.

In community affairs, Carl was active in the First Presbyterian Church of Geneva where he served as a Sunday school teacher, a ruling elder, and as Clerk of the Session. He received the Silver Beaver award for his many contributions to the Boy Scouts of America, and a citation from the Salvation Army for serving on its board for many years. A long time member of Rotary, he was especially interested in the club's camp for handicapped children.

Dr. Pederson is survived by his wife, Marian; his daughters, Jane and Carolyn; his son, Donald; eleven grandchildren; and several great-grandchildren.

Paul J. Chapman, John R. Stamer, Don F. Splittstoesser