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Frederick D. Heald, Dynamic Plant Pathologist

FREDERICK DEFOREST HEALD, plant pathologist, mycologist, botanist, and in all a scientist, died in Spokane, Washington, 24 April 1954, at the age of 82. He had been professor emeritus since his retirement in 1941 from the positions of professor and head of the department of plant pathology in the College of Agriculture, and plant pathologist and head of the division of plant pathology in the Agricultural Experiment Station at the State College of Washington. Although he was not very active after his retirement, he certainly retired with an enviable record of professional achievement that had long since won him international renown.

Dr. Heald was born on 23 July 1872 at Midland City, Mich., the son of Henry Francis Heald and Hettie Charles Heald. After attending preparatory school, he entered the University of Wisconsin, where he received his B.S. and M.S. degrees. Following an additional year of intensive graduate study in plant physiology and plant pathology at the University of Leipzig, he received his Ph.D. degree in 1897.

His first professional position was professor of biology at Parsons College, Fairfield, Iowa, which he held from 1897 to 1903. In 1903 he went to the University of Nebraska, where he served successively as "adjutant professor" of plant physiology, as associate professor of botany and botanist of the Agricultural Experiment Station, and finally as professor of agricultural botany. In 1908 Dr. Heald moved to the University of Texas as head of the School of Botany, where he remained until 1912 when he went to work for the state of Pennsylvania and the U.S. Department of Agriculture as plant pathologist, investigating biological factors involved in the serious chestnut blight epiphytotic. His contributions to the knowledge of the life-history of the pathogen and the means of spread of the disease gained him a reputation as a very capable and dynamic plant pathologist and undoubtedly led to his appointment in 1915 as professor of plant pathology at the State College of Washington and plant pathologist in the Washington Agricultural Experiment Station.

By this time Dr. Heald was thoroughly convinced of the importance of plant pathology and was so enthusiastic about its bright future that he was able to persuade the college administration to create a separate department (from botany). This was accomplished in 1918, and it is entirely logical that this tremendously energetic and courageous man was promptly installed as head of the new department.

In 1899 Dr. Heald married Nellie Townley. Much of his outstanding professional development can be attributed to the constructive and balancing influence of this brilliant woman who was as ambitious for her husband's professional development as he was himself. From this marriage came three children, Doris (Mrs. A. H. Tonge), Henry and Marion (Mrs. Emil Shebesta). Mrs. Heald died in 1939. Her death left a great void in Dr. Heald's life. In 1942 he married Charlotte Chamberlin. She and all three children survive him.

Dr. Heald's professional influence has been pronounced through accomplishments in research, teaching, and scholarly writing. In addition, the personality and drive of the man himself has had no small influence on his students and associates.

Although Dr. Heald is best known for his contributions to plant pathology, his first love was expressed in plant physiology and in the biology and taxonomy of mosses. His earlier papers dealt with such diverse subjects as the histology of pulvini, regeneration in mosses, electric conductivity of plant juices, biology wall charts, and analytic keys to North American mosses. His first contribution in plant pathology, "Methods of investigating plant diseases," came in 1905. From this point on, his papers dealt almost exclusively with plant pathology and mycology. Following his appointment at the State College

of Washington, two fields of interest predominated in his publications: cereal smuts and storage decays of pears and apples. In 1926 the *Manual of Plant Diseases* was published. This book served a very great need and quickly became the plant pathologist's "bible" because it was a scholarly and exhaustive reference book for so many plant diseases. It has been used in many different parts of the world. Yielding to the demand for a shorter version more adapted to single-term or single-semester courses in plant pathology, Dr. Heald wrote the *Introduction to Plant Pathology*. In 1941 he collaborated with C. S. Holton in the publication of *Bunt or Stinking Smut of Wheat (a World Problem)*. Besides his books, Dr. Heald was author or coauthor of more than 120 scientific papers, bulletins, and so forth, during a period of 45 years. He also served as special editor for edition 2 of *Webster's New International Dictionary,* laboring evenings for several years preparing definitions of phytopathological and mycological terms.

Dr. Heald was a member of various scientific and professional societies. He was president of the American Microscopical Society in 1912 and of the American Phytopathological Society in 1932. He was associate editor of *Phytopathology* for 8 years. He built up an unusually fine private library, for he subscribed to many periodicals, bought essentially every book that appeared on botany, mycology, and plant pathology, and exchanged reprints extensively. In 1944 he officially gave this library to the department he had founded and built.

Just as his papers and books testify to unusual achievement in research and writing, so do Dr. Heald's students testify to the man's ability as a teacher. How many undergraduate majors in plant pathology were students of Dr. Heald is not known, nor exactly the number of graduate students, but at the State College of Washington alone 15 graduate students have received the M.S. degree and seven the Ph.D. under his direction. These students are well distributed in responsible positions all over the country, and their performance has attested the high quality of the teaching and direction they received.

Dr. Heald's students are impressively in agreement on his ability as a teacher. As one of them phrased it,

> After instilling in his students true appreciation for fundamentals in science and a desire for accuracy, he guided by gentle urging and correction, which allowed them to learn as well from their errors as from adherence to his directions and suggestions. Attacks by others upon his students or his staff he met with a ferocity of defense which usually carried the day and certainly was never forgotten.

That teaching came naturally to him is witnessed by further testimony:

> I doubt that one could be blessed with a more natural and inspiring teacher.
>
> He was so skilled an instructor, we did not know we were being taught. He was a very inspiring teacher who made the subject of plant pathology alive, fascinating, and interesting.

Dr. Heald was also more than merely a teacher to his students. He took a strong personal interest in them.

> Dr. Heald was a father as well as a teacher. He was always fighting for the good of his students even to the point of dictating to his superiors.
>
> He had complete generosity, natural kindness and good nature [with his students], but he was on occasion as critical and adamant with his colleagues and superiors as he was understanding and forbearing with his students.

Dr. Heald was also a very active man physically. He owned a small acreage near the campus and in his earlier days at Pullman he would often arise at 5 A.M. to work in his garden before going to his office at 8 A.M. Then he would have a session of tennis or volley ball in the late afternoon and work on his writing until 10 or 11 P.M. In all of his athletic activities he played to win and he disliked losing. He played in summer school tennis tournaments even when he was in his mid-sixties. On his 60th birthday he wrestled, and threw, a much younger and somewhat larger colleague (in a friendly spirit, of course).

The man also had a pronounced sense of humor, specializing in puns. He could tell and enjoy good jokes with the best of them.

I take this occasion to express my gratitude for the kindly personal interest, the patient forbearance, and the multiplicity of courtesies accorded me by Dr. Heald when I began my own professional career in 1934 under his direction, and during the ensuing years as well. I wish to acknowledge the help of members of Dr. Heald's family for data concerning his earlier life, and of his earlier students (that is, prior to my association) for testimony about his effectiveness as a teacher.

GEORGE W. FISCHER

Department of Plant Pathology,
State College of Washington, Pullman

What we need is not the will to believe, but the wish to find out, which is the exact opposite.—BERTRAND RUSSELL.