

Harold Henry Flor, 1900–1991

Richard L. Kiesling and Brian J. Steffenson



Harold Henry Flor passed away on 3 August 1991 in Wichita, KS. Flor was born on 27 May 1900 in St. Paul, MN. He obtained a B.S. degree in Agriculture from the University of Minnesota, St. Paul, in 1922. After graduation, he was a barberry scout during the summer of 1922 and then entered graduate school in the Department of Plant Pathology at the University of Minnesota, St. Paul, that autumn. He obtained his M.S. degree in 1924 and submitted a thesis entitled “Control of

Covered Smuts of Small Grains.” During January of 1924, he moved to Iowa State College, Ames, assuming a position as research fellow with the Crop Protection Institute until May 1925. At Iowa State, he researched the fungicidal activity of furfural and authored his first paper as sole author.

Flor returned to the University of Minnesota as a research fellow for 1 yr (1925–1926) and then transferred to Louisiana State University, Baton Rouge, in 1926. At Louisiana State, he studied under E. G. Edgerton and investigated the root-rot complex of sugar cane. He wrote a Ph.D. thesis based on these studies and submitted it to the Plant Pathology Department at the University of Minnesota; he was granted the Ph.D. degree in 1929. Flor published part of the results of his dissertation research in *Phytopathology* as well as an experiment bulletin in Louisiana.

After obtaining his doctorate, Flor took a position as associate pathologist with the U.S. Department of Agriculture, Pullman, WA, where he researched wheat bunt from 1929 to 1931. At Pullman, Flor published six articles and an abstract from his research on wheat bunt. Flor’s early interest in the genetics of pathogens was evident from his research efforts with *Tilletia* species. His paper on the physiologic specialization of *Tilletia* species, published in 1933, indicated his interest in both the genetics of resistance in the host and virulence in the parasite.

The USDA Agriculture Research Service persuaded Flor to move to Fargo, ND, in 1931 with the promise that a future transfer to the University of Minnesota would be forthcoming. At Fargo, he was assigned to study diseases of flax. No further position transfers occurred, and Flor retired from the Agriculture Research Service at Fargo in 1969.

Although he is most well known for his research on the host-parasite genetics of the flax-flax rust pathosystem, Flor studied and published on other flax diseases. He also took annual field trips over the entire flax production area to survey the flax crop for diseases. Flor demonstrated an ability to publish the results of his research early in his career. He was the sole author on 62 papers and a coauthor on seven. His studies on the genetics of the flax-flax rust pathosystem became the paradigm used by many plant disease researchers. Flor did not originate the phrase

“gene-for-gene” to describe the relationship between fungus and host, but it became popularized and widely used. His research publications on the gene-for-gene system in flax and flax rust initiated a worldwide renaissance in studies of the genetics of host-parasite systems that continues to this day at the molecular level. The impact of his research is indicated by the high citation index of his publications. Without question, Flor’s theory on the genetics of the host-parasite system ranks as one of the most significant theories in the history of plant pathology. It may prove equally significant in other disciplines in which interacting biological systems are studied.

Although an employee of the USDA, Flor taught a graduate course in the genetics of host-parasite systems at North Dakota State University, Fargo, near the end of his professional career. He was always very helpful and patient with the graduate students in the course. Flor also served as a member of several graduate-student committees at NDSU.

Flor had many interests in addition to his research. The Flor family made many summer vacation trips and usually spent 1 wk during the summer at a Minnesota lake. His two daughters often accompanied him on hunting and fishing trips. Flor also bowled, played bridge, gardened, golfed, and invested successfully in the stock market. In all of these activities, he demonstrated the same intense concentration that was evident in his research. Those of us who bowled or hunted with him knew the consequences of a missed spare or wing shot.

Flor was recognized for his outstanding research contributions while he was alive. He received the Outstanding Achievement Award from the University of Minnesota in 1962 and an honorary Doctor of Science degree from North Dakota State University in 1963. Other awards included a U.S. Department of Agriculture Superior Service Award in 1957; Fellow of the American Phytopathological Society in 1965; the Ruth Allen Award in 1966; the E. C. Stakman Award in 1967; and the Award of Distinction from the American Phytopathological Society in 1980. He served the American Phytopathological Society as its president in 1967. The departmental library of the Plant Pathology Department, North Dakota State University, was dedicated to the memory of Dr. Flor during the Flor Symposium held in conjunction with the APS North Central Division meeting in 1993.

Dr. and Mrs. Flor were generous in their contributions to the plant pathology departments at the University of Minnesota and North Dakota State University as well as to the American Phytopathological Society.

Dr. Flor was preceded in death by the passing of his beloved wife, Iva. He is survived by two daughters, Marjorie Terflinger of Wichita, KS, and Marilyn Flor of Lenox, MA. We will be forever indebted to him for the great legacy he has contributed to the science of plant pathology.