

From the Oat Newsletter, volume 21, 1970:

H. K. Hayes
Award for Distinguished Service to Oat Improvement



Dr. Herbert Kendall Hayes, Professor Emeritus of agronomy and plant genetics at the University of Minnesota, has been a leader in plant improvement since the early years of this century. Receiving his Doctor of Science degree under the eminent Harvard Geneticist Dr. E. M. East in 1921, Dr. Hayes pioneered in most of the important developments in plant breeding. He played a major role in developing modern concepts of corn breeding, contributing heavily through his supportive research on heterosis, quantitative inheritance, and combining ability. He established the use of hybridization and pedigree selection in the improvement of self-fertilized crops. In collaboration with his long-time associate, Plant Pathologist Dr. E. C. Stakman, he demonstrated the efficacy of breeding for disease resistance in economic plants. Many high-yielding, disease-resistant varieties and hybrids were developed in projects which came under his purview. In the closing years of his active professional career, Dr. Hayes gave special service to oat improvement.

He contributed in earlier years in selection of the old "pure line" varieties Minota and Gopher, the latter of which was grown widely in Minnesota and surrounding areas for many years. Anthony and Minrus were developed by hybridization and selection with the specific intent of achieving resistance to crown rust, to stem rust, and smut, respectively. Bonda, Mindo, Zephyr, and Andrew were released in the mid and late forties. Each combined the best levels of resistance to crown rust, stem rust, and the smuts that were available at the time, and in addition all were resistant to Victoria blight. Bonda in particular was widely popular and was one of those varieties that made significant progress toward stiffer straw. To counter changes in the race population of the two rusts, the Landhafer gene for resistance to crown rust was combined with

additional genes for resistance to stem rust and the varieties Minland, Minhafer, and Minton were produced. The last three were released after Dr. Hayes' retirement, but he had planned the original crosses and had done the early selection which led to these varieties.

During his most active years Dr. Hayes was in great demand around the world as an authority in plant breeding. He traveled and lectured in many countries and attracted large numbers of students from all corners of the globe. He was senior author of very successful text books on plant breeding as well as a book tracing the development of hybrid corn. His scientific articles number more than 200. He has made an indelible mark on the field of plant science.

Dr. Hayes was born at Granby, Connecticut, on March 11, 1884. He received his B.S. degree from Massachusetts State College in 1908, M.S. from Harvard in 1911, and D.Sc. from Harvard in 1921. After a few years at the Connecticut Agricultural Experiment Station (1908-1915) he joined the staff of the University of Minnesota as Associate Professor of Plant Breeding. He rose to Professor in 1918 and to Chief of the newly organized Division of Agronomy and Plant Genetics in 1928, a position he held until retirement in 1952.