

From the Oat Newsletter, volume 21, 1970:

R. M. Caldwell
Award for Distinguished Service to Oat Improvement



Dr. Ralph Merrill Caldwell, Professor of Botany and Plant Pathology at Purdue University, has made many contributions to his profession, one of which was the organization of one of the most progressive small grain improvement projects in the nation. His first professional assignment was that of State Leader for Barberry Eradication in Wisconsin from 1928 to 1930. He joined the staff of Purdue University as a U.S. Department of Agriculture Pathologist in September 1930, and took charge of the Small Grain Disease Control Project. Dr. Caldwell was appointed Head of the Department of Botany and Plant Pathology in 1937. He held this position until 1954 when he resigned to devote full time to research in small grain improvement. He is scheduled to retire from the Purdue University staff in June, 1971.

Dr. Caldwell was co-developer of two winter oat varieties and 13 spring oat varieties at Purdue University. In the winter varieties, spring oat by winter oat crosses were utilized to improve the straw strength, disease resistance, and winter hardiness of winter types. In the spring oat varieties, improvements were made for disease resistance, strong and shorter straw, plump grain, and adaptation to the southern corn belt. During his active tenure in the Purdue University-USDA Small Grain Breeding Program, 14 outstanding soft red winter wheat varieties and four barley varieties were released. The wheat varieties, particularly Knox, Monon, and more recently Arthur, have occupied leading acreages in the Eastern Soft Wheat Region.

Dr. Caldwell made notable contributions to our knowledge of leaf rust and Septoria of wheat. His research with crown rust of oats established the concept of tolerance to rusts and the relative economic importance of tolerance, and called world-wide attention to the phenomenon. His research with crown rust also formed the basis for recognition of the "slow rusting" phenomenon and its value as a type of general resistance to disease. Through judicious selection and manipulation of germ plasm from many distantly related sources, he and his co-workers developed wheat varieties with an unparalleled combination of disease resistance, insect resistance, grain quality, and high yield.

Dr. Caldwell directed the research of many outstanding graduate students. He is the author of numerous research papers and Purdue University Agricultural Experiment Station Bulletins. He holds membership in Alpha Zeta, Gamma Alpha, and Sigma Xi honorary societies. He is a Fellow of the American Society of Agronomy, The American Phytopathological Society, and The American Association for the Advancement of Science.

Dr. Caldwell was born June 27, 1903, at Brookings, South Dakota. He attended public school at Brookings, and obtained a B.S. degree from South Dakota State University in 1925. In 1927 he was awarded the M.S. degree and in 1929 the Ph.D. degree from the University of Wisconsin.