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Lewis John Stadler, an Outstanding Mutation Geneticist  
and Former Oat Breeder

by T. R. Stanton

Lewis John Stadler, Professor of Field Crops of the University of Missouri and geneticist for the United States Department of Agriculture, died on May 12, 1954, after a prolonged illness, in Barnes Hospital in St. Louis, Mo. He was an eminent, internationally known, mutation geneticist, an authority extraordinary on gene structure and gene mutation, and a former oat breeder.

Dr. Stadler received his B.S. degree in agriculture from the University of Florida in 1917; was a research fellow in cereal crop improvement at the University of Missouri, 1917-18, where he received an A.M. degree in agronomy and plant breeding in 1918, and completed his doctorate in 1922.

Dr. Stadler's most outstanding scientific achievements have been in the field of mutation genetics. He also, along with Dr. Muller, was a pioneer investigator of the genetic effects induced by x-ray treatments. Aside from these great contributions to theoretical genetics, this brief item is written primarily to give some recognition to Dr. Stadler's accomplishments as an oat breeder.

During Dr. Stadler's earlier years at the University of Missouri Agricultural Experiment Station, he became well known to many agronomists for the development of the Columbia oat. It was originated as an offtype plant selection from the Fulghum variety made by Dr. Stadler at Columbia in 1922. Columbia was first distributed to farmers in 1930 and by 1941 more than 85 percent of the oat acreage of Missouri was sown to the variety. It also has been of considerable economic importance in southern Ohio, Indiana, and Illinois, as well as in other areas of the southern part of the Corn Belt from Virginia westward to Kansas and Oklahoma.

In addition, Columbia has offered valuable germ plasm for the breeding of morphologically similar strains of oats, such as Mo. 0-205, a new variety with resistance to the rusts and smuts that is rapidly replacing Columbia after a long run in its area of adaptation.

Dr. Stadler also was greatly interested in the relationship of chromosome number to mutation rate in Avena species. He pioneered in showing that the A. byzantina and A. sativa species with 21 chromosome pairs produced fewer, or no mutations, from irradiated seed; whereas species, such as A. brevis and A. strigosa with 7-chromosome pairs, produced many more mutations from irradiated seed. In other words, the frequency of mutation in these so-called minor species in his experiments was much higher than in the extensively cultivated species, A. byzantina and A. sativa.

Dr. Stadler was the author of many technical papers on plant variations, especially on mutations induced by x-ray and ultra-violet radiation. His valediction paper on "The Gene", in the preparation of which he apparently gave the last full measure of devotion, is truly a masterpiece.

Likewise, his tireless devotion to genetic research and great ability to analyze scientific data resulting therefrom were recognized by all workers who were so fortunate as to have worked with him, or to have received his helpful suggestions and advice, which he always so generously gave. In this writer's humble opinion, in Dr. Stadler, one of America's greatest geneticists has been called to that sphere from whence no traveler ever returns. (For more complete information on Dr. Stadler and his work, see Missouri University Agricultural Experiment Station Bulletin 588, issued July 1955).