NOTES

OAT VARIETIES HIGHLY RESISTANT TO CROWN RUST

A variety of oats, Victoria (C. I. No. 2401), showed unusual resistance to crown rust (Puccinia coronata avenae) in 1929. This variety was observed under field conditions at the Iowa (Ames) and Kansas (Manhattan) Agricultural Experiment Stations. At both stations it was "highly resistant" to a severe epiphytotic of crown rust in 1929. One hundred and fifty-six cultures of crown rust were collected in the central, southern, and northwestern portions of the United States in 1929. Using a standard set of differential hosts for identification, the senior writer found that these 156 cultures included eight physiologic forms of crown rust. Victoria (C. I. No. 2401) was inoculated with each of these forms in the seedling and mature stages. In every case it showed an "apparently immune," "completely resistant," or "highly resistant" type of reaction.

A second and similar, if not identical strain, received under the name of "Avena Victoria" (C. I. No. 2764) has shown like resistance to the eight physiologic forms collected in 1929.

Another variety, Avena strigosa var. glabrescens (C. I. No. 2630), showed resistance under field conditions equal to that of Victoria strains and was resistant to all except one of the eight physiologic forms collected in 1929.

Victoria (C. I. No. 2401) was obtained from Enrique Klein's Plantation of Agricultural Plants, Station Plá, Province of Buenos Aires, Argentina. It was received on May 20, 1927, with a collection of wheats from Argentina consigned to the U. S. Dept. of Agriculture. Victoria (C. I. No. 2764) was obtained in April, 1929, by the Plant Pathology Section, Iowa Agricultural Experiment Station, from José M. Scasso, Regional Agronomist, Morón, Province of Buenos Aires, Argentina. Avena strigosa var. glabrescens (C. I. No. 2630) was received by the Office of Cereal Crops and Diseases in April, 1929, from Prof. H. Wenholz, Department of Agriculture, Sydney, New South Wales, Australia. It was accessioned under F. P. I. No. 78821.

The variety Victoria has some of the characteristics of both common and red oats. In its plant and certain kernel characters the variety resembles Burt, Fulghum, etc. The culms and lemmas show the reddish yellow of the varieties belonging to Avena bysanta. The florets, however, separate as they do in varieties of A. sativa. The awns are mostly twisted and geniculate. The variety may have resulted from a hybrid between these species.

If Victoria itself does not prove of agronomic worth, it should be very valuable in the development of hybrid varieties resistant to crown rust and adapted to the southern states, where this fungus frequently takes a heavy toll. A. strigosa var. glabrescens, because

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1Cooperative investigations between the Office of Cereal Crops and Diseases, Bureau of Plant Industry, U. S. Dept. of Agriculture, and the Iowa and Kansas Agricultural Experiment Stations.