NEW SMUT AND RUST RESISTANT OATS
FROM MARKTON CROSSES¹

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VARIETIES of oats highly resistant to stem rust have long been known. The same is true with respect to smut. Satisfactory resistance to crown rust, on the other hand, is a comparatively recent discovery. However, there are as yet no varieties in commercial production in which high resistance to all three diseases are combined and, further, except for Rainbow, there is no oat variety widely grown commercially that has marked resistance to more than one major oat disease. The adaptation of Rainbow is comparatively limited.

In 1927, a definitely planned hybridization program was started by the authors to produce oat varieties for the north central states which would have resistance to more than one of these diseases. This program has now been conducted for 12 years and numerous selections having resistance to two or more diseases have resulted. The exceptional promise of many of these selections seemingly justifies bringing them to the attention of plant breeders and the presentation of data regarding them.

THE PARENT VARIETIES

The varieties used in these crosses were Markton (C.I. 2053)³, Iogold (C.I. 2329), Richland (Iowa 105, C.I. 787), Edkin (C.I. 2330), Rainbow (C.I. 2345), and Iowa 444 (C.I. 2331). All have been so fully

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