SUSCEPTIBILITY OF MARKTON AND OTHER VARIETIES OF OATS TO COVERED SMUT (USTILAGO LEVIS)\textsuperscript{1}

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Markton oats, C. I. 2053, has been reported as immune to covered smut (\textit{Ustilago levis}) by Stanton, \textit{et al.},\textsuperscript{3} and others. The trials reported herein, however, indicate that Markton is susceptible to certain collections of covered smut, and that Black Mesdag, C. I. 1765, is more resistant to these collections.

The Markton seed used in these tests was originally obtained from Moro, Oregon, where the variety was developed. Since that time it has been grown in the small grain nursery at Corvallis. In this paper the normal seeds are designated as unhulled and those with hulls removed as hulled. Carefully selected seed typical of the variety was used in these trials. The plantings were made in the field at Corvallis, Oregon, in 1929 and 1930. All of the plants observed were typical of the variety. In fact Markton shows little variation and is practically a pure line, although some differing selections have been made.

Ordinarily, the percentage of smut in oat fields in Oregon is not high. The large amount of smut present in some fields, however, attracted attention, and so smut collections were made. In the fields where the collections used in these tests were obtained, the smut infection was as high as 65\% by actual count. The collections of smut are listed and described in Table 1. All of the collections were designated as \textit{U. levis} and all except collections Nos. 1 and 7 were typical of this species. In the latter collections, however, several of the heads and spores approached \textit{U. avenae} in appearance and the collections may have been mixtures of both species.

In 1928, three smut collections were made. These are numbered one to three in Table 1. Seed of Markton was hulled and heavily coated with equal amounts of spores of these collections three weeks previous to planting. The grain was sown in rows 8 feet long on April 24, 1929. On June 19, when the plants were 5 inches high, half of each row was cut back with scissors to retard the growth of the plants. All of the smut observed in 1929 was found in the cut half of the row, indicating that the resistance of the plant was lowered or

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