EFFECT OF HARVESTING WHEAT AND OATS AT DIFFERENT STAGES OF MATURITY

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INTRODUCTION

The advisability of harvesting grain crops previous to maturity under certain unfavorable environmental conditions has received considerable study. Many farmers of the northern border states have found it advisable to harvest their crops of wheat and oats in an immature stage because of impending frosts. Others have believed that during years of serious rust epidemics grain quality is lowered by permitting the crop to mature. Under certain conditions it would be advantageous to cut a part of the crop in an immature stage in order to care for large acreages within a reasonably short harvest period. It was with a view to securing data that might aid in solving these problems that the present investigations were undertaken.

In 1926, Amy and Sun (3) reported the results of studies involving the effects of harvesting wheat and oats at different stages of maturity. The present paper deals with a continuation of these investigations. In 1927, however, rusts were prevalent to a marked degree. Marquis wheat was severely injured by leaf rust \( (Puccinia triticina \) Eriks.) and black stem rust \( (P. graminis tritici \) Eriks. and Henn.), while Victory oats was severely infected by crown rust \( (P. coronata \) Cda.) and stem rust \( (P. graminis avenae \) Eriks. and Henn.). The black stem rust infection on both crops was between 90 and 100%.

It is believed that the rust attacks warrant the separate publication of the one year's results since rust was not a factor in previous years.

Extensive literature reviews are found in the general work of Amy (2) and later in the wheat and oat studies reported by Amy and Sun (3). Since the present studies are a continuation of those reported in the latter article, it is believed unnecessary to repeat an extensive review. Citations will be made in the body of the paper as occasion warrants.

1 Contribution from the Division of Agronomy and Plant Genetics, Minnesota Agricultural Experiment Station, St. Paul, Minn. Published with the approval of the director as paper No. 850 of the Journal Series. Received for publication April 8, 1929.

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