

New Fusarium Head Blight Disease Risk Maps for the Canadian Prairies

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Predicting Fusarium Head Blight (FHB) disease risk in cereal crops is critical for determining the need for and timing of fungicide spraying. This study has developed and validated weather-based risk models for predicting FHB index (FHBI), Fusarium damaged kernels (FDK), and deoxynivalenol (DON) in spring wheat, winter wheat, barley, and durum across the Canadian Prairie provinces. Plot data from across western Canada in 2019, 2020 and 2021 were used to develop the models and independent producer field data were used for model validation. The model prediction accuracies ranged from 75 to 81, 77 to 78 and 78 to 79% for FHBI, FDK, and DON, respectively. Further field data will be needed to ensure the model accuracies are maintained and improved into the future. The models have been incorporated into an interactive, online mapping tool which is driven by real-time weather data from hundreds of prairie weather stations and will be publicly-accessible using either a desktop computer or smart phone. The purpose of the viewer is to provide timely indication of the risk for FHBI, FDK, and DON epidemics in prairie cereal crops and evidence-based support to fungicide application decisions intended to mitigate the negative impacts of FHB.

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