

The Fungicide Application Decision Support Tool (FADST) for White Mould Management in Dry Beans in Manitoba.

Authors:

Baljeet Singh, Eric Purvis, Steven Hills, Billie Bootsman, and Lisa Crede
Assiniboine Community College, Brandon, Manitoba

Abstract:

White Mould is a serious fungal disease of legumes and pulse crops in Manitoba. A real-time weather-based fungicide application decision support tool (FADST) was developed using Java programming, and a leaflet platform, based on the integration of live weather data collected from 108 weather stations across the province and a disease severity model adopted from the University of Nebraska-Lincoln. The specific objectives of the research study were to optimize a disease severity model for white mould disease for dry beans and develop and validate a real-time easy-to-use online tool for Manitoba producers. For this purpose, the FADST was developed and tested for years 2021 and 2022 at the Russ Edward School of Agriculture and Environment, Assiniboine Community College, Brandon, Manitoba. During the two growing seasons (July 8, 2021, to Sept 03, 2021, and July 01, 2022, to Sept 15, 2022) a total of 60 dry bean field visits were conducted across Manitoba, during times of high disease pressure. White mould disease severity data were collected and compared to the FADST risk predictions. The fungicide application decision support tool (FADST) has been developed, tested, and validated and is available for Manitoba producers to assess white mould in the growing season of 2023.