# On-Farm Evaluation of Fungicide in Dry Beans

There was no significant yield response to foliar fungicide application in dry beans across all 15 trials conducted from 2016 to 2019. When disease pressure is low, fungicide application is not expected to provide a significant yield benefit.

**WHITE MOULD MANAGEMENT** is an important consideration for dry bean farmers in Manitoba. White mould is generally managed with foliar fungicide applications around the R2 (early pin bean) stage. MPSG's On-Farm Network (OFN) began investigating dry bean response to a single foliar fungicide application in 2016. Since then, a total of 15 replicated and randomized trials have been conducted through the OFN (Figure 1). Each trial compared untreated dry beans to those with a single foliar fungicide application of a product of the farmer's choice (e.g., Acapela, Cotegra, Lance), applied according to label recommendations.

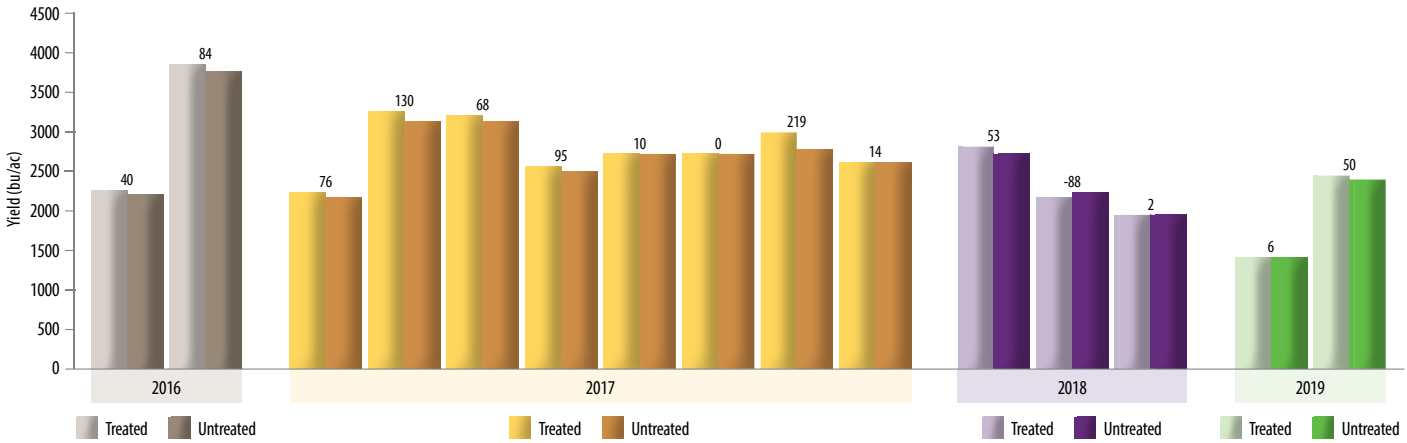
According to the 15 trials conducted to date, there have not been any significant yield differences between dry beans with a foliar fungicide application and those without a foliar fungicide application. Disease pressure ratings were taken mid-season at each location, shortly after fungicide application timing, to assess disease pressure differences between dry beans with and without fungicide. Disease pressure was low overall.

At low disease pressure, fungicide is not expected to have a significant effect on yield. In years with conditions that are conducive to white mould development, resulting in greater incidence and severity of the disease, the yield outcomes with and without fungicide application could significantly differ. For this reason, the OFN is continuing these trials to capture dry bean response to fungicide application under different weather conditions and across more growing seasons.

The lack of yield response at all 15 of these trials indicates the importance of evaluating the risk of white mould during each growing season. "Insurance" application of fungicide can be costly and evidently does not provide any yield benefits when disease pressure is not yield-limiting. Considerations for whether to apply fungicide or not, include weather conditions (rainfall, humidity, temperature) both leading up to flowering (at the V4 stage or 1–2 weeks prior to fungicide timing) and during flowering, rotation with other host crops of white mould, row spacing, plant density and varietal susceptibility.

A fungicide decision tool for managing white mould in dry beans can be found at manitobapulse.ca or in the MPSG Bean App.

*Figure 1. Yield difference (indicated by the value above the paired bars) between dry beans with a single foliar fungicide application and untreated dry beans for each trial from 2016–2019.*




Numbers above bars indicate yield differences between dry beans with a single foliar fungicide application and untreated dry beans.

PRINCIPAL INVESTIGATOR Manitoba Pulse & Soybean Growers – On-Farm Network

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