

Facts on Fusarium Head Blight

Fusarium Head Blight (FHB) is a fungal disease that infects a large number of cereal crops in Canada including wheat, barley, oats and rye. There is a number of different species of Fusarium found in Canada but, arguably, the one of greatest concern is *Fusarium Graminearum* because it has the largest impact on a crops grain quality, yield, and production of different toxins such as deoxynivalenol (DON, vomitoxin) which deems the infected grain as unfit for animal and human consumption. FHB has been a growing issue in West Central Saskatchewan and producers have been looking for a better understanding of the disease and how they can best manage it.

Disease Cycle

Fusarium Head Blight is most prevalent in years with high moisture and hot weather. The fungus will overwinter on crop residue and produce spores that are spread in season by wind and rain-splash. As such, seed infected with *F. Graminearum* does not directly contribute to FHB of that plant later in the season but it will increase inoculum levels and contribute to an increased FHB risk in future seasons. Germination of these spores, and their subsequent infection, takes place when there is precipitation or crop canopy humidity for a period of 12 hours. Although spore germination is most favourable with temperatures 25-28°C, germination can take place in temperatures 16-30°C when moisture is suitable. When a plant is infected with FHB some of the most common symptoms are premature bleaching in parts of the head, seeds not filling, and shriveled or light-weight seed.

In-Season Management Options

Products such as Prosaro, Caramba, and Folicur are fungicide options that offer suppression of FHB, but management of FHB begins before a single kernel of grain is seeded.. Establishing a high plant population tends to decrease the period of flowering and thus the window of infection. A more uniform crop stand will also increase the proportion of plants that get sprayed at the optimal timing. For wheat crops, the optimal timing for FHB fungicide applications are when 75% of the heads on the main stem have emerged, and that 50% of those heads are in flower (Figure 1). Missing the optimal spraying time will result in poor suppression of FHB.

Along with timing, another important factor to consider is coverage. Getting a good cover on the head is critical for these products to work and suppress FHB. Spraying with a minimum water volume 10 gal ac⁻¹, using a forward backward-facing spray nozzle, and aiming for a medium to coarse droplet size are just a few more things you can do to ensure you are applying these products as best as possible.

A map will be available on the Saskatchewan Wheat Development Commission website

(www.saskwheatcommission.com)

that forecasts the risk of FHB in areas across Saskatchewan. This

tool has the potential to help growers better monitor and manage their FHB risk. Because the window of application can be as narrow as only a few days, such a forecasting tool may help growers to be prepared to pull the trigger on a FHB fungicide application if conditions are conducive. Considering if fields have had fusarium issues in the past (or their neighboring fields) and estimating the potential yield and the cost of the fungicide are factors to help determine if a spray application is economical. Having an understanding of when and why you may be at a high risk of FHB will help you to know when it is worth the time and investment to spray.

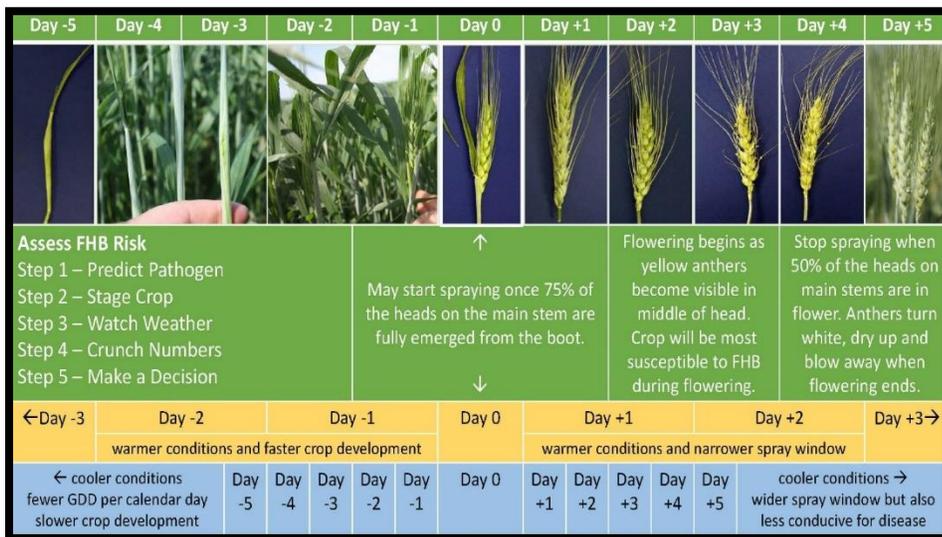


Figure 1. Diagram illustrating the optimal spray timing of fungicides for FHB suppression and estimation of the number of flowering days in warm and cool growing conditions (Sask Wheat, 2016).