

The application of foliar fungicide have been shown to improve yields in red spring and durum wheat varieties, but its effect on soft white wheat is yet to be established. The timing of application on spring wheat and durum was shown to significantly affect fungicide efficacy. As producers in NW SK have experimented with both flag leaf and head emergence timing, especially in other wheat varieties, it is important to determine the correct application time for soft white wheat varieties as well. Therefore, this study was done to demonstrate to producers the optimal fungicide application time in soft white wheat, in order to improve overall yield and seed quality.

Field trials were conducted at Scott in the 2015 growing season. The experiment was set up as a randomized complete block design (RCBD) with four replications with 13 treatments.



Figure 1. Wheat developmental stages. From left to right: flag leaf (Zadoks 38), late heading (Zadoks 58), full heading but no flowering (Zadoks 60), mid flower (Zadoks 64)

Grain yield was significantly different among fungicide treatments ($P = 0.0088$), with the greatest yield achieved when fungicides were applied later in the growing season. A yield increase was reported when fungicide was applied at later growth stages (Z58 to Z64) compared to flag leaf stage (Z38). Flag leaf applications of Folicur and Twinline resulted in slightly higher yields compared to the untreated check. Overall, Twinline outperformed Folicur, as it had 11 % yield and 1.5 % bushel weight increase compared to the control, whereas Folicur resulted in a 5.9 % yield and 0.7 % bushel weight increase compared to the control.

Twinline + Prosaro applied at Z38 and Z60 resulted in a similar yield to Twinline alone and did not result in a significant yield increase compared to the untreated check. This was unanticipated as it had the highest bushel weight (81.9 kg/hL) compared to all the treatments (Figure 2). In contrast, dual applications at Z38 and Z60 of Twinline + Caramba resulted in a yield and

bushel weight increase of 20 % and 4 %, respectively, compared to the untreated control.

Single applications of Caramba and Prosaro at Z58, Z60, and Z64 on average resulted in a 15% and 16% yield increase compared to the untreated check (Figure 2 and 3).

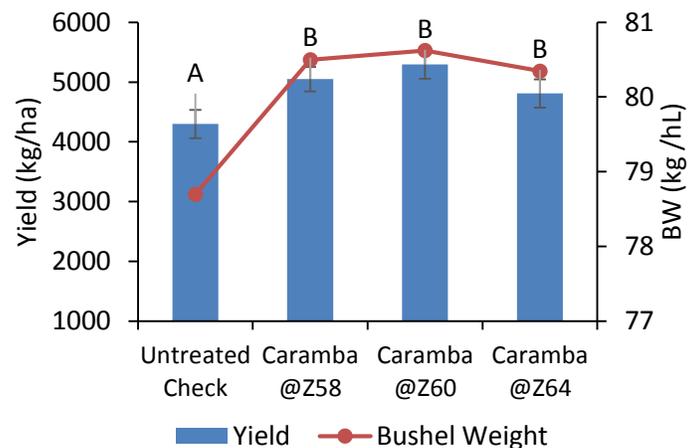


Figure 2. The effect of Caramba application timing on soft white wheat yield and bushel weight at Scott, SK 2015.

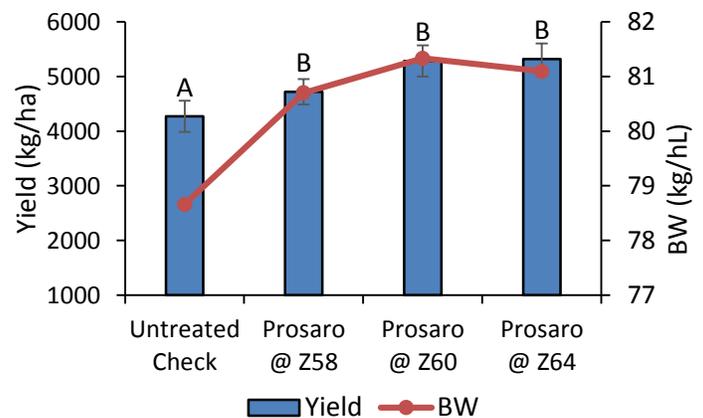


Figure 3. The effect of Prosaro application timing on soft white wheat yield and bushel weight at Scott, SK 2015.

Overall, fungicide applications delayed until Z58 to Z64 resulted in greater yields compared to flag leaf application (Z38). Delayed applications are encouraged unless early disease pressure warrants early application.

Read the full report at: <http://www.westernappliedresearch.com/research/warc-annual-reports/2015/>

