

# Yellow Flashing Effect in Wheat

## Objective:

- To evaluate the effect of group one and two herbicide injury on wheat yield when applied at different growth stages and times of the day.

## Trial Design:

- This trial was conducted at Scott, SK in 2023.
- Treatments included 12 combinations of 2 herbicides, 2 wheat stages, and 3 spray timings, and 1 herbicide-free check.

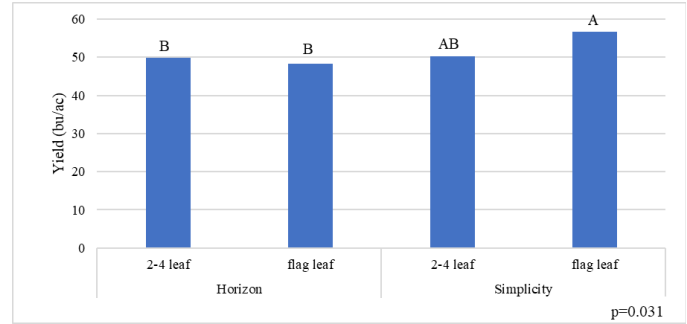
**Table 1.** Treatment list for "Yellow Flashing Effect on Yield in Wheat" at Scott, SK in 2023.

TRT #	Product	Time of Day	Wheat Stage
1	N/A (herbicide free check)	-	-
2	Horizon (376 mL/ac)	Early morning	2-4 leaf
3		Mid-afternoon	
4		Dusk	
5		Early morning	Flag leaf
6		Mid-afternoon	
7		Dusk	
8		Simplicity (0.20 L/ac)	Early morning
9	Mid-afternoon		
10	Dusk		
11	Early morning		Flag leaf
12	Mid-afternoon		
13	Dusk		

\*All applications applied according to label recommendation.

## Results:

- There were no significant differences between the time of day the products were applied ( $p=0.388$ ) (Figure 2).
- There was a significant interaction between product and plant stage ( $p=0.031$ ) and a significant effect of product on yield ( $p=0.016$ ). This indicates that the products applied resulted in different yields and these results varied depending on the growth stage they were applied.
- Mean yields followed the order of Simplicity applied at flag leaf stage (56.7 bu/ac) > Simplicity applied at 2-4 leaf stage (50.3 bu/ac) > Horizon applied at 2-4 leaf stage (49.8 bu/ac) > Horizon applied at flag leaf stage (48.2 bu/ac) (Figure 1).



**Figure 1.** Mean yield (bu/ac) on wheat treatments in "Yellow Flashing Effect on Wheat" at Scott, SK in 2023.

- Mean protein followed the order of Horizon applied at flag leaf stage (13.6%) > Horizon applied at 2-4 leaf stage (13.5%) > Simplicity applied at 2-4 leaf stage (13.4%) > Simplicity applied at flag leaf stage (12.6%) ( $p=0.042$ ).

## Conclusions:

Overall, products and application timings did not cause negative effects on plant growth (NDVI and phytotoxicity) during the season. However, slight differences were observed in yield and protein, whereby Simplicity resulted in greater yield and lower protein than Horizon. Additionally, there were no yield penalties when herbicides were applied at the flag leaf stage. Spray conditions in this study were optimal for herbicide absorption and metabolism by plants. Results of this study may vary depending on environmental conditions during spraying. Therefore, it would be beneficial to further investigate these effects in different environmental conditions.



**Figure 2.** Comparison of treatments (Horizon, mid-morning; Simplicity, mid-morning; Horizon, dusk; Simplicity, dusk) 14 days after application at the 2-4 leaf stage at Scott, SK in 2023.

The full report is available at [www.warc.ca](http://www.warc.ca). This project was supported by Blaine and Adam Davey Farms, Holman Farming Group, and Kun Farm Inc.