

USING XTENDIMAX® HERBICIDE WITH VAPORGRIP® TECHNOLOGY PRE FOR ADDITIONAL SOIL ACTIVITY

TRIAL OVERVIEW

- With the launch of Roundup Ready 2 Xtend® soybeans, dicamba can be applied preemergence (PRE) in soybeans without a plant-back restriction.
- The lack of this restriction will be advantageous for burndown purposes, but dicamba also provides some weed control from soil activity.

RESEARCH OBJECTIVE

- Evaluate weed control from PRE herbicides in soybeans at two locations in Minnesota, with and without the addition of XtendiMax® herbicide with VaporGrip® Technology, **now a restricted use pesticide**.

| Location | Soil | Previous Crop | Tillage Type | Planting Date | Harvest Date | Potential Yield/Acre | Planting Rate/Acre |
|------------|------------|---------------|--------------|---------------|--------------|----------------------|--------------------|
| Morgan, MN | Silty loam | Corn | Conventional | 05/26/2017 | | N/A | 140,000 |
| Gibbon, MN | Silty loam | Corn | Conventional | 05/11/2017 | | N/A | 140,000 |

SITE NOTES:

- Weed pressure at the Morgan, MN location was primarily waterhemp. Weed pressure at the Gibbon, MN location was primarily giant ragweed. The susceptibility of this giant ragweed population to Group 2 (ALS inhibitor) herbicides has not been formally characterized. Plot size was 10 feet x 30 feet with 4 replications. The PRE herbicide application was made the same day as planting. Treatment lists at the 2 locations were different and therefore the same comparisons cannot be made at each site. Adequate rainfall was received for proper soil applied herbicide activation. The rate for each herbicide discussed is as follows:
 - XtendiMax® with VaporGrip® Technology: 22 fl oz/ac
 - Warrant® Herbicide: 48 fl oz/ac
 - *Rowel® Herbicide: 2 oz/ac
 - Authority® First DF: 6.4 oz/ac
 - *Rowel® Herbicide is no longer commercially available, but other flumioxazin products are still on the market.

UNDERSTANDING THE RESULTS

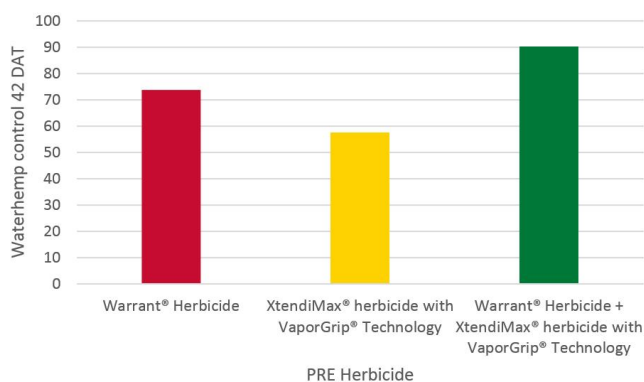


Figure 1. Percent waterhemp control 42 days after PRE application in Morgan, MN in 2017.

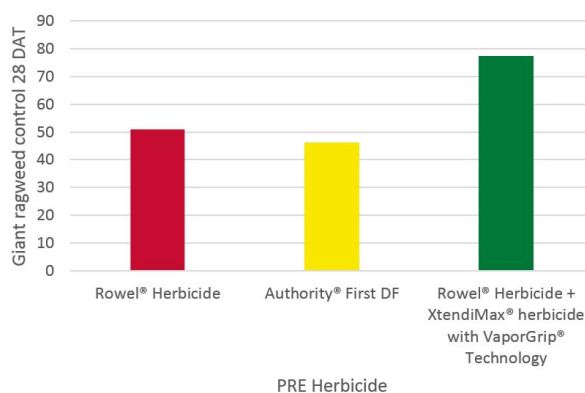


Figure 2. Percent giant ragweed control 28 days after PRE application in Gibbon, MN in 2017.

- The addition of XtendiMax® with VaporGrip® Technology to Warrant® Herbicide increased waterhemp control compared to Warrant® Herbicide alone.
- When applied PRE, XtendiMax® with VaporGrip® Technology alone provided less waterhemp control than Warrant® Herbicide alone.

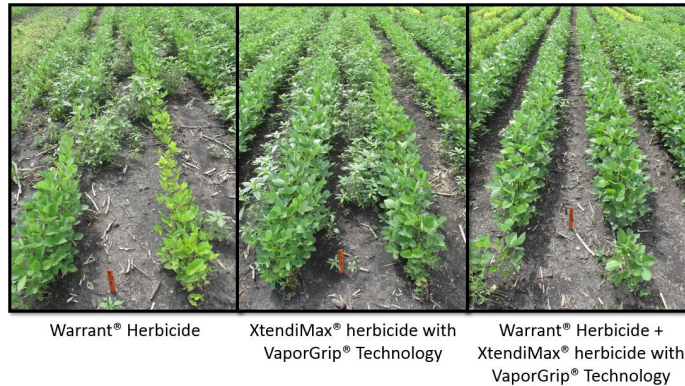


Figure 3. Varying waterhemp control depending on PRE herbicide in Morgan, MN in 2017.



Figure 4. Varying giant ragweed control depending on PRE herbicide in Gibbon, MN in 2017.

- The addition of XtendiMax® with VaporGrip® Technology to Rowel® Herbicide increased giant ragweed control compared to Rowel® Herbicide alone.

WHAT DOES THIS MEAN FOR YOUR FARM?

- Dicamba can be utilized PRE with other residual herbicides to provide additional soil activity for waterhemp and giant ragweed control.
- Dicamba should not be relied upon as the only herbicide used PRE in soybeans.
- Visit www.roundupreadyplus.com to learn more about potential incentives when utilizing Warrant® Herbicide or XtendiMax® herbicide with VaporGrip® Technology in a crop management solution.

LEGAL STATEMENT

For additional agronomic information, please contact your local brand representative. Developed in partnership with Technology, Development & Agronomy by Monsanto.

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