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.

<table>
<thead>
<tr>
<th>Location</th>
<th>Soil</th>
<th>Previous Crop</th>
<th>Tillage Type</th>
<th>Planting Date</th>
<th>Harvest Date</th>
<th>Potential Yield/Acre</th>
<th>Planting Rate/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morgan, MN</td>
<td>Silty loam</td>
<td>Corn</td>
<td>Conventional</td>
<td>05/26/2017</td>
<td>N/A</td>
<td>140,000</td>
<td></td>
</tr>
<tr>
<td>Gibbon, MN</td>
<td>Silty loam</td>
<td>Corn</td>
<td>Conventional</td>
<td>05/11/2017</td>
<td>N/A</td>
<td>140,000</td>
<td></td>
</tr>
</tbody>
</table>

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. 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?**

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

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](http://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.
XtendiMax® herbicide with VaporGrip® Technology is a restricted use pesticide for retail sale to and use only by Certified Applicators or persons under their direct supervision.

ALWAYS READ AND FOLLOW DIRECTIONS FOR USE ON PESTICIDE LABELING. It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. XtendiMax® herbicide with VaporGrip® Technology and cotton with XtendFlex® Technology may not be approved in all states and may be subject to use restrictions in some states. Check with your local Monsanto dealer or representative or U.S. EPA and your state pesticide regulatory agency for the product registration status and additional restrictions in your state. For approved tank-mix products and nozzles visit XtendiMaxApplicationRequirements.com.

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IT IS A VIOLATION OF FEDERAL AND STATE LAW to use any pesticide product other than in accordance with its labeling. NOT ALL formulations of dicamba or glyphosate are approved for in-crop use with Roundup Ready 2 Xtend® soybeans. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USES AND APPROVED FOR SUCH USE IN THE STATE OF APPLICATION. Contact the U.S. EPA and your state pesticide regulatory agency with any questions about the approval status of dicamba herbicide products for in-crop use with Roundup Ready 2 Xtend® soybeans. Roundup Ready 2 Xtend® soybeans contains genes that confer tolerance to glyphosate and dicamba. Glyphosate will kill crops that are not tolerant to glyphosate.Dicamba will kill crops that are not tolerant to dicamba. Glufosinate will kill crops that are not tolerant to glufosinate. Contact your Monsanto dealer or refer to Monsanto’s Technology Use Guide for recommended weed control programs. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

Rowel® and Warrant® Herbicide are not registered in all states and may be subject to use restrictions. The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local Monsanto dealer or representative for the product registration status in your state.

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