



Early Applications of XtendiMax® Herbicide with VaporGrip® Technology, a Restricted Use Pesticide, in the Roundup Ready® Xtend Crop System in Conventional Tillage Systems

Trial Objective

- Determine if XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, provides a broadacre benefit of residual weed control when used in conjunction with pre-emergence (PRE) residual herbicides in a conventionally tilled soybean system.

Research Site Details

- There were 15 research sites in 2021 chosen by University researchers in 12 states (AR, IA, IL, LA, MI, MN, MO, NC, ND, NE, SD, WI) with 11 sites providing useable data, representing various soil types and environmental conditions.
- The protocol included conventional tillage prior to planting to remove existing weeds.
- Pre-emergence (PRE) products were applied at either planting or prior to soybean emergence.
- There were no post-emergence (POST) applications to determine the effective length time of PRE residual products.
- Weed control was evaluated 14, 21, and 35 days after treatment (DAT).

Treatment	Pre-emergence herbicide treatment (applied at planting or prior to emergence)
1	MON 301668† (30 fluid ounces/acre) + Mauler® herbicide (8 fluid ounces/acre)
2	MON 301668† (30 fluid ounces/acre)
3	Warrant® Ultra Herbicide (50 fluid ounces/acre)
4	Fierce® EZ herbicide (6 fluid ounces/acre)
5	Valor® EZ herbicide (2 fluid ounces/acre)
6	Authority® MTZ DF herbicide (10 ounces/acre)
7-12*	Repeat of 1-6 with the addition of XtendiMax® herbicide with VaporGrip® Technology (22 fluid ounces/acre)

*All applications with XtendiMax® herbicide with Vaporgrip® Technology were tank-mixed with an approved VRA and DRA where required.

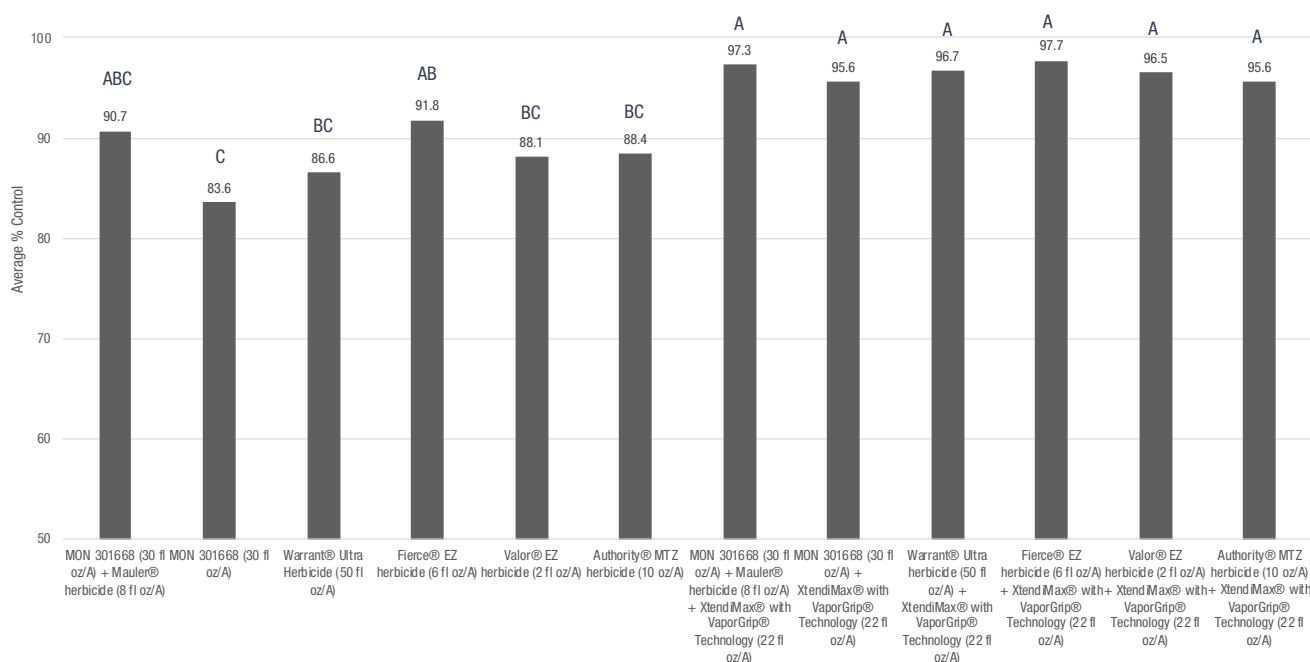
†MON 301668 is an experimental formulation of encapsulated acetochlor. The information presented herein is provided for educational purposes only and is not and shall not be construed as an offer to sell, or a recommendation to use, any unregistered pesticide for any purpose whatsoever.



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Understanding the Results

- At 21 days after treatment (DAT), the percent broadleaf weed control ranged from 83 to 92% for the pre-emerge products only and 95 to 97% control for pre-emerge with the addition of XtendiMax® herbicide with VaporGrip® Technology (Figure 1). However, the control across all locations with the addition of XtendiMax® herbicide with VaporGrip® Technology was more consistent. At 35 DAT, control was more consistent across locations and improved over base PRE applications (Figure 2).
- At 21 days after application, treatments of MON 301886, Warrant Ultra Herbicide, Valor EZ herbicide, and Authority MTZ herbicide were all improved with the addition of XtendiMax® herbicide with VaporGrip® Technology (Figure 1). All products with the addition of XtendiMax® herbicide with VaporGrip® Technology provided a higher level of control at 35 days post application than base PREs alone (Figure 2).
- Focusing on *Amaranthus* species only 35 days after application, Fierce® EZ herbicide, Valor® EZ herbicide, and Authority® MTZ herbicide were improved with the addition of XtendiMax® herbicide with VaporGrip® Technology (Figure 3).
- Focusing on large-seeded broadleaf species, the addition of XtendiMax® herbicide with VaporGrip® Technology significantly improved control in 5 out of 6 PRE products at 21 days after application and all products at 35 days post application (Figures 4 and 5).

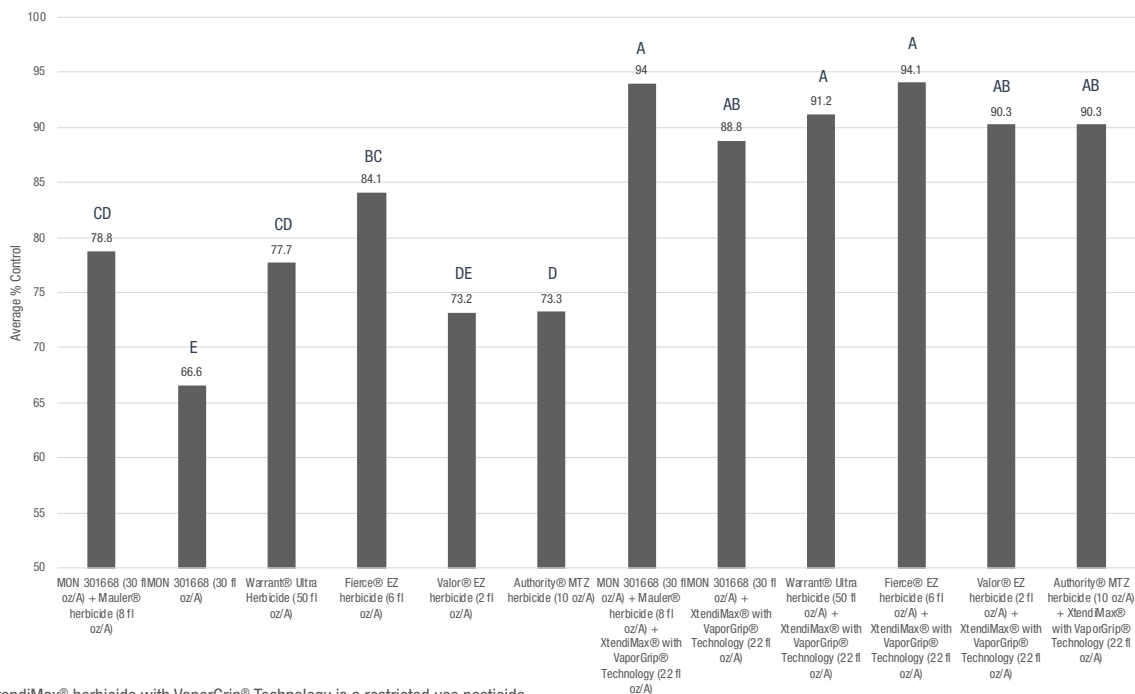


XtendiMax® herbicide with VaporGrip® Technology is a restricted use pesticide

Figure 1. Average percent control of broadleaf weeds with pre-emergence products alone and with XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, at 8 locations 21 days after application. (Averages followed by same letter are not significantly different using Fishers Protected LSD at < 0.05).

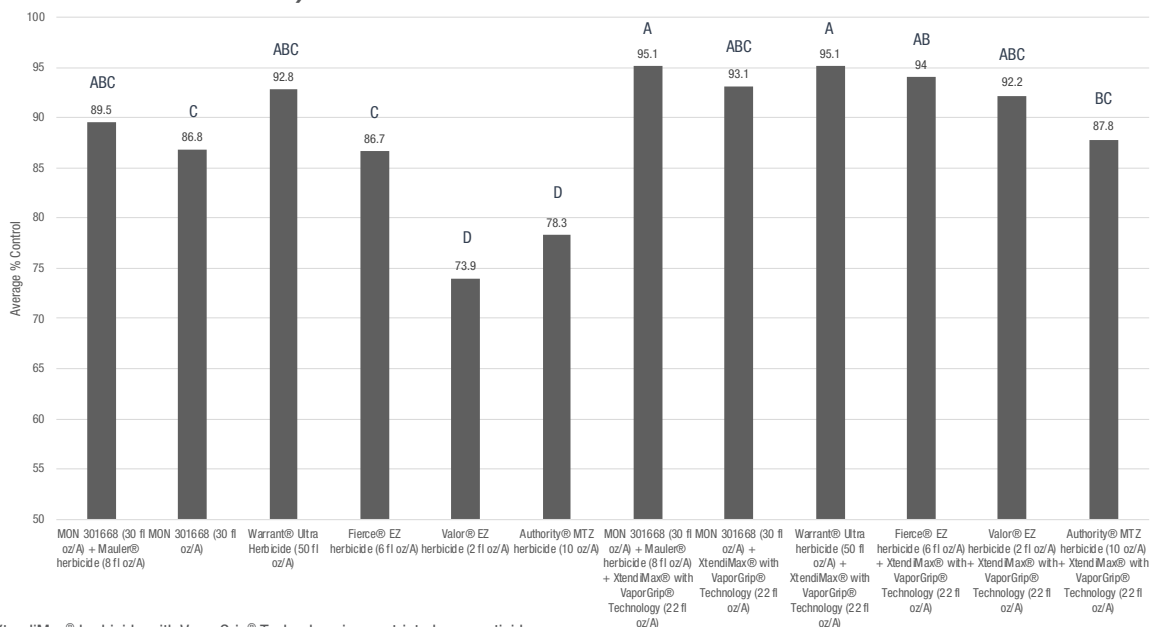


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Figure 2. Average percent control of broadleaf weeds with pre-emerge products alone and with XtendiMax® herbicide with VaporGrip® Technology at 9 locations 35 days after application. (Averages followed by same letter are not significantly different using Fishers Protected LSD at < 0.05).

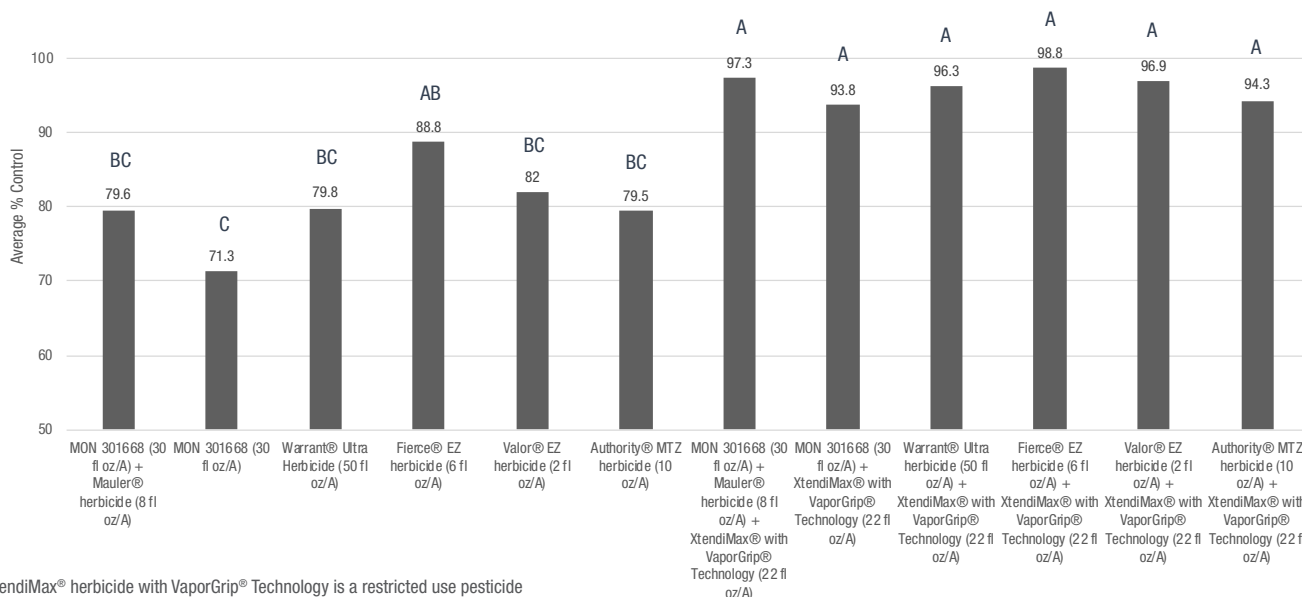


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Figure 3. Average percent control of Amaranthus species with pre-emerge products alone and with XtendiMax® herbicide with VaporGrip® Technology at 7 locations 35 days after application. (Averages followed by same letter are not significantly different using Fishers Protected LSD at < 0.05).

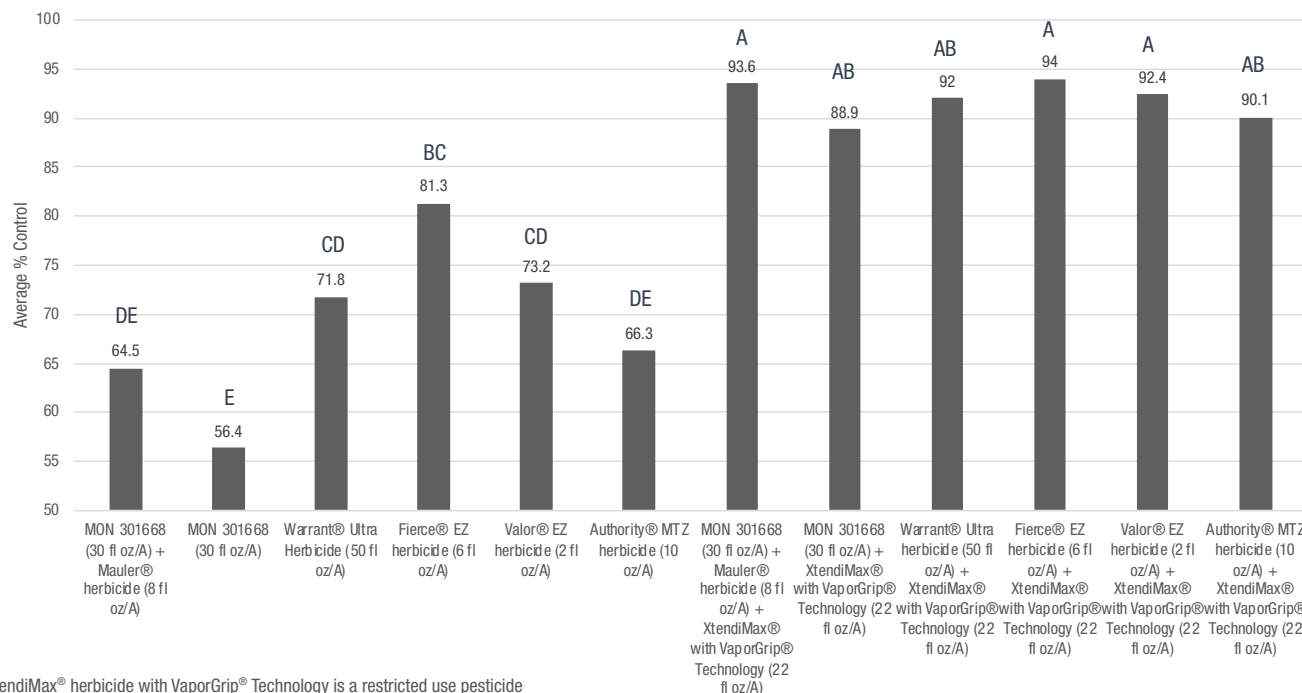


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Figure 4. Average percent control of large-seeded broadleaf species with pre-emerge products alone and with XtendiMax® herbicide with VaporGrip® Technology at 7 locations 21 days after application. (Averages followed by same letter are not significantly different using Fishers Protected LSD at < 0.05).



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Figure 5. Average percent control of large-seeded broadleaf species with pre-emerge products alone and with XtendiMax® herbicide with VaporGrip® Technology at 8 locations 35 days after application. (Averages followed by same letter are not significantly different using Fishers Protected LSD at < 0.05).



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Key Learnings

- The addition of XtendiMax® herbicide with VaporGrip® Technology increased control of broadleaf weeds in almost all cases, but particularly in large-seeded species such as giant ragweed, morning glory species, and velvetleaf at both 21 days and 35 days post application.
- Control of problematic *Amaranthus* species (Palmer amaranth, waterhemp, pigweeds) was improved with the addition of XtendiMax® herbicide with VaporGrip® in three of the six pre-emerge products at 35 days post application.

Legal Statements

The information discussed in this report is from a single site, non replicated demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

*Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell, or a recommendation to use, any unregistered pesticide for any purpose whatsoever. It is a violation of federal law to promote or offer to sell an unregistered pesticide.

XtendiMax® herbicide with VaporGrip® Technology is part of the Roundup Ready® Xtend Crop System, is a restricted use pesticide and must be used with VaporGrip® Xtra Agent (or an equivalent volatility reduction adjuvant). For approved tank-mix products (including VRAs and DRAs), nozzles and other important label information visit XtendiMaxApplicationRequirements.com.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

XtendiMax® is a restricted use pesticide. Not all products are registered for use 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 dealer or representative for the product registration status in your state. Tank mixtures: The applicable labeling for each product must be in the possession of the user at the time of application. Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. Not all tank mix product formulations have been tested for compatibility or performance other than specifically listed by brand name. Always predetermine the compatibility of tank mixtures by mixing small proportional quantities in advance. Bayer, Bayer Cross, Roundup Ready®, VaporGrip®, Warrant® and XtendiMax® are registered trademarks of Bayer Group. Authority® is a trademark of FMC Corporation. Fierce®, Mauler® and Valor® are registered trademarks of Valent U.S.A. Corporation. All other trademarks are the property of their respective owners. For additional product information call toll-free 1-866-99-BAYER (1-866-992-2937) or visit our website at www.BayerCropScience.us. Bayer CropScience LP, 800 North Lindbergh Boulevard, St. Louis, MO 63167. ©2022 Bayer Group. All rights reserved. 4001_R8

