

ROUNDUP READY 2 XTEND® SOYBEAN VERSUS LIBERTYLINK® SOYBEAN - MI, IN, OH, KY

TRIAL OVERVIEW

Growers faced with challenging weed control problems due to herbicide tolerance are looking for new and improved weed control methods. The recent launch of the Roundup Ready® Xtend Crop System provides growers one of the most effective broadleaf weed control programs. A multi-state project was developed to compare Roundup Ready 2 Xtend® soybean and LibertyLink® trait platforms in a conventional herbicide system to focus solely on germplasm performance.

RESEARCH OBJECTIVE

The objective of this study is to compare soybean yields from Roundup Ready 2 Xtend soybean and LibertyLink soybean products. Field trials were conducted in a weed-free environment, thus eliminating weed control as a confounding factor.

Location	Soil	Tillage Type	Planting Date	Harvest Date	Planting Rate/Acre
Angola, IN	Silt Loam	Conventional	06/02/2017	11/01/2017	140,000
West Lafayette, IN	Silty Clay Loam	Conventional	05/17/2017	10/17/2017	140,000
New Richmond, IN	Silty Clay Loam	Conventional	06/02/2017	10/30/2017	140,000
Elwood, IN	Silt Loam	Conventional	05/31/2017	10/21/2017	140,000
Salem, IN	Silt Clay	No-Till	05/17/2017	10/06/2017	145,000
Owensboro, KY	Silt Clay	No-Till	05/11/2017	09/28/2017	145,000
Edwardsport, IN	Silt Loam	Conventional	05/19/2017	10/20/2017	140,000
Evansville, IN	Silt Loam	Conventional	05/16/2017	10/17/2017	140,000
Orrville, OH	Loam	No-Till	06/01/2017	10/19/2017	140,000
Martin, OH	Silt Loam	No-Till	06/01/2017	10/27/2017	140,000
Capac, MI	Silt Loam	Conventional	05/17/2017	10/05/2017	150,000
Mason, MI	Sandy Loam	Conventional	05/13/2017	11/10/2017	150,000
Westphalia, MI	Loam	Conventional	05/13/2017	10/01/2017	150,000
Cassopolis, MI	Loam	Conventional	05/15/2017	10/20/2017	150,000

SITE NOTES:

- 14 testing locations in 2017: IN (7), MI (4), OH (2), KY (1).
- Weed-free research trials were achieved using locally recommended herbicide programs. All plots at each location received the same herbicide treatments.
- Trials were small plots with two or four replications.
- Results were analyzed as a randomized complete block (RCB) design (alpha = 0.10).

UNDERSTANDING THE RESULTS

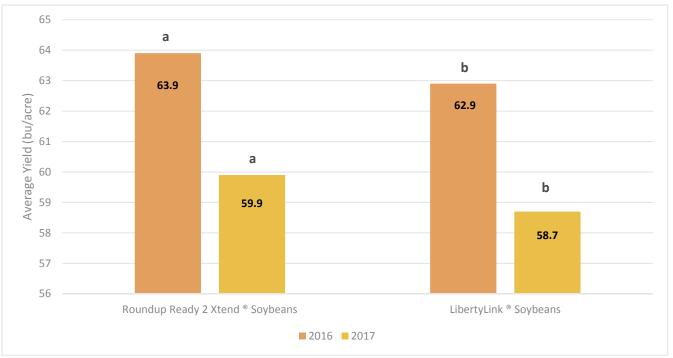


Figure 1. Multi-year average yield of Roundup Ready 2 Xtend® soybeans versus LibertyLink® soybeans. Data from 2016 includes 16 locations and 2017 data includes 14 locations across Michigan, Indiana, Kentucky, and Ohio. Yield means with the same letter are not significant at P = 0.10 (comparison made within testing year).

- Results illustrate higher yield potential of Roundup Ready 2 Xtend® soybean products when compared
 to older technologies such as LibertyLink® soybean products (Figure 1).
- Superior yield results of Roundup Ready 2 Xtend® soybean products in this study do not include potential benefits of weed control from the Roundup Ready® Xtend Crop System.
- Results in 2017 are consistent with findings of the study conducted in 2016 (Figure 1).
- These results are consistent with other research studies comparing herbicide tolerant traits.

WHAT DOES THIS MEAN FOR YOUR FARM?

- Roundup Ready Xtend soybean products had higher yield potential than LibertyLink soybean products.
- By planting Roundup Ready Xtend soybean products and incorporating Roundup Ready PLUS® Crop Management Solutions, farmers can both maximize soybean yield potential and weed control.

Legal Statement

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Regional Report

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. 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.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. 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. Monsanto has not tested all tank mix product formulations 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. Asgrow®, Roundup Ready 2 Xtend® and Roundup Ready® are registered trademarks of Monsanto Technology LLC. Specialty and Design®, Stewart™ and Stone Seed™ are trademarks of American Seeds, LLC. Channel® is a registered trademark of Channel Bio, LLC. LibertyLink® is a registered trademark of Bayer. All other trademarks are the property of their respective owners. ©2018 Monsanto Company. All rights reserved. 180115205005 01262018AMH