



QUICK COMPARISON OF WEED MANAGEMENT SYSTEMS IN SOYBEANS - NORTH

What You'll Learn...

- Different soybean weed management systems require different herbicide applications.
- Regardless of the weed management system, residual herbicides should be applied PRE and/or POST.
- Glyphosate tolerance (Roundup Ready® Soybeans and Genuity® Roundup Ready 2 Yield® Soybeans) and Glufosinate tolerance (LibertyLink® soybeans) are NOT the same.

Differences to Consider Include:

- Site of Action
- Uptake and Translocation
- Labeled Weed Heights
- Control of Perennial Weeds
- Carrier Volume
- In-Crop Application Window
- Effects of Environmental Conditions

Soybean product selection is a critical component to consider when selecting a weed management system.

Table 1. Labeled weed heights for potential in-crop applications of various herbicide systems in geographies with glyphosate-resistance.

	Roundup WeatherMAX® Herbicide (32 fl oz/a) +	Liberty® Herbicide (fl oz/a)	
	Cobra® (12.5 fl oz/a)	22	29
Fall panicum	4-12"	3"	5"
Velvetleaf	4-12"	3"	4"
Kochia	4-12"	4"	6"
Glyphosate-resistant Biotypes			
Palmer amaranth	6 leaf	NR	4"
Waterhemp	6 leaf	NR	5"

NR = not recommended

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Roundup Technology® includes Monsanto's glyphosate-based herbicide technologies. 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. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Warrant® Herbicide and Warrant® Ultra Herbicide are not registered in all states. Warrant® Herbicide and Warrant® Ultra Herbicide may be subject to use restrictions in some states. 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. Genuity®, Roundup PowerMAX®, Roundup Ready 2 Yield®, Roundup Ready®, Roundup Technology®, Roundup®, and Warrant® are registered trademarks of Monsanto Technology LLC. LibertyLink® is a registered trademark of Bayer. Flexstar® is a registered trademark of a Syngenta group company. Cobra® is a registered trademark of Valent U.S.A. Corporation. All other trademarks are the property of their respective owners. ©2015 Monsanto Company. 141119093353 101515SEK

Table 2. Weed Management System Comparisons for Northern regions.

	Roundup WeatherMAX® + Warrant® Ultra Herbicide	Roundup WeatherMAX® + POST tank mix of Cobra® in a Genuity® Roundup Ready 2 Yield® Soybean	Roundup WeatherMAX® + POST tank mix of Warrant® Herbicide + Cobra in Genuity Roundup Ready 2 Yield Soybean	Liberty® Herbicide in LibertyLink® Soybean
Active Ingredient	Roundup WeatherMAX – glyphosate Warrant Ultra Herbicide – acetochlor, fomesafen	Cobra® - lactofen	Warrant Herbicide – acetochlor Cobra - lactofen	glufosinate
Amount of Translocation¹	Glyphosate is translocated; acetochlor is residual; and fomesafen is translocated and has residual activity	Glyphosate is translocated; Cobra® is a contact herbicide	Glyphosate is translocated; Warrant Herbicide is a residual; Cobra is a contact herbicide	Limited translocation
Weed Spectrum	~240 + glyphosate-resistant broadleaves	~240 + glyphosate-resistant broadleaves	~240 + glyphosate-resistant broadleaves	~140
Carrier Volume (gal/A)	15 to 20	Cobra® - 20 to 30	Warrant Herbicide - 10 or more; Cobra - 20 to 30	Minimum: 15; Dense Canopies: 20
In-crop Application	Roundup WeatherMAX – cracking through R2 Warrant Ultra Herbicide – through R1	Cracking through R2	Cracking through R2 (bloom)	Emergence to (not through) bloom.
Maximum Rate/In-crop	Warrant Ultra Herbicide – 48-60 fl	Cobra® - see label	see labels	36 fl oz/a
Maximum Rate/Year*	Roundup WeatherMAX – 169.6 fl oz/a Warrant Ultra Herbicide – 48-60 fl oz/a	Cobra® - 25 fl oz/a	Cobra - 25 fl oz/a; Warrant Herbicide - 128 fl oz/a	65 fl oz/a from burndown to bloom
Pre-harvest Interval	Roundup WeatherMAX – 14 days Warrant Ultra Herbicide – 45 days	Cobra® - 45 days	Cobra - 45 days	70 days
Rainfast	Warrant Ultra Herbicide: 1 hour	Cobra® - 30 minutes	Cobra – 30 minutes	4 hours

***Rate maximums per year depend on several factors including soil type and region.**

Sources: ¹Peterson, D.E., Shoup, D.E., Thompson, C.R., and Olson, B.L. 2010. Herbicide mode of action. Kansas State University Extension. C-715.

This document is intended to provide information about this weed and guidelines for control. As a tough-to-control weed, knowledge about the biology and weed control programs will help in their management. For additional information, contact your local seed representative. Developed in partnership with Technology, Development & Agronomy by Monsanto.