



# 2013 DEMONSTRATION REPORT

## Monsanto Learning Center at Monmouth, IL

# Timing Of Weed Removal On Corn And Soybean Yields

## Background

Weeds compete with the crop for light, water, and nutrients. Controlling weeds before they reach a critical size is essential to protect yields and maximize profits. A demonstration trial was conducted at the Monsanto Learning Center at Monmouth, IL to illustrate the effects of proper timing of weed removal on corn and soybean yields.

## Study Guidelines

Soybean:

- Genuity® Roundup Ready 2 Yield® (2.9 RM)
- Planted: 5/4/2013; harvested: 9/27/2013
- Conventional tillage: Chisel plow in the fall and soil finisher in the spring

Corn:

- Genuity® SmartStax® RIB Complete® corn blend (112 RM)
- Planted: 5/4/2013; harvested 10/1/2013
- Conventional tillage: Chisel plow in the fall and soil finisher in the spring

## Results and Observations

Highest yield was produced when weeds were controlled at or before reaching 4 inches height; however, substantial yield drops occurred as weed height increased (Figure 1).

Figure 3 shows the general trends of yield reduction with delayed weed control were similar in corn. Weed heights of greater than 4 inches, at the time of control, resulted in yield reduction.

## Key Messages

- Weeds in corn and soybean should be controlled while they are small.

Herbicide Application	Soybean	Corn
PRE	Valor® XLT herbicide @ 3 oz/acre	Harness® Xtra @ 2 qt/acre
POST*	Roundup PowerMAX® @ 22 fl oz/acre on 4" weeds	
	Roundup PowerMAX® @ 32 fl oz/acre on 8" weeds	
	Roundup PowerMAX® @ 32 fl oz/acre on 12" weeds	
	Roundup PowerMAX® @ 22 fl oz/acre on 16" weeds	

\*Ammonium sulfate (AMS) was added to all POST treatments at a rate of 17 lbs/100 gal as a water conditioner.

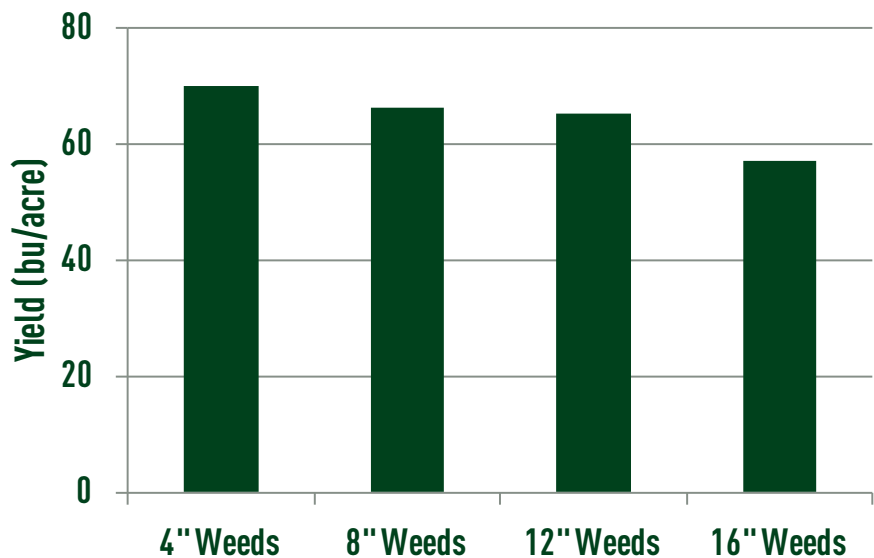


Figure 1. Soybean yield response to timely weed control.

- The larger weeds become (Figure 2 B-D), the more difficult they are to control, therefore it is critical to control weeds before they reach 4 inches height.
- A study suggests that allowing weeds to grow beyond 4 inches can cost soybean growers as much as \$3.71/acre/day (assuming \$13/bu soybean price).

Source: Kamienski, C. 2003. Master thesis. Effect of postemergence glyphosate application timing on weed control and grain yield in glyphosate-resistant soybean. University of Illinois.

- Residual herbicide provides early season weed control, more flexibility for POST applications, and additional modes of action (MOA) chemicals for managing weed resistance.
- Roundup Ready PLUS® Weed Management Solutions provides excellent weed control and can help optimize productivity in corn and soybean systems.



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A. Weeds at or < 4 inches.



B. Weeds about 8 inches.



C. Weeds about 12 inches.



D. Weeds about 16 inches.

Figure 2. Soybean fields treated when weeds were 4-16 inches tall.

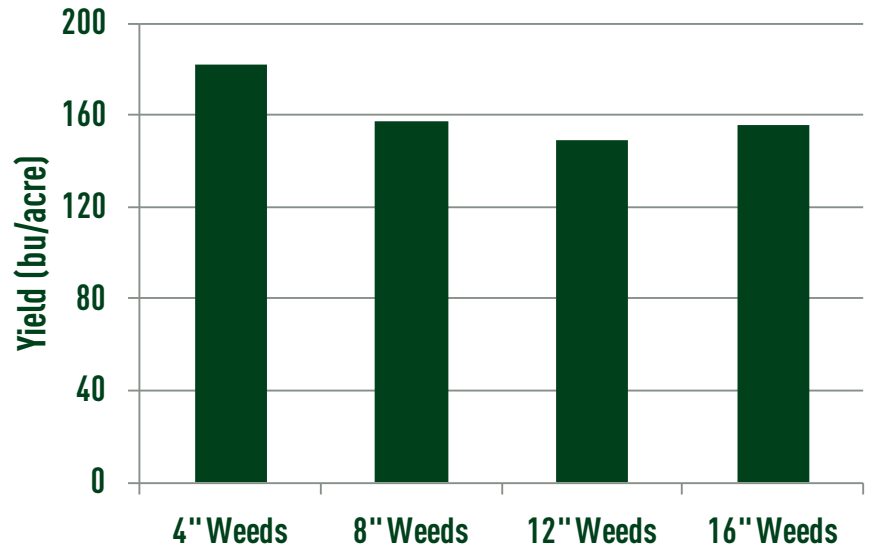


Figure 3. Corn yield response to timely weed control.

### Source and Legals

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.

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**IMPORTANT IRM INFORMATION:** Genuity® RIB Complete® corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. Genuity® SmartStax® RIB Complete® corn is a blended seed corn product. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.

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