

AGRONOMIC Spotlight



Technology
Development
by MONSANTO®

Removing a Poor Stand of Corn Before Replanting Soybeans

Proper removal of a poor stand of corn, before replanting to soybeans, is important to avoid volunteer corn competition. A study in Indiana indicated significant soybean yield loss starts to occur at 12 plants per 20 square feet (or 26,136 plants per acre)¹. Research in South Dakota indicated soybean yield reductions of 50% to 60% at densities of 26 plants per 20 square feet (or 56,635 plants per acre)². Volunteer corn is generally not a major threat to yield potential of soybeans, if managed properly. Various management options are available to help prevent and/or control volunteer corn as well as remove an existing stand of corn in a replant situation.

Taking out of poor stand of corn

Tillage can help remove poor stands of corn. Herbicide options for burndown or in-crop control of volunteer corn in a soybean replant situation include Select Max® grass herbicide tank mixed with Roundup® brand agricultural herbicides (Table 1). Herbicide options for controlling corn prior to planting or before soybean emergence are listed in Table 2.

Glufosinate, a non-selective, non-residual herbicide, can be used to help manage Roundup Ready® or other glyphosate tolerant volunteer corn if the soybean crop contains LibertyLink® technology. Glufosinate, however, is not typically recommended to remove an entire stand of corn due to inconsistent control. Replicated Monsanto field trials from 2006 indicated 1 to 3 inch tall corn plants treated with glufosinate averaged 62% chlorosis and the 3 to 6 inch tall corn plants averaged 51% chlorosis. In comparison, recommended tank mix rates of Gramoxone Inteon® + Metribuzin DF® resulted in 82% and 95% chlorosis when applied to 1 to 3 inch and 3 to 6 inch tall corn plants, respectively. A summary of the trial results concluded that the percent chlorosis corn plants achieved after treatment was highly correlated to crop response, or control. University research has also shown that glufosinate can require multiple applications to achieve control and application timing is more critical with glufosinate compared to glyphosate. Follow all label directions, as control can be variable depending on corn growth stage and environmental conditions.

Integrating management tools for prevention can help relieve the need for rescue situations in crop. Using prevention and control tactics will likely provide the best results.

Plant-back restrictions

Prior to deciding to replant a field to soybeans, growers should check what herbicides have already been applied to the corn and determine if it is safe to plant soybeans. For example, if a corn field has been treated with Harness® Xtra, replanting to soybeans is not possible due to the plant-back restrictions of Harness® Xtra.

Table 1. Herbicide Options for Controlling Volunteer Corn In Soybeans:

The following recommendations apply to burndown and in-crop applications.

Select Max® grass herbicide can be tank mixed with Roundup® brand agricultural herbicides to control volunteer corn in Roundup Ready® Soybeans.

Select Max use rate depends on volunteer corn height:

Corn 12 inches or less—6 oz/acre

Corn 24 inches or less—9 oz/acre

Corn 36 inches or less—12 oz/acre

Select Max does not require additional surfactant when used with Roundup® agricultural herbicides.

Table 2. Herbicide Options for Burndown Applications of Volunteer Corn:

The following recommendations should be applied PRIOR to planting or BEFORE soybean emergence.

Gramoxone Inteon® 2.25 pt/acre (for corn 1 to 3" tall)

OR

2.5 pt/acre (for corn 3 to 6" tall)

PLUS

Metribuzin DF® 3 oz/acre

PLUS

COC 1% v/v

- Apply in 10 to 15 gallons of water.
- There are no plant-back restrictions.

Sources: ¹P.T. Marquardt and W.G. Johnson. 2008. Competition of glyphosate-resistant volunteer corn with glyphosate-resistant soybean. 2008 North Central Weed Science Society Proceedings, Vol. 63, p. 59; ²J. Alms, et al. 2007. Competitive ability of volunteer corn in corn and soybeans. South Dakota State University. North Central Weed Science Society Proceedings 62:14; Additional references used in developing publication; L. Stahl, et al. 2007. Effect of glyphosate-resistant volunteer corn on glyphosate-resistant corn. University of Minnesota. North Central Weed Science Society Proceedings 62:48; V. Davis. 2009. Volunteer Corn Can Be More than an Eyesore. University of Illinois Extension. The Bulletin. No. 21, Article 4. August 14, 2009; C.B. Brabham et al. November 9 2010. Efficacy of Ignite and Flexstar Tank Mixtures on Giant Ragweed and Common Lambsquarters. Plant Management Network, Purdue University. 2009. Ignite 280. Purdue Extension Weed Science.

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