

Controlling Dandelion in No-Tillage Corn and Soybean

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Dandelion is a simple perennial weed that is most often associated with undisturbed sites such as lawns and continuous no-tillage production fields. This species is most commonly recognized for its bright yellow flowers and mature seed heads that disperse seeds via the wind. Aboveground, the plant consists of leaves arranged in a rosette. Leaves vary in shape; their margins may either be smooth or toothed. Belowground, dandelion plants have a large taproot that allows the plant to overwinter and to continue growing the following spring.

Methods of Control

Mechanical Control

Dandelion is primarily a problem only in no-tillage production fields. Regular disturbance of the soil root zone by tillage will inhibit the establishment of dandelion plants. No-tillage fields that are infested with a dense population of dandelion may benefit from periodic cultivation.

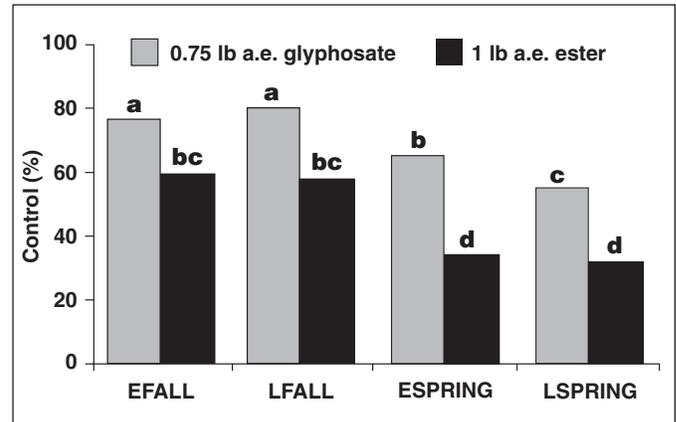
Chemical Control

Preplant Strategies for Dandelion

Herbicide applications of either glyphosate or 2,4-D ester are more effective in the fall than in the spring. Glyphosate applied at 0.75 a.e. lb/A plus ammonium sulfate (AMS) at 17 lb/100 gal effectively controlled dandelion when applied in the fall following crop removal (Figure 1). Spring applications were less effective. 2,4-D ester applied at 1 lb a.e./A was less effective than glyphosate. Because of plant regrowth and new seedling germination, sequential applications of glyphosate applied postemergence to Roundup Ready corn or soybean will be needed to further reduce the field population of dandelion.



Figure 1. Dandelion control with preplant applications of glyphosate and 2,4-D ester rated at planting (data averaged over four site years, 2001-2003).



Residual Herbicide Combinations for Dandelion Control in Soybean

The use of certain residual herbicides with 2,4-D ester or glyphosate can improve control of established dandelion and provide additional control of newly emerged seedling dandelion. The addition of Canopy XL at 2.5 to 4.5 oz/A + 0.167 oz/A of Express + 1% v/v of crop oil concentrate to 1 pt/A of 2,4-D ester applied in the fall provided excellent control of dandelion and provided good control of seedling dandelion. The use of a residual herbicide is often needed to control seedling dandelions that may emerge after glyphosate or 2,4-D ester applications. However, with other residual herbicide combinations, such as Sencor at 8 oz/A or Valor at 2 oz/A with 2 pt/A of 2,4-D ester, retreatment with the same herbicides was needed in the spring to control both established and seedling dandelions. Control of

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established dandelions is poor with fall applications of Backdraft and fair with Extreme. Neither herbicide controlled seedling dandelions.

Postemergence Dandelion Control in Corn

The use of a postemergence herbicide application may be necessary to control dandelion competing with the corn crop. The herbicide treatments listed in **Table 1** have been evaluated by Michigan State University. The recommendations are based on two years of field research.

Table 1. Postemergence herbicides for controlling dandelion in corn.

Herbicide	Rate	Effectiveness
Callisto + COC ^a + 28% UAN ^a	3 fl oz/A + 1% (v/v) + 2.5% (v/v)	Good
Callisto + A ^a trex 4L + COCa + 28% UAN ^a	3 fl oz/A + 0.5 pt/A + 1% (v/v) + 2.5% (v/v)	Good
Distinct + NIS ^a + 28% UAN ^a	6 oz/A + 0.25% (v/v) + 1.25% (v/v)	Good
glyphosate** + AMS ^a	0.75 lb a.e./A + 17 lb/100 gal	Good
Liberty* + AMS ^a	24 fl oz/A + 3 lb/A	Good
Liberty* + A ^a trex 4L + AMS ^a	24 fl oz/A + 1 qt/A + 3 lb/A	Good
Marksman	3.5 pt/A	Fair
Northstar + NIS ^a + 28% UAN ^a	5 oz/A + 0.25% (v/v) + 2.5% (v/v)	Fair

^a COC = crop oil concentrate; 28% UAN = 28% liquid nitrogen; AMS = ammonium sulfate; NIS = non-ionic surfactant.

* Treatments containing Liberty can be applied only to Liberty Link corn hybrids.

** Treatments containing glyphosate can be applied only to Roundup Ready corn hybrids.

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