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Managing Winter Annual Weeds in No-Till Fields

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Managing Winter Annual Weeds in No-Till Fields

Abstract

As no-till acres have increased in Iowa, so have the acres infested with winter annual weeds. The primary cost associated with these weeds is interference with crop establishment and early-season growth. Some growers question whether it is better to control winter annuals prior to planting or just wait to deal with them at planting. In most situations, the best option will be to control winter annuals as soon as it is fit to get into the field.

Keywords

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Managing Winter Annual Weeds in No-Till Fields

Bob Hartzler, Department of Agronomy

As no-till acres have increased in Iowa, so have the acres infested with winter annual weeds. The primary cost associated with these weeds is interference with crop establishment and early-season growth.

Some growers question whether it is better to control winter annuals prior to planting or just wait to deal with them at planting. In most situations, the best option will be to control winter annuals as soon as it is fit to get into the field.

Winter annuals become more difficult to control as they mature, therefore increasing herbicide costs. For some weeds, herbicide rates may simply need to be increased. Whereas, some weed species will require additional herbicides. For example, horseweed (marestail) can be controlled consistently with glyphosate and 2,4-D when in the rosette stage. However, after the stem begins to elongate additional herbicides typically are needed to provide consistent control. Delaying application for horseweed also increases the likelihood of selecting herbicide resistant biotypes.



Horseweed in rosette stage.

The potential for winter annuals to interfere with production depends upon the severity of infestation. Fields with a short history of no-till often have small, scattered patches of winter annuals that may not interfere with crop growth. It may be difficult to rationalize an early herbicide application to control a non-economic infestation of winter annuals. However, delays in control may allow winter annuals to go to seed prior to the burndown treatment. Therefore,

early-spring applications will prevent increases in the winter annuals which can reduce problems in future years.

Another advantage with early-spring applications is eliminating concerns with the planting interval required following 2,4-D applications. Corn or soybean should not be planted until seven days after application of 1 pint of 2,4-D 4 lb/gallon LVE (2/3 pint of 6 lb/gallon LVE). Ester formulations are recommended over amines due to a shorter planting interval for esters (15 day interval when soybean is planted following 1 pint 2,4-D 4 lb amine). In addition, esters often perform better under the cool conditions commonly encountered with spring applications.

Inclusion of residual herbicides with the burndown treatment should provide a weed-free seedbed at planting, therefore eliminating the need for applying herbicides at planting. It is unrealistic under most situations to expect a preemergence herbicide applied several weeks prior to planting to provide full-season control. However, if properly selected for the weeds present in the field, the early application should allow the postemergence application to be delayed long enough to require only a single post application.

Bob Hartzler is a professor of weed science with extension, teaching and research responsibilities. He can be contacted by email at Hartzler@iastate.edu or phone (515) 294-1164.

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