Fall Burndown Treatments for Winter Annual Weeds

Meaghan J. B. Anderson
*Iowa State University*, mjanders@iastate.edu

Robert G. Hartzler
*Iowa State University*, hartzler@iastate.edu

Prashant Jha
*Iowa State University*, pjha@iastate.edu

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Abstract
The plentiful rain in September has provided ideal conditions for establishment of winter annual weeds, thus many no-till fields will have dense stands of these weeds going into winter (Fig. 1). The wetter springs we have encountered recently complicate getting spring burndown applications made in a timely matter.

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Fall Burndown Treatments for Winter Annual Weeds

October 1, 2019

The plentiful rain in September has provided ideal conditions for establishment of winter annual weeds, thus many no-till fields will have dense stands of these weeds going into winter (Fig. 1). The wetter springs we have encountered recently complicate getting spring burndown applications made in a timely matter.
Fall burndown applications are an option that may be beneficial in fields with a history of problems with winter annuals (e.g. horseweed/marestail, field pennycress, henbit). The advantages of fall applications include more consistent control since winter annuals are smaller, and there will be less weed biomass next spring that may interfere with planter operations. Consider the following before choosing this management option:

1. Scout fields following harvest to determine whether winter annuals are present and exposed through residue cover. Some winter annual populations may emerge in both the fall and spring, making effective control with a single herbicide treatment difficult.

2. Follow herbicide label suggestions for carrier type, carrier volume, nozzle type, and environmental considerations. Treatments made on sunny days with warm daytime (>55°F) and nighttime (>40°F) temperatures will generally be more successful than those made in cooler conditions. Winter annuals do not die after a hard freeze, so
treatments will still be effective if milder conditions return.

3. When selecting burndown treatments, consider the likelihood of resistant horseweed biotypes in the field. HG 9\(^1\) (glyphosate) and HG 2 (ALS) resistant populations are widespread across the state. Including 0.5 lb ae 2,4-D LVE or 0.25 lb ae dicamba to glyphosate will increase the consistency of horseweed control, even in fields without glyphosate resistance. The addition of a residual herbicide in fall applications is not recommended due to the lack of consistent benefit and added expense. Residual herbicides are better left for spring herbicide applications, closer to the timeframe when most weed species are germinating.

Not all no-till fields require fall applications to control winter annual. Situations that favor this tactic include: 1) history of high winter annual pressure, 2) presence of high weed densities at harvest, 3) presence of resistant biotypes that limit herbicide options in the spring, and 4) factors that prevent timely applications in the spring while weeds are small (poorly drained fields, sprayer availability, etc.). Effective control of winter annuals prior to planting is an important first step for weed management in no-till, and in some fields, starting clean in 2020 will benefit from some effort this fall. While fall-applied herbicides will reduce the amount of vegetation present next spring, they rarely eliminate the need for controlling established vegetation at planting.

\(^1\)HG refers to herbicide group. The Group number refers to the site of action of a herbicide. The Group number is displayed on the first page of the herbicide label, and is important information for developing resilient weed management programs less likely to select resistant weeds.

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Category: Weeds
Tags: burndown herbicides 2 4-D dicamba horseweed marestail no-till
Authors:
Meaghan Anderson **Field Agronomist in Central Iowa**

Meaghan Anderson is a field agronomist in central Iowa and an extension field specialist at Iowa State University Extension and Outreach. Educational programming is available for farmers, agribusinesses, pesticide applicators, certified crop advisors, and other individuals interested in...

Bob Hartzler **Professor of Agronomy**

Dr. Bob Hartzler is a professor of agronomy and an extension weed specialist. He conducts research on weed biology and how it impacts the efficacy of weed management programs in corn and soybean. Dr. Hartzler also teaches undergraduate classes in weed science and weed identification...

Prashant Jha **Associate Professor**

Prashant Jha is an Associate Professor and Extension Weed Specialist with the Department of Agronomy at ISU. His research program is focused on improved understanding of weed biology and ecology to develop effective, integrated weed management strategies in corn and soybean production systems of ...