

Fall Burndown Herbicide Applications

With the early harvest this year, more time will be available to consider applying fall herbicides. Fields that are heavily infested with winter annual weeds, marestail, and dandelion are good candidates for treatment this fall. A tank mixture of Roundup® brand agricultural herbicides and 2,4-D can provide cost effective burndown of weeds in the fall without cropping restrictions in the spring.

Benefits of Fall Burndown Applications

Fall-applied herbicide applications, post-harvest to corn and soybeans, is a good practice in minimum or no-till fields to manage tough winter weeds and help to provide a weed-free seedbed in the spring (Figure 1). A late harvest and weather conditions can often prevent these applications, but in years when conditions are favorable, fall herbicide applications can help to better manage winter annual weeds, marestail, and dandelion.

- Fall conditions are often more favorable for control of winter weeds (smaller weeds, favorable weather for active growth and herbicide susceptibility, better spray coverage).
- Soil conditions are often better suited to sprayer traffic.
- Fields can dry and warm up faster in the spring to facilitate an earlier planting.
- Provides flexibility that can result in less risk of early-season yield loss from weeds and a better chance of making timely herbicide applications in the spring.
- Helps to spread out the workload in the spring.

The primary benefit of a fall burndown herbicide application is to control weeds that are present at the time of treatment, and fields that are heavily infested with weeds are the best candidates. An effective application should result in a field that is mostly free of weeds until temperatures begin to warm up in the spring. Fall applications will not eliminate the need for a residual herbicide program in the spring. A residual herbicide applied in the fall can help, but application of a residual herbicide in the spring is generally still needed for an effective weed management program.

Winter Annual Weeds and Marestail

Fields that are heavily infested with winter annual weeds such as chickweed, henbit, purple deadnettle, mustards, or marestail are good candidates for a fall burndown herbicide application. Winter annual weeds usually emerge in the fall after harvest, increase their vegetation during the winter, and complete their life cycle during the spring and early summer. Their control is often more difficult in the spring than in fall because of weed size and weather conditions. If allowed to grow in the spring, winter annual weeds can form a thick mat on the soil surface blocking sunlight from warming the soil and interfering with tillage and crop establishment. Herbicide treatments in the fall are often more



Figure 1. Fall-applied herbicide applications targeting winter annuals and dandelion can help to provide a weed-free seedbed in the spring (treated area on the right).

effective on these weeds because they may not be as actively growing in the spring, having almost completed their life cycle.

Marestail is a winter or summer annual weed that can germinate in the fall as well as in the spring. Late summer and fall germinating plants remain in the low-growing rosette stage (less than 6 inches tall) through fall and winter before bolting (stem elongation) in the spring. Marestail is easiest to control with herbicides when it is small and in the rosette stage. Plants that emerge in the fall will bolt earlier in the spring which can make them more difficult to control with a spring burndown herbicide application.

Dandelions

Dandelion, a perennial weed that spreads by seeds, can germinate on the soil surface at low temperatures. Seedlings quickly develop a crown and taproot, and mature plants live for many years. Dandelion can become a serious problem in minimum or no-till fields. Seedlings and established plants grow late into the fall, and dandelion is a tough plant that can tolerate some fall frost. Dandelion needs to be actively growing and good coverage is important for control with herbicides in the fall.

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Herbicide Application Recommendations

Roundup® brand agricultural herbicides are effective on most grass and broadleaf weeds, although the addition of 2,4-D ester can improve control of marestail, mustards, and dandelion. Marestail populations can also be resistant to glyphosate (the active ingredient in Roundup® brand agricultural herbicides) requiring the addition of 2,4-D for good control. Following are fall burndown recommendations for Roundup PowerMAX® herbicide:

- Use 22 ounces of Roundup PowerMAX® plus 1 to 2 pints of 2,4-D Ester per acre on weeds less than 6 inches tall. Marestail should be less than 6 inches tall for good control. For other annual weeds, increase the Roundup PowerMAX® rate to 32 ounces if weeds are 6 to 12 inches tall, and to 44 ounces if weeds are greater than 12 inches.
- Apply in 10 to 40 gallons of water per acre. Ammonium sulfate at 8.5 to 17 pounds per 100 gallons of water should be added first to the spray mix. A non-ionic surfactant can be added and is recommended with spray volumes of 30 gallons per acre or more.

The application of residual herbicides in the fall does not replace the need for residual herbicide applications in the spring. Fall herbicide applications should be part of a comprehensive weed management program in corn and soybeans. Programs should be designed to minimize the risk of weed resistance and weed shifts to occur.

Sources: Loux, M. et al. *Burndown programs for corn and soybeans. Weed Control Guide for Ohio and Indiana. The Ohio State University and Purdue University Extension.* <http://www.btny.purdue.edu> (last visited 9/24/10).

Loux, M. and W. Johnson. 2009. *Control of marestail in no-till soybeans. The Ohio State University and Purdue University Extension.* <http://www.btny.purdue.edu> (last visited 9/24/10).

Fall Burndown Herbicide Options For Winter Annuals and Dandelions

ANY CROP NEXT SPRING (NO RESIDUAL)

Roundup PowerMAX® + 2,4-D Ester

SOYBEANS NEXT SPRING ONLY*

Authority® XL
Canopy® EX
Enlite®/Envive®
Valor® XLT

CORN NEXT SPRING ONLY*

Basis®
Simazine

**These products with residual activity can be applied in combination with various postemergence herbicide products. Refer to the individual product labels for tank mixture and use recommendations.*



Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Tank mixtures: The applicable labeling for each product must be in the possession of the user at the time of application. Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. Monsanto has not tested all tank mix product formulations for compatibility or performance other than specifically listed by brand name. Always predetermine the compatibility of tank mixtures by mixing small proportional quantities in advance. Technology Development by Monsanto and Design(SM) is a servicemark of Monsanto Technology LLC. Roundup® and Roundup PowerMAX® are registered trademarks of Monsanto Technology LLC. All other trademarks are the property of their respective owners. ©2010 Monsanto Company. 09302010TED