



## MANAGING LATE SEASON PERENNIAL WEEDS

### What You'll Learn...

- Perennial weeds are more susceptible to control practices after flowering to prevent production of viable seeds and before vegetative plant parts are replenished.
- One of the best ways to control perennial weeds in the fall is to apply herbicides before the weeds go dormant.
- Tank mixtures with dicamba or 2,4-D can improve perennial broadleaf weed control.
- Perennial weeds generally require an integrated management program to control seedlings and established weeds.

### Perennial Weed Growth and Management

- Perennial weeds can live two or more years.
- Most perennials reproduce and spread by seed as well as vegetative plant parts (roots, rhizomes, stolons, or tubers).
- Roots or underground vegetative parts act as storage tissues for survival from season to season.
- Perennials are more susceptible to control practices after flowering in the fall. Control at this time is important to prevent seed production and replenishment of vegetative plant parts.

Cooler, fall temperatures can trigger the movement of food reserves into the root or storage structures of perennial plants to support growth in the following season. This is a good time to apply Roundup WeatherMAX<sup>®</sup> Herbicide, Roundup PowerMAX<sup>®</sup> Herbicide, or Roundup PowerMAX<sup>®</sup> II Herbicide because more of the active ingredient will translocate into the roots and underground vegetative plant parts for more effective control and to prevent re-growth.

The application window for best control can vary with the perennial weed species. Hemp dogbane, pokeweed, and Johnsongrass complete their life cycles earlier and should be treated before a frost. Canada thistle, curly dock, dandelion, and quackgrass can survive several light frosts and can be treated later into the fall.

Fall is the best time to kill declining forage stands. Spring burndown applications may not be effective because

plants break dormancy unevenly and translocation may not be occurring in vegetative plant parts.

Perennial weeds generally require an integrated management program to control seedlings and established weeds in the spring.

- Seedlings can be controlled by cultivation or herbicides.
- Repeated cultivation or herbicide applications may be needed to control established plants.
- Tillage is an important control practice, but tillage implements can also transport or transplant plant parts between and throughout fields.
- In no-till systems, a lack of tillage can allow perennial weeds to become established over time and increase the reliance on herbicides for management.
- Repeated treatment of perennial weed growth with tillage or herbicides for two or more years is needed for optimum weed management.

### Fall Herbicide Application Considerations

- Adding dicamba or 2,4-D to Roundup WeatherMAX<sup>®</sup> Herbicide, Roundup PowerMAX<sup>®</sup> Herbicide, or Roundup PowerMAX<sup>®</sup> II Herbicide is generally recommended for perennial broadleaf weeds (Table 1).
- Add 8.5 to 17 pounds per 100 gallons of water ammonium sulfate (AMS) to the spray tank before adding herbicides. Use a non-AMS water conditioner (not AMS) in glyphosate + dicamba tank mixtures.
- Application should be made to plants that are actively growing and not under stress.
- Cultivated or cut-off weeds should have at least 6 to 12 inches of re-growth before spraying.
- Delay tillage 7 or more days after application to allow adequate herbicide translocation throughout weeds.
- Apply herbicides when daytime temperatures exceed 50° F, preferably above 60° F during the day. Herbicide translocation to below-ground plant parts is better on mild afternoons after a cool morning.
- If a frost has occurred, wait at least 2 days for plants to recover and check for leaf tissue damage before spraying. At least 60% of the plant leaf tissue should remain green for Roundup WeatherMAX<sup>®</sup> Herbicide, Roundup PowerMAX<sup>®</sup> Herbicide, or Roundup PowerMAX<sup>®</sup> II Herbicide to work effectively.



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**Table 1. Roundup WeatherMAX® Herbicide, Roundup PowerMAX® Herbicide or Roundup PowerMAX® II Herbicide recommendations for fall applications to perennial weeds.**

Weed	Rate/Acre	GPA	Size/Comments - Consult product labels for additional instructions
Alfalfa	1 - 1.5 qt <b>plus</b> 1 pt dicamba or 2,4-D	3 - 10	6-8 inches or more of growth. For best results wait at least 7 days and follow the application with tillage.
Canada Thistle	1.5 - 2 qt <b>plus</b> 1 pt dicamba or 2,4-D	3 - 40	At or beyond the bud stage prior to killing frost. Allow 3 or more days after application prior to tillage.
Clovers (Red, White)	32 oz <b>plus</b> 1 - 2 pt dicamba or 2,4-D	3 - 10	Apply when most plants have reached early bud stage.
Curly Dock	32 oz <b>plus</b> 1 - 2 pt dicamba or 2,4-D	3 - 40	Apply when most plants have reached early bud stage. When plants have reached the mature stage of growth.
Dandelion	32 oz <b>plus</b> 1 - 2 pt dicamba or 2,4-D	3 - 10	Apply when most plants are in early bud stage and prior to killing frost.
Field Bindweed	44 oz <b>plus</b> 1 pt dicamba	10 - 20	Apply when at or beyond full bloom.
Hemp Dogbane	3 qt <b>plus</b> 1 qt dicamba or 2,4-D	3 - 40	Apply when most plants have reached the late bud to flower stage. Following crop harvest or mowing, allow weeds to regrow to a mature stage before treatment.
Johnsongrass	0.4 - 2 qt	3 - 40	Use 44 oz when applying in 10-40 GPA. Use the higher rate in non-crop areas or in no-till. Boot to head stage or in the fall prior to frost. Allow 7 or more days after application prior to tillage.
Orchardgrass	0.7 - 1.5 qt	3 - 40	Apply when most plants have reached boot to early seedhead stage.
Pokeweed	1 qt <b>plus</b> 1 pt dicamba or 2,4-D	3 - 40	Actively growing plants up to 24 inches tall.
Quackgrass	0.7 - 2 qt	3 - 40	Apply 22 oz in 3-10 GPA or 44 oz in 10-40 GPA. Do not tank-mix with residual herbicides when using 22 oz. Spray when quackgrass is 6-8 inches tall. Allow 3 or more days after application before tillage.
Tall Fescue	0.7 - 2 qt	3 - 40	Apply 64 oz when most plants are boot to early seedhead stage. For fall applications, an option is to apply 22 oz in 3-10 GPA, followed by 11 oz to improve long-term control.
Timothy	1.5 - 2 qt	3 to 40	Apply when most plants are at early heading stage.

For additional information, contact your local seed representative. Developed in partnership with Technology Development & Agronomy by Monsanto.

**Roundup Technology®** includes Monsanto's glyphosate-based herbicide technologies. **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. **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.

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