Common and Giant Ragweed Management

What You’ll Learn...

- Common ragweed and giant ragweed emerge early in the season and can be very competitive in cropping systems.
- Common ragweed tends to be more prevalent in no-till fields, and giant ragweed prefers cultivated soils.
- Populations of ragweed have developed resistance to herbicides, making management strategies in cropping systems more difficult.
- Herbicide programs for ragweed control in corn, soybeans, and cotton should include soil residual herbicides, postemergence and preemergence herbicides with multiple modes-of-action, and multiple applications during the season.

Common ragweed (Ambrosia artemisiifolia) and giant ragweed (Ambrosia trifida) are very competitive weeds in cropping systems (Figure 1). Ragweeds are flowering plants in the aster family (Asteraceae). Common and giant ragweed are monoecious, meaning that they have separate male and female flowers on the same plant. The weeds produce an abundance of pollen, which is a primary cause of hay fever and allergic reactions in humans. High pollen production also leads to genetic diversity in the species and a greater potential for herbicide resistance. These weeds become more difficult to manage as biotypes develop with resistance to herbicides.

Common Ragweed

Common ragweed has compound leaves that are deeply cut into a number of lobes, and usually wider at the base than the tip (Figure 1). The weed tends to be more prevalent in no-till and low fertility fields. Common ragweed seeds primarily germinate on or very near the soil surface. Germination usually occurs in April through May in northern areas. Seeds can germinate late into June, but warmer temperatures in July will generally cause seeds to go dormant.

Common ragweed biotypes have developed resistance to Photosystem II inhibitors (atrazine), ALS inhibitors (chlorimuron, chloransulam), PPO inhibitors (fomesafen, lactofen), and EPSP synthase inhibitors (glyphosate). Glyphosate-resistant populations have been reported in about a dozen states. Biotypes with multiple resistance to ALS and PPO inhibitors, and to ALS inhibitors and glyphosate have also been reported in Ohio and Minnesota. Common ragweed can be particularly difficult to manage in soybeans when resistance to multiple herbicides occurs.

Giant Ragweed

Giant ragweed has large leaves with 3 to 5 distinct lobes (Figure 1). The weed also has characteristic ‘spoon-shaped’ cotyledons as it emerges from the soil. Giant ragweed emerges early in the season, has a rapid growth rate, large leaf area, and tall height, which makes it very competitive to crops. The weed produces large ‘crown-shaped’ seeds with points and ridges along the top of the seeds. Giant ragweed prefers cultivated soils as opposed to no-till. Populations of giant ragweed tend to decrease in long-term no-till fields. The weed can emerge from deep in the soil, allowing it to escape many soil-applied herbicides. Giant ragweed emerges as early as March in northern areas, and can continue to germinate into July.

Giant ragweed biotypes have developed resistance to ALS inhibitors (chlorimuron, chloransulam) and EPSP synthase inhibitors (glyphosate). Many populations are resistant to ALS inhibitors, some populations are resistant to glyphosate, and there are populations with multiple resistance to both that have been reported in Ohio, Minnesota, and Missouri.

Reasons for Increases in Ragweed Populations

- Ragweeds emerge early in the growing season, and giant ragweed can have prolonged germination with season-long emergence, making control with herbicides more difficult.
- Ragweed plants are often infested with stem-boring insects, which can reduce the control with postemergence applications of glyphosate. The insect damage can injure the plant’s vascular system, preventing adequate translocation of glyphosate to completely kill the plant.
- Common and giant ragweed have shown a propensity for developing resistance to herbicides, which can make management strategies in cropping systems challenging.
Common and Giant Ragweed Management

Management Recommendations

Management strategies for the control of common and giant ragweed should ensure consistently effective season-long control, minimizing the soil seedbank of the weeds, and minimizing herbicide resistance. Herbicide programs should include soil residual herbicides along with postemergence herbicides, using multiple modes-of-action, and multiple applications when necessary to maintain control. Ragweed populations can be more competitive and more difficult to manage in soybeans and cotton than in corn. The most effective strategy for managing populations of ragweed with resistance to multiple herbicides may be to rotate to corn, taking advantage of the effectiveness of corn herbicides.

References:


Roundup Ready® Corn 2 and Corn with Roundup Ready® 2 Technology *

- Start clean with a burndown herbicide or tillage. Early-season weed control is critical in corn to maximize yield potential.
- Apply a preplant burndown treatment of Roundup PowerMAX® or Gramoxone® SL plus dicamba or 2,4-D. Apply when ragweed plants are less than 4 to 6 inches tall for best results.
- Apply soil residual herbicides preplant or preemergence, such as Harness® Xtra, Degree Xtra®, or TripleFLEX® Herbicide + atrazine. Consider adding more atrazine to premixes for heavy infestations of giant ragweed.
- Follow with a postemergence in-crop application of Roundup WeatherMAX® for additional control of ragweed plants before they exceed 4 inches in height. Tank mix with other herbicides such as Impact® + atrazine or dicamba containing products such as Clarity® or Status®.

Genuity® Roundup Ready 2 Yield® Soybeans and Roundup Ready® Soybeans *

- Start clean with a burndown herbicide or tillage. Tank mix Roundup PowerMAX® or Gramoxone® SL with 2,4-D or dicamba to control ragweed plants prior to planting. Apply when weeds are less than 4 to 6 inches tall for best results.
- Apply soil residual herbicides preplant or preemergence, such as Authority First®, Gangster®, or Valor® XLT.
- Follow with an early-postemergence in-crop application of Roundup WeatherMAX® plus Cobra® or Phoenix™ for additional control of ragweed plants before they exceed 4 inches in height.
- Early-postemergence applications may need to be followed with a second postemergence application several weeks later to control late-emerging ragweed plants.

Genuity® Roundup Ready® Flex Cotton *

- Start clean with a burndown herbicide or tillage. Tank mix Roundup PowerMAX® or Gramoxone® SL with dicamba or 2,4-D. Valor® or Reflex® can be added for additional control.
- Apply soil residual herbicides preemergence, such as Caparol®, Cotoran® 4L, or Direx® 4L.
- Follow with postemergence in-crop and layby applications of Roundup PowerMAX® or MSMA plus Caparol®, Direx® 4L, or Valor®.
- A hooded-sprayer application of Gramoxone® SL plus Direx® 4L or Valor® can be made for late-season weed control when necessary.

* Always refer to product labels for use rates, application guidelines, rotational crop restrictions, and plant-back intervals.