

**Table 2.4-6. Relative effectiveness of “burndown” herbicides for no-till soybean.<sup>1</sup>**

- Table compares the relative effectiveness of herbicides on individual weeds. Ratings are based on labeled application rates and weed size or growth stage. Results may differ with variations in weed size, temperature, rainfall, soil moisture, soil type, and soil pH. For ratings on herbicide combinations not listed, see the component parts.
- **Fall herbicide treatments** are being utilized by some no-till producers in certain parts of the eastern Corn Belt. Target weeds include chickweed, the winter annual grasses, purple deadnettle, marestail, wild carrot, dandelion, and others. These weeds overwinter and regrow in the spring, interfering with crop establishment and early season growth. Herbicides labeled for this practice include the non- or short residual products such as glyphosate and 2,4-D, as well as several residual herbicides that will provide some control well into the spring. Of course the major benefit to this approach is controlling certain tough winter weeds that are difficult to manage in the spring and potentially providing a weed-free seedbed at spring planting. Disadvantage includes the cost of the herbicide and the application and hoping that what you do is worth the time and money. Residual herbicides may also lock you into either corn or soybeans, depending on the product.

If you decide to use a herbicide program, apply herbicides anytime after early October and by mid-November if possible. If you include a residual herbicide, our research over the last several years has any chlorimuron-containing product (Canopy EX, DF, etc.) at the top for soybeans. Glyphosate + 2,4-D is most effective for control of perennials and most biennial weeds. Control with fall-applied glyphosate alone is often similar to the combination of glyphosate + 2,4-D (especially for dandelion), but the 2,4-D is needed for glyphosate-resistant marestail and can help on certain other broadleaf weeds. If seeding a small grain cover, use only glyphosate or Gramoxone (2,4-D is not labeled ahead of small grains, although lower rates and adequate lead time would reduce the potential for injury). Application of 2,4-D alone controls many winter annual weeds, but 2,4-D will not control chickweed and is less effective on dandelion than when in tank mixture with other herbicides. Treatments that do not include glyphosate should generally be applied with COC for best results. In most cases, treatments should not cost more than about \$6 to \$12 per acre, excluding application costs.

**Weed control rating**

- 10 = 95–100%
- 9 = 85–95%
- 8 = 75–85%
- 7 = 65–75%
- 6 = 55–65%
- 5 = less than 55%
- = not applicable
- N = no control

Herbicide	Annual		Bromegrass		Canada Thistle	Chick- Weed	Common Groundsel	Common Ragweed	Dandelion	Downy Brome	Field Violet/ Pansy		Hairy Vetch	Hemp Dogbane, Dewberry, Milkweed, etc.
	Alfalfa Sod	Flea- banes	or Quack- grass Sod	or Quack- grass Sod							Foxtail spp.			
2,4-D (1 pt)	7+	6	N	8	6	6	9	7	N	6	N	9	N	
Authority/Spartan	N	N	N	N	N	N	6	N	N	N	N	6	N	
Canopy EX (fall applied)	N	6	N	6	9	9	8	8+	N	6	N	7	N	
Canopy	N	6	N	N	6	8	9	7	7	7	5	N	N	
Canopy + Gramoxone	N	6	6	6	9	8+	9	8	7	8	9	7	6	
Extreme	8+	8	9	8	9	8	9	6	9	6	9+	6	6	
Gramoxone	N	6	6	6	8+	8+	8	6	7	8	9	7	6	
Gramoxone + 2,4-D2	7+	6	7	8	9	8+	9	7	7	8+	9	9	6	
Harmony Extra	6	N	N	8	9	9	6	6	N	N	N	8	6	
Pursuit	N	N	N	N	8+	?	6	N	6	N	8	N	N	
Glyphosate (fall applied) <sup>2</sup>	8+	7+	9	9	9	9	–	9	9	7	–	8	8+	
Glyphosate (spring applied) <sup>2</sup>	7	7+	9	8	9	9	9	6	9	6	9+	6	6	
Glyphosate + 2,4- D (spring applied) <sup>2</sup>	8+	7+	9	8+	9	9	9	8+	9	7	9+	9	6+	
Scepter	N	N	N	N	N	N	N	N	7	N	N	N	N	
Sencor + Gramoxone	N	6	6	6	9	8+	9	N	7	8	9	7	6	
Sencor + Glyphosate	7	7+	9	8	9	9	9	6	9	7	9	7	7	
Valor	N	N	N	N	9	7	7	84	N	N	N	N	N	
Valor XLT/Envive + glyphosate	6	7+	9	8	9	9	9	8+	9	7	9	6	6+	

(continued)

**Table 2.4-6. Relative effectiveness of “burndown” herbicides for no-till soybean (continued).**

Herbicide	Henbit/ Deadnettle	Horseweed <sup>8,5</sup>	Lambsquar- ters	TR Lambs- quarters	Mustard spp.	Orchardgrass or Fescue Sod	Red Clover	Rye Cover, Volunteer Small Grains	Smartweed	Timothy, Bluegrass
2,4-D (1 pt)	N	8	9	9	9	N	9	N	7	N
Authority	7	6	9	9	N	N	N	N	8	N
Canopy EX (fall applied)	9	8+	9	9	9+	N	N	N	7	N
Canopy	8	8	9	7	8	N	N	N	9	N
Canopy + Gramoxone	8	9	9	9	8+	N	8	8	9	7
Extreme	6	7+	9	9	9	7	7	9	9	9
Gramoxone	8	7	8	8	8	N	8	8	7	7
Gramoxone + 2,4-D <sup>2</sup>	8	9	9	9	8+	N	9	8	8+	7
Harmony Extra	8	6	9	9	9	N	7	N	9	N
Pursuit	6	N	6	6	8	N	N	N	9	N
Glyphosate (fall application) <sup>2</sup>	7	8	–	–	9	9	8+	9+	–	9+
Glyphosate (spring applied) <sup>2</sup>	6	8+	9	9	9	7	7	9+	7	9+
Glyphosate + 2,4-D (spring applied) <sup>2</sup>	8+	9	9	9	9	7	9	9	8+	9
Scepter	6	N	N	N	7	N	N	N	N	N
Sencor + Gramoxone	7	7+	9	8	8+	N	8	8+	9	7
Sencor + Glyphosate	8+	8+	9	9	9	7	7	9	9	9
Valor	7	6	9	9	8	N	N	N	7	N
Valor XLT/Envive + glyphosate	8	8+	8	8	9	7	7	9+	9	9+

1. Poast, Poast Plus, Select, or Butyrac also may be applied as “burndown” herbicides in no-till soybeans. See the herbicide labels for additional information.
2. Activity is reduced if applied in certain tank-mixes: glyphosate with photosynthesis inhibitors such as triazine herbicides and liquid nitrogen (UAN); 2,4-D with Gramoxone Max. May still be tank-mixed for convenience, but “burndown” is improved if applied separately.
3. Roundup, Touchdown, and other glyphosate products are not effective on glyphosate-resistant horseweed.
4. Valor provides control of germinating dandelion seedlings, however it is weak on dandelion when applied post.
5. **Horseweed management recommendations:** The majority of horseweed usually emerges in the fall, it can also emerge in spring and early summer. Horseweed is more easily controlled when small in late fall or early spring. As it matures and bolts in the spring and early summer, herbicides become less effective at killing this weed. In addition to glyphosate resistance, populations in Ohio and Indiana are also resistant to the ALS inhibitors (Classic FirstRate, etc.). At this point in time, the most economical treatments for control include 2,4-D ester at 1 to 2 pints/acre probably in combination with glyphosate or possibly Gramoxone. Even 2,4-D ester should be applied to small plants (less than 2 inch rosettes) to ensure effective control. Delaware, Maryland, and New Jersey weed scientists are also recommending dicamba (Banvel or Clarity at 6 to 8 oz/acre) at least 30 days in front of soybean planting (see recommendations below). A primary goal for horseweed management in soybean should be effective control of emerged plants prior to planting. Here are some important principles for horseweed control outlined by Ohio State weed scientists:
  - 2,4-D ester should be included in herbicide treatments if at all possible.
  - Herbicides should be applied when horseweed plants are no more than 4 to 6 inches tall. Horseweed seedlings or rosettes (April) are easiest to kill.
  - Herbicides applied in the fall will control emerged horseweed, but may not adequately control spring emerging plants. Residual herbicides such as Canopy, Valor, or Sencor applied in the fall can control horseweed through soybean planting.
  - Spring applications prior to May should include a residual herbicide to control later-emerging plants.