Delayed Burndown Weed Control Options

Hardin County – Farmers balance many activities during the planting season. Besides planting, they need to think about weed control for emerging soybeans. Because many weeds are resistant to herbicides sprayed after planting, they must have good control by planting time.

Farmers generally apply herbicides before planting to kill existing weeds; this type of weed management is called a burndown program. Some of the more popular programs use 2,4-D, however, a farmer must wait seven days before planting if they use 2,4-D in a burndown program for soybeans.

Weed control is a greater problem in soybeans than corn in delayed planting situations. Farmers have to use the right burndown program if they hope to control marestail, giant ragweed, and waterhemp. Many of these weeds are resistant to glyphosate.

Overwintered marestail plants become tougher to kill in May, and the fact that fall weather was not conducive for herbicide applications makes the situation worse in some fields. A burndown of glyphosate and 2,4-D struggles to control marestail in the spring, especially in the absence of fall herbicide treatments.

A standard recommendation, regardless of when spring treatments are applied, is to either replace the 2,4-D with something more effective, or to add another herbicide to supplement the 2,4-D. Sharpen has been the frequent replacement/supplement, and we now have the option to use dicamba in the Xtend soybean system instead of 2,4-D.

While it’s possible to use higher 2,4-D rates in the Enlist soybean without waiting to plant, higher rates do not necessarily provide better marestail control, although a follow-up POST treatment that includes glufosinate or 2,4-D usually will get plants that survive burndown.
A list of suitable soybean burndown treatments for fields that were not treated in the fall for marestail control include:

- Glyphosate + saflufenacil + 2,4-D (+ metribuzin if possible)
- Gramoxone (3-4 pints) + 2,4-D + metribuzin
- Glyphosate + dicamba (Xtend soybeans)
- Glyphosate + dicamba + saflufenacil (Xtend soybeans)
- Glufosinate + Sharpen (+ metribuzin if possible)

Saflufenacil herbicides include Sharpen, Zidua PRO, and Verdict. It is possible to use a mix of glyphosate, saflufenacil, and metribuzin, omitting the 2,4-D, but control can be more variable. Research has detected some weakness also with the glyphosate/saflufenacil combination on dandelion, purple deadnettle, and larger giant ragweed.

Not all residual herbicides can be used with saflufenacil herbicides. Labels allow mixtures of Sharpen/Verdict with herbicides that contain flumioxazin (Valor), sulfentrazone (Authority), or fomesafen (Reflex) if applied 2 or more weeks before planting.

Gramoxone is not recommended unless it can be mixed with both 2,4-D and a metribuzin-containing herbicide. For farmers who want to use 2,4-D, they may want to apply 2.4-D in the burndown on soybean fields first and then plant corn during the seven-day waiting period before planting soybeans.

Some other things to consider in a delayed burndown situation:

- Aside from glyphosate-resistant weeds, increasing glyphosate rates may be one of the most effective ways to maintain good weed control.

- To improve control with glyphosate/2,4-D, add Sharpen or another saflufenacil herbicide. Saflufenacil products mixed with some residual herbicides may require a longer delay before planting or be prohibited.

- Considering substituting Gramoxone or glufosinate for glyphosate? Gramoxone is less effective than glufosinate on marestail, but glufosinate can struggle some in a dense, large no-till burndown situation. Either one should be applied with metribuzin and 2,4-D ideally.

- In the Enlist and Extend systems where it’s possible to use 2,4-D or dicamba without waiting to plant, there can be an advantage to increasing herbicide rates as weeds become larger. Another advantage of these systems is the option to use 2,4-D or dicamba again in POST treatments.

- Among all the residual herbicides, chlorimuron contributes the most activity on emerged annual weeds and dandelion. This is probably most evident when the chlorimuron is applied as a premix that contains metribuzin.
• It is possible to substitute tillage for burndown herbicides. Make sure that the tillage is deep and thorough enough to completely uproot weeds. Weeds that regrow after being “beat up” by tillage are almost impossible to control for the rest of the season. Tillage tools that do not uniformly till the upper few inches (e.g. TurboTill) should not be used for this purpose. One strategy to ensure complete control even in tilled situations is to apply glyphosate several days prior to tillage.

• Late burndown in corn is typically a less dire situation compared with soybeans. Reasons for this include: 1) the activity of some residual corn herbicides (e.g. atrazine, mesotrione) on emerged weeds; 2), the ability to use dicamba around the time of planting; 3) the tolerance of emerged corn to 2,4-D (Enlist corn) and dicamba, and 4) the overall effectiveness of available POST corn herbicides.

As weather continues to delay planting, farmers will have to adapt and change their management practices including weed control. By making changes and selecting the proper herbicides, good weed control can still be maintained even with delayed soybean plantings.

*These recommendations are from an article written by OSU Extension Weed Specialist Dr. Mark Loux and adapted by Ed Lentz, OSU Extension-Hancock County and Mark Badertscher, OSU Extension-Hardin County. Additional information may be found at https://agcrops.osu.edu/newsletter/corn-newsletter/2019-11/adapting-burndown-herbicide-programs-wet-weather-delays*