

Crop Production

Stop weeds early for the best results

By WILLIE VOGT

IN a challenging year, knocking down the risks early can put more bushels in every bin. For 2009, growers should be planning on early season weed control as a tool for maximizing the technology they're investing in their fields. Your seed investment can be protected by taking a few simple steps to control weeds early.

"Glyphosate technology let us get away from good weed management practices," says Mark Loux, weed specialist, Ohio State University. "Starting clean at planting with tillage, or preplant burn-down herbicides, then using a residual herbicide at planting to reduce the weed population can make a difference."

Loux notes that even if your early efforts don't add up to 100% weed control, the actions will reduce your weed populations.

Whether you're raising corn or soybeans, considering your early season weed control in 2009 could be a valuable risk management practice. And that may mean reverting back to some practices you counted on in the past.

Fall weed control a start

Growers who apply fall herbicide to get ahead of winter annuals are doing a great job of stopping some top overwinter pests. Yet don't count on a fall herbicide application to do all the early season work, Loux warns. "Most fall programs don't create the right post window," he notes. "If you're planning to apply the post in late May or early June and try

Key Points

- Early season weeds really do steal resources from your crop.
- Preemergence spring applications do the most for control.
- Timing issues are easier if preemergence applications are in the program.

to get by with one post application, that approach may not work."

He says by early spring, fall-applied fields will start to see spring weed flushes that can get ahead of a grower, especially where the fall treatment did not include residual herbicides.

"You want to circle back and at planting time, hit those weeds, too. That's the right window," Loux says.

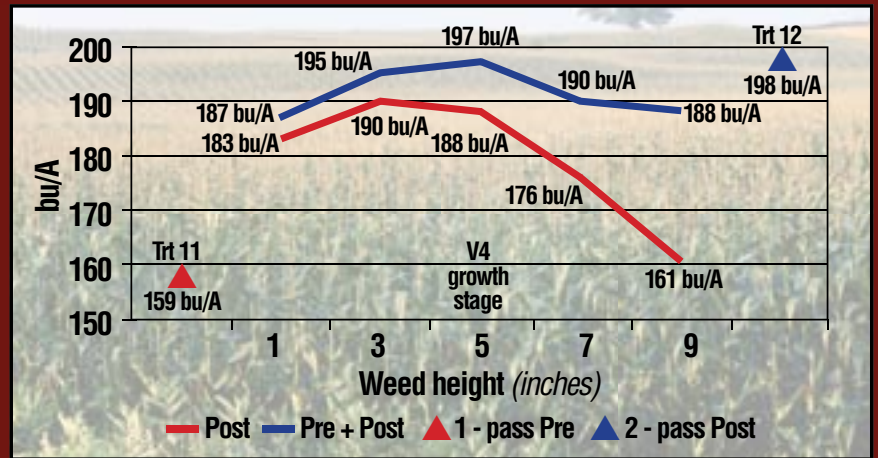
Trust your eyes. If you see weeds poking through before planting, you know those will have a jump on the crop. They'll be pulling moisture and nutrients out of the soil just as that new-tech seed is reaching out to stoke its own germination fires. The end result: The new crop can suffer in the competition.

If weeds are 2 inches tall at planting time and hit 6 inches before you circle around for a postemergence application, that's a 5% to 10% hit on your crop yield.

Risk management

Often, growers look at a preemergence application as just an early weed-control tool, perhaps with a little residual control to get the crop going. But Loux and Jeff Gunsolus, weed scientist at the

Glyphosate timing and corn yield across locations 2004-2006



Post = glyphosate (22 oz/A)
 Pre + Post = residual / glyphosate (22 oz/A) + AMS
 Trt 11 = residual preemergence
 Trt 12 = glyphosate + AMS / glyphosate + AMS at 3 in. / 4 in. regrowth

TIMING IS EVERYTHING: The corn yield information here shows that a preemergence combined with a post application can offer consistently higher yields across a range of conditions.

University of Minnesota, say there's another benefit as well.

That early weed control with a product that includes residual can provide more time to get in there with a postemergence glyphosate application. You'll be hitting those later-flush weeds when they're smaller, and the post application will do a lot of good.

"You can extend your post application window by using a pre-emergence herbicide," Gunsolus says. Timing is everything, too.

Gunsolus shows work where a pre-emergence approach combined with a post application of glyphosate can consistently yield as well as a total post program with no residual. But if you look at the chart above, a two-pass post program yields pretty well. "Note the weed size for that application," he says. "If you don't get that first application on when weeds are in the 3- to 4-inch window, then you'll miss that yield. If you miss the application after the corn reaches V4, the risk difference of taking that 197 [bushels] of the preemergence with glyphosate versus the two-pass post approach is a drop to 188 bushels — a 10-bushel loss."

He says if you're too early with your glyphosate, later weeds take hold, and if you're too late, you get yield losses. "That difference can occur in less than a week. That's where the pre's come in big-time in corn," he notes. "If you have a pre-emergence down, then you can extend the time you have to apply post."

Soybeans and preemergence

The case for early season weed control is different in soybeans. "In fact, the two-pass glyphosate post program and soybeans were meant to go together," says Gunsolus. "With the shading of the canopy and the two-pass program, you can consistently hit 49 bushels per acre."

However, he admits that if you're aiming higher than the 49-bushel average, a premerge approach can pay off there, too. In the march toward higher soybean yields, work at Iowa State University and elsewhere shows that taking care of weeds early can help achieve those higher yields.

And some weeds are just difficult to control if they're not knocked down with a preemergence herbicide.

"Marestail is almost impossible to control post," says Loux. "We had spring weather in 2008 that allowed for tremendous late-spring marestail emergence. A residual in the fall would have helped, or a good spring preemergence can hold it off long enough."

If you're concerned about resistant weeds, that preemergence application can help out there, too.

One factor to consider is the level of control you get with a sequential treatment of a preemergence application followed by a glyphosate application. Gunsolus has found this approach consistently provides better control of tough weeds including giant ragweed, lambsquarters, waterhemp and common ragweed.

"If you find yourself hitting a field two or three times to control some weed species, then those soybean fields are candidates for a preemergence herbicide application," he notes. "Preemergence products are priced low enough that you can afford to put them out there and get broad-spectrum weed control, then come back with glyphosate."

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Average nitrogen sequestered by corn and giant foxtail across nitrogen sources

Rate of N applied was 170 pounds per acre

Height of foxtail (in.)*	1995		1996**	
	corn	foxtail	corn	foxtail

.....pounds of N per acre.....

2	1.48	3.27	---	---
4	3.5	15.04	9.15	11.94
6	11.92	44.82	19.63	29.6
LSD (0.05)	1.45	9.84	---	---

(Least Significant Difference)

* Height at which nicosulfuron was applied

** Comparisons not done due to limited degrees of freedom

*** Lost due to excessive rain

NITROGEN THIEF: Giant foxtail is shown in this study to be a soil nutrient bandit stealing nitrogen from the developing corn crop.

Pencil out the costs of early weeds

OFTEN, researchers will claim that early season weeds compete with your crop, but what's really going on out in the field? Jeff Gunsolus, weed scientist, University of Minnesota, answered that question more than 10 years ago with a look at how giant foxtail can fight for nitrogen in a corn crop.

As the table shows, when foxtail climbs to 6 inches, it can pull as much as 44 pounds of N off of a field, even as corn is struggling to grow. Corn doesn't start pulling more N until it tops 6 inches, but if it reaches out for the nutrient and giant foxtail has been around, the N could be insufficient to support the crop.