

To Keep Fields Weed-Free, It's All About Timing

A Comparative Look at Spring and Fall Soybean Residual Herbicide Applications



With issues such as glyphosate- and ALS-resistance on the rise, what was a simple management practice – the application of a herbicide on soybeans – is now becoming increasingly complex. Residual herbicides with alternate modes of action are an excellent choice for combating resistance, but deciding when to apply creates a new challenge. In order to achieve season-long, yet economical weed control, growers are faced with a difficult decision after harvest: Do I apply a residual in the fall, or wait and apply a pre in the spring? Below are a few factors to consider.

Mode Of Action

Many fall-applied herbicides for soybeans are ALS-inhibitors, which do not provide control of ALS-resistant weeds like pigweed and waterhemp. In addition to ALS-resistance, other issues can arise with certain problem weeds, and with fall applications as well. According to Purdue University, fields with heavy common lambsquarters and giant ragweed pressure can prove especially problematic when certain residual and non-residual fall applications are made, as they allow the soil to warm more quickly in the spring, causing summer annuals to emerge earlier.

Glyphosate resistance is another growing issue in the U.S., with 17 states now battling seven different glyphosate-resistant weeds. While it is apparent that glyphosate is still a key player in overall weed management, exhausting this resource creates bigger problems down the road. Therefore, making several glyphosate applications in one season is not recommended. Instead, a pre-emergence residual application, followed by a post application of a glyphosate later on in the season may be a better strategy. To help manage glyphosate resistance, it is recommended that no more than two applications of glyphosate be used on one field over a two-year period.

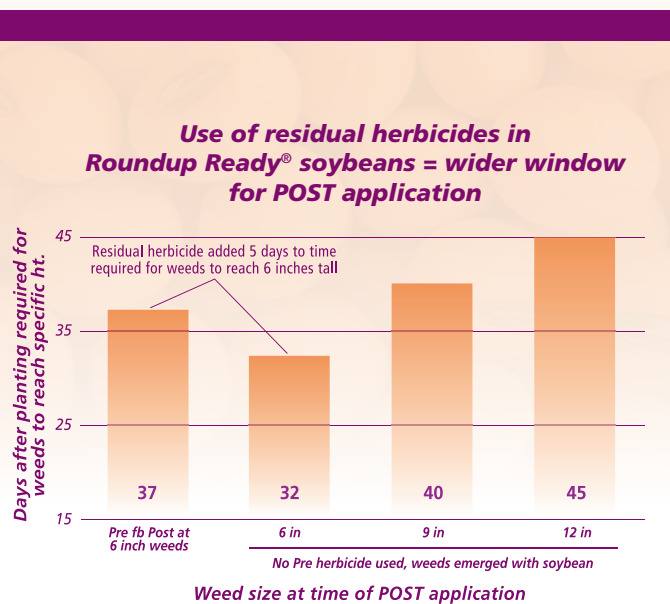
Keeping Cost Down

Though fall-applied residual herbicides will burn down winter annuals, using a less expensive option like glyphosate or 2,4-D for winter weed control and following with a pre-emergence application in the spring can be more cost-effective. In some cases, use of a residual herbicide applied in the fall can still lead to a necessary burndown application in the spring, ultimately increasing costs and input of time. Protecting soybean fields with a pre-emergence herbicide saves time and money by providing residual control that lasts longer into the season.

Residual Control

According to the University of Missouri, fall-applied residual herbicides allow soil microorganisms the opportunity to decompose the herbicide during the winter months, reducing spring weed control compared to a pre-emergence application made in the spring.

Even in dry winter conditions, where herbicide decomposition is less likely, fall-applied herbicides often do not provide residual control long enough to replace the effectiveness of a pre-emergence herbicide. In addition to offering an alternate mode of action to target problem weeds, a timely application of a pre-emergence herbicide in the spring can protect the crop when control is needed most, preventing weed competition during the crop's critical development stages.



Data from two studies conducted in west central OH in 2000-01.
Chart taken from "The Benefits of Preemergence Herbicide in Roundup Ready Soybean," The Ohio State University and Purdue University, with permission.

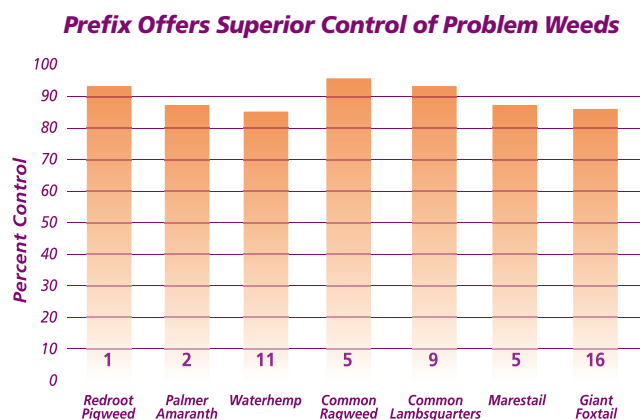
Flexibility

Several university trials have recently focused on the timing of a post emergence only glyphosate application compared to a pre-emergence, residual herbicide followed by a post application. Findings suggest that the timing of this glyphosate application is extremely critical, with results that can be measured in terms of yield loss. Using a pre-emergence herbicide widens the application window for glyphosate, giving growers a better opportunity for a high-yielding harvest. As the chart to the left shows, using a pre-emergence herbicide and following up with a post application of glyphosate is a proven choice for complete weed control.

In some cases, fall-applied herbicides can also limit your options in the spring. A fall application of an ALS herbicide for soybeans requires that you plant soybeans in your field the following year. Should you decide over the winter to plant a different crop, that field will already be committed to soybeans. Pre-emergence herbicides allow growers to keep their options open until spring, adding convenience and flexibility to crop management decisions.

Choose the recommended strategy to manage weeds effectively

When deciding between fall and spring applications, university data suggests that a pre-emergence herbicide is the most cost-effective, complete choice for weed management. Prefix™ pre-emergence herbicide from Syngenta not only provides the convenience and residual power that comes with a spring application, but also helps combat resistance by offering growers a non-ALS, non-glyphosate option. Now available in a premix formulation, Prefix is both convenient and effective, offering excellent pre-emergence grass control and proven yield protection through control of highly competitive broadleaf weeds.



Percent control offered by Prefix at 28 days after application.
Trials conducted by Syngenta (2005-2006).
Number of trials conducted on each weed species indicated within control bar.

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