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Late-Season Herbicide Applications in Soybean

Abstract
Slow canopy development and ample soil moisture have led to many fields being reinfested with weeds following postemergence herbicide applications. While late-emerging weeds are much less competitive than weeds that emerge early in the season, at high densities they can impact yields, and regardless of density, these weeds can produce significant quantities of weed seed. Thus, it is likely that many soybean fields will be treated in the next few weeks.

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Late-Season Herbicide Applications in Soybean

By Bob Hartzler, Department of Agronomy

Slow canopy development and ample soil moisture have led to many fields being infested with weeds following postemergence herbicide applications. While late-emerging weeds are much less competitive than weeds that emerge early in the season, at high densities they can impact yields, and regardless of density, these weeds can produce significant quantities of weed seed. Thus, it is likely that many soybean fields will be treated in the next few weeks.

There are several important considerations prior to making these applications: 1) application restrictions based on soybean stage, harvest intervals or crop rotation, 2) for glyphosate, limitations on the amount that may be applied per season, and 3) the ability of the late-season treatment to control the weeds.

Most products have label restrictions that might limit late-season use. Glyphosate can be applied up to the R2 stage in Roundup Ready (RR) soybean. A significant percentage of soybean fields in the state reached this stage by July 20; thus the option for glyphosate is rapidly coming to an end. Flexstar/Reflex has a 10 month rotational restriction for corn, thus ruling out this option. Other products have preharvest intervals that may restrict their use (Table 1).

**Table 1. Preharvest intervals for several postemergence herbicides in soybean**

<table>
<thead>
<tr>
<th>Product</th>
<th>Preharvest interval (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assure II</td>
<td>80</td>
</tr>
<tr>
<td>Classic</td>
<td>60</td>
</tr>
<tr>
<td>Cobra/Phoenix</td>
<td>45</td>
</tr>
<tr>
<td>FirstRate</td>
<td>65</td>
</tr>
<tr>
<td>Fusilade/Fusion</td>
<td>Prebloom</td>
</tr>
<tr>
<td>Poast Plus</td>
<td>75</td>
</tr>
<tr>
<td>Pursuit</td>
<td>80</td>
</tr>
<tr>
<td>Raptor</td>
<td>Prebloom</td>
</tr>
<tr>
<td>Resource</td>
<td>60</td>
</tr>
</tbody>
</table>
The total amount of glyphosate that can be applied to RR soybean is limited. The maximum amount allowed for postemergence applications per season is 2.2 lb a.e./A (equivalent to 2 qts of a 4.5 lb a.e./gal product e.g. Roundup Original Max). The maximum amount for burndown plus postemergence applications is 3.7 lb ae/A (3.3 qts of a 4.5 lb ae/gal product). The rate limits on glyphosate are the same regardless of formulation, and are clearly stated on the product label.

The effectiveness of late-season applications is highly variable and difficult to predict. It frequently is difficult to obtain good coverage of late-emerging weeds due to height differential between the weeds and soybean. Weeds that escaped earlier applications may be too large for consistent control, or they may be hardened off from the initial application and less susceptible to the herbicide. Unless there is an apparent reason for the failure of the first application, a second application is unlikely to provide control and is likely to enhance the selection of resistant biotypes.

In conclusion, weeds continue to be a problem in many fields across the state. However, prior to making a late-season application, refer to the herbicide label for any restrictions that may limit the product use and consider the potential for the product providing effective control.

Bob Hartzler is a professor of weed science with extension, teaching and research responsibilities. He can be contacted by email at hartzler@iastate.edu or phone (515) 294-1164.

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