

The Benefits of Preemergence Herbicides in Roundup Ready Soybean

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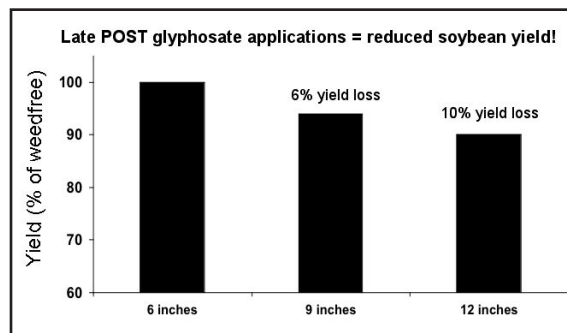
For Free Herbicide Labels Go to

www.cdms.net
 or
www.greenbook.net

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When Do Weeds Start To Reduce Soybean Yield?

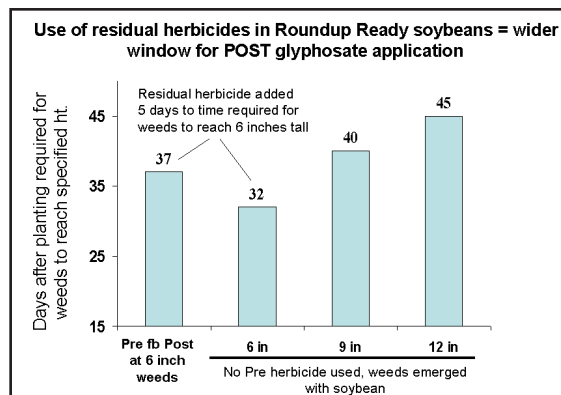
- Weed-crop competition reduces soybean yield if weeds are not controlled early.
- To maximize soybean yield, apply postemergence (POST) glyphosate when weeds are no more than 6 inches tall.
- In this example, weeds emerged with soybeans. Applying glyphosate when weeds were 9 or 12 inches tall resulted in 6 or 10% yield loss due to weed competition prior to control.



Data from eight studies conducted in west central OH in 2000-01.

PRE herbicides add flexibility to the POST application window

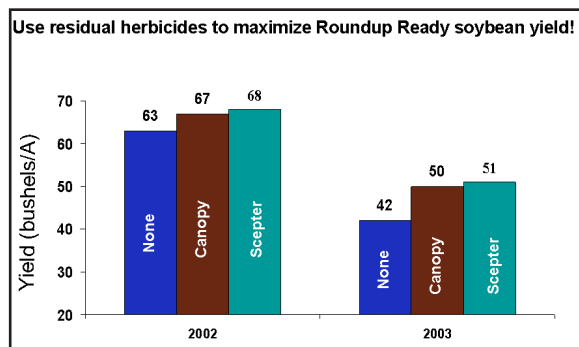
- PRE herbicides reduce early-season weed density and slow weed growth, which results in more flexibility in POST application timing.
- Smaller weeds are less competitive and easier to control!



Data from two studies conducted in west central OH in 2000-01.

PRE herbicides can maximize Roundup Ready soybean yields

- PRE herbicides reduce early-season weed competition and improve control of tough weeds such as lambsquarters, waterhemp, and giant ragweed.
- PRE herbicides protect yield when weather or workload delays POST applications.
- In this example, use of PRE herbicides prior to POST glyphosate increased yield by 4 to 9 bushels/A, compared to POST glyphosate alone.



Data from two studies conducted in west central OH in 2002-03. Weeds were less than 6 inches tall at the time of POST glyphosate applications, with the exception of giant ragweed which was up to 10



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PRE herbicides improve control of tough weeds

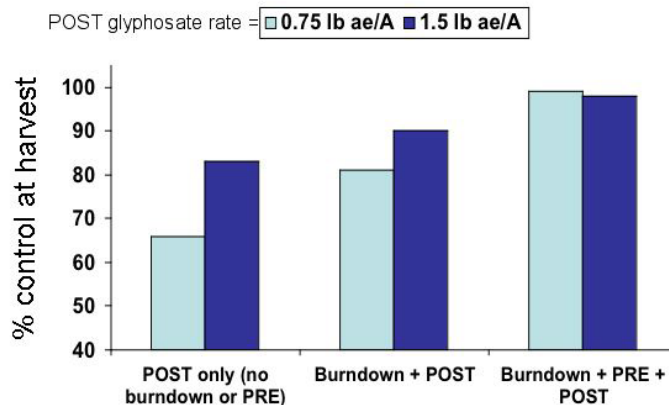
Lambsquarters

- Control with POST glyphosate can be affected by weed size, age, environmental conditions, and inherent sensitivity of the lambsquarters population.
- Lambsquarters is easily controlled by many PRE soybean herbicides.
- The example at right is from field research with lambsquarters populations with reduced sensitivity to glyphosate. POST glyphosate did not adequately control lambsquarters (<90% control), except where PRE herbicides were applied.

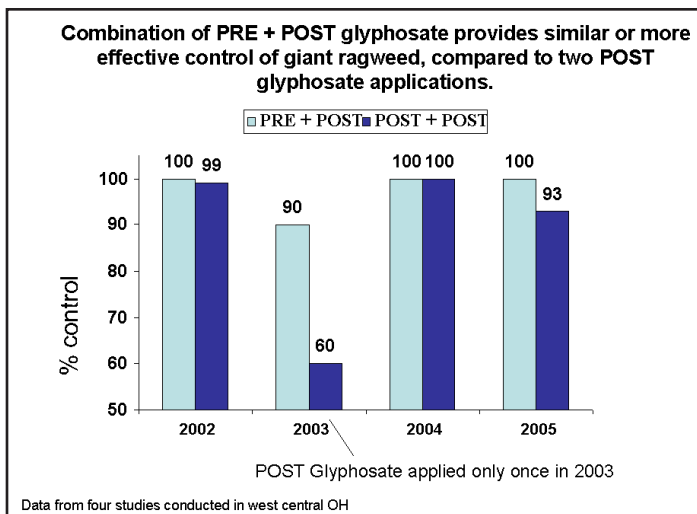
Giant ragweed

- Grows extremely fast, very competitive with soybean, and emerges well into the season.
- It is nearly impossible to time one POST glyphosate application to get season-long control and avoid early-season weed competition.
- In the example at right, use of PRE herbicide in combination with one POST glyphosate application resulted in control and yield comparable to two POST glyphosate applications in 2002, 2004-05.
- In 2003, PRE herbicide followed by one POST application was much more effective than one POST application of glyphosate (glyphosate was applied POST only once in 2003).

Control of lambsquarters in Roundup Ready soybeans



Results represent the average of 5 sites in IN and OH, using lambsquarters populations with reduced sensitivity to glyphosate.
 Burndown = glyphosate + 2,4-D ester. PRE = Gangster.



The Economics of PRE herbicides in no-tillage Roundup Ready Soybean

Tough and late-emerging weeds such as giant ragweed and waterhemp usually require two POST glyphosate applications or a combination of PRE herbicide followed by one POST glyphosate application. If we use an example that a late POST application (weeds greater than 6 to 8 inches tall) of glyphosate results in yield loss of approximately 10%, or 4 to 6 bushels/A, this results in a \$32 to \$48 loss in income per acre (assumes \$8/bushel soybeans). If the cost of a second POST glyphosate application is \$10 and the cost of the PRE herbicides is \$6 to \$12, the cost of a PRE is about the same as the cost of a second POST glyphosate application. There is essentially no additional application cost for PRE herbicide use in no-till, since most fields are already treated with preplant burndown herbicides.

PRE herbicides protect against yield loss by early-season weed competition, potentially improving gross return by \$32 to \$48/A, or profit by \$20 to \$42/A after cost of PRE herbicide.