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# Are Late-Season Soybean Aphid Treatments Worth It?

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# Are Late-Season Soybean Aphid Treatments Worth It?

## **Abstract**

As soybean fields enter seed set, growers are getting concerned about late-season soybean aphid infestations. And with good reason - winged aphids are everywhere and some areas are experiencing increasing aphid densities. There is much evidence to show treating aphids when they exceed the economic threshold (250 aphids per plant with increasing populations on 80 percent of the plants) up to R5.5 will protect yield. But what happens if aphid populations are still increasing past seed set? This was the trend in 2008 when aphid populations were still increasing into September. So do late season insecticides financially make sense for managing soybean aphid? This is a difficult topic for us to discuss because of the lack of replicated data throughout the North Central Region.

## **Keywords**

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## **Disciplines**

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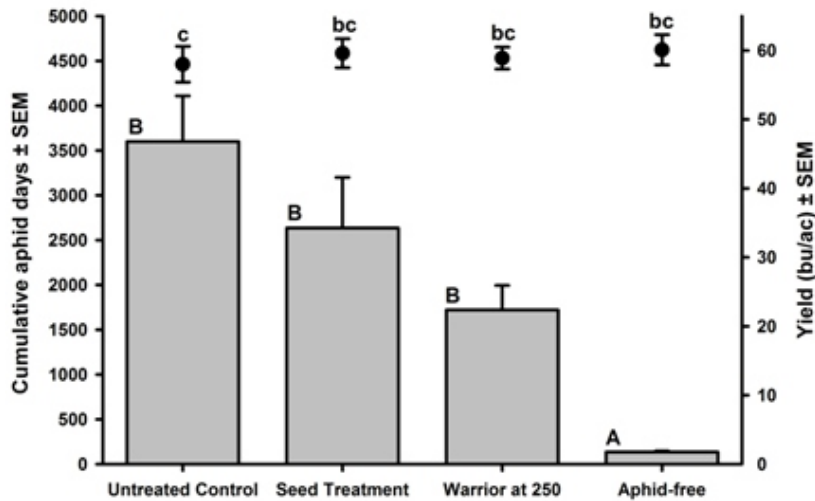
### Are Late-Season Soybean Aphid Treatments Worth It?

Erin Hodgson and Matt O'Neal, Department of Entomology

As soybean fields enter seed set, growers are getting concerned about late-season soybean aphid infestations. And with good reason - [winged aphids are everywhere](#) and some areas are experiencing increasing aphid densities. There is much evidence to show treating aphids when they exceed the economic threshold (250 aphids per plant with increasing populations on 80 percent of the plants) up to R5.5 will protect yield. But what happens if aphid populations are still increasing past seed set? This was the trend in 2008 when aphid populations were still increasing into September. So do late season insecticides financially make sense for managing soybean aphid? This is a difficult topic for us to discuss because of the lack of replicated data throughout the North Central Region.

Research conducted at ISU research farms is trying to answer that question. In 2008, replicated plots at the Northeast Research Farm near Nashua were naturally infested in August (Figure 1), reaching 250 aphids per plant when the plant was at the R6 stage. This late season infestation was used to determine if such a population should be treated. To see all the results from this experiment, which was part of our soybean aphid efficacy trials from 2005-2008, go to [www.soybeanaphid.info](http://www.soybeanaphid.info). A condensed summary of the efficacy trial is summarized here with only four treatments shown:

- 1) Untreated control that never received an insecticide
- 2) Seed Treatment (mefenoxam +fludioxonil) only
- 3)  $\lambda$ -cyhalothrin applied at threshold (plants were at R6)
- 4) Aphid-free (plots treated with  $\lambda$ -cyhalothrin + chlorpyrifos on July 22, Aug. 1, and Aug. 22)



**Figure 1. Small plot research near Nashua, Iowa in 2008. The total number of aphids for the entire year is estimated in "cumulative aphid days" to reflect seasonal pressure. Statistical differences are represented by unique letters for cumulative aphid days (upper case) and yield (lower case).**

#### Summary Research Points

- There was a significant difference in the 'aphid-free' cumulative aphid day treatment compared to the other treatments.
- There was no significant difference in yield between any of the treatments, although there was slightly lower yields in the 'untreated control.'

These data show a R6 treatment may not be worth it. Plants at R6 and beyond may be able to tolerate more aphids without experiencing yield loss. Unfortunately, we do not have a robust data set to help us make recommendations at R6 like we do for aphid outbreaks that occur during R1-R5. So going into August, consider the following factors before treating for soybean aphid. Careful monitoring of fields throughout the summer should give you an indication of the aphid trajectory - are numbers going up and how fast? If aphids are exceeding the threshold, then you must consider the overall treatment costs for an application in late August. Depending on the delivery method (ground or aerial) and product choice, control costs can exceed \$15/acre. Keep in mind treating with ground equipment after the canopy closes can reduce yield by 1-2 bushels/acre.

If you decide to treat for aphids, remember to use sufficient volume and pressure to make contact with aphids on the undersides of leaves and in the lower canopy. Whenever possible, leave a check strip so that you can make evaluations of the value and performance of your insecticide application at harvest.

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