

Soybean Insect Management: The Most Common Questions and Myths...

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This is a recycled article from 2012 and slightly updated but it fits well with recent calls. *Sentences in italics have been added or updated since original posting.*

I have been getting quite a few calls about whether or not to mix an insecticide with the fungicide at the R3 growth stage of soybeans this year. The reason I am getting the calls for the most part is because there are very few insects being found to date in soybeans but we are about to make a trip across the field to apply a fungicide on the early beans.

Here are my thoughts on the subject: I would hope that every decision we make on whether or not to apply an insecticide to any crop is based on making the farmer more money or having a high probability of reducing the risk of losing money. In order to do this the decision has to be made by scouting and experience. I am the first one to stand up and, say let's save \$5.00/acre in application cost by piggy backing an insecticide with something else but you must have a reason to do it other than I am going across the field if you actually want an economic return. Often, I believe we do this because we have unrealistic expectations of what this will do for you. One thing I can guarantee you is that if there is nothing in the field or nothing at economic levels applying a pyrethroid will do absolutely nothing positive for you. It would be no different than spraying Roundup when there are no weeds. Some say "well it is cheap so it hurting anything". I disagree. A \$3.00 pyrethroid can cause you a \$15.00 diamide shot in many situations.

Here are some bullet points to consider when treating soybeans in Mississippi that you may have not considered. This applies to soybeans in general not just when co-applying and insecticide.

-Pyrethroid will only provide 3-5 residual, so spraying at R3 will in no way reduce stink bug numbers at R5 nor will it mean you will not have something else enter the field next week that requires treatment.

-We have clearly documented resistance to pyrethroids with bean leaf beetles in Mississippi. If you are trying to clean up BLB's, pyrethroids alone are not the best option.

-Based on an observation we made a couple of years ago, it took 150 bean leaf beetles per 25 sweeps (3X threshold) 12 days to go from 2-3% defoliation to 20% defoliation, so you have time.

- Pyrethroids often flare caterpillar pests in soybeans by reducing beneficial insects, *requiring even additional sprays.*
- 7 out of 10 soybean fields in 2011 treated with a pyrethroid for bollworms in MS resulted in unacceptable control.
- Pyrethroids provide excellent control on green stink bug and southern green stink bug but only marginal control on brown stink bugs.
- Stink bugs are seed feeders by nature. Highest numbers usually occur during pod filling (R5) stages.
- During reproductive stages, MS has changed the threshold for 2012 on threecornered alfalfaoppers to 50 TCAH per 25 sweeps but based on research could not show any yield loss at levels as high as 6X threshold at any of the reproductive stages (*new research now from 2015 further confirms no yield loss from TCAH in reproductive stage soybeans*).
- If you treat threecornered alfalfaoppers this week, it is not uncommon to have the same numbers or higher next week, this is not resistance, they move back into fields quickly. (*we have seen this numerous times in 2015 as well*)
- Dimilin has very little activity on bollworm or soybean loopers. It has excellent activity on green cloverworms and velvetbean caterpillars with a long residual on these pests.
- In 2011, Belt provided on average 12-14 days on bollworms and up to 30 days on soybean loopers in MS (*roughly the same with Prevathon and Besiege*). *If you apply a diamide at R3 automatic with a fungicide because it has a 30 day residual on soybean loopers and they show up 25 days from now, you effectively get a 5 day residual and have to treat again. Use it when you need it.*
- Intrepid generally provides 14-21 days residual on soybean loopers and little activity on bollworm. (*Dow has now moved to Intrepid Edge which does control bollworms as well*).
- Bollworms typically show up in MS soybeans between June 21 – and July 10 on average.*
- Acephate at 0.5 lb generally provides about 50-60% control on bean leaf beetle, the addition of a pyrethroid can bring control to greater than 90%. Raising the acephate rate to 0.75 lb generally brings control to 80%, going all the way to 1.0 generally brings control to just 85%.
- In MSU testing acephate plus pyrethroids provided the longest residual control of stink bugs than any other labeled products, sometimes out to 7 days compared to 3 on average with pyrethroids alone.

-Tarnished plant bugs in soybeans are not hurting yield. They do feed, however, one study cited that in order to reduce soybean yield it requires an average of 5 tarnished plant bugs per individual node of soybeans.

-Very rarely do thrips ever cause economic damage to soybeans

-We have never been able to show any yield loss from potato leaf hoppers in Mississippi.

-Grape colaspis adults are defoliators only, use the defoliation threshold of 20% and appear to be about half as damaging as bean leaf beetles.

-In the absence of lodging we have not showed any yield decrease from defoliation stem borer.

-Based on recent research, we feel very confident in our defoliation thresholds in MS, 35% before bloom and 20% after bloom.

-Defoliation estimates have to be based on whole plant averages. If the top 50% of the plant has 50% defoliation, that is the same as 25% defoliation on the whole plant.

-If you lose all your leaves (100%) defoliation between R3- and R5.5 yield can be reduced by as much as 80%.

-If you lose 100% of leaves 7-10 days past R6 there is virtually 0 yield loss.

-We have found that soybeans are the preferred "major crop" in MS for honey bees. They are much more active in the middle of the day. Losses can be greatly reduced by making insecticide sprays within 3 hours of sunset during bloom if bee hives are near the fields.

-Contrary to popular belief, Ammo (cypermethrin) is not labeled on soybeans.

-Thresholds are not always black and white, they are guidelines, there is no substitute for good old common sense, Example, the threshold for bollworms in soybeans is 9 larvae per 25 sweeps. If you are in narrow row soybeans that are head high you likely are not going to get a good sample with a sweep net down in the canopy, substitute some visual samples.

- You can sometimes have up to 50% more stink bugs in sweep net counts early to mid-mornings compared to mid-afternoon because they move deep into canopy during the heat of the day.

-Bifenthrin can only be applied to soybeans at a minimum of 30 day intervals.....

-If you have "grassy beans" and are about to apply a herbicide. Scout the grass for armyworms and if present, add a mid to low rate of pyrethroid to the herbicide to avoid them moving to beans when the grass dies.

-In Mississippi, neonicotinoid seed treatments provide on average 2.5 bushel yield protection across 72 trials.

The reason I listed all these bullets is because these are the things I think about when making the decision to make a spray, especially at the R3 stage. Again, have a reason. If you don't have one, save the money and use it on the back side when you will more than likely need it in Mississippi. If you tell me your reason is to reduce green stink bugs later in the year, I would tell you the application will not do what you are intending. Finally, I can't stress enough, have a valid reason based on numbers and know the limitations of the products you are using. Things are different in different areas so I am only speaking for MS. Call if you have questions.

The figure below is from a study I conducted several years ago looking at benefits of insecticides mixed with fungicides at R3 timings. There was a mixed bag of very light insects in the field and none were near threshold. As a result, we saw no economic response from adding insecticides in with the fungicide.

Insecticide/Fungicide Yield

