



The Chem Gro Crop Watch, Issue #4, 6/19/12

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Japanese beetles are back !!! Japanese beetles seem to have become an annual problem for us in the north-western part of Hancock County. This is the fourth year in a row that I can remember that these insects are swarming in high numbers, and have arrived about 3 weeks earlier than last year. They seem to have a sweet tooth for flower beds, fruit trees, rose bushes (pretty much any plant that you view as being desirable that has aesthetic value). They will also find their way into corn and soybean fields; which creates the economic concern to many farmers. Many people have asked me, “Where do all of these Japanese beetles come from?” Japanese beetles are the adult of what we refer to as common white grubs that live in the soil and feed on plant roots. June beetles also fall into this category, although the adult is not as aggressive to plant foliage as compared to Japanese beetles.



How do I kill them!? The good news, just about any insecticide at a high enough concentration will kill Japanese beetles. The bad news, the residual control of most insecticides does not last very long for Japanese beetles; for several reasons:

1. **The “really good insecticides” are no longer manufactured because of their very high toxicity and extremely long residual control.** These properties were good for killing unwanted insects; however their long persistence was bad for human exposure, livestock, ponds/aquatic life, neighboring honey bee colonies, etc. The EPA has narrowed down the list of insecticides with high risk exposure over the years because of these previous reasons. (I can remember a few years back walking fields in Eastern Illinois where they used an adult rootworm beetle control program using PennCap-M insecticide on corn during early tassel/silk emergence. It was pretty much like igniting a small atom bomb. It destroyed every insect in that field! It was instant gratification. PennCap-M is no longer available. ☹).
2. **The “more safe” insecticides break down faster at high temperatures.** This group of insecticides is called the Pyrethrins. These are generally very safe for human exposure. In fact it is the most common group of insecticides used to kill your dog’s fleas or your children’s head lice after little Jimmy played with that dirty kid at school. Human safety is strength with this class of insecticides, however residual length is shortened with high temperatures.
3. **Constant new flushes of beetles.** Japanese beetles are very hormone driven. (I could give some real colorful metaphors here but I am literally biting my tongue to keep myself on track ☺) The female Japanese beetle secretes a hormone which attracts the males. If you see a cluster of beetles in a mass furry, this is what is going on. Somewhere in the middle of that mess is a female with a hoard of males trying to do what they do best (keep biting your tongue Lonne, you can make it through this.....) My point for this is that even though you may have already sprayed an insecticide for Japanese beetles, as more females fly into your fields/trees/flowers, etc. they will bring more males with them. As the insecticide residual wears off and new flushes of beetles migrate in, you may need to spray several applications to get the level of control that you want.

Japanese beetles in Soybeans. Typically, you will find the highest concentration of beetles along the field borders, or the tallest and prettiest plants in a field if the soybeans are under any type of stress. 20% defoliation of soybean leaves is the old threshold for spraying, although one could argue that it could be less than that if soybean grain market prices remain high. Soybeans are, or will be in the full bloom stage very shortly (R2). Early pod fill (R3) will not occur for about another 3-4 weeks and this is the critical growth stage to kill insects to protect yield potential. Here are some of my thoughts how to handle these beetles:

1. Do nothing and get what you get. This approach works for some, but not for all.
2. If you still need to spray for weeds, add in an insecticide to kill this initial flush of beetles if the feeding is bad enough at this R2 growth stage.
3. Spray an insecticide at the R3 growth stage to protect the pods along with a fungicide.
4. Spray an insecticide at the R2 and R3 growth stage if you really hate bugs.

Japanese beetles in Corn. My experience with corn and Japanese beetles is that the beetles pretty much leave corn alone until it is done pollinating and the silks turn brown. Brown silks signal that the corn plant has successfully pollinated the kernels. If the beetles eat the brown silks, no economic harm is done to the plant. If the beetles eat yellow silk to less than 1” of the plant, then pollination can be compromised and spraying may be justified if pollination is still occurring.

However, in my experience, Japanese beetles usually are very confined to the borders of a corn field, which makes it very difficult to control if you are using an airplane loaded with insecticide to attempt control. Fungicide application will begin very soon in corn. I am not a believer in adding in an insecticide to every acre with the fungicide because silk clipping tends to be very rare across a whole field. Only good scouting can determine this prior to fungicide application. A 4-wheeler sprayer with a hand boom might be the better option if only the borders of the corn field are being fed on by Japanese beetles, and you are really determined to get revenge.

If you are wanting to apply an insecticide with a fungicide on corn, you may want to apply it a bit earlier than what you have in the past. Normally, the trend was to wait a week or so after pollination to apply the fungicide to “stretch” the residual of the fungicide out a little longer to protect the corn during the more critical grain fill period. However, if you want to kill the Japanese beetles in corn, it needs to be done earlier when the silks have emerged and the tassels are shedding pollen. Killing the beetles at this time will protect the silks from being eaten and allowing for a complete pollination of the ear.

Below are pictures that I took from a field last year that had heavy silk clipping along the border. The beetles fed late on primarily brown silks, and pollination was near complete. One could argue that the tips did not fill out due to the beetle feeding and that it was economic. However, if the corn has a high final stand, the last 1-1.5 inches of cob at the tips usually abort kernels anyway. In my opinion, you would have lost those kernels regardless of beetle feeding or not.



That's my 2 cents worth.....the choice and decision is always yours.

Lonne