Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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Tear Jerker: "Old Yeller" ……. versus Tear Jerker: Yellownecked Caterpillars

It doesn't seem possible that more than a half century has elapsed since the movie "Old Yeller" was released. And even the crustiest of people likely became misty-eyed. Rent the movie and see for yourself if a few tears-of-sadness don't flow. Another tearing experience revolves around yellownecked caterpillars: tears-of-anger. "What happened to my beautiful oak tree?"

Last week, there were several reports from Douglas County of pin oaks being defoliated by yellownecked caterpillars (YNC). And if they are happening there, it is likely that they are also occurring in other parts of Kansas. As Dr. Cloyd pointed out nearly a month ago in Kansas Insect Newsletter #22, YNC feed not only on oak but a wide range of host species. Why then are they only now becoming evident? Refer to Figure 1.

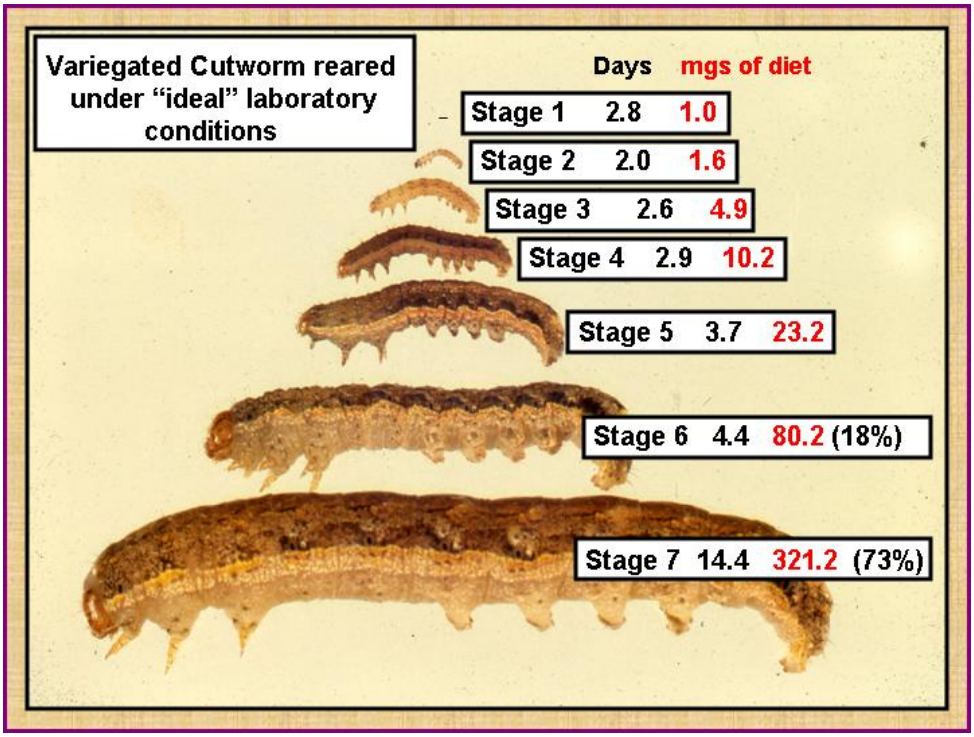


Figure 1

While the information in Figure 1 was recorded for variegated cutworms, "the principle" for larval development (regardless the species involved) is the same. At the beginning of the feeding cycle, larvae are "little nibblers". This fact coupled with abundant foliage, conceals feeding activities. Thus from a distance, all appears normal. However, as larvae approach the end of their feeding cycle, they require greater and greater quantities of food to satiate their appetites. This they accomplish by ravenously consuming any and all available foliage. It is at this point that (from a distance) "bare trees" draws a person to take a closer look. It is ironic that as this edition of the Kansas Insect Newsletter goes "on-line" today, September 11, 2009, because it was exactly 2 years ago to the day that I took the image of red oaks defoliated by YNC (Figures 2 and 3).

Figure 2

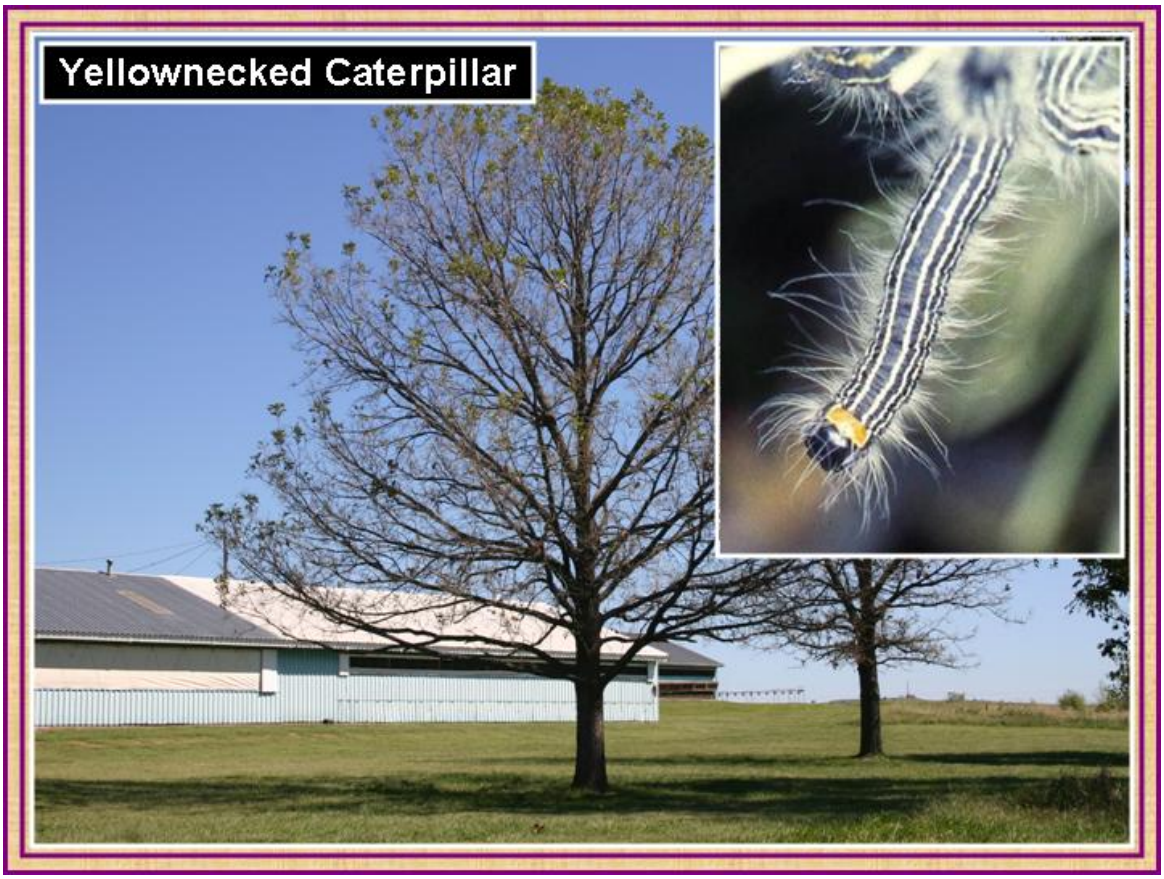


Figure 3

Despite defoliation, “trees were not dying”. As seen in Figure 4, they fully leafed out the following spring.

Figure 4

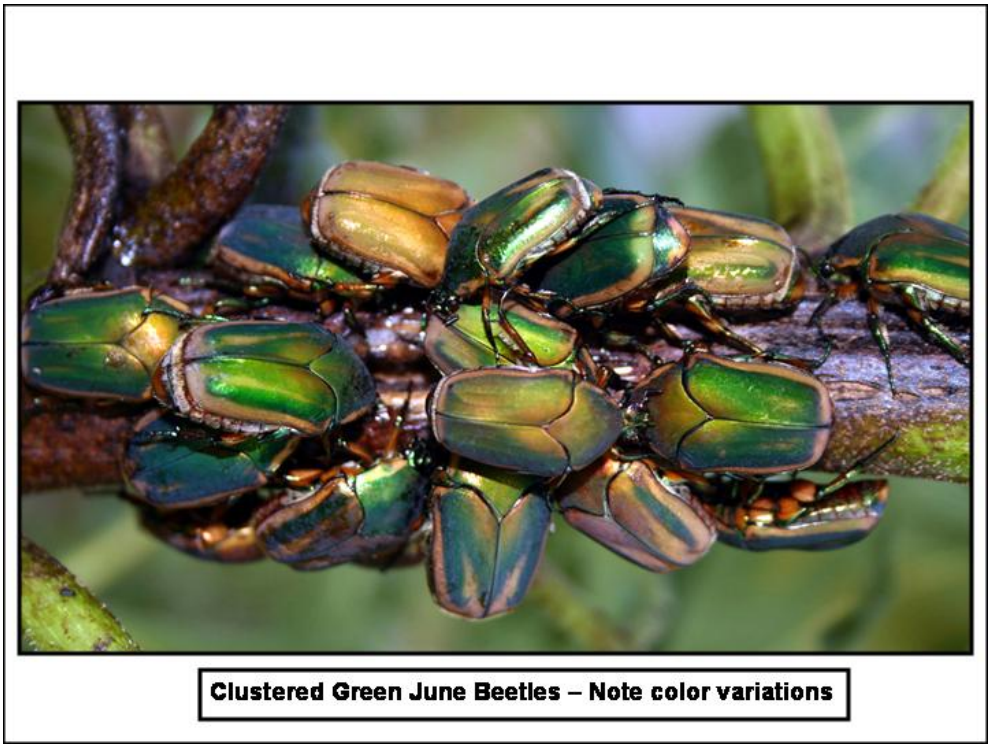
One might ask whether there is anything to be done about YNC and other defoliating caterpillar species. (1) "Can I predict their appearance?" (2) "Can I detect their appearance early on, and spray/kill the larvae while they are still small to prevent late season defoliations?" (3) "Should I apply an insecticide to kill the larvae (once discovered) during the last days of their feeding forays?"

One cannot predict when and where yellowneck caterpillars (or other defoliating species) will occur. In the above instance, they did not reappear (at this site) in either 2008 or this year. And until last week's report from Douglas County, YNC were not a blip on the radar. **The logistics of detecting** their presence in-the-beginning and during their early developmental stages are daunting. In which year and on which tree would one begin looking for them to occur? If one were to inspect for eggs or small larvae, how would one scale a large tree and examine all the foliage? **Spraying after-the-fact** serves no purpose. Ask the question, "How do I achieve total spray coverage of large trees?" If the answer is, "I can't. But I could hire a commercial tree service", first weigh the cost:benefit ratio. A person should see that there is NO BENEFIT to a spray at this stage. The argument that spraying and killing those larvae (still present) would prevent a repeat performance the next year is countered by the above 2007 experience (where no spray was applied) not being repeated during the last two seasons.

With the approach of season's end, leaves have achieved their photosynthetic potential and are due to shut down. So their having been consumed is just a different shut down process. One can always look at the brighter picture: leaves in, fecal pellets out which drop to the ground = fertilizer. Leaves consumed = no leaf litter = no raking. And there are plenty of other fall colors to paint the landscape.

What are they??? ……. Green June Beetle Grubs

As sure as fall approaches, they appear --- **HUGH GRUBS!** And 2009 is no exception. The grubs in question are those of green June beetles (Figure 5). Although they are but a recent memory, green June beetle activities began in early July when they flew close to the ground as they swarmed and buzzed over grassy areas. Although perfectly harmless, their numbers, size and audible buzzing sent many people scurrying.



Clustered Green June Beetles – Note color variations

Figure 5

Green June beetles deposited eggs in grassy areas. Larvae (grubs) have been developing (unnoticed) ever since. Often times, their appearance (for instance, on paved areas such as driveways and sidewalks) is due to recent rains saturating soils and forcing grubs out of their underground abodes. Other times without soaking rains (such as now, at least in the Manhattan area), larvae just appear (possibly a response to differences in atmospheric pressures?). Grubs seek temporary cover under any debris offering such protection (Figure 6).

Figure 6

Eventually they reenter the soil, sometimes in seemingly illogical areas such as joints between concrete surfaces, but mostly back to grassy domains (Figure 7).

Figure 7

Currently, partially grown grubs range in size from 1.5- to 1.75 inches in length and with a diameter of 5/16-inch. Larvae will continue to feed until cold temperatures force then deeper into the soil where they will become inactive during the overwintering phase of their life cycle. They will resume feeding next spring. By June, they will have matured (i.e. 2-inches in length and ½ inch in diameter) (Figure 8)

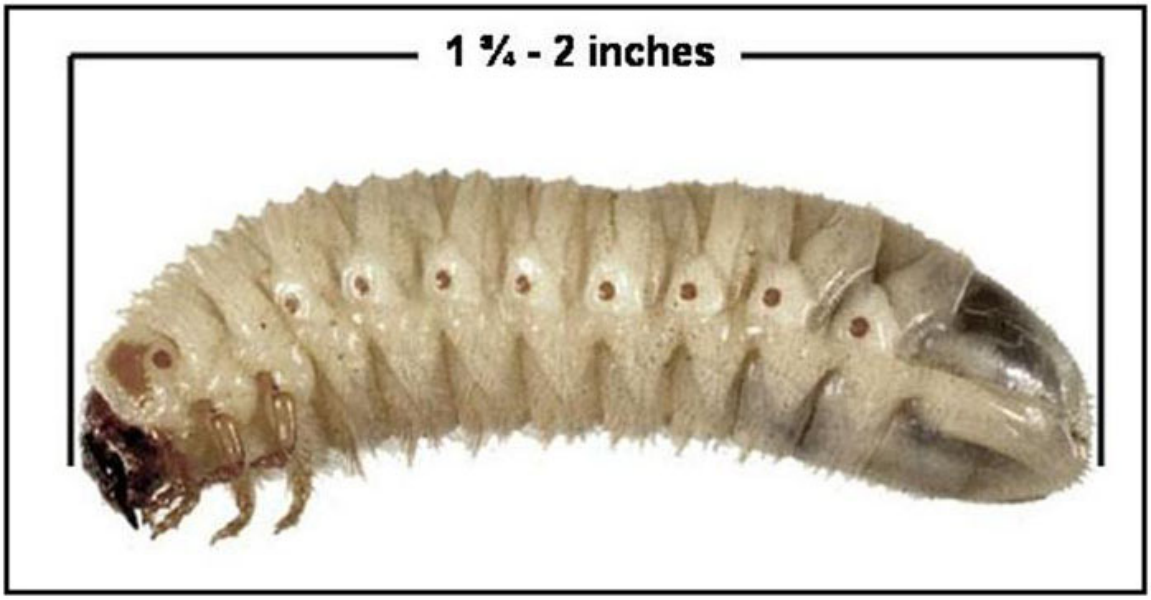


Figure 8

after which they will build individual earthen cocoons in which they transform into their pupal phase. Adult emergence will begin in late June/early July at which time they deposit eggs to begin a repeat of their seasonal life cycle.

People report a sort of strange “movement” associated with green June beetle grubs. When one looks at the bulk of the body, it may be that the puny legs are not adequate for locomotion. Thus they have adapted by flipping over, and (with almost an accordion-like rippling motion) move along (Figure 9).

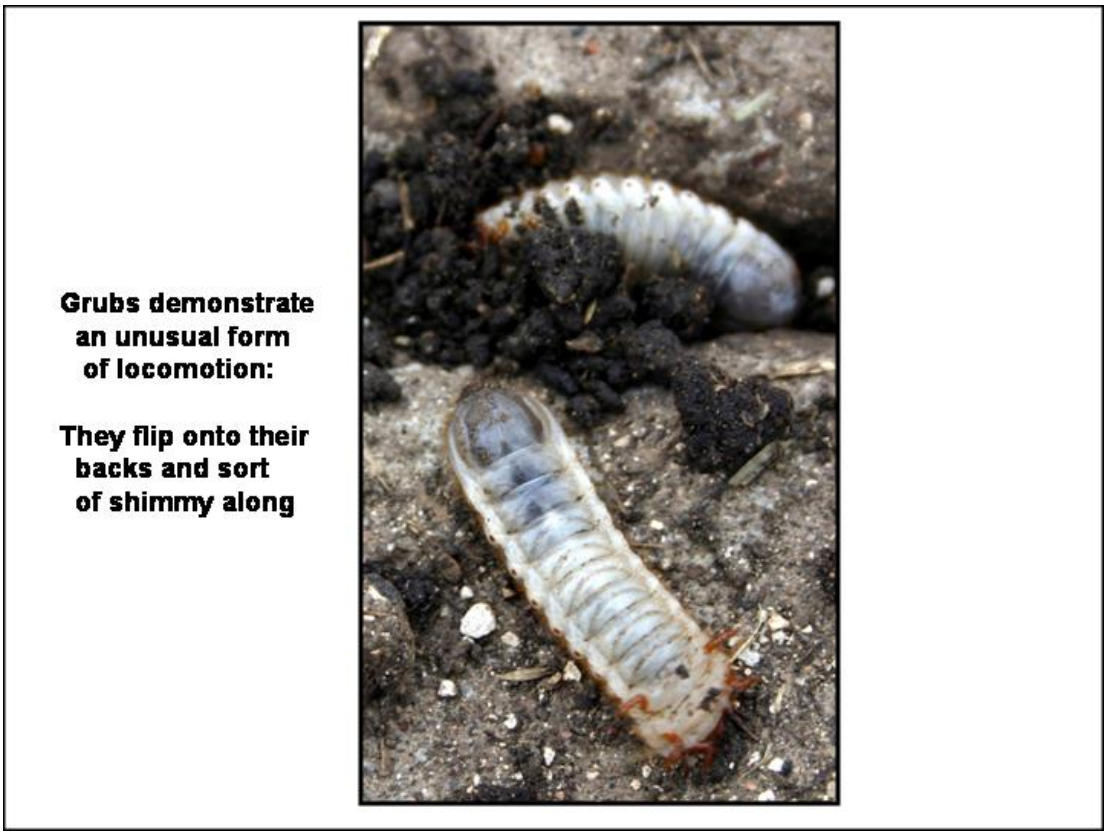


Figure 9

Other than the nuisance of “buzzing beetles” and the unsettling appearance of grubs, green June beetles and their larvae are of little consequence (Figure 10).

Figure 10

Unlike typical "annual white grubs" that feed on grass roots causing "dead spots" in turf, green June bug larvae prefer feeding on dead organic matter in the soil. Sometimes at night, large grubs may crawl to the soil surface to forage on dead/decaying organic matter. Thus, damage attributed to green June beetle larvae is more mechanical, caused by their continual burrowing and tunneling activities, as well as small soil mounds at emergence openings leading to their underground burrows. In rare instances, loss of turf is attributed to desiccation and disease possibly abetted by the activities of green June beetles grubs.

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Sincerely,

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