



# Pest e-alerts



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## Protect a Bumper Crop of Pecans from Pecan Weevil

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Our concern from Pecan weevil is preventing female weevils from laying eggs (oviposition) in nuts and this generally does not happen until late gel to early dough formation at the tip of the nut. Often times, it is difficult to anticipate the timing if traps are not deployed early enough or if crop maturity is not carefully examined. This is why we recommend making that first application when kernel formation has been reached. In addition, multiple applications may be required based on previous year's management, and these may take place about 7-10 days later, however, growers should use trap captures (in Circle traps) to dictate those latter applications. Female weevils are not known for oviposition after shuck split.

Making that first treatment decision is very soon upon us, with most of the crop now out of the water stage and many early maturing cultivars, well into dough formation. If you remove the nut from the stem, the attachment point is somewhat oval in shape (Figure 1). If you cut across the oval as indicated by line A, you will see the view in Figure 2, which depicts the kernel sack. The line in Figure 2 shows how far the kernel sack has expanded. If you cut along the long axis of the oval as shown by line B, you will only see the two kernel halves as shown in Figure 3. If you have a great deal of difficulty making either of these cuts, it is likely that the nuts are into shell hardening (dough stage or later).

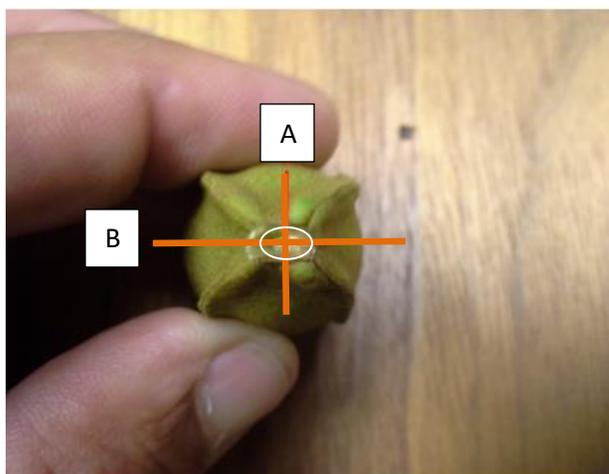


Figure 1: Basal end of the pecan and two possible cut lines



Figure 2: Kernel view if cut along line A in Figure 1. The orange line indicates how far the kernel sack has extended.



Figure 3: View if cut along line b, only shows the two kernel halves.

So, what is the point of looking at nut maturity in making a decision about pecan weevil treatment? Once the weevils begin emerging (generally following a rainfall event) they may test the pecans by feeding punctures; however, nuts fed on during the water stage will likely abort and fall from the tree. The first application of an insecticide will occur when the kernel starts the dough formation at the tip of the pecan. During initial dough formation, some soft gel-like tissue can still be found within the kernel sack. Second and any subsequent applications for weevil should be based on trap captures. We recommend two Circle traps per tree on 10 trees within a given range of cultivars (based on similar maturities). After the initial application, take trap tops off for a period of 5-7 days, allowing weevils that have been hit by the insecticide sufficient time to die. Next, place the trap tops back on and begin monitoring daily if possible. The threshold we suggest is 0.3 weevils/trap/day. Remember, you will have a total of 10 trees being monitored using 20 total traps. As an example: if you went out on Monday and captured no weevils, but on Wednesday you caught 12, then divide 12 by (20 times 2) or 12/40. This results in 0.3 weevils/trap/day. The number two represents the number of days since your last check of traps. For commercial growers, some form of pyrethroid (e.g. Lambda-cyhalothrin, bifenthrin, or zeta-cypermethrin) are the least expensive and most effective insecticides available for weevil control. For homeowners, some form of Sevin® should be used. During this hot, dry period for weevil control (which should begin now), aphid flare-ups can commonly occur. If heavy aphid populations occur after the first application for weevils, then growers should consider tank mixing an aphicide with the weevil insecticide the next time. There are several effective products available currently, and all seem to have a different mode of action, so do not choose the same one each time. These products include Closer®, Carbine®, Movento®, PQZ®, Fulfill®, etc. One available organic product for weevils, called Grandevio® has proven efficacious in Georgia; however, the rate on the label for weevils is 3lbs/acre which currently would cost about \$45 per acre. Because of the comparison to the much less expensive pyrethroids (about \$2.00 per acre), this product has very little appeal for commercial growers.

#### Disease and Insect Diagnostic Laboratory

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