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Fruit and Pecan Pests

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- **Defoliators:** Growers have been noticing two caterpillar species defoliating terminals of pecan and apples branches:
 - **Walnut caterpillars** have been hatching for a week or more. These caterpillars feed as a group as they defoliate branches on pecan, black walnut, butternut, hickory, oak, willow, birch, honey locust and apple. You can see egg masses on underside of leaves and two color phases of caterpillars: smaller caterpillars are red with white lines along body and a black head whereas larger caterpillars are black with white lines along body, fuzzy white hair and a black head (Fig. 1).
 - **Fall webworm caterpillars** defoliate branches as a group inside a silk nest covering a branch (Fig. 1). They feed on pecan, apple, walnut, persimmon, birch and other trees.

Control: It is best to prune off the nests and larvae and destroy them while they are still small. Do not burn or torch the nests as this may do additional damage to the trees. See MP144 for recommendations for insecticide control.

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Figure 1. Walnut caterpillar egg mass (l), young red and mature black walnut caterpillars (c) and silk nest with fall webworm caterpillars (r)(Photos: D. Johnson)

- **Spider mites:** Recently, I have been getting more complaints about spider mite outbreaks and leaf bronzing on leaves of apple, caneberries, and peaches. I generated a **Table 1** that lists effective miticides for management of spider mites in apple (pome), peach (stone) and caneberries. I created this table by reading efficacy charts (<http://comp.uark.edu/~dtjohnso/Management and Spray Guides.html>) and each miticide label.

Table 1. Miticides recommended for apple, caneberries and peaches

Miticide	Crop	REI (hrs)	PHI (days) by crop	Stage effective	Comments
Acramite 50S	peach	12	3	ovicidal and motile stages of spider mites	Inactive against beneficials and predatory mites
Acramite 4SC	Not for fruit				
Apollo SC	Peach/apple	12	21/45	Ovicide	
Nexter	Peach/apple	12	7/25		Knockdown and residual activity
Savey 50DF	Peach/apple	12	28/28	Ovicide and larvae	If adults are present in medium to high densities, then use Savey in combination with miticide effective against motiles
Vendex 50WP	Peach/apple	48	14/14	Motile stages	Contact miticide; Takes 7 to 10 days to eventually kill mites; 30 d residual control; Best applied when 1-2 mites/leaf;
Zeal	Peach/apple	12	7/14	Ovicide & larvicide	
Carzol	Peach			Do not apply after petal fall	
Acramite	caneberry	12	1	ovicidal and motile stages of spider mites	
Savey	caneberry	12	3	Ovicide and larvae	
Zeal	caneberry	12	0	Ovicide & larvicide	

- **Spotted wing drosophila (SWD)** is a new invasive pest of ripening, soft-skinned fruits (caneberries, blueberries, cherries, cracked peaches, strawberries). The adult female and male flies have big red eyes but only the male has a black spot on the tip of each wing whereas the female has no wing spot (Fig. 2).



Figure 2. Spotted wing drosophila male (l; Photo: BC), egg with white breathing tubes outside a blackberry drupe (c) and pupa on a drupe (r) (Photos: SH. Kim)

Weekly since mid-June, we have been monitoring 24 SWD traps (for a lure comparison study) and dissecting four samples of 30 blackberry fruits for presence of SWD eggs, larvae and pupae (Fig. 2). Counts of SWD flies per trap and per blackberry fruit sample are on the increase at the Fruit Research Station in Clarksville, AR. Fruit samples from 26th June had 3 SWD flies emerge, whereas those from 3rd July had 15 SWD flies and averaged 50 SWD pupae per blackberry fruit sample.

For the rest of the season, I plan to report the average number of SWD flies per baited trap for each infested county in Arkansas (Fig. 3). Franklin County became the 13th Arkansas County that we confirmed had SWD flies in baited traps. All 13 SWD-infested counties are noted on the Arkansas County map (Fig. 3).

Control: *We still recommend weekly insecticide treatments when there is susceptible ripening or ripe fruit present in plantings of caneberries.*

See online information about spotted wing drosophila at:

- ❖ Spotted Wing Drosophila Fact Sheet ([pdf](#))
- ❖ Picture Sheet of Spotted Wing Drosophila: ID, Trap, Bait, Management ([pdf](#))
- ❖ Workshop Talk on Detecting and Managing Spotted Wing Drosophila ([pdf](#))



Figure 3. Confirmed mean numbers of spotted wing drosophila flies accumulated per trap in 13 Arkansas County from 9 May to 12 July 2013.

- **Japanese beetle:** This is a pest of most fruits and many ornamental and turf plants. This season, Japanese beetle adults have been seen in Altus, Clarksville and Fayetteville causing slight foliar feeding damage. There has been a drastic decline in Japanese beetle adult trap catches in 2012 and 2013 compared to previous years.

Control: I continue to predict for 2013 that the only areas in Arkansas that may experience problems with Japanese beetles will be located near large irrigated areas like golf courses or plantings where overhead irrigation is being used. Otherwise, most growers in NW Arkansas may get by with none or one foliar insecticide spray to prevent foliar damage by Japanese beetles in 2013.

- **Stink bugs:** We are seeing more winged adult stink bugs (Fig. 4). Both immature and adult stink bugs puncture and damage blackberries, raspberries, apples and peaches. Stink bugs often leave a bad taste or bad stink bug smell (released defense odor) on damaged fruits.



Figure 4. Green (left) and brown stink bug (middle) adults and nymphs and new feeding damage (clear threads of ooze) by stink bugs.

Control: Weekly until harvest, you

may need to apply an insecticide if you find stink bugs causing a significant number of fruit to taste bad or note new clear threads of ooze on fruit (Fig. 4).

Apple and Peach

- **Plum curculio:** Summer adults should be emerging and laying eggs under skin of fruit from mid-June to mid-July. Check Table 1 for predicted hatch periods for south, central and NW regions of Arkansas.
- **Codling moth:** This week we started catching the second generation males in pheromone traps in Fayetteville. By next week, eggs should start hatching and requiring insecticide sprays to prevent wormy apple damage.
- **Oriental fruit moth:** Second generation adults should be nearly done laying eggs near fruit but third generation adults should begin emerging and egg laying in these regions of Arkansas by 8 July (south), 13 July (central) or 17 July (northwest).

Grape

- **Grape berry moth:** Small to large larvae can be found in damaged grape berries. Weekly, inspect 10 clusters on each of 30 vines along wooded perimeter and interior for discolored berries with GBM larvae inside berries. The third generation should be emerging and eggs begin to hatch after mid-July.



Figure 5. Grape berry moth larval damage of grapes (Photo: D. Johnson)

Control: If > 2% of clusters have 1 or more damaged berries with small larvae inside (new damage), then treat with recommended insecticide.

- **Fruit and Nut Insect Control:** Check MP144 for recommended insecticides and rates for each fruit pest. MP144 Insecticide Recommendation for Arkansas (2013) ([pdf](http://www.uaex.edu/Other_Areas/publications/PDF/MP144/MP144.pdf)) (http://www.uaex.edu/Other_Areas/publications/PDF/MP144/MP144.pdf)

Much of the information obtained for this newsletter was gathered by the authors at the University of Arkansas-Fayetteville. All chemical information is given with the understanding that no endorsement of named products is intended nor is criticism implied of similar products that are not mentioned. Before purchasing or using any pesticide, always read and carefully follow the directions on the container label. Compiled by: Donn T. Johnson, University of Arkansas, Department of Entomology, E-mail: dtjohnso@uark.edu

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