



Arkansas Fruit and Nut News Volume 4, Issue 2, 30 May 2014

Recommended Pesticides for Fruit and Nut Insects:

- MP144 AR Insecticide Recommendation for Arkansas (2014) ([pdf](#))
- MP467 Arkansas Small Fruit Management (2014) ([pdf](#))
- Midwest Small Fruit and Grape Guide (2014) ([pdf](#))
- Midwest Tree Fruit Guide (2014) ([pdf](#))

- Search for Insecticides Labeled for Use on Pecan ([link](#))
- Search for Fungicides Labeled for Use on Pecan ([link](#))
- Search for Herbicides Labeled for Use on Pecan ([link](#))

Upcoming Events:

Blackberry Production Workshop on 12 June 2014 at the University of Arkansas Fruit Station in Clarksville, AR (Katie Hanshaw; phone: 479-754-2406; email: khanshaw@uark.edu)

Oklahoma Pecan Growers Annual Conference June 12-14, 2014 in Tulsa, OK; email: amanda.early@okstate.edu

TriState ArkLaMiss Pecan Convention from June 19-20, 2014 in Alexandria, LA
Contact Stephen Norman, (318) 729-3173; email: pecans@rosaliepecans.com

Texas Pecan Growers Annual Conference from July 13-16, 2014 in San Marcos, TX
(979) 846-3285; email: pecans@tpga.org

Pecan Pests

Dr. Donn T. Johnson and Elena Garcia - Nut Research/Extension

Pecan Nut Casebearer (PNC): So far, there have been no reports of moth catch in pheromone traps in Arkansas (Fig. 1).

Scouting: However, in Oklahoma they have reported trap catch and the PNC Risk model recommends that growers start by 3 June to assess crop load and sample for PNC eggs on nutlets see green triangle in Oklahoma (Fig. 2).

Arkansas pecan growers can report their weekly PNC moth trap counts and location to Dr. Donn Johnson (Email: dtjohnso@uark.edu or cell: 479-409-4628). These data will be entered into an online **Pecan Nut Casebearer Risk Map** (Fig. 2) at: <http://pecan.ipmpipe.org/map/pnc/index.cfm>

In this Issue:

Recommended Pesticides 1

Upcoming Events 1

Pecan

Pecan nut casebearer 1

Fruit Pests

- Japanese beetle..... 2
- Plum curculio 2
- Codling moth..... 2
- Oriental fruit moth 2
- Spotted wing drosophila... 3
- Impact Survey 3
- Prediction map 4
- SWD links 4
- Grape berry moth..... 5
- Rednecked cane borer 5



Figure 1. Pecan nut casebearer moth in trap (Photo: W. Ree)

Control: In southwest Arkansas, SW Oklahoma and NE Texas, the decision window to spray insecticide has probably past but further north in Arkansas and Oklahoma, the PNC spray window is imminent. A large crop load can tolerate some nutlet loss to PNC (maybe no insecticide use), but if you estimate a low to moderate crop load, then apply one well-timed insecticide treatment at first larval hatch. Be sure to use an insecticide that conserves natural enemies, e.g., Intrepid, Bt compounds like Deliver (note Bt may have a shorter residual). In contrast, Pyrethroid and Carbaryl insecticides are not recommended at this time of year because each kills natural enemies that keep densities of aphids, mites and leafminers below economically damaging levels.

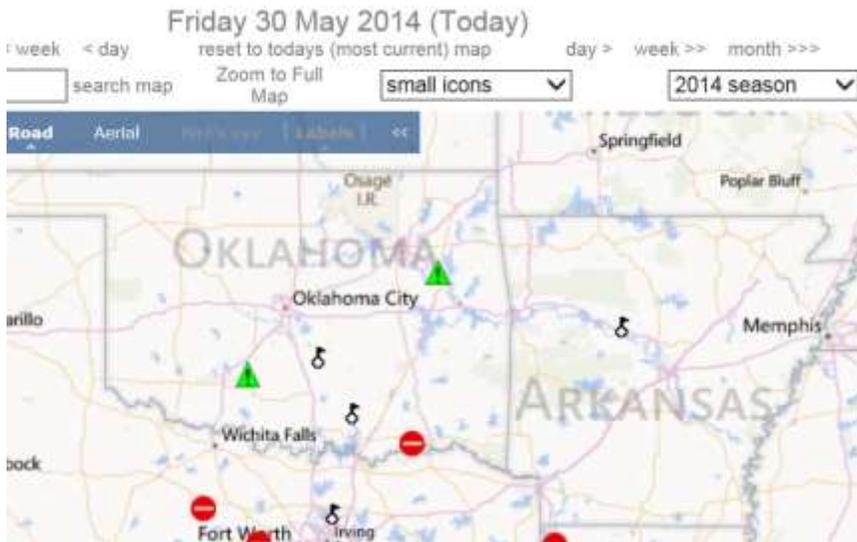


Figure 2. Pecan nut casebearer risk map showing green triangles (traps captured moths so Decision Window imminent), yellow triangles (Decision Window Active = assess crop load, scout for eggs and hatched larvae to time insecticide application) and red dot (past recommended spray period).

Fruit Pests

Dr. Donn T. Johnson - Fruit Research/Extension

All Fruits

Japanese beetles (JB): Adult JB should begin to emerge in the next week or two and you should see signs of economically damaging amounts of defoliation and fruit feeding by late June to early July. Defoliation initially occurs in the upper canopy of apple, blueberry, grape, peaches, pears, plum, and brambles. In brambles, you will also see adults feeding on and damaging flowers.

Control: White washing foliage of apples trees with Surround kaolin clay will prevent defoliation by JB. The mid-summer harvested berries, grapes and peaches require an insecticide application since the clay is hard to wash off these fruits.

Apple and Peach

Plum curculio: I set the biofix as 3 April (2 days above 70°F) and began to accumulate degree days above the base development temperature of 50°F. Most of the plum curculio have been feeding and egg laying in fruit since early May and PC larvae are exiting fruit to pupate in soil.

Scouting: By mid-June, begin weekly inspections of 300 fruit along perimeter of each orchard for first feeding damage and egg laying by the emerging summer PC adults.

Codling moth (CM) and Oriental fruit moth (OFM): On 16 May, we trapped our first moths of both pest species (biofix date). Using the online degree day (DD) calculator we predict hatch in NW Arkansas for CM by 30 May and for OFM by 2 June.

Berry Fruits

Spotted wing Drosophila (SWD):

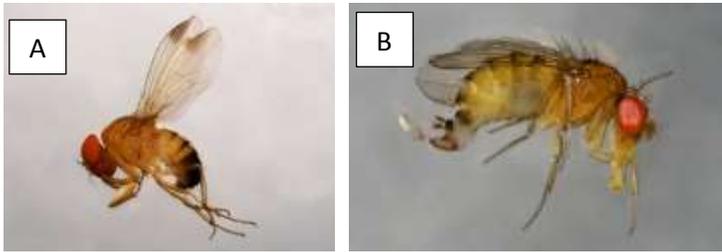


Figure 3. Adult (A) male and (B) female spotted wing drosophila with amber, curved and toothed ovipositor releasing a white oval egg.

NEW - SWD Impact assessment summary ([link](#)):

<http://swd.ces.ncsu.edu/working-group-activities/swd-impacts-2013/>

On 27 May, the first SWD flies (Fig. 3) were captured in baited SWD traps in White County. We have collaborators monitoring SWD traps in several other counties and will alert county extension agents and growers as we confirm SWD fly captures.

Scouting: We recommend that you set out several SWD traps (Fig. 4) baited with fermenting yeast/flour/sugar/water bait poured into the small cup hung above the drowning solution of apple cider vinegar poured into the larger trap cup. Be sure to set out your SWD baited traps 3 weeks

before you expect fruit to begin to ripen (color) in a specific block. Check all traps once or twice a week for SWD flies (Fig. 3) and add vinegar as needed. Move traps from a harvested block to the next block that begins to ripen.



Figure 4. Spotted wing drosophila monitoring trap with small specimen cup to hold fermenting bait and larger trap holds fly drowning solution of apple cider vinegar.

If you are unsure how to identify SWD adult flies (Fig. 3), then give fly specimens to your County Extension Agent who will send them in a vial in 70% alcohol to:

*Ms. Barbara Lewis, AGRI 319 Department of Entomology
Univ. of Arkansas, Fayetteville, AR 72701*

New SWD lure: Great Lakes IPM began supplying a new SWD dual lure (\$3 each package of 2 lures; last 1 month). Wire these two lures together and hang inside the SWD trap from the lid. Add apple cider vinegar with a couple drops of unscented soap as the fly drowning solution in the SWD trap.

Control: SWD lay eggs in fruit from time fruit begin to color (ripen) to harvest. It is recommended to apply weekly applications of insecticides and to rotate insecticides with different modes of action.

SWD Insecticide Efficacy Chart (Nov. 2013) online at:

http://comp.uark.edu/~dtjohnso/SWD_Insecticide_Efficacy_Nov_13.pdf

SWD Survey Summary

In total, 87 respondents completed the survey online, and 162 respondents completed paper surveys. When totaled across all crops, the observed loss due to SWD during 2013 in states represented in this survey was \$26,151,907. Growers who experienced an increase in insecticide usage estimated that these sprays cost 88% more per acre, and growers estimated increase in labor costs up to 12%.

Table 1. Estimated berry crop value lost due to spotted wing drosophila in responding eastern states (derived from SWD Impact Assessment Survey, 2013 administered by eFly SWD Working Group).

Crop	Percentage Loss	
	Average	Maximum
Blackberry	12	100
Blueberry	4.7	100
Raspberry	16.3	100
Strawberry	3.9	50

Predicting Egg Laying: See map below (Fig. 5) to see that SWD should be laying eggs in Arkansas berries. This means that ripening berries should be protected from SWD attack by weekly insecticide sprays.

This map is updated online daily: http://uspest.org/swd/daily_ddmaps/SWD_50us.png.

You can also learn about this SWD Development/Degree day Model by listening to an online webinar: http://uspest.org/swd/swd_models_coop_et_al_pt1.swf

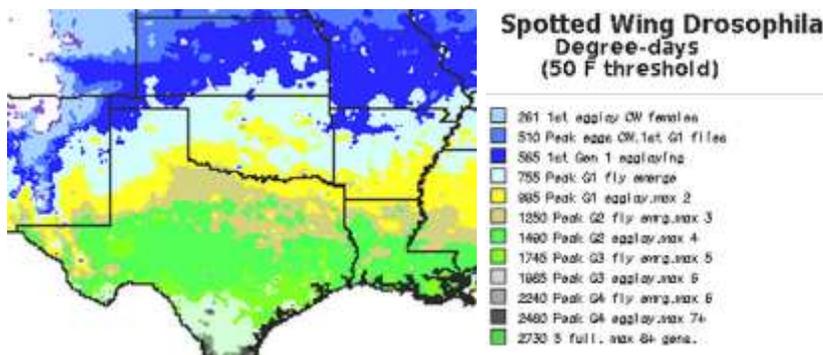


Figure 5. Prediction of spotted wing drosophila egg laying as of May 28, 2014 showing egg laying should be occurring now throughout Arkansas (online: http://uspest.org/swd/daily_ddmaps/SWD_50us.png)

Here are several updated or new links to information about management of SWD.

- **Daily updated southern U.S. Map of SWD Emergence in 2014 ([link](#))**
- **eFly Eastern U.S. SWD Information ([link](#))**
- **Webinar on Organic Management SWD - 11 February 2014 ([link](#))**
- **SWD Chart of Reported Insecticide Efficacy (Nov. 2013) ([pdf](#))**
- **Picture handout of SWD fly identification, trap, management ([pdf](#))**
- **SWD Fact Sheet ([pdf](#))**

Grape

Grape berry moth (GBM):

Scouting. Once berries reach pea-size (1/4" diameter), begin inspecting of 100 clusters (10 clusters/each of 10 vines) along perimeter next to woodlot (overwintering site of pupae). Count how many clusters out of 100 had one or more GBM damaged berries. If you see 1% of clusters with GBM damage then apply insecticide to the vineyard. You could get by with a perimeter spray since first generation GBM damage is usually restricted to perimeter vines.

Control: In Johnson or Washington Counties, 2nd generation moths should begin flying by 6 June or 9 June and eggs will begin hatching by 16 or 19 June (spray date). Insecticide should be applied to the full vineyard to prevent berry damage by the second generation.

Blackberries/Raspberry

Rednecked cane borer (RNCB):

Scouting: We have been seeing RNCB adults on blackberry primocanes for a couple weeks. If you had more than 5% of your floricanes with a RNCB gall, then we recommend walking the blackberry field weekly looking at primocanes for presence of RNCB adults.

Control: Once you see RNCB adults, wait until evening after pollinators stop visiting flowers to apply recommended insecticide - direct spray to lower 18 inches on primocanes where RNCB lays its eggs – this avoids getting residue on most of the flowers visited by pollinators.

Stink bugs:

Scouting: We are starting to see stink bugs in bramble plantings. As you are scouting for RNCB, be looking at fruit clusters for stink bugs.

Control: When you start seeing mostly immature stink bugs (nymphs), apply a recommended insecticide in the evening to avoid pollinators. Nymphs are much easier to kill than the adults. This spray against nymphs should lessen the number of adult stink bugs that remain to feed on ripening berries later in June and early-July.

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 and M. Elena Garcia, UACES- Department of Horticulture, E-mail: megarcia@uark.edu

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Arkansas Division of Agriculture, University of Arkansas, Agriculture, Director, Cooperative Extension Service, University of Fayetteville. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.