



Arkansas Fruit and Nut News Volume 5, Issue 3, 6 May 2015

Upcoming Events

- **May 27, Small Fruits High Tunnel Production Workshop ([Flyer](#))**
 WHEN: Wed, May 27th, 2015
 WHERE: UA Food Science Dept., Rm D1&2
 2560 N. Young Ave. Fayetteville
Detailed information on this workshop, click on the above link to Flyer.
Registration is required by Friday, May 22.
To register contact: Jo Salazar at (479) 575-2603 or salazar@uark.edu
Also, you may contact your county Extension agent

- **Mark it on your calendar: July 16th- Peach Production Workshop**
 WHEN: Thursday, July 16th, 2015
 WHERE: University of Arkansas Fruit Research Station
 1749 State Hwy 818 Clarksville, AR
Detailed information on this workshop will be sent to your county Extension agent shortly

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Cover Crops

The benefits planting cover crops (CC) in your orchard can be extensive and varied depending on what, when, and where the CC is planted. Some of these benefits include:

- Build up soil organic matter in the soil: By building the soil OM, the physical characteristics of the soil can be improved, Soil OM provides a substrate for beneficial microorganisms to flourish
- Addition and sequestration of nutrients. Some CC can fix nitrogen (legumes); others can “scavenge” nutrients from the root zone (tillage radish); other CC are best used to “trap” nutrients from the biomass they produce.
- Naturally suppress weeds, disease pathogens, insects and nematodes.
- Provide habitat for predatory and other beneficial insects.

There are important questions one must address when considering planting CC. First and foremost, you need to decide the “job” you want this CC to do such as building soil OM, nutrient addition, or weed suppression. You may want the CC to have multiple “jobs”.

You also need to determine the “fallow windows” in economic crop planting schedule and how much time is needed for adequate decomposition.

The following is one of the many available resources that provide more detailed information on CC:
[Download Free File](#) (236.38 kB)

Two New Tools to Assist Strawberry and Peach Growers:

On March 14, 2015, Dr. Schnabel at Clemson announced the availability of a new App, *MyIPM*, an interactive tool to assist strawberry and peach growers in picking effective and safe fungicides for conventional and organic strawberry production. Here is how to access this great tool:

Upload in Google Play ([Link](#))

Upload in Apple Store: ([Link](#))

Insecticide/Miticide Efficacy and Recommendations:

- **New: 2014 Spotted Wing Drosophila Insecticide Efficacy** ([pdf](#))
- **Apple:** pp. 48-49 in Integrated Orchard Management Guide for Commercial Apples in the Southeast ([pdf](#))
- **Blueberry:** pp. 32-33 in Southeast Regional Blueberry Integrated Management Guide ([pdf](#))
- **Grape Fungicides & Insecticides:** p. 22 in Midwest Small Fruit and Grape Spray Guide ([pdf](#))
- **Peach:** pp. 37-38 in SE Southeastern peach, nectarine and plum pest management and culture guide ([pdf](#))
- **Strawberry Insecticide Efficacy:** p. 43 in Midwest Small Fruit and Grape Spray Guide) ([pdf](#))
- Consult 2015 Fruit Spray Guides for pesticide listing and management recommendations ([Link](#))

Spotted Wing Drosophila (SWD)

- **Where else do SWD like to feed?** By J. Lee, et al. ([pdf](#))
- **Two commercial SWD lures:** Available from Great Lakes IPM.
 - SC-SWD lure by Scentry Biologicals, Inc. ([Link](#)) with trap instructions ([pdf](#))
 - TR-SWD lure from Trécé ([Link](#))

We expect to start catching SWD flies as early as 3 June in southern Arkansas to mid-June in more northern regions of state.

Both lures last 4-6 weeks in the field. Initial tests indicated that the Scentry SC-SWD lure captured better last season than did the TR-SWD lure from Trécé. However, Trécé has reformulated the TR-SWD lure for this year so we don't have data to compare with yet. Trécé lure last season was a 2 part lure, this season it is packaged as a 3 part lure (could still be a 2 component lure just has 3 packs instead of 2 which they used last season).

SWD Predictions:

In the past two growing seasons, we did not trap any first generation SWD flies nor see their eggs in ripe fruit. However, we usually started trapping second generation SWD flies by early- to mid-June and that is when we started to detect the first SWD eggs and larvae in ripening fruit in Arkansas, especially blackberry and raspberry. We have had low SWD infestations in blueberry, but very rarely reared out SWD larvae in undamaged grapes or strawberries.

I used the online SWD degree-day (DD) calculating model ([Link](#)) to predict SWD adult fly emergence and egg laying for four locations across Arkansas:

Note: We are in the process of testing the accuracy of this SWD prediction model in Arkansas.

Using weather data at Emmet, AR near the **SWREC in Hope:**

26 April: 1st SWD ADULT EMERGE 1st GEN
12 May: PEAK SWD ADULT EMERGE 1st GEN
23 May: PEAK SWD EGG LAYING BY 1st GEN FEMALES
3 June: PEAK SWD ADULT EMERGE 2nd GEN
12 June: PEAK SWD EGG LAYING BY 2nd GEN FEMALES
29 June: PEAK EGG LAYING BY 3rd GEN FEMALES

Using weather data at Clarksville, AR near the **UA Fruit Station:**

22 April: 1st SWD ADULT EMERGE 1st GEN
11 May: PEAK SWD ADULT EMERGE 1st GEN
24 May: PEAK SWD EGG LAYING BY 1st GEN FEMALES
5 June: PEAK SWD ADULT EMERGE 2nd GEN
14 June: PEAK SWD EGG LAYING BY 2nd GEN FEMALES
1 July: PEAK EGG LAYING BY 3rd GEN FEMALES

Using weather data at **Searcy, AR:**

28 April: 1st SWD ADULT EMERGE 1st GEN
14 May: PEAK SWD ADULT EMERGE 1st GEN
25 May: PEAK SWD EGG LAYING BY 1st GEN FEMALES
4 June: PEAK SWD ADULT EMERGE 2nd GEN
14 June: PEAK SWD EGG LAYING BY 2nd GEN FEMALES
2 July: PEAK EGG LAYING BY 3rd GEN FEMALES

Using weather data at **Fayetteville, AR:**

3 May: 1st SWD ADULT EMERGE 1st GEN
20 May: PEAK SWD ADULT EMERGE 1st GEN
3 June: PEAK SWD EGG LAYING BY 1st GEN FEMALES
15 June: PEAK SWD ADULT EMERGE 2nd GEN
25 June: PEAK SWD EGG LAYING BY 2nd GEN FEMALES
13 July: PEAK EGG LAYING BY 3rd GEN FEMALES

Plum Curculio Options

There are several options beside pyrethroids for peach insect control. A very good article on plum curculio (PC) management was written by John Wise, Nikki Rothwell, David Epstein, Larry Gut and Mark Whalon at Michigan State University (2009) ([Link](#)). It states that the effective insecticide classes (compounds) against PC are:

- Organophosphates (OP) (IRAC # 1B; Imidan) work primarily as lethal contact poisons on plum curculio adults in the tree canopy
- Neonicotinoids (IRAC # 4A; Actara, Assail, Belay) are highly lethal to plum curculio via contact for the first several days after application, but as these systemic compounds move into plant tissue, they protect fruit from plum curculio injury via their oviposition (egg laying) deterrence and anti-feedant modes of activity.
 - ❖ Neonicotinoids and OP's can be used as rescue treatments because they have a curative action that can kill eggs and larvae that are already present in the fruit.
- Oxadiazine (IRAC # 22A; Avaunt) works primarily by lethal activity, but ingestion is the important means for delivering the poison.

- Pyrethroids (IRAC # 3A; Ambush, Asana, Baythroid, Danitol, Mustang, Renounce, Warrior) work primarily as lethal contact poisons on plum curculio adults in the tree canopy but **pyrethroids will promote mite and scale outbreaks.**

Table 1. Using the online degree-day (DD) calculator ([Link](#)), the DD model predicts the following plum curculio events in Arkansas Counties in 2015.

Event	Hempstead Co.	Johnson Co.	Washington Co.
1st PC adult trap capture = 100 DD	April 1	March 30	March 31
1st egg laying = 200 DD (<i>1st spray</i>)	April 6	April 6	April 7
80% of PC adults have dispersed into orchard= 400 DD (<i>2nd spray</i>)	April 21	April 24	April 30
Summer adults begin laying eggs = 1,200 DD (<i>summer spray</i>)	June 5	June 7	June 16

San Jose Scale:

Now is the time to be looking for San Jose scale crawlers. The crawler stage is most susceptible to insecticides as it walks from its mother scale to a new location on the limb or on fruit where it settles and begin sucking sap on limbs or fruit and develops a scale covering.

Scouting: There are two ways to sample for scale crawler activity on scale-infested trees.

- 1) Lift cover from live mother scale and check for presence of yellow eggs or moving yellow scale crawlers.
- 2) Wrap around several scale-infested limbs, double sticky tape traps (Fig. 1 A) or electrical tape traps (Fig. 1 B) (smear electrical tape surface with vaseline).

Control: During period that scale crawlers are detected, you can keep scale-infested trees treated with recommended insecticide (see above online links to spray efficacy recommendations).

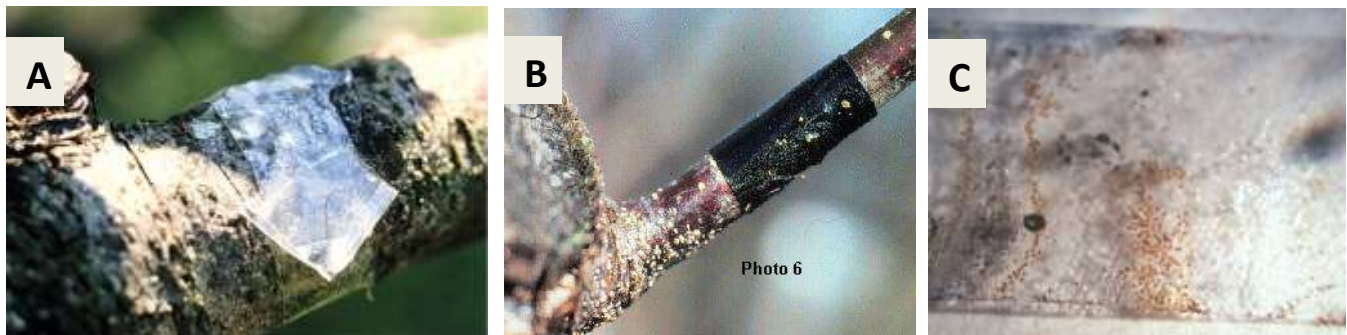


Figure 1. San Jose scale crawler traps wrapped on scale infested limb: A) double sticky tape trap; B) electrical tape covered with vaseline; and C) yellow-amber dots on tape trap are scale crawlers.

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 Elena Garcia, University of Arkansas, 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, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.