



Arkansas Fruit and Nut News Volume 6, Issue 2, 10 May 2016

Two New Extension Specialists-Horticulture

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Upcoming Events:

- **May 21: Arkansas Pecan Growers Association Meeting** from 9am to 3pm - educational meeting in University of Arkansas Cooperative Extension Service Office in Little Rock, AR (Registration TBA).
- **June 2-4: Oklahoma Pecan Growers Conference** in Tulsa Convention Center, 100 Civic Center, Tulsa, OK 74127 Online Convention Registration ([Link](#))
- **June 9: Organic Farming Field Day** at the Lincoln University Busby Research farm located at 5124 Goller Road, in Jefferson City, MO. This includes workshops in the morning and tour of projects at the Lincoln University Busby Organic research farm.
- **June 9: Blackberry Workshop** – from 2 to 7pm at the Fruit Research Station in Clarksville AR ([Program Link](#)). The registration is \$20.00 and includes dinner. Please register by June 1st: [Click here](#) for online registration/payment; [Click here](#) for a printable registration.
- **June 16: Southwest Research and Extension Center, Horticulture Crops Field Day** in Hope, Arkansas. Contact: Sherri Pote, sblue@uaex.edu, or call 870-777-9702.
- **June 16-17: TriState Arkansas - Louisiana – Mississippi Pecan Convention** will be held in Alexandria, LA. at the Best Western Of Alexandria Inn & Suites & Conference Center, 2720 N MacArthur Dr, Alexandria, LA 71303; **Registration** ([Link](#)), **Program** ([Link](#)) (Contact: Stephen Norman, (318) 729-3173 or by email: pecans@rosaliepecans.com)
- **July 10-13: Texas Pecan Growers Association Conference & Trade Show** is in the Embassy Suites, San Marcos, TX (Contact TPGA at 979-846-3285 for more information)

In this Issue:

New Horticulture Specialists
Upcoming Events 1
Pecan 1
 • Pecan nut casebearer 1
Fruit 2
 • Spotted wing drosophila... 2
 • Broad mite 2
 • San Jose scale 3
 • Plum curculio 3
 • Grape scale 4
 • Grape berry moth 4
 • Grape phylloxera 4

Pecan

(Dr. Marvin Harris, Professor Emeritus, Entomology, Texas A&M
 Director Emeritus, Pecan ipmPIPE Beltwide Program)

- **Pecan nut casebearer (PNC):** Just a reminder that the PNC Beltwide Network has been operationally extended for the 2016 season thanks to the volunteer efforts of Andrew Birt. The PNC flight has been a little earlier than usual across the southwestern part of the range and the

pheromone traps have also been frequented in some locations by impostor moths, particularly the pecan budmoth, at some locations.

The potential nutset has also been judged to be high in some areas too, which suggests that even though the PNC catch may be robust, if a heavy nut set also occurs, the risk of economic loss may be small. Thus, checking egg/larval density during the Risk Window (Fig. 1) when making a spray/no spray decision may show that PNC damage risk is very low and that no spray is needed for PNC. This will conserve predators and parasites that will, among other things, delay/prevent blackmargined aphids from outbreaking later in the spring. If you wish to be part of the 2016 Beltwide PNC Network this year, the standard login online is ready for your participation (Link).



Figure 1. Pecan nut casebearer risk map: green triangles = moths were captured so be ready to check for eggs; yellow triangles = time to scout for eggs and make decision to apply insecticide when larvae hatch; and red dot says recommended spray period has passed.

Fruit

Dr. Donn T. Johnson - Fruit Research/Extension

Berries:

- **Spotted wing drosophila (SWD):** In April 2016, there were reports from South Carolina of SWD infesting strawberries. In Arkansas, the first two SWD males were captured in baited traps on May 4 in London, AR.

Scouting: Arkansas growers should be checking weekly for SWD flies (Fig. 2 A) in SWD traps set at fruit height along perimeter of strawberries, blueberries, blackberries and raspberries. Once fruit ripen, randomly collect 30 ripe fruit and check for presence of SWD eggs (Fig. 2 B) or larvae.

Control: Be ready to protect your berry crops from SWD by weekly recommended insecticide sprays that begin as fruit start to ripen and continue weekly sprays through harvest. The list of effective, conventional and OMRI approved organic insecticides has not changed since last year (Link).

- **Broad mite:** see discussion in previous issue (Link)

Correction: Agri-Mek SC only has a Canadian label for mites on caneberries. We are requesting a 2ee label for the United States for broad mites in caneberries.

Control: This season we are evaluating efficacy of predatory mites species and miticides to be applied twice (10 day interval) before broad mites reach 5 mites per leaflet (by late-May in 2015) (Fig. 8). We believe it will take two miticide applications: the 1st spray kills active mites present, but

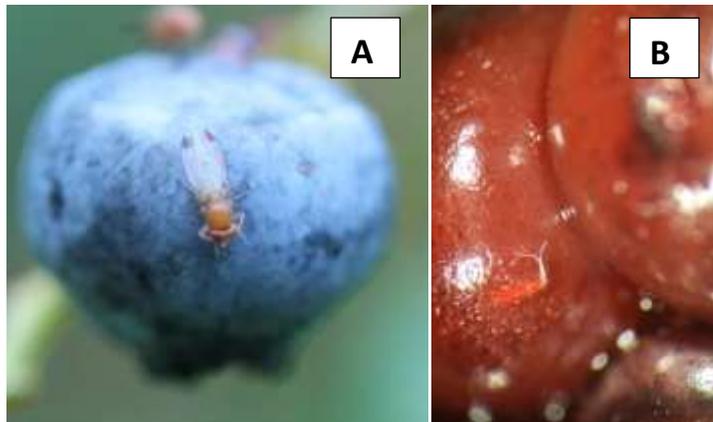


Figure 2. Spotted wing drosophila A) adult male on blueberry (Photo: T. Martinson, Cornell U.), and B) egg with stringy breathing tube on blackberry drupe (Photo: D. Johnson)

not all the eggs so the miticide is re-applied 10 days to control those mites that hatched after the 1st spray and before they lay eggs. Miticides reported to kill broad mite on brambles include: JMS Stylet oil; and Microthiol - micronized sulfur (caneberries not on label). Success requires applying miticide in more than 100 gallons water solution per acre to achieve good coverage on underside of leaves, especially on terminal leaves. **To prevent phytotoxicity: 1) do not apply sulfur spray within 21 days of oil; and 2) do not apply sulfur or oil if temperatures are expected to exceed 90°F so May applications are your only opportunity against this mite.**

Apple and Peach

- **San Jose scale (SJS):** *Did you see San Jose scale spots on your fruit last year?* Those infested trees can have even more scale injury this season if not managed.

Scouting: There are two ways to detect crawler emergence. Either wrap double sticky Scotch tape around scale-infested limbs and check twice weekly for crawlers on tapes (**Fig. 3 A**) or lift covers off adult scales to check for presence of crawlers (**Fig. 3 B**).

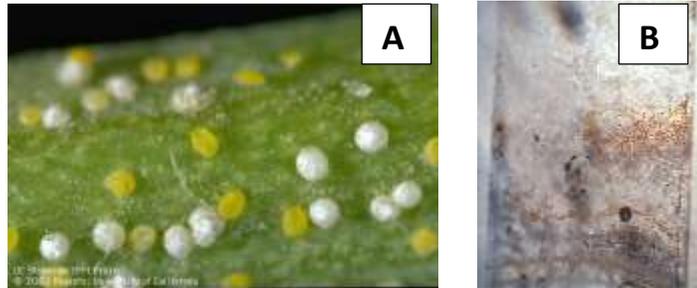


Figure 3. San Jose scale crawlers on A) sticky tape trap or B) on limb (Photos: UC-IPM; D. Johnson)

Crawler emergence lasts 2 to 3 weeks and probably began by 24 April in Hempstead and Faulkner Co. or will be as late as 15 May in Washington Co.

Control: If you see crawlers under scales or on tapes, you can apply an insecticide and re-apply in 10 to 14 days if crawlers still present (see spray guide recommendations).

- **Plum curculio (PC):** Most of the overwintering plum curculio adults have dispersed into fruit orchards by now and have been feeding on and laying eggs in fruit.

Scouting: You can still check fruit for new PC feeding and egg laying damage (**Fig. 4 AB**). Inspect 30 fruit per tree on at least 10 trees along the perimeter adjacent to woodlot where PC overwintered. Scrape off fuzz (peach) or fruit skin where PC has caused a feeding hole to see if there is an egg (new damage) (**Fig. 4 C**) or if larva has already tunneled into fruit (old damage, **Fig. 4D**).

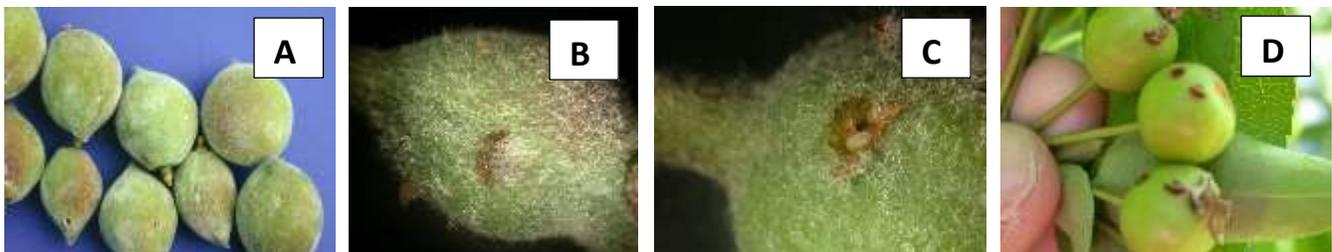


Figure 4. New plum curculio feeding damage and egg laying wounds on A) peach (white spots), B) apple (crescent shaped cut), C) egg under skin, and D) older damage on apple (Photos: D. Johnson)

Control: Apply insecticide if you continue to see new wounds on fruit with eggs present (see spray guide recommendations).

Grape

- **Grape Scale.** Grape scale crawlers could be emerging in the next week (**Fig. 5**).
Scouting: You should start checking weekly for presence of yellow crawlers either under scale covers or captured on double sticky Scotch tape traps wrapped around scale-infested cane (**Fig. 3 B**).
Control: Keep infested vines sprayed every 10 days with insecticide while crawlers are present in May (see spray guide recommendations).



Figure 5. Grape scale on cane

- **Grape berry moth (GBM):** This pest of grape has at least 3 generations per year and can enter and feed inside pea-sized or larger berries. First generation GBM hatch should be occurring from 4 to 25 May in Johnson Co. *You will not see much GBM larval entry into berries until grapes are nearly pea-sized.* The second and third generations will begin hatch by 11 June and 12 July according to the degree-day model ([Online model](#)).



Figure 6. New grape berry moth larval entry into grapes

Scouting: Pheromone traps at the Fruit Station in Clarksville caught the first GBM moth on 8 April. Begin checking weekly for presence of new GBM larvae when berries are pea-sized and larger. Weekly, look for new larval entry (**Fig. 6**) into berries by checking 10 clusters on each of 30 vines along wooded perimeter of vineyard.

Control: Apply an insecticide when you detect new larval entry into berries (see spray guide recommendations).

- **Grape phylloxera (GP):** Excessive leaf galling is caused by grape phylloxera (GP) on very susceptible cultivars) that results in leaf distortion, necrosis, premature defoliation, delays ripening, reduces crop quality, and predisposes susceptible cultivars vines to winter injury.

Susceptible Cultivars: Several grape hybrid cultivars from crosses of *V. vinifera* and various American *Vitis* species grown in the Ozarks are highly susceptible to leaf galling. To date, we have seen excessive leaf galling on: Cayuga White, Chambourcin, Chardonel, Norton/Cynthiana, Rougeon, Seyval, Vidal, Vidal Blanc, and Vignoles.

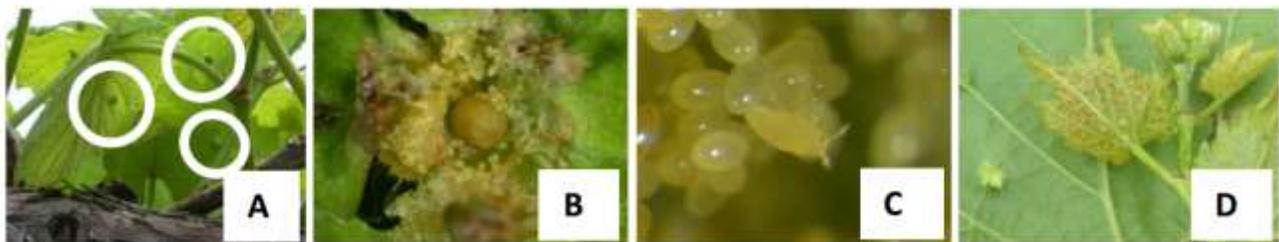


Figure 7. Grape phylloxera galls on A) first to third expanded leaves in early-April, B) gall interior with round amber-yellow female, oblong yellow eggs and a few yellow crawlers, C) six-legged yellow crawler with red eyes next to eggs, and D) rash-like, small immature galls on expanding terminal leaf (middle) compared to much larger mature gall to left on an older leaf (Photos: D. Johnson).

Biology: Early-April, overwintered eggs hatch into yellow, 6-legged crawlers with red eyes (**Fig. 7 C**). These crawlers move to the 1st to 3rd expanding leaf to feed and cause a gall to form (**Fig. 7 A**). The crawler molts to an adult that lays 100 or more eggs. First summer generation crawlers hatch near

grape bloom (May) (**Fig. 7 B, C**). Hundreds of these crawlers walk toward terminal tip to feed on upper surface of expanding leaves causing leaf to grow a gall around each crawler.

Scouting: Nearly similar to scale noted above, there are three ways to detect GP crawler emergence. In May, conduct weekly checks for presence of crawlers: 1) on double sticky Scotch tape traps wrapped around scale-infested shoots by the most recent expanded terminal leaf (**Fig. 3 A**); or 2) inside opened mature galls on older leaves (**Fig. 7 A, B**); or 3) rash-like appearance of expanding terminal leaves indicating new galls are forming around crawlers feeding on upper surface (**Fig. 7 D**).

Control: It is important to apply a recommended insecticide to protect expanding foliage during the first summer generation crawler emergence period in May while crawlers are moving to leaves and before leaf closes a gall around feeding crawler (still can be exposed to insecticide).

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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