



Arkansas Fruit and Nut News Volume 2, Issue 1, 3 May 2012

Online Fruit Information

Dr. Donn T. Johnson - Fruit Research/Extension

- [Arkansas Fruit Pest Management](#)
- [Scouting Supplies](#)
- [Management and Spray Guidelines](#)
- [Fruit Spray Efficacy Tables](#)
- [IRAC Group # or Mode of Action](#)
- [Pesticide Efficacy Tables:](#)
 - ✓ Apple Insecticide Efficacy: [P. 22](#)
 - ✓ Blueberry insecticide efficacy: [P. 32-33](#)
 - ✓ Grape Fungicides & Insecticides: [P. 22](#)
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The Midwest Winegrower 2012 Summer Edition (PDF)

(A semiannual publication of the grape and wine program at the University of Missouri)

Contents:

- Directors Message from our interim director (Ingolf Gruen)
- Introducing and welcoming new faculty & staff
- French or American? discerning barrel differences
- Integrated Disease Control developing a program for your vineyard (Andy Allen)
- Early Season Pests what to watch for (Donn Johnson)

Pesticide Phase Outs

- [2012 fruit insecticide registration update](#) (Posted on April 10, 2012 by John Wise, Rufus Isaacs and Larry Gut, Michigan State University Extension, Department of Entomology)
 - **Guthion** (azinphos-methyl) is no longer labeled for use on peaches, nectarines, plums, caneberries, and cranberries. 2012 is the final year of the EPA Phaseout of Guthion for apples, pears, cherries, and blueberries. The maximum yearly amount of Guthion 50 WP to be applied has been reduced to 3 pounds on apples, 3 pounds on pears, 1.5 pounds on blueberries, and 1.5 pounds on cherries. The pre-harvest interval (PHI) for apple and

pear use is 14 days, with a 21-day PHI if the last application is greater than 2 pounds of Guthion 50 WP per acre.

- **Endosulfan phaseout.** EPA is taking action to end the use of the pesticide endosulfan. A formal Memorandum of Agreement with manufacturers of the agricultural insecticide will result in cancellation and phaseout of all existing endosulfan uses in the United States. A phaseout plan has been developed to allow growers time to develop and test alternative pest management tactics for the pests that endosulfan currently controls.

Last grower use	Crops
July 31, 2012	Apricots, plums, annual strawberries, tart cherries
July 31, 2012	Nectarines, peaches and sweet cherries
July 31, 2013	Pears
July 31, 2015	Apples, blueberries
July 31, 2016	Perennial/biennial strawberries

Degree Day Calculators for Fruit and Pecan Pest Predictions

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[Fruit and Pecan Degree Day Accumulation Data and Information](#) – If you set out pheromone traps, and have identified the pest specific biofix (date when pheromone or a lure baited traps began to continuously capture insects), you can use your own county specific biofix dates to calculate cumulate degree days (DD) for pests of fruit including: codling moth; grape berry moth; grape phylloxera; grape scale, Oriental fruit moth; plum curculio; San Jose scale; and the pecan nut casebearer. This calculator will help growers predict the date when pest larvae or crawlers begin to hatch (noted in the output of the calculator) so you can begin to look for evidence of damage and make a timely application of an insecticide spray against a specific fruit pest. Click below one of these DD calculators online at:

- [Pecan Nut Casebearer Decision Window Risk Map - Pecan PIPE](#)
- [Pecan Nut Casebearer Decision Window Risk Map - Make Your Own Forecast](#)
- [Fruit Insect Pests – Calculate Accumulated Degree Days \(DD\) and Make Decision](#)

Pecan Pest

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Pecan Nut Casebearers (PNC)



Figure 1. Pecan nut case bearer adult (left), trap, and arrows point to eggs on nut (right) (Oklahoma Coop, Ext. Service EPP-7189)

Biology: First generation larvae feed inside small nutlets from April to June and cause the most damage.

Scout: The first week after first trap catch in late-April or early-May, check 300 clusters for PNC eggs. Flag egg-infested nuts and check daily for egg hatch.

Control: If you count more than two egg-infested clusters per 300 clusters inspected, apply insecticides within 2 to 3 days after the first egg hatch to prevent nut entry. You can also go online to check you the Decision Window Risk Map which alerts you when to check egg-infested clusters for hatch in order to improve timing of sprays:

- [Pecan Nut Casebearer Decision Window Risk Map - Pecan PIPE](#)

Fruit Pests

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Rednecked Cane Borer



Figure 2. Rednecked cane borer adult (Photo: D. Johnson)

Biology: The rednecked cane borer adults emerge and lay eggs in canes of primocanes from late-April to mid-June.

Scouting: Now is the time to walk your bramble plantings during the late morning and afternoon in search of adults on primocane leaves. We captured adult rednecked cane borer beetles on green sticky traps in Clarksville on 26

April and in Fayetteville on 3 May.

Control: Now is the time to apply soil drenches of recommended insecticide to kill newly emerged larvae.

Flatheaded Apple Tree Borer

(Noel Troxclair: http://insects.tamu.edu/extension/publications/epubs/eee_00027.cfm)

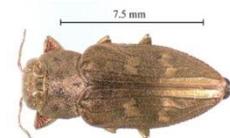


Figure 3. Flatheaded apple tree borer (Photo: TAMU)

Adult beetles were captured in traps in Clarksville (26 April) and Fayetteville (May 3).

Identification: The adult is about 1/2-3/4" long, has short antennae, large conspicuous eyes, and a noticeable tooth on the forelegs. The legless larva is cream-white with a flattened head.

Biology: Adults are expected to emerge over 3 week period from late April to late-May, mate and lay eggs for approximately one month. The eggs are attached firmly to the bark surface and hatch in 15 to 20 days.

Host: The flatheaded larva attacks canes or trunks of apples and blueberry damaged by drought, disease, and sunscald.

Traps: Adults can be captured on 1' wide sticky band traps wrapped around trunk at 1' height.



Figure 4. Larva (Photo: Cornell)

Management:

Plant Health: The best defense against flatheaded apple tree borers is to keep the fruit plants healthy and prevent wounds, sun scald, or drought stress.

Tree wound dressing: A method for protecting wounds or cuts is to cover the exposed surfaces with one of the contact insecticides and then with a tree wound dressing.

Mass Trap: Large numbers of flatheaded apple tree borer adults can be trapped out by placing newly cut posts or felled logs of almost any kind in the orchard, either driven in upright or simply lying on the ground and exposed to the sun. These can be coated with tanglefoot to

catch the beetles, or else left uncoated until the egg-laying period is past, and then removed to another site and burned.

Insecticide: Now is the time to apply a recommended insecticide to trunks of susceptible fruit plants or apply an alkaline mixture of insecticidal soap plus caustic potash (lye) mixed to the consistency of thick paint. These treatments should be applied every 2 - 4 weeks. Insecticides may be used to kill the beetles before they lay their eggs but they will not control the larvae once they are tunneling under the bark.

San Jose scale:

Biology: Yellow scale crawlers were first captured on these tape traps in Fayetteville between 26 April and 3 May.

Trap: Double sticky tape traps should be wrapped around scale-infested limbs by mid-April to capture yellow crawlers.

Scout: Late-April and May is the time to conduct weekly inspections of tape traps or look under scale covers on your trees for yellow crawlers.

Control: It is recommended to keep a residual coverage of insecticide on infested plants to kill crawlers during the 3 week emergence period.



Figure 5. Sticky tape trap (top) and yellow San Jose scale crawlers on tape trap (right) (Photo: D. Johnson)

Codling Moth and Oriental Fruit Moth:



Figure 6. Codling moth adult (Photo: D. Johnson)

Biology: Larvae of codling moth should begin to hatch this week and begin to chew into apples. The oriental fruit moth larvae will begin to hatch this week and enter apples and stone fruits.

Scout: Now is the time to look for the first signs of larval entry into fruit – usually small hole with frass at surface.

Control: It is recommended to keep residual coverage of insecticide to kill hatching larvae during a 3 week emergence period in May.

Grape Phylloxera

Damage: On very susceptible cultivars (see list below), excessive leaf galling caused by grape phylloxera (GP) eventually causes 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.

Biology: In late March (this year) and typically early April, overwintered eggs hatch into yellow, 6-legged crawlers with red eyes (Fig. 3 C). These crawlers move to the 1st to 3rd expanding leaf to feed and cause a gall to form (Fig. 3 A). The crawler matures into an adult that lays 100 or more eggs that emerge as crawlers near grape bloom (late-April and May) (Fig. 3 B,C).

Hundreds of crawlers walk out shoot terminals to feed on expanding leaves to cause numerous galls to form. It is this group of crawlers that you time insecticide sprays against to prevent excessive leaf galling.

Monitoring: In mid to late April, begin twice weekly opening of galls on 1st to 3rd expanded leaves near base of shoots. Use a 10 magnification hand lens to look for presence of walking yellow crawlers (Fig. 3 C). You can also look at expanding terminal leaves for a rash-like appearance indicating new gall formation. This is the time to apply insecticide because galls have not closed over the crawler so crawler is exposed to insecticide.

Control: It is important to apply insecticide to protect foliage during the second generation crawler emergence period as they walk out shoots to expanding terminal leaves and begin to feed on top side of leaf. Near bloom, the crawlers will emerge and can be killed by a well-timed spray of one of the insecticide sprays recommended in spray guides. *Beware* - Endosulfan insecticide controls foliar GP but it is phytotoxic to several grape GP-susceptible cultivars (read EPA insecticide labels).

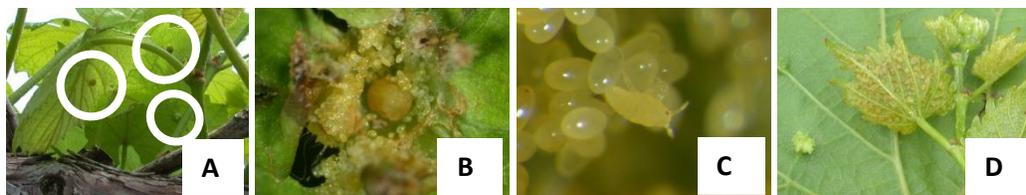


Fig. 3 (A) Grape phylloxera galls on first to third expanded leaves in April, **(B)** gall interior with round female, oblong eggs and a few crawlers, **(C)** six-legged yellow crawler with red eyes next to eggs, and **(D)** rash-like, small immature galls on expanding terminal leaf (middle) compared to much larger mature gall on older leaf (left)

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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.