



**Arkansas Fruit and Nut News** Volume 2, Issue 2, 18 May 2012

**Events**

*Dr. Donn T. Johnson - Fruit Research/Extension*

**May 23**

**Horticulture Field Day**

8 a.m. to 2:30 p.m.

**Southwest Research and Extension Center**

362 Highway 174 North

Hope, AR 71801

Hope, AR.

Cost is \$15 per person in advance or \$17 per person at the door. To see program brochure click [here](#)

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**Events Listed in**

*The Midwest Winegrower 2012 Summer Edition* click [here](#)

**May 31**

**Basic Concepts in Winemaking**  
**University of Missouri**

**June 12th - 14th**

**Missouri Wine School**  
**University of Missouri**

**June 5th**

**Viticulture Field Day**  
**University of Missouri**  
**Columbia, MO**

**July 31st - August 2nd**

**Governor's Cup**  
**Missouri Wine Competition**

## Diagnostic Tool for Berry Crops

As a reminder to berry growers, Cornell University has a **diagnostic tool for berry crops**, click [here](#) (Source: MSU Fruit News, May 15, 2012) or click on specific crops:

[Blackberry](#); [Blueberry](#); [Raspberry](#); [Strawberry](#)

## Tarnished Plant Bug in Strawberries

*Donn Johnson, University of Arkansas*



Figure 1. Tarnished plant bug adult (Photo: R. Bessin, UKY)

Strawberry plantings in eastern Arkansas suffered considerable fruit deformation by tarnished plant bugs (TPB) this spring. Some growers did not achieve satisfactory control of tarnished plant bug using either insecticide bifenthrin or Danitol (fenprothrin). Extension specialists in the Southeast Region indicate Rimon (Novaluron) should be effective when applied when adults are in the field and just prior to egg hatch when counts exceed 4 nymphs per flower cluster.

See comments by two other fruit entomologists concerning tarnished plant bug and article below by Schloemann:

Dr. Rufus Isaacs (Michigan State University) said, *“We also have had some reports of growers getting poor TPB control and high levels of catfacing in some fields. ...Our standard recommendations are Thiodan or Danitol immediately pre-bloom, .... I also heard about Rimon and plant bugs in California from Mark Bolda this winter and he also emphasized the need for application early, so that molting could be disrupted.”*

Dr. Greg Loeb (Cornell University) said, *“Definitely seeing TPB nymphs (1st instar) but I expect to see a new group of nymphs in the next week. In NY the principal chemical control is either malathion or bifenthrin. Our recommendation is to sample for nymphs starting at bloom and treat when you exceed 0.5 nymphs per inflorescence. Early varieties often make it through without need to treat but this year may be more problematic (I am predicting larger than normal overwintering success due to mild winter).”*

## Tarnished Plant Bug

*Sonia Schloemann, UMass Extension, Berry Notes May 2012 Vol. 24, No. 5, funded in part by UMass Extension Agriculture & Landscape Program. Click [here](#)*

This pest causes “cat faced” or “button berries” in strawberries and misshapen fruit in raspberries. Tarnished plant bug adults and nymphs cause damage to the fruit but nymphs are more abundant so are of greater concern. Nymphs are yellow/tan to light green, have long antennae, look a bit like aphids but unlike aphids they move very fast when disturbed. Scouting for nymphs in strawberry by striking the plant over a white colored dish or piece of paper as this will knock the nymphs free from plants. Immature TPB (nymphs) are sampled by shaking

flower trusses over a flat white surface. Thirty flower clusters should be sampled evenly from across the field (typically 6 clusters at 5 locations or 5 clusters at 6 locations). If 4 or more flower clusters are infested with nymphs (regardless of how many) a spray is recommended. A follow-up spray application may be made after bloom if TPB are still present in high numbers (check harvest interval before selecting material). If the threshold is exceeded, consider treating with one of the labeled materials below. **DO NOT SPRAY INSECTICIDES DURING BLOOM.**

Click [here](#) for fact sheet and excellent images of tarnished plant bug from Ontario.

### **Conventional**

(\* restricted use material)

Assail SG acetamiprid @ 4.0-6.9 oz/A

\*Brigade WSB bifenthrin @ 16-32 oz/A

\*Danitol EC fenpropathrin @ 10-2/3 fl oz/A

Malathion 57 EC malathion @ 1.5-3.0 pt/A

\*Dibrom 8EC naled @ 1 pt/A

Pyrenone crop spray 0.5EC pyrethrin @ 2-12  
oz/A

\*Actara thiamethoxam @ 4 oz/A (suppression  
only)

### **Organic**

Mycotrol O *Beauveria bassiana* strain GHA @  
0.25-1 qt/A

PyGanic 1.4 ECII pyrethrin @ 16-64 fl. oz/A

PyGanic 5.0 ECII pyrethrin @ 4.5-18.0 fl. oz/A

No product endorsement over like products  
intended. Always read the label prior to  
use.

## **Strawberry Clipper Damage – Does It Affect Yield?**

*Rufus Isaacs, Michigan State University Extension, Berry Notes May 2012 Vol. 24, No. 5 edited by Sonia Schloemann, funded in part by UMass Extension Agriculture & Landscape Program. Click [here](#)*

There have been some reports this spring (*in Michigan*) of some intense feeding damage by strawberry clipper, *Anthonomus signatus*, in some strawberry fields. This small, reddish-brown weevil spends the winter in the leaf litter and tends to be most active in fields next to woods or other unmanaged areas. This pest seems to have survived the last winter well in some farms, and has moved into crop fields during the early growth. While the time for management of this pest is generally past for this season, it is important for growers to know about this pest and some important research from Cornell University about how plants can respond to clipper feeding.

For more on the identification of this pest and its damage, read Cornell Cooperative Extension's Small Fruit Crops: *Strawberry Bud Weevil (Clipper)*, click [here](#).

The Cornell University research by Marvin Pritts, Greg Loeb and Joe Kovach showed that many cultivars can tolerate clipping damage by this pest, and these can respond to the feeding activity by making the remaining secondary and tertiary fruit larger. This response then results in little economic effect on many of the tolerant cultivars such as Jewel and Kent. A summary of the Cornell study can be read at *Is Strawberry Clipper (Anthonomus signatus) an Economically Important Pest?* Click [here](#).

## Pecan Nut Casebearer Decision Windows

*Dr. Donn T. Johnson - Fruit Research/Extension*

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

The map below indicates that on 24 May 2012 the green triangles near Little Rock area will change to yellow triangles indicating the management decision window will open. At that time, check daily for eggs on nutlets and for egg hatch. If eggs are found and begin to hatch, then apply insecticide to pecan trees. The yellow triangle for this location will change to a red circle when the Decision Window closes indicating the end of the spray period.



Figure 2. Pecan nut casebearer (PNC) risk map: green triangles in Arkansas near Little Rock indicate that on 24 May the yellow decision window will open (see yellow triangle near Tulsa). At that time, begin checking for presence of PNC eggs and spray insecticide when you see first hatch.



Figure 3. Pecan nut casebearer moth (left), pheromone trap (middle) and egg on nutlet (2 right pictures)

## Fruit Insects

Dr. Donn T. Johnson - Fruit Research/Extension



Figure 4. Green apple aphids on apple terminals (left), new codling moth larval entry and frass on apple (middle) and codling moth larva inside apple (right) (Photo: D. Johnson)



Figure 5. Plum curculio feeding scar and egg on apple (2 left), legless larva in blueberry and external feeding scar on blueberry (2 right) (Photo: D. Johnson)

- ❖ **Green Apple Aphid** – aphids are starting to appear on apple terminal leaves (Fig. 4).
  - **Aphid Monitoring:** Inspect ten terminals on each of 10 apple trees (100 terminals) for presence of green apple aphids. Treatment may be warranted if 60% or more of the tree's terminals are infested. Spring treatments may also be necessary for young trees with severe infestations.
- ❖ **Many of the fruit insects are completing their first generation.** Now is a good time to inspect 200 apple or stone fruits in perimeter trees (10 fruit/tree) to estimate percent external and internal (worms) damage by:
  - **Codling moth or Oriental fruit moth** – check for entry sting and frass on fruit (Fig. 4) (may need to spray if very tiny larva inside sting) and cut open fruit to check for legged worm (Fig. 4);
  - **Plum curculio (PC)** – check outside of fruit for new feeding or egg laying damage (may need to spray) or cut open fruit to check for legless larvae (Fig. 5). The second generation adult plum curculio are predicted to begin feeding and laying eggs by the first week of June;
  - **Stink bug** - feeding punctures of fruit causes catfacing before pit hardening or after pit hardening the feeding puncture hole oozes a thread of gel.
- ❖ **Plum curculio in Blueberry** - In 2011, some blueberry growers detected second generation plum curculio larva inside berries in June. Begin weekly inspections for external feeding scar (crescent-shaped) and then check inside for first tiny legless worm (Fig. 5).

- ❖ **Time to set out the greater peachtree borer pheromone traps** – the moths have started flying at the Fruit Station in Clarksville and SW Research Station in Hope. Typically stone fruit trunks are treated with a drench of insecticide in early to mid-June.



Figure 6. Grape berry moth larval entry hole and tunneling in grape berries (Photo: D. Johnson)

- ❖ **Time to move grape berry moth pheromone traps** from wooded edge to 100 ft into the vineyard interior.
- ❖ If berries are pea-size or larger you can check clusters in perimeter row by woods weekly for larvae entering fruit (Fig. 6).
  - First generation hatch in May - At first sign of larval entry you can apply spray to perimeter row for control.
  - Second generation hatch in mid to late-June - You can sample the same way but spray the whole vineyard when you see > 1% new larval entry into berries.
- ❖ **San Jose scale (SJS)** male was captured in a pheromone trap on 12 April (biofix date) in SW Research Center in Hope. SJS crawlers may be emerging by 6 May (400 degree-days accumulated since biofix) and continue to emerge for about 3 weeks (spray during this protection period).

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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.