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African Fig Fly: Another Invasive Drosophilid Fly Discovered in PA

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Source: Penn State Extension Tree Fruit Production, November 16, 2012, <http://extension.psu.edu/fruit-production/news/2012>



A. Spotted Wing Drosophila (SWD) male in comparison with the African Fig Fly (AFF).
B. African Fig Fly (AFF) and its black-bordered, white "racing stripes".

Zaprionus indianus Gupta (Diptera: Drosophilidae), commonly known in Brazil as the African Fig Fly (AFF), is an invasive species recently found in Pennsylvania for the first time. First discovered by the Pennsylvania Department of Agriculture in early October in Grape and Tomato Pest Survey traps, it was found immediately after by Dr. David Biddinger at the Penn State Fruit Research and Extension Center in Biglerville. Adult flies were found in apple cider vinegar traps used for the seasonal monitoring of Spotted Wing Drosophila (SWD), another recently introduced invasive pest of small fruit crops in Pennsylvania that Dr. Biddinger first detected in Pennsylvania and Maryland in July of 2012.

Reviewing SWD samples from 2011, Dr. Biddinger also found it had been present in Adams County in the fall of 2011, so it has been here for at least two seasons. For what is considered to be a tropical pest, this is important because they not only survived the extremely mild winter of 2011-12, but

also the more typical previous winter. Of note, however, is that while SWD trap catches have greatly increased in the last two weeks despite heavy frosts, the same vinegar traps are no longer catching AFF. AFF is now recorded from Adams, York, Dauphin, and Clearfield counties according to the Pennsylvania Department of Agriculture.

Z. indianus adults are easily distinguished from all other fruit flies in our region because of a pair of silvery-white stripes from antennae to thorax tip that are outlined along both sides by black stripes. A humorous nick-name given to the fly by PDA has been the "Speed Racer Fly" since it has prominent "racing stripes." Adults of this species are slightly larger in size than the Spotted Wing Drosophila and the background color of the body is lighter than most other drosophilid flies we commonly find in our SWD vinegar monitoring traps.

Native to Africa, the Middle East, and Eurasia, it is now found in much of South and Central America where it is mainly a pest of figs. It was first found in Florida in 2005, where it quickly spread and out-competed other fruit flies. New records were found for Michigan, North Carolina and Connecticut in September of this year and it appears to be spreading

throughout the South as far west as Texas. *Z. indianus* is considered as a generalist insect feeding on various tropical fruits, but it has potential to damage small fruits (cherries, blueberries, blackberries, strawberries, and raspberries). In Pennsylvania, so far it has been found later in the season and mostly in grapes, but has also been found in SWD monitoring traps in cherry, raspberry and blackberry plantings. Its presence and damage potential in grapes and other crops is under investigation by Dr. Biddinger's lab and Penn State small fruit specialist, Kathy Demchak

Since it does not have a large, sharp ovipositor like SWD females, AFF appears to only attack damaged and over-ripe fruit and the harsher winters of Pennsylvania may prevent it from establishing as aggressively here as it did in Florida. Indeed, so far numbers of adults collected in vinegar traps have been only a fraction the number of SWD collected. An exception, however, has been from net collected samples in a grape vineyard where numbers of AFF greatly outnumbered SWD. While it appears from our samples that grape is not a preferred host of SWD, it may be that grape is preferred by this new fruit fly. There is also concern in the South that it will become a pest of blueberries.

Submitted by David Schmitt, Program Associate, Tree Fruit IPM.

Cultural Control of Apple Scab This Fall

Win Cowgill, County Agricultural Agent

For growers that have had trouble with apple scab there are two things that you can do now to prevent disease pressure next spring: mowing and spraying urea on the ground on the falling leaves. Two fact sheets from UMASS and MSU outline the details (for complete details and more information review both fact sheets):

<http://www.umass.edu/fruitadvisor/factsheets/f134.html>

http://www.news.msue.msu.edu/news/article/reduction_of_overwintering_inoculum_in_orchards_with_apple_scab1

Dan Cooley, UMASS notes "In a commercial orchard, virtually all of the spores that can start an apple scab epidemic come from within the orchard. Scab spores don't travel very far, generally no more than 100 ft. Add to this the fact that early in the season, from green tip to tight cluster, only a very small proportion of the scab inoculum matures and is available to cause infection. This means the risk of scab infection early in the season can be greatly decreased by reducing or eliminating any old infections in apple leaves on the orchard floor.

Research in New England has shown that either flail chopping or urea applications will reduce apple scab inoculum. In addition, in very low inoculum orchards, it is possible to delay the first scab fungicide applications as late as pink, or until after three infection periods have occurred (whichever comes first). In this fact sheet, we present methods describing how to do both things: reduce the amount of scab inoculum in an apple block; and measure the inoculum in a block in order to decide whether the first scab fungicide may be delayed."

The following is from the UMASS fact sheet:

Inoculum Reduction

Regardless of the scab management program used in an orchard, we recommend reducing apple leaf litter and the scab inoculum it contains. It is a relatively inexpensive and reliable method that decreases the risk of apple scab.

Shredding leaves. Shredding all leaves on the orchard floor in November or April reduces the number of scab spores by about 85%. If the strip under trees cannot be reached with shredding equipment, then flail chopping the remaining area between trees will reduce scab spores by about 50%. Small leaf pieces break down quicker, and are more readily consumed by earthworms. If shredding is done in April, it will flip leaves and leaf pieces over. The scab fungus has already started to grow by the spring, and forms fruiting structures that will release spores up and into the air. Flail chopping flips probably about half the leaves or pieces over, and spores formed in those pieces of leaves cannot release into the air.

Rutgers Faculty Headline Mid Atlantic Fruit and Vegetable Convention

Jerome L. Frecon, Agricultural Agent



Dr. Dan Ward, Specialist in Pomology and Viticulture, Rutgers

For the first time in many years the Mid Atlantic Fruit and Vegetable Convention (MAFVC) and Trade Show will be staged prior to the Atlantic Coast Agriculture Convention and Trade Show in Atlantic City. The 2013 MAFVC convention will again kick off on January 29, 2013 at the Hershey Lodge and Convention Center in Hershey, PA. Many Rutgers faculty will be participating since the conference and trade show is jointly sponsored by The New Jersey State Horticultural Society, SHAP, PVGA, and MHS in cooperation with Rutgers Cooperative Extension.

Dr. Dan Ward, Rutgers University, New Jersey Agricultural Experiment Station (NJAES), Cooperative Extension will be featured in the wine grape session on Wednesday, January 30, 2013. At 10:45 a.m. he will present *The relationship between climate and the quality of cabernet sauvignon from 1976 to 2011* and at 3:00 p.m. **Captan with an emulsifiable concentrate causes phytotoxicity on many grape varieties.*

Win Cowgill, Rutgers NJAES, Cooperative Extension will lead a discussion of the *Favorite Sweet Cherry Varieties* on Wednesday Morning January 30th at 9:00 am in the tree fruit session with growers Gary Mount, NJ, Evan Milburn, MD, Justin Weaver, PA, and Tom Haas, PA.

At the same time in the National Peach Council Session at 9:30, Jerry Frecon, Rutgers Professor Emeritus will present the *Ernest Christ Lecture: A Look at the Past and the Future of Peach Varieties*. Mr. Frecon will also present *Plum and Stone Fruit Hybrids* at 3:00 p.m. in the afternoon at the Peach Council Session.

Dr. Anne Neilson Rutgers NJAES, Cooperative Extension will present *Using a Phenological Model and Border Sprays for Brown Marmorated Stink Bug* at 10:30 a.m. at the National Peach Council Session on Wednesday January 30.



Left to Right: Randy & Annette Borje of Coloma, MI, Wallace Hueser, Summit Sales and Jerry Frecon discuss peach varieties in Michigan. The Borje's are the developers of the Stellar peach varieties while Mr Heuser is an exhibitor at the MAFVC trade show.



Dr. Norman Lalancette, Specialist in Tree Fruit Pathology

Dr. Norm Lalancette, Specialist in Tree Fruit Pathology, Rutgers NJAES, Cooperative Extension will also present two lectures. Dr. Lalancette will present *Late Season Fruit Rots on Peach* at 9:00 a.m. on Wednesday, January 30 and *Peach Rusty Spot Management* at 3:00 p.m. in the National Peach Council Session.

Invasive Insects on fruit are a big problem for growers and topic of discussion at the MAFVC. Dean Polk, Rutgers NJAES, Cooperative Extension will be part of this discussion with other world authorities. He will present his ideas on *Management Strategies for Brown Marmorated Stinkbug* on Thursday Afternoon January 31 at 1:30 pm.

On Wednesday afternoon January 30, 2013 at 2:15 in the Spanish session, Dr. Cesar Rodriguez-Saona, Rutgers NJAES and Dr. Carlos Garcia-Salazar, Michigan State University (co-author) will present *Manejo Integrado de las Principales Plagas de Insectos del Arándano* (Integrated Management for Major Insect Pests of Blueberries). Dr. Rodriguez-Saona will also present in the Small Fruit Session at 3:45 p.m., *Integrated Management of Major Pests of Blueberries*. Peter Nitzsche, Rutgers NJAES, Cooperative Extension will also discuss *New Strawberry Varieties* at 3:30 p.m. in the same session.

Other faculty from Rutgers are presenting in the vegetable sessions at Hershey are Dr. Brad Majek, Specialist in Weed Science and Dr. Mel Henninger, Professor Emeritus.

A copy of the full program with many sessions is available by going to the web site at www.mafvc.org. Registration information is available for NJ attendees on this site. If you do not use the internet, information is available by contacting Jerome L. Frecon at frecon@aesop.rutgers.edu or Dean Polk polk@aesop.rutgers.edu or by calling 856-307-6450, ext. 1 or 856-207-7123.

Mid Atlantic Fruit and Vegetable Convention and Trade Show

2013 Wine Grape Program

Wednesday January 30, 2013



- 9:00 *Challenges of Disease Management on Wine Grapes in the Mid-Atlantic by *Dr. Noemi Halbrecht, Penn State University*
- 9:45 What you need to Know to Start A Winery by *Mr. Bob Green, Harrisburg Area Community College*
- 10:30 Show & Tell by *Industry Representatives from Trade Show*
- 10:45 The Relationship Between Climate and the Quality of Cabernet Sauvignon from 1976 to 2011 by *Dr. Dan Ward, Rutgers University, New Jersey Agricultural Experiment Station, Cooperative Extension.*
- 11:15 *Phenology-Based Degree Day Model for Grape Berry Moth Management by *Dr. Mike Saunders, Penn State University*
- 12:00 Lunch
- 1:30 Crop Insurance for Wine Grapes by *Dr. Jay Harper Penn State University*
- 2:00 **Vineyard Sprayer Calibration by *Mr. George Hamilton, Univ New Hampshire*
- 2:45 Show & Tell - *Industry Representatives from Trade Show*
- 3:00 *Captan with an emulsifiable concentrate causes phytotoxicity on many grape varieties by *Dr. Dan Ward, Rutgers Univ, NJAES, Cooperative Extension.*
- 3:30 The Nature of Frost and What You Can Do About It by *Dr. Rob Crassweller, Penn State University*
- 3:45 Observations on 2012 Vintage by *Ms. Denise Gardner, Penn State University*
- 4:15 Adjourn and Annual Business Meeting of the New Jersey State Horticultural Society

7th Annual Mid-Atlantic Fresh Apple Cider Contest

The annual Mid-Atlantic Fresh Apple Cider Contest will be held during the Mid-Atlantic Fruit and Vegetable Convention in Hershey, PA on Tuesday, January 29 at 10:00 AM.

Who is Eligible: Any **commercial** fruit or vegetable grower whose operation is in Pennsylvania, Delaware, Maryland, New Jersey, West Virginia, or Virginia.

What To Submit:

1. One gallon of your best cider in **plain unmarked** containers. If your container has a preprinted label it will not be placed in the competition.
2. Turn in the blend details on the entry form or on a separate sheet with your name and mailing address (we will not reveal the percentages but just want to know what cultivars are in the mix). The purpose of the email is to be able to notify you about next year's contest.
3. Only **one** submission per farm. Deadline for entries will be **Tuesday, January 29 at 10:00 AM.**

How the Cider Will Be Judged:

1. A number will be assigned to each entry, marked on the jug and recorded in a judging book.
2. A panel of judges will sample and evaluate the cider.
3. Ciders will then be placed on a table in the lobby of the Convention Center so that other people may taste them.
4. The top three rated ciders will receive certificates. In addition, the top-rated cider will be awarded one free registration to the 2014 Mid-Atlantic Fruit and Vegetable Convention.
5. Judging will begin Tuesday at 10:30 AM and the ciders will be available through Tuesday evening for sampling.
6. The winners will be announced Tuesday evening at the banquet.

Plant & Pest Advisory

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

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