



Newsletter

Extension

Fruit ICM News

Volume 7, No. 25

July 2, 2003

In This Issue:

[Calendar](#)

["Cat-Facing" Injury on Peaches](#)

[Black Hunter Thrips](#)

[Banded Thrips](#)

[Pledge of Allegiance](#)

[Degree Day Accumulations](#)

[Pest Phenology](#)

[Fruit Observations & Trap Reports](#)

[Preliminary Ohio Climatological Data For June](#)

Calendar

July 6-8: International Dwarf Fruit Tree Association Summer Tour, Kelowna, BC, Canada; Charles Ax, International Dwarf Fruit Tree Association; 570-837-1551; Web site: <http://www.idfta.org>.

August 4-5: HACCP (Hazard Analysis Critical Control Point) Workshop for Apple Cider & Juice:

The Penn State University Department of Food Science will hold a 2-day workshop on the principles of Hazard Analysis Critical Control Point (HACCP) for juice and cider processors. All fresh juice and cider makers who sell any or all of their product to another business (retail store, distributor, or as a custom pressing operation) are required to develop and implement an HACCP plan by January 20, 2004. The FDA has ruled that persons who produce cider and sell exclusively to individual customers in their own retail operation (i.e. roadside stand or farmer's market) are exempt from the regulation.

This workshop, to be held on August 4-5, 2003 at the Berks County Agricultural Center in Leesport, Pennsylvania will help you to understand HACCP principles and write a HACCP plan. The cost for the two-day program is \$95 for PA residents (\$190 out of state) and includes lunch on Monday and Tuesday, refreshment breaks, a copy of the National Center for Food Safety and Technology *Juice HACCP Training Curriculum* (300 pages), presentation handouts, reference materials, and a copy of *The Employee's Guide to Food Safety* by J.J. Keller & Associates.

Please register by July 21, 2003. Contact Dr. Luke LaBorde at 814-863-2298 or lf15@psu.edu to determine if the regulation applies to you and for workshop content and registration information. *Source: Luke F. LaBorde, Assistant Professor of Food Science, PSU*

"Cat-Facing" Injury on Peaches

Source: Roy W. Rings, Ohio Farm and Home Research, 1955, Volume 40, pp 28-30

Note: This article applies to all peach growers, but if you are using mating disruption to control Oriental fruit moth, don't forget to protect the peach fruit from cat-facing damage.

Tarnished plant bugs and several species of stink bugs have been causing mild to severe injury to Ohio Peaches for many years. The significance of such injury has not been recognized until recently because of the much greater damage caused by the plum curculio, oriental fruit moth, and orchard mites.

One of the most common and easily recognized types of injury is represented by the dimpled or deformed appearance of injured fruit, which is usually referred to as "cat-facing." Experiments conducted at Wooster in the 1950's have shown that typical cat-facing may be produced by the tarnished plant bug, the green stink bug, the one-spot stink bug, the dusky stink bug, the northern brown stink bug, the clover stink bug, and two other stink bugs of minor importance. All of these insects are true bugs with sucking mouthparts and may be conveniently referred to as "cat-facing insects," since they cause deformities in the fruit.

Because feeding habits are alike, it is impossible to distinguish the injury caused by the different species. When these sucking bugs feed upon fruit or foliage, they introduce a salivary enzyme which breaks down the cellular tissue; then they extract the dissolved food material. Although the healthy tissue surrounding the injured area grows at a normal rate, a scar is formed over the damaged area and normal development is slowed down at this point. When this occurs on peaches early in the season, the result is a cat-faced or deformed fruit.

Feeding on the surface of the fruit by plum curculio sometimes results in a mild form of cat-facing, and for this reason the term "cat-facing insects" includes not only the sucking bugs but also the plum curculio.

In addition to cat-facing there are at least five other distinct types of injury produced by sucking bugs which are not generally recognized.

- **Blossom and fruit drop injury.** The blossoms or fruit may drop if they are attacked any time between early bloom and the time the fruit is about one-half inch in diameter. In 1954 cage tests, the tarnished plant bug caused 100 percent of the blossoms to drop even when the insects were caged for only 24 hours. Fruits injured by the plum curculio may drop after they have reached one-half inch in diameter, but usually this is a result of brown rot infection following feeding.
- **Cat-facing or dimpling injury.** The fruits may be slightly dimpled or severely deformed as a result of insect feeding during the period from petal-fall stage until the fruit reaches one-half inch in diameter. In the case of stink bugs, the deformation is usually associated with fuzz removal and the development of brown, scarred, and sunken areas. Although deformation is typical in the case of the tarnished plant bug, fuzz removal and scarring are infrequent.
- **Gummosis injury.** In some instances the fruit has gum exuding in droplets or strings from the point of injury. This is known as gummosis injury. During rains these gum droplets or strings are softened and spread out over the surface of the fruit. Usually the gum is blackened by the growth of a sooty fungus, which renders the fruit unmarketable. Peaches are susceptible to such injury from the time they are about three-fourth inch in diameter up to about two inches in diameter.
- **Water-soaked injury.** In this case the fruit has dark-green, depressed areas which have a water-soaked appearance where stink bug feeding has taken place. This type of injury may sometimes be associated with gum oozing out, but is recognizable even though the hardened gum may have been

removed. This injury occurs when peaches are from one and one-half to two inches in diameter.

- **Ripe fruit injury.** This type of injury is rather rare and most often associated with the green stink bug. The fruit has small, depressed areas on the surface as a result of stink bugs sucking juices from the ripening fruits.

Control. Since most of the sucking bugs breed upon plants other than peach, it is evident that the most effective control measure is to get rid of those host plants growing in and around the orchard. Many species of weeds such as horse-weed, white cockle, tall ironweed, and common mullein are natural hosts for stink bugs and plant bugs and should be removed or mowed frequently if they are in or near peach orchards. Fence rows containing elderberry, wild cherry, black locust, and honey locust may support large populations of the green stink bug and should be removed or sprayed where practicable.

Cover crops do not seem to be as important as weed patches and fence rows as harboring and breeding places for cat-facing insects. Legumes, such as alfalfa, red clover, and soybeans, however, serve as breeding places for the tarnished plant bug and most species of stink bugs. If the use of these crops in areas adjacent to the orchard is avoided, the hazard of cat-facing damage can be reduced. Cover crops such as soybeans within the orchard seem to offer little hazard, probably because they receive enough drift during normal spraying operations to control these pests.

Since the relative importance of sucking bugs may vary from one orchard to another, no standard insecticidal schedule can be recommended for the control of these insects.

The tarnished plant bug, which is probably the most important member of this group, is most abundant on peaches from the pink to the petal-fall stage. Next spring, consult the *2004 Commercial Tree Fruit Spray Guide* for current recommendations for these stages.

The insecticidal control of stink bugs is complicated by variations in their habits, life history, and relative abundance in different orchards and in different sections of the state. In general, stink bugs have one generation each year, although a partial second generation seems to occur quite frequently. Adult stink bugs which have overwintered in debris and fence rows enter the orchard at the full bloom stage. They are abundant for a period of about six weeks after bloom. Products which control plum curculio at petal fall will also control adult stink bugs.

Black Hunter Thrips

Source: Dr. Robert P. Holdsworth, Research Circular 192, August 1972, Major Predators of the European Red Mite in Ohio

Over the past several scouting seasons, black hunter thrips have been observed in some of your apple orchards. The black hunter thrips adult is black, narrow, and tiny (1/16 inch long). The young is purplish-red and closely resembles the adult. They move slowly and are easy to find because they are more numerous than most other predaceous insects on apple.

Black hunters overwinter as adults in the humus and leaf litter in woods and also under bark scales on apple trees. They become active in mid-April and are found on apple twigs before European red mite hatch. Black hunters feed on European red mites and their eggs. These thrips are valuable predators because they can subsist on low populations of mites, yet become numerous if mites increase.

Banded Thrips

Source: Borrer, Triplehorn, and Johnson, An Introduction to the Study of Insects

Another family in the thrips order includes banded thrips, which are also minute, slender bodied insects. They can be either wingless or winged. The wings, when fully developed, are four in number, very long, and narrow with few or no veins, and fringed with long hairs. These hairs give the order Thysanoptera its name. The adult banded thrips is yellowish to dark brown, with three white bands on the wings. The larvae are yellowish, shading into orange on their posteriors.

Banded thrips have been observed feeding on apple rust mites, other mites, other thrips, aphids, and other small insects.

The Pledge of Allegiance

Source: Red Skelton, as reported in The Federalist, July 1, 2002

The late Red Skelton related this story of how his favorite childhood teacher, Mr. Laswell, helped his class understand the words to our Pledge of Allegiance. Mr. Laswell was concerned that saying the Pledge had become just one more classroom chore, and he wanted the words of our Pledge to have more meaning.

Mr. Laswell said, "I've been listening to you boys and girls recite the Pledge of Allegiance all semester, and it seems as though it is becoming monotonous to you. May I recite it and try to explain to you the meaning of each word?"

"I" -- me, an individual, a committee of one. "Pledge" -- dedicate all of my worldly goods to give without self pity. "Allegiance" -- my love and my devotion. "To the flag" -- our standard, Old Glory, a symbol of freedom. Wherever she waves, there's respect because your loyalty has given her a dignity that shouts freedom is everybody's job! "of the United" -- that means that we have all come together.

"States of America" -- individual communities that have united into 48 great states. Forty-eight individual communities with pride and dignity and purpose; all divided with imaginary boundaries, yet united to a common purpose, and that's love for country.

"And to the republic" -- a state in which sovereign power is invested in representatives chosen by the people to govern. And government is the people and it's from the people to the leaders, not from the leaders to the people. "For which it stands, one nation" -- one nation, meaning "so blessed by God."

"Indivisible" -- incapable of being divided. "With liberty" -- which is freedom -- the right of power to live one's own life without threats, fear, or some sort of retaliation. "And Justice" -- the principle or quality of dealing fairly with others. "For all" -- which means, boys and girls, it's as much your country as it is mine.

Red Skelton added, "Since I was a small boy, two states have been added to our country and two words have been added to the Pledge of Allegiance... "UNDER GOD." Wouldn't it be a pity if someone said that is a prayer and that would be eliminated from schools too? God Bless America!"

Degree Day Accumulations for Ohio Sites July 2, 2003

Degree Day Accumulations

Ohio Location	Base 45° F		Base 50° F	
	Actual	Normal	Actual	Normal
Akron/Canton	1384	1426	926	1011
Cincinnati	1738	1924	1240	1420
Cleveland	1387	1377	950	975
Columbus	1684	1629	1195	1179
Dayton	1601	1674	1121	1223
Kingsville	1149	1264	746	887
Mansfield	1304	1405	853	994
Norwalk	1325	1376	888	980
Piketon	1817	1906	1287	1392
Toledo	1322	1366	887	974
Wooster	1481	1335	1010	932
Youngstown	1226	1295	786	902

Pest Phenology

Coming Event	Degree Day Accum. Base 50° F
Lesser appleworm 1 st flight subsides	449 - 999
Apple maggot 1 st catch	629 - 1297
Redbanded leafroller 2 nd flight begins	656 - 1381
Codling moth 1 st flight subsides	673 - 1412
Spotted tentiform leafminer 2 nd flight peak	701 - 1355
Oriental fruit moth 2 nd flight begins	772 - 1215
Codling moth 2 nd flight begins	864 - 1549
San Jose scale 2 nd flight begins	893 - 1407

Fruit Observations & Trap Reports

Insect Key

AM: apple maggot
CM: codling moth
ESBM: eye-spotted budmoth
LAW: lesser apple worm
LPTB: lesser peachtree borer
OBLR: obliquebanded leafroller
OFM: oriental fruit moth
PTB: peachtree borer
RBLR: redbanded leafroller
SJS: San Jose scale
STLM: spotted tentiform leafminer
TABM: tufted apple budmoth
VLR: variegated leafroller

Due to the early publication date this week, we could include only the East and West District trap reports. We will print Waterman Lab and Medina, Wayne, and Holmes Counties' figures for two weeks in the next issue.

Site: East District: Erie & Lorain Counties

Jim Mutchler, IPM Scout

Apple: 6/24 to 7/1/03

CM: 6.7 (down from 7.9)
LAW: 32.7 (up from 28.3)
OFM: 1.8 (down from 1.9)
RBLR: 27.3 (up from 0.4)
SJS: 0.0 (same as last week)
STLM: 713 (up from 581)

Other apple pests: green apple aphid, rosy apple aphid, wooly apple aphid, and white apple leafhopper.

Peach: 6/24 to 7/1/03

LPTB: 13.3 (down from 20.0)
OFM: 0.7 (down from 1.0)
PTB: 3.7 (up from 2.3)
RBLR: 9.3 (up from 0.3)

Other peach pests: lilac borer, potato leafhopper

Beneficials: green lacewing, white maggot, banded thrips

Site: West District: Huron, Ottawa, Richland, & Sandusky Counties - Gene Horner, IPM Scout**Apple: 6/24 to 7/1/03**

CM: 3.4 (up from 2.2)
LAW: 2.8 (up from 0.6)
OFM: 1.4 (up from 0.4)
RBLR: 55.9 (up from 1.5)
SJS: 0.0 (same as last week)
STLM: 361 (down from 575)

Other apple pests: green apple aphid, apple rust mite, white apple leafhopper, potato leafhopper

Peach: 6/24 to 7/1/03

LPTB: 5.7 (down from 6.0)

OFM: 0.8 (same as last week)

PTB: 0.9 (up from 0.8)

RBLR: 28.2 (up from 7.2)

Other peach pests: lilac borer, potato leafhopper, two-spotted spider mite

Beneficials: banded thrips, lacewing

Preliminary Monthly Climatological Data for Selected Ohio Locations, June, 2003

Weather Station Location	Monthly Precip	Normal Monthly Precip	Year-to-Date Precip	Normal Year-to-Date Precip	Avg High	Normal High	Avg Low	Normal Low	Mean Temp.	Normal Mean
Akron-Canton	2.16	3.55	19.07	18.82	74.6	78.2	56.6	56.8	65.6	67.5
Cincinnati	2.75	4.42	19.74	22.54	76.9	82.4	57.5	61.6	67.2	72.0
Cleveland	3.17	3.89	19.18	18.47	75.8	77.4	57.9	57.7	66.8	67.6
Columbus	4.99	4.07	20.28	18.82	76.8	81.6	57.8	60.7	67.3	71.1
Dayton	4.56	4.21	18.62	20.59	75.7	80.1	57.7	60.2	66.7	70.1
Fremont	2.65	3.98	16.74	17.51	76.8	80.1	54.2	58.0	65.5	69.0
Kingsville	5.95	4.20	22.53	16.90	73.3	76.5	55.5	56.5	64.4	66.5
Mansfield	2.49	4.52	15.78	21.27	74.3	77.8	54.7	55.8	64.5	66.8
Norwalk	5.00	3.89	19.86	16.97	74.9	78.5	56.8	56.4	65.9	68.0
Piketon	2.66	3.70	21.71	22.30	78.9	81.2	56.8	58.5	67.8	69.9
Toledo	3.12	3.80	16.66	16.61	77.2	79.5	55.4	58.2	66.3	68.8
Wooster	3.94	3.47	19.22	17.38	76.5	79.5	55.5	55.6	66.0	67.5
Youngstown	3.03	3.91	18.00	18.11	73.3	77.1	54.0	54.6	63.6	65.9

Temperatures in degrees F, Precipitation in inches

Record lows: June 1 - Dayton 41F, Mansfield 37F; June 2 - Kingsville 40F, Mansfield 37F; June 19 - Mansfield 46F;

Record low tied: June 2 - Akron/Canton 38 F

Table Created by Ted W. Gastier, OSU Extension, from National Weather Service, OARDC & Local Data

The Ohio Fruit ICM News is edited by:

Ted W. Gastier
Extension Agent, Agriculture
Tree Fruit Team Coordinator
Ohio State University Extension Huron County
180 Milan Avenue
Norwalk, OH 44857
Phone: (419)668-8210
FAX: (419)663-4233
E-mail: gastier.1@osu.edu

Information presented above and where trade names are used, they are supplied with the understanding that no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

Copyright © The Ohio State University 2003

All educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam-era veteran status.

Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension.

TDD No. 800-589-8292 (Ohio only) or 614-292-1868

| [Back](#) |