



Newsletter

Extension

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Calendar

September 21-23: Farm Science Review, Molly Caren Agricultural Center, London, Ohio, Tuesday and Wednesday 8 a.m. to 5 p.m.; Thursday 8 a.m. to 4 p.m.. Tickets are now available at your county Extension office for \$4. (Or pay \$6 at the gate.) Children 5 and under are admitted free.

September 27: Annual Pumpkin Twilight Meeting, Hillsboro Research Site, Southern State Community College, Rte. 62 North, Hillsboro, 6:00 p.m. to 9:00 p.m. For more information contact Brad Bergefurd (800) 860-7232.

Drought Conditions Persist as of Aug. 28th

<u>Region</u>	<u>Category of Drought</u>
NW Ohio	Moderate
WCentral Ohio	Severe
SW Ohio	Severe
SCentral Ohio	Severe
Central Ohio	Extreme
NCentral Ohio	Severe
NE Ohio	Moderate
Central Hills	Moderate
NE Hills	Moderate
SE Ohio	Severe

Source: http://www.cpc.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif

Secondary Scab

Source: *Dr. Michael Ellis, Dept. of Plant Pathology, OSU*

There have been some questions about control of late season secondary scab on apples. Most of the growers I have seen this year have very little or no scab in the orchard, so secondary scab will not be a problem this year. I am very happy with the level of scab control that most growers got this year, especially after the terrible year we had last year. Although this year was not as bad as last, it was a good year for scab in most regions of the state during the early part of the season (primary scab).

At this point in the season, summer diseases (mainly sooty blotch and fly speck) should be the major diseases that we need to control. Captan is an old standard that should do a good job against summer diseases and secondary scab when used in a protectant program. Captan is a bit weak for control of fly speck. Many people do not like to use captan because of the 4-day re-entry interval. Captan does have a 0-day PHI. Ziram is used by many growers that choose not to use captan. It should be used at higher rates than captan, but should do a good job at these rates. Benlate and Topsin-M are excellent fungicides for the summer diseases (if you do not have fungicide resistance to them in the orchard) and they should provide excellent control of secondary scab as well.

My choice of fungicides during late season cover sprays (especially if I had disease pressure) would be a combination of Benlate or Topsin-M plus captan or Ziram. Alternating Benlate or Topsin-M with captan or Ziram (at a higher rate) would also be good and should save a few dollars. Benlate has a 14-day PHI and Topsin-M has a 0-day PHI; therefore, you have to watch what you use within two weeks of harvest. If growers plan to hold apples in storage for long periods, or usually have problems with summer diseases, an application of Topsin-M immediately before harvest sounds good to me.

A new fungicide called Sovran from BASF was registered for use in Ohio sometime in early August. This is one of the new strobilurin fungicides that we have been waiting for on apples. It has excellent activity against scab and will be a welcome addition to our arsenal of fungicides for scab control next year. We will be discussing this new fungicide at educational meetings this winter. A few growers have asked if it would be good for control of secondary scab. The answer (in my opinion) is yes. In addition to good activity against scab, it also has good antispore activity against scab. It also has a 30-day PHI so it cannot be used in most locations in Ohio for this year. As I mentioned, we will be discussing this new material (and there may be others) this winter.

As always, if you have any questions about apple disease control or new fungicides, please feel free to contact me at (330) 263-3849.

Apple Cider Report

Source: *Dave Lockwood and Bill Morris, University of Tennessee*

As the 1999 cider-making season approaches, it is essential that we know the current status of regulations regarding this product and, perhaps, some future happenings for cider producers. We, along with John Sanford from the Tennessee Department of Agriculture, attended an "Apple Cider Food Safety Control Workshop" sponsored by the FDA in Washington, D.C. on July 13 and 14. The purpose of this workshop

was to clarify existing regulations concerning the manufacture of apple cider and to dispel some misconceptions.

HACCP (Hazard Analysis Critical Control Points)

An approved HACCP plan will not be required for the 1999 cider season. FDA is still reviewing this step and will not have a final decision in place for this season. The original proposal indicated that a HACCP plan might not be required for producers making less than 40,000 gallons. Do not expect this qualification to stand. Instead, expect that all commercial cider producers will have to have a HACCP plan, regardless of the number of gallons made. However, it still appears that the requirement will be phased in according to the size of the operation. Small producers may have two or three years to develop their plan.

Ultraviolet Light (UV)

Existing use of ultraviolet light in foods is for a lower intensity than what will be needed for cider. The higher intensity UV necessary for cider will require approval by FDA. The use of ultraviolet lights to achieve the 5-log reduction in microbial load will not be approved in time for the 99 cider season, but the outlook for this technology looks very good. FDA is currently reviewing the proposal and comments are favorable at this time.

AFDOS (Association of Food and Drug Officials)

AFDOS has gone on record with recommendations concerning thermal pasteurization equipment that will spell out details for what is needed.

Promising Technologies

Several technologies that may have the capability of giving the 5-log reduction necessary to avoid using the warning statement on cider containers are being researched and may be approved for use in the future. It may be several years before these receive approval. They include: ozonation, chemical additives, pulse light radiation, freeze/thaw cycles and hot water.

Current Research

Studies are ongoing to determine the location of contaminants with apples. Is it surface, internal, or both? If contaminants are found inside the fruit, treatments to achieve the 5-log reduction will be restricted to crushing and later in the process. Efforts to remove microbial contamination on the surface of the fruit would reduce effects if contamination was on both the surface as well as inside the fruit, but would be totally ineffective if contamination was entirely internal.

Good Agricultural Practices

Food safety and food quality are two different things, but they go hand-in-hand. Good Agricultural Practices (GAP's) and Good Manufacturing Processes (GMP's) are concerned with food safety and do not take quality into account. However, to stay in business, both of them must be considered. Apples used for cider should be tree-picked, sound, and of good quality (free of insects and diseases). Good quality cider cannot be made from poor quality fruit. The same can be said for safe cider.

E. coli O157:H7 is still the bacteria of most concern, although several others are being investigated. *E. coli* O157:H7 is a fecal contaminant of ruminant animals (cattle, deer), humans, and birds. Flies are carriers of it. Due to the potential for contamination of apples in the field, GAP's are presented as a way to minimize the risk of early contamination. The use of drops for cider is strongly discouraged, as it presents perhaps the greatest potential of contamination prior to the cider making operation. Using them is also a way to lessen cider quality as well as cider safety. When the HACCP requirement becomes a reality, GAP's will be an important part. Many of the recommendations are good practices from a production standpoint anyhow, so HACCP will just necessitate that we document what we are already doing.

Cider making is a food manufacturing process and, as such, its production must adhere to established GMP'S. These GMP's have been on the books for many years. However, only recently have regulatory

agencies shown much concern with them for apple cider production. This trend will intensify. The Food and Drug Administration has a whole new commitment to raw and minimally processed fruit and vegetable safety, as evidenced by the FDA publication of the new "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables." Juices like apple cider are just the first step.

Below is a list of GMP's affecting cider manufacturers:

1. The pressing area should be totally enclosed (doors and windows closed or screened) to exclude insects and rodents.
2. All food contact surfaces shall be made of food grade material.
3. All PVC piping and fittings should be replaced with impervious food-grade material.
4. Wood should be replaced with food-grade material.
5. Floors and walls should be made of easily cleaned and sanitized material.
6. Wash up after running to prevent the buildup of organic material that can harbor microorganisms, attract insects and rodents, and cause metal surfaces to rust.
7. Sanitize equipment and work areas immediately before running to reduce microorganism contamination of product.
8. All water used should be potable. Well water should be tested by the health department according to the local regulations.
9. Maintain a 50 to 200 ppm (parts per million) chlorine level in the dump tank. This requires frequent testing, as organic materials such as dirt can deplete chlorine levels rapidly. Water in dump tanks can become contaminated and actually increase microbial contamination on fruit if close attention is not paid to this point.
10. If water is to be recycled in the process, be sure to send water from the cleanest part of the process (washer/brusher) back to an earlier stage such as the dump tank where the water may not need to be as clean.
11. Train employees in personal hygiene, standard operating procedures, (SOP's) and standard sanitary operating procedures (SSOP's). Stress the fact that they are working in a food manufacturing operation and that these practices are very important. As a GMP in a food processing operation, the California Health Department is requiring that workers in the cider-making process area wear plastic gloves as a way to further insure good personal hygiene. But remember, wearing gloves does not replace the need for proper hand washing.
12. Filter cloths (press cloths) must be properly cleaned, sanitized, and dried after each run using only food grade cleaners and sanitizers (no laundry detergents) and air-dried in an enclosed, protected area. Apples to be used for cider should be held in cold storage until pressing for several reasons. First, cold temperatures slow down the build up of many microorganisms on the surface of the fruit. Second, cold apples press better than warm apples. Finally, putting apples into water that is colder than they are can result in infusion of bacteria from the water into the apples.

Regulations regarding labeling of apple cider that has not been treated to achieve a 5-log reduction in microbial load begin September 9, 1999. Beginning on this date, individual containers must carry a warning label. Last year we had the option of labeling containers or displaying a warning sign or placard at

the sales point. Wording of the warning statement is quite specific and must read as follows:

WARNING: This product has not been pasteurized and, therefore, may contain harmful bacteria that may cause serious illness in children, the elderly, and persons with weakened immune systems.

The word **WARNING** must be printed all in capital letters and be in bold type.

Type size must be a minimum of 1/16 inch for all words in the statement.

The warning statement must be in a box set off by hairlines.

The warning statement can appear either on the information panel (the label panel immediately to the right of the principal display panel) or on the principal display panel (that part of the label most likely to be seen by the consumer at the time of purchase, generally the front of the package.)

A separate warning label may be used provided that it is affixed to the container in a prominent location, as outlined above.

What products are not required to carry a warning label?

1. That which is to be consumed on the premises.
2. Juice not for distribution to retail customers and to be used solely in the manufacture of other foods or to be relabeled or repackaged before sale to retail customers provided that the lack of processing to achieve a 5-log reduction is disclosed in documents (invoices, bills of lading) that accompany the ingredient. Note that the repackaged product being sold to consumers for off-site consumption must carry the warning label.
3. Those treated in a manner to achieve a 5-log reduction in bacterial load. Juice (cider) that has been pasteurized cannot be labeled as "fresh."

Fruit Observations

Insect Key	
AM:	Apple maggot
CM:	Codling moth
DWB:	Dogwood borer
LPTE:	Lesser peachtree borer
OBLR:	Oblique banded leafroller
OFM:	Oriental fruit moth
PC:	Plum curculio
PTB:	Peachtree borer
RBLR:	Redbanded leafroller
SJS:	San Jose scale
STLM:	Spotted tentiform leafminer
TABM:	Tufted apple budmoth
VLR:	Variogated leafroller

Site: Waterman Farm, Columbus

Source: Dr. Celeste Welty, OSU Extension Entomologist

Traps Used: AM = red balls, SJS = tent traps, Others = wing traps

Apple: 8/25 - 9/1

RBLR: 6 (down from 13)
STLM: 2760 (down from 2943)
SJS: 6070 (up from 4100)
CM (mean of 3 traps): 6.0 (down from 28.3)
AM (mean of 3 traps) 0 (unchanged)
TABM: 3 (down from 10)
VLR: 6 (up from 5)
OBLR: 0 (unchanged)

Peach:

OFM: 14 (up from 2)
LPTB: 6 (up from 4)
PTB: 12 (unchanged)

Site: East District; Erie & Lorain Counties

Source: Jim Mutchler, IPM Scout

Traps: AM = red balls, SJS = tent traps, STLM = wing traps, Others = Multiplier traps

Apple: 8/25 - 8/31

RBLR: 21.9 (down from 23.7)
SJS: 0 (unchanged)
CM (mean of 3 traps): 3.7 (up from 3.4)
OBLR: 5.0 (down from 11.5)
VLR: 1.5 (up from 1.0)
AM (sum of 3 traps): 0.43 (down from 0.6)
TABM: 22 (down from 36)

Peach:

OFM: 19.5 (up from 18.3)
RBLR: 25.5 (down from 27.0)
LPTB: 39.3 (up from 35.0)
PTB: 0 (unchanged)

Other pest activity: White apple leafhopper, Oriental fruit moth strikes

Beneficials at work: Lacewings everywhere, Stethorus punctum and other lady beetles

Site: West District; Huron, Ottawa, & Sandusky Counties

Source: Gene Horner, IPM Scout

Traps Used: AM = red balls, SJS = tent traps, STLM = wing traps, Others = Multiplier traps

Apple: 8/25 - 8/31

RBLR: 39.3 (down from 53.4)
SJS: 0.7 (up from 0)
CM (mean of 3 traps): 0.9 (unchanged)
OBLR: 1.0 (up from 0.5)
VLR: 8.0 (down from 14.5)
AM (sum of 3 traps) 0 (down from 0.29)
FTLR: 0 (unchanged)

Peach:

OFM: 3.0 (unchanged)
RBLR: 59.0 (down from 70)
LPTB: 14.0 (up from 12.0)
PTB: 0 (unchanged)

Other pest activity: two-spotted spider mite, potato leafhopper, white apple leafhopper, green apple aphid

Beneficials at work: Lacewing eggs, predator mites, banded thrips, *Stethorus punctum*

Site: Wayne County

Source: Ron Becker, Program Assistant, Agriculture and IPM, Ohio State University Extension

Apple: 8/26 - 9/1

STLM: 175 (up from 126)
CM (mean of 3 traps) 6.6 (down from 7.9)
RBLR: 6.9 (down from 11.5)
OBLR: 0.5 (up from 0)
AM (mean of 3 traps) 0.15 (up from 0.04)

Peach:

OFM: 56 (up from 52)
LPTB: 21 (up from 10)
PTB: 0 (down from 2)

In most blocks, codling moth damage is still very light if present at all. Several blocks also have very light apple maggot. ERM is still present, but in very low numbers. Lady bugs, lacewings, and insidious flower bugs are among the beneficials present. Macs are being harvested.

Ohio Apple Scab, Fire Blight, and Sooty Blotch Activity- SkyBit Products

Central District

Apple Scab:

August 1, 8, 11, 13-17, 19-22, 24-29 possible infection & damage

August 2- 7, 9, 10, 12, 18, 23, 30, 31 active but no infection

Based on Forecasts; September 1-6 active but no infection

Fire Blight:

August 1, 4, 7, 8, 10-15, 17, 19, 20, 24-29 possible infection and damage
August 2, 5, 18, 23, 30, 31 not active
August 3, 6, 9, 16, 21, 22 active but no infection
Based on Forecasts; September 1-4 not active
September 5, 6 possible infection and damage

Sooty Blotch:

August 1-31 possible infection and damage
Based on Forecasts; September 1-6 possible infection and damage

Eastern Highlands

Apple Scab:

August 1, 5, 7, 8, 10, 11, 13-15, 18-29 possible infection & damage
August 2-4, 6, 9, 12, 16, 17, 30, 31 active but no infection
Based on Forecasts; August 29-September 1-6 active but no infection

Fire Blight:

August 1, 4, 5, 7, 8, 10, 11, 13, 14, 17-21, 24-29 possible infection and damage
August 2, 9, 12, 30, 31 not active
August 3, 6, 15, 16, 22, 23 active but no infection
Based on Forecasts; September 1-6 not active

Sooty Blotch:

August 1-10 active but no infection; August 11-31 Possible infection and damage
Based on Forecasts; September 1-6 possible infection and damage

Northeast District

Apple Scab:

August 1, 4, 5, 7, 8, 13-15, 19-22, 24-28 possible infection & damage
August 2, 3, 6, 9-12, 16-18, 23, 29-31 active but no infection
Based on Forecasts; September 1-6 active but no infection

Fire Blight:

August 1, 4 -8, 10, 11, 13-15, 19-21, 23-28 possible infection and damage;
August 2, 3, 9, 12, 16-18, 30, 31 not active
Based on Forecasts; September 1-3, 5 not active
September 4, 6 possible infection and damage

Sooty Blotch:

August 1-31 possible infection and damage
Based on Forecasts; September 1-6 possible infection and damage

North Central District

Apple Scab:

August 1, 4 -8, 11, 13, 14, 19-22, 24-28 possible infection & damage
August 2, 3, 9, 10, 12, 15-18, 23, 29-31 active but no infection
Based on Forecasts; September 1-6 active but no infection

Fire Blight:

August 1, 4 -8, 10-14, 19-21, 24-28 possible infection and damage
 August 2, 3, 9, 16-18, 23, 29-31 not active
Based on Forecasts; September 1, 2 not active
September 3-6 possible infection and damage

Sooty Blotch:

August 1-10 active but no infection; August 11-31 possible infection and damage
Based on Forecasts; September 1-6 possible infection and damage

West District

Apple Scab:

August 1, 4 -8, 10, 11, 13, 14, 19, 23-27 possible infection & damage
 August 2, 3, 9, 12, 15-18, 20-22, 28-31 active but no infection
Based on Forecasts; September 1-6 active but no infection

Fire Blight:

August 1, 4-8, 10, 11, 13, 14, 19, 23-28 possible infection and damage
 August 2, 3, 9, 12, 15-18, 21, 22, 29-31 not active
Based on Forecasts; September 1-4 not active
September 5, 6 possible infection and damage

Sooty Blotch:

August 1-31 possible infection and damage
Based on Forecasts; September 1-6 possible infection and damage

Degree Day Accumulations for Selected Ohio Sites January 1, 1999 to date indicated

Location	Actual DD Accumulations August 18, 1999		Forecasted Degree Day Accumulations August 25, 1999			
	Base 43° F	Base 50° F	Base 43° F	Normal	Base 50° F	Normal
Akron - Canton	3503	2434	3687	3535	2569	2430
Cincinnati	4111	2945	4305	4383	3090	3149
Cleveland	3538	2480	3722	3482	2615	2392
Columbus	4208	3072	4404	3880	3219	2723
Dayton	3935	2825	4123	3962	2964	2805
Elyria	3688	2632	3891	3652	2786	2547
Fremont	3324	2302	3525	3534	3525	2456
Mansfield	3367	2303	3556	3507	2454	2409
Norwalk	3548	2499	3731	3456	2633	2380
Toledo	3641	2590	3818	3446	2718	2374

Wooster	3605	2530	3786	3345	2662	2257
Youngstown	3251	2214	3427	3279	2341	2206

Phenology

Coming Events	Range of Degree Day Accumulations	
	Base 43° F	Base 50° F
Spotted tentiform leafminer 3rd flight peak	2415-3142	1728-2231
San Jose scale 2nd flight subsides	2494-3257	1662-2303
Redbanded leafroller 3rd flight peak	2514-3225	1818-2625
Obliquebanded leafroller 2nd flight peak	2634-3267	1789-2231
Apple maggot flight subsides	2764-3656	1904-2573
Lesser peachtree borer flight subsiding	2782-3474	1796-2513
Codling moth 2nd flight subsides	2782-3693	1796-2635
Oriental fruit moth 3rd flight subsides	2987-3522	2018-2377
Redbanded leafroller 3rd flight subsides	3103-3433	2013-2359
Spotted tentiform leafminer 3rd flight subsides	3235-3471	2228-2472

Thanks to Scaffolds Fruit Journal (Art Agnello)

Terminal Market Wholesale Fruit Prices September 1, 1999

Chicago http://www.ams.usda.gov/mnreports/HX_FV010.txt			
Apples - market about steady	Pears	Peaches	Prune Plums
Cartons cellpack --- Wisconsin	California only	25 lb cartons loose	30 lb cartons
US Fancy Paula Reds		New Jersey	Michigan
80's 14.00-16.00, 96's 14.00-16.00		ExOne various yellow flesh varieties	US One Stanley
Cartons 12 3-lb filmbags --- Wisconsin		2 3/8" min 9.00	1 1/4" min 13.00
US Fancy Paula Reds		2 1/4" min 9.00 few 7.00	
2 1/2" up 8.00-9.00			
US Fancy Jersey Mac			

2 1/2" min 9.00-9.50
Bushel cartons loose --- Indiana
No Grade Marks - McIntosh
2 1/4" min 13.00
Paula Red 2 1/4" up 13.00
Bushel cartons loose --- Michigan
No Grade Marks - McIntosh
2 1/4" min 13.00-14.00
Paula Red 2 1/4" up 13.00-14.00

Detroit http://www.ams.usda.gov/mnreports/DU_FV010.txt			
Apples - market about steady	Pears	Peaches	Prune Plums
Cartons 12 3-lb filmbags --- Michigan	California only	1/2 bushel cartons	30 lb cartons
US Fancy McIntosh		Illinois ExOne various	Michigan
2 1/2" min 13.50-14.75		yellow flesh varieties	US One Stanley
Paula Reds 2 1/2" min 10.00-11.50		2 1/2" up 16.00	1 1/4" min 12.00
Gala 2 1/2" min 12.00		Michigan	
Ginger Gold 2 1/2" min 14.00-14.75		2 1/2" up 15.50-17.00	
Gold Supreme 2 1/2" 11.50-12.00			

Pittsburgh http://www.ams.usda.gov/mnreports/PS_FV010.txt			
Apples - market about steady	Pears	Peaches	Prune Plums
Cartons 12 3-lb filmbags --- Michigan	California only	25 lb cartons	30 lb cartons
US Fancy Paula Reds		Pennsylvania	Michigan
2 1/2" min/up few 11.25		No Grade Marks various	US One Stanley
New York US ExFcy Red Delicious		yellow flesh varieties	1 1/4" min 11.50
2 1/2" min 14.00-15.00		2 3/4" min 8.50-9.50	
Golden Delicious 2 1/2" min 11.00-12		2 1/2" min 8.50-9.50	
McIntosh 2 1/2" min 11.50-12.00		2 1/4" min fair	
Paula Red 2 1/2" min 11.00-12.00		quality 4.50	
Bushel cartons loose--- Pennsylvania			
US One Summer Rambo			
2 3/4" up 7-9.50			

Preliminary Monthly Climatological Data for Selected Ohio Locations August 1999

Weather	Monthly	Normal	Year-to-Date	Normal	Average	Normal	Average	Normal	Mean	Normal
Station	Precip.	Monthly		Year-to-Date	High	High	Low	Low	Temp.	Mean
Location		Precip.		Precipitation						
Akron-Canton	2.86	3.32	24.47	25.19	77.5	80.4	58.7	60.0	68.1	70.2
Cincinnati	2.61	3.35	24.10	28.98	83.9	84.1	61.5	62.9	72.7	73.5
Cleveland	1.80	3.40	20.97	24.39	77.6	80.5	60.6	60.3	69.1	70.4
Columbus	2.40	3.72	20.03	26.90	83.5	82.1	62.6	60.8	73.0	71.5
Dayton	1.80	3.20	23.34	25.62	82.5	83.0	60.1	61.3	71.3	72.4
Elyria	2.51	3.41	21.12	24.01	78.9	83.1	59.9	60.3	69.4	71.7
Fremont	2.14	3.35	20.33	23.79	78.9	81.9	55.3	59.3	67.1	70.6
Mansfield	2.10	4.08	25.04	27.36	77.2	80.1	57.6	60.4	67.4	70.3
Norwalk	1.88	3.46	24.22	24.59	77.5	80.7	59.8	58.8	68.6	69.8
Toledo	1.40	3.25	22.29	22.28	80.2	81.3	59.1	58.4	69.7	69.9
Wooster	2.58	3.72	21.66	25.15	79.5	82.0	57.9	57.9	68.7	70.0
Youngstown	3.53	3.32	28.87	25.18	77.2	79.6	56.5	57.9	66.8	68.8

Temperatures in degrees F, Precipitation in inches

Record set: Low - Mansfield 49° F on the 9th

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

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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.

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TDD # 1 (800) 589-8292 (Ohio only) or (614) 292-1868

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