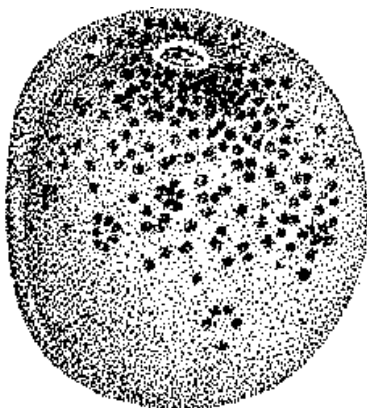


PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

MAY 8, 2001



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Matching Peach Disease Control to Orchard Risk Level

Norman Lalancette, Ph.D., Specialist in Tree Fruit Pathology

Two-weeks ago we discussed integrated control of the three critical diseases that occur from shuck-split through third cover: **rusty spot**, **scab**, and **bacterial spot**. Emphasis was on choosing fungicides based on efficacy, timing, resistance management, and cultivar susceptibility. Now, we will turn our attention to another factor to consider: inoculum potential.

If the inoculum level for a particular pathogen is very low in an orchard, then less effective fungicides or bactericides can be used effectively, and often at a significant cost savings. Another alternative would be to continue using the premier materials, but at a lower rate. However, when using this latter approach, one must remember alternate materials of different chemistry. Some pathologists believe that constant use of low rates may select for resistant pathogens more quickly.

Evaluate Inoculum Risk

The risk of peach scab infection can be evaluated by examining fruit bearing shoots for the presence of lesions. Scab lesions on twigs are circular to oval in shape, brown in color, and slightly raised; older lesions may have a purple margin. If lesions are readily found by examining shoots on trees in different parts of the orchard, then the risk would be too great to use a reduced program; follow the recommendations given in the previous article (see P&PA Fruit edition, April 24th issue).

If very few scab lesions are observed on twigs, then use of fungicides such as captan, ziram, and sulfur should be adequate for disease control. Nevertheless, the same number of applications is still recommended. Keep in mind that prior to pit hardening, we depend on the scab (and rusty spot) fungicide to prevent any latent **brown rot** infection from occurring on green fruit.

Unlike scab lesions, bacterial spot twig cankers are more difficult to identify. An alternative would be to use last year's disease level as an indication of overwintering inoculum. If fruit and foliar infection in a block were minimal last year, then inoculum availability is likely to be low this season. In this case, sprays of Tenn-Cop at 4-8 fl oz/A should be adequate. Of course, if the cultivar is highly susceptible,

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you may still wish to use Mycoshield for the critical shuck split and first cover sprays, but perhaps at the lower 1.0 lb/A rate instead of 1.5 lb/A rate.

Rusty spot risk can also be evaluated based on last or previous years' disease levels. If the risk is low, then consider using a lower rate of Nova, such as 3 oz/A. Or alternatively, Benlate can be used, with the added benefit of providing scab control. Orchards that have consistently had high infection pressure should continue to receive Nova at 4-5 oz/A.

Monitor Weather Conditions

Favorable weather is the one factor that can very quickly turn a low disease risk situation into a moderate or high-risk situation. So, if a reduced spray program is being practiced because of low inoculum risk, a quick switch to more effective materials or higher rates will be necessary when environmental conditions warrant the change.

For peach scab, high relative humidity (>70%) favors abundant lesion sporulation, and rainfall at temperatures of 77-86°F allow spore dissemination and optimum germination for infection. Of course, if lesion numbers are low in an orchard, then the probability of spores contacting a large percentage of susceptible fruit is still low. For this reason, one could argue that favorable scab weather, at worst, turns a low risk orchard into a moderate risk orchard. Nevertheless, switching to a more effective fungicide would be prudent.

In contrast to peach scab, bacterial spot development can be explosive under the proper environmental conditions. A low risk orchard can become a high-risk orchard, particularly if the cultivar is very susceptible. This epidemic behavior is in part due to the ability of bacteria to reproduce rapidly, producing large numbers of cells in a short period of time. In addition, the bacterial spot pathogen can exist epiphytically on the various surfaces of the tree. Thus, inoculum is not spatially limited within the canopy, as would be the case for scab. Moisture is important for bacterial reproduction, and wind-driven rain helps move bacteria into plant tissues through lenticels on fruit and stomata on leaves; optimum bacterial growth occurs at 75-84°F.

Unlike scab and bacterial spot, rusty spot does not appear to be appreciably affected by the weather. Results of epidemiological studies over the last four years, which include widely varying environmental conditions, have not resulted in very different levels of disease in a highly susceptible Jerseyqueen block. This conclusion is contrary to what is expected of **powdery mildew** pathogens, which usually are most problematic in drier climates. □

Fruit IPM

Dean Polk, Fruit IPM Agent

Peach

✓ **Brown Rot Blossom Blight:** Blossom blight is becoming easy to find. The infection most likely occurred on Easter, with the first widespread bloom, 32 hours of wetting, and temperatures in the 40's to 60's. Any growers who have significant blossom blight in their orchards should maintain a Captan or Captan combination program for at least the next two sprays. If using Benlate, then it *must* be combined with another fungicide. Use of sulfur is discouraged in the presence of blossom blight.

✓ **Bacterial Spot:** While conditions have not been favorable for bacterial spot infections, last week's weather was warm and favorable for bacterial growth. Overwintered blacktip bacterial spot 'cankers' are now easily found. If we have any precipitation over the coming weekend, we could be set up for significant infections, especially in light of the young and sensitive stage of the fruit.

✓ **Rusty Spot:** Lack of rain makes good conditions for rusty spot infection, especially when combined with fog and mist as we have during the writing of this newsletter. Growers should maintain Nova in sprays on any sensitive varieties for rusty spot control.

✓ **Oriental Fruit Moth (OFM):** The second application for OFM will be due around 5/11 to 5/12 in southern counties and a couple of days later in central counties. The biofix for OFM in Hunterdon County was 4/29. Therefore, the first treatment for OFM in northern counties should be applied on or about Wednesday to Thursday of this week. OFM trap counts have reached a flight peak, and average close to those levels seen last week.

✓ **Catfacing Insects (CFI):** Pressure from these insects has remained low, but some adults have been found in beating tray samples in the trees. Insecticides that are effective for catfacing insects should be included in any cover spray.

✓ **Lep larvae:** In an unusual finding, green fruit-worm and redbanded leafroller larvae were seen over the past week, and fruit injury was seen on Monday. Some gypsy moth larvae have also been found. Most of the insects were seen prior to petal fall insecticides being applied.

Apple

✓ **Fire Blight:** Due to the warm weather we had earlier last week, growers should be on the lookout for fire blight infections, if temperatures are above 60°F and we get a period of precipitation.

✓ **Spotted Tentiform Leafminer (STLM):** Trap counts are quite high, while egg laying continues. It is

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likely that treatments for the first generation will be needed. If a pre bloom insecticide was not applied, then Provado applied at petal fall would be one of the best options.

✓ **White Apple Leafhopper (WALH):** Leafhoppers were first seen last week, but at low levels. Leafhoppers are not a major threat at this time, and need no special insecticide. If Provado is being used for leafminers, then it will also control leafhoppers.

Blueberry

✓ **Leafrollers, green fruitworms, and spanworms:** Most samples were negative, although low levels were seen in some locations. The highest level was .05/20 blossom clusters, or .25/100 clusters. We are not concerned until we reach an average of one larvae per 100 clusters.

✓ **Cranberry Weevil (Blueberry Blossom Weevil):** Very little weevil activity was noted. One weevil was seen in beating tray samples on a commercial farm. More significant weevil activity was seen in an unsprayed field in Ocean County.

✓ **Mummy Berry:** Strikes are relatively easy to find, and were noted on 5/3 in Blueray at .5 strikes per bush and a field of Bluecrop at 1.5 strikes per bush. Both **Anthraco**se and **Mummy Berry** remain as disease targets at this time.

Insect Trap Counts

Tree Fruit - Southern Counties

Week Ending	AM	CM	LPTB	OFM	PTB	STLM	TABM-A	TABM-P	OFM-A
1-Apr				0.00					
8-Apr				0.00					
13-Apr				0.20		725.00			6.00
19-Apr				2.02		1040.00			43.00
27-Apr				63.82		1466.67	0.00	0.00	132.00
4-May		0.29		64.79		1213.33	0.29	0.27	117.50

Atlantic Co. Blueberry Trap Averages

WEEK END	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
8-Apr		133.00				
15-Apr		197.50				
22-Apr		195.75				
29-Apr		215.60				
6-May		188.80				

Burlington Co. Blueberry Trap Averages

WEEK END	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
8-Apr		—				
15-Apr		—				
22-Apr		25.00				
29-Apr		107.00				
6-May		125.50				

Calendar of Events

May 15, 2001, 6:15 PM - Twilight Fruit Meeting, Wm. Schober Sons Farm, Rt. 553 Buck Rd. Monroeville, NJ. Contact: Jerry Frecon at Rutgers Cooperative Extension of Gloucester County at 856-307-6450.

June 5, 2001, 6:15 PM - Twilight Grape And Enology Meeting, Heritage Tree Fruit LLC. Rt. 609 Richwood-Elmer Rd., Richwood, NJ. Contact: Jerry Frecon at Rutgers Cooperative Extension of Gloucester Co. at 856-307-6450.

June 26, 2001, 6:15 PM - Twilight Fruit Research Meeting, Rutgers Agricultural Research and Extension Center, Northville Rd., Upper Deerfield Township, Bridgeton, NJ. Contact: Jerry Frecon at Rutgers Cooperative Extension of Gloucester Co. (Registration required) This meeting will be part of the State Horticultural Association of Pennsylvania Fruit Tour of southern NJ.

IDFTA Summer Tour in Hood River, Oregon

Win Cowgill, Agricultural Agent

Plan on visiting the Columbia Gorge between June 16-19, 2001, to see pear, sweet cherry and apple orchards in one of the most scenic fruit-growing landscapes in the world. Orchards surround the towns of Hood River and The Dalles, and in the background are the snowcapped volcanic peaks of Mt. Hood in Oregon, Mt. Adams in Washington, and the dramatic gorge of the Columbia Hood River Valley. The tour is sponsored by the International Dwarf Fruit Tree Association (IDFTA).

This area is one of the nation's agricultural showpieces, famous worldwide for its pears. More than 15,000 acres of the 20-mile-long valley are planted in orchard, and more than 30% of the United States' winter pears (Anjou, Bosc and Comice) are grown here, as are over 11% of the nation's Bartlett pears. The Valley's Newtown Pippin apple is considered the highest quality in the world. The fruit industry is the most important economic factor in this fertile valley, with over 220,000 tons of apples, pears and cherries produced annually.

The Dalles is a town of 11,000 people, located 20 miles east of Hood River. It has a much drier climate - 10 to 15 inches of rain annually, versus over 30 inches in Hood River. The reduction in rainfall, increase in sunshine, and the deep and productive volcanic soils make The Dalles an ideal location for growing sweet cherries. More than 7,500 acres of sweet cherries are grown for fresh market (mostly for export to Asia) and for processing. Bing is the major fresh market variety and Royal Ann (Napoleon) is the major processing variety. The trend is to increase fresh market production with plantings of the newer varieties like Chelan, Tieton, Lapins and Sweetheart.

Note the Registration Deadline is June 1, 2001. Contact Charles Ax, IDFTA, 14 South Main Street, Middleburg, PA 17842, phone: 570-837-1551, E-mail: idfta@uplink.net.

For complete information on the IDFTA Summer Tour and Registration Information visit the IDFTA website at: <http://www.IDFTA.org>. □

Twilight Fruit Meeting

Tuesday, May 15, 2001 at 6:15 p.m.

Wm. Schober Sons, Inc.

Corner of Route 553 (Buck Road and Route 604 [Monroeville Rd.]), Monroeville, NJ

Sponsored by Rutgers Cooperative Extension of Gloucester County. This meeting will be conducted at Wm. Schober Sons, Inc., apple and peach farm owned and operated by the Hurff family. The meeting will start at their packinghouse storage and retail marketing facility right along Buck Road. A walking tour of blocks around the buildings will be conducted. A weed control demonstration in a block of Jerseyglo peaches will be evaluated. Blocks of Empire and Staymanred apples on MM111, Stark Spur Dixiered Delicious and Red Cort on MM111 will be evaluated. White nectarine and scab immune Apple Block will also be discussed.

6:15 p.m. Welcome and Introductory Remarks by Myron Hurff and Jerome L. Frecon Agricultural Agent, Rutgers Cooperative Extension

6:25 p.m. Peach and Apple Herbicide Demonstration and Discussion by either Dr Brad Majek or Jeff Hammerstedt, Rutgers Cooperative Extension

6:40 p.m. Demonstration of Integrated Pest Management Monitoring Techniques and Problems by Dave Schmitt, Tree Fruit IPM Program Associate and Dean Polk, Statewide Fruit IPM Agent, Rutgers Cooperative Extension

7:05 p.m. Insect Control Update and New Labels for Insect Control by Dr. Peter Shearer, Specialist in Fruit Entomology, Rutgers Cooperative Extension

7:20 p.m. Disease Management Update by Dr. Norman Lalancette, Specialist in Tree Fruit Pathology, Rutgers Cooperative Extension

7:35 p.m. Discussion of Scab Immune Apple Varieties and White Nectarines by Jerome L. Frecon

7:50 p.m. Apple and Peach Rootstocks and NC140 Testing Programs plus more information an Apple Thinning by Dr. Robert Belding, Specialist in Pomology, Rutgers Cooperative Extension

8:05 p.m. New Marketing Opportunities for Fruit Growers and Update on New Jersey Apple Industry by Mr. Ron Good, Agricultural Marketing Specialist, New Jersey Department of Agriculture

8:20 p.m. Worker Protection Standard Review and Aids by Jerome L. Frecon

8:45 p.m. Adjourn

NJDEP pesticide applicator units are: 1A- 3 Units, 3A - 3 Units, CORE - 1 Unit, PP2 - 3 Units

This location is not totally accessible to the physically impaired. Special arrangements can be made by calling Jerry Frecon at Rutgers Cooperative Extension of Gloucester County at 856- 307-6450, 1 day prior to the meeting.

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