

Potential Fruit Rot Diseases

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rot.

The diseases can be difficult to identify because symptoms mimic or resemble others. The clue is to seal the infected fruit in a clear plastic bag for one day to tell the difference.

With brown rot (*Monilinia fructicola*), immature green fruit is not affected by the fungus. It is the ripening fruit that is targeted, which includes a brown, rotted, powdery mass on the fruit caused by spores. Spores are spread by rain onto other parts of the plant and other fruit. Twigs can also get infected with the fungus.

To identify, brown rot will cause fruit decay extremely fast in a bag. Other infections, such as anthracnose and *Rhizopus* fruit rot, will take a lot longer to decay the fruit.

To treat, growers must get rid of the dead mass and the fruit "mummies" that accumulate near the tree. It is important to remove the dead fruit, prune the infected twigs, control the insects that can also spread the fungus, and increase fungicide controls. There are effective fungicides available.

Another fungus, peach anthracnose, has been around for years. The technical name is *Glomerella cingulata*, also called "bitter rot" on apples. It affects peach and apple trees and can spread from one to another. The symptoms resemble brown rot but include a brown and sunken lesion "with orange to yellow spores in concentric rings" said Travis.

The anthracnose, unlike brown rot, will take a lot longer to completely decay the fruit when sealed in a bag.

To reduce disease pressure, remove brush piles away from orchards, said Travis. Also, anthracnose, unlike brown rot, will infect green fruit.

In the third disease challenge, *Rhizopus* fruit rot (if placed in a plastic bag) will turn "black or very gray," said Travis. Symptoms include a dark mold on the surface of the fruit, unlike brown rot, with tan-colored spores. The disease can overwinter, so it is important to "maintain sanitary conditions for best controls," he said.

To control disease, Travis indi-

cated that growers need to clean the packaging, feed basins, crates, hydrocoolers, and packinghouse. Store fruit under cold temperatures. Use a post-harvest chemical treatment to destroy any potentially overwintering microorganisms. Also, apply a fungicide near the harvest but within the parameters of the label.

"I am concerned about this peach anthracnose," said Travis, who urged growers to send samples to the Fruit Research Center in Biglerville for analysis. Proper identification of the disease threat is necessary, because improper use of fungicides that have no effect could be costly.

Using Fungicides

At the Lancaster fruit meeting, Travis also told the growers that it is important to think about "controlling diseases earlier in the season than you did before," during the portion devoted to effective use of fungicides.

The Penn State plant pathologist told the growers to beware of potential fungicide resistance.

Travis spoke about two groups of fungicides: protectants and sterol inhibitors. Simply put, the protectants actually seal the plant away from fungicide infestation. The sterol inhibitors are growth regulators that actually affect the fungus growth and kill it.

The sterol inhibitors eradicate fungus infections and protect plants. They are absorbed by the plant surfaces and move inside plants. They are made for specific site action and have a limited spectrum of control. Importantly, noted Travis, they also mean a high risk of resistance development if used frequently.

Sterol inhibitors won't work on summer fruit rots such as sooty blotch and fly speck on apples, according to the pathologist. If dry, hot conditions prevail late in the growing season, growers should not be as concerned with the sooty blotch and fly speck challenges.

In the end, it's important to know exactly how to use the fungicides in what combinations to get effective control.

"Use sterol inhibitors and protectants in combination. Refrain from using sterol inhibitors by themselves," he said. "Put on

sterol inhibitors to get good control and put on protectant control to inhibit buildup" of fungus, according to the pathologist.

Used in combination with selective use (pink through petal fall) and with some form of integrated pest management (IPM) program may prove effective for growers. For inhibitors, it is important to use in mixtures with protectants and rotate them.

Mite Management

Dr. Carl Felland, entomologist at the Penn State Fruit Research and Extension Center in Biglerville, spoke about the challenges of mite management in apples.

For growers using an IPM program using predator insects, it is important to do the counts and watch the population of the host material after miticides are used.

Felland mentioned the research under way on a new chemical miticide treatment that had nearly complete control of mites from a 1995 trial lasting from July 5 to Aug. 7.

The experimental miticide will take years to be registered and available commercially.

New Apple Rootstock

Dr. Rob Crassweller, Penn State pomologist, spoke about the exciting potentials with the new apple rootstock lineup.

Crassweller spoke about the new Cornell Geneva rootstock that has produced more than twice the output of fruit per tree (using a Liberty cultivar), with the same space as an M.7, and produces flowers earlier.

Crassweller spoke about a lot of other new rootstock selections that hold promise for growers.

Increase Pollination

Crassweller also said there are a variety of ways to increase pollination of fruits other than bee management.

To get better pollination, it is important to provide a lot more cell division earlier on, to create a greater cell expansion that will give improved fruit size.

There are a variety of nutrients that can boost pollination in fruit, including the use of boron and

zinc. Growers can also make more effective use of "pollinizers" but must set the material properly in the rows.

The use of crabapples can act as pollinizers but also must be placed properly in the orchard.

When using bees, hive placement is critical. Also, dandelions should be removed, because bees show a preference for them over the fruit flowers. Also, if using a rapeseed cover, the rapeseed flowers must be removed.

Apple Marketing

Brenda Beleski Briggs, director of the 1995-1996 Pennsylvania Apple Marketing Board, indicated that export markets are increasing, particularly to the number one export location, Brazil.

As of November 1995, 43,000 cartons of apples were sold to Brazil, up to 60,000 at the end of December 1995. The figures were supplied by the U.S. Apple Export Council.

On the agenda for members is the referendum to raise the current checkoff from 7 cents a bushel for fresh apples to 15 cents. Also, there will be a vote to raise the current checkoff of 7 cents per hundredweight for processing apples to 8 cents by the year 2000, according to Briggs.

Growers could see domestic

markets threatened by other states, particularly New York, which went to a checkoff of 16 cents a bushel for fresh apples last year. Michigan assesses 19 cents a bushel for fresh apples and 21 cents a hundredweight for processing. Michigan's apple marketing board has a budget of \$2.1 million per year.

Growers need to consider "looking around the state and around the country" to continue to realize profits in apple production, according to Briggs. The assessment would help the board in their marketing efforts to the tune of \$400,000 per year in 1996 and to \$520,000 per year in the year 2000.

The board is accenting apples as a new snack food, to compete against the better profit margins of potato chips and other products.

Phil Pitzer, Pennsylvania Department of Agriculture, Region VI agronomic products inspector, provided an overview of compliance with the new Worker Protection Standard.

Pitzer also reviewed new PDA pesticide regulations at the meeting.

The meeting was coordinated by the Penn State Cooperative Extension Service and the York and Lancaster County Fruit Growers' Association. Meetings continue in the weeks ahead with other growers in other parts of the state.

Time To Celebrate Poultry At Banquet

HERSHEY (Dauphin Co.) — More than 1,500 people involved in Pennsylvania's poultry industry will attend the annual Pennsylvania Poultry Federation banquet, scheduled Wednesday, April 24 at the Hershey Convention Center.

The social hour starts with cocktails and hors d'oeuvres at 5:30 p.m. Dinner is 7 p.m.

Entertainment at the annual fund raising banquet will feature country music star Ricky Skaggs.

Tickets are available for \$125 each. Reserved tables of 10 or 12 are available.

For reservations, contact the Pennsylvania Poultry Federation, 500 N. Progress Avenue, Harrisburg, PA 17109, (717) 652-7530.



Ricky Skaggs

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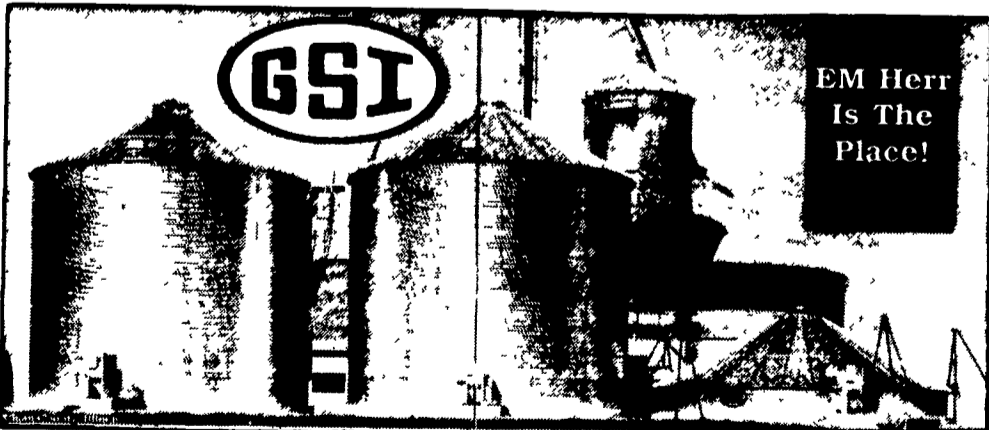
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