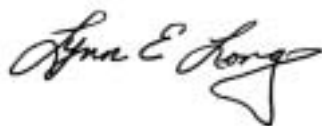


HORT UPDATE

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Coming Attractions

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Master Fruit Grower Classes Offered

In-depth classes on fruit production topics will be offered this fall to cherry growers in the Mid-Columbia. Classes are designed to give participants the in-depth knowledge they need to understand the basics of tree fruit production. For example, the first class covers general botany including cells and their components, how cell division occurs and the function of photosynthesis and respiration, plant structures and parts, among other topics. As the name implies this will be a general class that can apply to all plants. However, in the afternoon a class on tree fruit physiology will be taught that will be more specific to cherry production covering such topics as pollination, incompatibility, fruit set, fruit size factors, growth regulators and factors affecting photosynthesis.

Classes will be held in the third floor auditorium at Columbia Gorge Community College, in Building 2, located directly above the Extension Office. Classes will be held Thursday, November 21; Monday, November 25; Monday December 12 and Monday, December 19. Classes run from 9-12 and 1-4 on each of the above dates except December 19 which is a tour to Willamette Valley

nurseries. Attendance at all classes is mandatory and a passing grade on weekly tests will be required to remain in the program.

To increase class interaction and learning, class size will be limited to 20 individuals. Preference will be given to cherry growers in the Mid-Columbia and attendance will be limited initially to one person per orchard. Others may apply, but names will be placed on a waiting list, admitted on a first come, first served basis.

Call the Wasco County Extension Office to register, 296-5494. The deadline for registration is Friday, November 8, but earliest registrants will have preference for admission. The registration fee is \$30.00. Oregon and Washington pesticide license re-certification credits will be applied for.



Master Fruit Grower Agenda

Thursday, November 21

9:00-12:00

General Botany

Cells and their components, how cell division occurs, the function of photosynthesis and respiration, plant structures and parts, etc.

Chip Bubl,

OSU,

Extension Horticulturist

Thursday, November 21

1:00-4:00

Tree Fruit Physiology

Pollination, incompatibility, fruit set, fruit size factors, growth regulators and factors affecting photosynthesis

Anita Azarenko,

OSU, Professor

Monday, November 25

9:00-12:00

General Plant Pathology

Pathogen comparisons including fungi, bacteria, viruses and nematodes, conditions necessary for biotic diseases and the disease cycle

Phil Hamm,

OSU, Extension Pathologist

Monday, November 25

1:00-4:00

Soils

Soil texture and structure, water movement, soil moisture capacity, organic matter, pH, and fertilizers

Bob Stevens,

WSU, Prosser

Thursday, December 12

9:00-12:00

General Entomology

Insect anatomy and development, insect classification and identification

Lynn Royce, OSU,

Research Associate

Thursday, December 12

1:00-4:00

Cherry Entomology

Cherry Fruit Fly, OBLR, leafminer, scale, mites, shot hole borer, pear slug, beneficial insects

Helmut Riedl,

OSU Entomologist

Mike Omeg,

IFP Coordinator

Thursday, December 19

8:00-5:00?

Tree Fruit Nursery Tour

Meadow Lake Nursery and meristem tissue lab.

Jeff Olsen,

OSU,

Extension Horticulturist

Pruning Tour

Dave Allen to lead pruning tours in English and Spanish

The annual cherry pruning tour will be conducted in The Dalles on Monday, December 16th. Two tours will be offered. The first, beginning at 8:00 a.m. will be conducted in English. The afternoon tour starting at 1:30 p.m. will be held in Spanish. The afternoon tour is specifically designed for orchard foremen and workers, but all are welcome to come.

Both tours will feature Dave Allen of Allen Brothers Fruit in Washington. Dave will talk about the importance of light distribution in high

density systems as we prune orchards of various ages. The morning tour, in English, will start at Treaty Oak Orchards on Mill Creek Road. From the West The Dalles exit off of I-84 turn east on 6th Street, follow to Cherry Heights Road and turn south. Go to 10th Street, turn left (east) and follow to Mt. Hood Street. Take a right (south) onto Mt. Hood. (Note: Mt. Hood turns into Mill Creek Road.) Travel 1.3 miles from 10th and Mt. Hood. The orchard is on the right. The afternoon tour, in Spanish, will begin at Dean McAllister's young block next to the Cemetery block on Three Mile Road.

8:00 AM **Coffee and Donuts Sponsored by UAP Pacific**

8:15 AM **Treaty Oak Orchard, Mill Creek Rd.**
High density sweetheart trees

Stop 2 **Honald Orchards, 2505 Wright Dr.**
High density central leader on mazzard

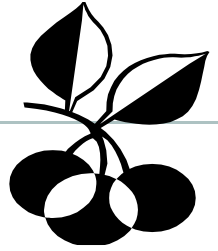
Stop 3 **McAllister Orchard, 2515 Three Mile Rd.**
(Stop 1 Pruning young trees
Spanish **Coffee and donuts**
Tour, 1:30) provided by UAP Pacific

Stop 4 **Dave Cooper's Doak Block,**
Three Mile Rd.
Pruning moderate age trees,
17' spacing

Stop 5 **McAllister Orchard,**
2515 Three Mile Rd.
Pruning mature trees, 17' spacing



Cherry Research Review in The Dalles



This years Cherry Research Review will be held November 7th in The Dalles at the Discovery Center Theater. The Discovery Center is located off of Highway 30 just west of town. The program runs from 9:00-2:30 with a poster session from 2:30-4:00. The Cherry Research Review is an opportunity for growers and scientists to hear current reports on research that has been conducted on cherries throughout the Northwest. Reporting on their research will be Drs. Roberto Nuñez, Anita Azarenko, Matt Whiting, Don Elfving and many others.

Tree Fruit Foliar Nutrition Workshop

Dr. Tim Righetti will lead a workshop on the role of foliar nutrients in an overall orchard nutrition program. Most of you are familiar with Dr. Righetti. He is a professor in the Department of Horticulture at OSU. His research program has focused on many aspects of tree fruit nutrition, including foliar nutrition of pear. The workshop will be held at the Pine Grove Grange in Hood River on Wednesday, November 13 from 2:00 to 4:00 PM. There will be no charge for the workshop. For more information about this program, call the OSU Extension office in Hood River at (541) 386-3343.

CORE Pesticide Training

A CORE pesticide training session will be offered at the Pine Grove Grange on Tuesday, November 19. This will be an opportunity to learn about using the web based Pesticide Use Reporting System for submitting pesticide use reports to the ODA, the HRGSA Best Management Practices project, and accessing and using predictive models for orchard integrated pest management. Coffee and donuts will be provided at 8:00 AM courtesy of UAP. The training session will run from 8:30 AM to 12:30 PM. There is no charge for the training session. For more information call the OSU Extension Service Office in Hood River at (541) 386-3343.

Crop Insurance Seminar Planned

There will be a Crop Insurance seminar held on November 4th at 9:00 AM at the Columbia Gorge Community College auditorium. The auditorium is located in Building 2 immediately above the Extension office on the 3rd floor. This will be an informational meeting covering the 2003 crop insurance program for cherries and will answer your questions and take suggestions for future programs. The program is sponsored by the Wasco County Fruit and Produce League.

New Information related to Regina

Several people have chosen Attika as a pollinizer for Regina. This appears to be a good choice as it bloomed two days before Regina this last year. First bloom and full bloom were April 15 and 22 respectively, while Regina was April 17 and 24. There is a concern, however, about the rootstock combination with Attika. I know of three cases where Attika was combined with Gisela 6 rootstock and the trees are doing poorly. In one situation that I looked at the trees were small or dying without any obvious malady. It is difficult to say if this is a compatibility issue, but the possibility needs to be considered. It may be wise to choose another rootstock for Attika. If using it as a pollinizer, Gisela 5 or 12 may be a better choice than 6. If you are growing Attika as the main variety you might consider Mazzard or Gisela 12. Please keep in mind that Attika/Mazzard is the only combination with any history in the U.S.

Dr. Bob Andersen originally suggested Starks Gold as a pollinizer for Regina. Unfortunately, Starks Gold seems to be blooming considerably earlier than Regina here in The Dalles. I spoke with Dr. Andersen about this recently and he said that in New York, Starks Gold and Regina bloom together. Here in The Dalles, Starks Gold first bloomed at the Cemetery block in 2002 on April 10, compared to April 17 with Regina. Full bloom was closer, with Starks Gold in full bloom on April 18 compared to April 22 for Regina. The saving grace for Regina may be Starks Gold's bloom duration. One grower observed last year that Starks Gold bloomed over a very long period of time and was still in bloom when Regina was blooming.

Dr. Roberto Nuñez and I had an opportunity this last year to evaluate some Regina fruit that was packaged at Orchard View Farms. More thorough data will be shared at another time. However, I can say that after two weeks in storage the Regina fruit looked very sound with few

pits or bruises. However, the fruit had been treated with modified atmosphere in a ViewFresh® packaging. In evaluating the fruit, Dr. Nuñez and I discovered that approximately 60% of the cherries had an internal browning condition similar to what Dr. Facteau found a number of years ago with Lambert. This was not a rot as the fruit was still very firm, but a general browning of the flesh that detrimentally affected the flavor. It would appear from these results that we should not MAP Regina fruit until we have had a chance to work out atmospheric conditions more thoroughly.



Bacterial Canker Management

Bacterial canker infection has always been a concern when a new block of cherry trees is planted. Canker is of particular concern when those young blocks are located in higher precipitation areas such as the Willamette or Hood River Valleys. Historically, drier areas such as The Dalles and Mosier have had fewer problems with this disease. We have seen over the last few years that this trend continues to hold, and yet, with the increase in new plantings, there is an increase in canker incidence in all areas. What causes bacterial canker and how can the incidence of the disease be reduced?

Bacterial Canker Management...continued

Causal agent and disease form

Bacterial canker is caused by the pathogen *Pseudomonas syringae*. The pathogen actually causes three different disease forms: the typical canker that affects trunks, branches and twigs, a dead bud form that kills buds in the spring and a leaf spot form. Since the leaf spot form is seldom a problem in the Mid-Columbia it will not be discussed here. However, dead bud and the canker form are present, with the canker form being the most prevalent.

Dead Bud

Dead bud is usually first seen in the spring in the form of dying buds. Incidence of the disease is increased with frosty conditions. For this reason, low lying areas prone to frost damage and poor air circulation are the most common sites of this disease. As the disease progresses, both leaf and flower become infected. Cankers seldom form, but gumming may be produced.

Canker

Vertically elongated cankers with associated gumming are the most common symptoms of bacterial canker. Although gumming is associated with bacterial canker, there are many causes for gumming in cherry trees. Cankers begin to appear in the winter and early spring and consist of a darkened and sunken area of the branch. Removing the bark exposes dark stripes in the wood. Girdled branches often die in the spring or summer.

Disease Development

Growth and dissemination of the bacteria are favored by cool, wet weather. Wounds need to be present on the tree for infection to occur. Wounds can be caused by pruning cuts, frost damage or leaf scars that are present in the fall after the leaves drop. According to Dr. Bob Spotts, pathologist at the Mid-Columbia Agricultural Research and Extension Center, trees are most susceptible to infection their first two years after planting. Another disease, called *Cytospora* canker, a fungal disease, commonly infects trees as they mature. Studies have shown that late fall and early winter pruning increase the incidence of bacterial canker compared to late spring pruning. By summer, there is a decreasing potential for infection. It may, therefore, be wise to prune infected blocks, or at-risk blocks during the summer to lessen the potential for infection.

When pruning, it is important to take weather conditions into consideration. Newly created wounds with the presence of rain are ideal for infection to take place. On pears, Spotts found that there was a direct correlation between disease infection and the time of introduction of inoculum after a pruning cut was made.

Time after pruning	Percent infection
0 hours	8%
24 hours	2.3%
72 hours	0%

Although we don't know for sure, it may be that these same time periods hold true for the incidence of rain after pruning. In other words, it would seem wise to stop pruning young cherry trees if rain is predicted within 72 hours of pruning.

Bacterial Canker Management....Continued

Factors that predispose cherry trees to infection include wounds, frost damage, improper soil pH, poor nutrition, excess nitrogen, and nematodes. In addition, according to a study done by Spotts a number of years ago in Mosier, there is a direct relationship between higher infection levels and proximity to an old orchard.

Besides pruning cuts, one of the major causes of wounds on cherry trees is from winter injury. A number of years ago a young orchard in The Dalles area became severely infected after a harsh winter freeze. Trunks of young trees should be painted with a white latex paint to reduce the incidence of this type of injury.

Pseudomonas cells are present everywhere, however, the type of cover crop in an orchard does affect the population of the pathogen.

Pseudomonas is more prevalent on grasses and dandelions than on clover, according to Spotts.

Last year Spotts released an 11-step program to help manage bacterial canker of sweet cherry. Control must integrate several techniques including the following:

1. Do not interplant new trees with old trees, which are major sources of *P. syringae*.
2. Keep irrigation water off the part of the trees above ground as much as possible for the first 2 or 3 years after planting. Consider withholding water in late summer so trees will “harden off” and not be as susceptible to low temperature injury in early winter.
3. Avoid all types of injury – mechanical, insect, frost. Paint all trunks white with latex paint to prevent winter injury. Adding copper to the paint is probably of little benefit.
4. Some studies show less bacterial canker when pruning is delayed until late spring, even as late as after flowering in May. Less disease also occurs when summer pruning is used. Prune only during dry weather if possible.
5. Remove and destroy branches and trees killed by *P. syringae* from the orchard.
6. Mazzard F12-1 is one of the most resistant rootstocks. Resistance of new rootstocks is unknown at this time. Sweet cherry scion cultivars generally are susceptible.
7. Locate cherry orchards in an area less likely to be affected by frost and slow drying conditions.
8. Provide optimal soil conditions for growth of cherries, including attention to pH and nutrition. Application of excess nitrogen, especially late in the growing season, will promote late season growth that is susceptible to low temperature injury in early winter, followed by bacterial infection.
9. Control weeds. They often support large populations of *P. syringae*, especially grasses. Clover and vetch ground covers support lower populations. Consider clean cultivation of row middles for the first 3 years.
10. Fixed copper products or Bordeaux 12-12-100, applied in October and January may help, but strains of *P. syringae* resistant to copper are widespread in the Mid-Columbia area.
11. Test for and control plant pathogenic nematodes before planting if needed. High populations of ring nematode have been associated with more bacterial canker.

Bacterial Canker Management....Continued

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New Farm Worker Housing Available

Casa Lomas Apartments is opening in January 2003 here in The Dalles. Casa Lomas is a 24 apartment community for farm-workers. The units will be available only to farm-worker families. Eligible families must meet low-income requirements based on family size. Rent is based on 30% adjusted income. The complex will feature nine two-bedroom apartments, eleven three-bedroom apartments and four four-bedroom apartments.

Please let any farm-worker families who are in need of a place to stay know about this housing opportunity. For more information please call Sylvia Morales at: (541)296-3397