



UMPQUA VALLEY Hort News

Horticultural Newsletter for The Umpqua Valley

May & June 2009

Oregon State
UNIVERSITY

Extension
Service
Douglas County

1134 SE Douglas Ave.
P. O. Box 1165
Roseburg, OR
97470
(541) 672-4461
1-800-883-7568

Steve Renquist
Horticultural
Extension Agent

Inside This Issue:

Calendar of
Coming Events 1

Vineyard Floor
Management 2

Food Security
Issues 2009 3

Electronic
Sensors for
Sprayers 3



Layout, Design,
& Distribution
Mary Hoffmann

Agriculture, 4-H Youth,
Family & Community
Development, Forestry, and
Extension Sea Grant
Programs. Oregon State
University, United States
Department of Agriculture,
and Douglas county
cooperating. The Extension
Service offers its programs
and materials equally to all
people.

Please note: The contents of this newsletter are provided for educational purposes, and are not intended to be taken as strict recommendations for treatment of any orchard pest or condition. ALWAYS READ THE MATERIAL LABEL PRIOR TO APPLICATION.

2009	Calendar of Coming Events	2009
May 2	OSU Master Gardener Plant Sale. Our annual plant sale will be held at the Douglas County Fairground from 9am-4pm. We will be sharing our site at the 4-H building with over 40 local vendors. Come by to see our great selection of locally tested vegetable varieties and ornamentals and bring your gardening questions.	
May 13	Filbert Grower meeting. We will be meeting with Vaughn Walton, OSU entomologist, who will be discussing insect pest control and the importance of knowing insect thresholds before chemical treatment. We will meet at 10am until noon at Norm Lehne's orchard and will visit other sites on request.	
June 4	Grape Day in the Umpqua Valley. This is our annual field day for grape growers. We will have presentations from Patty Skinkis, Vaughn Walton, and Marcus Buchanan, OSU Extension and Research specialists. Our meeting will begin at UCC in the Tech Center, Room 120 at 9am. The Tech Center is located on the back side hill parking lot across from the entry to the new vineyard site. We will visit Melrose Vineyard at noon for lunch. Wayne Parker has offered to do a barbeque for us. The afternoon will include a vendor display and chance to visit with suppliers, and an equipment demonstration that will focus on vineyard mechanization. We will have equipment on display and reps there to demonstrate and discuss labor savings and costs. RSVP for "Grape Day Lunch" by Tuesday, June 2 to 672-4461.	
June 10	Strawberry Field Day at the North Willamette Research and Extension Center. This annual field day is a great opportunity for berry growers to visit with OSU Extension agents, USDA Researchers, industry reps and other growers. I especially like the opportunity to see, hear about, and taste new berry variety releases that are showing promise. The meeting is from 2pm-5pm in Aurora, Oregon at the NWREC.	
June 18	Filbert Field Day in Amity Oregon. Join filbert growers from around the Willamette Valley as they visit several locations in Yamhill County off highway 99 south of McMinnville. More details will be out by mid May. Jeff Olsen will lead the tour.	
June 23-25	American Society of Enology and Viticulture annual meeting. The annual meeting will be held in Napa Valley this year. Rootstock meetings will be on June 23, disease and insect meetings on June 24, and viticultural practices discussed on June 25. For more information on location and agenda www.asev.org	



Vineyard Floor Management

A number of studies on vineyard floor management practices have been conducted during the past 5 years in the central and northern coast of California by ARS-USDA and UC Davis personnel. The lead researchers were Richard Smith, Larry Bettiga, Michael Cahn, and Kendra Baumgartner. These researchers were studying soil compaction, soil moisture retention, rainfall infiltration and runoff, vine nutrition, soil microbial biomass, mycorrhizal fungi, grape yield, fruit quality, and vine growth. The research results offer a number of good points for anyone growing grapes in our area and wondering what are the best steps for managing vineyard soils.

In one of the studies, plots were set up at a 10 year old commercial site with varying weed control practices in the vine rows including cultivation every 4-6 weeks, post emergent herbicides (Roundup-Goal), pre-emergent herbicides (Simazine), and plots with both pre-emergent and post-emergent herbicides. Cover crop treatments in the alleyways were clean cultivation, early maturing annual rye, and later maturing triticale. Alleyways were disced and cover crops were planted each year in the early fall, mowed in early spring to protect vines from frost, and mowed in late spring to control any late growth. Cover crops naturally senesced each summer.

Evaluations of plots were conducted for compaction with a soil penetrometer test each fall. The soil tests showed no differences between systems the first year. But, in the subsequent four years, the clean cultivated plot in the alleyway and the clean cultivated vine row grew more compact each year. Cultivation was often done when vine rows were still wet from the drip irrigation adding to the compaction.

Soil moisture levels were monitored between 6 to 42 inches in both the vine rows and alleyways in all plots. The soil moisture levels in the alleyway middles declined most rapidly with the early maturing annual rye, and were about the same between the late maturing triticale and the clean cultivated plots until late May when the triticale matured rapidly using more moisture. The various weed control practices with herbicide and cultivation in the vine rows did not impact soil moisture levels.

Runoff, turbidity, and suspended sediments were measured at all plots during heavy rainfall events. As expected the cover crop plots saw significantly less runoff and much cleaner water during all years of the tests.

Soil nutrient tests and plant leaf petiole tests showed no difference in nutrient content between any of the plot management systems with one exception. Vines in the cover crop plots did show lower boron and phosphorus levels. In the test plots there was no correlation between cover crop treatments, clean cultivation and nutrient uptake by the vines because most of the vine roots were in the 4 foot wide clean strip under the vine. In irrigated vineyards with relatively low rainfall the vine roots did not reach very far out into the alleyways. In Oregon where greater rainfall occurs, vine roots will reach further into the alleyway providing a larger area for foraging for the vine and more competition with the cover crop. Patty Skinis at OSU is doing cover crop trials in the Willamette Valley and her first year results clearly showed greater pruning weights with clean cultivated plots versus permanent cover crops.

The most significant impact of the vineyard floor treatments in California was the positive effect of cover crops raising the soil organic matter content through repeated mowing and the uptake of nitrogen by the grasses to prevent leaching of N into waterways. Soil microbial biomass was also highest in the alleyway plots with the early rye cover crop and lowest in the bare soils. In the clean vine row plots microbial biomass was highest where weeds were being cultivated and added to soils. Beneficial Mycorrhizal fungi were isolated in all plots but were in greater number in the rye grass plots early and the triticale plots later. The density of colonization seemed to be correlated to the greatest amount of actively growing plant material near the grapevines depending on the plant species. Some weeds (mustard family) do not support mycorrhizal fungi so they wouldn't improve the environment for the grapevine by growing in the vine row.

No differences in crop yield or fruit composition were recorded due to weed control treatments in the vine rows. And, no difference in the cover crop treatments were seen with the exception that after

Continued on page 3

Vineyard Floor Management... Continued from page 2

three years grape berry size was reduced in the cover crop plots versus the clean cultivation. Weed control treatments also had no effect on vine growth when shoot counts and pruning weights were taken. Cover crop treatments had no effect on vine growth in years with average rainfall, but in two years with reduced rainfall the shoot weights decreased significantly versus the clean cultivated alleyways. In these tests the researchers stated that “vine growth, yield, and grape quality are more significantly affected by annual precipitation than by vineyard floor management practices”. This is where cover crop tests in Oregon start to diverge a little from the California tests. Since our rainfall is greater than California and often goes later into the growing season, Oregon soils will frequently have too much water to limit vine growth. Cover crops in Oregon are probably a better tool for reducing vine growth in our average year than they are in California. California only experienced the moisture competition that reduced growth in two very dry years.

To recap, cover crops did provide many benefits in these vineyard studies. Benefits included increased organic matter content in soils allowing for better rainfall infiltration, greater microbial biomass, erosion protection, and clean water runoff. Getting the right cover to compete with your vines at the right time is important, so do some local experiments with a variety of grasses. None of the weed control methods had a negative impact on productivity or grape quality.

There were a number of negative issues with clean cultivation in alleyways and vine rows. Soil compaction did increase over time in the 6 inch to one foot horizon in the soil. There was also considerably more soil erosion in winter and dust during the growing season. Comments were made in the research that more work needs to be done on improving systems for weed control in vine rows that builds a healthier soil with greater microbial biomass and less compaction.

Food Security Issues for the 2009 Crop Year



The softening economy during the past year has created a difficult job market in Douglas County and Oregon. With many people out of work, food security issues rise to the top of our local needs list. Many of us who work in the agriculture industry or who are gardeners can help by doing what we do best, grow food.

I am encouraging all our Master Gardeners to grow an extra row or quantity of vegetables and fruits in their home gardens and deliver them to our food kitchens and pantries. We should also help local groups find more community locations where people can grow their own gardens if they don't presently have a yard. There have been a few new community gardens start

up in the past two years. The Master Gardeners and I will be happy to give support or classes to people who don't know much about gardening. If you get people asking questions about gardening, send them to the Extension office to visit with the Master Gardeners. Publications are available for free or with very low costs for copies.

If you are raising food commercially please work with gleaners or other food groups like UCAN if you have crops that did sell that could be donated. There is a growing need for food, so produce that may not meet your normal standards may be acceptable. I will be happy to help you find the right people to donate your extra food too. Just give me a call at the Extension office at 672-4461. Thanks *Steve Renquist.*

Electronic Tree Sensors for Sprayers

I noticed recently a new sprayer from Progressive Ag of Modesto California that includes what they call a LectroSense sensor for use on their LectroBlast electrostatic sprayers. The sensor is attached to a break-way boom, which is mounted on each side of the sprayer toward the front. The boom and sensor stick out about two feet beyond the wheels of the sprayer. The sprayer looks like a typical blast sprayer with nozzles in the back of the rig. When the sensor is

being towed by a tractor and detects a tree, it signals the sprayer to turn on. If no tree is present it signals the sprayer to turn off. Using this sensor saves up to 75% of the spray materials when used with young orchards or vineyards. This type of increased efficiency with spray materials is not only good for your spray budget, it is also very helpful for the environment of your farm by reducing material overspray.

May & June 2009

Oregon State
UNIVERSITY

Extension Service
of
Douglas County



UMPQUA VALLEY
Hort News

Presented by Steve Renquist, Horticultural Agent
Email: steve.renquist@oregonstate.edu

To find local Extension information & news . . . Douglas County/OSU Extension Web Site:
<http://extension.oregonstate.edu/douglas/>

OSU Extension Service
Oregon State UNIVERSITY
P. O. Box 1165
1134 SE Douglas Ave.
Roseburg, OR 97470
PH: 672-4461
OSU Extension Service in Douglas County

NON-PROFIT ORG
U.S. POSTAGE
PAID
Roseburg, OR
Permit No. 12