August 23-25  Far West Show. This is the premier nursery and landscape show in the Western U.S. The show includes educational programming for up to 6 pesticide credits. The show is held at the Portland Convention Center. For more details visit: www.FarwestShow.com.

August 25 thru Sept. 29, 2017  Registration for 2018 Master Gardener Training. Are you interested in the 11 week training for the OSU Master Gardener program that will begin January 2, 2018? The class meets every Tuesday, 9am-4pm, 01/02/18 thru 03/13/18. To register for this program, complete an application and deliver to Douglas County OSU Extension office no later than September 29, 2017. The class size is limited, so first come, first served. After we receive your application, you will be called to schedule a meeting with Steve Renquist to review this program, pay the class fee, and receive your textbook. Call 541-672-4461 for more details or go online to the Douglas County OSU Extension webpage at: http://extension.oregonstate.edu/douglas/. (A copy of application package is enclosed for your convenience.)

Hazelnut Trapping for Filbertworm

As of early July we have caught only 1 filbertworm moth in traps in commercial orchards in lower Garden Valley. In an unsprayed filbert orchard near River Forks Park, traps have caught 2 moths as of July 7. Remember that the threshold to guide spraying decisions is when there are 2-3 moths in all your traps or 5 moths in any single trap per week.

If you are using a calendar approach to managing your sprays, you must know the residual control for each material. For example if you are using softer products to control larvae like Delegate or Entrust (organic spinosad) these should be used first and the residual effect is only 7-10 days. Later when you wish to control adults, you could use Asana which has a long residual of 21 days. Asana is a restricted use pesticide that requires a pesticide applicators license. A second spray of Delegate or Entrust can be made to control adult moths but the residual effect is a short 7-10 days.

Closer Proximity Lures Help Increase Insect Pest Catches

Christopher Adams, a postdoctoral researcher at the Michigan State University reported that his recent research on grouping traps with lures has shown a marked improvement for catching Codling moths in high density plantings. He and fellow researchers found that putting out five traps in a line, with each trap about 13 feet apart along the tree row, made the most catches. The catch numbers are averaged across the five traps. The higher density trapping was less prone to unusual...
variability than a single trap placed on its own.

Researchers James Miller and Adams found that the standard pheromone trap emits a plume of no more than 17 feet. The traps really aren’t pulling in males when traps are spaced widely, the males instead are randomly flying about until they eventually intersect a pheromone plume. Placing a larger number of traps in succession does a much better job of pulling in males. The cost of a spray application is expensive enough that better more accurate trapping is a true cost savings if only one spray is reduced, or crop damage is avoided.

The researchers stated that their trap placement concept was inspired by long-line fishing. The greater number of traps or hooks increases the probability of making catches.

This concept makes me think that homeowners who are using just one trap for a few trees or even up to an acre, could probably improve their catch effectiveness by adding a line of traps and averaging their trap counts. I will start experimenting with this idea.

**Further Study of Materials that Attract Spotted Wing Drosophila**

A number of researchers from around the country have been testing a variety of liquid baits to attract SWD over the past four years. Initially most universities were recommending that growers use vinegar solutions to attract and monitor SWD populations. Then field observations and research indicated that mixing wine with vinegar would attract more SWD pests. Then a synthetic lure that contained volatiles from red wine and rice vinegar out performed vinegar alone in tests. Now a mixture of yeast, apple cider vinegar, whole wheat flour, and sugar is out performing the red wine and rice wine lures in controlled lab tests.

Researchers are thinking it makes sense that the flies are attracted to yeast since it is present in most rotting fruits. The research team is now advising people to use no more than 20 percent vinegar in the bait solution. Their tests showed that using more than 20% vinegar raised the acidity level too high to be a good attractant.

When researchers took their solutions to the field to test them under outdoor conditions the wine and yeast solution performed better than the other more complex mixtures in the lab.

The take-away from this research for now is that the outdoor environment is much more complex than controlled experiments in a lab. The best solution for trapping SWD looks to be a yeast and wine solution. This is definitely easier for growers to mix a little wine and a small amount of yeast from a packet into a plastic cup to hang near your fruit or berry crops. If you include vinegar, do not go over the 20% level of the solution.

This winter, spring and early summer in Douglas County was cooler and wetter than the previous few years. That seems to have suppressed the SWD. Trap counts have been extremely light up until about mid-July when catches increased. No growers were reporting fruit damage with any of the berry crops or cherries. We expect to see the trap catches increase as we go into August.

As a reminder when controlling SWD there are a number of insecticides that do a good job and have a short reentry interval (REI) and a short pre-harvest interval (PHI).

### Blueberries:

<table>
<thead>
<tr>
<th>Insecticide</th>
<th>PHI</th>
<th>REI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malathion</td>
<td>1 day</td>
<td>12 hrs.</td>
</tr>
<tr>
<td>Brigade</td>
<td>1 day</td>
<td>12 hrs.</td>
</tr>
<tr>
<td>Mustang</td>
<td>1 day</td>
<td>12 hrs.</td>
</tr>
<tr>
<td>Spinosad</td>
<td>3 day</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>Delegate</td>
<td>3 day</td>
<td>4 hrs.</td>
</tr>
</tbody>
</table>

### Raspberries:

<table>
<thead>
<tr>
<th>Insecticide</th>
<th>PHI</th>
<th>REI</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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<td>Mustang</td>
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</tr>
<tr>
<td>Spinosad</td>
<td>1 day</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>Delegate</td>
<td>1 day</td>
<td>4 hrs.</td>
</tr>
</tbody>
</table>

**Telling Nutrient Deficiencies from Diseases**

The first thing you should remember is that nutrient deficiencies are often related to the soil moisture level, temperature of the soil, and pH. If a soil is so dry that plant roots cannot take up moisture, the nutrients from the soil will not be in solution. And if the temperature of the soil is below 50F, many nutrients will not be converted by microbes to an available nutrient form. We have all seen a pH chart showing which nutrients are available or not at the various pH levels from O to 14. Reviewing these issues is the first step when deciding if a plant has a nutrient issue or a disease.

A nutrient deficiency is also more uniform across a field and will affect different species more or less equally. It will also cause plant leaves to turn yellow or brown and eventually dry out.

As a disease moves into a field it will usually be sporadic, covering small areas, often impacting just a few plants at first. Eventually or longer term it can affect a large field. Most often a disease will impact just one species of plant. Diseases often cause soft rots and water soaked spots on leaves and fruits. They are normally responsible for wilting of plants that have had adequate water.
If you are having issues with plants that don’t seem to be responding to fertilization or disease control methods, give me a call and we can discuss an action plan.

**Building up a Soil Moisture Profile**

Getting a good yield on any field crop or vegetable crop starts with building up the soil moisture profile as you enter the growing season. This year mother-nature did a great job of consistently dropping rainfall on Western Oregon from October to May. We really did not have any significant breaks all winter. Subsoil recharge was between 90-100% entering the growing season.

However, in past years we have seen rainfall cease as early as March or April. When that happens it often puts growers in the position of never having any flexibility when delivering water to your crop. One missed week of irrigation can mean a big hit to potential yields. In those years it is highly recommended to start irrigation early to bring the soil moisture level up to 80-85%. That way as summer progresses you will only need to water enough to keep the soil moisture level in that range. In most cases that will mean 1-2 inch irrigations. You won’t be needing long or heavy irrigation periods just to keep the soil above wilting point.

Maintaining a deep moisture profile for field crops is crucial for plant health. When we have the occasional hot spell and your soil moisture level is good, the plant roots have a soil moisture reserve to tap. You may decide to run the irrigation a little extra, but either way your plants will maintain excellent condition. Maintaining a proper soil moisture bank gives you the grower greater flexibility when scheduling your irrigation applications.

When you manage your soil moisture profile from early spring into summer you will find that your crops have a greater ability to naturally defend themselves from insects and disease too.

**Brown Marmorated Stink Bug Update**

Pheromone traps have been put out in a number of locations around Douglas County this spring and early summer using new attractants to measure the effectiveness at pulling in BMSB. The traps have been very effective especially when placed near filbert orchards. Our traps in May were catching 2 bugs per week. In June the trap catches have been averaging 4-5 bugs per week. The heaviest counts were at a small orchard that receives no sprays during the entire season. In mid-July producers were going to be spraying their filbert orchards for filbertworm with Asana. It will be interesting to see if those sprays will have an impact on the BMSB populations when we visit traps at the end of July. These traps seem to be very effective at drawing in BMSB’s. We are definitely trapping more BMSB’s than in previous years in Douglas County.

Wine grape growers should be advised to check grape clusters carefully before beginning harvest this fall to know if the BMSB are moving into grape crops locally as they have done in the Willamette Valley the past few years. The BMSB do cause a cilantro like taint in the wine when crushed together with grapes. If you notice any BMSB in clusters this season, it will be a good idea to begin trapping around your vineyards in future years.

**Food Additive Shows Significant Control Impact on SWD**

Research by Chemist Aijun Zhang in the ARS Invasive Insect Biocontrol and Behavioral Lab in Beltsville, Maryland has uncovered a very powerful product that will repel or kill Spotted Wing Drosophila. The product is a common ingredient in perfume, soap, and shampoo called methyl benzoate.

While trying to develop or discover a new attractant that producers could use in SWD traps, Zhang noticed that methyl benzoate had a strong repellent quality. Later he tested methyl benzoate and found it could kill SWD. Zhang also tested this same product on Brown Marmorated Stink Bugs, diamondback moth, and tobacco hornworm. He found that methyl benzoate would kill all of these pests at all stages of growth. Zhang did notice that this product worked best against the smaller insects or the younger stages of growth.

Zhang’s tests also showed that methyl benzoate is 5 to 20 times more toxic to eggs of BMSB, diamondback moth, and tobacco hornworm than conventional pyrethroid insecticides and most organic products on the market.

Zhang will also be testing methyl benzoate against Varroa mites in bee colonies, fire ants, gypsy moth, and mosquitoes.

**Steps to Avoid Fungicide Resistance (2nd printing)**

With the most critical fungicide spray season ongoing I decided to leave this article in the Hort News for another edition. Please focus on using materials from different FRAC groups as you alternate your sprays. This is critical for FRAC group 3 and group 11 especially.
I would like to review a few basic rules to follow to be confident you are not over-using any fungicide product. Firstly you should remember a simple acronym called RULES. Rotate or mix fungicides of different chemical groups. Use label rates. Limit total number of applications. Educate yourself about fungicide activity, mode of action, class, and resistance management tactics. Start a fungicide program with multi-site mode of action materials.

Make sure you are alternating fungicides with different modes of action (different FRAC codes) in your spray program. This means limiting resistance prone groups to 2 applications per season. When tank mixing or rotating fungicides make sure you are selecting materials from different FRAC groups. Many products with different names can be from the same FRAC group. For example, Adament, Inspire Super, Luna Experience, Quadris Top and Unicom all have a group 3 fungicide in them.

Always rotate vulnerable fungicides (DMI or Strobilurins) with low risk chemistries like sulfur or stylet oil or any multi-site mode of action material. If you have a flair up of a disease in the vineyard, do not use the DMI or Strobilurins to control the epidemic. It will complicate your resistance management program by potentially increasing the risk of resistance. It is also important to always use the rates listed on the fungicide label. Using a lower rate than the recommendation can contribute to increased resistance. If a flair up in the vineyard occurs, make sure you use a product that has the capability to eradicate existing fungal spores and bodies. Products like Stylet Oil, Armicarb, Kaligreen, or M-Pede can help to clean up disease but have a limited efficacy to prevent infection.

When spraying in the vineyard, orchard, or berry fields always ensure good coverage. Poor coverage can lead to a pest outbreak despite using a good spray materials program. Poor coverage can also contribute to resistance development. Remember to calibrate your sprayer before the spray season and have the right volume for the canopy size.

The fungicide spray interval in a disease management program is determined by the crop and weather and is on the fungicide label. With wine grapes it will generally be 7-10 days for powdery mildew prevention during the growing season. Most tree fruit and berry crops are not as vulnerable to fungal diseases as wine grapes once the rainy season has ended. However, each fungicide product label will give you their recommendation for each type of fruit crop which should be followed. If the weather is conducive to a disease outbreak, avoid using the longest spray interval.

Once a spray has been made, make sure to advise all your field workers of the re-entry interval (REI) in hours or days before returning to the field. With so many canopy management steps to complete in the early season for wine grapes and tree fruit, it is easy to have crews return too soon and risk a worker health issue. With wine grapes the spray season overlaps months of canopy management steps. Workers will be vulnerable when shoot thinning, suckering, shoot positioning, hedging, skirting, leaf pulling, and cluster thinning. Tree fruit growers need to focus on being safe in the fruit thinning stage.
Dear Gardener,

Thank you for your inquiry about the 2018 Douglas County Oregon State University Master Gardener™ program. Master Gardeners (MG’s) are volunteers trained by OSU Extension Service agents and specialists. To become an OSU Master Gardener, you must complete the training program, pass a take home final examination following training, and volunteer a specified number of hours of public service through the Master Gardener program.

Statewide, MG classes are offered in 30 counties around Oregon, with the length of the classes and the topics offered varying somewhat depending on the needs for each county. MG’s in Oregon have formed the Oregon Master Gardener Association (OMGA). The OMGA helps unify statewide Master Gardener activity and conducts the annual Master Gardener Mini-College.

The Master Gardener network operates in 46 states and four countries. Since 1987 we have conducted international meetings of Master Gardeners every two years on odd years. We hope you will choose to join this active group of gardeners!

In Douglas County, the Douglas County Master Gardeners Association, a non-profit organization, oversees the activities of the Master Gardeners. The association works with the OSU Extension Service and the Horticultural Agent in Douglas County providing gardening information to the public. Our objective is to inform and advise the people of Douglas County about horticulture and to effectively extend information about gardening through our certified volunteers. The OSU Horticulture Agent and the Douglas County Master Gardener Executive Board set priorities for community volunteer activities in which the association will participate.

The first part of the program provides training for volunteers in botany, soil science, insect and disease identification and control, care and culture of ornamental plants, berry crops, lawns, home orchards, vegetables and diagnosis of plant problems to prepare you to answer home gardening questions. Classes are offered only one time each year from early January to mid-March. Classes are held one day per week at the OSU Extension Service Office in Roseburg on Tuesdays from 9am to 4pm with an hour off for lunch. The office is located in the Church Annex next to the County Courthouse at 1134 S.E. Douglas Ave. The first day of class for approved and paid registrants will be on Tuesday, January 2, 2018. Pre-registration is required.

The second part of the program begins after classes are completed when volunteers give sixty hours of their time extending home horticulture information to other gardeners. Thirty-six of...
those hours are spent in our plant clinic, answering questions from homeowners on gardening topics. The other twenty-four hours are spent on activities that the Douglas County Master Gardener’s are actively engaged in. Some of those other activities include developing the Discovery Garden (a demonstration garden that is being used as our teaching center), giving presentations on various gardening topics to community groups, promoting the OSU Master Gardener program at local fairs, festivals and farmers markets and working in our greenhouse to produce plants for the DCMG spring plant sale. New ideas from members for community volunteer activities are always welcome, and if you have particular skills you would like to offer, we make a concerted effort to accommodate those.

When we receive your application, your name will be added to our file of gardeners interested in taking the next class. Generally we can accept up to 25 people in our training class. The cost of the program is $150 for people who reside in our service district or $250 for those who reside outside our service district. You are outside our service district if you reside in another county or within the city limits of Canyonville or Reedsport. These fees cover training materials and are paid at the time of your interview (check/cash). The $150 or $250 fee includes a copy of Sustainable Gardening, a comprehensive 500-page reference manual prepared specifically for Oregon Master Gardeners. You will also receive dozens of detailed handouts during the eleven-week class schedule. If you feel you will have difficulty attending all the training classes or performing the sixty hours of volunteer time, please let me know during our interview. Students who do not finish their volunteer time requirement may be billed for an extra $100.

Enclosed is an application form for the Master Gardener program. If you wish to enroll in this class, please fill out and return the application to the OSU Extension office in Roseburg by September 29, 2017 (Friday). Once your application is received, we will call you to schedule your interview in October. Each Master Gardener Program applicant must have a short interview with me before paying program fees and filing your application form. Immediately after your interview and class fee payment, you will receive your copy of the Sustainable Gardening Manual as your textbook. This will also be the time to ask questions that you may have thought of prior to or during your interview with me.

Thank you again for your interest in the Douglas County Master Gardener program. If you have questions about the program, please contact me at the address on the letterhead, email at steve.renquist@oregonstate.edu, or call me at 541-236-3047.

*We look forward to seeing you in January!*  

Sincerely,

*Steve Renquist*  
Horticultural Agent  
OSU Extension Service of Douglas County  
Email:  steve.renquist@oregonstate.edu
Application for 2018 Douglas County OSU Master Gardener Volunteer Training

I wish to become a Master Gardener Volunteer for OSU Extension Service. I understand that to begin the program to become a Master Gardener the following 4 requirements must be met:

1. I will participate in a brief interview with Steve Renquist for acceptance or denial to begin the program.
2. I will attend all Master Gardener Winter Training classes.
3. I will complete the open book exam and attain a passing score.
4. I will provide 60 hours of service that includes: 36 hours in the Plant Clinic in the OSU Extension Service Office and 24 hours of additional service in my choice of Master Gardener activities.

If I cannot provide the above mentioned 60 hours of service, I will contact Steve Renquist at 541-236-3047 to discuss options. I agree that if I do not complete the 60 hours of service, I will pay an additional $100.00 for the standard commercial fee for the class and will not be a Master Gardener.

With my signature I’m agreeing that I will comply with all the requirements for this program.

__________________________________________  ____________________________
Signature                                      Date

**** APPLICATION IS DUE IN OFFICE BY: SEPT. 29, 2017, FRIDAY.

Print Name: _____________________________________________
Physical/Residential/Home Address: ______________________________
Mailing Address (if different from above): ___________________________
                                                                 (City)                      (State)                      (Zip)
Phone: ________________________________
Email (please PRINT clearly): _______________________________________

When you have successfully completed all the requirements for this program, you’ll receive a badge.
How would you like your name to appear on your OSU Master Gardener Badge?
First: ________________________  Last: _____________________________

How did you learn about the Master Gardener Program?
☐ Friend
☐ Newspaper (which one?) ________________________________
☐ Farmers Market
☐ Master Gardener Clinic
☐ Master Gardener Events
☐ TV/Radio ☐ Other ________________________________

☐ Check here and provide address to have us mail a copy of this application to a friend or relative.

Mail application to:
Douglas Co/OSU Extension Service
Attn: MG18
PO Box 1165
Roseburg, OR 97470

APPLICATIONS DUE BY: SEPT. 29, 2017

Thank-you! Questions? Call 541-236-3039 or Email to: mary.hoffman@oregonstate.edu

This box for Extension Office Purposes Only:

Interview Date: __________________________  By: __________________________  ☐ Accept  ☐ Deny
Notes: ________________________________________________________________

Bookkeeping: ☐ Out ESD  Amount Received  Check # or CASH  Date Received  By
__________________________________  ______________________  ______________________  ______________________  __________