UNIVERSITY OF IDAHO **EXTENSION UPDATE**

Fruit Pest Advisory

University of Idaho, U.S. Department of Agriculture, and Idaho counties cooperating.
Spring 2014 Issue 3

Protect Yourselves

Western Cherry Fruit Fly (WCFF):

WCFF are going to start flying in the next couple days in certain areas of Idaho.

Chemical control sprays should be applied on or before 1060 degree-days to target mature, egg-laying flies. Sprays should be repeated every 10 to 21 days, depending on the residual activity of the product, to maintain residues high enough to kill adults before they lay eggs. Rain may reduce residues, requiring shorter intervals between sprays. Applications of products with a very short residual life are best repeated every 7 days.

Flatheaded Borers: Trees at risk are young fruit trees near infested trees, stressed by drought, and trees with wounded bark may require preventive insecticide sprays. Treat sun-scalded areas or limbs with rodent damage. Open wood is targeted by flatheaded borers. Spray is applied to the bark to kill hatching larvae. Spray the trunk up to the lower limbs about June 1 and again on July 1.

Green Apple Aphid:

In scouting orchards this week I saw first generations of this insect. Green apple aphid feed on leaves causing speckling, and heavy feeding can curl leaves, weakening the tree. Once leaves curl the aphids are extremely difficult to kill. They spend their winter on the bark. Many natural enemies can control this aphid, but if the population reaches extreme levels (4 or more shoots infested with aphids), then consider using an insecticide. Ultor, Assail, Calypso, or Voliam Flexi.

Codling Moth
Degree Day "No biofix" (5/28/14)

Station (Elev.)	°Days	Generation 1% Hatch
Treasure Valley		
Parma (2309)	562	7-July (2)
Boise (2719)	548	8-July (2)
Magic Valley		
Hagerman (3197)	525	13 July (2)
Twin Falls (3921)	446	25-July (2)
Rupert (4154)	340	31-May (1)
Eastern Idaho		
Pocatello (4605)	435	21-July (2)
Idaho Falls (4709)	328	4-Jun (1)
Rexburg (4870)	254	13-Jun (1)

Look out for:

- Fire blight strikes at fruit clusters. Prune signs out as soon as you can.
- Peach Twig Borer will be hatching out soon. The first generation is a twig borer, the second and third are fruit borers. Protect against the first generation to reduce pressure. Treasure Valley: June 3; Magic Valley: June 10
- Your plums, apricots, or peaches may be showing signs of shot hole infections. Purple holes on the leaves.

Western Cherry Fruit Fly

Tony McCammon

WCFF emergence occurred last week, sexually mature flies should be present by 1110 DD (roughly any day now for the Treasure Valle; Next week for the Magic Valley). Sprays need to be on before sexually mature flies are caught.

Each female can lay from 50 to 200 eggs in a 3-week period. The eggs hatch in 5 to 8 days, and the larvae burrow towards the pit of the fruit where they are unreachable by pesticides. When fully developed, 10 to 21 days after hatching, they bore their way out of the cherries and drop to the ground. Within a few hours they burrow into the soil to pupate until next year.

Management:

Traps for WCFF should be placed in the orchard immediately and monitored for presence of flies. Flies require about 150 DD after emergence to become sexually mature and lay eggs. Sprays for flies should be applied before egg laying adults are present. Spray intervals are based on the residual of the material used and its PHI interval.

Adults are weak migrators and will travel no further than necessary to find a host tree. For this reason, infestations in a region tend to be spotty. However, infestations within an orchard, where the trees are close together, can spread rapidly.

Homeowners, Cherries are plentiful on sweets and tarts, but they are still small and green. Cherry fruit fly CANNOT penetrate the skin and lay eggs on green fruit. Therefore, materials should be applied only after the first few fruits have developed a salmon blush color over the yellow.

Options for control during emergence of WWCF:

Spray Spinosad GF-120 Bait - Apply to alternate rows with special auxiliary applicator; dilute with no more than 3 quarts of water per acre. Re-apply after rain.

Enhancing Western Orchard Biological Control – WSU Decision Aid System

A joint project conducted by WSU, OSU, USDA-ARS, and UC is quantifying the importance of natural enemies for the long-term stability of pest management programs. This project aims to (1) determine how newer pesticides affect natural enemies' reproduction and pest consumption/ parasitism; (2) characterize when key natural enemies are present and active in orchards; (3) test new and develop effective monitoring tools for natural enemies; (4) determine which generalist predators consume codling moth; (5) determine long-term economic benefits of biological control for IPM programs; and (6) apply the new knowledge to improve pest control. Tests with an attractant for lacewings, for example, revealed that these aphid predators are abundant in virtually all orchards in high numbers all season long. These findings suggest that their contribution to biological control of aphids has been underestimated. Knowing when lacewings and other natural enemies are present in orchards will help time control treatments in a way that enhances biological control as well as pesticide efficacy and, ultimately, improves pest control. - See more at: http://das.wsu.edu/news/story/2014/04/29/Preserving_Biocontrol_Agents#sthash.RbIs9zjQ.dpuf

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Editor: Tony McCammon tonym@uidaho.edu Twin Falls ID 208-734-9590

Names of authors and contributors:

WSU Pest Management Transition Project Newsletter

Marion Murray Utah State University Extension IPM Project Leader WSU Decision Aid System

Table and Wine Grapes

Fertilization:

Vinyards should consider applying fertilization this Month. Decisions should include knowledge about the specific nutrient such as its mobility in the soil and plant and the time the nutrient is most critical for plant growth. Decisions on fertilizer applications should involve yearly assessment and feedback on what has been done in the past, observations in the vineyard, and current test results. Product types include granules, powders, pellets, solutions, suspensions, and organic materials such as mulches. The formula below can be used to make per acre calculations:

$$\frac{\text{Pounds of nutrient recommended}}{\text{\% of nutrient in fertilizer material}} \times 100$$

This calculation will give the amount of product needed to achieve the recommended rate. It is wise to consider trace elements (such as zinc, iron, or boron) that may be in the product so that you can adjust your micronutrient additions as needed and to avoid toxicities. This is also critical when using organic products because most will contain a range of trace elements. If you are relying on the incorporation of cover crops for your nutrient additions, the cover crop residue can be tested or approximate nutrient amounts can be estimated (i.e. mineralizable N). Careful consideration should be made regarding incorporation of cover crops. This practice has been shown to enhance nutrient availability in the vineyard. However, some growers are reporting that after multiple seasons of seeded cover crop incorporation, cover crop growth is reduced. This may be due to depleted nitrogen in the top fraction of soil.

Timing of fertilizer applications is based on vine physiology, type of nutrient and product being applied, and the purpose of the application. Below are some general guidelines for the most commonly applied nutrients.

Nitrogen – N can be applied by banding, broadcast, or through fertigation. Ammonium forms (such as Urea) can volatize if applied to the soil surface and are not incorporated.

For vineyards, additions are often made to replace the amount of N removed by the crop. The greatest demand for soil N is from around the time of mid-shoot leaf expansion

through véraison. Vigor problems and poor fruit quality can result if too much N is applied. A safe guess is to apply 1 to 1.5 ounces of actual N per plant. It is important to note that nitrogen-containing fertilizers can be acidifying to the soil.

Phosphorus – Is immobile in the soil so it should be "banded" or "placed" in the rooting zone or incorporated with tillage. Raising the pH in vineyards can also increase the availability of phosphorus.

Potassium – Is immobile in the soil so it should be "banded" or "placed" in the rooting zone or incorporated with tillage. In vineyards, potassium doesn't need to be applied unless tissue tests continue to show deficiencies. Potassium additions (such as potassium sulfate or potassium chloride) should be banded near the vines, applied through the irrigation, or applied as a véraison spray.

Calcium / magnesium – Deficiency symptoms of these nutrients are rare in vineyards but applications can be made to raise the pH. Adjusting the soil pH is easiest to do before the vineyard is planted. If it is applied in planted vineyards, it should be done on a yearly basis of 1-2 tons/ac and incorporated into the soil as much as possible.

Boron – Boron should be applied as a broadcast application or foliar as banding can sometimes result in toxicities. Boron is relatively immobile in the grapevine so it is most effective when applied directly to the buds. This is the most frequently applied nutrient in Oregon vineyards. Boron is commonly applied as a dilute solution of 20.5% boron as borate. A pre-bloom spray of .4 lbs actual B / 100 gallons and a post-harvest spray of up to .8 lbs actual B / 100 gallons is a common maintenance program.

Zinc - Is immobile in the soil and relatively immobile in the plant so it should be "banded" or "placed" in the rooting zone or incorporated with tillage or applied as a foliar**.** A dormant spray of 5 – 15 lbs Zn / 100 gal. can be applied just prior to budbreak.

An additional spray 2 weeks before flowering of 1 lb. Zn in chelate form can be applied if deficiency symptoms are severe. This spray can be split into two applications and mixed with fungicide (check with your fertilizer representative regarding tank mixing with other chemicals).

Thinning your Fruit

A fruit tree in spring, covered with flowers, is a beautiful sight. Yet most people don't realize that if just 5% of all those spring flowers set fruit, it will be enough to provide a full crop. Timely thinning of excess fruit increases the number of cells per fruit and maximizes the potential fruit size. Thinning also improves the tree's productivity in the year to come.

In June, some fruit will naturally drop from the tree. This is called June drop. The amount of thinning that occurs is not sufficient for optimal fruit size. This drop is usually associated with unfertilized seed, cold injury, competition or excessive shading.

Hand thin the fruit when they are about 3/8 of an inch in diameter or roughly the size of a dime. The earlier the better. Newly set fruit undergo rapid cell division and growth. Thinning fruit early will increase the amount of cells in the hanging fruit and will produce larger sized fruit. In general, fruit should be thinned to 4-8 inches between fruit.

- For apples and pears, at the very least, leave one apple per cluster or spur.
- Peaches that are jointed together should be removed.
- Remove fruit deformed, diseased, or damaged.
- Pick off the smallest fruit.
- Plums need thinning only when fruit set is heavy.
- Apricots and Cherries do not need thinning.

Fruit trees repay good care by providing the gardener with an ample harvest of ripe, tasty fruit – just as beautiful, to the fruit enthusiast, as the flowers of early spring.