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ORCHARD NOTES

MARK YOUR CALENDERS

Please save Thursday, November 16, 2000 from 9:30 a.m. to 11:30 a.m. for a Walnut Chip-Off Meeting in Sutter County. You'll see demonstrations of various equipment used for shredding walnut prunings. Details will be in November's Orchard Notes.

This Issue Contains

- ~ Optimum Procedures for Ripening Kiwifruit
- ~ Fall Orchard Evaluations & Replant Preparations
- ~ Herbicide Charts & Vegetation Management
- ~ Minimizing Frost Damage to Walnut
- ~ Oriental Fruit Moth Observations
- ~ Treating Crown Gall
- ~ Tree Fruit Production Short Course
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OPTIMUM PROCEDURES FOR RIPENING KIWIFRUIT

Consumers generally prefer to purchase kiwifruit that are near ripe and "ready to eat." The best indicator of kiwifruit ripening and predictor of shelf life is flesh firmness. Fruit that is ripe and "ready to eat" measures 2-3 pounds-force flesh firmness. Kiwifruit that has been in cold storage for less than 4-6 weeks can be preconditioned with ethylene exposure to ensure "ready to eat" fruit that is good tasting before consumer consumption. This is especially important for early season, freshly harvested kiwifruit. Fruit must be picked at the minimum maturity index of at least 6.2% soluble solids content (SSC) measured when inspected at the shipping point. To ensure good flavor when ripe, we recommend picking kiwifruit when it reaches at least 12.5% ripened soluble solids



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content (RSSC) after the accelerated ripening test for fruit that will be consumed early in the season.

Carlos Crisosto, UC Postharvest Specialist, has conducted research on ripening kiwifruit for several years. You can get a copy of his protocol on "Preconditioning Guidelines for Kiwifruit Shippers" from our office or off the web at www.uckac.edu/postharv.

Fruit picked at 12.5% RSSC is adequate for fruit shipped early in the season but it does not store well. For fruit that will be in long term storage, it should be harvested as in the past at a minimum of 6.5% SSC measured in the field and with flesh firmness not less than 14 pounds-force.

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FALL ORCHARD EVALUATIONS AND REPLANT PREPARATIONS

Costs are up. Prices are down. Labor is a problem. Will there be a home for my fruit next year? These are questions and concerns on most grower's minds. After harvest is over, determine the productivity for each block by evaluating last season's yields, grades and costs for each block and compare them to long term production records. Are production differences related to age, variety, soil, disease or nutritional problems or different cultural practices? Consider removing very low yielding blocks after harvest. What will you do with the orchard blocks you removed? Do you know what your long term goals are for the land? If not, it may be best to let it go fallow and see how the economics of many of our tree crops settles out. On the other hand, maybe your plans call for replanting next year. If so, here are some items to consider for your fall preplant activities:

- Our usual recommendation has been methyl bromide (MB) fumigation after removing the orchard to overcome the detrimental effects from the "replant problem" we see when walnuts or peaches are planted in second or third generation orchards. The "replant problem" is a term used for the negative effects on replacement trees from nematodes, root nibblers, root rotting fungi, chemical residues, weeds, and other pests. A single methyl bromide fumigation removed the complexity of this problem by controlling soil pests and diseases while stimulating initial plant growth.
- Methyl bromide's annual phase out calls for a 50% reduction in use in 2001 towards its being banned in 2005. There may only be one or two seasons left where growers can use it for fumigation. But the cost of methyl bromide fumigation which was high before has significantly increased in the last two months.
- With rising costs, growers may want to selectively use methyl bromide in areas where

there is oak root fungus and look at alternatives for overcoming the "replant problem." UC Extension Nematologist Michael McKenry, has been researching alternatives to methyl bromide for replanting stone fruit and walnut orchards. He has recently written IPM-based guidelines for replanting stonefruit and walnuts without methyl bromide. These guidelines involve a series of steps including killing root systems, waiting 18 months before replanting, planting a cover crop, such as, Sudangrass to remove deep moisture, fumigating with Telone II and Vapam, and replanting with the addition of certain nutrients.

- His research provides a direction for growers to make a transition from methyl bromide fumigation to alternative methods to overcome the "replant problem." These alternatives need commercial field evaluations by growers for input and adjustments. The alternative involving at least a four or five year fallow period before replanting walnuts or peaches is simply not economical under California conditions. These IPM guidelines are available at our office. A copy of Mike McKenry's book "The Replant Problem and Its Management" is available off the web at www.uckac.edu then select nematodes.
- Where oak root fungus is a problem, Enzone shows some promise in research trials as an alternative to methyl bromide fumigation. It would be applied as both a preplant treatment with follow-up post plant treatments. It is currently registered on peaches, prunes, plums, almonds, citrus and grapes.

HERBICIDE CHARTS AND VEGETATION MANAGEMENT

The 2000 Registration Status of Herbicides in Trees and Vines and Susceptibility of Weeds to Herbicides was recently updated by Extension Weed Specialist, Clyde Elmore, from U.C. Davis. It is included for your reference.

Typically, preemergent herbicides are applied in the fall prior to heavy rainfall and weed germination. To help reduce herbicide and application costs, there are a few practices you may want to try. First, consider waiting and applying the preemergent herbicide as late as January or February rather than in October or November. This will allow the herbicide to be active in the soil for a longer period during the spring. When applying preemergent herbicide this late, you must use a postemergent herbicide like Round-up to kill the weeds that have germinated. This delayed application approach will only work where you can still get into your orchard in the winter if it is a wet year; there also needs to be at least another two inches of rainfall after the application to get full activity from the preemergent herbicide. Second, herbicide rates can be reduced 25 to 50 % and still effectively control weeds, particularly when application timing is delayed. Third, weed control can be very effective using only postemergent herbicides. Timing is critical since weeds have to be sprayed at a susceptible stage.

Another consideration when planning your weed control program is keeping herbicides out of runoff water. Avoiding application during the major storm period of November to February will reduce the chance of runoff. This is particularly important in areas near waterways. Cover crops, either planted or as native vegetation, can effectively reduce the amount of surface water runoff, allow for winter access, reduce compaction, increase water infiltration and increase soil aggregation. Before you invest in planting a cover crop, make sure your objectives are clearly defined. When selecting a particular species or mix, consider your goals, cost vs. benefits, nitrogen needs, tillage practices and irrigation method. Winter annual or perennial cover crops generally should be planted by late October for the best stand.

MINIMIZING FROST DAMAGE TO WALNUTS

With the warm weather we've been having, many young trees are still actively growing. Irrigation should be cut-off in young walnuts to slow growth and allow the trees time to harden off (ceasing of terminal and new growth). Shorter days, lower temperatures and cutting off irrigation will help acclimate young trees to withstand a sudden autumn frost. Also, one to three

year old walnuts which are particularly sensitive to winter kill should not be pruned until the delayed dormant period (next March).

ORIENTAL FRUIT MOTH OBSERVATIONS

This past season, there were five generations of Oriental fruit moth with very high populations in some peach orchards. With the loss of PennCap-M this season, growers and PCAs controlled Oriental fruit moth either using mating disruption, integrating mating disruption with pyrethroid sprays, all pyrethroid sprays or pyrethroid sprays with a Sevin spray when allowed by canneries. Unfortunately, there were some blocks where pyrethroid sprays were used alone that failed to adequately control Oriental fruit moth. If this was the case in your orchard, I would appreciate your calling me. I am trying to evaluate the scope of the problem for a potential study on possible pyrethroid resistance next year.

TREATING CROWN GALL

Many walnut growers with crown gall in their walnut orchards face a dilemma over gall removal and treatment which is often difficult, labor intensive and expensive. Typically when a gall appears at ground level, there is already extensive galled tissue on the lower crown and larger roots. Trees with crown gall often are stunted. Common questions growers ask about treatment include when is it best to surgically remove galls and treat, when is it best to leave it alone, or when is it best just to remove the tree. There are no exact answers, every situation is different. However, here are some guidelines to follow when making your decision:

- replacing young (1-2 year old) vigorous infected trees may be more economical than treatment if the gall is severe.
- A mid-size tree would be treated in most cases. If the tree is still vigorous and the gall too extensive, it could be left alone.
- Mature, vigorous trees are usually left alone.
- Stunted trees should be replaced.

There are local growers who choose to treat vigorous trees regardless of tree age and severity of gall and are fairly successful. Early treatment when galls are smaller is more effective and less costly.

The standard treatment in walnut is surgically removing the gall and painting with Gallex. Research using other surgical and application treatments will be evaluated this fall so results should be available early next year. Galls can be treated at any time during the year but doing it when dry is the best. Crown gall surgery and treatment is demonstrated in the video “Crown Gall in Tree Crops: Biology and Control” available in English and Spanish from our office on a two day checkout.

TREE FRUIT PRODUCTION SHORT COURSE

The BIOLOGY AND TECHNOLOGY OF TREE FRUIT PRODUCTION will be offered October 30 -November 3, 2000 at UC Davis. This intensive, five-day course is intended for orchardists, crop care and pest control advisors working with multiple tree crops. Many UC faculty and farm advisors will review the current understanding of plant growth, then focus on specific tree crops (peach, plum, prune, apricot, cherry, apples, and pears). There will be lectures, a half-day field study designed to demonstrate tree training and pruning, water relations and orchard floor management, and a full day of concurrent sessions, each focusing on a specific fruit variety.

Sponsors include UC Davis Pomology Department, Fruit and Nut Crop Information Center, UC Cooperative Extension and University Extension. For enrollment information, call the University Extension Agriculture Unit at (530) 757-8899, fax (530) 757-8634 or email aginfo@unexmail.ucdavis.edu.

PUBLICATIONS

- “Compost: Matching Performance Needs with Product Characteristics” is a free publication from the Integrated Waste Management Board. This will help you evaluate compost based on your specific needs and guides you in the types of questions you may want to ask compost producers. Copies are available from our office or by contacting bmora@ciwmb.ca.gov.
- New UC Pest Management Guidelines - We have new guidelines for walnuts, peaches, pears, apples, prunes, cherries, apricots, plums, pecans, citrus, olives and grapes. These guidelines include the latest pest control information along with suggested control measures including those that are organically acceptable. They are available from our office for the cost of copying or can be obtained from the web at www.ipm.ucdavis.edu.

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