

Fall Citrus Meeting

Tuesday, October 23, 2012

9:00 – 11:15 A.M.

**Tulare County Agricultural Building
4437 South Laspina Street, Tulare**

- 9:00 – 9:30 A.M.** **Frost Protection Review (Weather, Water Application, and Wind Machines)**
Dr. Richard Snyder, LAWR, University of California Davis
- 9:30 – 10:00** **Irrigated Lands Regulatory Program**
David Orth, Manager, Kings River Conservation District
- 10:00 - 10:15** **Break**
- 10:15 – 10:45** **Irrigation and Nutrient Management to Prevent Leaching**
Dr. Larry Schwankl, Kearney Research and Extension Center
- 10:45 – 11:15** **Alternate Bearing in Citrus**
Dr. Carol Lovatt, University of California Riverside

Continuing Education Credit Has Been Requested

Late Pruning

Trees respond to pruning by producing new growth at the pruning sites. Trees pruned in late summer and fall enter the frost season in a heightened state of activity compared to non-pruned trees. Trees entering the frost season should ideally be in a much reduced state of activity, making them less susceptible to critical temperatures. Late pruned trees are more severely damaged during a freeze which has been demonstrated during freeze episodes in the past, including the freeze of December 1990. More severe frost damage to fruit has been observed as well in late-pruned orchards, presumably as a result of reduced protective foliage and lower fruit temperature, resulting from increased loss of heat from radiation. The preferred orchard condition entering the frost season is for vegetation to be mature and hardened off and the trees in a low state of activity, all of which makes them less sensitive to cold.

Late Fertilization

Susceptibility to freeze conditions can be increased with late summer/fall applications of fertilizer. Nitrogen applications at this time stimulate growth which does not have time to mature before freezing temperatures arrive. This immature growth is susceptible to damage at higher temperatures than mature, hardened-off tissue.

Weed Management Considerations

Effective weed management with herbicides is dependent upon a number of critical factors including choice of material, timing of spray, effective coverage, growth stage of weed, and orchard and weather conditions. Selection of an effective preemergence herbicide for fall applications should be related to what weed species may emerge. In a presentation on weed management, Dr. Anil Shrethra described the seed bank which exists in the orchard. This bank consists of newly introduced species (1-5% of total seed), seed of species not well-adapted to orchard conditions (10-20% of total) and a few, well-adapted, dominant species (70-90% of total seed). The number of seeds produced by a mature plant is impressive and varies from one species to another, but two examples of common weeds would be barnyard grass (300,000 per plant) and prickly lettuce (28,000). In a weed management program where a significant number of plants escape and are able to form seeds, the potential for maintaining or increasing the seed bank is real. This suggests that keeping a record of any species escaping the current herbicide program, and some record of the density and distribution in the orchard of these species is helpful in evaluating the effectiveness of the program. If escapes are a problem, then a review of the basics listed above is in order. Control around the borders of the block is necessary to minimize seed production as well, and keep in mind that some species have airborne seeds (such as fleabane) which may arrive from adjacent locations. The same

weed management approach is helpful in the spring herbicide program as well. Preventing seed production can reduce seed number in the seed bank at a rate of 12% a year in a no-till situation. Particularly difficult to control species such as Horseweed (Mare's Tail) and Fleabane present special problems. A few of the recommendations of Kurt Hembree, farm advisor in Fresno County, regarding these two species are included here. Typically, these two weeds are considered summer annuals with emergence in February; however, some emergence has been occurring in October, and therefore late winter herbicide applications will miss these weeds. A split herbicide application is necessary in this situation, fall and spring.

Applications of post emergence herbicides have not been as effective in some cases in controlling these species. A combination of preemergence and post emergence applications is necessary. Effective materials may be regulated under groundwater protection regulations; check with the agricultural commissioner's office. Sensitivity of these species to post emergence materials decreases with the age of the plants. Good coverage is critical when spraying. Timing of the treatment is important. Treat when fewer than 21 leaves are present and prior to bolting, and use higher label rates. Consider tank mixes of effective, registered post emergence materials. When using glyphosate, at least 2# active ingredient per acre is recommended. Check the glyphosate label, as the amount of active ingredient can vary among products. Monitor routinely for weed species present and weed escapes following treatment.

Leaf Analysis

Well-timed tissue analysis provides the current level of the various nutritional elements in the tree and how the tree has responded to previous fertilizer application. Tissue levels should be interpreted in light of the amount of fruit produced as well as the quality and sizes of fruit produced. Reports from the packing house will provide information on field boxes produced as well as size distribution and quality (grade). From all this information, goals can be established for the orchard's fertilizer program. One other factor is essential in setting these goals. Being familiar with the possible effect on production and fruit quality from increasing the level of various elements in the tree is critical. Increasing the level of a nutrient can have impacts on production as well as quality-rind texture, peel thickness, time to reach 8:1 solids to acid ratio. In general, if all the nutrient levels are in the recommended optimum range, only nitrogen, phosphorous and potassium will have significant effects on quality and size. Records of previously applied fertilizer (what, how much, and when) will also be helpful, particularly when related to crop load, fruit size, and quality. Maintaining all nutrients in the recommended optimum range is the first goal. Adjustment in nutrient levels based upon type and quantity of fertilizer to be applied may then be made if

desired. Establishing goals for the nutritional program is helpful in maintaining focus on critical issues such as yield, fruit size, quality, and market requirements.

Heat spell

Leaf scorch and desiccation can result from high temperature and low humidity. Abnormally high daytime

temperatures can result in damage to the peel. Fruit affected generally exhibit yellow discoloration on the portion of the fruit exposed directly to the sun. Fruit exhibiting this damage are generally found on the south and west quadrants of the tree canopy.

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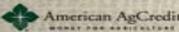
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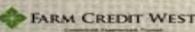
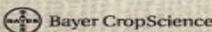
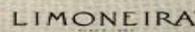
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Soil & plant health • Organic certification, research & economics
Tristeza update • Future citrus trees
Citronomics – new costs of production
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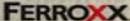
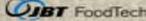
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Citrus Notes

September 2012



Neil O'Connell
Farm Advisor

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