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University of California Cooperative Extension • Tulare County

Citrus Notes



Volume II, Issue 2

September 2005

Fall Citrus Meeting

Thursday, October 20, 2005

8:00-12:00

**Agricultural Building
4437 South Laspina, Tulare**

- 8:00 Overview of 2005 Pest Management, Dr. Beth Grafton-Cardwell, Kearney Agricultural Research & Extension Center
- 8:30 Frost Protection Strategies, Dr. Richard Snyder, UC Davis
- 9:00 Impact of Glassy Winged Sharpshooter on Citrus, Dr. Mary Lu Arpaia, Kearney Agricultural Research & Extension Center
- 9:30 Effective Use of Fall Fungicide Sprays, Dr. Jim Adaskaveg, UC Riverside.
- 10:00 Break
- 10:15 Maximizing Nitrate Availability through Fertigation with Microirrigation, Dr. Blain Hanson, UC Davis
- 10:45 Progress Report on Fruit Quality Evaluations, Dr. Tracy Kahn, UC Riverside

Continuing Education credit has been requested.

Fruit Splitting and Premature Fruit Drop

Significant fruit drop has been evident during the past month around the county. Much of this fruit has exhibited premature coloring and upon closer examination a split of some magnitude at the navel end. The extent of this condition varies greatly from one year to the next and has been observed for many years. The developing fruit is generally invaded by a fungal organism Alternaria citri during or subsequent to bloom and the activity of the pathogen produces a black discoloration of the navel end. Upon cutting, the tissue is darkened in the core or central area near the navel, sometimes halfway into the fruit. Often various secondary insects such as Drosophila and scavenger beetles are attracted to the decaying tissue. This fruit with premature coloring is obvious even with casual observation. Fruit so affected will generally drop from the tree. Damaged tissue from the invasion and activity of the pathogen results in the formation of ethylene and an abscission layer and eventually separation of the fruit from the tree. The extent of this condition varies greatly among navel selections, from one orchard to the next and from tree to tree in the same orchard. Research efforts directed at control of this organism have never been successful; once the pathogen has gained entry into the fruit it is very difficult to apply a fungicide in a position to affect the organism

Tree Decline

Instances of tree collapse have been evident this season particularly with the arrival of hot weather. Above average rainfall and extended periods of cool weather created favorable conditions for activity of Phytophthora, a soil borne pathogen. In addition, where saturated soil was present, conditions existed for tree damage and decline as well. Invasion of the tree's root system or trunk by spores of the fungus can result in eventual decline of the tree if favorable conditions for pathogen development and activity continue. When substantial portions of the root system have been affected by either or both of these agents, upon the arrival of warm weather, tree activity has been sufficiently comprised to result in collapse of the tree

Another consideration related to wet, cool conditions is the opportunity for development of other organisms capable of fruit and tree damage. Among these are species of Septoria, Alternaria and Colletotrichum. High levels of inoculum can develop during the winter and spring which then carry-over during the summer. With the advent of cool moist weather, the pathogen activity increases and reproduction begins anew. Unchecked, the pathogens are capable of infecting fruit, leaf and shoot

tissue resulting in loss in fruit quality, tree canopy and vigor. Because the fungi are distributed throughout the tree canopy, spray treatments applied to suppress them must be distributed throughout the tree canopy as well. In order to check the reproduction of the pathogens fall sprays for fruit protection must be applied before or very shortly after the arrival of the first rains. This spring in some orchards that were not sprayed last fall had very high levels of infection. The inoculum from these infections has been dormant this summer but will be active this fall with the arrival of cool, moist weather (not just rain, but dew formation on canopy surfaces).

Citrus Peelminer

Research continues on effective management tools for this pest. Research efforts have identified major components of the pheromone produced by the males; use of these in pheromone traps has not been entirely satisfactory and research efforts are now being focused on minor components to see if these add attractancy to the trap. Foreign exploration for possible parasites of the pest are ongoing with several species collected which will be reared and evaluated. Additional exploration is planned for the near future. Activity of the currently released parasite, Cirrospilus coachellae under, brought from the Coachella infestations, has not been entirely satisfactory to this point, thus the exploration for additional parasites.

Stubborn Disease

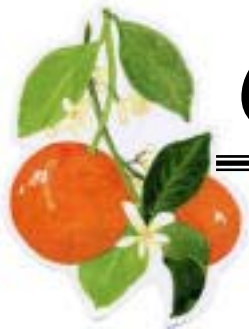
As fruit begins to color in the next few weeks, there is an opportunity to examine orchards for the presence of stubborn trees. Affected fruit on trees with stubborn often stand out from normal fruit and are easier to detect. Affected fruit may have a lopsided, flattened or acorn shaped appearance. The area of the canopy with these fruit often has a lighter crop. There may be off-bloom present as well and perhaps a mottled green-yellow appearance to some of the leaves. Symptoms often are confined to only one portion of the canopy. Any trees detected with these symptoms should be tagged for inspection of the next crop for similar symptoms.

UC Pest Management Guidelines

The guidelines for citrus were revised in July 2005. Copies of the guidelines can be obtained at Cooperative Extension offices. The guidelines contain preharvest and reentry requirements on registered materials, selectivity of materials on beneficials, as well as detailed management information on major and minor pests, plus information on weed and disease management and use of plant growth regulator materials.

University of California
Cooperative Extension
Tulare County
4437B S Laspina St
Tulare, CA 93274

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Neil O'Connell
Farm Advisor

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