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Bean Thrips Overwintering in Other Citrus Fruit Than Navel Orange

More information will be available in the near future, but Dr. Joe Morse, Professor of Entomology at U.C. Riverside and Dr. Beth Grafton-Cardwell, Extension Specialist in Entomology, have been investigating reports of finds of bean thrips overwintering in the 'navels' of Clementine mandarins. Apparently some Clementine varieties, W. Murcotts, and other mandarins like Tahoe and Shasta Gold have openings on the blossom end of the fruit that bean thrips find large and deep enough to overwinter in. Apparently, an opening of one or two millimeters in diameter is sufficient for entry. Some countries, such as Australia, have phytosanitary protocols in place that must be followed before California growers can export oranges to them. How these finds of bean thrips in citrus varieties other than navels will affect export regulations is not yet clear.

Allegations Made by Korea Related to Septoria and Kern County Citrus

Fruit exports from Kern County to Korea were not included in the Navel and Valencia Exports to Korea (NAVEK) program when it was established. This program was formed based on discussions between U.S. and Korean pathologists, government officials and other interested parties and consists of orchard treatment protocols and fruit inspections designed to keep Septoria (*Septoria citri*) from reaching Korea. The protocols are reviewed annually. Recently, Korean officials have made allegations that Kern County fruit is subject to Septoria infections and that more regulations are needed to screen Kern County fruit before shipment to Korea. Acting proactively from the beginning of the program, many fruit packinghouses shipping fruit to Korea have required that navels and Valencia's from Kern County meet the same in-grove treatment protocols for treating fruit as exist for Tulare and Fresno Counties. However, not all packinghouses have this requirement. In Kern County, although our rainfall amounts are lower than in Tulare and Fresno Counties, humidity can be high in orchards as a result of low temperatures, fog and the running of frost water. We, also, have many areas where fruit are subjected to freezing temperatures, especially if the fruit is not part of our early harvest. Thus, we have conditions that would allow *Septoria* to infect fruit. In order to preserve the Korean market for Kern County fruit, it would seem prudent for Kern County growers to follow existing NAVEK protocols for fruit destined for Korea. Kern County growers shipping fruit to Korea should stay tuned to information from their packinghouses and the California Citrus Quality Council. As a result of the afore mentioned allegations, regulations requiring Kern County growers to follow these protocols may be forthcoming in any case.

Dr. Adaskaveg and others located at the University of California/Riverside have been monitoring for the pathogen and for favorable environmental conditions in Fresno, Tulare, and Kern Co. and assessing the risk of Septoria spot developing this season. The following is a summary of recent information promulgated by Dr. Adaskaveg, U.C. Riverside related to the Korean export market:

The 2008-2009 season for oranges began in late October. Septoria spot caused by *Septoria citri* is a quarantined pathogen for all California orange exports to Korea. Fruit originating from Fresno and Tulare Counties have to follow special protocols including the submission of fruit samples to a disease/pathogen detection lab as part of the NAVEK (Navel and Valencia Exports to Korea) program. Inoculum levels are high in many groves in the central valley this year due to the unusually high disease levels experienced last year. Thus, The Septoria Risk Assessment model (as of Dec. 19, 2008) for Tulare and Fresno Co. has reached Level 2 this week (Yellow Alert). In Fresno Co., we had a total of 59 mm of rain with an average of 9 (range 4-13) hrs below -1 C. In Tulare Co., we had a total of 70 mm of rain with an average of 7 (range 6-11) hrs below -1 C. According to the guidelines, we can assess a timeline between 30-45 days once a yellow alert is reached. Considering the extended forecasts for next week includes rain showers through next Friday (12/26/08) with moderately low temperatures (above -1C), this means that the second application should be applied within the next 37 days as of today, December 19. This sets the deadline on January 26, 2009. Growers that applied the copper-zinc-lime treatments in mid-October to early November are advised to apply the second application within the 60 to 90 day time period rather than waiting until the final week before the deadline. All growers wanting their oranges eligible for the Korean Orange Export Program must comply with this notice.

Deadline for Federal Citrus, Nursery Crop Disaster Coverage

This warning may be too late for those of you who receive this newsletter through the mail as opposed to E-mail. The 2009 Supplemental Revenue Assistance Program (SURE) with its catastrophic risk protection is one of the biggest insurance bargains out there. The 2008 Farm Bill made big changes in the way disaster assistance was provided to growers and nursery people. More information is available on disaster assistance programs at www.fsa.usda.gov and many local crop insurance companies.

New Rootstocks to be Released in June 2009

The following information was summarized from an article by Claire Federici, Ricarda Kupper and Mike Roose, Dept. of Botany and Plant Sciences at U.C. Riverside.

'Bitters', 'Carpenter' and 'Furr' trifoliolate hybrids, such as Carrizo and C-35, tested as C22, C54 and C57, respectively, are three new citrus rootstocks expected to be released in June 2009 by the University of California – Riverside. They are crosses between Sunki mandarin and swingle trifoliolate orange. They are graft compatible with sweet orange, lemons, and grapefruit, and appear to be compatible with mandarins based on observation of 11 year old Satsuma and Pixie mandarin trees. Characteristics of these three rootstocks are summarized in Table 1 on the following page.

Table 1. Characteristics of soon to be released rootstocks			
Character	Rootstock Variety		
	Bitters	Carpenter	Furr
frost	tolerant	moderately tolerant	good
citrus nematode	similar to Carrizo	very tolerant	Very tolerant
calcareous soils	tolerant	moderately tolerant, better than Carrizo	moderately tolerant, similar to Carrizo
phytophthora parasitica	moderately tolerant	moderately tolerant	very tolerant
Phytophthora citrophthora	susceptible	no information given	no information given
citrus tristeza virus	tolerant	tolerant	tolerant
tree size	small	medium to large	medium to large
fruit size and quality	good	good on late navels	good
yields	high yield per canopy volume	good	No information given
granulation	no worse than Carrizo	no worse than Carrizo	no worse than carrizo
bud union	smoother than Carrizo	similar to Carrizo	more stock overgrowth than Carrizo

Craig Kallsen, Citrus, Subtropical Horticulture, Pistachios Advisor

Disclaimer: Discussion of research findings necessitates using trade names. This does not constitute product endorsement, nor does it suggest products not listed would not be suitable for use. Some research results included involve use of chemicals which are not currently registered for use, or may involve use which would be considered out of label. These results are reported but are not a recommendation from the University of California for use. Consult the label and use it as the basis of all recommendations.

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