



# Cutting Edge / Snykant

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## **FRUIT FLY**

**Tony Ware**

CRI – Nelspruit

Reports emanating from the field have indicated that fruit flies are problematic this year and many growers are battling to control the pest. In many areas the monitoring of the pest (it is essential that both Capilure and Questlure attractants are used) has indicated high populations that have required an increase in the mandatory weekly bait applications. In these cases it is recommended that the grower double the protein hydrolysate component e.g., for Hym lure use 800 ml/hl. Do NOT increase the toxicant component (e.g., Malathion). If fruit fly is problematic on a large scale then the growers need to consider resorting to an aerial bait application. Growers should note that there is generally a lag period between treatments and their resultant effects which can be between 2 and 3 weeks post application.

The grower is warned that bait application with a mist blower or similar apparatus may result in repercussion pest outbreaks and/or increased pesticide residue levels in the fruit.

The consequences of not controlling the pest are that the fruit may not be packed for export and may suffer excessive decay due to sour rot.

## **HIGH INCIDENCE OF SOUR ROT**

**Keith Lesar**

CRI – Nelspruit

During my recent visit to the W. Cape I observed a higher than normal incidence of sour rot on the soft citrus cultivar, Satsuma mandarin, that was being packed at the time. Fortunately this did not appear to be the case in the E. Cape.

Upon evaluating the situation further I observed numerous injuries to the fruit. The injuries evident were insect (mostly fruit fly and a small number of FCM) stings and also a large amount of picking and handling injuries. When one observes sour rot infection of citrus one can more than likely expect to find that insect injuries have played a major role in the resulting sour rot infection.

Given the fruit fly problem encountered this season and the risk of other injuries during harvesting and rough handling of the fruit, all citrus stands the risk of infection by one or more of the major wound pathogens, i.e. sour rot, green and blue mould and even Rhizopus.

To avoid this scenario action needs to be taken, first and foremost, in the orchard where insect activity must be monitored and controlled and all other injuries to the fruit must be avoided or minimized by picking and handling the fruit correctly.

Any one of these infections, and for that matter all post-harvest infections that are established in fruit due to incorrect cultural practices, cannot be controlled in the packhouse. **THE PACKHOUSE IS NOT A HOSPITAL FOR SICK FRUIT.**

**The following extra precautions should be taken against sour rot (and possible green and blue mould):**

Those packhouses that are degreening:

Increase the guazatine (Deccotine, CitriCure, UltraCure or Kenopel) concentration in the pre-degreening drench

**from 2,4 ℓ/1000 ℓ (CitriCure and UltraCure) to 4,8 ℓ/1000 ℓ**

OR

**2,5 ℓ/1000 ℓ (Deccotine and Kenopel) to 5,0 ℓ/1000 ℓ**

Those packhouses that are not degreening:

Continue using the guazatine at the standard concentration in the hot water fungicide bath

**4,8 ℓ and 5 ℓ/1000 ℓ respectively, as above.**

**Ensure sufficient exposure (minimum 30 sec.) of fruit to the fungicide in the bath otherwise adequate protection against sour rot will not be achieved.**

**NB: Above not applicable for Japan, USA and Canada**

## **GREEN RINGS**

**Keith Lesar**

CRI – Nelspruit

Distinct 'green rings' on degreened Satsuma mandarins were brought to CRI's attention recently and I also experienced this phenomenon first hand during my recent visit to the W. Cape production areas. This defect manifests itself as a band (circle) of affected tissue i.e. a green circle that has not coloured up, with a clear or healthy inner zone of unaffected rind.

Firstly it was necessary to establish the history of the fruit having this problem. After the Satsumas had reached optimum internal quality standards, the fruit had been picked at a colour plate of T6, drenched in the pre-degreening mixture, allowed to dry overnight and then degreened for 48-72 hrs. After this process the defect was observed on the rinds.

Two hypotheses are proposed for this visible defect on the fruit.

Firstly it appears that we are in a season where we are dealing with varying degrees of sensitive fruit rinds, given that a number of rind conditions have already been observed. Sensitive fruit has thus been harvested and transported in heavily laden picking bins to the packhouse. During this process fruit rinds, pressing against other fruit in the bins, have been injured during rough transport to the packhouse. There appeared to be some evidence of broken oil cells on the fruit that could have contributed to the damage. The fruit was then drenched, dried and then degreened, and the green rings were then observed on the Satsuma rinds. The areas of contact would have remained wet for the longest and as ethylene cannot penetrate a water film, they did not degreen.

The second hypothesis is that one of the chemicals in the drench could have caused this defect, specifically a chemical such as 2,4-D which is known to delay colouring of fruit. At the point of contact of two fruit in the drench the concentration of the chemical is higher than elsewhere on the fruit. Here 2,4-D, with its hormonal effect, may prevent colouring at this point during degreening, thus resulting in the formation of the green rings.

Trials are currently underway to try to establish whether any of the chemicals in the predegreening drench are the cause of this defect. Until such time as the results are known, no recommendations regarding the drench mixture can be made.

However, one practice that can and should be rectified is the loading of the bins. Bins should only be loaded to a maximum of three slats high, preferably less than three slats high, to prevent any unnecessary damage to fruit.