

# SUBTROP BULLETIN

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## INDUSTRY NEWS

- WAO responds to misinformation on avocados' water footprint - [FreshFruitPortal](#)
- South Africa and Tanzania meet on avocado imports – [Fresh Plaza](#)
- The fungi that saved a farmer's avocado orchards – [Farmer's Weekly](#)
- Avocado growers expand to coffee production – [Farmer's Weekly](#)
- Up to 20% smaller SA mango harvest expected this season – [Farmer's Weekly](#)

## ASSOCIATION NEWS

### SAAGA: Update on market access

- USA: two mitigation treatments proposed:
  - Protocol for cold treatment trials against *C. cosyra* approved by the USDA-APHIS. Currently engaging with companies to ensure that the work is done in 2022.
  - Research validating Systems Approach to continue into 2022. An article will be submitted for publication – a requirement for access.
- India: Indian mangoes granted access to South Africa end-September 2021.
  - Verification visit schedules will be sent to the Indian authorities. Confirmation pending on whether they would accept a virtual verification visit or require a physical visit.
- China: Two responses to the quarantine pest list sent to the DALRRD. Currently pushing that the list be finalized.
- Japan: The Japanese authorities have agreed to a virtual verification visit, which will entail validating the proposed cold treatment against *Bactrocera dorsalis* larvae.
  - Currently engaging with the DALRRD to finalize a schedule, and will engage with researchers and suppliers to ensure that all necessary logistics are in place.

### SAMGA Board Meeting held 14 October at Moholoholo Ya Mati, Hoedspruit

- A licensing agreement signed with the ARC for commercialization of new cultivars.
  - A steering committee (SAMGA and ARC members) will monitor implementation of the agreement and make any necessary recommendations.
  - SAMGA will sub-licence Biogold International to handle testing and commercialisation of the new cultivars, according to the licensing agreement.
- 4 research projects have been commissioned. These include: the cultivar evaluation trial, the irradiation project, Actara spray applications for Mango Seed Weevil, and the thrips chemical control project.
- Market access to the USA: the finalized pest risk assessment with quarantine pest list were received the day of the meeting. *A response has subsequently been sent to the DALRRD proposing irradiation as the main mitigation measure.*

### SALGA Board Meeting held 20 October at Halls Training Centre and via Zoom

- A project plan for converting SALGA from a Voluntary Association to a Non-Profit Company was presented.
  - The Board gave permission to go ahead with the process of conversion.
  - There will be consultation with members in the first quarter of 2022.
- The draft budget for the 2021/2022 financial year was approved.
  - The budget is based on an increase of the levy to 62c/2kg carton.
  - The increased research budget is for 4 projects related to market access efforts.
  - Of the 4 projects, 2 investigate strategies to improve fruit colour, 1 considers the quality of fruit subjected to cold treatment, and 1 evaluates CPPU treatment to improve shelf life.
- Market access
  - Cold treatment for USA exports:
    - A protocol for trial work at 1 °C for 19 days has been sent to the USDA-APHIS. The protocol addresses concerns of the USDA-APHIS around previous research done by Dr. Sean Moore. The trial work will likely be done in the 2022/2023 season using fruits from different packhouses.
    - For the alternative cold treatment (-0.55 °C for 22 days) (proposed by the USDA-APHIS and accepted by the industry), feedback pending from the USDA-APHIS.
  - India:
    - Schedules for a verification visit in January/February 2022 will be sent to the DALRRD, depending on if it is physical or virtual.
- Rungis market reports:
  - Richard Nelson contracted to carry out 11 visits to the Rungis market November 2021 to February 2022.
- Prochloraz on EU exports:
  - EU MRL is 7.00 ppm, South African MRL is 1.5 ppm.
  - It is recommended that fruits sent to the USA not be treated with Prochloraz; there is no MRL for Prochloraz in the USA and it is recognized by the USA Environmental Protection Agency as a human carcinogen.
- SALGA Yearbook
  - The 2021 SALGA Yearbook is at the proofreading stage and contains 7 articles.

## TECHNICAL

### Orchard management in November and December

#### Avocado

- November: Do fruit nutrient analyses:
  - Test 50 fruits per block (representing a maximum of 3 ha).
  - Take note of: Iron (Fe), Nitrogen (N) and Calcium (Ca) levels.
  - If Nitrogen (N<sub>2</sub>) levels in the fruit are too high, no N-based fertilisers should be applied further during the season. If there is a shortage, N<sub>2</sub> can be applied in small amounts over a long period.
  - Calcium (Ca) levels should be restored as soon as possible, especially in orchards with large fruits. Small fruits can still absorb Ca in December.
- December: Pruning
  - Water shoots, especially in 'Hass', must be removed.
  - Control the re-growth after winter pruning so that the tree does not compact.
- Cercospora, Anthracnose and Black Spot
  - Ensure fungicide program is kept updated.
  - Damaged fruit e.g. after a hailstorm is vulnerable to anthracnose and other types of fruit rot.
  - Black spot on 'Hass' and 'Pinkerton' can be controlled with one or two full-coverage copper sprays between December and February.
  - Infection occurs when temperatures are higher than 18°C and more than 20 mm of rain is measured over two weeks.
- Phytophthora
  - Root diseases are difficult to prevent during the rain season.
  - Adjust the irrigation scheduling to the rainfall patterns so that there is no over-irrigation.
  - Regularly monitor the soil with moisture meters or probes.
  - Mature trees need about 120 L of water per tree during December and January, depending on soil type and area.
- Damaged fruits are more vulnerable to secondary pests such as fruit flies and false codling moth because the wounds facilitate egg laying and larval penetration.

More management information is available on the SAAGA website under "[Technical info](#)" or the **Avocado Production Guide** app on your mobile device: [avoproductionguide.co.za](http://avoproductionguide.co.za)

#### Mango

- Mango Blossom Malformation
  - Apply Lima 400 SL monthly in November and if possible in December, depending on the "withholding period" as specified (50 days).
  - Should not be used on fruit destined for export.
  - Remove malformed flowers that are still in the orchards.
- Fruit fly
  - Monitor the fruit fly population and spray accordingly with registered products:
  - Apply GF120 NF as a band of coarse droplets every 7–14 days depending on population pressure.
  - Use M3 bait stations.
- *Bactrocera dorsalis*
  - Ensure that Methyl Eugenol traps are placed in areas where infestation is most likely.
  - Methyl Eugenol attracts male species of *B. dorsalis* and other members of the *B. dorsalis* complex.
  - Traps should be hung 1.5 m high in the shade, the south-eastern side of trees and not more than 500 m apart.
  - Replace lures in traps every 6 - 8 weeks.
- Removal permits: Ensure that removal permits are in order before the season begins.
- Orchard sanitation – Remove fruit that has fallen on the ground.
- Mango scale: Monitor 10 trees/ha for scale crawlers.
- Nutrition
  - Foliar sprays (B & Zn) – Foliar sprays on new flush
  - Nitrogen (N) – 50% N directly after harvest
  - Calcium (Ca) – Apply 45% Ca according to analysis
  - Magnesium (Mg) – 50% after harvest
- Prune immediately after harvest.

#### Litchi

- Nutrition
  - Early cultivars: apply 30% of annual N & K after harvest
  - Late cultivars: apply 30% of annual N & K two weeks prior to end of harvest
- Irrigation
  - Ensure optimum irrigation for good recovery and starch accumulation
- Fruit fly
  - Monitor fruit fly numbers with traps & control with poison bait where necessary
  - Apply GF-120 as prescribed on the label and ensure that removal permits are in order three weeks before harvesting begins.
- Litchi Moth / False codling moth
  - Monitor and control with registered products
- Harvest and Postharvest
  - Pick fruit selectively in the morning and keep in the shade the whole time.
  - Apply a sulphur fumigation on dry fruit within 3 hours of picking or a Prochloraz treatment directly after harvest (180ml/100L water for 30 seconds) and cold storage at 1°C.
- Prune immediately after harvest.

## Avocado orchard practices to manage post-harvest diseases

- End-December 2023, Prochloraz will no longer be allowed for avocado exports to the EU. Growers should therefore implement pre-harvest practices to minimize reliance on Prochloraz and other post-harvest treatments.
- Anthracnose (*Colletotrichum* spp.) and stem end rot (*Thyronectria pseudotrichia*, *C. gloeosporioides*, *Phomopsis* spp., *Dothiorella* spp. and *Lasiodiplodia theobromae*) are the two main post-harvest diseases.
- Fungi remain dormant for months after penetrating the fruit with no obvious symptoms. After harvest, during ripening, fungi resume growing causing disease symptoms.
- Growers should not rely solely on post-harvest treatments to manage these fruit diseases – instead management must start on the farm with a combination of orchard practices for high-health orchards. Good cultural practices include:
  - Use windbreaks in windy areas to minimize fruit scarring and reduce penetration points for fungi.
  - Sanitation: prune and dispose of dead wood, twigs, and old fruit away from trees. Dead leaves entwined in the canopy should be knocked out. Fungi sporulate on all of these. Remove before flowering to reduce wind damage and reduce spore loads of fungi.
  - Prune low branches at least 0.5 m above ground to reduce humidity and dampness within canopies. This will improve ventilation and reduce fungal growth.
  - Prune and harvest only during dry conditions. Minimize fruit injury and thereby contamination.
  - Keep calcium and nitrogen nutrient levels in balance. Tree health and mineral nutrient status improve fruit resistance to anthracnose.
  - Sanitise clippers during harvesting for stem end rot disease management.
  - Apply copper-based fungicides on healthy tissue to prevent infection. A good copper spray programme is important

*Disclaimer: Any recommendation contained within this bulletin has been compiled with information currently available and in good faith, but with the express condition that SUBTROP accepts no responsibility for any loss or damage resulting directly or indirectly from the use thereof.*

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