

FRUITOPIA

**ARC-TROPICAL AND
SUBTROPICAL CROPS**

NEWSLETTER

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LOCAL CONFERENCES

Combined Conference 2018

THE ARC-TSC had a strong contingent of staff and students that presented at the annual Combined Congress held in Cape Town from 15 - 18 January 2018. The venue was unconventional for a scientific conference, i.e. the iconic theme park

Ratanga Junction. The park is scheduled to close soon and delegates were allowed to try out some of the rides. This made for an out of the ordinary, fun-filled conference! ■

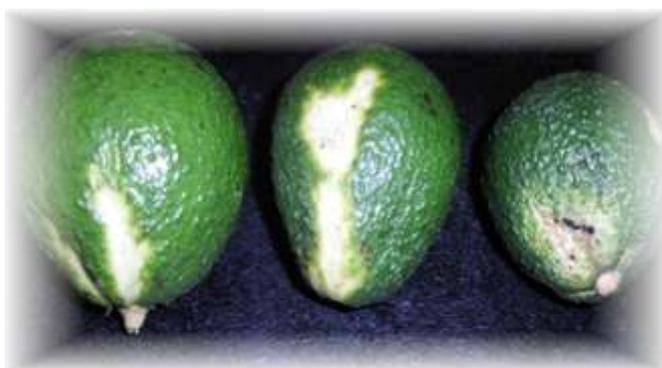


*Left: ARC-TSC delegates at the congress (Mr Mark Penter, Mrs Elmarie Rabie, Drs Karin Hannweg and Elli Hajari, Ms Andani Mabirimisa, Dr Zelda Bijzet and Ms Almari van der Loo)
Right: Delegates enjoy a ride on the Cobra!*

South African Avocado Growers' Association Research Symposium

THE annual South African Avocado Growers' Association (SAAGA) Research Symposium was held in Tzaneen on 15 February 2018. **Drs Elize Jooste, Tertia Grové, Schalk Schoeman, Mr Willem Steyn and Mrs Maritha Schoeman** presented talks on

topics ranging from Avocado Sunblotch viroid, control strategies for false codling moth, thrips and fruit flies, Avocado blackspot and integrated pest management of avocados. **Ms Ayanda Msweli and Lungile Linda** also participated in the symposium. ■



*Left: Bactrocera dorsalis (Oriental fruit fly), an invasive fruit fly species and
Right: typical symptoms of avocado sunblotch viroid on 'Hass' avocado fruit.*



Entomopathogenic nematode research revolutionises biological control of insect pests on subtropical fruit and nut crops

Southern African Plant Breeding Symposium 2018

THE Southern African Plant Breeding Symposium (SAPBA) was held in Durban from 12-14 March 2018. Researchers and students from the ARC-TSC attended to present their research. An interesting panel discussion was held to address the issue of lack of interest of students in studying plant breeding. Useful

insights were gained and it was apparent that misconception about the subject area was one of the primary reasons for low interest in the topic. Congratulations to **Dr Zelda Bijzet** who was elected as treasurer on the Executive Management Committee of SAPBA! 🟩



A large group of plant breeders from the ARC attended and presented their work at the SAPBA conference which was held in Umhlanga Rocks, Durban



Umhlanga Rocks provided the perfect venue for the conference

CROPS

MANGO

Development of improved mango cultivars and rootstocks

THE mango industry in South Africa is based primarily on five or six commercial cultivars, which have some negative characteristics. The mango breeding programme of the ARC-TSC was initiated in 1990 to address this issue. **Mr Christo Human** and **Ms Salomie Willemse** are involved in breeding mango cultivars for specific quality attributes required by high income earning niche markets. Open pollination (i.e. natural crosses) is the predominant method employed although artificial crosses (hand pollination) and caging of top-worked cultivars has been tried. The most successful strategy involves the use of open-pollinated crosses from polycross nurseries. A number of promising selections have been promoted to the second phase of evaluation. ■



Promising phase 2 mango selections from the ARC-TSC

Fruit flies associated with fruit of the family Myrtaceae

FRUIT flies (Diptera: Tephritidae) and false codling moth, *Thaumatotibia leucotreta* (Meyrick) (Lepidoptera: Tortricidae) are important pests of the horticultural industry in Africa. **Dr Tertia Grové** has been involved in a project where fruit of 12 plant species belonging to the family Myrtaceae Juss. were sampled in the Mpumalanga and Limpopo provinces of South Africa to determine the host profile, host preference and niche partitioning of the economically-important fruit fly species. Fruit flies and *T. leucotreta* were reared from fruit sampled from the tree and from the ground highlighting the importance of sanitation as a method to suppress pest population levels. Invasive plant species served as hosts for economically-important fruit fly

species and *T. leucotreta*, therefore it is important to control these plants, especially in the vicinity of orchards. Invasive plant species can also provide pathways for range expansion and this is especially important for *Bactrocera dorsalis*, which is a newly-introduced species with a limited distribution. Myrtaceae host plants growing in home gardens – often without any suppression methods – could enable fruit flies and *T. leucotreta* to reach high population levels. This places an emphasis on the importance of integrated area-wide management approaches, which aim at addressing the total pest population within a delimited area, and not only fractions of the population. ■



Monitoring and awareness programmes are critical for controlling the spread and establishment of pests

TRAINING

Village training in Bulungula

MS Rosemary du Preez and Karen de Jager visited the Bulungula Lemon Grass Co-op in the Eastern Cape as part of the ongoing village training initiative. Repairs were made to the gas distillation pot and training was provided on its correct use. An assessment of the status of the co-op indicated that the group requires additional support, particularly with respect to management, business skills and marketing. Other initiatives in Bulungula include the Ubuntu Garden and Skills Project and the Agriculture Centre. The Ubuntu Garden and Skills Project is a farming initiative to assist locals with knowledge on modern, sustainable and environmentally-friendly farming techniques. The role of the Agriculture Centre is to provide vegetable seedlings to the community. Discussions were held as to how the ARC could assist, particularly with fruit trees and training. ■



From top to bottom: Bulungula community radio station which operates from a hut; the gas distillation pot that was fixed; water and energy source used in the village; community members preparing lemongrass; and seedlings at the Agriculture Centre

Mango cultivar day

THE ARC-TSC together with the South African Mango Growers' Association (SAMGA) hosted a Mango Cultivar Day in Hoedspruit where promising mango selections from the ARC-TSC and Bavaria Estates' breeding programmes were displayed. Almost 40 mango growers and other stakeholders participated and had an opportunity to evaluate the selections.

Mr Christo Human, project leader of the ARC-TSC mango breeding programme, also presented a talk at the cultivar day. The mango breeding team of **Mr Christo Human** and **Ms Salomie Willemse** receives strong support from SAMGA. The mango cultivar day will become an annual event due to the success of this year's programme. ■



Evaluations at the mango cultivar day



AWARDS



LUNGILE Linda completed her Bachelor of Science Honours degree *cum laude* in Life Sciences (Zoology) from the University of South Africa. The title of her project was "Screening of *Beauveria bassiana* strains against the two-spotted stinkbug, *Bathycycolia distincta* in laboratory trials". She was supervised by **Dr Schalk Schoeman** (ARC-TSC) and **Ms A Lithole** (UNISA). ■



SSSSurprise rescue operation

THE warm summer weather brings out the weird and wonderful on our farms. The ARC-TSC staff at the Nelspruit campus witnessed a rescue operation when an African Rock Python (*Python sebae*) was trapped in a fence after eating a meal. The snake was reported by **Mr Thapelo Nkosi** who notified staff so that a snake expert could be contacted for removal. The African Rock Python is one of the largest snakes in Africa and is legally protected due to declining populations. It is a non-venomous snake that kills prey by constriction. **Mr Mark Penter** assisted a snake catcher from Hitech Security Nelspruit by cutting the fence so that the snake could be removed while ARC-TSC staff watched and recorded the event! We are happy to report that our scaly visitor was safely relocated to a less populated area! Well done to

Mr Thapelo Nkosi for contributing to the conservation of a protected species!

This python was the third major snake incident to occur in recent months. **Mr Calvin Ngobeni** was bitten by a black mamba and fortunately his protective clothing provided some protection. He was hospitalised and spent some time in ICU after being rushed to Nelspruit Medi-clinic by colleagues. In a second incident, a few weeks later, **Ms Linah Mathebula** was also struck by a snake in the same area where the python was caught in the fence, this time a venomous snouted cobra. Fortunately for Linah, it was a dry strike and after being rushed to the hospital by colleagues for treatment and observation, she was released the next day. Hitech Security Nelspruit were also involved in relocating the snouted cobra. ■



From left to right: Snake stuck in the fence; close-up of snake; Mark Penter cutting the fence to remove snake; placing snake in a vessel for transport; while staff members watch on with great enthusiasm; well done to Mr Thapelo Nkosi who swiftly notified staff of the trapped snake!



The snouted cobra which, fortunately for Ms Linah Mathebula was a dry strike, was safely captured by Hitech Security Nelspruit who relocated it to a safe place off campus

STAFF NEWS

Resignations

DR Mduuzi Ngcobo resigned from his position of Senior Manager Research at the end of March 2018 after nearly five years at the ARC-TSC. While we were sad to see **Dr Ngcobo** leave, a celebration was held to wish him well on his exciting new endeavour! **Dr Ngcobo** also handed out long service awards to employees before his departure. ■





THANK YOU to all those who contributed
to this **SIXTH ISSUE** of the
ARC-Tropical and Subtropical Crops

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