



FROM SOUTH AFRICA TO BERLIN

The Agricultural Research Council (ARC) unveiled a range of South African citrus and deciduous fruit cultivars at the Fruit Logistica International Trade Fair in Berlin, Germany.

See page 3 for the full story.



Sensational Superstars



ARC at Parliament

Did you know that the next Research First Forum takes place today, Friday, 1 March 2019 in the Olive Grove (Infruitec) from 2pm!.

Don't miss out!!

Comments / Suggestions

Forward to:

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SNAPSHOTS >>>

DIGITAL REVOLUTION EXHIBITION

We participated at the 4th Industrial Revolution Exhibition, hosted by the Department of Science and Technology (DST) at Parliament. The expo showcased South Africa's readiness for the Fourth Industrial Revolution.

The launch was broadcast live on SABC's Morning Live, with the Minister of Science of Technology, Ms Mmamoloko Kubayi-Ngubane in attendance.

Public and learners visited during the week as well.

Pictured here is Ms Leona Timmins (ARC) with Mr Daniel Visser, Strategic R&D manager (CSIR), the Speaker of the National Assembly of Parliament (RSA), Ms Baleka Mbete as well as her deputy, Mr Lechesa Tsenoli at our stand.

The ARC showcased our ARC Hub app. Want to know more about the ARC Hub app? Access world-class agricultural information at your fingertips. Proudly brought to you by the Agricultural Research Council of South Africa.

Visit www.archub.agric.za for more information.



SANDIA SITE-VISIT

ARC Infruitec-Nietvoorbij has for many years been involved in pilot research projects to investigate the feasibility of an insect control strategy called the sterile insect technique for control of fruit fly, codling moth and false codling moth. This involves using radiation to sterilize adult or immature insects, which are then released into vineyards or orchards to mate with fertile wild insect to produce sterile offspring. With regular releases of sterile insects the pest population in an area is reduced over time. Research done at ARC Infruitec-Nietvoorbij also focused on determining the precise dosage of irradiation required to ensure sterile insects without compromising their competitiveness with wild, fertile insects in the field.

The use of the Cobalt-60 source housed at Infruitec is strictly controlled by national and international legislation to ensure safe operation of nuclear sources. Sandia National Laboratories is invested in the establishment, utilization and promotion of nuclear energy sources used for a wide number of applications. This company is contracted by the United States Department of Energy on behalf of the international Global Threat Initiative to conduct regular checks of nuclear facilities, including irradiation sources such as ours, to ensure that all relevant regulations are observed to ensure safe use of nuclear energy.



To this end, Sandia conducts an annual site visit to the ARC irradiation facility and the Fruit Fly Africa (FFA) rearing facility. This year the site visit took place on 29 January 2019 and afforded ARC and FFA staff the opportunity to engage with international experts on various aspects concerning the safe handling and safeguarding of the source.

Photo from left to right: Gert Venter (Kharon), Louis Jansen (National Security & Fire), Piet Kotze (ARC), Jerome Johnson (FFA), Jodi Lieberman (Sandia Labs), Michael Itamura (Sandia Labs), Wilhelm Lubbe (National Security & Fire), Andre Meyer (ARC) and Louisa Blomerus (ARC).

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AND THE WORLD

A huge thank you to our wonderful employees who assisted in ARC Infruitec-Nietvoorbij's video shoot for the corporate DVD that was showcased in Berlin. Taaibos Human accompanied the team to Elgin and arranged a pack house visit to Tru-Cape.



Phyllis Burger and her team talked them through the Joybells 'embryo rescue' process as part of the table grape breeding programme and Prof Ndimba did an overview of our sensational superstar cultivars.

Fruit Logistica Berlin is regarded as the world leading international trade fair for fresh fruit and vegetable industries. The ARC had a stand in the South Africa Pavilion and the cultivars were showcased at a cocktail function hosted by FPEF. South Africa's Ambassador to Germany, Mr Stone Sizani (seated in cover pic), congratulated the team on our products.



This year, the "superstar" from ARC Infruitec-Nietvoorbij was Cheeky®, a mid-season blush pear variety. Unique characteristics of Cheeky®:

- Ripens about 3 weeks earlier than 'Forelle'
- Fills the harvesting & marketing gap between early blush cultivars and 'Forelle'
- Has an intense & reliable blush, which is more heat tolerant •After storage, it is juicy with good pear flavours

Did you know that the Cheeky® box showcases the trifoliolate leaves of the taaibos shrub? A lovely reference to our amazing breeder, Mr Taaibos Human :)



TAIWANESE DELEGATION

A delegation from Taiwan visited South Africa and attended a two-day workshop on Agricultural Biodiversity. The aim of the workshop was to identify and define specific themes of mutual interest in the field of Agricultural Biotechnology as well as develop a framework of cooperation that could be used to enhance and grow research networks and activities between the two countries. The workshop also assisted in mapping out Taiwan's expertise which will in turn contribute to South Africa's research capabilities. After the workshop, the Taiwanese delegation, along with members from the Department of Science and Technology (DST), visited ARC Infruitec-Nietvoorbij to learn more about our Institute and what we do on campus. Guests were treated to homemade warm and iced rooibos tea.



PHAT'S RESEARCHERS VISIT JAPAN!

Prof Lizette Joubert and Dr Christiaan Malherbe of the Plant Bioactives Group of Post-Harvest and Agro-Processing Technologies visited the Tokyo University of Agriculture and Technology (TUAT) in Japan as part of an on-going collaboration with Prof Yutaka Miura of TUAT since 2011. The itinerary included a scientific meeting with their Japanese collaborators and students, followed by a visit to Tama Biochemical Company in Nirasaki. This company produces an aspalathin-enriched powder extract from green rooibos for the nutraceutical market, making use of chromatographic technologies to enrich extracts in selected bioactive compounds.

Near Uji, believed to be the area where “Japanese” green tea was first cultivated when brought from China, they visited a green tea factory, plantations and the Kyoto Tea Industry Center. The sole purpose of this Center is research on green tea production, focussing specifically on breeding and horticulture aspects. Assessment of tea quality (sensory and bioactive content) forms an integral part of their research. A well-equipped analytical laboratory and tea tasting room underpin research on quality. Furthermore, the Center has a well-equipped pilot plant for on-going research aimed at improving green tea manufacturing techniques. Energy efficiency and tea quality are drivers of research. Green tea is an important product of the Kyoto Prefecture and speciality tea shops abound in the tourist areas of Uji.

Steam treatment equipment for inactivation of enzymes in fresh leaves for pilot scale experiments on Japanese green tea at the Kyoto Tea Industry Center, near Uji in the Kyoto Prefecture, Japan. The Center is staffed by 25 research and 6 administrative personnel. The pilot plant is also available for processors to test new equipment and processes. *Camellia sinensis* tea plants can last up to 30 years with the first harvest after 10 years.



Rooibos packaging with “naturally contains polyphenol” on the label, emphasising the emerging interest in rooibos polyphenols in Japan as part of its character.

BILATERAL WITH POLAND

Prof Beata Walczak of the University of Silesia in Katowice, Poland, visited our institute to conclude a 3-year bilateral funded project (funded by both NRF and the Polish NCBR).

She and Prof Dalene de Beer (Specialist Researcher, Plant Bioactives Group, Post-Harvest & Agro-Processing Technologies), the principal investigator on the South African side of the project, finalised a manuscript and submitted it to a peer-reviewed scientific journal (Food Research International).

The collaborative project was very successful with 1 SA MSc student graduate, 2 Polish MSc student graduates, 2 peer-reviewed scientific papers published and 2 more submitted.

The project focussed on determining phenolic composition changes during rooibos fermentation using chemometric techniques. A new proposal was also submitted for another 3-year funding cycle.

