

# ARC INFRUITEC-NIETVOORBIJ

THE INSIDE STORY



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## DAFF MINISTER VISITS THE CAMPUS

The Minister of Agriculture, Forestry, and Fisheries, Mr Senzeni Zokwana, addressed farmers at an AFASA / DFDC briefing session at ARC Infruitec-Nietvoorbij.

Minister Zokwana encouraged black farmers in the Western Cape to expand their wings and look at adding new agricultural products that are gaining momentum. He said, "Please young farmers, don't stop farming. Introduce young kids to be part of agriculture. Open your farms so they can visit, and see that farming is cool".

Professor Bongani Ndimba, Senior Research Manager at ARC Infruitec-Nietvoorbij in Stellenbosch, highlighted some of the R&D done at the campus. He also handed over a box of ARC table grape selections to the Minister.

Ismail Motala, Chairperson of AFASA Western Cape, said that AFASA works closely with the ARC and Deciduous Fruit Development Chamber (DFDC). "These relationships are important with regards to agriculture. The ARC is where life begins for black farmers."





## KHAYELITSHA CAREER EXPO



Team ARC participated at the Khayelitsha Career Expo at the Joe Slovo Technical High School on 15 March 2019.

The expo was hosted by the Department of Public Works, at which 1 500 learners from Grade 10-12 were in attendance.

The ARC was given an opportunity to showcase our products, services and various agricultural career options on offer.

## "SUGOI" APPLE COMING TO SA?

Members from the DTI's Invest SA along with their delegates from Wismettac (Japan), visited ARC Infruitec-Nietvoorbij for a collaborative session on a new "Sugoi" Japanese apple that they wish to bring to South Africa.

The brand name, SUGOI, is a Japanese word that includes "excellent," "astonishing" and "very good" among its meanings and has been adopted to represent the high quality and deliciousness of the apples.

Wismettac Foods, Inc. supply the world with Japanese food and their business has been expanding, driven by their company slogan, "Japanese foods to the world, and the world's foods to Japan."





## PRESIDENTIAL MEET & GREET

ARC Infruitec-Nietvoorbij's Professor Bongani Ndimba, attended a public meeting at Beyerskloof Wine Estate in Stellenbosch, at which the Honourable President, Cyril Ramaphosa, engaged with farm owners, Agri Weskaap, business and academics.

The president faced a string of questions regarding land and economic issues. Beyerskloof owner, Beyers Truter, said that he hosted the conversation with the President so that farmers can see we have a great future.

## FROM RETIRED COLONEL TO PLANT ENTHUSIAST

At the ripened age of 75, Colonel Jurgens Basson's love for nature and plants brought him to ARC Infruitec-Nietvoorbij in Stellenbosch to fulfil his birthday wish of gaining some first-hand knowledge on how to bud and graft successfully.

During his many years of service, Colonel Basson (retired SAPS Station Commander: Radio Communication - Western Cape), travelled far and wide but would always stop to admire interesting trees along the way. His love for nature and plants started at a very young age, with various attempts at propagating plants such as mango, granadilla, peach, nectarine, citrus and avocado, but he was not always successful.

Mr Taaibos Human, a pear breeder at the Agricultural Research Council in Stellenbosch, took some time out to showcase various budding and grafting techniques. Budding and grafting are horticultural techniques used to join parts from two or more plants for clonal propagation. Budding is the placing of a single bud of one plant onto another plant while grafting is the insertion of a stem/shoot of the scion plant onto a rootstock.



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*I believe that everyone should have an orchard in their backyard - Jurgens Basson*

## ROLE OF AGRI-FOOD ANALYTICS WITHIN ARC INF-NVB

Meet the team - The unit is currently managed by Ms Valmary van Breda (Laboratory Manager) with technical support from Dr Thuli Ndlovu (HPLC), Messrs Francois October (GC-FID & GC-MS) and Jeremy Boonzaier (Cellar services).



ARC Infruitec-Nietvoorbij projects with commercial potential, that can grow and strengthen its Analytical, Diagnostic and Consultation services was recently identified. Subsequently, the AGRI-Food Analytics unit and project was established to provide analytical services to research projects within the ARC as well as various industry clients to contribute to above-mentioned goal

The unit aims to: 1) Reduce outflow of funds, by minimizing outsourcing of analyses; 2) Increase External income, by providing services to Industry clients at competitive pricing and 3) develop Human capacity by training students and interns for the ARC and Industry.

Additionally, the unit hosts DST-NRF interns and Work Integrated Learning (WIL) students, whereby they are trained to operate the various analytical equipment as part of routine analysis and services offered.

Currently, there are three functional equipment operating in the laboratory. First of which is the Alpha (FT-IR based) Wine Analyzer which measures various parameters i.e. Grape must ( $^{\circ}$ Balling, pH, Total Acidity [TA], Total sugar), Fermenting must (Alcohol, Fructose, Glucose, Malic acid [MA], TA, Total sugar) and Final wine (Volatile acidity [VA], Alc, Fruc, Gluc, MA, pH, TA, Tot sugar). Secondly, the unit also has an High-Performance Liquid Chromatography (HPLC) with Diode-Array Detection (DAD), capable of measuring wine Polyphenols i.e. flavonoids (Flavonols, Anthocyanins, Tannins, Flavanols). It is envisioned that an amino acid column will be procured to expand the scope of services. Additionally, the unit has a gas chromatography (GC) equipped with a Flame Ionisation Detector (FID) to measure wine aroma compounds, namely Esters (isoamyl acetate [banana], ethyl-acetate [fruity], isobutyl acetate [apple] etc.), Higher alcohols (isoamyl alcohol, isobutyl alcohol, n-propyl alcohol etc.), as well as Total fatty acids (Acetic acid [vinegar-like off-odour] etc). It is envisioned that a GC-MS will be procured in future to expand the scope of services. The cellar services offered also forms part of the unit and offers grape ripeness analysis (juice extraction,  $^{\circ}$ B (refractometer), pH (Auto-titration) and TA (Auto-titration), as well as the winemaking services (winemaking, wine Production, must analysis (FT-IR), SO<sub>2</sub> (Ripper), residual sugar monitoring (Densitometer), filtration & bottling (6 bottles) & sensory evaluation).

The AGRI-Food Analytics Laboratory is registered with the South African Wine Laboratory Association (SAWLA), which ensures that wine analysis laboratories generate quality results for the South African Wine Industry, by participating in their Proficiency testing scheme which complies to the ISO standards. All ARC laboratories offering services in the near future will be required to be South African National Accreditation System (SANAS) accredited. Therefore, participating in the SAWLA proficiency testing scheme, aligns the AGRI-Food Analytics to apply for SANAS accreditation.

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