

AGRI PROBE



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**Economic contribution
of SA's blueberry industry**

**The future
is here**

**Urban agriculture:
food basket of the city**



DIS DIE EEN



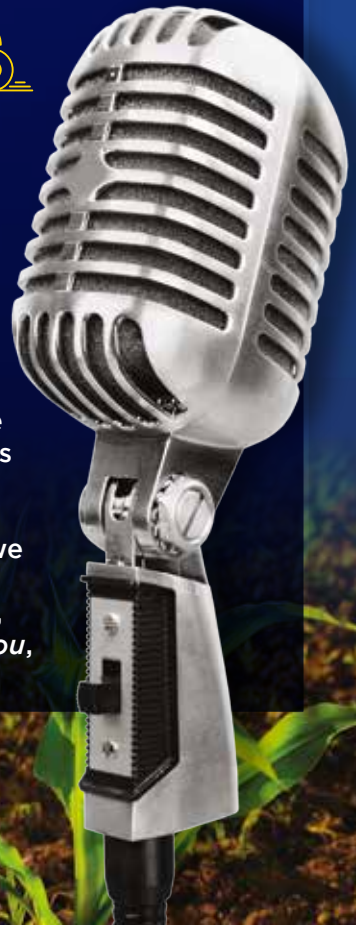
Kom gesels en luister saam na *RSG Landbou!*

RSG Landbou (RSG 100-104 FM) word Vrydae om 04:45 en Saterdag om 11:45 uitgesaai en word vervaardig deur die Wes-Kaapse Departement van Landbou. Op die Vrydagprogram help ons graag landbouers met tegniese raad en kennis komende van 'n wye verskeidenheid van kenners. Belangrike nuusgebeure word ook op hierdie inligtingsryke program bespreek. Tydens die Saterdagprogram deel ons stories van hoop en inspirasie oor die mense in die landbousektor. Kontak my, Eloise Pretorius, indien jy self 'n bydrae wil lewer, of indien jy weet van iemand wat kan, by eloisep@elsenburg.com.



Listen to *RSG Landbou!*

RSG Landbou is broadcasted on Fridays at 04:45 and Saturdays at 11:45 on RSG 100-104 FM, nationwide. This programme is produced by the Western Cape Department of Agriculture. On Fridays, the programme is filled with useful information from an array of experts with the aim to support and inform the agricultural community. Technical advice is given and newsworthy items are discussed. During the Saturday programme we share stories of hope and inspiration about the people in agriculture. Feel free to contact me, Eloise Pretorius, should you wish to make a contribution on *RSG Landbou*, at eloisep@elsenburg.com.



Setting the SCENE



by Gertrude Jacobs

The year 2019 has been a tough one with persistent challenges like the country-wide outcry about gender-based violence and rural safety, amidst concerns for the fiscus and economic growth. Agricultural debates and discussions are dominated by the drought and its impact on the agricultural sector, the economy and the mental health of farmers, agri workers and their families.

Amidst all of this, 2019 is speeding to its end.

The festive season is on its way; the season for celebration, gratitude and hope. This edition reflects on resilience, adaptability, sustainability, recognition, and future planning flow.

Guidance is provided to utilise the updated user-friendly CapeFarmMapper, the departmental mapping application, which provides easy access to a variety of agricultural and natural resources and spatial data – free of charge! With the increasing demand on our natural resources, a must-read is the articles on page 44, which explore best practices for the adoption of conservation agriculture, and on page 8, focusing on the benefits of urban agriculture.

Possibilities and opportunities are explored through BFAP, highlighting key ingredients to put the agricultural sector on a growth pathway. The prospects of the fast-growing blueberry industry for the sector and rural development are also discussed.

The highlight of this issue, however, is

the celebration of people! How Elsenburg excelled in the pruning competition, how young people are exposed to career opportunities in veterinary sciences through practical experience, and the celebration of women in agriculture in Merweville, where the lesson was clear, circumstances (and age) don't matter!

The celebration continues as the accolades streamed in for the department's Animal Sciences team, the Female Entrepreneurs Awards and the Western Cape Prestige Agri Awards, with the focus on the 2019 Provincial Agri Worker. We celebrate wonderful people and partnerships, giving recognition and expressing gratitude for their hard work, dedication, passion and valuable contribution to the sector amidst the challenging environment.

As we enter this festive period, even though it is a gloomy picture, there are rays of hope, like the united front on gender-based violence by civil society and the introduction of an amended national rural safety plan. For our sector, early October 2019 saw Minister Thoko Didiza acknowledging the importance and the current insufficiency of drought support by government, as well as the impact of rural safety on the sector. This was followed by an announcement by the Western Cape Cabinet of additional funding for a holistic approach to drought relief, hopefully with good co-ordination, there is a lot to look forward to as we welcome 2020.



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ON OUR COVER

Blueberries have gained popularity in South Africa as an alternative crop of choice and it is no surprise that these blue gems have enjoyed a rapid economic growth in the past five years. As a labour-intensive crop, the blueberry industry contributes to the rural economy of the province, adding to the sweetness that is captured in these tiny treasures. The Western Cape Department of Agriculture continues to partner with key industry role players such as the South African Berry Producers' Association, for consistent revenue generation.



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Your communications partner in the agricultural industry

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A wonderful journey of discovery

Minister Meyer talks about his first six months in agriculture

by Daniel Johnson, Daniel.Johnson@westerncape.gov.za



"I know of no pursuit in which more real and important services can be rendered to any country than by improving its agriculture, its breed of useful animals, and other branches of a husbandman's cares." – President George Washington

My first six months in office have set me on a wonderful journey of discovery. New ideas and experiences have become my daily diet and I have embraced them with a sense of deep admiration for the men and women who toil the fields and grow our livestock. I also have high regard for our staff, who constantly and consistently work at improving the level of support and expertise they offer to those involved in our sector.

The impact that the past six months have had on me has become the rallying cry that will drive me, as I set about my task of delivering on the mandate of the Western Cape Government through agriculture. I do so *#ForTheLoveOfAgriculture*.

I have come to understand that agriculture is a passion and more than just a job; it is a way of life that agriculturalists love. This passion stems from a deep pride in their work and the common purpose that all those in agriculture share: to provide the world with quality food, fuel, feed and fibre.

I have come to appreciate that whether it is

- sustainable resource management;
- farmer support and development;
- veterinary services;
- research and technology;
- agricultural economics;
- structured agricultural education training; or
- rural development



– the common thread is a commitment to improving the lives of the people of the Western Cape.

Listening has certainly been a key part of my initial approach to my first six months in office. My first meeting, or induction meeting as I call it, with top management and programme managers exposed me to the depth, breadth and complexity of my new portfolio. It also ignited my appreciation for the level of expertise, professionalism and commitment displayed by every staff member I have had the honour of meeting.

Staff members have become much more than mere fellow travellers. They have expressed a willingness to embrace my five strategic objectives and do so with enthusiasm and a common focus.

I have also had the opportunity to meet with a number of municipal and industry stakeholders. These meetings confirmed that there is much goodwill and a willingness to be part of a solution-driven agricultural sector. This goodwill and expertise must be harnessed for the benefit of all.



Dr Ivan Meyer.

Farm visits have certainly been special for me since it allowed me to gain insight into the work of the department and officials. Not only that; it has also given me the opportunity to get to know that special breed of people called farmers. Commercial and small holder farmers have one thing in common: their existence is inextricably linked to the soil.

The first six months of my journey has left me invigorated, energised and empowered to confront the challenges that will come my way. I urge you to walk this path together with me for #TheLoveOfAgriculture. [AP](#)

BETTER TOGETHER IN AGRICULTURE

As we near the end of another year, we reflect as we usually do: it can't get worse or it can't get any better; yet in agriculture, it does. The sector is a contradiction, where the role players are geared to manage whatever comes their way, aware of the risks and the challenges, while understanding that partnerships and dialogue remain the most important ways to address our collective problems. From the Department of Agriculture, we thank all the key role players in the sector that have supported us, that have been prepared to work with us and that have been there to ultimately take the sector to new heights. I think it's fair to say that everyone contributes to the value chain.

Some parts of this province are doing fairly well, given the recent drought, and others are yet to recover. From those who are struggling to make ends meet, to those who are thinking "what's next?" – please be assured that we are making plans and will continue to support the broader agricultural sector. Better together remains the mantra we need to strive towards.

In conclusion, it is not the impossible that attracts one to agriculture, but the abundant possibilities of a better future. I want to wish you a blessed festive season and a better new year.

Joyene Isaacs, Head of Department



Animal Sciences technicians scoop awards

by Dr Ilse Trautmann, ilset@elsenburg.com



From left to right: Annelie Kruger, Angel Maapea and Resia Swart with their awards at the 37th annual SASAT congress.

Three scientific technicians from the Directorate Animal Sciences in the Research and Technology Development programme performed exceptionally well at the 37th annual congress of the South African Society for Agricultural Technologists (SASAT) held in Pretoria (Roodeplaat) recently. Angel Maapea was awarded the SASAT trophy for the best animal paper presentation, “Microbiome of dusky kob (*Argyrosomus japonicus*) eggs and hatchery water and efficacy of various chemicals for egg disinfection”. Resia Swart received honorary membership of SASAT and was also awarded for the best poster presentation, “Effect of

extrusion on rumen-undegradable protein (RUP) fraction of lupin meal and canola oil cake meal”. Annelie Kruger won the third prize for her paper presentation, “Sex and line differences in arena behaviour of divergently selected merinos”. SASAT currently has three branches countrywide – Gauteng, Mpumalanga and Western Cape – with intentions to establish more branches in all the nine provinces in South Africa. The congress is hosted by a different branch every year and the 38th annual SASAT congress will be hosted by the Western Cape branch in 2020, with the winning ladies forming part of the organising committee. **AP**

Urban agriculture: food basket of the city

by Dr Jacques van Zyl, jacquesvz@elsenburg.com

The conference titled “Urban agricultural heritage and the shaping of future cities” took place this year in Hanover, Germany.

The conference reiterated that urbanisation plays a pivotal role in the rural-urban resource allocation of cities, specifically in developing countries. With the current increasing rate of urban consumption and growth, the sustainable management of water and food is problematic due to challenges in waste management and sanitation. Cities are becoming nutrient sinks and the development of closed-loop

processes of production is a necessity to enhance the recovery of resources for sustainable urban and rural development. The demand for nutrients by urban and peri-urban agriculture could be satisfied to a significant level if collected food waste and faecal sludge can be treated for re-use in agriculture. Planning for closed-loop systems is essential to maintain cities because ever-expanding cities will exhaust resources and will cause pollution at an increasing rate.

Three main policy perspectives on urban agriculture are as follows:



• **The economic perspective** is related to market-orientated urban agriculture, which typically involves small-scale family-based enterprises, and also larger entrepreneurial farms run by producer associations or private investors. Some of these enterprises are not only involved in food production, but also non-food products such as medicinal herbs, ornamental plants and flowers. A number of these urban farms are associated with small-scale or larger enterprises that are involved in processing, marketing and the delivery of inputs, such as seed, agrochemicals and compost. The bigger urban farms have a higher potential for possible water and soil contamination through the intensive use of agrochemicals. They also pose a health risk due to the possible use of contaminated water and the risk of animal-human disease transfers.

• **The social perspective** is primarily, but not exclusively, related to subsistence-based urban agriculture that is an integral part of the livelihood of lower income households. The focus here is on the production of food and medicinal plants for household use and the surplus is sold to generate cash. Typically, these producers seek multiple additional income sources to fulfil their survival needs. Home gardening, community gardening, micro-scale open-field farming with minimal input, and institutional gardens are examples of this sector. Enhanced food security, poverty alleviation, social inclusion, and community development are positive results of these gardens, but unfortunately these systems show little profitability.

• **The ecological perspective** of urban agriculture is usually overlooked, but it can play a positive part in environmental management. Along with food production and income generation it can have a major role in nutrient recycling by decentralised composting and reuse of wastewater and

organic wastes. Other benefits include urban greening, buffer zones free of construction, improved urban climate, storm water storage, and spaces for leisure activities. The success of such a system will depend on the adoption of agro-ecological production methods and linking with waste management and eco-sanitation. Urban agriculture also needs to be included in the planning of parks, reserves and general city or town planning strategies.

Urban agriculture could become a dynamic economic sector.

Governmental and municipal institutions must accept that urban agriculture is an urban land use issue and should create a conducive policy environment to enable this, and land-use plans must include it. Programmes should be implemented to enhance the economic viability and productivity of urban agriculture by training and technical advice to establish urban farmer organisations, and to facilitate credible and affordable credit facilities for farmers. Measures to reduce the risk of environmental issues by urban agriculture should be inclusively developed. These strategies should be developed with a multi-stakeholder approach.

Urban agriculture could become a dynamic economic sector if policies and programmes created an empowering framework, which would lead to the optimal development of social, economic and ecological benefits for the urban community and the city. Urban agriculture will only be sustainable if its contributions are related to a city which is sustainable and resilient; it will then become the food basket of the city.



XHOSA SUMMARY



EZOLIMO EZIDOLOPHINI: INGQOKELELA YOKUTYA ESIXEKWENI

Inkomfa: “ebingeNcubeko neendlela zakudala zeZolimo ezidolophini kunye nolungelelaniswa lweedolophi kwixesha elizayo” ibihlinzekwe ukususela ngomhla wesi 6-8 kuCanzibe 2019 e Hanover yase Jamani.

Le nkomfa ikuphinda-phindile okokuba iidolophi zisebenza indima engundoqo kulwabiwo lwemithombo yoncedo kwiidolophana ezingqonge izixeko, ngakumbi kumazwe asakhulayo. Lunengxaki ulawulo oluzinzileyo lwamanzi nokufumaneka kokutya ngenxa yemingeni kulawulo lokungcola kunye nezococeko ngenxa yokwanda ekusetyenzisweni kwazo ezidolophini kunye nokukhula kwamanani oluntu ezidolophini. Ezolimo ezidolophini nakwiindawo ezizingqongileyo zingayanelisa ngokuphakama okubonakalayo imfuneko yezondlo zomzimba, ukuba kungasetyenzwa ze kuphinde kusetyenziswe ingqokelela yokutya okulahliweyo kunye nelindle kwezolimo. Kubaluleke kakhulu ukuba izixeko zicwangcisele ukupheliswa kwelahleko, kuba izixeko zihlala zisanda yaye nemithombo yoncedo isiya iphela, nto leyo iyakubangela ukwanda kongcoliseko,

Kubalulwe ezona mbono zintathu kumgaqo wezolimo ezidolophini. Um'bono ngezoqoqosho wayanyaniswa kwezolimo ezidolophini ngemiba engemarike nebandakanya amashishini asemancinci emakhaya kwakunye namashishi amakhulu kwezolimo. Um'bono ngentlalo-ntle yoluntu ujongene, noko ingakugaty, wayanyaniswa nabalimela ukuzityela besezidolophini, nekuyiyeyona

nto ibalulekileyo kumacebo okuphila kumakhaya anemivuzo ephantsi. Um'bono ngezinto eziphilayo nendawo ezihlala kuyo ngezolimo ezidolophini kuyinto eqheleke ukuba ingahoywa, kodwa inganceda kakhulu kulawulo lwezendalo esingqongileyo.

Indima ekufuneka isetyenzwe ngurhulumente kunye nooMasipala kukwamkela into yokuba ezolimo ezidolophini kukusebenzisa umhlaba osezidolophini yaye kukhokelela kumgaqo wemeko ekuvumelayo oku, ngoko ke, kufuneka uqukwe kwizicwangciso zokusetyenziswa komhlaba. Kufuneka kumiselwe iinkqubo zokuncedisa uqoqosho oluphilileyo nokuvelisa kwezolimo ezidolophini ngokuqeqesha, ukunika iingcebiso zobugcisa, kusekwe imibutho yamafama asezidolophini yaye de kulungiselelwe nokufumaneka kweemali-mboleko nezingenanzala iphezulu kumafama. Kufuneka kudityaniselwe nemigqaliselo yokuthintela nokunciphisa umngcipheko kwimiba engendalo esingqongileyo kwezolimo ezidolophini.

Ezolimo ezidolophini kungalicandelo elikhulu kwiimveliso zezoqoqosho, xa imigaqo neenkqubo isondlalela imeko ekhuthaza ukuxhobisa nokuyakukhokelela kuphuhliso olukhulu kuluntu, kuqoqosho kunye neengenelo ezingendalo ephilileyo neendawo ezihlala kuyo kuluntu luphela, ezidolophini nasezixekweni. Ezolimo ezidolophini kungayinto elungileyo xa igalelo lwako lunokoyanyaniswa kwisixeko esikufaneleyo nesikulungeleyo, kungasizisela isisele okanye uvimba wokutya esixekweni. **AP**

BFAP 2019 – FOCUSING ON AGRICULTURE'S FUTURE!

by Ayabonga Sibulali, Ayabonga.S@elsenburg.com and
Tshepo Morokong, tshepom@elsenburg.com



The annual Bureau for Food and Agricultural Policy (BFAP) Baseline Launch has become an important event on the agricultural calendar in the Western Cape. As in previous years, BFAP's Agricultural Outlook for 2019 to 2028 was published and the Baseline Launch was held recently at the Lord Charles Hotel in Somerset West. The Western Cape Department of Agriculture is a proud sponsor of this event and continues to partner with BFAP to provide projections for a period of ten years. These are based on agricultural production, consumption, price fluctuations, and trade performance of several agricultural value chains within South Africa. This is also done in collaboration with key local and international partners such as

the Bureau of Economic Research (BER), the Organisation for Economic Cooperation and Development (OECD), the Food and Agricultural Organisation (FAO), and the Food and Policy Research Institute (FAPRI).

This year's BFAP Baseline touched on several issues like some of the latest trends and policy changes, and other relevant factors affecting world markets that impact the South African agricultural sector. BFAP information is critical for strategic planning and decision-making in the agricultural sector. The Baseline therefore serves as the benchmark to test and interpret external shocks to South Africa's agricultural sector, and offers some recommendations on how to proactively choose and work towards the



desired pathway for growth and jobs in the economy. Some of the major findings from the report are summarised below.

Presently, agriculture is under pressure because of the increased use of natural resources (i.e. water shortage), squeezed profit margins and uncertainty regarding government policies. Apart from low international commodity prices and pressure on the disposable income of consumers, South African sectorial performance has also recently been hit by avian influenza, listeria and severe drought, among others.

The stagnant gross value of the agricultural production of 2019 is not expected to change significantly from the levels of 2015, because of these contributing factors. Globally, the USA-China trade war and the outbreak of African Swine Fever

(ASF) in China are affecting world trade patterns. Back home, some South African agricultural industries have performed well, where growth in agricultural exports over the past ten years was driven by some of the horticultural sub-sectors. Sustained growth in the fruit industries over the past decade can be regarded as one of many success stories and reflects a certain level of competitiveness. There is also an urgent need to expand market access for products in the fruit industry, especially for soft fruits, citrus, and berries.

On the consumer side, the cost of a staple food basket is projected to increase by 6%, mainly driven by maize meal inflation, which is expected to increase by 11% as farm gate prices move towards a 20% increase. Since 2015, agricultural



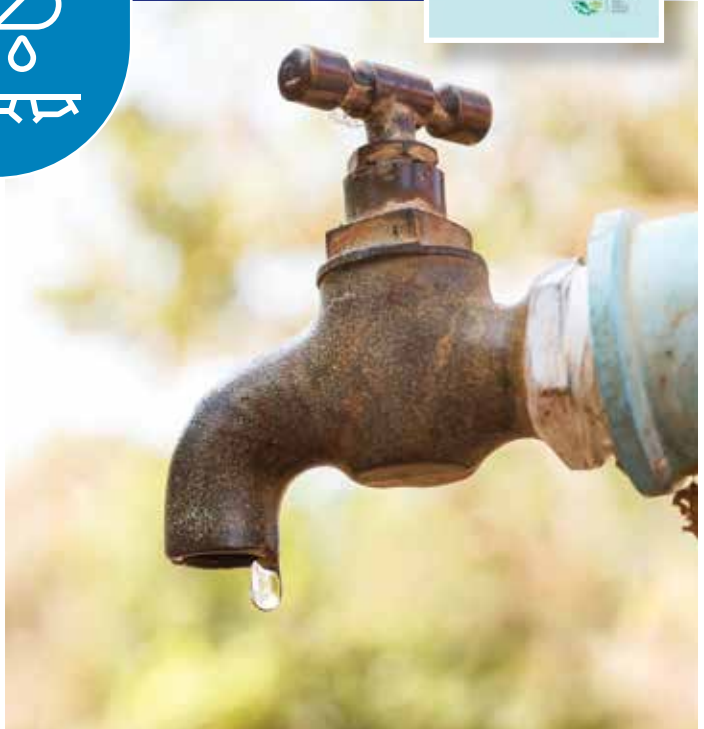
employment has also been under pressure with job losses occurring as a result of the drought. However, some smaller intensive alternative crops have managed to expand production and have therefore created jobs. Employment remains a critical element of the agricultural sector, stated in the National Development Plan as a “one million employment target”. Therefore, the creation of jobs within the agro-food or value chain will play a major role in achieving this target.

Prof. Ferdi Meyer (managing director of BFAP) highlighted key issues to put the

agricultural sector on a pathway of growth. These, among others, include policy certainty that promotes a conducive environment for foreign investment; accelerated but stable land reform and effective farmer support; efficient natural resource management; and continuous improvement of international market access, particularly the export of value-added agricultural products. The Baseline Report is available online (bfap.co.za) and this analysis of the South African agricultural sector continues to promote enhanced decision-making to farmers, policymakers and agribusinesses. ^{AP}



bfap.co.za/wp-content/uploads/2019/08/Final-Baseline-2019.pdf



ConnectAgri at the biggest agricultural show in the Western Cape – NAMPO Cape

by Mary James, maryj@elsenburg.com



The second NAMPO Cape was hosted at Bredasdorp in the Overberg District during September 2019 and proved to be bigger and better. What started as a muddy first day turned out to be a very productive week for the department. All hands were on deck to broaden the horizon for approximately 120 students on the world of agriculture and the various career options that are available in the sector.


The first of three ConnectAgri events that the department has selected to host in 2019/20, this first-time event is sure to become a regular on the department's calendar as it has proven to be one of the biggest agricultural shows in the Western Cape.

The schools that attended the show were Overberg High School from Caledon, Riviersterend High School, Albert Myburgh Senior Secondary School from Bredasdorp, Swellendam Senior Secondary School and Bredasdorp High School. The principals and teachers who accompanied

the children were all very positive and full of praise for the department and the exhibitions.

In addition to the students who enjoyed the departmental stands, a number of people from the public also visited the departmental exhibitions, catching up on the latest technologies, services and opportunities on offer.

In retrospect, the department enjoyed meeting and greeting its key stakeholders and spreading the good agricultural stories that the province is known for. With nearly 20 000 visitors attending over the three days, this show is worth the visit. #ForTheLoveOfAgriculture.

If your school is interested in agriculture and would like an invitation to attend our next ConnectAgri event at Riversdale (19–22 February 2020), please contact Giselle Terblanche at the Western Cape Department of Agriculture at gisellet@elsenburg.com 



Students learning about interesting careers in agriculture.



SKOG INFORMATION DAY 2019

by Annelene Swanepoel, annelenes@elsenburg.com

The annual information day of the Swartland Kleingraan Ontwikkelingsgroep (SKOG) at the Langgewens research farm of the Western Cape Department of Agriculture near Moorreesburg was held during September, despite drought conditions affecting grain crops across the province.

There were 125 delegates attending this information field day, including farmers, researchers, students, and representatives from agribusinesses.

The guest speaker was André Uys, CEO: Agri & Food, Acorn Private Equity. He addressed delegates on sustainable agriculture in the Swartland and how to make sense of what is currently happening around them. He also discussed various strategies for managing sustainability within a changing farming environment.

SKOG collaborators shared their research knowledge from 21 trials during a field visit. Despite the serious effects of the drought on grain crops in other parts of the Swartland region, crops at Langgewens were still in a fairly good condition at the time, with cover crop varieties showing their resilience in a challenging season.

The next SKOG event will be the SKOG Voorsaaidag, which will be presented at

Langgewens research farm during the first quarter of 2020. This event is all about reporting back on research that was done during the previous growing season and preparing for the next season.

SKOG is managed through the collaboration of four principal members, namely the Western Cape Department of Agriculture, the Protein Research Foundation, Kaap Agri, and Overberg Agri.





SKOG collaborators shared their research knowledge from 21 trials during a field visit.



SKOG is the acronym for the Swartland Kleingraan Ontwikkelingsgroep. This initiative comprises four principal members, namely the Western Cape Department of Agriculture, Overberg Agri, Kaap Agri and the Protein Research Foundation. It was established to promote and develop grain production in the Swartland region. This initiative offers stakeholders and input suppliers from agribusinesses the opportunity to do research as demonstration trials on a dedicated area at Langgewens research farm. It is then showcased at the annual SKOG information day where producers and other stakeholders have the opportunity to see the trials and discuss results with these co-workers. SKOG also presents an additional information day in March each year, where topics related to planning for the upcoming season are presented. **AP**

FELCO intervarsity and agri worker pruning competition

by Anneli Bosman, annelib@elsenburg.com



FELCO is an international company, manufacturing and selling pruning equipment to the agricultural industry worldwide. FELCO Africa's main aim is to give credit to all pruners that need to execute the difficult, but absolutely necessary task of pruning grapevines during the winter months. Training of agri workers is an absolute priority for FELCO. It is the first company to start doing official training in pruning, offering free servicing of pruning shears, and presenting pruning competitions.

The first FELCO pruning competition was held in 2010, and it was then realised that there is a huge demand for additional training of workers. In 2011, FELCO collaborated with VinPro in order to

organise and present training courses. The pruning competition itself grew to such an extent that various areas now present their own competitions on a smaller scale, to accommodate all workers, and in order to identify the three top workers for each area. These workers then qualify to take part in the annual national FELCO pruning competition. On the same day of the pruning competition, an intervarsity pruning competition also takes place. Institutions taking part in the intervarsity competition include the University of Stellenbosch (US), The Cape Peninsula University of Technology (CPUT), and Elsenburg Agricultural Training Institute (EATI). Boland Agricultural School also participated in the final competition in 2019.

In 2019, 19 semi-final competitions were held with a total of 450 pruners taking part, and the top three pruners of each area qualified to take part in the final pruning competition. In total, 60 pruners participated in the finals. Semi-finals for the agri workers were held in the following areas: Vredendal, Citrusdal, Malmesbury, Darling, Franschhoek, Paarl, Wellington, Tulbach, Worcester, Rawsonville, Durbanville, Stellenbosch, Elgin, Hermanus, and Montagu.

The final competition took place at EATI on 30 August 2019. Over the years, FELCO and EATI have built up a very close relationship, and it was with pride that we were able to host the pruning competition. We intend to maintain this close relationship with

FELCO, and continue collaborating with them in future. We are proud to be part of this initiative of FELCO to expose our students and agri workers to training and events such as the national FELCO pruning competition.

Jaco Engelbrecht, an independent viticulturist from Visual Viticulture was the judge. Participants were evaluated according to the following criteria:

- Correct positioning and spacing of vine spurs.
- Pruning back to two-bud bearers.
- The length of the cut (cuts should never be made too close to the remaining buds).
- Renewal in order to maintain the correct shape of the vine.
- Thin canes (thinner than pencil thickness) should be cut back to only one bud.
- Large pruning wounds should be avoided at all costs.
- Pruning shears and blades should be in peak condition in order to ensure neat and clear cuts.



Mrs Hayley Rodkin, Head: Elsenburg Agricultural Training Institute, Toeloe Basson, Carel van der Merwe, Anneli Bosman and Gina Viola.



The winners of the 2019 FELCO/Kaap Agri pruning competition are as follows:

Agricultural School:

First place: Schalk van Schalkwyk (Boland Landbou)
Second place: Joshuan Hanekom (Boland Landbou)
Third place: Jaco Wiehahn (Boland Landbou)

Intersivity winner of the *Duellum Putatio* trophy:

First place: Carel van der Merwe (EATI)
Second place: Chata Nundell (US)
Third place: Hein Smit (CPUT)

Agri workers:

First place: Isak Muller from Navada, Koekenaap
Second place: Anastacia Sequoona from Oranjefontein, Darling
Third place: Jacobus Muller from EATI



Isak Muller from the farm Navada, Koekenaap, was crowned as the overall winner of the day. He beat the agri workers, students and learners and won the following:

- ▶ An overseas trip to Switzerland, all costs included
- ▶ Participation in the international pruning competition as organised by FELCO in Les Geneveys-sur-Coffrane, Switzerland, from 9 to 12 March 2020
- ▶ R2 000 cash
- ▶ Kaap Agri vouchers to the value of R1 000, a Hi-Tec jacket and Johnsons shoes

EATI is proud that one of our agri workers, Jacobus Muller, was third overall. Carel van der Merwe, a third-year student of EATI, beat eight other students participating in the intersivity pruning competition, to obtain first place.

Jacobus Muller was born on 22 March 1971, on the farm Mariendal in Stellenbosch. From there, the family moved to Thelema. Both his parents were farm workers. From an early age, he showed a great interest in and passion for the grapevine. He did casual work in the vineyards from the age of 15. His work included the training of young grapevines, planting and establishing of vineyards, pruning and other summer

canopy management practices. He worked as a casual at EATI for nine years and was appointed permanently in 2001.

Carel Wynand le Roux van der Merwe was born on 23 May 1994 in Worcester. He attended Paarl Boys' High. He is the seventh generation on the family farm Merwida, in the Rawsonville area. He also displayed a great passion for the grapevine from a very young age. When he was 10 years old, he had five of his own grapevines, for which he was responsible. This is where his father taught him how to prune. His love for grapevines grew tremendously when he worked for Mischa Premier Vines in Wellington in 2017. **AP**

OUTENIQUA INFORMATION DAY

focusses on forage herbs for milk production

by Annelene Swanepoel, annelenes@elsenburg.com

The popular annual Outeniqua Information Day was held in September at the Outeniqua research farm near George. The theme of the day was “Milk production from planted pasture” and the focus was on the inclusion of the new higher-yielding forage herb varieties in the fodder flow of dairy enterprises in the Southern Cape.

The pasture component was represented by pasture scientists Sigrun Ammann and Janke van der Colf. Sigrun presented results from cultivar evaluation trials on ryegrass, tall fescue and forage herbs and Janke introduced her new farm system study on the development of dairy systems based on forage herb pastures in the southern Cape.

Robin Meeske, animal sciences professor and dairy specialist, presented results of his study on high-fibre concentrates for cows grazing plantain and ryegrass. One of his MSc students, Rainier van Heerden, presented results of his study on supplementing protected methionine



and lysine to cows grazing ryegrass pasture in spring.

The organising team also hosted Stephen Bennett from Lincoln, New Zealand, the international manager for PGG Wrightson Seeds Ltd, as a guest speaker.

Stephen has over 30 years' experience working in the seed industry in both domestic and international roles, of which he spent 22 years at PGG Wrightson Seeds. It is a subsidiary of the global seed company DLF, the largest forage seed company in the southern hemisphere,



“ The focus was on the inclusion of the new higher-yielding forage herb varieties in the fodder flow of dairy enterprises in the Southern Cape.

and is the parent company of Agricom, the company responsible for the development and introduction of Tonic plantain as a forage herb. Stephen has visited South Africa on 12 occasions and has gained an understanding of farm systems throughout the country.

He has extensive knowledge of pastoral farming and seed production around the world and he is involved in agronomy, advising farmers on the use of pasture and forage products to maximise farm productivity. His presentation was on plantain as forage herb, sharing the New Zealand perspective with the 224 delegates attending.

The presentations were concluded with a panel discussion led by Sigrun Amman, with Stephen Bennett and three local farmers currently using plantain as part of their fodder flow. The discussion around plantain focussed on the establishment, grazing management and contribution

to the dairy farming system. The farmers who participated were George Kuyler from George, Philip Muller from Geelhoutboom near George and Gert Byleveld from Rheenendal near Knysna.

After concluding remarks and a vote of thanks to the department for the research executed at Outeniqua by George Kuyler, the day was concluded with a tour to the research trial sites of the forage herb cultivar trials, the systems trial comprising plantain, tall fescue and mixtures, and also the trial of another MSc student, Zander Pretorius, on plantain and high-fibre concentrates.


A book containing the research results of all these trials was distributed and will also be made available later, electronically, on elsenburg.com, and by request to Janke van der Colf (jankevdc@elsenburg.com). Articles on the pasture systems and on the panel discussion will also be published in the popular media by Van der Colf and Ammann, respectively.



The Outeniqua research farm celebrates 66 years of excellence this year. Internationally renowned for its high-quality dairy and pasture research, Outeniqua is continuously growing – in terms of outputs and cutting-edge technology. The research group is heading one of the flagships of the Western Cape Department of Agriculture. It is the only pasture and dairy research group of its kind in the country, resulting in Outeniqua being our centre of excellence for pastures-for-dairy research.

Scientists at Outeniqua have played a leading role in the development of pasture management practices, pasture systems and over-sowing of pastures in the southern Cape. It is also the only research institution with a pasture and animal capacity and infrastructure to carry out research on a scale at which animal production and economics can be evaluated and a benchmark be set for producers. Research is producer-driven and plays a key role in technology development. It also plays a role in demonstrations for smallholder farmers and the fulfilment of their skills development in search of sustainability and profitability. Scientists can adjust existing research done for commercial farmers to suit the needs of smallholder farmers.

Outeniqua has also become a human capacity development hub where postgraduate students from various tertiary institutions are mentored while executing research projects for the department.

Despite the overwhelming challenges facing dairy farmers, research remains focussed on minimising input cost while optimising yield. In addition to this, sustainability and resource conservation has now also been added to the portfolio of research projects. 



Outeniqua navorsingsplaas presteer op George Skou se jerseykampioenskappe

deur Prof. Robin Meeske, robinm@elsenburg.com

Die Outeniqua navorsingsplaas van die Wes-Kaapse Departement van Landbou spog al vir jare met toekennings vir sy toonaangewende navorsing oor aangeplante weidings en melkproduksie, en sy kwaliteit melkkudde met 380 koeie in melk wat as 'n besonders waardevolle navorsingskudde dien.

Gedurende die pas afgelope George Skou wat gedurende Augustus aangebied is, het die navorsingsplaas met vyf koeie en vyf verse deelgeneem aan die Outeniqua jerseykampioenskappe. Die Outeniquaspan het baie moeite gedoen om diere uit te soek

en voor te berei vir die skou. Die uitslae was uitstekend met drie eerste, vier tweede en twee derde plekke in verskillende klasse. Die hoogtepunt was Tes 34 wat die kategorie Reserve Senior Kampioen koeie gewen het. Die Outeniqua navorsingsplaas het ook die Nestlé wisseltrofee vir die beste groep koeie op die skou ontvang. Hierdie trofee is ook in 2016 aan die plaas toegeken. Die jerseykudde het uitstekend meeding met ander jerseykuddes in die streek en is 'n aanduiding van die uitmuntende wyse waarop hierdie navorsingskudde bestuur word. **AP**



Navrae: Robin Meeske 082 908 4110 of robinm@elsenburg.com

Die koeie en verse van die Outeniqua navorsingsplaas, voorberei vir die 2019 Outeniqua jerseykampioenskappe by die George Skou.



Daniel Veldman, Pieter Cronjé en Bertus Myburgh met die wenspankoeie van Outeniqua navorsingsplaas wat die Nestlé wisseltrofee gewen het.



Lea, our lemon beagle, getting ready for the festive season.

A pet's 12 days **DANGERS** of Christmas

Caring for your pet this festive season

by Dr Kathleen Edmonds, kathleene@elsenburg.com

A true South African Christmas is one celebrated with summer weather, flowers blooming, a traditional braai (or two) and “lekker kuiertjies” with family and friends. That is, until you have to make an unplanned trip to the vet. Planning ahead and avoiding some of the dangers lurking around one’s house during the festive season can help prevent these unpleasant trips.

**DANGER 1: Toys, decorations and ribbons**

Decorating the Christmas tree is an enjoyable event that many families look forward to. Not many people realise that these decorations can be lethal for their pets. Swallowing small toys or pieces of string can result in costly emergency surgery.

**DANGER 2: Skewers and bones**

A festive Christmas dinner is something many families around the world revel in. Bones and skewers splinter when eaten by pets and can perforate their intestines, which leads to emergency surgery. Avoid giving them bones and stick to traditional pet food.

Make sure when preparing meals to keep all potentially dangerous items out of reach of pets.

**DANGER 3: Chocolate, xylitol, nuts, grapes, onions, garlic and raisins**

It does not matter how deeply your puppy stares into your eyes while it is begging for just one little taste, don't do it! All of the above items are toxic to your pets. Some of these items are fatal so rather resist and just give him/her a treat designed for pets instead.

**DANGER 4: Alcohol**

Christmas is an incredibly jovial time of year, whether you are the type that enjoys an ice-cold beer, or sparkling champagne. Most people don't know that alcohol is deadly for their pets! Leaving half-filled glasses, spilt alcohol on the floor, or alcohol-based puddings and rising bread dough in reach of pets is asking for trouble.

**DANGER 5: Marijuana**

Now that marijuana is legal in South Africa, it is a topic that needs to be addressed. Consumption of marijuana can be life-threatening to pets. If you know that your pet possibly consumed some, be honest with your vet – save your dog and a small fortune on diagnostics.

**DANGER 6: Pesticides**

As horrifying as it may be to see your grandmother's face at the sight of a mouse scuttling across your porch, don't use pesticides. These pesticides are just as toxic to your pets as they are to rodents. Save your pet from a potential blood transfusion and use pet-friendly rat traps.

**DANGER 7: Medication**

Never leave any medication where animals can get hold of it. Certain medications (especially for pets) are designed to be more palatable and therefore will be eaten by the pet that finds it. Never give a pet human medication unless prescribed by a vet. One of the most common medications found in most households is paracetamol (e.g. Panado), and it is deadly for cats.



DANGER 8: Heatstroke and dehydration

Never leave your pet unattended in a vehicle in a parking lot while doing your list of quick errands. An unventilated vehicle in the middle of summer poses a high risk for heatstroke and dehydration.

As much fun as it is for humans to tan in the magnificent South African summer sun – this does not apply to your pets. Always make sure your pets have access to enough food, fresh water and shade. Heat stroke is life-threatening.



DANGER 9: Abandonment

Puppies and kittens are very high maintenance and should not be given as Christmas presents. These animals live for between 8 and 20 years and it is a lifelong commitment, which should be discussed at great length before they are adopted or bought.



DANGER 10: Leaving pets alone

Pets should never be left unattended at home for lengthy periods. When holidays are planned, a reliable pet sitter should be added to the holiday budget. There are also reliable kennel services that could be considered when planning to go on holiday. There are many house robberies and pet poisonings over December, so don't leave your pets to fend for themselves. Take the precautionary measures and find them good pet care before leaving.



DANGER 11: Parties

If a big party is on the horizon, find a safe and quiet room for your pets to settle in. Some pets stress and run away due to the loud festivities at this time of year. Contact your local vet for a product to help them keep calm.

NOTE: No person may light or ignite fireworks in any place where animals are present (R1 000 fine). This includes the home.

environment.co.za/environmental-issues-news/know-the-fireworks-laws.html



DANGER 12: Your local vet might not be available

Be aware that your local vet might also want to spend Christmas with family. Find out well in advance if he or she is available, and if not, who they suggest as an alternative during the summer break.

WARNING: Be prepared to wait in queues over this busy time of year!



For more information about the registered vets in your area please visit the SPCA website: **capespca.co.za/**



XHOSA SUMMARY

12 IINGOZI ezikhathaza imfuyo yasekhaya ngexesha leKrismesi

Ukukhathalela imfuyo yasekhaya ngexesha leziyolo zeKrismesi

kumZantsi Afrika, ixesha le krismesi lonwatyelwa ngeentyatyambo ezidubulayo, ubuhle belanga nolonwabo olubhalwe ebusweni babantu, oku kwenzeka de kube kufike ixesha elingamkelekanga lokuya kugqirga wemfuyo nebelingacwangciswa.

INGOZI 1: Izinto zokudla, Imihombiso nkqu namalaphu asetyenziselwa ukuhombisa ayaginywa zizinja neekati ze abangele ukuvaleka okusemathunjini.

INGOZI 2: Izikhonkwane ezifakwa enyameni kunye namathambo anokufumaneka ekutyeni kwange krismesi nazo zingenza umonakalo emathunjiniinja/ikati xa zinokuwatya.

INGOZI 3: i Chocolate, i Xylitol, Nuts, Izidiliya, Amatsweles, i Garlic kunye nee Rasentyisi ziyazenzakalisa injinja/ikati. Akufuneki ukuba injinja/ikati ziphiwe nenye yezi zinto.

INGOZI 4: Isiselo esinxilisayo nesifumaneke silahlwe nje singaselwa zizinja/iikati, nto leyo inokukhokelela ekuthyefekeni ngotywala.

INGOZI 5: Nayo intsangu iyazinxilisa injinja/iikati. Thetha inyani kugqirha wemfuyo xa usazi ukubainja yakho ikhe yatya intsangu.

INGOZI 6: Iyeza lokubulala izitshabalalisi liyazenzakalisa injinja/kati. Kungcono usebenzise isigcayiseli samabuzi neempuku kunokusebenzisa ithyefu.

INGOZI 7: Amayeza. Sukuwashiya amayeza endaweni apho injinja/ikati inokuwafumana khona.

INGOZI 8: Ukufa icala nomzimba ongenamanzi. Qinisekisa ukuba injinja/kati zakho zisoloko zinamanzi acocekileyo okuselaayayendawo yikuzikhusela elangeni.

INGOZI 9: Ukushiya. Akufuneki siphane injinja/ikati ngokungenankathalo. Ukufuya injinja/ikati kufuna imbopheleleko yexesha elide.

INGOZI 10: Ukushiya injinja/ikati yodewa. Akufuneki injinja/ikati zishiywe zodwa. Fumana umntu ozakushiyeke njenja/ikati yakho ukuba awuzukwazi ukuya nayo kwiiholide.

INGOZI 11: Amatheko. Yifumanele igumbi elikhuselekileyo nelineenzolo injinja/ikati yakho ukuze ihlale kuyo ngelithintela uxinezelelo.

INGOZI 12: Usenokungabikho ugqirha wemfuyo. Qinisekisa ukuba ungamfumana phi omnye ugqirha ngexesha likaxakeka. 

JOIN US IN COOKING!

During the 2019 South African Cheese Festival held recently, it was “cooking” in the Cape Made Kitchen. The new Cape Made Recipe Book 2019 was launched with mouth-watering recipes, meticulously developed by the young chefs of The Private Hotel School. The purpose? To showcase the use of alternative crops in the kitchen.



Try something new this festive season and wow your guests with this delicious recipe.



lemon and almond shortbread with whipped blue cheese and fresh figs



8 SERVINGS

INGREDIENTS

WHIPPED BLUE CHEESE

- 150 ml cream
- 100 g blue cheese, crumbled

LEMON ALMOND SHORTBREAD

- 300 g butter, chilled and diced
- 300 g cake flour
- 75 g castor sugar, plus extra for dusting
- 70 g ground almonds
- 1 lemon, zested

Additional castor sugar to sprinkle over the shortbread after it is baked.





MORE DELICIOUS **RECIPES**

will follow in future editions of *AgriProbe*.

www.elsenburg.com/resource-library/cape-made-taste-alternatives



METHOD

- ♣ Preheat the oven to 160 °C.
- ♣ Combine the butter and cake flour in a bowl, and rub the butter into the cake flour with fingertips.
- ♣ Add the sugar, ground almonds, and lemon rind, and stir to combine.
- ♣ Transfer to a loose bottom cake pan with 30 cm diameter.
- ♣ Let it rest in the refrigerator for 15 minutes before baking.
- ♣ Bake the shortbread for 20-30 minutes until light golden.
- ♣ Set aside on a tray to cool for 5 minutes.
- ♣ Sprinkle with extra sugar; set aside to cool completely.
- ♣ Shortbread will keep 3-4 days if stored in an airtight container in a cool, dry, and dark place.
- ♣ In a food processor, blend the blue cheese until smooth.
- ♣ Whip the cream until just before a stiff peak.
- ♣ Fold the cream into the cheese mixture.
- ♣ Spread the whipped blue cheese across the shortbread, and top with fresh figs, nuts, and honey.



DAFF FEMALE ENTREPRENEUR AWARDS 2019:

“Celebrating two decades of women’s victory in agriculture, forestry and fisheries”

by Douglas Chitepo, douglasc@elsenburg.com



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Each year during August, the Department of Agriculture, Forestry and Fisheries (DAFF) celebrates and honours women in the agricultural sector. The DAFF Female Entrepreneur Awards (FEA) programme is a collaborated effort between the DAFF, provinces and key industry stakeholders and partners.

This initiative attests to the department’s ongoing commitment to pay tribute to women, young females, and women with disabilities for their contribution towards

food security, poverty alleviation, job creation and economic growth in the sector.

FEA is a platform where female agriculturists across the various sub-sectors within agriculture have an opportunity to enter their farming enterprise for assessment and evaluation. Enterprises are measured against a set of criteria, norms and standards, and stringent legislative compliance measures, thereby upholding the ethos of clean governance and professional integrity.

The competition was advertised internally and externally from April, through various forms of media, i.e. website, twitter, local community newspapers, and a radio interview. After the closing date of 31 May 2019 the entries from all eight districts were consolidated and submitted to the adjudication panel. The panel was appointed in line with the prescripts and approved by Dr Ivan Meyer, Minister of Agriculture of the Western Cape.

The adjudication panel comprises the following representatives:

Mr D Chitepo (chairperson); Ms M James (Head of Communication); Mr M Sodela (Agriculture Economics); Ms A Oostendorp (Finance: Supply Chain Management); Ms E Daniels (Agriculture: Structured Agricultural Education and Training); Ms R Horne (district manager, Swartland); Mr M Davids (Land and Agricultural Development Bank of South Africa); Mr H Petersen (the Wine



01



02



03

⌂

01. From left: Sakkie Franken, Daphne Neethling from Paardenkloof Estate (Pty) Ltd, provincial and national winner in the category "Top Entrepreneur Processing", and Dr Ivan Meyer.
02. Joyene Isaacs and Berene Damons from Tessaarsdal Wines (Pty) Ltd, provincial and national winner in the category "Top Entrepreneur Export Markets".
03. From left: Douglas Chitepo National Organising Committee (NOC) representative - provincial award winner 2019, Joyene Isaacs and Dr Ivan Meyer.

»



➤
Ntombesisa Mpendukana from Philadelphia Chicks, provincial winner in the category “Best Female Worker”.



➤
Zoleka Gomo from Women for Peace, provincial winner in the category “Best Subsistence Producer”.



➤
Anna Smith from A&BP Honey Bee Business (Pty) Ltd, provincial winner in the category “Top Entrepreneur Smallholder”.

Industry Development Association; working with organised agriculture); Ms W Petersen (SA Wine Industry Transformation Unit); Mr A Peterson (Bridging Ages Western Cape – agricultural stakeholder); Mr B Booysen (Booyesen’s tunnel farming – farmer); and Ms E Simons (Algina Wholesale Nursery – woman farmer).

To celebrate the strides made by women in the agricultural sector, the provincial awards were held during August 2019 at Marlenique Estate, Franschhoek, where the winners in seven categories were announced. These winners went on to compete at the national competition, jointly hosted by the DAFF, the provincial Department of Agriculture, and key partners such as Total South Africa. Our female entrepreneurs were honoured at a gala dinner held at Grandwest Casino Hotel, Goodwood.

Ntombesisa Mpendukana from Philadelphia Chicks, provincial winner in the category “Best Female Worker”, displays a remarkable understanding and knowledge of fertile egg production. Feed, water

levels and biosecurity are key facets of her responsibility, which includes ensuring that all aspects of egg production are strictly adhered to and that customers are provided with quality eggs on a daily basis.

Zoleka Gomo from Women for Peace, provincial winner in the category “Best Subsistence Producer”, a food security and organic vegetable production project in Mfuleni, contributes to community development through skills training for women, unemployed youth and school children between 6 and 18 years old. The soup kitchen and food garden programme has also led to a decrease in the high rate of crime in the area.

Anna Smith from A&BP Honey Bee Business (Pty) Ltd, provincial winner in the category “Top Entrepreneur Smallholder”, began her honey and pollination business with only five hives. She quickly grew her bee pollination business to 188 hives. She rents hives to farmers to pollinate their apples and pears and currently produces about 1 tonne of honey per year. The honey is sold to local markets.



Marilyn Siegels from Nitaflo (Pty) Ltd, provincial winner in the category “Top Entrepreneur Commercial”.



Marice Mercuur from Marice Mercuur (Pty) Ltd, provincial winner in the category “Ministerial Award (Youth)”.

Daphne Neethling from Paardenkloof Estate (Pty) Ltd, provincial and national winner in the category “Top Entrepreneur Processing”, creates exceptional wines, with held-back vintages scheduled for release after a period of maturation. The red wines are released after a five-year maturation period and the white wines after 18 months in the bottle. Varietals include Shiraz, Cabernet Sauvignon, Pinot Noir, and Sauvignon Blanc. All the wines are registered with SAWIS as single-vineyard wines.

Marilyn Siegels from Nitaflo (Pty) Ltd, provincial winner in the category “Top Entrepreneur Commercial”, has a project of 24,68 ha of bearing orchards consisting of 12,24 ha plums and 12,44 ha apples. In October 2018 the farm successfully established 14,6 ha of apples. Nitaflo holds a gold Global GAP accreditation and a platinum SIZA certificate for excellent agricultural business practices.

Berene Damons from Tesselaarsdal Wines (Pty) Ltd, provincial and national winner in the category “Top Entrepreneur Export

Markets,” owns her own wine business and is an award-winning wine producer in the Hemel-en-Aarde area.

Marice Mercuur from Marice Mercuur (Pty) Ltd, provincial winner in the category “Ministerial Award (Youth)”, focuses on natural handmade rooibos health and skincare products. She supplies to a handful of curio shops and guesthouses in the small West Coast village of Clanwilliam.

As in 2017, the province once again won the DAFF FEA Provincial Award 2019 in acknowledgement of its adjudication processes and for ensuring that submissions adhere to all the legislative compliance measures and the criteria in the guiding document by DAFF. This process is led by the provincial NOC representative under the auspices of DAFF, where submissions from provinces were assessed and evaluated against the required due diligence criteria and compliance. Douglas Chitepo, National Organising Committee (NOC) representative, is the provincial award winner for 2019. **AP**

2019 Prestige Agri Awards



Frans Cilliers in Willow Creek Olive Estate orchards.

DREAMS, HARD WORK AND PASSION = Francois's top award

by Gertrude Jacobs, gertrudej@elsenburg.com



Frans with colleagues in the factory.

"Wie sou kon dink, ek 'hike a lift' in die laat 90's Worcester toe op soek na werk. Ek 'hike' sommer 'n werk los op my huidige plaas, 20 jaar later, vanaf algemene werker tot oliemaker – en om dan aangekondig te word as provinsiale werker van 2019!"
 This was the reaction of a smiling, grateful Francois Cilliers on being announced the 2019 Prestige Agri Worker of the Year.

He received this accolade at the glamorous gala ceremony of the Western Cape Prestige Agri Awards in November 2019. Francois's prizes include a R25 000 cash prize sponsored by the Western Cape Department of Agriculture, a R20 000 Shoprite voucher, a R10 000 voucher from Tafelberg Furnitures sponsored by Daleen Turner Consultancy and an overseas study trip sponsored by the department. Francois joins the competition's previous winners as a member of the minister of agriculture's Prestige Agri Worker Forum that meets quarterly to discuss agri worker- and sector-related issues.

The Minister of Agriculture, Dr Ivan Meyer, said: "Congratulations to Francois Cilliers on his well-deserved win. I look forward to engaging with him and hearing his thoughts on issues that affect agri workers at our quarterly engagements".


This provincial competition is run annually by the Western Cape Department of Agriculture, which provides the opportunity for all agricultural workers in the province to participate in 11 categories from 16 regions. The aim of the competition is to recognise the valuable and important contribution of the workers to the sector, the province and the country. This year a total of 1 393 workers entered the competition from the various regions.

The regional competitions culminate in

the provincial competition, which ends at the prestigious award ceremony. This year the event was attended by 700 guests.

Francois, fondly known as Frans among members of his family, colleagues and the Nuy and Overhex communities, was born and bred in the Nuy Valley. He has been the oil maker at Willow Creek Olive Estate for the past 20 years and has won various accolades for the oils he presses. During the current drought he has shown innovation with different infused oils as well as balsamic vinegar. In his community he is well-known, and a leader in local sports.

Philip Crous, the general manager of Willow Creek Olive Estate, describes Frans as an asset to the company, as he has been the master oil maker at the estate for almost 20 years now and has contributed to the company receiving many international awards for their oils. According to Philip, Frans excels in what he does because he is a hard worker, he has knowledge and is passionate about his work, while remaining humble and approachable.

After the announcement Frans said that this is what he now preaches to the youngsters – that agriculture provides opportunities. *"Dis nie net pik en graaf nie"*; you can be on the farm in HR, marketing, financial management etc. You need to decide what you want to be and be determined to achieve that. Learn to ask questions and learn from people who have reached their goals. This all can happen within agriculture. Frans has always said that oil making is a dream, a dream that should never stop for him. This is but the beginning of another chapter in his life, and seeing his dedication and commitment, the future looks bright for this oil maker from Nuy Valley. 

LADIES OF MERWEVILLE CELEBRATED

by Deona Strydom, deonas@elsenburg.com



This year the Western Cape Department of Agriculture selected Merweville as the rural town to host their annual AgriFemina function. The very successful event was attended by 80 ladies, which included women employed on local farms and the wives of producers.

The department hosts the AgriFemina event in a different region of the Western Cape every year to give praise to the women in that area for their valuable contribution towards food production and food security. The event focuses on celebrating the achievements and inputs of females within the agricultural sector and in South African society in general.

The ladies were exposed to a variety of educational topics varying from financial fitness to foetal alcohol spectrum disorders (FASD). The event was opened with a warm welcome message by Ms Joyene Isaacs, Head of the Department, by means of a video recording. This was followed by a session regarding financial fitness, presented by Ms Merche Davidson from the Department of Economic Development and Tourism, who stressed the importance of women in building or breaking the household finances.

Representatives of Stay Safe demonstrated simple self-defence techniques, which the women could use if they were

ever to find themselves in a dangerous situation. The nationwide increase in gender violence made this session very appropriate and important.

Ms Marietjie Mouton from the Foundation for Alcohol Related Research (FARR) then highlighted the negative impact of alcohol abuse during pregnancy and its long-term effects. This was followed by a session on early childhood development by Zodwa Douse from the Klein Karoo Resource Centre, which focussed on making time for our children and the use of everyday articles to make educational toys.

The event was ended with a motivational item on breast cancer by the well-known Shimmy Isaacs. Throughout the event the guests were entertained by the local Sion Messengers Band, which put everyone in high spirits. One of the guests, Sara Abrahams, celebrated her 100th birthday and showed the younger ladies how to really dance the "riel".

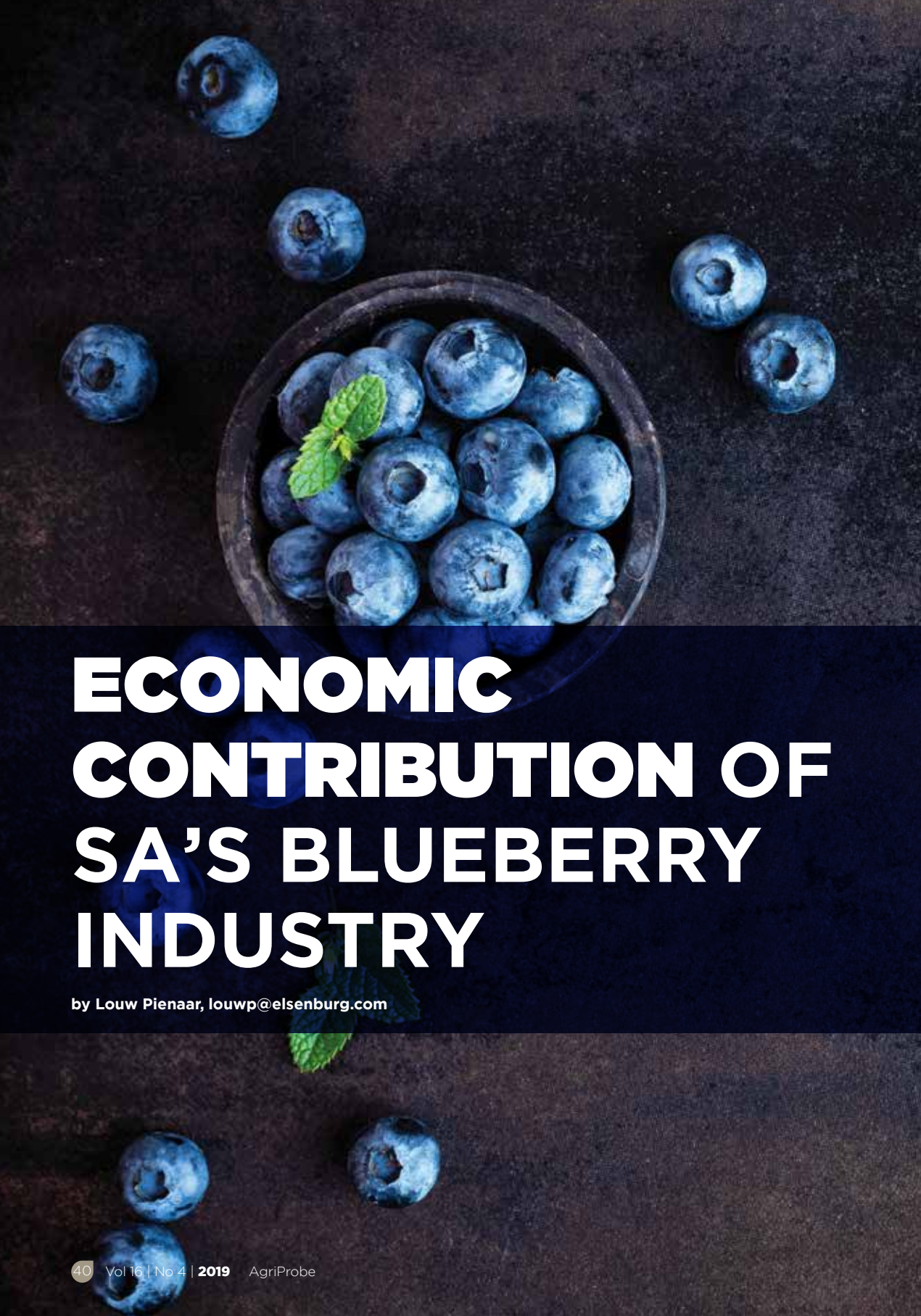
The success of the event could be seen in the positive feedback from the attendees. The department aims to continue empowering women throughout the province. **AP**



↙
**Ouma Sara Abrahams
with Gertrude Jacobs.**



↙
Merche Davidson from DEDAT.



ECONOMIC CONTRIBUTION OF SA'S BLUEBERRY INDUSTRY

by Louw Pienaar, louwp@elsenburg.com

Extensively grown fruit crops, like citrus, table grapes and pome fruit, are likely to remain a vital part of South Africa's rural economy. Yet, some minor fruit crops like berries, serve as catalysts for rapid agricultural development. Blueberry production in particular, continues to spread widely across the country and at a tremendous rate (Figure 1).

This is good news for those earning a rural living, as blueberries create more seasonal and permanent jobs per hectare planted than most other horticultural crops (Figure 2). Furthermore, according to current agricultural norms, both casual labourers and full-time employees are paid very well on blueberry farms. Seasonal labour demand for harvesting blueberries peaks conveniently during October and November, which does not clash with the harvesting of major fruit crops (Figure 3). The capital-intensive nature of modern cultivation techniques also makes blueberry farmers valuable clients of agricultural input suppliers. Fresh blueberries are mostly exported, thereby earning foreign revenue in support of the economy.



Figure 1: South African blueberry production.

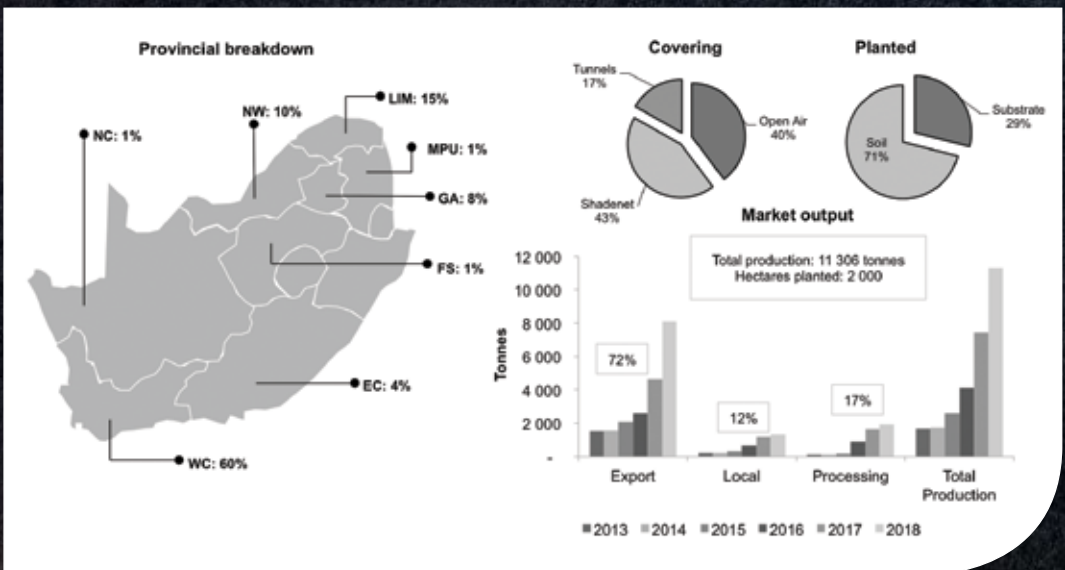




Figure 2: Comparison of growth and jobs in crop industries.

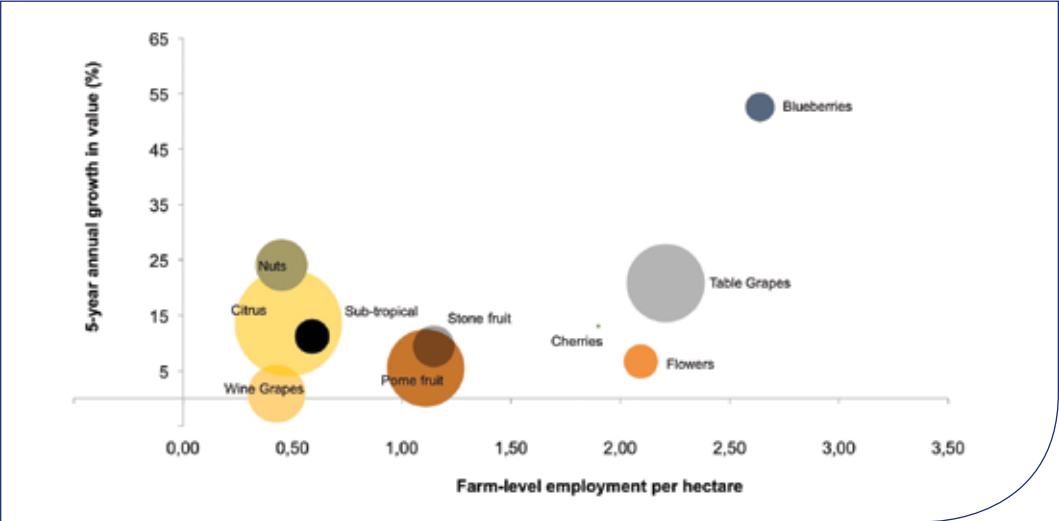
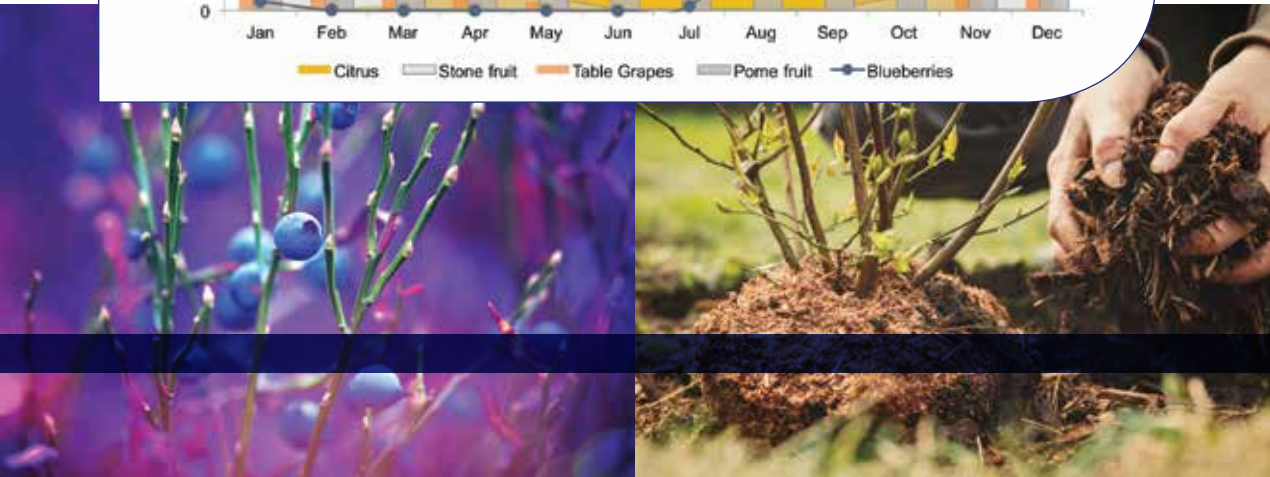
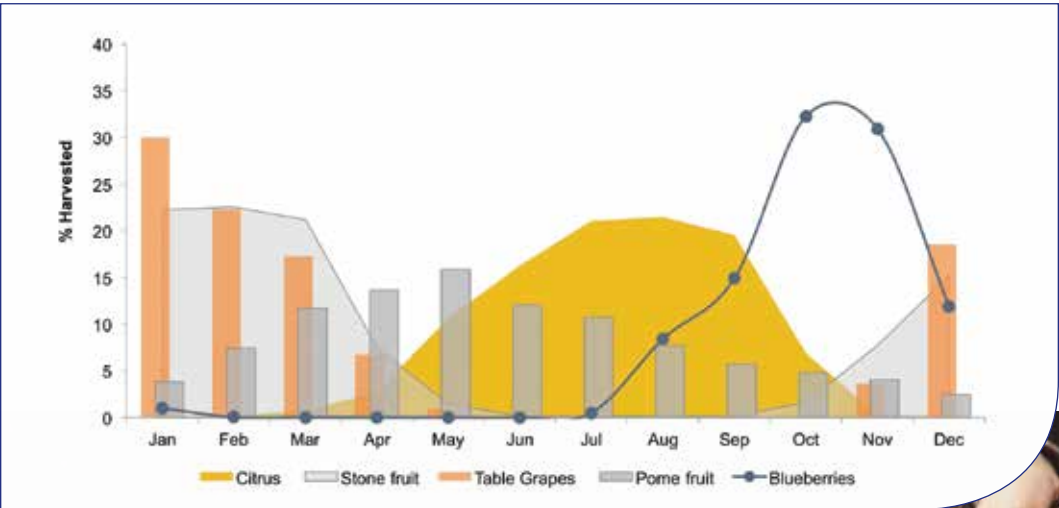


Figure 3: Percentage of total exports throughout the year.





The high tariffs charged by growing international markets like China and South Korea, and the long registration process for much-needed new crop protection remedies are of concern to the local blueberry industry at present.

These are some key findings of a recent report on the economic contribution of South Africa's blueberry industry. This report resulted from improving cooperation between the Western Cape Department of Agriculture, the South African Berry Producers' Association, and other industry role players.

Given its well-earned reputation for excellent quality, fresh South African blueberries are highly sought-after overseas. If maintained, such a good reputation should support further expansion of the country's blueberry footprint in export markets, regardless of ever-increasing worldwide production. Currently, almost 13% of homegrown blueberries go to the local fresh market. A further 17% are processed

into frozen berries, juices, juice concentrates, and dairy and confectionary products.

Industry development of this kind is also very encouraging, as it helps to balance out the risks associated with overexposure to export markets.

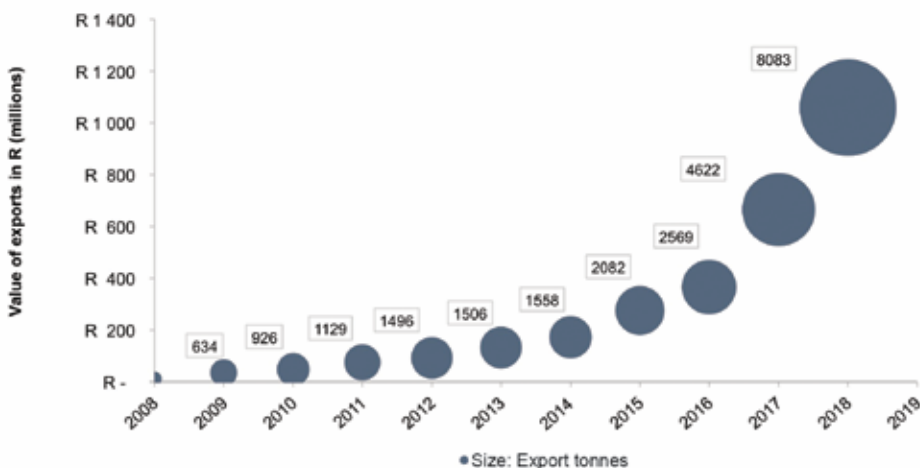
The health benefits associated with blueberries and its myriad of uses in processed food products are driving increased consumption both locally and abroad. Increasing demand caused the local blueberry industry to grow its gross value of production from an estimated R15,5 million in 2008 to R1,25 billion in 2018. Most of this growth occurred over the past five years (Figure 4). ^{AP}



Scan this QR code to read the full article:
saberries.co.za/wp-content/uploads/2019/07/BlueberryIndustryReport_2019FINAL.pdf



Figure 4: South Africa's blueberry exports to the world in volumes and value.





Taking conservation agriculture best practices to the next level

by Dr Johann Strauss, johannst@elsenburg.com

During the second week of August, the Conservation Agriculture Western Cape (CAWC) Association presented its seventh annual Conservation Agriculture (CA) Conference, consisting of a lecture and a practical day. The CAWC (BLWK in Afrikaans), was formed eight years ago and strives to enhance the knowledge base of CA in the Western Cape. The 2019 conference was presented in collaboration with *Landbouweekblad*.

The lecture day was held at Nooitgedagt Wine Estate near Stellenbosch, and the practical day was held at the Langgewens

research farm near Moorreesburg. The lecture day was attended by 226 people including farmers, researchers, industry representatives and students, while 142 people attended the practical day. The list of speakers included an Australian researcher, Chris Gazey, Prof. Beatrice Conradie from the University of Cape Town, Casper Brink from Sporatec, and Rens Smit from the Directorate Plant Sciences of the Western Cape Department of Agriculture. Local producers included a wine producer, Johan Reyneke, a table grape farmer, Ettiene Naude – represented by Peter Greeff – and a farmer



Speakers at the 2019 CAWC “Jack Human” Conservation Week. Casper Brink, Rens Smit, Chris Gazey, Beatrice Conradie, Egon Zunckel, Johan Reyneke, and Peter Greeff.



Cover crop discussion panellists. Lisa Smorenburg, Boeta Wessels, Pieter Swanepoel, Lourens van Eeden, JP Bester, Wessel van Dyk, Hume Schönfeldt, and MG Lötter.



Seeder discussion group. Dewald van Dyk (Rovic Leers), Rinus Willemse (Xfarm), Carel van Niekerk (Piket Implemente), and Gideon Schreuder (Equalizer).

from KwaZulu-Natal, Egon Zunckel. A cover crop discussion group also formed part of the lecture day and included several local producers – JP Bester, Lourens van Eeden, MG Lötter, Boeta Wessels, Wessel van Dyk and Hume Schönfeldt – and two experts from the department, Rens Smit and Lisa Smorenburg.

Four of the no-till seeder companies took part in a panel discussion during the field day of the conference.

The day was well supported by industry with the main sponsorships coming from Sporatec, Piket Implements, Agricol, Viking, the Winter Cereal Trust and the Western Cape Department of Agriculture. Other sponsors included InteliGro, Advance Seed, Equalizer, Rovic Leers, Xfarm, Ecosoil, and Elfer.

All the talks during the lecture day will soon be available on the CAWC website. Talks from previous conferences are also available at blwk.co.za.

Another information day followed soon after the conference and was a first for the sandy areas of the Swartland.

Five years after the external evaluation of the Langgewens long-term trial in which producers farming on sandy soil indicated their need to have a similar trial based on their soil type, the first Hopefield SAND

field day was held during September on the farm Waterboerskraal (Gideon Melck).

The trial was established in 2018 and with the aid of the technical committee serving the trial it was decided to enlarge the trial area to include eight more plots. Four of these were planted to cash crops and four to fodder crops. These are areas open to smaller trials such as cultivar evaluation of barley, canola, legumes and wheat.

This first field day was attended by 90 people, of which the largest part was producers as far afield as Graafwater. The day was a roaring success and it is hoped that this will grow into one of the premier field days of the province. **AP**

Hopefield SAND field day, September 2019.



Vet scholars shadow vets

by Dr Gary Buhrmann, garyb@elsenburg.com



Students with animal health technician Magrietha, bleeding ostriches at Cape Point Ostrich Farm.

The Faculty of Veterinary Science at Onderstepoort in Pretoria is the only veterinary faculty in South Africa. The entry requirements have changed recently from being based solely on academic achievements to also assessing the time spent job shadowing and getting practical experience with qualified state veterinarians.

As a consequence, State Boland and the Stellenbosch veterinary laboratory hosted

and mentored 22 potential vet students in the first half of 2019. These enthusiastic young "vets in the making" experienced a variety of hands-on activities, from working with buffalo, cheetah, alpacas, ostriches, horses, cattle, sheep, pigs, dogs, cats, ducks, chickens, parrots, and even trout. They visited farms and export quarantine facilities and were taught special techniques such as neck, tail and wing



Thorn among the roses – Cheetah Outreach experience for budding vets.



Buffalo tranquilisation, scanning and bleeding for movement observed by enthusiastic vet students.



It's amazing how sometimes a penny just drops and a light turns on – after my job shadowing at Elsenburg the passion flame ignited!"

bleeding from various animals, skin testing for tuberculosis, fish tissue sampling, throat swabbing and vaccination of different animal species. At the laboratory their senses were challenged further when they saw post-mortems, learnt how to count worm eggs, culture bacteria and fungi, test for viruses, and view creepy-crawly parasites under the microscope.

Of the 22 scholars there was only one young man! It begs the question, "Are male vets a threatened species?" There has been a dramatic change over the years. Whereas men once dominated the field, these days 70% of the vets qualifying are women. These young ladies are entering all fields of the profession, including large animal, exotic species, consultancy practices and even aquaculture. It seems like the young men may have relinquished their love of animals for the higher-paying engineering and IT careers!

This was a combined effort between the state vets and animal health technicians serving the youth of today, by enabling them to gain entrance into the career of their choice. Of the 22 shadowers, five scholars from the Western Cape contingent gained entry! This is very good, considering that more than 600 applications for Onderstepoort are received from all nine provinces annually, of which only 200 are ultimately accepted. Congratulations to these scholars because the long hard road to being a veterinarian has just begun. If they thought it was difficult getting in, wait until they try to get out seven years later!

Finally, a quote from one of the scholars: "It's amazing how sometimes a penny just drops and a light turns on – after my job shadowing at Elsenburg the passion flame ignited!" **AP**



Trout sampling in Ceres for export with the state vet, farm staff and scholars.





What's new in CapeFarmMapper?

by FC Basson, fcbasson@elsenburg.com

Whether you are a new or existing user of CapeFarmMapper, you might not be aware of the exciting new features and tools added to the application recently. CapeFarmMapper is the department's main online mapping application and it provides access to the spatial data of a wide variety of agricultural and natural resources, as well as mapping tools. The application is free to anyone, no registration is required and it can be accessed at gis.elsenburg.com/apps/cfm/ or scan the QR code.

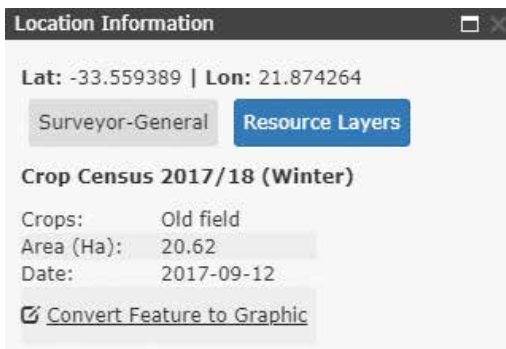


Through continuous engagement with users, our geographical information systems (GIS) unit has been able to determine new user requirements and implement these requirements as new features and tools in the application. This article will show you what you have been missing out on.

Better interaction with spatial features

The new Convert Feature to Graphic action button is available in the map information window for any resource layer that a user has clicked on the map. Once a layer has been activated and a feature has been identified, the feature can be converted to a graphic feature by clicking this action button. This allows the user to do further drawing and analysis with the newly created graphic feature, e.g. buffering or zonal statistics.

Figure 1: Information window with the Convert Feature to Graphic action button.

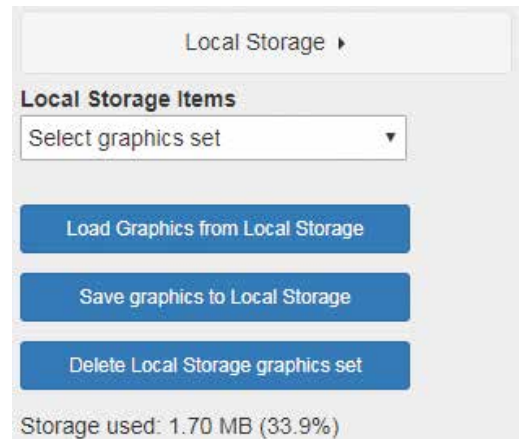


Local is lekker

The new Local Storage functionality of CapeFarmMapper allows users to save graphic features and drawing sets within the browser's memory. This is a major step forward from importing and exporting data to use across sessions, making it easy to load previously created drawings onto the map. Users can create new graphic sets and modify existing ones, as well as store

imported graphic features as local storage items. Users should take care when using this functionality, for clearing your browser cache will also clear all the Local Storage items, hence it is still a good idea to export your drawings regularly as a backup. The Local Storage is situated in the Import/Export panel.

Figure 2: Drawings can be stored as Local Storage items.



Spatial data is all about answering the 'how much of what is where' question.

Monitoring your field health

Through cloud-service access to satellite data, a user can now easily monitor field or vegetation health with the NDVI time series tool. NDVI is short for Normalised Difference Vegetation Index and is a common method for evaluating vegetation health. By simply activating the tool and



clicking on an existing polygon graphic, an interactive temporal NDVI graph is generated from Sentinel-2 satellite data and displayed in an information window. The user can view and compare NDVI values up to three years earlier. The graph can also be exported to a PNG file for offline use.

Satellite base maps

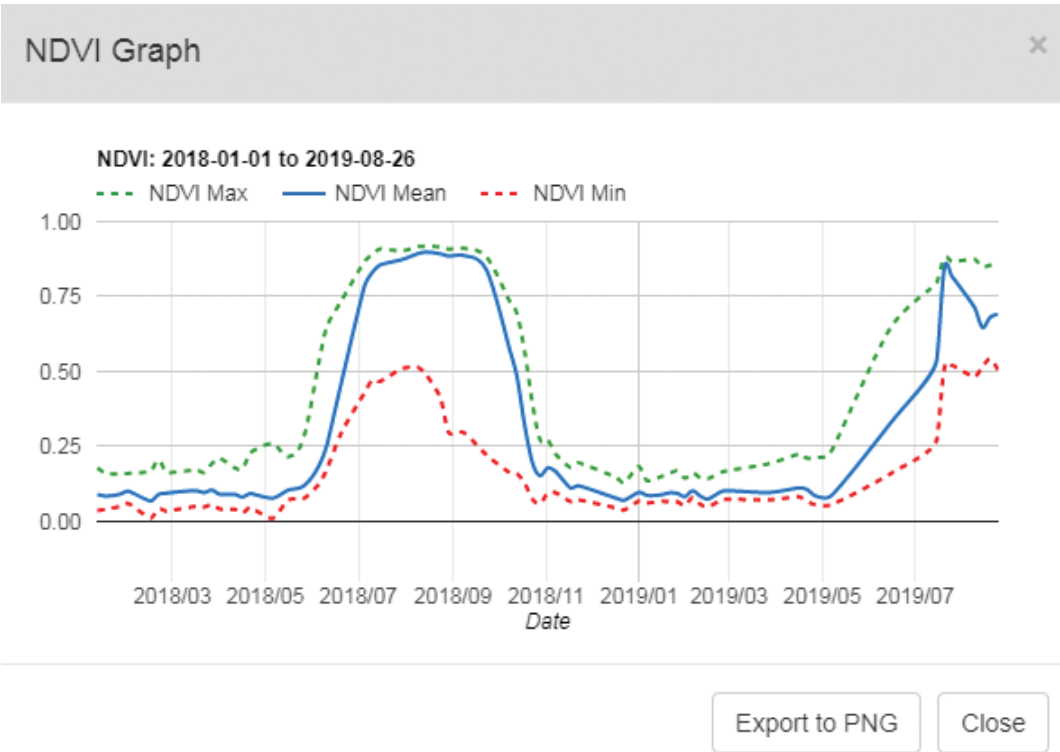
The base maps have been expanded to include Sentinel-2 satellite imagery as backdrop layers. Sentinel-2 provides 10-meter resolution satellite imagery every five days. On selecting any of the Sentinel-2 base maps, the user will see a calendar menu in the top left of the map view that can be used to select a previous date for

the visible image. Users have a choice of Natural Colour, Short-Wave infrared or NDVI base maps.

Figure 4: Sentinel-2 satellite imagery.



Figure 3: Interactive NDVI graph generated from Sentinel-2 satellite data.



In the Zone

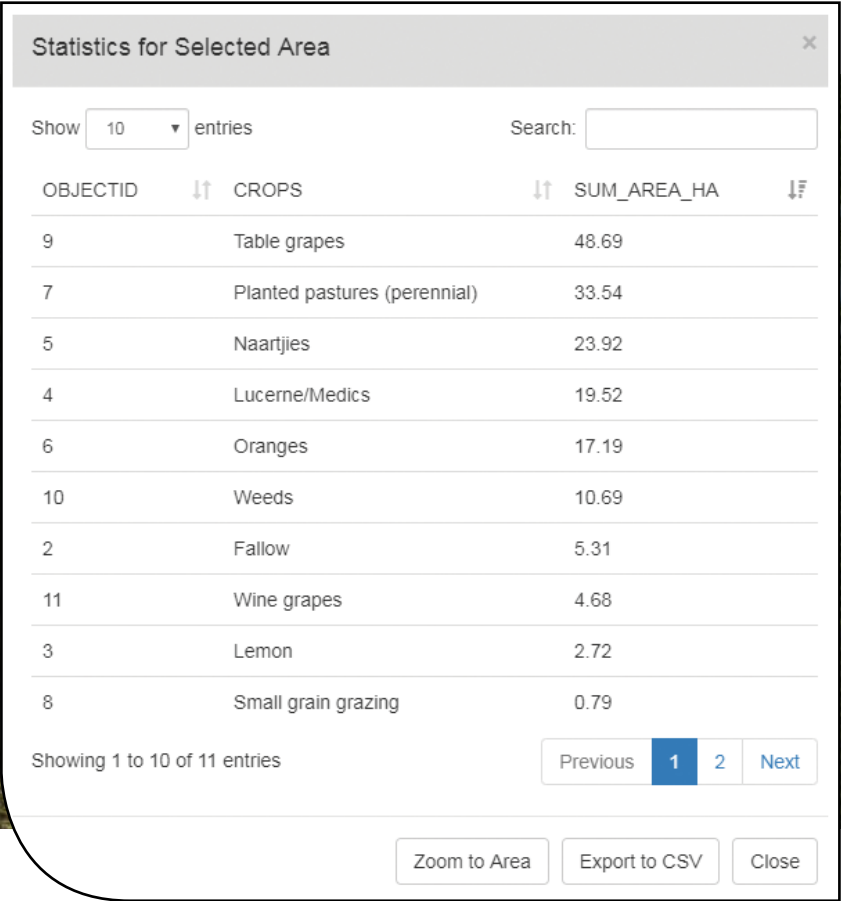
Spatial data is all about answering the “how much of what is where” question and the new Zonal Statistics tool does just that. The tool provides summaries of feature statistics for various layers within a selected zone. By activating the tool and clicking on an existing polygon graphic, a tabular summary is generated and displayed for the selected data layer. The data can also be exported to an Excel-compliant file. If you want to know the different crop types or the distribution of land cover classes within an area, this is the tool to use. Spatial analysis has never been easier.

The CapeFarmMapper team is continuously striving to improve the application for the benefit of all users. Keep an eye out for any version changes that indicate feature or data changes or new additions, which is also contained in the change log in the start-up dialogue window. For any support or enquiries, contact us at info@elsenburg.com. 



For further reading, see *AgriProbe* Vol. 15 No. 1 of 2018, p. 44, and *AgriProbe* Vol. 10 No. 3 of 2013, p. 4

Figure 5: Zonal statistics for the 2017 Crop Census dataset.



THE FUTURE IS HERE

by Dr Dirk Troskie, dirkt@elsenburg.com



‘Have your chicken and eat it’. ‘Use 99,9% less herbicides’. ‘No diesel bill’. ‘No human footprint in your fields’. Surely, these statements are the science fiction of over-eager writers without a proper understanding of the realities of farming? Wrong; they are real prototype developments. Some may have heard of “clean meat” (meat/chicken grown in a laboratory), light-weight solar-powered farm equipment moving in swarms or the Hands Free Hectare at Harper Adams University.

How should the Western Cape agricultural sector respond to these developments? After all, in order to remain competitive,

the sector needs to embrace appropriate developments while minimising negative consequences. This challenge was raised in the *Elsenburg Journal* in 2017 (Troskie 2017). The Western Cape Department of Agriculture (WCDoA) has subsequently contracted the Business School of Stellenbosch University to conduct a “diagnostic, impact and design evaluation” of the Fourth Industrial Revolution (4th IR) in relation to the local agricultural sector (see WCDoA/USB, 2017).

The first section of this report provided the necessary context with the emphasis on, among other things, the 4th IR, local farming

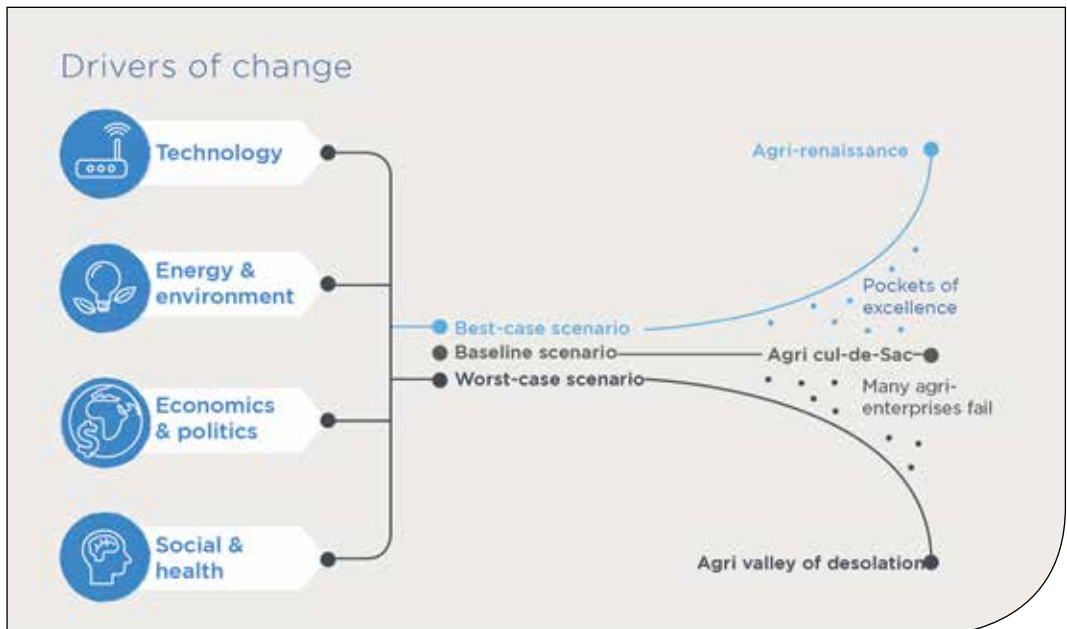
(e.g. realities including unemployment, resources, and policy priorities), drivers underpinning the 4th IR and potential future scenarios (Figure 1). It is important to note that demographic and socio-economic drivers are just as important as technological changes. The second part focussed on technologies influencing the sector and 27 different technologies (see working documents on elsenburg.com), were described and contextualised (Figure 2). In the final section, five enablers (Figure 3) to be supported by 26 actions were identified and documented. It is important to note that these actions are not “government must” recommendations, but allocate responsibilities to government, academia, scientists, producers, processors, consumers, agribusiness, suppliers, advisors, industry associations, investors and retailers. Hence, if the Western Cape agricultural sector wants to achieve the “desired end state”

or embrace the 4th IR to the benefit of all, every section of the agricultural community has a role to play.

As intervention by the WCDoA is implied by 17 of the actions, the department developed a management improvement plan (MIP) in response. These actions were clustered into four improvement objectives and for each a number of activities, deliverables, (one) responsible person, due date, and budget allocation were identified. The improvement objectives are:

- Embed agri-renaissance in the Western Cape as the desired end state of the 4th IR.
- Accelerate responsible technology adoption in the Western Cape agricultural sector.
- Develop young people to embrace the 4th IR in support of agricultural development.
- Reorient perceptions of agriculture in the context of the 4th IR.

Figure 1: Future scenarios for the Western Cape



Source: WCDoA/USB (2017)

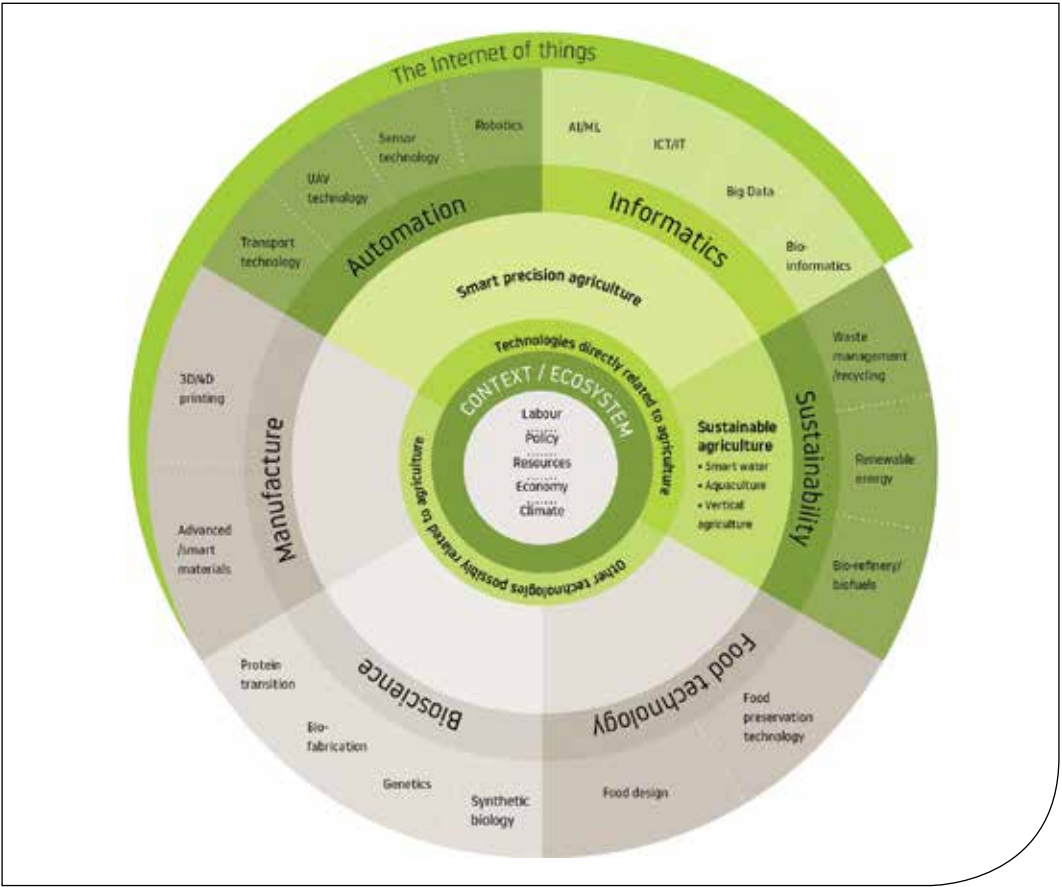
The 4th IR is included in the department's strategic planning and actions (see MIP, and actions such as CapeFarmMapper, Fruitlook, the “flyover” project, smart pen and tractor tracker).

The WCDoA is forming a number of partnerships to accelerate responsible technology adoption. With ABSA and the Institute of Futures Research, a technology scanning process will be conducted to identify and evaluate technology developments and their impacts. The department has partnered with the Co-lab at the University of the Western Cape (UWC) to develop and present a

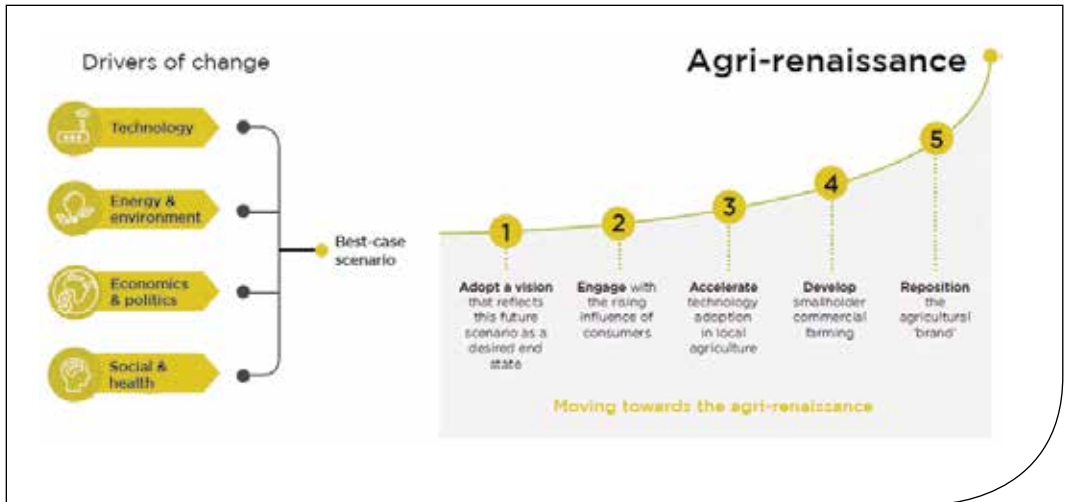
training module on e-commerce for emerging farmers and to empower agri workers by providing e-literacy training, among other things. A third partnership is with the United Nations Development Programme (UNDP), Endangered Wildlife Trust (EWT) and the Global Environmental Facility (GEF) to host a Conservation and Agriculture Drone Users Conference at Elsenburg during November 2019.

Because young people are the future of any society, it is important to equip them with the necessary skills to face the future. Hence, the WCDoA has contracted Drone-X to hold a drone awareness day

Figure 2: Technologies, systems and applications.



Source: WCDoA/USB (2017)

Figure 3: Enablers for the “agri-renaissance” scenario.

Source: WCDa/USB (2017)

at the Elsenburg College, present two 2-day drone workshops (one at Elsenburg; the other in George) and to support at least 10 students to obtain their remote pilot licenses (RPL). These students will have agricultural qualifications and be trained drone pilots – a sought-after combination. With the staff and students of the postgraduate diploma in immersive technologies at UWC, a number of augmented/virtual reality applications for agriculture are being developed.

Over the next couple of decades, the shape of agriculture will change irrevocably and we can either allow change to happen

to us or we ourselves can shape the future our children will inherit. However, shaping the agricultural future of the Western Cape is not a task for the WCDa alone, but needs to be a concerted effort by the agricultural community of the Western Cape. The WCDa has paved the way by commissioning and publishing the 4th IR evaluation report and by developing and implementing its own response plan. What are the response plans of the rest of the agricultural community? Please internalise our information and share your response plans. We will continue to update our actions via *AgriProbe* – keep reading. **AP**

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**The genetic history of
the Elsenburg Percheron
stud: an analysis of the
population structure**

The genetic history of the Elsenburg Percheron stud: an analysis of the population structure

by P. Jorgensen¹, M. Burger¹, C.E. Davids¹ & B. Aucamp¹

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Take-home message

The Elsenburg Percheron stud, established in the 1940s with horses transferred from the Grootfontein research farm (purebred French Percherons), is an important genetic resource. The gene flow of imported purebred stallions has maintained genetic variation in the Elsenburg stud, an important factor for the conservation of genetic material. However, even with the introduction of migrant stallions, the small population size of the Percheron stud makes inbreeding problematic. It is recommended that the gene pool of purebred mares be conserved. This may be done by maintaining an Elsenburg Percheron line and establishing two other lines – Tennessy Cauvelliere and Vaillant du Chalus. Semen from recently imported stallions can be used in artificial insemination of contemporary Elsenburg stud mares for cross-selection to mitigate inbreeding.

Introduction

The cold-blooded Percheron horses, a heavy draft breed known for their calm temperament, large stature and strength,

were first brought to Elsenburg in 1913. A stallion (Joliet) and three mares of French origin were recorded in the SA Stud Book of 1913. Percherons from the Elsenburg stud were not registered in the 1930s, but breeding was resumed in 1941 when horses were transferred from the Grootfontein stud. Grootfontein Bayard (progeny of the French stallion Lakanal imported in 1934) and Grootfontein Luna (progeny of Latin and Lutation, also from France) had a notable influence on the establishment of the Elsenburg Percheron stud through their daughter Elsenburg Ludi. This bloodline is still present in the Elsenburg stud; a stallion and five mares in the contemporary stud can be traced back to the Grootfontein pair, Bayard and Luna.

The small gene pool of Percherons in South Africa necessitates the introduction of genetic material from outside the country to minimise inbreeding. Therefore, several imported stallions have contributed to the gene flow of the Elsenburg Percheron stud. The stallion Histon Hallmark (UK) was introduced to the stud in 1948. Due to inbreeding in the Histon lines, the French »

stallion Regulateur was imported in 1965. In 1987 semen of the French stallion Jongleur was imported for breeding and semen was again imported from France in 2002 from the stallion Isidore. More recently, semen from imported stallions Tennessy Cauvelliere (2014) and Vaillant du Chalus (2016) was used for artificial insemination of Elsenburg stud mares. These genetic migrants contribute to the characteristics of the Elsenburg Percheron stud.

The number of registered Percheron mares is limited in South Africa. Inbreeding can become a problem with only a few mares per stud and limited purebred mares in South Africa, putting the survival of the breed at risk. The Elsenburg stud is one of the largest of the Percheron studs with the best gene pool of purebred mares. The small population size of the Percheron stud requires careful monitoring of population structure and inbreeding in order to conserve this important genetic resource.

Aim

The purpose of this study was to assess the existing pedigree and determine the current population structure and inbreeding status of the stud. A breeding strategy to conserve the genetic resource can then be established.

Methodology

The Percheron stud was maintained at the Elsenburg research farm since 1937 when ten mares were transferred from the Grootfontein Percheron stud. Horses are mated from August to November to foal in July to October (11-month gestation period). All the foals born in the stud are kept until the age of three years. If they pass inspection, they are registered for breeding purposes. The birthdate, sire, dam and sex are recorded accurately and submitted to the SA Studbook within three months after birth.

The horses are grazed on irrigated kikuyu pastures and planted oats in winter.

The roughage consists of a mixture of chopped oat hay and lucerne (3:1). An energy concentrate consisting of wheat bran, molasses, feed lime, salt, wholewheat barley and canola oilcake meal is formulated to suit the high-protein grazing.

The pedigree data of 189 Percheron horses kept at Elsenburg Research Farm from 1937 to 2018 were analysed using POPREP software.

Results and discussion

The Elsenburg Percheron stud was established with the introduction of purebred French Percherons (Grootfontein Agricultural College Percheron stud). Other imported French and UK bloodlines were introduced over the years. Mares and stallions were selected for both temperament and stature. Figures 1 and 2 provide an overview of the animals with the highest contributions to the genetic material of the Elsenburg Percheron stud. Elsenburg Mildred belongs to the contemporary group and her offspring are yet to reproduce. Grootfontein Melinda, daughter of Histon Hallmark, was part of the base population transferred from Grootfontein research farm to establish the Elsenburg Percheron stud and is therefore expected to have had her progeny selected the most. Elsenburg Marlene and Elsenburg Millana are both daughters of Regulateur, the French stallion, hence the selection of their progeny. Elsenburg Mavis and Elsenburg Mispha, several of whose progeny were also used for breeding, can be traced back to the original French bloodline.

The imported stallions Histon Hallmark (UK) and Regulateur (France) had many offspring selected for breeding for obvious reasons. Elsenburg Leo (grandson of Grootfontein Luna, pure French bloodline) and its son Elsenburg Meerlus, are also among the stallions with the most selected progeny in the population.

The average inbreeding was 14%, higher

than the expected 6,25% that is acceptable for passive inbreeding, with the maximum inbreeding occurring during 2003/2004. Migrants were used to prevent further inbreeding, but even with this introduction, the effective population size is low. The purpose of the Elsenburg Percheron stud is the conservation of the draft horse breed by keeping and breeding with a wide spectrum of genetic material of purebred Percherons. The gene flow of pure-bred stallions into the stud maintains this pool of genetic variation for the conservation of the resource flock.

Conclusion and recommendations

The Elsenburg Percheron stud has the best gene pool of purebred mares. In order to conserve the genetic resource of the Elsenburg Percheron line and mitigate future inbreeding, an Elsenburg line should be maintained, and the Tennessy Cauvelliere and Vaillant du Chalus lines (recently imported stallions that were introduced via artificial insemination) should be established to be used in crosses. The aim of future selection should be to adhere to breeding standards while implementing mating that will result in the lowest inbreeding coefficients.

Figure 1: Mares with the most progeny and most selected progeny in the population.

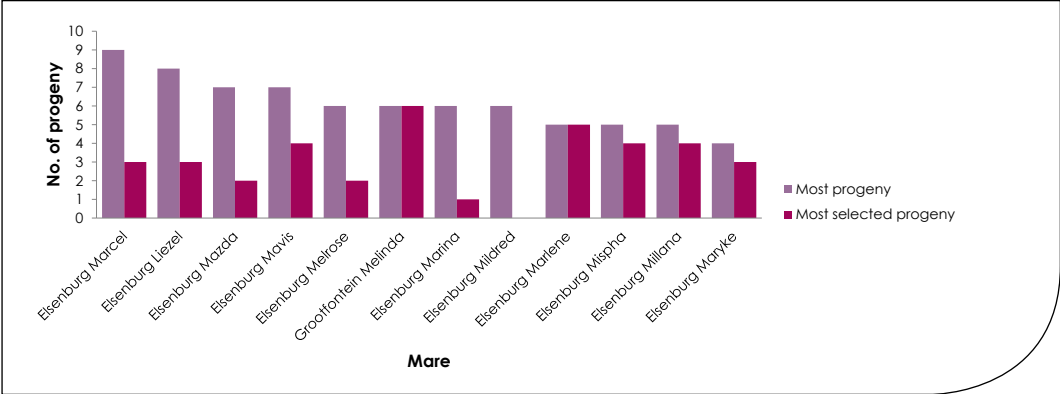


Figure 2: Stallions with the most progeny and most selected progeny in the population.

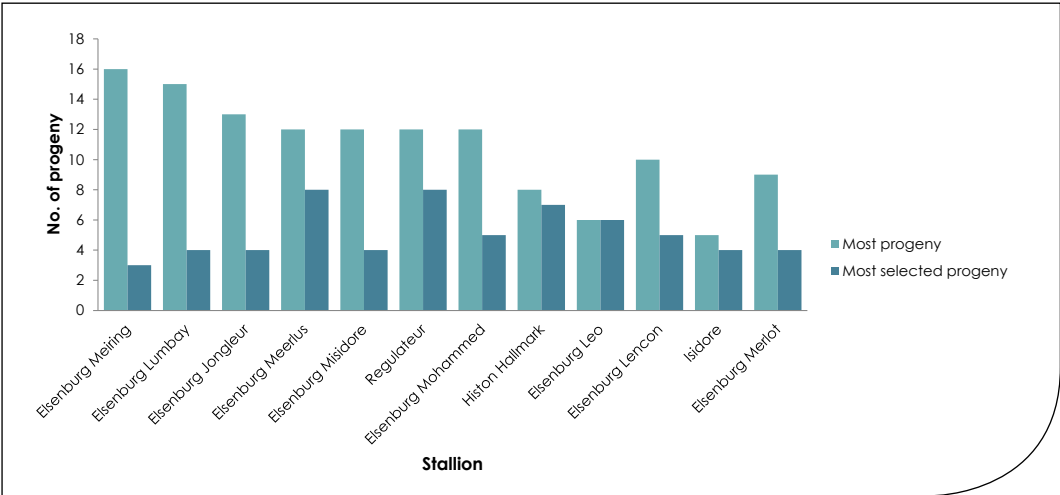
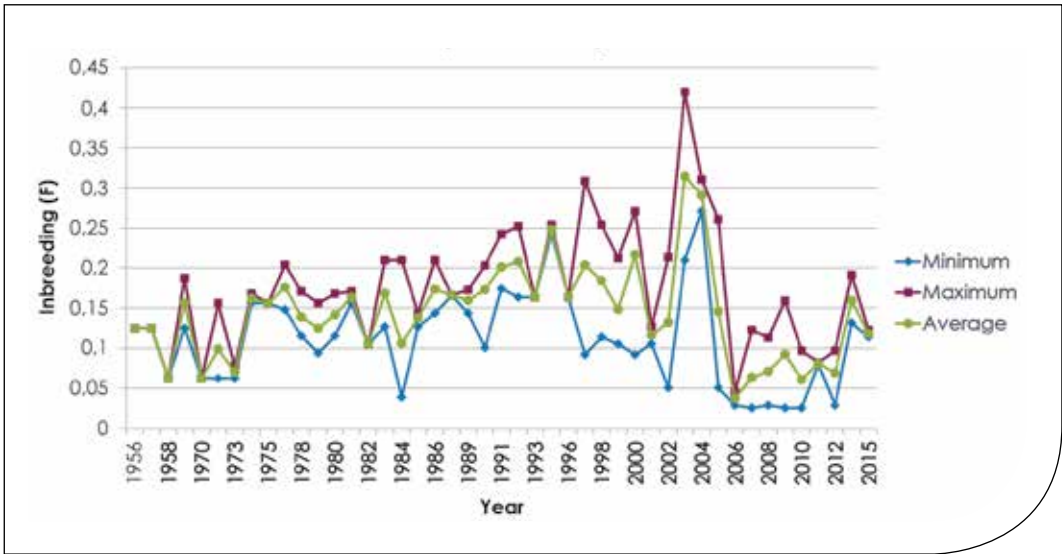


Table 1: Summary statistics of the pedigree analysis of the Elsenburg Percheron stud.

Variable	
Size of population	215
Effective population size (N_e)	9
Generation interval	7
Average inbreeding (F)	14%
Average relatedness (co-ancestry)	16%

Figure 3: Minimum, maximum and average inbreeding coefficients in the Elsenburg Percheron stud from 1956 to 2016.




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Scientific publications published in peer-reviewed journals in the field of Animal Science: 2014 to 2018

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Introduction

Seventy-one peer-reviewed manuscripts were published from 2014 to 2018 by the Animal Science Division, Research and Development Services of the Department of Agriculture in the Western Cape. A peer-reviewed manuscript is a manuscript that has been thoroughly evaluated by other scientists and found to be scientifically sound and acceptable to be published in an internationally accredited journal. Twenty-seven manuscripts were published on sheep, 27 regarding research on ostriches, 12 involving dairy cattle, 2 regarding boer goats, 1 on broilers and 1 on technological application. Manuscripts were published on a range of subjects including nutrition, genetics, genomics, reproduction, animal health, meat science, animal behaviour, animal welfare, animal physiology, embryology and technology. Manuscripts were published by project leaders together with postgraduate students and co-workers at universities.

2018

Boshoff, N.H., Lambrechts, H., Maree, L., Cloete, S.W.P. & Van der Horst, G. 2018. A novel flush technique to simulate natural dispersal of spermatozoa in the female reproductive tract and expedite motility assessment of fresh ejaculated Merino (*Ovis aries*) sperm. *S. Afr. J. Anim. Sci.* 48:469-476.

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