

AGRI PROBE

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A photograph of two men standing in front of a large greenhouse. The man on the left is wearing a green beanie and a blue jumpsuit, holding a potted plant with green leaves and brown roots. The man on the right is wearing a white bucket hat, glasses, and a blue jumpsuit, also holding a similar potted plant. They are both smiling. The background shows the structure of the greenhouse and some greenery in the foreground.

**Using food
gardens to
help a troubled
community**

**MAKING AN IMPACT
ON YOUNG WOMEN**

Research and news magazine of the Western Cape Department of Agriculture



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cheese
® festival



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Setting the **SCENE**

by Ashia Petersen

First things first - a warm *AgriProbe* welcome to the new Western Cape MEC for Agriculture (Minister for Economic Opportunities), Ms Beverley Schäfer. She is no stranger to our department, having been chair of the oversight portfolio committee, and knowing the inner workings of the department. Read all about her priorities for the department in her first interview with *AgriProbe* on page 4.

Another new face, or shall I say voice, is Eloise Pretorius, the new presenter of Radio Elsenburg on RSG. On page 20, we get to know the person behind the microphone.

In this issue we also celebrate our successes at the Premier's Service Excellence Awards, where it was evident that we are committed to service excellence in all that we do.

Growing and nurturing talent is a priority in our department. We dedicate no less than three articles to this worthy cause.

“Growing and nurturing talent is a priority in our department. We dedicate no less than three articles to this worthy cause.”

All are sterling examples of our “Better together.” ethos, where government creates opportunities and platforms for growth and our citizens use this to their full advantage.

Our cover story leaves one in awe. In the midst of violence, a group of brave gardeners have emerged in Avian Park, Worcester. They are not only trying to improve their own income and health, they're also serving the Avian Park community through their delicious, organic fresh produce.

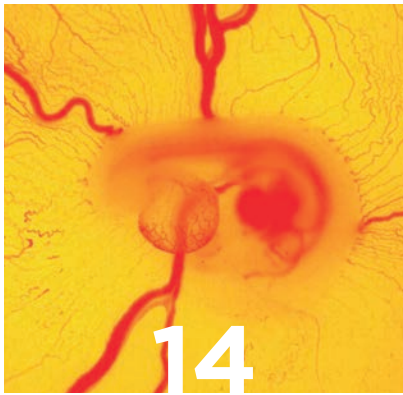
These are just some of the articles that will get your reading appetite going for feel-good and educational stories in our agricultural sector.

We are proud to bring you another edition of *AgriProbe* which will inform, inspire, and stimulate discussion. **AP**





4



14



20



27



34



43

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EDITORIAL

Setting the scene1

MINISTERIAL

Meet the new minister 4

NEWS SNIPPETS

Philippi Horticultural Area (PHA) held inter-governmental inception workshop8

The rising interest in the agricultural economy of Africa 11

Tackling incubation problems for better hatchability14

Staff photo competition16

Taste the alternatives18

PEOPLE ON THE MOVE

Service Excellence Awards 2018:

The department shines again!20

Nuwe stem vir RSG Landbou 22

HUMAN CAPITAL DEVELOPMENT

Young professionals learn lessons

in the USA24

Risks: What are the chances? 27



ON OUR COVER

Our cover story leaves one in awe. In the midst of violence, a group of brave gardeners have emerged in Avian Park, Worcester. They are not only trying to improve their own income and health, they're also serving the Avian Park community through their delicious, organic fresh produce.



CONTENTS

ECONOMIC NEWS

- Western Cape agricultural land prices 2018.....30
- A reflection on the performance of the game auction industry during 201832

TAKING OUR SERVICES OUT THERE

- Western Cape's commodity approach bearing fruit34
- Making an impact on young women in rural areas**..... 37

RESEARCH NEWS

- Greenhouse gas emissions from herbivores..... 40
- Mycotoxigenology - International collaboration yields results.....43
- Take note of seasonal weather forecasts.....46

OUR NATURAL RESOURCES

- Impak van droogte op veldweiding.....48
- Using food gardens to help a troubled community**..... 52

ELSENBURG JOURNAL

- Recent investment trends in Western Cape agriculture.....56

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Minister Beverley Schäfer.



Meet the new minister

Beverley Schäfer is the MEC for Economic Opportunities in the Western Cape.



On 1 November 2018, the new Minister of Economic Opportunities, Beverley Schäfer, took her oath of office in the portfolios of agriculture and economic development and tourism in the province.

She hit the ground running. On her first day in office, Minister Schäfer addressed the agriculture stakeholders' meeting – a forum in which all of the major agricultural interest groups, including researchers and academics

and commodity organisations, meet twice a year. The forum aims to discuss the issues that will set the agenda for the Department of Agriculture in the province going forward.

Later that day, she hosted her first ever First Thursday event at the ministry in Long Street, Cape Town. These events have become a popular way to connect with the public and business owners, and to promote the work done by her two departments. The minister »

will continue to host them while adding some of her own flair.

While the title of “Minister” may be new to her, the issues in her portfolio are certainly not. Minister Schäfer was previously the chairperson of the standing committee on economic development, tourism and agriculture, where she conducted oversight of the Department of Agriculture and its work.

“Coming from the position of chairperson of the standing committee on economic opportunities, tourism and agriculture, I am no stranger to the issues that face the sector, but I am also aware of its remarkable potential to provide economic opportunities to the people of this province,” she said.

One of the areas that Minister Schäfer has chosen to focus on during her term, is the development of opportunities for

young people, particularly in rural areas. In this regard, she has set a target of creating 250 000 new opportunities for young people in the Western Cape over the next five years.

“We are building an economy for the future and we need young people to be a part of that. Youth unemployment is unacceptably high in South Africa, and by providing opportunities for learning, skills development, internships, apprenticeships and jobs, we can make a contribution to solving this problem,” she said.

“The economy and creating jobs is at the centre of what we do in the Western Cape government and as such, my focus will continue to be on the programmes that have made it possible to create 95 000 new jobs in the past year in the province,” she said.

Her other focus will be to encourage connections between big business and

Minister Beverley Schäfer and the Department of Agriculture’s chief engineer for sustainable resource management, Peter Keuck, inspect plants in the Karoo during a visit to Laingsburg.





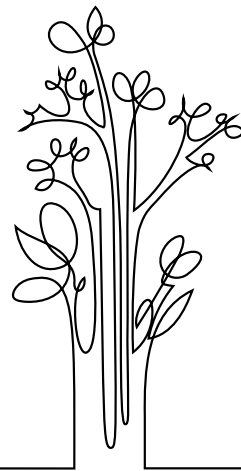
“through our work with small-holder farmers and the commodity approach, creating access to markets is important to ensure the success of the land reform projects we support.”

small, medium and micro-sized enterprises (SMMEs), to find ways in which those smaller businesses can become part of the bigger supply chain.

“This is applicable in the agricultural space as well. We have found that, through our work with small-holder farmers and the commodity approach, creating access to markets is important to ensure the success of the land reform projects we support. We are exploring ways to get those agricultural products into the value chains of big retailers, the hospitality industry and other areas of the economy, which will contribute to the growth of our rural economy.”

In January 2019, Minister Schäfer travelled to the Central Karoo, where she met with Laingsburg farmers who described the troubles they have been experiencing as a result of the continued four-year drought in that region.

“The department has been supplying drought relief every month to farmers in the critical areas and the farmers I spoke to all indicated how important that aid has been,” she said.



Going forward, Minister Schäfer will continue to focus on the province’s key goals of growing the economy and creating new jobs for the remainder of the current term.

Project Khulisa, the growth strategy that identified agri-processing, tourism and oil and gas as key economic sectors for growth, will also remain a focus.

“Agriculture is at the centre of job creation, food security and economic development in this province and it is a privilege to serve in a portfolio that has such a profound impact on the lives of the people of the Western Cape.” **AP**

Philippi Horticultural Area (PHA) held inter-governmental inception workshop

by Douglas Chitepo and Karen Harrison



The purpose of this workshop, held in January 2019, was to mobilise public sector commitments to the PHA Socio-Economic Agricultural Plan, for the implementation of the Cabinet and Inter-Governmental Committee (IGC) decisions taken on 4 June and 8 August 2018 respectively.

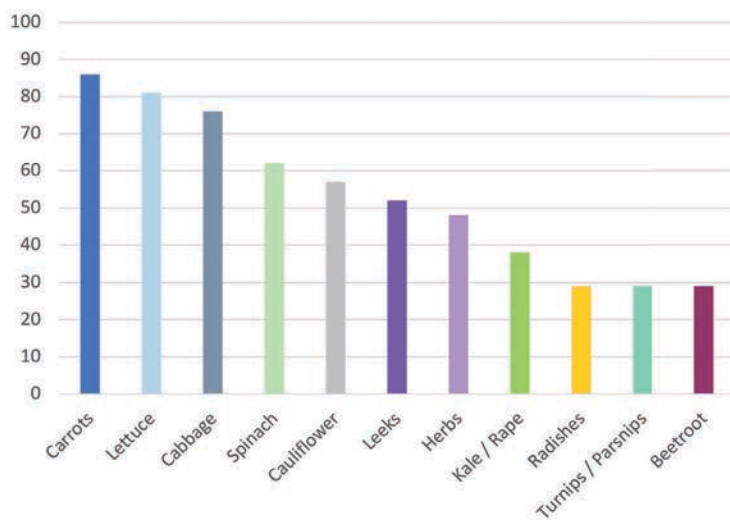
Once the public sector commitments have been secured and finalised, the inclusion of broader stakeholders from private, civil and public entities, for example Airports Company of South Africa (ACSA), agricultural farming associations and agricultural research and training institutions, will be pursued. A “whole-of-society” approach will be applied to strengthen the coordination of inter-governmental and multi-stakeholder commitments. This will be formalised through an implementation protocol and social compact agreement. The City of Cape Town and the Western Cape Department of Agriculture (WCDoA) will drive the implementation of the PHA plan.

The plan is based on a study undertaken by a consortium of specialists managed by Indego Consulting and represented by Ms Karen Harrison. The search confirmed

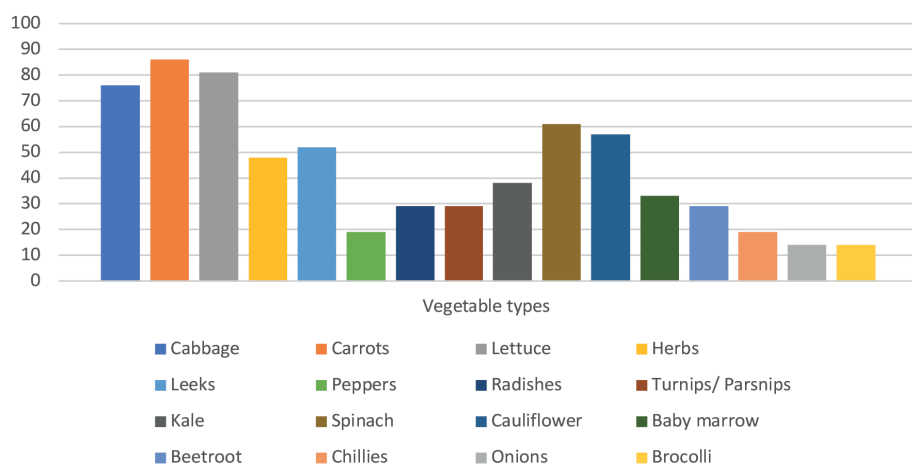
that the PHA is a significant area in terms of agriculture, the environment and heritage, given its unique combination of climate, water and soil. The PHA is located on the portion of the Cape Flats aquifer with the greatest groundwater potential. The environmental significance of the PHA primarily relates to the underlying Cape Flats aquifer, which allows at least three to four crop cycles per annum and can support expanded agricultural activity.

The PHA is currently actively farmed, with at least 64% of the “core” land under production. Thirty horticultural products are produced with carrots, lettuce, cabbage, spinach and cauliflower being the top five crops. There are about thirty farmers in the PHA, of whom five are classified as large commercial. For every R1 million spent in the vegetable industry, 4,65 direct jobs and 46,5 indirect jobs are created, translating into the PHA contributing about 3 000 direct jobs and 30 000 indirect jobs to the regional economy. The PHA further contributes about R484 million directly and R938 million turnover indirectly to the regional economy.

Top 11 PHA products



Percentage of PHA farmers growing vegetable types



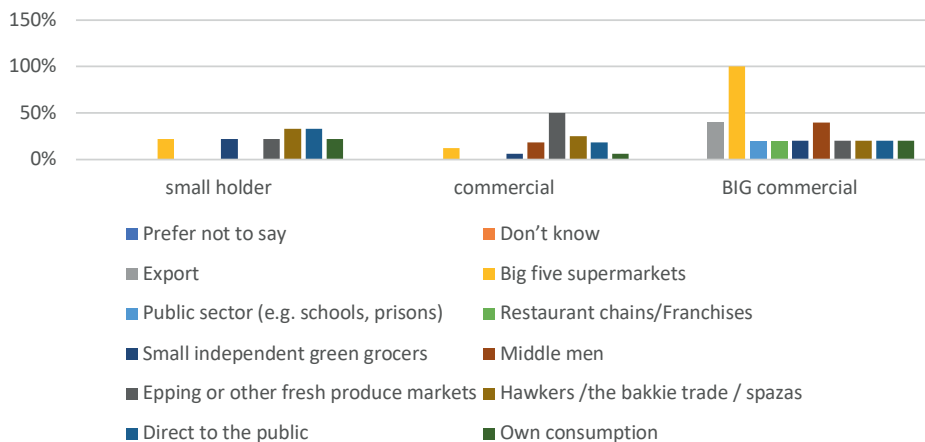
The large commercial farmers dominate the retail market, while smaller commercial and smallholder farmers focus more on supplying the Cape Town Market, the “bakkie traders”, middlemen and direct sales. The spread of markets supplied by the PHA makes the area critical for food security across all income groups. The proximity of PHA farmers to the markets lowers transport input costs, which translate into a moderating food price effect nationally.

There is substantial stakeholder agreement that the PHA needs to be retained for horticultural purposes and the Indego study highlighted substantial planning alignment. The adopted metropolitan Spatial Development Framework (SDF) 2018 identifies the PHA as a “critical natural area” owing to its agricultural and heritage significance and broader contribution to metropolitan food security, which must be protected.





Percentage of PHA farmers selling to market types



The workshop was attended by designated officials from provincial departments, the South African Police Service (SAPS) and representatives from the City of Cape Town, among others. Robust deliberations took place and some of the recommendations as proposed by the delegates are as follows:

- Re-prioritise government programme resources to give effect to the PHA Plan, within the context of broader resource limitations.
- Explore partnerships to leverage additional capacity.
- Ensure accountability for the implementation of the plan by all stakeholders.
- Promote inter-agency synergies – ensure that all entities are aware of one another's initiatives in the PHA and facilitate collaboration.
- Align all public-sector projects and programmes.
- Find linkages across interventions within the PHA.
- Improve communication among role-players to ensure consistent messaging on PHA matters.
- Develop a media protocol.
- Avoid duplication and seek integration for greater efficiency of relevant participating government institutions. **AP**



A full report of the "Socio-Economic Agricultural Plan" is available on the WCDoA website – www.elsenburg.com



THE RISING INTEREST IN THE AGRICULTURAL ECONOMY OF AFRICA

by Dr Dirk Troskie and Ms T Koyingana



The 30th Conference of the International Association of Agricultural Economists (IAAE) took place in August 2018 in Vancouver, Canada. Approximately 1 140 delegates from 66 countries attended the conference. Seventeen African countries were represented and 12% of the delegates (137) were from Africa.

Cost-containment measures prevented representatives from the Western Cape Department of Agriculture to attend this conference. An analysis of the titles of the papers, both oral and visual (or “poster” paper), revealed that Africa was under-represented but well researched. A total of 145 (29%) of the 504 oral papers investigated a research question in an African country. The second biggest category was research papers with either a global focus or of which the focus could not be determined from the title. In the third place were 124 papers with a focus on Asian countries, and the balance focussed on Europe and the Americas. Interestingly enough, only one paper focussed

on a problem in Australia. In the case of the 279 visual papers, Asia (79) had one paper more than Africa (78) (Figure 1).

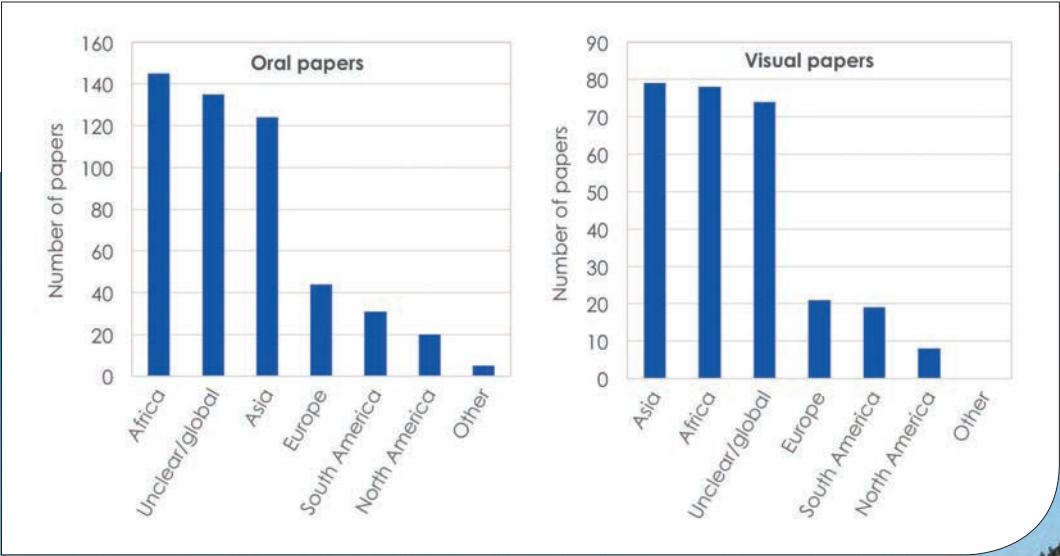
An analysis of the country focus of the 145 oral papers with an African theme reveals that with 19 (13%) oral papers, Ethiopia attracted the biggest agricultural economics research effort. This was followed by Kenya (11%), Nigeria (10%), Ghana (10%), and 7% of the papers had an African focus. Only six (4%) of the papers had a South African focus (Figure 2).

In the case of the 78 visual papers, Kenya (17%) outperformed Ethiopia (13%), Nigeria (13%) and South Africa (10%) (Figure 3).

It is interesting to observe how Africa and Asia have captured the research focus of agricultural economists at an international level whilst the developed world (Europe, North America and Australia) appears to have less research problems to offer. Even in Africa its most developed country (South Africa) is only the seventh most researched country in the case of oral papers.

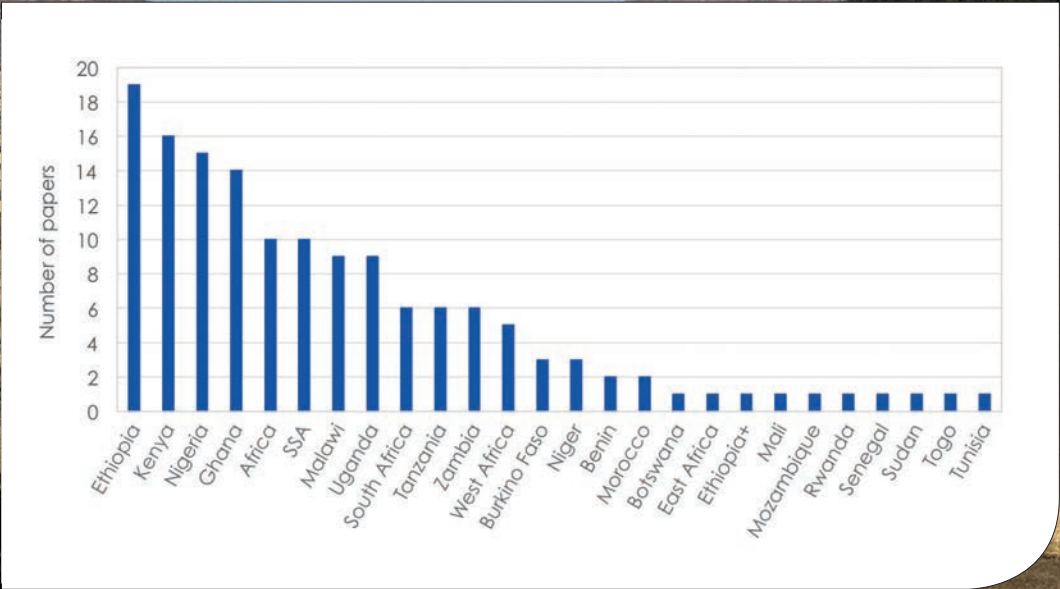
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Figure 1: Focus area of the topic of oral and visual papers



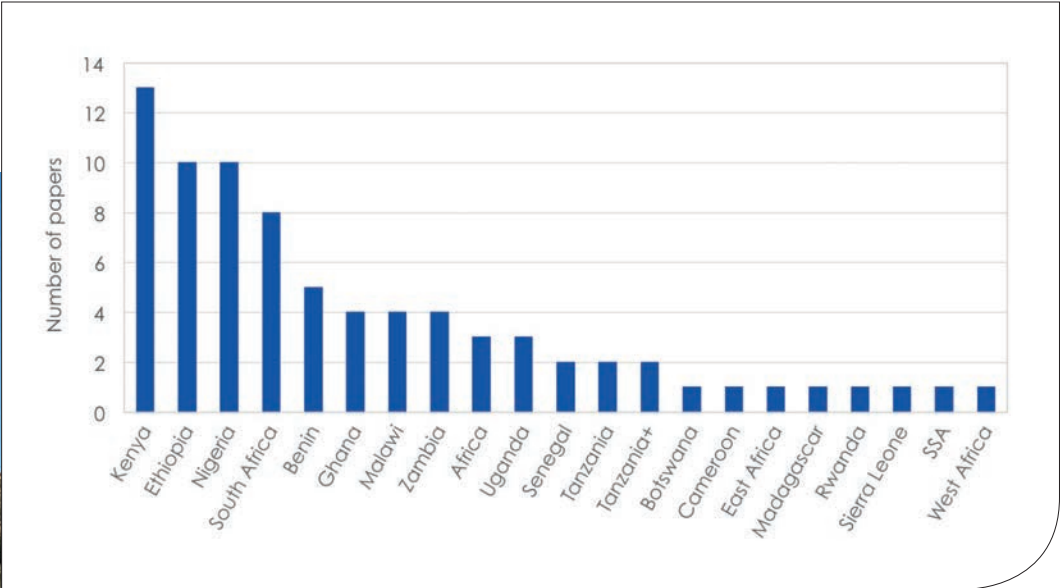
Source: IAAE (2018)

Figure 2: Distribution of oral papers with an African country as focus area



Source: IAAE (2018)

Figure 2: Distribution of oral papers with an African country as focus area



Source: IAAE (2018)

However, based on the skewed attendance figures, the question remains whether Africa has only become a popular research destination for researchers from the rest of the world whilst excluding local pockets of excellence. Furthermore, to what extent has the knowledge gained been used to strengthen African research capacity and enhance local decision making? This may be the ideal opportunity to strengthen the inter-African research network. ^{AP}



REFERENCES

IAAE (2018) Programme of the 30th Conference of the International Association of Agricultural Economists. 28 July – 2 August 2018, Vancouver, Canada.



Ostrich embryo on day 7 of incubation. (Photo by Z Brand)



Tackling incubation problems for better hatchability

by Dr Zanell Brand

The combined meeting of the Incubation and Fertility Research Group (IFRG) and the Fundamental Physiology and Perinatal Development Group (FPPDG) was held in Wageningen, the Netherlands, in September 2018. Sixty delegates attended this event and

the aim of the meeting was to present current research on incubation of different avian species across the world. The 25 speakers presented a wide range of related topics and there were also eight posters presented. Results from research done on incubation

“This was clear evidence that the Directorate: Animal Sciences of the Western Cape Department of Agriculture, are on the forefront of research in specific aspects of ostrich research.”

Delegates from all over the world attending the combined IFRG and FPPDG meeting.



Ostrich chick hatching on day 42 of incubation. (Photo by Z Brand)



from all over Europe, Australia, Northern and Southern Africa, the UK and America were presented.

The overall trend of the presentations was based on the wellness of the developing embryo. Strong emphasis was also placed on the effect of breeder age on chick development, from the follicle stage to post-hatch performance. Other hot topics were: short periods of incubation during egg storage (SPIDES) during long periods of egg storage, for better hatching results; and perinatal temperature training (PTT) to increase the adaptability of animals to cope with increased temperatures. The combined meeting of IFRG with the FPPDG brought a new dimension to the topics presented. Both the IFRG and Group 12 members presented research on the developing embryo, but from different perspectives.

The three-day programme was divided into six different sessions that included:

- influence of breeder on chick health and performance;
- egg storage and handling;
- impact of parental effects;
- adaptation and epigenetic alteration in birds;
- incubation parameters and chick vitality; and
- control and programming of energy balance.

The author of this article, Dr Zanell Brand, gave a combined oral presentation on “Review: Artificially incubated ostrich eggs” and “Hatch traits of artificially incubated ostrich eggs as affected by setting position, angle of rotation and season”. It was also the only presentation given on incubation research concerning ostriches or any other ratite species. This was clear evidence that the Directorate: Animal Sciences of the Western Cape Department of Agriculture, are on the forefront of research in specific aspects of ostrich research.

The presentations were followed by the annual meeting of the IFRG and Working Group 12 to arrange the next meeting in Toulouse, France in 2019. 



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Staff photo competition

A compilation of prize-winning photographs from the annual Staff Photographic Competition of the Western Cape Department of Agriculture



Animals by Annemarie vd Merwe



Implements by Lisa Smorenburg



People by Hannes Muller



Landscapes by Piet Lombard



Water by Lisa Smorenburg



Plants by Piet Lombard

TASTE

THE ALTERNATIVES

Apple and pear strudel spring rolls

THE LAZY MAN'S STRUDEL



52 spring rolls



Ingredients

- 300 g dried figs, roughly chopped
- 3 Carmién rooibos tea bags
- 250 ml lukewarm water
- 700 g Granny Smith apples, cubed (1 cm x 1 cm)
- 400 g pears, cubed (1 cm x 1 cm)
- 200 g brown sugar
- 15 ml ground cinnamon
- 100 g pecan nuts, finely chopped
- 2 lemons, juice and rind
- 30 ml cake flour
- 40 ml water
- 52 spring roll pastry sheets
- 350 ml sunflower oil
- icing sugar, for dusting
- 250 g ButtaNutt, Cacao Macadamia or Roasted Almond Nut Butter



- Rather than using a large bowl of water to prevent browning of the sliced apples and pears, use a concentrated mix of 30 ml water and 15 ml lemon juice.

RECIPE BOOK

11



MORE DELICIOUS **RECIPES**

will follow in future editions of *AgriProbe*.



Scan the QR code or visit
www.elsenburg.com/resource-library/cape-made-taste-alternatives to download the recipe.

Method

Preheat the sunflower oil to 180 °C.
 Macerate the figs in lukewarm rooibos tea for 5 minutes.
 Strain the figs from the tea and set aside.
 Place the apple, pears, and figs into a mixing bowl.
 Mix the fruit with the sugar, cinnamon, nuts, lemon juice, and lemon rind.
 Mix together the cake flour and water until it forms a paste (slurry).
 Prepare the spring roll pastry sheets, one at a time.
 Spoon a small amount of apple filling onto the edge of the pastry.
 Roll the pastry until half the length, tuck in the sides, and roll up the rest of the pastry.
 Seal the ends, using the prepared slurry as "glue".
 Continue until all the filling has been used.
 Heat the sunflower oil and fry the spring rolls until golden brown.
 Serve with ButtaNutt Cacao Macadamia Nut Butter.



Rooibos plants depend on winter rains to help them grow and no irrigation is used throughout the farming time.

After the rooibos leaves are chopped and bruised, they are left to dry in the sun, where they take on their characteristic red colouration.



INSPIRATION:

In My Kitchen, p. 24 – Apple and pear strudel

Service Excellence Awards 2018

The Department shines again!



(From left to right): Mike Mulcahy (CEO: GreenCape), Piet van Zyl (Head of Department: Environmental Affairs and Development Planning DEA & DP), Dr Ilse Trautmann (Chief Director: Research and Technology Development, WCDoA), Premier Helen Zille, Prof. Stephanie Midgley (climate change specialist to the WCDoA), Goosain Isaacs (Director: Climate Change, DEA & DP) and Joyene Isaacs (Head of Department: WCDoA).

The Premier Service Excellence Awards, which began in 2014, are aimed at rewarding good performance by public servants. A total of eight categories are contested, showcasing individual, team and departmental excellence for leadership, ethics, implemented programmes, Batho Pele principles, as well as innovation in the public service.

A record number of 86 nominations in total were received for the 2018 awards.

The Department's climate-change mitigation plan, SmartAgri, took the Gold Award in the category Best Implemented Project for the excellent way in which the project was implemented in the Department and in the sector in the 2017/2018 financial year.

According to Dr Trautmann, project leader, SmartAgri was developed to provide a roadmap to the agricultural sector towards climate-change resilience and sustainable resilience.

The plan is a living and dynamic document and will “grow” as the sector identifies more ways to adapt and mitigate the challenges of climate change. The development of the plan was a “Better Together” initiative between the Department of Agriculture, Department of Environmental Affairs and Development Planning and the service provider, the African Climate and Development Initiative (ACDI). GreenCape is assisting with the implementation of the plan in the sector. The partnership model, including all agricultural stakeholders, is pivotal in the implementation of the plan in the sector in the years to come. According to

FC Basson his award from Premier Helen Zille.



Dr Trautmann, one of the reasons for entering SmartAgri was to showcase how a sector plan can be innovatively implemented in the Department of Agriculture and in the sector, using novel approaches, current awareness and information dissemination tools and vehicles. The entry was based on evidence provided for the year 2017/2018 according to the award requirements.

In the category Best Public Service Innovator, the Department of Agriculture’s geographic information systems (GIS) technologist, FC Basson, walked away with the Silver Award for his innovative online tool, CapeFarmMapper. This is also part of the smart tools of SmartAgri, which assist farmers to make the best decisions in relation to their available resources.

Willie van Zijl was awarded the gold medal for best Batho Pele employee. He describes the award as a huge surprise and a “cherry on the cake” for years of hard work and dedication. However, he is quick to say that he doesn’t want to take the credit alone. “Everyone with whom my path crossed over the years contributed to it. When asked what motivates him to live the Batho Pele principles, he replies: “My Christianity, God gives me the strength and mercy to do my work every day.” He says he does not live by the “8 – 5 principle” and that his work comes first. “I often get up early to go to work or attend to a crises. I have a good way with people, respect them and receive mutual respect in return,” he explains. **AP**



Willie van Zijl (middle) proud winner of the gold medal for best Batho Pele employee with Premier Helen Zille on his left and Head of Department, Joyene Isaacs on his right.

Nuwe stem vir RSG Landbou

deur Giselle Terblanche



Gesoute radio-aanbieder, Eloise Pretorius (EP), het onlangs die leisels oorgeneem by dr. Chris Viljoen, wat vir baie jare RSG Landbou aangebied het. Sy is 'n vars nuwe stem wat groot planne het vir die programme.

AgriProbe (AP) het by haar gaan inloer om die mens agter die stem te leer ken.

AP: Vertel ons meer van jouself

EP: Ek is oorspronklik van Gauteng. Ek het by die Universiteit van die Vrystaat studeer, al by twee kommersiële radiostasies gewerk en vir 'n tydjie in die buiteland gewoon. Ek hou van reis, diere en boeklees en stel belang in omtrent nog 'n duisend ander dinge.



AP: Waarom wou jy graag RSG Landbou aanbied/wat het jou belangstelling in die posisie geprikkel?

EP: Dis 'n kritieke tyd om sterk mense in die media in ons land te hê. Ek wil graag deel in oplossings en positiewe diskoerse.

AP: Vertel ons bietjie van jou planne vir die program

EP: Innovasie, werksgeleenthede en veral opkomende boere gaan baie aandag kry. Sterk mense met wilde ideële gaan hulle idees op die program deel.

AP: Waarom, dink jy, is 'n program soos RSG Landbou belangrik vir landbou/watter bydrae lewer dit?

EP: Dit behoort 'n bron van inspirasie en goeie nuus te wees. Ek gaan dit my verantwoordelikheid maak om seker te maak die program is tot oorlopens toe vol daarvan.

AP: Hoe gaan jy te werk om onderhoude te voer?

EP: Ek gee om vir die storie. As iemand ywerig is om dit te deel, laat ek die proses se natuurlike verloop toe.

AP: Wat is jou indrukke van die departement en die verskillende landboubelanghebbendes met wie jy tot dusver onderhoude gevoer het?

EP: Aantreklik. In denke en wese.

AP: Wat geniet jy sover die minste en meeste van jou werk?

EP: Dis nog te vroeg om te sê. Die Elsenburg wyne is wel werd om te noem.



Ons groet die bekende stem agter RSG Landbou, voorheen bekend as Radio Elsenburg, dr. Chris Viljoen. Dr. Viljoen se loopbaan agter die mikrofoon strek oor byna 50 jaar! Hy het begin as 'n omroeper op die destydse "Calling all Farmers" en het sedertdien ononderbroke landbouradioreekse vervaardig en uitgesaai. Sy vasberadenheid en deursettingsvermoë om stories en sake van die dag, wat die boer raak, na te vors,

op te neem en uit te saai, is wat die radioreeks uitsonderlik gemaak het.

Elkeen wat al 'n radio-onderhoud met dr. Viljoen gedoen het, sal beaam dat hy 'n ware heer was, wat altyd sy gassprekers op hulle gemak laat voel het en aangehou redigeer het totdat die spreker gelukkig was met die eindresultaat. Hy het alles met presisie en passie gedoen. Die landbousektor erken dr. Viljoen as 'n legende, en danksy die wonderlike inligtingsera waarin ons leef, sal die uitstekende inhoud wat hy oor die jare gegenereer het, altyd voortleef.

AP: Wat is jou grootste droom vir jou toekoms?

EP: Sukses is om betekenisvol te wees, mense om jou harder te wil laat werk, en hulle tot vryer en meer gesofistikeerde denkwyses te inspireer.



Skakel in op Vrydae om 04:45 en Saterdag om 11:45 om te luister na RSG Landbou. Die programme word vervaardig deur die Wes-Kaapse Departement van Landbou.



Dit behels onderhoude met interessante mense oor huidige tendense in landbou oor die hele land.

KITSVRAE AAN ELOISE

As jy 'n outobiografie kon skryf, wat sou die titel wees?

Blessings, broadcasting and bloody marys. Tales of trailblazing and gratitude.

Wat is jou gunsteling (a) boek (b) gesegde?

- (a) *Fear and Loathing in Las Vegas* – Hunter S. Thompson
- (b) Honour the process in pursuit of the outcome.

Wat is die grootste kompliment wat iemand al vir jou gegee het?

Iemand het my destyds gevra of ek die suster van 'n bekende tennisspeler is.

As jy een nuwe vaardigheid in 'n uur kon aanleer, wat sou dit wees?

Om meer Suid-Afrikaanse tale te leer praat. Ek is tans besig daarmee.

Watter advies sou jy wou gee aan jou 20-jarige self?

Skink solank die sjampanje! **AP**



Young professionals learn lessons in the USA

by Phillip Michau, phillipm@elsenburg.com

The Agricultural Professional Fellows Programme, South Africa (APFP-SA) is a professional leadership programme specifically focussing on the development of agricultural professionals. Every year a number of early- to mid-career agricultural professionals (fellows) are selected to participate in a capacity-building programme, which includes study tours of academic, research and government institutions in South Africa, Africa and the USA.

In 2018 two young professional persons (YPPs) were included in the programme – Fagrie Arnold who is currently pursuing a master's degree in plant pathology and Abongile Feni, currently pursuing a master's degree in sustainable agriculture.

The memorable tour to the USA was, without a doubt, a career highlight for most of the group. The itinerary started with a wet and cold New York, which could not dampen

the group's excitement to explore the city until early morning hours.

Two days were spent at Cornell University where delegates interacted with the professional staff from the university, attended a seminar at the Institute for African Development, met with their Smart Fellows and engaged with counterparts in their respective fields.

The Professional Agricultural Workers Conference at the Tuskegee University and Auburn Marriot Opelika Hotel was indeed the highlight of the USA tour. Here, Fagrie and Abongile did everyone proud. Their presentations were at a level on par with the conference standard. Fagrie presented on "Management of Fusarium crown rot of

wheat under conservation agriculture in the Western Cape". This was a fresh topic and was well-received by conference delegates.

The conference covered a diverse range of topics in the agricultural sphere, from agricultural economics to sustainable agricultural practices. "Some of the presentations included topics such as: 'Enhancing biological research through farmer-driven methods' and 'The cultivation and decriminalisation of marijuana'", said Fagrie. One of the ongoing projects of the International Food Policy Research Institute (IFPRI) was the "Bio-fortification project". Fagrie found it very interesting since his career goal is to work closely with plant breeders, agronomists and producers to






achieve disease and drought-resistant crops, environmentally friendly alternatives to pesticides and higher production yields. “I particularly enjoyed the one-on-one engagement with Professor Gary Bergstrom from the Plant Pathology section, who shared some insight into their own research with me”, said Fagile.

Abongile presented “Sustainably reviving South African indigenous fynbos plants through greenhouse production”, and by the response of the conference it was clear that she is exploring new ground. “A highlight of the tour was the meeting with IFPRI and their research on ways in which staple produce could be genetically modified to meet the nutrient needs for people who can’t afford fresh produce, especially for underdeveloped countries”, recalled Abongile. She also found the topics presented at the conference very interesting and said: “It gave us the opportunity to see what research is done in the USA and what lessons South Africa could learn agriculturally, especially concerning cannabis.”

Another highlight of the tour was a visit to the South African embassy in Washington

D.C. A great deal was learnt concerning South African markets and trades. According to Abongile, the take-home message for her was that South Africa is doing better than what most people realise in terms of market trade with the USA, and we can be proud of our participation and contribution in international trades.

Marguerite, one of the Fellows, found the USA part of the fellowship programme a real eye-opening experience – the sights, the wonderful people she met, and the places the group was privileged to visit. In her own words: “It is interesting to see how other countries compare to South Africa and also the way they do things, especially along the line of agriculture. If you think of dairy farms in the USA, intensive mega-dairies come to mind, but we were also very lucky to visit a family-owned Amish dairy farm. As a ruminant nutritionist and dairy cow management lecturer, this was a fantastic experience.”

Apart from visiting the South African Embassy, meetings were also held at the Global Harvest Initiative, IFPRI and the World Bank. 

Risks: What are the chances?

by Dr Lesley van Helden

My neighbour's farm has state-of-the-art biosecurity, but they still got avian influenza.

My grandmother smoked every day and lived to the age of 95!



The concept of risk is often misunderstood, but it is essential to understanding disease occurrence and science in general. Risk is the chance of loss or harm, and it exists whenever there is uncertainty. Uncertainty, however, exists in every situation. If it did not, predicting the future would be possible. However, the degree of uncertainty is different depending on the situation. For instance, while it is possible to be killed by a meteorite, the risk of this occurring is generally very low. Most

people have realised this from experience and therefore live their lives without concern that this will happen to them. One could say that they have assessed the level of risk in this scenario and found it to be acceptable.

In fact, for almost every situation, people decide on an acceptable level of risk based on their personal perception of that risk, whether they are aware of this decision or not. For instance, all people who drive cars expose themselves to the risk of injury or

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“for almost every situation, people decide on an acceptable level of risk based on their personal perception of that risk, whether they are aware of this decision or not.”

death from a car accident. However, they have defined this risk as acceptable when weighed against the benefits of being able to transport themselves. Those who would like to decrease the risk to a level they find acceptable may take the additional steps of putting mitigation measures in place. For example, they would wear seatbelts, fit cars with airbags and avoid driving while under the influence of alcohol. Once they have done what they think is sufficient, they perceive themselves as being safe.

Unfortunately, the reduction of a risk to an acceptably low level is not the same as the elimination of a risk. Most people are not aware of the fact that it is impossible to reduce any risk to zero. When faced with a new hazard, they want clear answers as to

how to eliminate the risk. As scientific data always contains a degree of uncertainty, the messages of scientists are often not well-received by the public and policymakers, who may perceive the expression of uncertainty as incompetence or dishonesty. There is therefore a need to effectively communicate that all conclusions from data are based on probabilities.

It is also important to communicate the level of risk effectively. Human behaviour is often regarded as irrational but, in fact, it is usually based on risk perception and is logical according to the level of risk perceived by that person. When risk is perceived as being lower than it actually is, the threat or problem is often ignored, despite pleas for action. An example of this can be seen in the current

rabies situation in South Africa. The majority of human deaths that occurred from rabies in 2018 were caused by minor wounds. The people who had contact with rabid animals did not perceive the risk of rabies from small scratches or nips as being high, most probably due to a lack of awareness of the disease and its prevention, and therefore did not seek medical attention in time.

When the risk is perceived as being higher than it is, public panic and excessive spending

of public resources can occur, often causing harm disproportionate to the original risk. For instance, after H1N1 influenza, better known as “swine flu”, emerged in people in 2009, pig production industries worldwide suffered commercial losses as countries instituted pork trade bans against one another and consumers avoided eating pork, despite evidence that pork played no role in the transmission of the disease.

It is therefore important to raise awareness of risks, but this must be accompanied by information about practical steps that can be taken to mitigate these risks while avoiding overreaction caused as a result of fear. This can be achieved by cooperation and good communication among scientists, policymakers and the public. These principles can then be put into action in everyday life to improve the health and well-being of people, animals and the environment.



“it is impossible to
reduce any risk to zero”



I attended the 15th International Symposium on Veterinary Epidemiology and Economics in November 2018, where the keynote address of Prof. Dirk Pfeiffer introduced most of the concepts discussed here. Numerous attendees of the symposium also contributed ideas and I would like to express my thanks to all who inspired this article. **AP**



Western Cape agricultural
land prices 2018

Statistics offer interesting insights

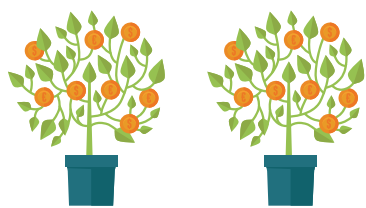
by Riaan Nowers – Agricultural economist

Agricultural land – one of the most discussed and controversial topics in recent times.

Land ownership and access to agricultural land play an emotional, political and motivational role in all spheres of life in South Africa. Fluctuating commodity prices, rising input and labour costs, variable exchange rates and transferable agricultural land all influence land acquisition and retention decisions, which in turn have a serious impact on potential land transactions and transfers.

Economists at the Western Cape Department of Agriculture (WCDoA) capture annual farm transactions in the Western Cape in an electronic database in order to track some relevant trends, which inform rational policymaking and managerial decisions. The following infographics demonstrate farm transactions in the Western Cape during 2018 in comparison with previous years:


	2016	2017	2018
Number of land transactions	891	922	990
Area of land transacted (hectares)	499 287	695 556	676 322
Percentage of agricultural land transacted	4,3%	6,0%	5,9%
Value of agricultural land transacted (R/ha)			
- Central Karoo region	R2 843	R2 019	R2 045
- Overberg region	R38 424	R30 708	R34 068
- Eden region	R18 791	R12 368	R19 508
- Cape Metropole	R260 105	R149 619	R382 922
- Cape Winelands region	R39 367	R38 951	R31 886
- West Coast region	R12 009	R12 749	R11 459
<i>WESTERN CAPE</i>	<i>R53 191</i>	<i>R35 354</i>	<i>R23 935</i>



What the figures tell us

- The number of agricultural land transfers increased by 7,4% between 2017 and 2018.
- The percentage of agricultural land transacted during 2017 and 2018 remains higher than the 4,9% long-term average.
- Agricultural land value decreased by 32,3% during 2017 and by 32,6% during 2018 when compared to the previous years.



It is important that the reasons for the increase in agricultural land transacted and the lower land values be researched and not speculated on. 



A reflection on the performance of the game auction industry during 2018

by Riaan Nowers

During a radio talk on RSG earlier in the last quarter of 2018, it was suggested that the game industry moved towards a more rational level of performance during 2018. This analysis resulted from years of monitoring the game auction industry's performance as well as individual species' performance through prices achieved. It was speculated that in 2018:

- there would be more auctions than in the previous year;
- the total turnover could be more than 45% lower than in 2017;
- the turnover per auction would be about 40% lower;
- about 20% of the available animals as well

as lots would not be sold;

- the average turnover per animal would be the lowest since 2008;
- the number of animals (38 483) should come close to the levels of 2016 and 2017; and
- the prices of colour variants would decline drastically and the numbers of these animals would be about 10,5% of the total animals sold on auctions.

A final analysis of the industry by the Western Cape Department of Agriculture supported the above predictions. The year 2018 indeed showed some interesting facts:

	2017	2018
• Number of auctions	137	142 (3,6% increase)
• Total turnover	R1 085 151 325	R684 989 664 (36,9% decrease)
• Average turnover	R7 920 813	R4 823 871 (39,1% decrease)
• Number of animals sold	44 011	45 667 (3,7% increase)
• Average turnover per animal	R24 630	R15 000 (39,1% decrease)
• Successful lot sales *	-	86,2%
• Successful animal sales *	-	88,7%
• Percentage colour variants sold	9,8%	10,6%

* These statistics were only available during 2018 and will be monitored as an indicator in future.

Figure 1 below depicts the numbers sold during 2017 and 2018 and clearly shows which species were the most transacted. Roan and sable antelope, as well as golden and black wildebeest, showed healthy sales in terms of numbers and it is predicted that this will remain so during 2019.

What is encouraging, is the fact that the genetic quality of species continues to


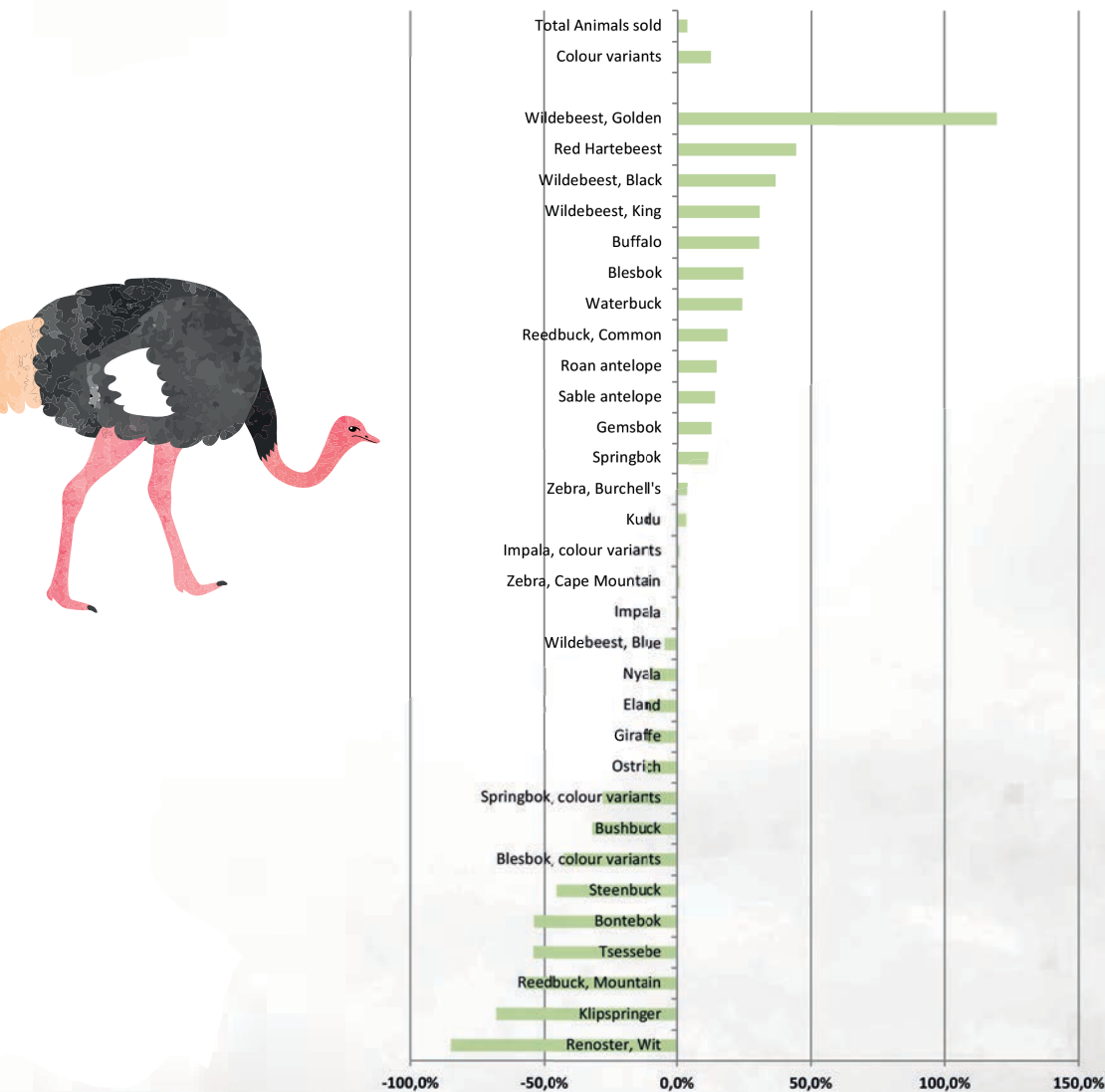
improve and this bodes well for the industry. The auction industry also impresses by the way in which it brings innovation into the market place, which truly energises the broader industry. Finally, the industry also proved its outreach towards the economic empowerment of designated groups and its willingness to share profits with its neighbouring communities. 

Figure 1: Percentage change in numbers of selected species sold during 2017 and 2018



Western Cape's commodity approach bearing fruit

by Charl van Rooyen, charlvr@elsenburg.com



In the space of one year, a former MK veteran, who received a farm from the Department of Rural Development and Land Reform (DRDLR) through the Proactive Land Acquisition Strategy (PLAS) programme, is exporting apples and pears to the EU, Middle East and the UK. Portion 2 of the farm Nooitgedagt, number 58, was acquired by the DRDLR during April 2013. Mr Errol April was appointed by the DRDLR as lessee of the farm Amanzi.

Amanzi is a beneficiary of the Western Cape Department of Agriculture's (WCDoA) commodity approach strategy. The commodity approach is simply "an institutional arrangement that draws in multiple spheres of government and the private sector, each understanding their unique roles, working from the same plan towards achieving the same outcomes". Through this partnership arrangement, the deciduous fruit industry was awarded a Jobs Fund project, valued at R120 million to strengthen the commercialisation of black deciduous fruit producers in the Eastern and Western Cape provinces.


The opportunity created by the Jobs Fund started Amanzi's journey to becoming a commercial fruit farm. An additional 11 ha of apples would have been planted by the end of 2019, which will



bring the farm to 40 ha, which is an industry norm. In line with the Western Cape's mantra of "Better Together", Amanzi was linked with Two-a-Day by the department's pomologist, Charl van Rooyen. Two-a-Day continues to provide technical and mentorship support, which is key for land reform success. It is through this arrangement that Mr April was able to gain access to the export market.

The WCDoA recognised Mr April's leadership potential and sent him to the Green Tech Summit in Europe in 2018. He took this opportunity to make contact with fruit importers from the Netherlands. Now back

"In the space of one year, a former MK veteran, who received a farm from the Department of Rural Development and Land Reform (DRDLR) through the Proactive Land Acquisition Strategy (PLAS) programme, is exporting apples and pears to the EU, Middle East and the UK."



Errol April in his orchards.

on the farm, he must balance the replanting progress with the need to produce the last crop of some orchards to stay solvent. Strategic decisions need to be made that will influence his sustainability on the farm in the long run. For example, if he grubbed an orchard after harvest in May, it would lead to late planting of trees out of cold storage. These late plantings have shown to be marginally successful, although breaking even could take a year or more longer.

According to Mr April, there are three definite phases that a successful farmer must achieve to reach his/her goals:

- Land acquisition
- Maintenance of such land
- Succession planning (most important)

According to him, this is crucial in the agricultural sector, given the average age of farmers and that not many young people seem to be interested in farming.

His ambition is “to be a commercial fruit farmer with 100 ha of fruit.” **AP**



Jobs Fund visits Amanzi.



Amanzi dam.



Making an **impact** on young women in rural areas

by Brighton Shumba, brightons@elsenburg.com

The year kicked off on a high note with the Rural Female Youth Mentorship (RFYM) camp, which took place in January 2019 at the Amana Conference Centre in Hermanus. A group of 25 young girls from the prioritised rural development nodes of the Western Cape started a mentorship programme during the three-day camp.

The young ladies, from Grade 9 upward, participated in this mentorship camp, which forms part of the RFYM project. It aims to equip young girls and women in rural areas with basic life skills in order to reduce the high number of school drop-outs, improve sexual health and prevent alcohol and drug abuse.

The RFYM project is one of the various strategic worker and rural youth projects being rolled out by the Department in response to the



The group of females who attended the mentorship camp.



province-wide Agri Worker Household Census (AWHHC), conducted by the sub-programme Farm Worker Development. The findings of the AWHHC indicated high unemployment levels among rural youth, as well as a low number of matric qualifications. The findings further indicated that across all the Western Cape regions, the percentage of individuals exiting the labour market is significantly lower than the number that will be entering the market over the next 14-year period. In order to address these imbalances, dedicated efforts to empower rural youths are required and hence the implementation of the RFYM project. The project focuses on young women, as they are often at higher risk, and aims to support their intake into further training.

The camp created a favourable environment for these young women to connect, learn and inspire one another. The programme for the camp sought to primarily empower, educate and inspire the participants to become active, informed and responsible young people, and to lead change in their communities. The camp addressed key life and leadership aspects that covered the

following: self-esteem, conflict management, substance abuse awareness and prevention, sexual health, financial literacy, gender-based violence and career guidance.

Throughout the camp the facilitators challenged the participants' stereotyping and apathy, steering them towards developing their own unique action plans for addressing key challenges facing their communities.

Ms Antonia Xaba, Chief Director for Rural Development, attended the camp and had an opportunity to share her life story, which focused on the "power of vulnerability". She said, "being vulnerable can offer the opportunity of clarity on one's reality and unlock the opportunity to dream and move from a position of perceived weakness to a position of real strength and courage".

Author of this article, Mr Brighton Shumba (Project Manager for the RFYM project) highlighted the importance of women mentorship: "When we support the growth and empowerment of women and girls, we transform our communities and raise the quality of life for everyone. When women lead, they not only lead their families, they



Presenting their action plans to the rest of the group.

lead in their community; they fight for their children, and they give voice to issues that are crucial to our collective future. Mentoring encourages ambition and builds their confidence”.

Ms Suzzette August, one of the participants from Arniston, Cape Agulhas, expressed her gratitude to the department for organising such an informative camp. “I made some new friends, learnt new things, enjoyed everything and every session was special and inspiring. I am now inspired to do more than what I planned for my community.”

Another participant, Ms Angenathi Mdashe from New Horizons, Plettenberg Bay, shared some of her key lessons with the rest of the group. “Be positive, love yourself, be who you are and don’t change yourself for other people; don’t be judgmental; you should be a helper in your community.”

These observations, and others not recorded, leave one with a sense that this special group of young rural women have left the camp feeling more positive about themselves. They return to their communities

with the belief that they do indeed possess “personal power”. They do not have to be afraid or shy away from “being who they truly are”.

These young women acknowledge that they have a leadership role to play in their local communities and that they fully intend to step into this role by becoming positive role models for their peers. This is evident from the fact that they have developed a “plan of action” to transfer what they have learnt at the camp by way of projects at their schools and other circles of influence within their communities. The group will receive ongoing support in the form of one-on-one mentoring sessions with experienced coaching professionals for a period of three months.

The experience at the RFYM weekend camp has been the proverbial planting of seeds, which will over time, and at the right time, lead to the harvesting of crops aplenty. Sincere appreciation also goes to the facilitators of the camp, Women Lead Movement, who throughout the process were sensitive to the individual context of each participant. **AP**



Teambuilding exercise and enjoying a meal together.



10th International Symposium on the Nutrition of Herbivores

GREENHOUSE GAS EMISSIONS FROM HERBIVORES

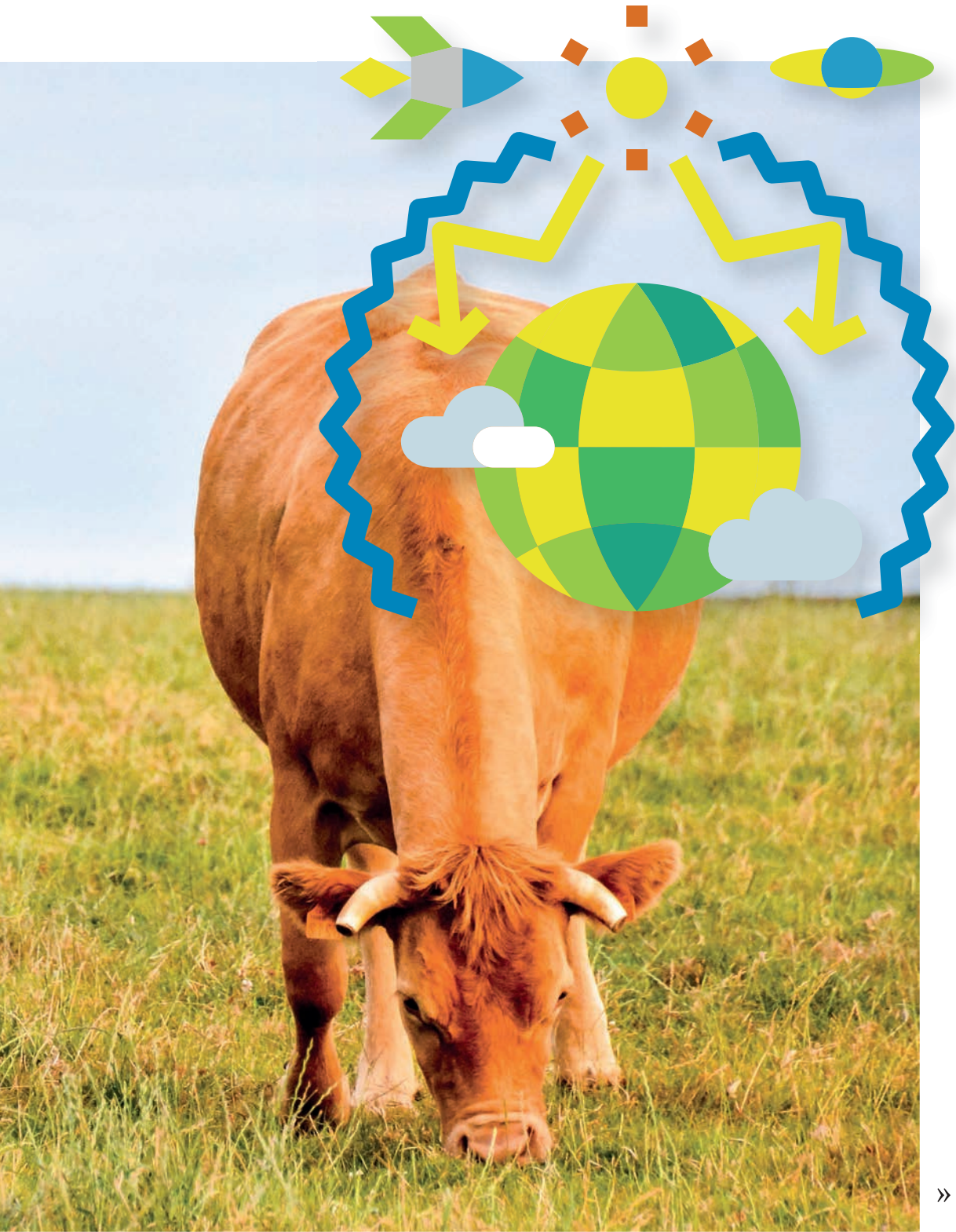
by Chris de Brouwer

The 10th International Symposium on the Nutrition of Herbivores (ISNH) was held in September 2018 in Clermont-Ferrand in France. The hosts were INRA (Institut national de la recherche agronomique), the French public research institute for agricultural science. The symposium was attended by 499 delegates from 46 countries. There were 350 posters on display, 22 keynote speakers presented, and 32 short paper presentations and 67 short oral poster presentations were given.

A visit was paid to the Laqueuille INRA research farm, approximately 45 km from Clermont-Ferrand. Cattle and sheep are grazed on permanent pasture (veld) during the summer and are housed in barns during winter, because of snow. They are fed hay made from the veld during summer.

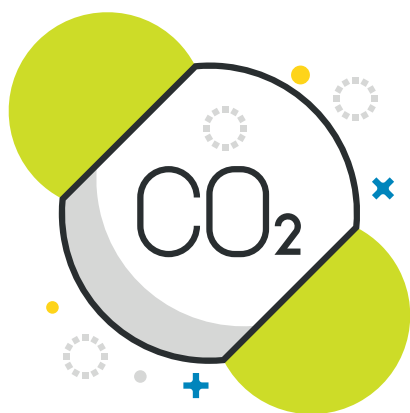
The keynote presentations covered a number of related topics, but the main thrust was addressing the challenge of greenhouse gas (GHG) emissions from ruminants, comprising a large proportion of the herbivore population in animal farming.

Ruminants produce methane (CH_4) through the fermentation processes associated with digestion, i.e. the microbes in the intestine produce the GHG, not the animal per se. The more fibrous feeds give rise to more CH_4 , but it arises from that unique ability to utilise fibre as energy, which no other animal has. To enable microbes to ferment fibre they also need nitrogen (N), usually in the form of crude protein. Crude protein supplementation increases the level of NO_2 , which is a very active GHG.



While concentrates give rise to less CH₄, many concentrate feed sources are often suitable for direct human consumption, e.g. cereal grains. However, large tracts of land around the globe are not suitable for cultivation, but can be utilised by ruminants. While utilising these production-limited resources, ruminants produce high-quality protein from fodder.

“beef cattle are in a positive carbon balance”



A trial was demonstrated at Laqueuille, where it was empirically measured that at recommended stocking rates beef cattle are in a positive carbon balance with more carbon sequestered than what is emitted by digestion. This does not hold true for heavy stocking density where the balance becomes negative due to more emissions than sequestration. This is very important for the rangelands in the Western Cape and in the savannah and grasslands of South Africa as a whole. Intensive systems contribute to GHG emissions in a secondary way through the concentrated waste that is generated. Research must focus on finding the balance between decreasing GHG emissions while using affordable feed sources to produce food for humans.

The global north (North America and Europe) is experiencing a decrease in cattle numbers while the global south (Africa, Latin America, Australia and Asia) is experiencing growth, as demand for animal protein grows with increased population, but also through increased disposable income in sectors previously unable to afford meat.

The extensive ranching areas predominate in the global south and the potential for significant increases in GHG emissions is a reality. Answers need to be found for how to suppress GHG emissions from grazing animals without sacrificing the unique ability of the ruminant herbivore to convert high-fibre feeds into high-quality animal protein. It will need a concerted effort, domestically, regionally and globally, to address the challenge of GHG emissions from livestock farming activities.

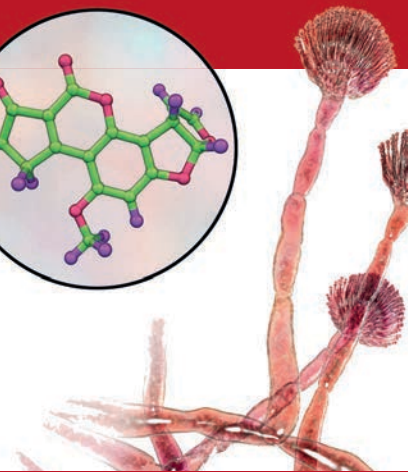
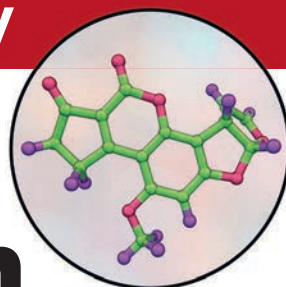
Social responsibility in research is also high on the agenda and demands the ethical management of animals in research, but also on the farm where primary production takes place. Linked to this is the concept of agroecology, where farming should ensure conservation of the environment and retention of biodiversity. While the pursuit of profit remains the main objective in commercial agriculture, it is increasingly tempered by social conscience and the realisation that sustainability is a must and not an option.

A workshop on the INRA feeding system was also presented, which explained the new inclusions in the system since its previous revision in 2007. A great deal of new technology has been introduced to increase accuracy of feed predictions, both from the side of the feed source and the animal making use of the feed. It is a useful tool in assisting ration formulation and for advising farmers on the nutrient requirements of their livestock.

The 11th ISNH is scheduled for Brazil during September 2022. 

Second African Symposium on Mycotoxicology

International collaboration yields results



by Dr Gert van Coller

Mycotoxins are toxic secondary metabolites produced by certain fungi, mostly from the genera *Aspergillus*, *Fusarium* and *Penicillium*. The five most important mycotoxins globally are aflatoxin, ochratoxin, deoxynivalenol (DON), zearalenone (ZEA) and fumonisin (FUM). DON and ZEA are produced by *Fusarium graminearum* and *Fusarium pseudograminearum*, which causes Fusarium head blight (FHB) and Fusarium crown rot (FCR) of wheat (see photos). Mycotoxins accumulate in food and animal feed and can be detrimental to human and animal health. Climate change is expected to result in shifts in mycotoxin-producing fungi and mycotoxin levels in food and feed, with an increase in mycotoxin contamination expected in some regions. According to the BIOMIN Research Centre (Tulln, Austria), the global risk level of mycotoxin contamination has increased over the course of 2016, especially

in the EU, South America, and South Africa.

More people have been affected by the consumption of mycotoxin-contaminated food in Africa than anywhere else. Increasingly effective government regulations and routine monitoring of food supplies have reduced the detrimental effect of mycotoxins in developed countries, but the reality is much bleaker in less-developed countries, where factors like food shortages are a reality.

Mycotoxicoses of farm animals present a further problem to the African continent. Agricultural crops produced in Africa have also been prevented from entering international markets, because of restrictions on mycotoxin levels imposed by regulatory authorities. On this topic, a lack of legislation regarding acceptable levels of mycotoxins exist in most African countries. Until 2016, South Africa only had legislation for acceptable levels of aflatoxins and patulin (a mycotoxin often »

found in apple products), although legislation has since been introduced that limits the amount of DON in maize and wheat, and FUM B1 and B2 in maize.

In an effort to address the threat of mycotoxins for the African continent, the African Mycotoxin Network was established in 2011. This culminated in the 1st African Symposium on Mycotoxicology, held in Zambia in 2015, where the African Society for Mycotoxicology was officially established. Following the success of the first symposium, the 2nd African Symposium on Mycotoxicology was held in June 2018 at the Leisure Lodge Beach and Golf Resort in Mombasa, Kenya, under the auspices of the International Society for Mycotoxicology (ISM). The symposium was attended by delegates from 12 African countries (see photo), as well as from European countries and the USA. The South African delegation

comprised delegates from the Agricultural Research Council (ARC), the Southern African Grain Laboratory, Cape Peninsula University of Technology (CPUT), UNISA, and the universities of North-West, Stellenbosch, Cape Town and Johannesburg. The Western Cape Department of Agriculture was represented by the author of this article, Dr Gert van Coller.

The symposium was organised into six sessions, with a total of 50 papers and 22 posters presented. Session themes included continental and international collaboration on mycotoxin research, monitoring and evaluation of technology uptake in Africa, mycotoxin-detection methods for Africa, mycotoxin management in an African context, occurrence and importance of mycotoxins in African crops, and pre-harvest management. A major issue in Africa centres on affordability and the implementation



Fusarium head blight of wheat.

of control strategies. This was a recurring theme throughout the symposium. In line with this, Dr Van Coller presented a 15-minute oral presentation entitled “Resistance in South African wheat cultivars and test lines to *Fusarium* head blight caused by *F. graminearum* s.s. and *F. pseudograminearum*” in the session, “Mycotoxin Management in an African Context”.

Results of a number of collaborative projects between African and European countries presented at the symposium are testimony to the progress made in addressing the mycotoxin problem in Africa. Indeed, the first keynote lecture presented at the symposium was entitled “Case studies for international collaborations: the key to detect, control and reduce mycotoxins in

the food chain”, delivered by the president of the ISM, Prof. Rudolf Krska from Austria. In line with this, Dr van Coller had fruitful discussions with people like Prof. Krska and Prof. Sarah de Saeger from Ghent University in Belgium on the detection of mycotoxins in stubble used for animal feed.

Budget restraints limited the attendance of the symposium by delegates, especially from African countries, and this will be addressed in future. The symposium provided an excellent opportunity for researchers working with mycotoxins on the African continent to showcase their research, and for delegates to meet and exchange information. The next symposium will be held in Cape Town in 2021. **AP**

Delegates attending the 2nd ASM symposium.

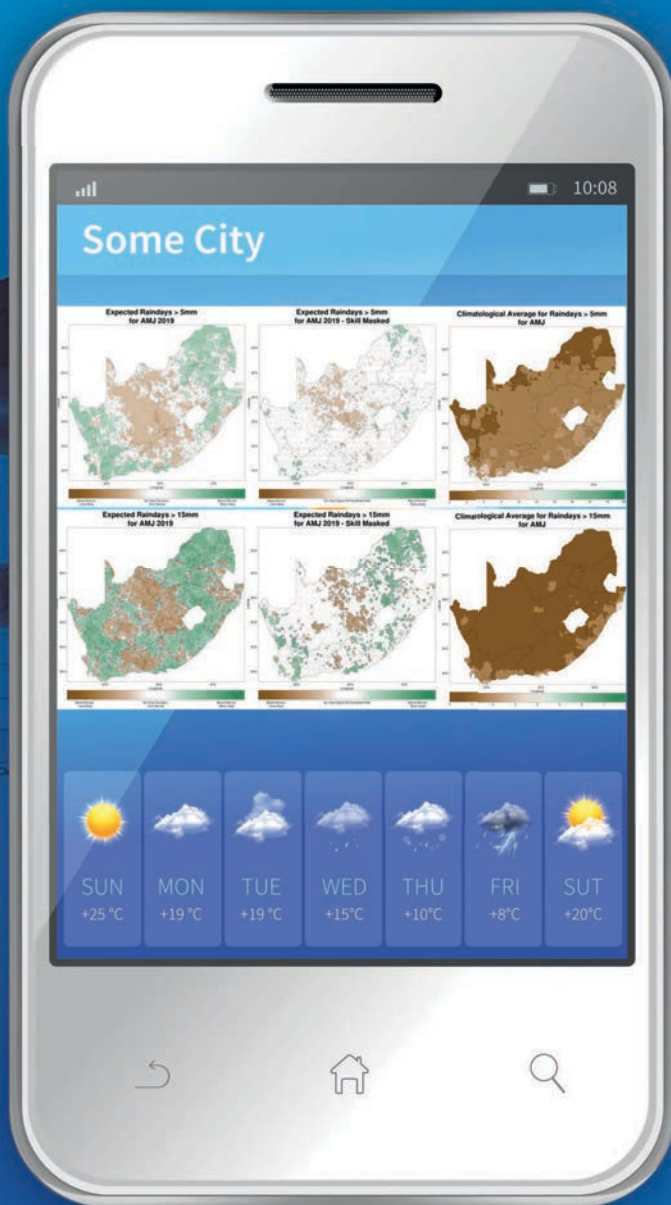


White heads characteristic of FCR of wheat.



Take note of seasonal weather forecasts

by Henk Cerfonteyn



Weather forecasts, especially for short-term periods, have certainly become part of our daily routine, be it for work, recreation, or just general information. Seasonal forecasts on the other hand are seemingly not that familiar, probably due to the fact that some uncertainty exists on the accuracy and therefore the relevancy of these types of forecasts. While seasonal forecasts take on a relatively longer time span, normally 90 days, these forecasts can actually be applied when planning for longer periods. While the benefits of these forecasts are likely to be underestimated, this article approaches the matter by presenting some useful, however, elementary comments on the application of seasonal forecasts.

Apart from issuing weekly forecasts, the South African Weather Service (SAWS) releases monthly updates on seasonal climatic conditions, under the caption Seasonal Climate Watch (SCW) (www.weathersa.co.za).

The content of seasonal forecasts will most probably vary between organisations, though certain issues remain reasonably similar. Seasonal forecasts tend to refer to the El Niño–Southern Oscillation (ENSO), which evidently plays a large role in global forecasts. The current SCW warns that the emerging El Niño conditions during spring could result in below normal rains for the summer rainfall areas of the country.

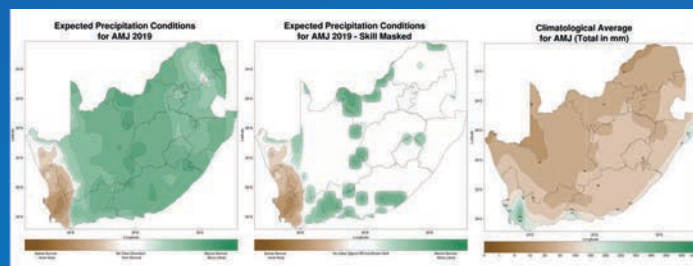
Seasonal forecasts normally take on the form of maps depicting forecasts for the different periods in terms of rainfall and temperatures. The SCW refers to three periods (September–October–November, October–

November–December, and November–December–January), whereby each of these periods is expressed in terms of rain, maximum and minimum temperatures.

It stands to reason that the closest period to the release date will be the most accurate of the three periods. Since seasonal forecasts are released monthly, the subsequent periods move to earlier positions as the months progress, which makes it possible to compare to what extent a particular forecast (period) has changed from a previous one.

Seasonal forecasts can guide farmers in terms of emerging climatic outcomes. While short-term forecasts show what the week has in store in terms of specific measurements (e.g. rain in mm), seasonal forecasts present a longer view of climatic conditions expressed as above or below normal, (i.e. compared to long-term averages). Short-term forecasts can change, therefore to stay updated it is necessary to review short-term forecasts on a routinely, preferably daily, basis. Similarly, seasonal forecasts, which normally take a 90-day period into account, should at the least be reviewed monthly.

The Department of Agriculture, Forestry and Fisheries (DAFF) issues the National Agro-meteorological Committee (NAC) Advisory (Agri-Outlook at www.elsenburg.com) monthly. These advisories contain a brief version of the current SAWS SCW forecast with strategies to mitigate possible agricultural risks. Seasonal forecasting has certainly become part and parcel of agriculture; farmers are therefore encouraged to adopt these forecasts on a more routinely basis. **AP**



April-May-June (AMJ) 2019 seasonal precipitation prediction without skill taken into account (left), as well as skill masked out (middle). Also included is the climatological average for AMJ (right, in mm) calculated over the period 1979-2009.

Source: <http://www.weathersa.co.za/media/data/longrange/gfcsa/scw.pdf>

Impak van droogte OP VELDWEIDING

deur Nelmarie Saayman

Die huidige droogte en die uitdagings van veeboere ten opsigte van veldweiding het die fokus opnuut geplaas op die doelgerigte bestuur van die veld en die belangrikheid daarvan om bewus te wees van wat in die veld gebeur. In 'n neutedop: die impak van droogte is dat die plante hul blare verloor, sommige doodgaan en die veld kaal raak.

Ten einde die impak te verlaag is dit belangrik om ten alle tye goeie veldtoestande te handhaaf. Plantegroeiensamestelling en bedekking, oftewel die veldtoestand, bepaal die weikapasiteit van veld, dus die produktiwiteit en ekonomiese potensiaal van die veld. Dit word weer onder andere beïnvloed deur reënval en die diere wat die veld benut.

Die mens het geen beheer oor die reënval nie, maar wel oor hoe die diere die veld benut.

Diere het 'n invloed op die veld deur hul vertrapping en beweiding. Vertrapping kan voordelig wees deurdat holtes gevorm word wat saad en water kan opvang. Dooie plantmateriaal word in die grond ingetrap wat die koolstofinhoud verhoog, en dit beskerm saailinge teen die natuurelemente, verlaag die

afloopspoed van water en verhoog waterinfiltrasie. Die nadeel is egter dat te veel vertrapping die plante totaal kan vernietig, wat lei tot die ontstaan van kaal grond en erosie wat groeitoestande vir die plante benadeel.

Gereelde intense of té strawwe beweiding kan die bogrondse dele van plante so beskadig dat dit hul hergroei-potensiaal verlaag. Dit het 'n impak op die blare en wortels se hergroei en herstel, want die plant is nou kleiner en het nie voldoende energiereserwes om te blom en saad te vorm nie. Dit veroorsaak dat daar nie saad in die stelsel kom om nuwe plante voort te bring nie.

Plante moet nie te kort gewei word nie; as die groeipunte afgewei is, kan dit nie uitgroei nie en is die produksie baie laag. Die wortelstelsel, wat water en voedingstowwe aan die bogrondse dele moet verskaf, gaan ook agteruit, en daarom is blaarproduksie baie laer.

Tydens 'n droogte, soos met beweiding, vind die minimum groei bo- en ondergronds plaas wanneer die plante hul blare verloor. **Veld wat in 'n goeie toestand was voor 'n droogte, gaan meer ondergrondse reserwes ná**





die droogte beskikbaar hê vir herstel, as wanneer dit in 'n swak toestand was.

Indien die plante te gou na reën beweï word, kry hulle nie kans om wortelreserwes aan te vul nie; gevolglik is herstel swak of die plante kan selfs vrek. Wortels neem langer as die bopgrondse dele om te herstel na beweïding, droogte of 'n brand, en daarom is 'n voljaarrus op 'n gereelde basis nodig.

Sommige plante is aangepas om droogtes te oorleef, soos vygies, met saad wat eers vrygestel word uit die kapsule tydens reën, of eenjarige met langlewende saad (sien foto regs). Die mate waarin plante, wat nie langlewende saad het nie, na 'n droogte gaan herstel, hang grootliks af van die toestand van hul wortelstelsel, wat beïnvloed word deur beweïdingspraktyke voor die droogte. Dit geld veral meerjarige smaaklike plante.

Die impak van droogte kan dus vererger word deur verkeerde of onoordeelkundige veldbestuur. Plante wat te veel of te gereeld beweï word, kan nie droogtes oorleef of herstel na die droogte nie. Dit is omdat ondergrondse reserwes – die wortels – uitgeput word en die

plant self klein gevreet is, met die minimum blare wat nie reserwes van bo kan aanvul nie. Hoe swakker die veldtoestand dus is wanneer jy 'n droogte ingaan, hoe meer plantsterftes gaan daar wees.

'n Goeie veldtoestand is dus belangrik om 'n droogte te kan oorleef, want:

- Wanneer veld reën kry, groei die opslag, eenjarige grasse en vygies eerste. Die meeste meerjarige smaaklike bosse is afhanklik van dié wat die droogte oorleef het om voort te plant en te vermeerder. Hoe beter hulle wortelstelsels is, hoe makliker gaan hulle groei.
- Die eerste saadset na die droogte kan die toekomstige spesiesamestelling van die veld beïnvloed. Hierdie is dus 'n kritiese tyd vir bestuur. Smaaklike spesies moet na die reën geleentheid kry om te blom en saad af te gooi en vir saailinge om te vestig. Die diere moet dus nie té gou terug in die veld nie. Hou dieregetalle laag en rus soveel as moontlik kampe. Dit is hier waar kennis van die veld en goeie veldbestuur van kardinale belang is.



XHOSA SUMMARY

Ukuze sithobe ifuthe lale mbalela, kubalulekile ukuba siwagcine amadlelo ekwimeko entle ngawo onke amaxesha. Ukukhuliswa kwezityalo kunye nokukhuselwa kwazo kunegalelo ekuhlumeni kwefula elihle edlelweni. Kuye kubekho nefuthe eliphenjelelwa kukuna kwemvula kunye nemvuyo edla kwidlelo elo. Abantu banokuyilawula imfuyo edla emadlelweni.

Akufunekanga ukuba izityalo zibhuqwe, xa indima elinyiweyo yezityalo ibhuqiwe, iye ingakwazi ukuphinda ikhule kakuhle ze imveliso ihle kakhulu.

Izityalo ezibhuqiweyo okanye ekuvulelwa impahla yonke imihla kuzo azinakukwazi ukumelana okanye ze ziphinde zikhule emva kwembalela, ngoba amanzi angaphantsi komhlaba ayaphela ze neengcambu zoyisakale sibe nesityalo sibe nokubuna namagqatyana angafumani manzi kulawo afumaneka ezingcanjini. Usala usenamanzi umhlaba wedlelo ebeligcinwe kwimeko entle phambi kwembalela, ze ukhawuleze ukuze uphinde ulunge kunaxa ubukwimeko engagqibelelanga.

Kubalulekile ukuba idlelo libe kwimeko entle ukuze limelane nembalela, ngoba:

- Xa idlelo lifumene imvula, liyahluma, ingca ivela nezithole ziyantshula. Uninzi lwezinye izityalo ezikhula kade nezinencasa zixhomekeke kwezi sele zimilile ukuze zande. Ubungcono bempilo kwiingcambu, kukukhula ngokulula nangcono.
- Imbewu yokuqala emva kwembalela inganegalelo enali kwezinye izityalo. Eli lixesha elibalulekileyo lokuba lokusebenze ngokufanelekileyo. Emva kwemvula, kufuneka izityalo ezinencasa zidubule ze kuhlwayelwe ze izithole zihlume. Akufuneki mpahla izakukhawuleza ingene idle edlelweni. Wugcine liphantsi inani lomhlambi wakho ukuze iinkampi zakho ke zilale ze zifumane ixesha lokukhula. Oku kokona kubaluleka kukhulu kulwazi ngamadlelo kwakunye nolawulo ngendlela efanelekileyo. **AP**

Using food gardens to **HELP A TROUBLED COMMUNITY**

by Heather D'Alton, heather@lovegreen.co.za
(commissioned by the Directorate LandCare, Western Cape Department of Agriculture)



Members of the Avian Park Garden Club,
from l.r. Gert Carolus, Martha Jaftha,
Chris Arendse and Sophia Williams.



Avian Park in Worcester has been hitting the headlines for all the wrong reasons. This suburb in the Cape Winelands region has become the centre point for a gang war – a war that has already claimed many lives and is blamed on poverty and social ills.

In the midst of the violence, a group of brave gardeners has emerged. These Avian Park inhabitants are not only trying to improve their own income and health, they are also serving the Avian Park community through their delicious, organic fresh produce.

According to Martha Jaftha, gardener at the Mossie Street garden, “We are not used to gangsterism. We are scared. But we keep going with the good things and we don’t let it bring us down.”

The launch of a garden club

Martha is one of the 14 original members of the Avian Park Garden Club, and one of hundreds of gardeners from the region who started a food garden with support from the Western Cape Department of Agriculture’s LandCare division.

“People don’t have money to buy vegetables. So they started planting vegetables in their backyards,” says Gert Carolus, Chair of the club. Gert,

who worked for LandCare in the Cape Winelands before he retired, played a key role in setting up around 80 urban food gardens in Avian Park and the broader Worcester.

In fact, the food garden project led by the LandCare team was so successful that in 2015, occupational therapy students from the Stellenbosch University became involved. They helped to form the Avian Park Garden Club, a platform where community members can come together to share knowledge and gardening ideas.

Using herbs to treat ailments

Today the club has grown to 34 members. They meet once a quarter for discussions, or to attend LandCare-organised training events.

Martha says, “We have grown so much; we exchange ideas when we see one another. And now people come to me when they have pain, to get herbs (for ailments). You can see that people are healthier – there is a big difference, and it’s uplifting for me.”

Moreover, the selling of the vegetables and herbs secures an additional income for members. One member is now able to pay for her child to be transported safely to school daily.



Vegetables that are not sold or used for home consumption are given away to soup kitchens in Avian Park and surrounds. Twice a week these soup kitchens provide much-needed fresh produce to more than 300 children. The Stellenbosch students provide skills to the soup kitchen staff to prepare healthy meals.

The award-winning Ukwanda garden

At the heart of the Avian Park Garden Club lies the Ukwanda vegetable garden (a Stellenbosch University-funded garden). The garden is overseen by 52-year old gardener Chris Arendse (also vice-chair of the Avian Park Garden Club). Next door is the Ukwanda soup kitchen, which provides food to around 150 children from Chris's garden.

Chris, who grew up in the Northern Cape, has lived in Avian Park for the past 20 years. "The (gang) violence is on my side (of Avian Park)," he says. But Chris stays motivated by working in either the Ukwanda garden or his own 5 m by 6 m garden at home.

He recently won the Avian Park Garden Club prize for the best large garden – a competition supported by LandCare. "I was

"Martha says, "We have grown so much; we exchange ideas when we see one another. And now people come to me when they have pain, to get herbs (for ailments). You can see that people are healthier – there is a big difference, and it's uplifting for me."

motivated when I saw Gert's garden, so I put a lot of effort in. I started mulching and made my own compost. It was such an honour when I won."

Encouraging living soil

For Rudolph Röscher, Cape Winelands LandCare Manager, it made sense to get involved in an urban food garden project.





Sarie Karelse with children from the Wysneusies Crèche in Worcester, she is responsible for food preparation at the crèche.

“We get people to talk about soil health and healthy lifestyles. It creates an awareness in their communities.”

Living soils are especially important for the LandCare team. And the Garden Club is now focused on farming organically. Members make their own compost, with support from commercial farmers who provide manure. They use ingredients such as garlic and other herbs to get rid of garden pests.

Martha says, “We have moved away from fertilisers, and now use only compost. Last year I could see my soil wasn’t as it should be. This year I want all my earthworms back in my soil, so that the soil can come alive. One sees only good harvests when using this compost.”

Supporting children caught up in crime

Martha’s Mossie Street garden is also a site where young people who have committed crimes can complete their community service. The garden hosts six or more young people at a time, including school children who have been caught up in gangsterism. “The children know nothing about gardening,

and we try to rehabilitate them using soil and plants, so that when their community service is completed, they can make their own gardens.”

The club joins a ground-breaking project

LandCare is now connecting members of the garden club to an innovative new mobile application, developed and piloted by the Environmental Learning Research Centre at Rhodes University. This app is a platform from which to sell fresh produce, as it connects growers to food buyers, creating a new market for the club’s members. It is now being trialled in various parts of South Africa, including Worcester.

Mossie Street, Ukwanda and the food gardens in Avian Park highlight the joy and satisfaction that can emerge from a challenging environment. But Gert says members must work hard to see the results – which means getting up early and taking care of your garden. “We want people to join the club, so that they will be helped more. Now my wish is that this project will extend to other areas.” **AP**



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Recent investment trends in Western Cape agriculture

Tshepo Morokong & Andrew Partridge

Recent investment trends in Western Cape agriculture

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Introduction

Investment in agriculture has the potential to improve infrastructure, promote agricultural research, technology dissemination and adaptation, unlock market access, and allow for the expansion of land under sustainable management (NEPAD, 2003). With the estimated world population to grow to 10 billion in 2050 and income growth in low and middle-income countries (FAO, 2017), it is inevitable that the overall demand for agricultural products will increase as well as the per capita intake of lucrative agricultural products such as meat, fruits, and vegetable products. Agricultural investment and technological innovation are key to increasing productivity in a sector where the resources needed for production are finite and increasingly scarce (FAO, 2017). However, a conducive business environment characterised by low interest rates, political stability and strong institutions can positively influence investor psychology.

Investment in agriculture is a shared vision that led to the Malabo declaration. Under the declaration, African heads of state have

recommitted themselves to the improvement of investment finance by committing 10% of national spending to agriculture (NEPAD, 2014). However, since South Africa is also a party to the declaration, it is important to assess the current state of investment in agriculture both locally and abroad. This report is an overview of a larger study done at the Western Cape Department of Agriculture (WCDoA) (Partridge & Morokong, 2019), which attempts to do just that, by looking at global investment trends, then concluding with trends at domestic and provincial level.

Global investment trends

The total global foreign direct investment (FDI) flows show upward and downward cycles during the period 1996 to 2017, but the general trend has a real increase over time. In 2016, the most recent date for which data is available, the total FDI flows totalled almost US\$2 trillion. This is significantly up from 1996 when the total amount, converted to 2016 prices in order to remove the effect of inflation, came to only R0,6 trillion (FAO, 2018).

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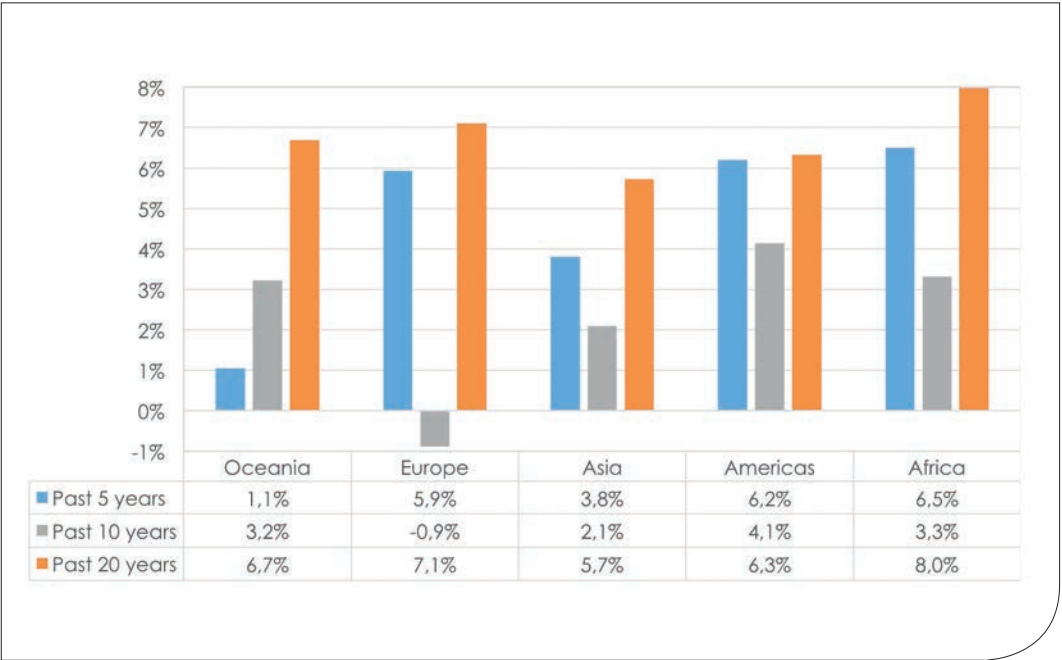
Africa is the destination for only 3% of this total global FDI, however it has recorded the strongest regional growth globally over the past twenty years. This can be seen in Figure 1 below, which shows the regional real annual growth of 8% for the period 1996 to 2016. This is the highest for the past 20 years and recent 5 years, and after the Americas in terms of the past 10 years.

Although Africa is only the source of a much smaller share of global FDI outflows (less than 1%), the continent has shown impressive growth. This has been particularly so for the past five years where FDI outflows have on average increased in real terms by 23% per annum. Figure 2 shows signs of increasing wealth on the continent and this is a promising sign for the future.

FDI inflows for agriculture, forestry and fishing showed steady real growth until 2007 when, after a large increase from the previous year, it dropped sharply and continued to fall in real terms until 2015. This decline led to a decline in the share of global FDI inflows going to agriculture from 0,56% in 2007 to 0,09% in 2016. While this share is low it is still a significant sum of investment of almost US\$2 billion (FAO, 2018).

Global FDI flows into food, beverages and tobacco (FBT) have historically been significantly higher than for agriculture, forestry and fishing, but also more volatile. This was particularly evident between 2008 and 2014, when FDI inflows fluctuated frequently between a 2016 price equivalent minimum of US\$8,7 billion (2009) and maximum of

Figure 1: FDI inflow performance by continent: 5-, 10- and 20-year real annum growth rates 2016



Data source: FAO, 2018

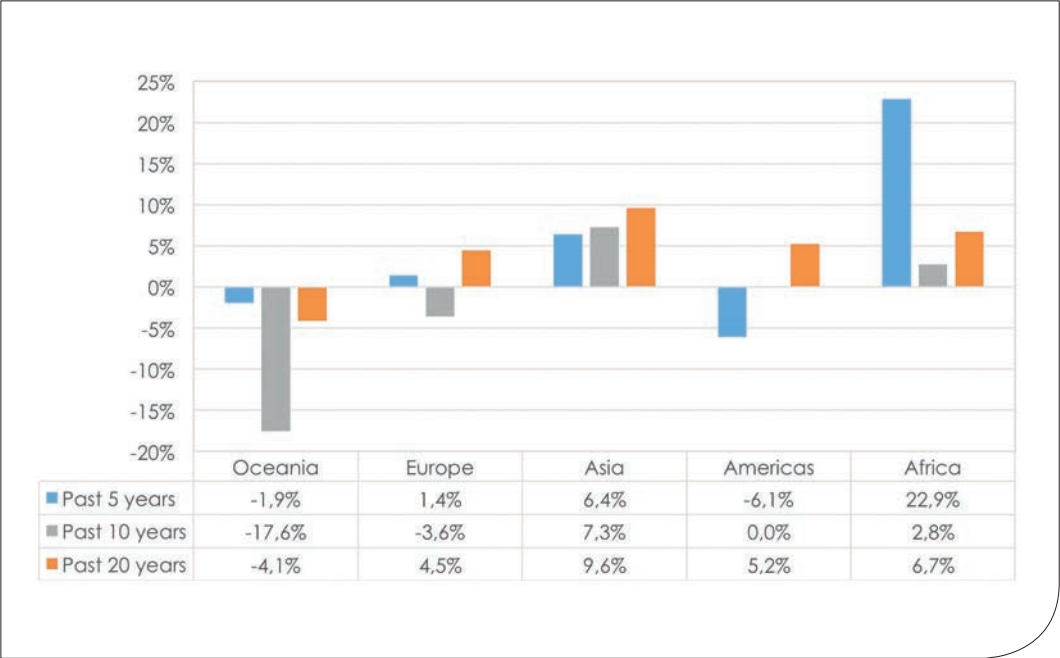
US\$53,9 billion. In 2016, total FDI inflows for FBT totalled US\$29,5 billion (FAO, 2018).

It is clear that FDI has been on the rise, with Africa being a small, but rising investee and investor. Agriculturally-related FDI flows make up a small share of total global flows, but remain significant, particularly given expected demand pressures to feed a growing population. This is especially relevant for Africa, where an estimated 60% of the world's uncultivated arable land is located (MGI, 2010). It is also estimated that the population will grow by an additional three billion people over the next century (UN, 2018).

Domestic investment trends

In this section, gross fixed capital formation (GFCF) is used as a proxy to measure investment. This is shown nationally for South Africa in Figure 3, with nominal values converted to real values using average consumer prices (Quantec, 2018). In this regard investment in South Africa has shown a steady real increase over the past decade, increasing from R780 billion in 2007 as measured in 2017 prices (nominal = R436 billion) to R870 billion in 2017. This is a real increase of 1,1% per annum, meaning an increase of 1,1% per annum on top of inflation (nominal increase = 7,16% per annum).

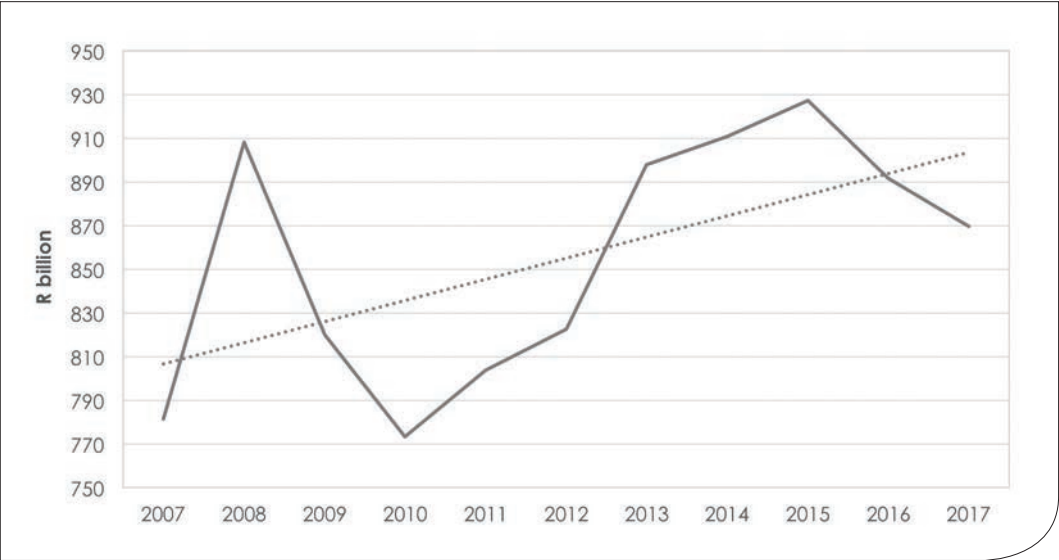
Figure 2: FDI outflow performance by continent: 5-, 10- and 20- year real annual growth rates 2016



Data source: FAO, 2018



Figure 3: Real investment (GFCF) in South Africa (2017 prices), 2007-2017



Data source: Quantec, 2018

Table 1: Provincial breakdown of total investment trends, 2007-2017

	GFCF (Rm): 2017		Average real GFCF (Rm, 2017 prices): 2007-2017		Real annual growth: 2007-2017
Western Cape	108 371	12%	109 474	13%	-0,15%
Eastern Cape	59 849	7%	58 370	7%	0,56%
Northern Cape	20 497	2%	20 172	2%	1,98%
Free State	46 433	5%	45 852	5%	0,67%
KwaZulu-Natal	142 987	16%	141 058	16%	0,94%
North West	60 417	7%	60 518	7%	2,20%
Gauteng	283 113	33%	279 390	33%	0,80%
Mpumalanga	79 978	9%	74 363	9%	2,49%
Limpopo	67 834	8%	65 838	8%	2,76%
Total	869 479	100%	855 035	100%	1,07%

Data source: Quantec, 2018

As per the provincial breakdown of investment in Table 1, approximately a third of investments are attributed to Gauteng. The next biggest provincial recipients of investment are KwaZulu-Natal (16%) and the Western Cape (13%). To account for possible short-term fluctuations, 2017 figures are provided alongside the average annual amounts over the past 10 years in real 2017 prices. All provinces showed an increasing trend in investment, the only exception being the Western Cape, where investment fell marginally in real terms.

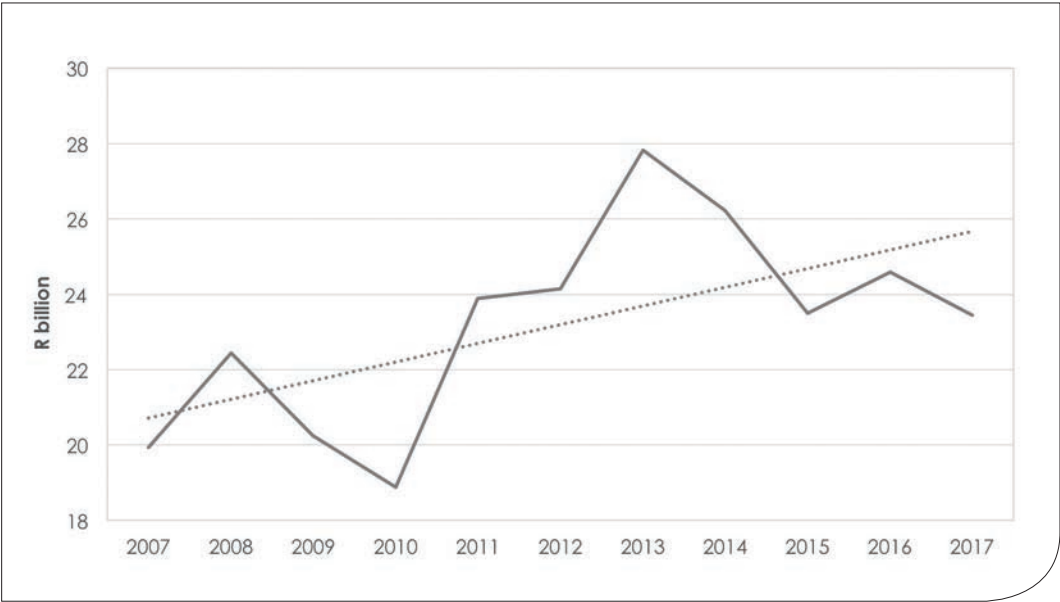
Investments in agriculture, forestry and fishing, displayed in Figure 4, followed the overall upward investment trend previously observed for the whole economy. Overall national investments in the sector increased at a real annual rate of 1,7%, from R20 billion in 2007 (2017 prices) to R23 billion in 2017. It

should be noted, however, that this is despite a real drop in investment since 2013 where investment totalled R28 billion in 2017 prices (nominal = R18 billion).

As was the case for the total investment, all provinces apart from the Western Cape, saw an average real increase in investment in the agriculture, forestry and fishing sectors. Despite the real decline, the Western Cape remains the second biggest recipient of investment in the sector accounting for 17% in 2017 and 20% over the past decade. This is second only to KwaZulu-Natal, which made up 26% of investment in the sector between 2007 and 2017, as shown in Table 2.

National investment in the FBT sector has been declining in real terms over the past decade. This declining trend is depicted graphically in Figure 5. In 2007 investment totalled R31 billion in 2017 prices, but this has

Figure 4: Real investment (GFCF) in agriculture, forestry and fishing (2017 prices), 2007-2017



Data source: Quantec, 2018

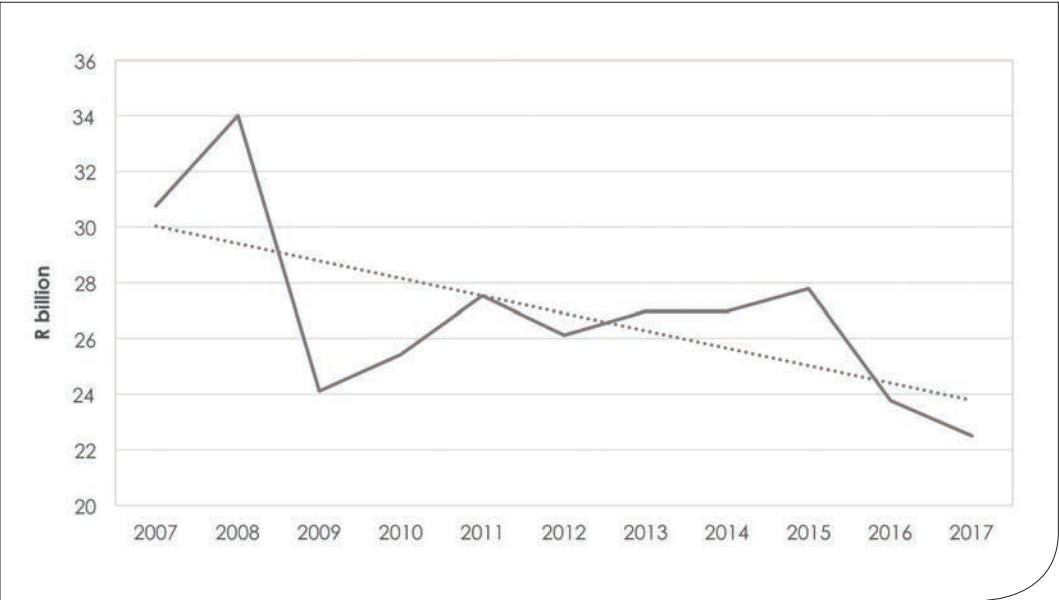
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Table 2: Provincial breakdown of agriculture, forestry and fishing investment, 2007–2017

	GFCF (Rm): 2017		Average real GFCF (Rm, 2017 prices): 2007–2017		Real annual growth: 2007–2017
Western Cape	4 089	17%	4 669	20%	-1,07%
Eastern Cape	1 300	6%	1 246	5%	2,12%
Northern Cape	1 814	8%	1 664	7%	2,77%
Free State	2 334	10%	2 480	11%	1,42%
KwaZulu-Natal	6 367	27%	6 042	26%	2,58%
North West	1 684	7%	1 651	7%	1,56%
Gauteng	1 529	7%	1 513	7%	1,61%
Mpumalanga	2 249	10%	2 047	9%	3,05%
Limpopo	2 079	9%	1 882	8%	2,78%
Total	23 445	100%	23 194	100%	1,63%

Data source: Quantec, 2018

Figure 5: Real investment (GFCF) in food, beverage and tobacco (2017 prices), 2007–2017



Data source: Quantec, 2018

Table 3: Provincial breakdown of FBT investment, 2007–2017

	GFCF (Rm): 2017		Average real GFCF (Rm, 2017 prices): 2007–2017		Real annual growth: 2007–2017
Western Cape	4 509	20%	5 552	21%	–3,71%
Eastern Cape	1 779	8%	2 107	8%	–2,88%
Northern Cape	181	1%	222	1%	–2,75%
Free State	1 188	5%	1 539	6%	–5,87%
KwaZulu-Natal	4 712	21%	5 400	20%	–2,21%
North West	889	4%	1 055	4%	–2,09%
Gauteng	7 460	33%	8 799	33%	–2,69%
Mpumalanga	1 242	6%	1 604	6%	–4,48%
Limpopo	543	2%	628	2%	–1,41%
Total	22 503	100%	26 907	100%	–3,08%

Data source: Quantec, 2018

fallen to R23 billion in 2017. This amounts to an average real decline of more than 3% per annum.

All provinces, listed in Table 3 above, had a real decline in annual investment in the FBT sector between 2007 and 2017. This was particularly the case for the Free State and Mpumalanga where investment decreased at average annual rates of 5,9% and 4,5% respectively. Most investment in this sector happened in Gauteng (33%), followed by the Western Cape (21%) and KwaZulu-Natal (20%).

Looking in more detail at investment in the Western Cape’s agriculture, forestry and fishing sectors, there was a large real decrease in investments for information and communication. Investment in machinery was the one area that increased in real terms in the sector with an average annual increase

of 3,6% per annum (Quantec, 2018).

In the FBT sector the drop in investment was driven mainly by a decline in machinery investments, which accounts for the bulk of investments (62%) in this particular sector (Quantec, 2018). There was a real increase at an average rate of 2,5% in investments in building and constructions between 2007 and 2017.

Overall, there are promising signs at national level, from an aggregate perspective and for the agriculture, forestry and fishing sectors. There has been a worryingly significant decline in investment in the FBT sector. The Western Cape performed generally poorer than the rest of the country in terms of investment growth across the sectors analysed. However, the province remains prominent in investment in all the sectors.



Conclusion

Globally there has been a real rise in FDI in recent years with significant long-term fluctuations around a steady upward trend. There is also evidence of Africa's rise in the investment world, both as an investor and an investee.

Domestically there is evidence of a real increase in investment in the South African economy and in particular in the agriculture, forestry and fishing sectors. This increase was not felt evenly geographically, with the Western Cape showing a real decline in both overall investment and in the agricultural, forestry and fishing sectors. All provinces

experienced a real decline in investment going into the FBT sector.

Despite the decline in investments for the Western Cape, it should be noted that the province still brings in a substantial amount of investment. Over the past decade, 21% of total investment has been within the province and has accounted for 20% of investment in the agriculture, forestry and fishing sectors and 21% in the FBT sector. **AP**

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Luister elke Vrydagmiddag om 12:45 na Die Kwik Styg op RSG waar kenners gesels oor klimaatsverandering.



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