

Mondstuk van die Suid-Afrikaanse aartappelbedryf • Mouthpiece of the South African potato industry

# CHIPS

VOL 35 NO 04 • JULY / AUGUST 2021

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MANAGEMENT: TOLERANCE TO  
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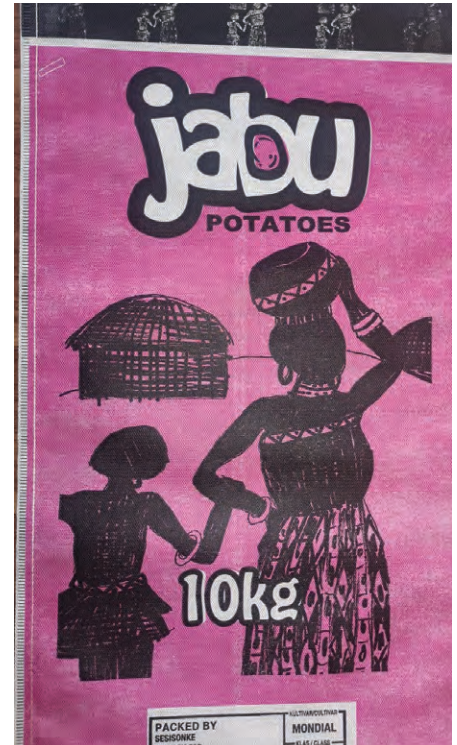
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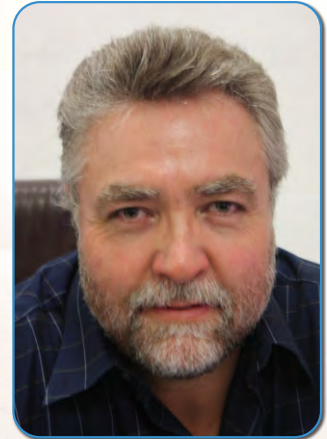
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# Uniting to face challenges head-on

By Willie Jacobs, CEO of Potatoes SA



*Dear potato family, as promised in my previous letters, I have embarked on a journey of sharing topical, trending and sometimes downright uncomfortable issues as we journey together to advance the potato industry. After all, what is a family without transparency, especially regarding matters that pound in the hearts of our beloved potato producers?*

I have since undertaken many site visits across our country to witness the realities of potato production. From face-to-face and virtual meetings, research and initiatives such as Potatoes South Africa's (PSA) inaugural State of the Potato Industry Address (SOPIA) held in May, certain topical issues resound.

Potato producers, the media and industry stakeholders want to know what effect the weather will have on 2021 plantings. Decreased production, higher prices versus lower yields, and the effect on profitability and survival of certain farms, are topical issues that continue to land on my desk.

## Climate conditions in 2021

The Eastern and Western Free State regions are currently harvesting the bulk of our potato yield. The excessive rainfall experienced at the beginning of the year not only had a negative effect on quality, but also on yields. This is the main reason for the relatively low volumes of potatoes available since the beginning of May.

The market price for potatoes obviously reacted to the lower

volumes. However, record potato volumes were marketed earlier this year. The higher prices, especially since the middle of April, do not mean that farmers are now making a profit. Some producers experienced severe rain damage and realised very low yields as a result. Higher prices do not make up for lower yields. We may see some farmers leaving the industry.

## Then and now

Having just crossed the halfway mark of 2021, it is important to reflect on what happened last year – and to shed light on where we are now. In 2020, approximately 570 producers from 16 production regions planted potatoes on approximately 51 000 ha, producing a total crop of 2.6 million tonnes, and delivering 263 million 10 kg pockets of potatoes.

From January to mid-June this year, approximately 1.4 million bags more were sold than during the same period a year ago. According to PSA's *Production and Marketing Report*, record volumes were sold during January, February and April 2021. These volumes

initially coincided with very erratic prices, especially during January and February. Since then, price fluctuation started levelling off.

This was followed by gradually rising prices, mostly as the market started to discover that stock levels were decreasing. As already indicated, the reality is that higher prices do not necessarily make up for lower yields and the accumulative knock-on effects some farmers thus far had to face, especially since the start of the Covid-19 pandemic.

In his last address since penning this letter, president Ramaphosa announced that Level 4 lockdown regulations would apply for at least part of July. South Africa is undisputedly deep in the throngs of the third wave of the pandemic. This will no doubt affect various sectors, including the potato industry.

Meanwhile, we will keep our ear to the ground and liaise with stakeholders to give a voice to our producers, even at a time like this. We're digging in deep and anchoring strong, come what may. 🍌



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# Resilience is the name of the game

**N**umerous times over the past number of years, we have heard media statements commenting on the resilience of agriculture in South Africa. These statements are based on a number of aspects, among which the fact that producers in our country are pretty much left to their own devices, with little to no support from government, and having to combat challenges ranging from climate conditions to land issues and a lack of support structures.

While this may ring true to a large extent, South Africa has been blessed with strong commodity and producer organisations that have always put the interests of their members, the producers, first. In the case of Potatoes SA (PSA), this does not only reflect in the organisation's ability to represent its members' interests at high level – it mostly shines through in the way in which technical information transfer takes place.

## A dynamic industry indeed

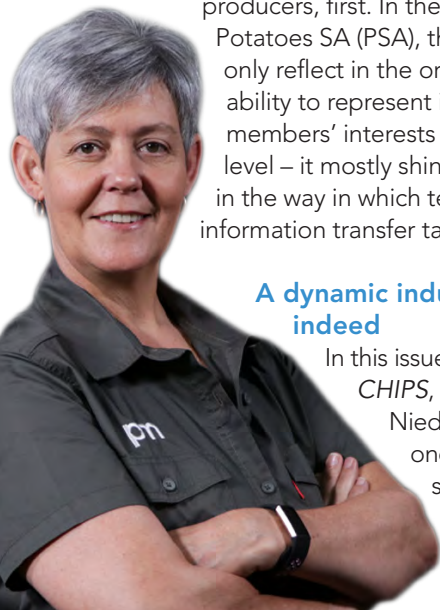
In this issue of *CHIPS*, Dr Fienie Niederwieser once again shines the spotlight on how important research

is for continued potato production. This time, she refers specifically to cultivar trials and their ultimate goal, namely, to provide potato producers with well researched information and data regarding the most suitable potato cultivars for their unique areas and conditions. This of course ties in with the ultimate aim of all producers in South Africa, namely, to produce sustainably and profitably, and ensure food security.

Working through this issue and especially after working on Dr Niederwieser's, I was once again reminded of how dynamic our agricultural industry truly is. And that the word 'resilience' describes the entire industry and not only the producers. Not a single cog in the wheel has ever stopped turning, despite the challenges and hurdles alluded to earlier in this piece. And even more praiseworthy is the way in which each and every role-player fulfils his or her task – with passion and dedication for the greater good.

Enjoy this issue of *CHIPS*, which once again shows how an industry can come together to make many things possible – from sound, scientifically based potato production to true transformation and empowerment. The take-home message is one that has been quoted countless times before, but it never gets old – the whole is always greater than the sum of its parts.

*Lynette Louw, editor  
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## To subscribe

CHIPS is the official magazine of Potatoes South Africa. It aims to address issues that are relevant to the potato industry. To subscribe, please contact Beauty Mthombeni on 064 890 6941 or email beauty@plaasmedia.co.za. Subscriptions are free.



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## Pakistan to produce more local potato seed

The Pakistan Agricultural Research Council (PARC) has produced 150 000 nuclear potato tubers that may help in producing over 50 000 tons of certified seed for maximising output of the crop in Pakistan. The milestone was achieved through commercialisation of potato tissue culture technology.

The availability of healthy and disease-free seed has been recognised as a single major constraint limiting potato production in the country, PARC said. According to the council, Pakistan has the capacity to produce good quality potatoes and is presently producing less than 1% of the total seed requirement of 415 000 metric tons.

A total of 5 211 metric tons of seed was imported annually from Holland and other countries, and almost \$400 million was being invested in these imports each year. – *Urdu Point*

## McCain Foods to help limit global warming

McCain Foods is committed to cutting greenhouse gas emissions in half across all its global operations by the end of the decade. Consistent with its Global Sustainability Strategy and pledge to produce planet-friendly food, McCain Foods made the commitment with the release of its first sustainability report last year.

With the recent launch of the McCain Foods 2020 Global Sustainability Report Summary, it has announced that its emission reduction plan and targets have been approved by the Science Based Targets initiative. The company's commitment to implement regenerative agricultural practices across 100% of its potato production, will help cut its farming emissions by 25%.

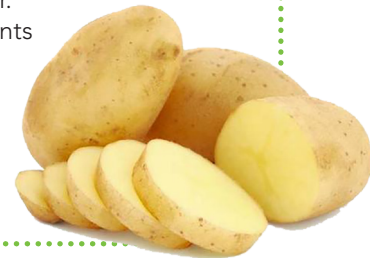
The solar farm and biogas digester McCain is building at its production facility in Australia will yield a 39% reduction in energy and reduce carbon emissions by 27 000 tons a year. – *Potato Pro*

## Virtual Europatat Congress a success

The European potato community gathered virtually for the Europatat Congress 2021, under the slogan 'Stay connected – New strategies for the potato sector'. The annual event organised by Europatat focussed on the possibilities and challenges that digitalisation can offer companies of all sizes in the sector.

Opening the digital event, Gilles Fontaine, president of Europatat, emphasised: "This year's virtual edition demonstrates our sector's resilience against unexpected changes. Our annual event is an excellent opportunity to explore how to make the most of digitalisation in the potato sector."

With more than 100 participants from over 25 different European and non-European countries, the Europatat Congress 2021 has received extremely positive feedback. – *Europatat Congress*



## European grocery store implements AI tech

The Covid-19 pandemic and its disrupting effect on the retail sector has accelerated in-store technology trends. The latest emerging trend aims to find solutions to distinguish between fresh produce that tends to perish fast.

Relevance of such in-store solutions is also increasing in Europe, but basic artificial intelligence (AI) systems are not always designed for such fine distinctions. PIXEVIA – a store automation technology provider whose product recognition system now powers Europe's first cashier-less grocery store – is one of the pioneers in this field.

According to Mindaugas Eglinskas, CEO of PIXEVIA, the system issues discounts by analysing the data pertaining to the previous consumption trends as well as weather patterns. This way, the in-stock goods are kept fresh and safe to consume, and sustainable consumption is secured. – *Fresh Plaza*

## Evolution of Irish potato famine pathogen traced

Researchers from North Carolina State University (NC State) continue to track the evolution of different strains of *Phytophthora infestans* (*P. infestans*), the plant pathogen that caused the Irish potato famine, or late-blight disease, in the 1840s.

NC State plant pathologists studied the genomes of about 140 pathogen samples – historic and modern – from 37 countries on six continents to track the evolution of different strains of *P. infestans*. The study showed that the historic lineage called FAM-1 was found in nearly 73% of the samples and was found on all six continents.

In 1843, FAM-1 caused potato blight outbreaks in the United States, and two years later in Great Britain and Ireland. It was also found in historic samples from Colombia, suggesting a South American origin. – *International Service for the Acquisition of Agri-biotech Applications (ISAAA)*

## Scottish farmers rethink virus control in seed crops

Trials are underway in Aberdeenshire, Scotland, aimed at rethinking the approaches growers take to control viruses in seed potato crops. Changes in crop management are going to be needed as the number of pesticides available is reduced ever further.

Scotland's Rural College, in collaboration with Science and Advice for Scottish Agriculture, is looking at new approaches to reducing aphid-borne virus transmission. These trials include the use of a wheat-straw mulch spread over the soil surface after planting. This has been shown to distract the aphids and they move on elsewhere, away from the susceptible potato crop.

Intercropping, using vetch planted between the drills, was also trialled as evidence shows that if aphids land on other plants before potatoes, they can be cleaned of viruses and therefore the spread is reduced.

– *The Scottish Farmer*

## US potato imports continue to increase

Strong demand for potatoes and potato products, as well as tight domestic supplies in the United States (US) continued to drive increases in imports for the July to June marketing year. From July 2020 to March 2021, total imports were up 9%, led by an 18% increase in chips and a 15% increase in dehydrated potatoes.

The two largest categories, frozen and fresh potatoes, are up 9% and 5% respectively, while seed potato imports are up with 14%. The leading supplier of frozen products, Canada – with 86% market share – is up 8%.

The next largest supplier, the European Union (EU) with 11% market share, is up 10%. The EU suppliers include Belgium (up 19%), the Netherlands (up 2%), Germany (up 18%), France (up 131%) and Italy (up 79%).

– *Potatoes USA*

## Spud turns sports nutrition product

Sport Spuds is a new woman-owned business founded by United States (US) endurance athlete, entrepreneur, and professional violinist, Alison James. Boasting the 'power of the potato', Sport Spuds and its first-of-its-kind organic sports nutrition product line mark the realisation of a dream of twelve years.

It seems only fitting for an avid marathon runner that James had an epic race to the finish line to launch her company. At the heart of her product line is a potato in a pouch, providing long-chain carbohydrates that burn slowly – giving endurance athletes the energy needed to complete virtually any race.

While it is now only available for purchase online at [www.SportSpuds.com](http://www.SportSpuds.com),

a growing number of running stores and bike shops across the US are already getting on-board with this innovative product. Their clientele of marathon runners and distance cyclists are among the first to embrace Sport Spuds. – *Patch*



## Strong financial results for Omnia

Omnia Holdings Limited (Omnia), announced a strong performance for the 2021 financial year, despite the impact of Covid-19. Omnia's CEO, Seelan Gobalsamy, commented: "These results reflect a resilient performance achieved through continued delivery of our strategy in a challenging and dynamic environment, which required decisive management action and agility."

In October 2020, Omnia entered into an agreement with European Crops Products 2 S.A.R.L. (ECP) to dispose of its investment in Oro Agri for a consideration of US\$146.9 million. The effective date of the sale was 7 January 2021. Oro Agri has been accounted for as a discontinued operation.

Group revenue from continuing operations was stable at R17.8 billion, while operating profit from continuing operations rose by 61% to R1.2 billion, largely driven by a solid performance from the agricultural division. – *Press release, Omnia*

## Duties for potato imports imposed on Kenyan producers

Fast-food franchises operating in Kenya have been slapped with a 30% duty on imports of potatoes used to make French fries, a move that will significantly raise the cost of the end product. Major fast-food joints rely on imports from as far as Egypt and South Africa, as most locally grown products do not meet the required standards.

Treasury cabinet secretary, Ukur Yatani, introduced the duty that will apply to crops coming from outside the East African Community, arguing that it's meant to safeguard producers. The need to produce the required potato variety for chips in Kenya has been growing.

Kenya has been relying on imports of certified tubers to meet the growing demand for clean seeds for potato producers, with the view to boost production of the country's second most popular staple food. – *Business Daily Africa*



# Oos-Vrystaatse dorpie gons tydens sestiende aartappelgholfdag

Deur Santa Bronkhorst, Aartappels Suid-Afrika-streeksekretaresse, Oos-Vrystaat

**D**ie jaarlikse Petrus Steyn Aartappelgholfdag het op 14 Mei 2021 weer by JH Malherbe Primêre Skool plaasgevind. Tagtig gholfspelers, waaronder aartappelprodusente van die Oos-Vrystaat, markagente en insetverskaffers (kunsmis- en gewasbeskermingsprodukte asook moerhandelaars) het in 'n lekker gees teen mekaar meegeding.

Daar was groot opgewondenheid onder die deelnemers toe die eerste afslaan in die vierbal met 'n American Scramble- en bestebalkompetisie deur die spanne van Vrystaat Petroleum, gevolg deur Subtropico en die ouditeursfirma Enslins, afgeskop is. Die aartappelgholfdag is vanjaar vir die sestiende agtereenvolgende jaar met groot sukses aangebied.

Die trofee vir naaste aan die pen is aan Ernest Stark van BASF toegeken, en die verste



Aartappels SA se span bestaande uit (van links) Willie Jacobs, hoof uitvoerende beampte van ASA, Bartho Smith, Johan van Rooyen en Wessel du Randt.

dryf is deur Evert Bean van RSA Group gewen. John Mentz, 'n aartappelprodusent van die omgewing en CJ van Vuuren van Willards, het onderskeidelik 'n kruie en 'n blesbok met lootjieverkope gewen.

Die Omnia-span het vanjaar met die wisseltrofee weggestap en die Subtropico-span was in die tweede plek. Aartappels Suid-Afrika (ASA) se span bestaande uit Willie Jacobs, Wessel du Randt, Johan van Rooyen en Bartho Smith, het onder meer van die beste voorgeë gelewer.

## 'n Woord van dank aan rolspelers

Tydens die prysuitdelingsereemonie het Willie Jacobs, hoof uitvoerende beampte van ASA, die organiseerders en almal wie by die reëlings betrokke was, hartlik bedank. Hy het

ook Bokkie Bosman, die hoof van JH Malherbe Primêre Skool, sowel as die onderwysers en leerlinge geluggewens met die aanbied van 'n puik geleentheid.

Jacobs het verduidelik dat die aartappelbedryf 'n groot bydrae tot die voedselketting maak en baie gesinne van kos voorsien. Hy het die aartappelprodusente vir hul bydrae tot die groei van die land se ekonomie geloof, en waardering vir hul volgehoue produksie van aartappels uitgespreek.

Hy het ook verwys na die bemerkingsprojekte wat tans bestuur word om die veelsydigheid van aartappels onder die publiek te bevorder.

Pieter Meiring, beheerliggaamvoorsitter van JH Malherbe, het lede van die gholfdagkomitee



Van links is Phindiwe Nkosi van ASA, saam met skoliere Jane Janse van Rensburg, Raaysha Islam, Qulene van Schalkwyk, Nkhensani Sithole van ASA, en die skoolhoof van JH Malherbe Primêre Skool, Bokkie Bosman.





bedank vir hul harde werk en puik reëlings. Talle skoolouers was betrokke by die dag en is ook hartlik bedank. Borge is bedank vir hul bydraes en aangemoedig om by die jaarlikse geleentheid betrokke te bly. ASA het met trots as een van die borge vir die dag gedien, met baniere op die eerste bof, pamflette met nuwe resepte wat uitgedeel is, en die teenwoordigheid van personeel in die Oos-Vrystaat.

Dank en waardering is spesifiek aan Santa Bronkhorst, ASA se streeksekretaresse in die Oos-Vrystaat, uitgespreek. Diegene wat nog nie met Santa te doen gehad het nie, mis uit op die aartappelbedryf!

Oos-Vrystaatse aartappelprodusente, markagente en moerprodusente – selfs vanuit die Sandveld – het entoesiasies deel gevorm van die dag en só die dag se volhoubare

sukses van die afgelope 16 jaar verseker. Alle fondse en skenkings wat tydens die byeenkoms ingevorder word, is ten bate van die JH Malherbe Primêre Skool op Petrus Steyn.

Fondse word aangewend vir die ontwikkeling en opleiding van alle leerlinge. Sportvelde word in stand gehou en rekenaartegnologie word aangepas om leerlinge behoorlik toe te rus. Die skool bestaan uit ongeveer 150 leerlinge van graad 1 tot 7. Die skool is amptelik op 1 Mei 1996 ingewy en presteer puik op akademiese, sport- en kultuurvlak. Dit is voorwaar 'n voorreg om deel te wees van so 'n waardevolle stukkie platteland! 🍌

Vir meer inligting, kontak Santa Bronkhorst by epos [santa@potatoes.co.za](mailto:santa@potatoes.co.za).



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# Tendense op varsproduktemarkte: Deel 3

Deur FP Coetzee en Pieter van Zyl, Aartappels SA

In Deel 1 is oorsigtelik gekyk na die rol van markte as 'n prysvormingsmeganisme asook die belangrikheid van funksionele markte. Ons kon sien dat die hoeveelheid sakkies wat buiteom varsproduktemarkte (VPM'e) verkoop word, skerp styg oor tyd. Gedurende 2020 was laasgenoemde meer as die verkope op VPM'e self (sien Deel 1, Figuur 8), wat moontlik 'n bedreiging kan inhou vir markte se rol as prysvormingsmeganisme.

In Deel 2 het ons gekyk na die tendense van alle produkte se verkope oor tyd. Die vernaamste produkte in terme van verkoopsvolumes op VPM'e is aartappels, uie, tamaties en piesangs. In Deel 3 kyk ons hoofsaaklik na die prestasie van individuele markte, veral in terme van volumegroei en groei in reële omset oor tyd.

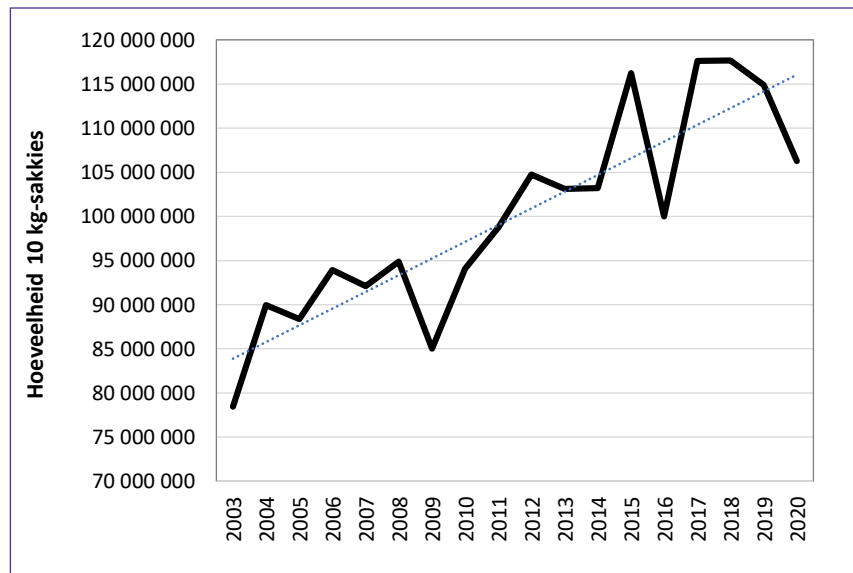
Figuur 1 gee 'n aanduiding van die volume aartappels wat sedert 2003 op VPM'e verkoop is. Let op die sywaartse beweging van volumes verkoop vanaf 2015.

## Verskille in verkoopsgetalle

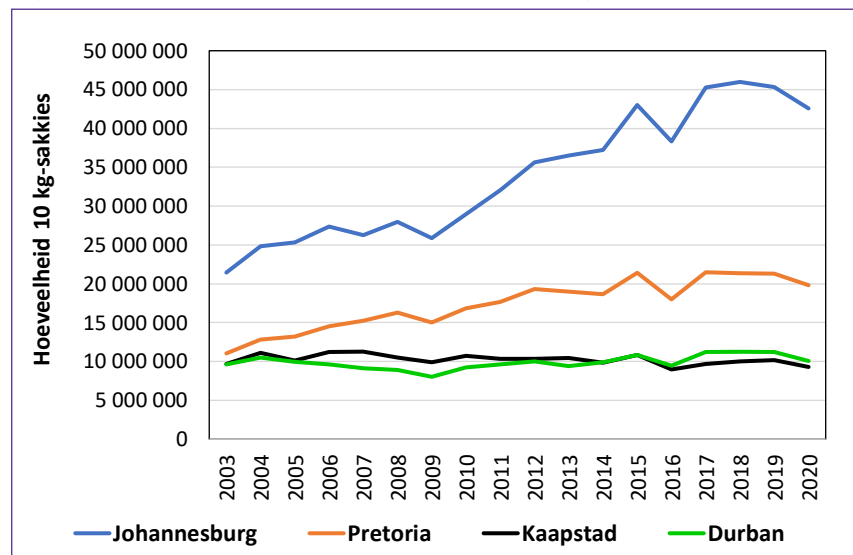
In 2016 was daar 'n daling as gevolg van droogte wat lae opbrengste tot gevolg gehad het, en in 2020 is daar 3 400 ha minder aangeplant, asook laer opbrengste as gevolg van weersomstandighede.

Tydens die inperkings tydperk wat op 27 Maart 2020 in werking getree het, het 'n beduidende hoeveelheid

Figuur 1: Volumes aartappels verkoop op VPM'e (kalenderjare).



Figuur 2: Jaarlikse verkoopsvolumes van die vier grootste markte.





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10 kg-sakkies buite-om markte beweeg (sien Deel 1). *Figuur 2* toon die jaarlikse verkoopsvolumes op die vier vernaamste markte aan. Let op die markte se verskille in verkoopsgetalle.

Johannesburg-mark toon byvoorbeeld 'n beduidende styging vanaf 2009, met 'n styging in markaandeel van 27 na 40%. Dit is egter belangrik om in gedagte te hou dat uitvoere ook deel uitmaak van Johannesburg-mark se syfers, aangesien buurstade aartappels koop omrede daar onder andere 'n groot verskeidenheid groente en vrugte op een plek is.

Pretoria-mark toon ook 'n stygende tendens oor tyd, teenoor die sywaartse koers van die Durban- en Kaapstad-markte. Pretoria se groei het in onlangse jare begin afplat. *Figuur 3* en 4 dui die mediumgrootte en klein markte se jaarlikse verkoopsvolumes oor tyd aan.

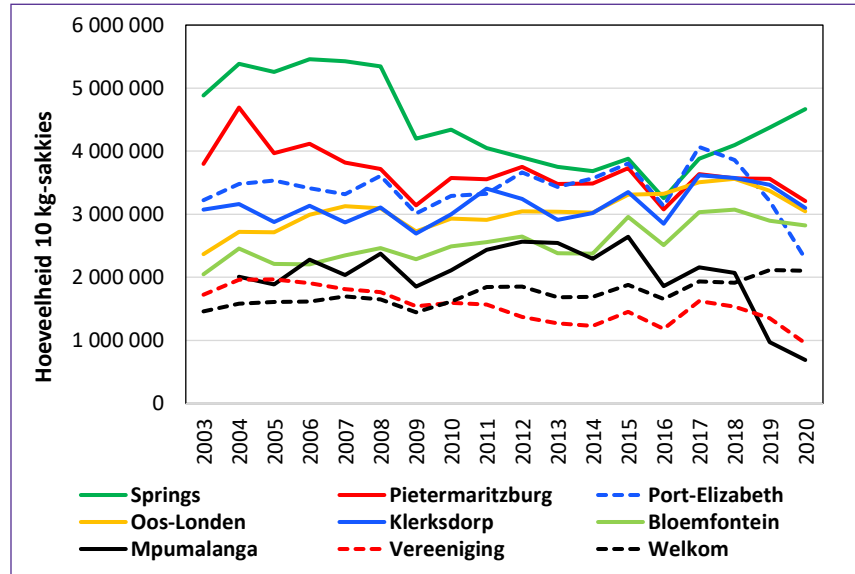
**Styging na jare se dalings**

Dit wil voorkom asof enkele markte se volumes 'n sywaartse tendens toon (*Tabel 1*). Enkele markte se volumes het ook sedert 2016 gedaal. Springs-mark het egter ná jare se daling in volumes, sedert 2016 'n styging in volumes begin toon. Wat kan ander markte by Springs leer?

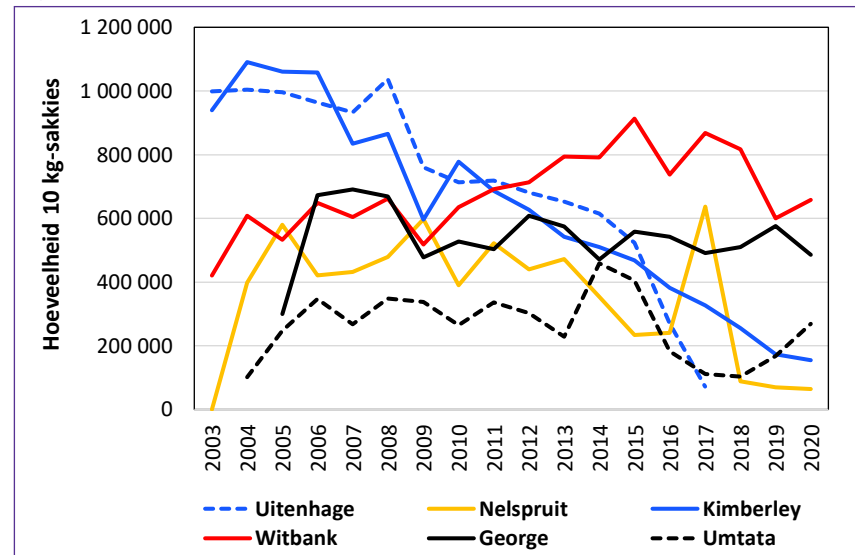
In *Figuur 5*, 6 en 7 word verskeie markte se reële omset (nadat voorsiening vir inflasie gemaak is) oor tyd uitgebeeld. Slegs twee van die vyf groot markte toon 'n styging in reële omset, aldus *Figuur 5*. *Figuur 6*, wat mediumgrootte markte insluit, toon dat Bloemfontein, Klerksdorp en Oos-Londen se reële omset 'n stygende tendens toon. Port-Elizabeth en Pietermaritzburg toon weer 'n dalende tendens. Waarom sal dit so wees?

*Figuur 7* toon die reële inkomste van nege klein markte aan. Beide die reële inkomste asook die volumes verkoop op die klein markte, toon oor die algemeen 'n dalende tendens oor tyd. Welkom is die enigste mark wat 'n styging in reële inkomste toon.

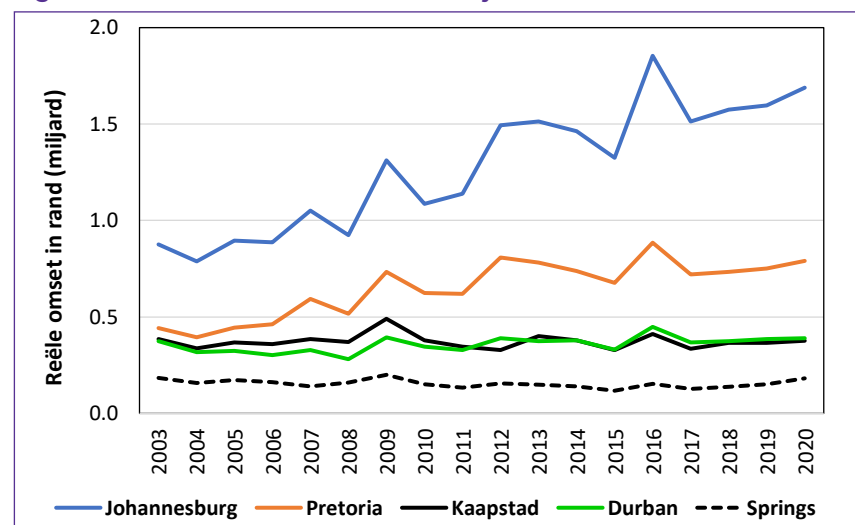
**Figuur 3: Jaarlikse verkoopsvolumes van die nege mediumgrootte markte.**



**Figuur 4: Jaarlikse verkoopsvolumes van die ses klein markte.**



**Figuur 5: Jaarlikse reële omset van die vyf vernaamste markte.**

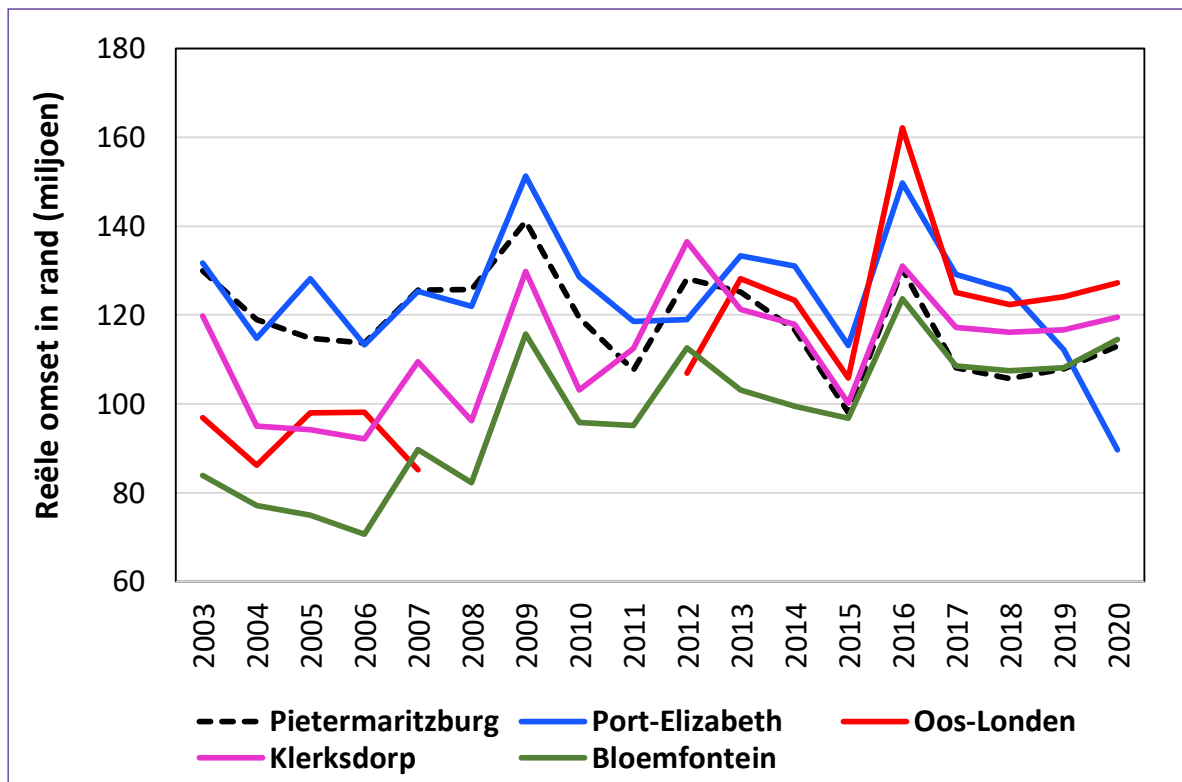




Tabel 1: Prestasie van markte oor tyd (2003 tot 2020).

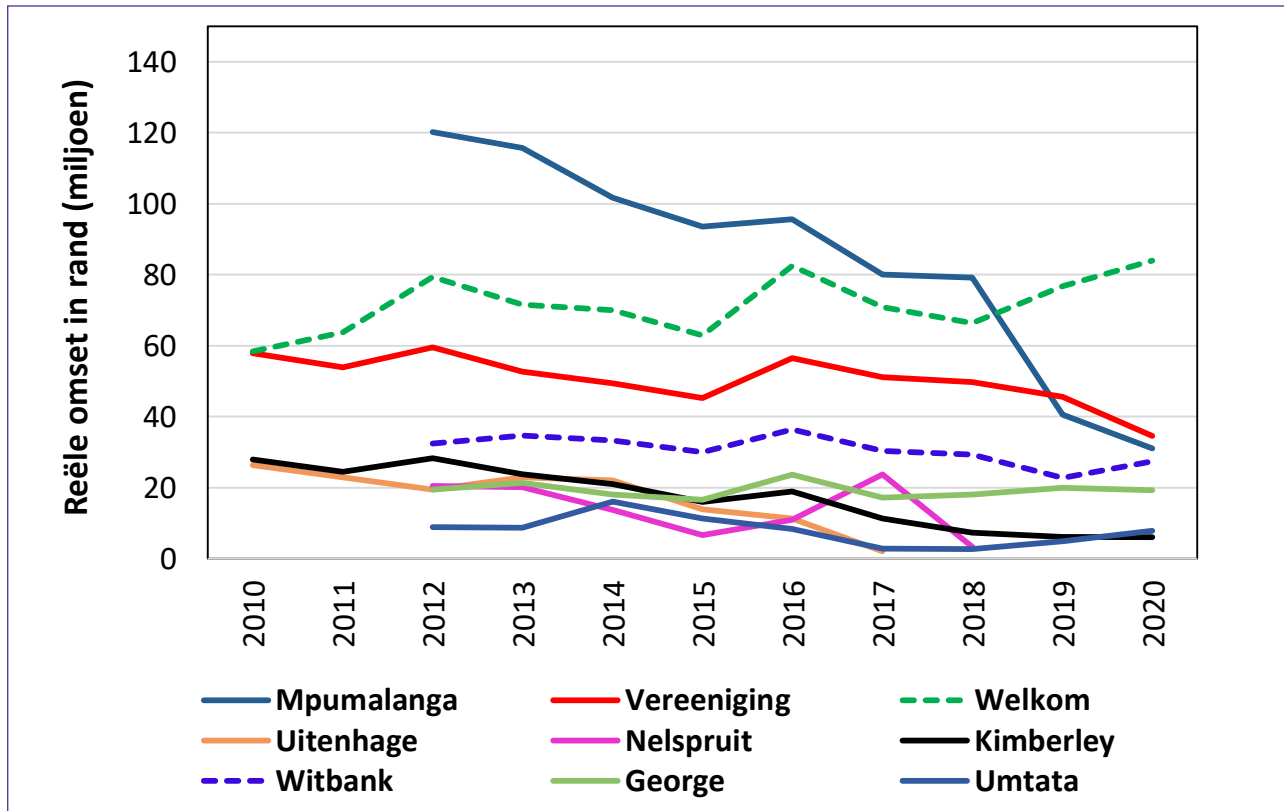
Mark	Gemiddelde marktaandeel	Volumes oor tyd	Reële omset oor tyd	Marktaandeel oor tyd
Johannesburg	33.5%	Groei	Groei	Groei
Pretoria	17.3%	Groei	Groei	Sywaarts
Kaapstad	10.4%	Sywaarts	Sywaarts	Sywaarts
Durban	10%	Sywaarts	Sywaarts	Sywaarts
Springs	4.5%	Daal, groei	Sywaarts	Daal, groei
Pietermaritzburg	3.7%	Daal, sywaarts	Daal	Daal
Port-Elizabeth	3.4%	Sywaarts	Sywaarts, daal	Daal
Klerksdorp	3.2%	Sywaarts	Groei	Sywaarts
Oos-Londen	3.1%	Groei	Groei	Sywaarts
Bloemfontein	2.5%	Groei	Groei, sywaarts	Sywaarts
Mpumalanga	2%	Sywaarts, daal	Daal	Sywaarts, daal
Welkom	1.7%	Groei	Groei	Sywaarts
Vereeniging	1.6%	Daal	Daal	Daal
Witbank	0.7%	Sywaarts, groei	Sywaarts	Groei
Kimberley	0.7%	Daal	Daal	Daal
Uitenhage	0.6%	Daal, sluit	Daal, sluit	Daal, sluit
George	0.5%	Sywaarts	Sywaarts	Daal
Nelspruit	0.4%	Daal	Daal	Daal
Umtata	0.3%	Sywaarts	Sywaarts	Sywaarts, daal

Figuur 6: Jaarlikse reële omset van die vyf mediumgrootte markte.

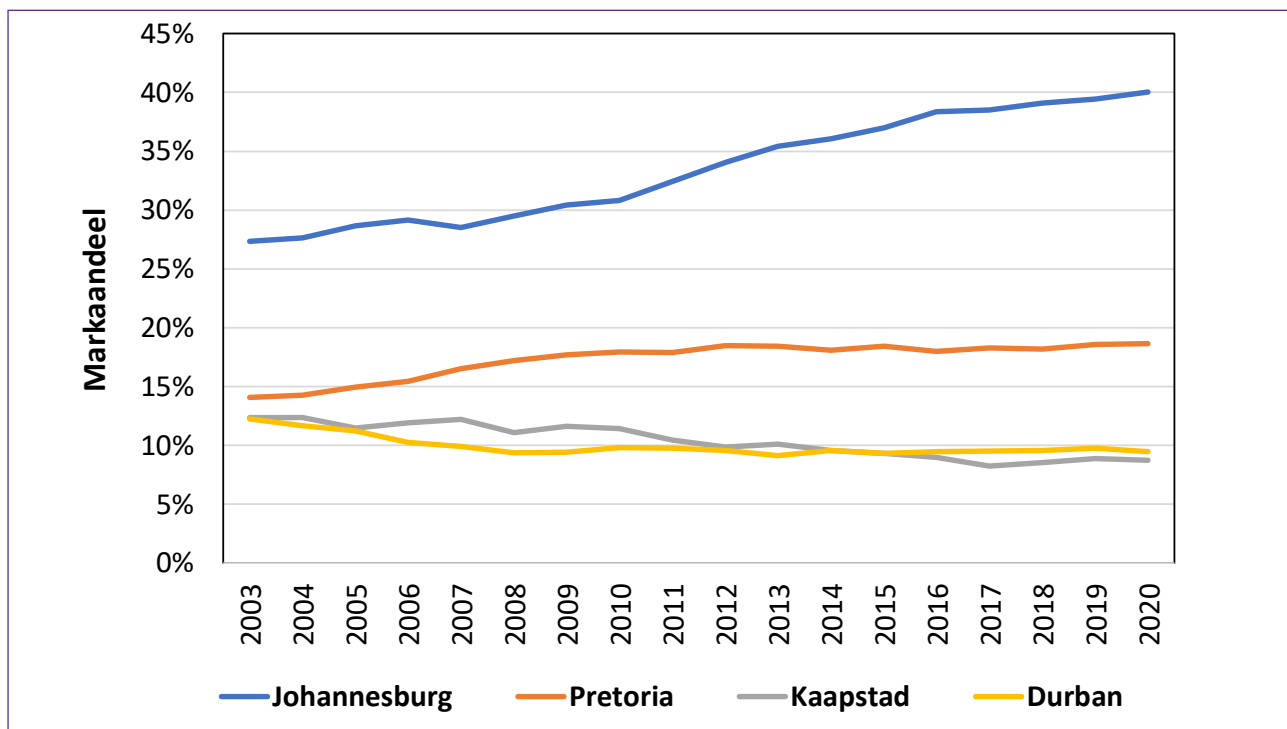




Figuur 7: Jaarlikse reële omset van die nege klein markte.



Figuur 8: Markaandeel van die vier vernaamste markte in Suid-Afrika oor tyd.



**Vier vernaamste markte**

In 2020 het die vier vernaamste markte amper 80% van die totale markaandeel besit, met die 15 oorblywende markte wat die res van

die markaandeel uitgemaak het. Dit wil voorkom asof 42% van die markte in Suid-Afrika besig is om 'n aansienlike markaandeel te verloor oor tyd.

Figuur 8, 9 en 10 gee 'n aanduiding van die onderskeie markte se markaandeel oor tyd. Volgens Figuur 8, wat die vier vernaamste markte aandui, is dit



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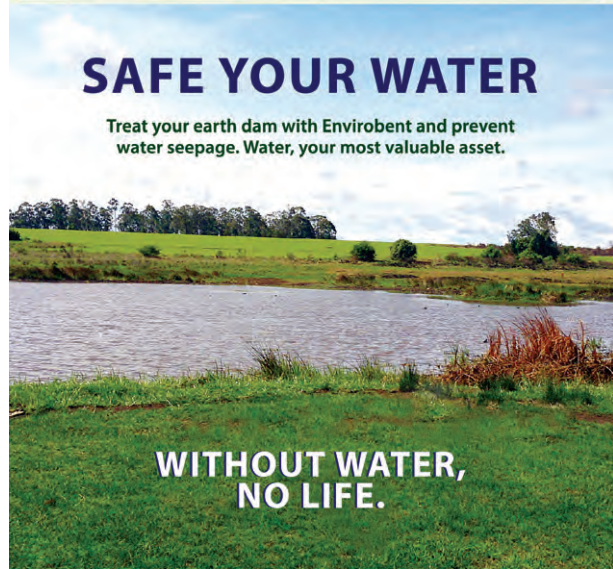


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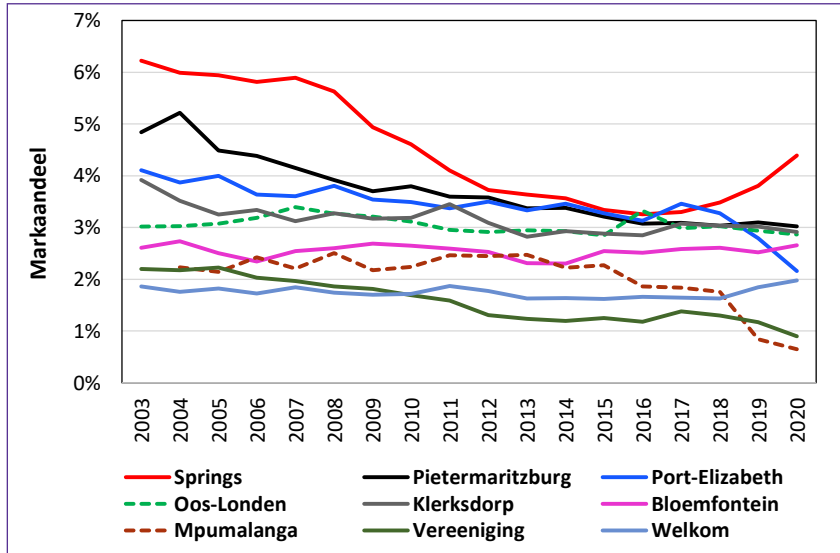
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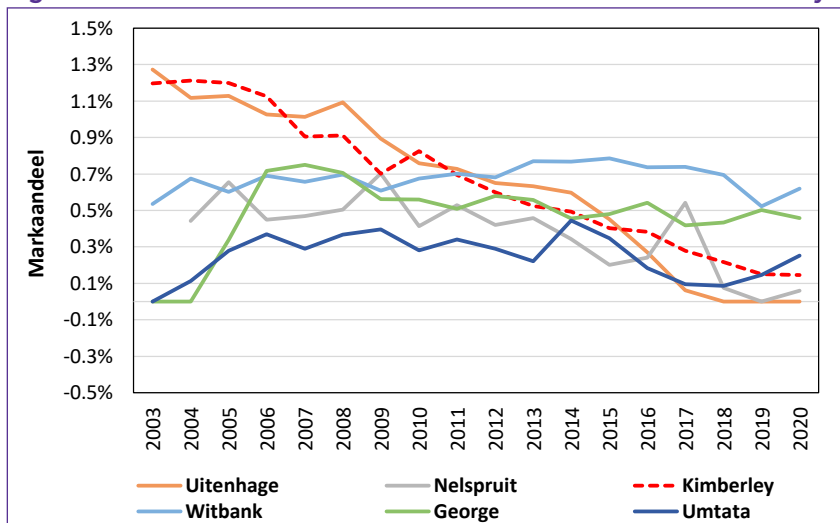




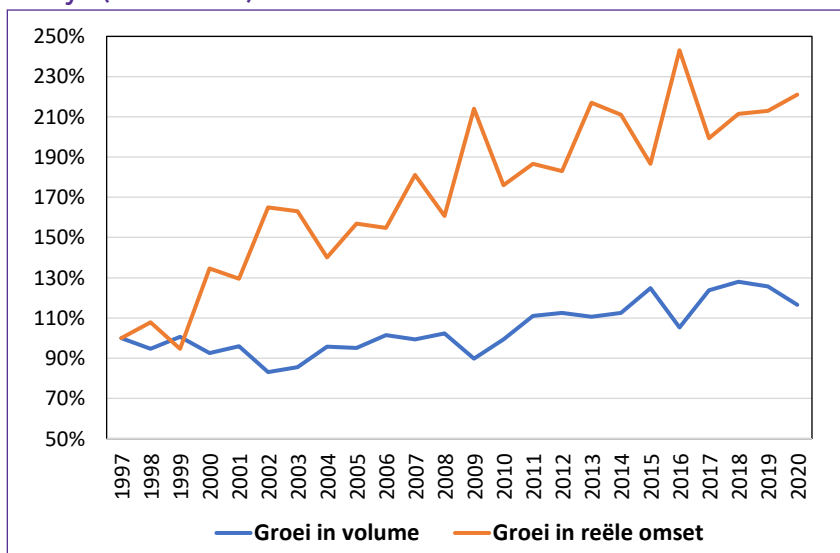
**Figuur 9: Markaandeel van die nege mediumgrootte markte in Suid-Afrika oor tyd.**



**Figuur 10: Markaandeel van die ses klein markte in Suid-Afrika oor tyd.**



**Figuur 11: Alle markte: Stygings in reële omset vs. in verkoopsvolumes oor tyd (1997 = 100).**



duidelik dat slegs Johannesburg en Pretoria oor die lang termyn in markaandeel toeneem. Kaapstad en Durban beweeg sywaarts.

Figuur 9 dui die markaandeel van mediumgrootte markte aan. Die algemene beweging van die markte se markaandeel is afwaarts, met slegs drie markte wat die afgelope twee jaar 'n styging in markaandeel toon. Figuur 10 dui die klein markte se bewegings in markaandeel oor tyd aan.

Figuur 11 dui daarop dat die reële omset vinniger styg oor tyd as die groei in verkoopsvolumes op alle VPM'e. Dit blyk dus dat dit oor die algemeen redelik goed met markte gaan, maar soos daar in die vorige figure gesien is, is daar markte wat in terme van groei in verkoopsvolumes en reële omset, onbevredigend presteer.

Dit wil voorkom of slegs twee markte oor die lang termyn 'n groei in markaandeel toon, naamlik Johannesburg en Witbank, aldus Tabel 1. Sewe markte se markaandeel het sywaarts beweeg oor die lang termyn en ses markte se markaandeel het weer gedaal. Een mark, Uitenhage, het selfs sy deure gesluit.

**Slotgedagte**

Volgens Figuur 11 lyk dit asof dit goed gaan op markte, maar wanneer individuele markte se groei in volumes en reële groei van naby beskou word, word 'n minder goeie prentjie geskets.

In 2020 het verkope buite-om markte vir die eerste keer die totale verkope op markte verbygesteek (sien Deel 1, Figuur 8). Groei direkte bemarking dus ten koste van varsproduktemarkte? Bied die sogenaamde 'direkte' bemarkingskanale 'n beter waardeproposisie? Hoe deursigtig is transaksies egter wat 'direk' geskied? 🤖

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# Markmonitor (Deel 2): Die eerste 21 weke van 2021 op varsproduktemarkte

Deur Janó Bezuidenhout en Pieter van Zyl, Aartappels Suid-Afrika

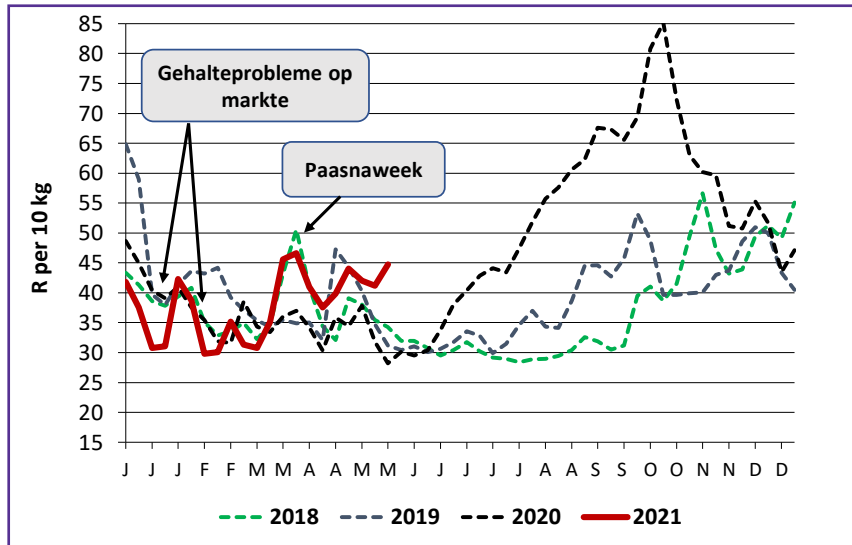
Om en by teen die middel van Maart vanjaar, het die gemiddelde markprys 'n opwaartse tendens begin toon. Dit is 'n tendens wat homself gewoonlik voor Paasaweek voordoen. *Figuur 1* dui die weeklikse gemiddelde prys op alle markte vir alle klasse aan. Gehalteprobleme het pryse gedurende middel-Januarie en weer in middel-Februarie onder druk geplaas. Hoë temperature ná goeie reënval was die oorsaak hiervan. Voorraadvlakke het sedert die begin van April 'n afwaartse tendens begin toon, wat daartoe gelei het dat die gemiddelde weekprys opwaarts begin beweeg het, soos in *Figuur 2* gesien kan word.

Gedurende die eerste 21 weke van 2021 het verkope op varsproduktemarkte (VPM'e) met 6% toegeneem sedert 2020 se ooreenstemmende syfer, aldus *Figuur 3*. Let ook op dat 2021 nog steeds die hoogste kumulatiewe verkoopsyfer vir die laaste vyf jaar realiseer. *Figuur 4* illustreer die maandelikse verkope op VPM'e vanaf 2018.

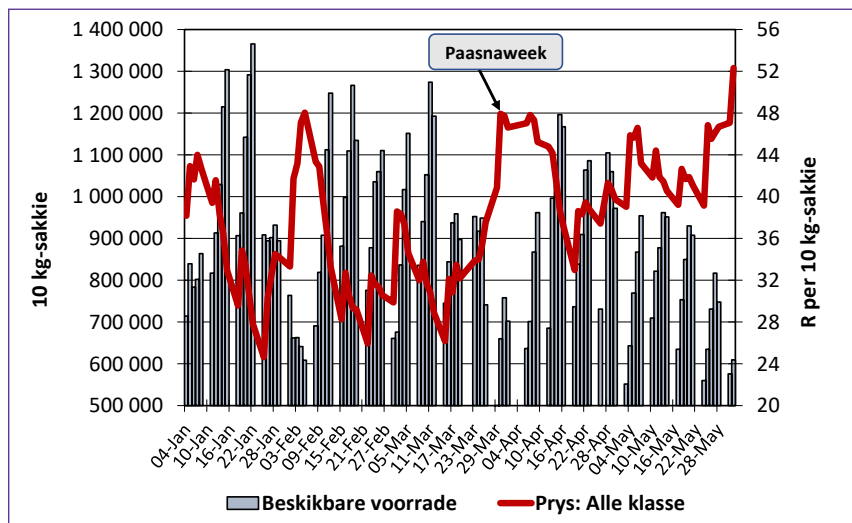
Januarie, Februarie en April vanjaar het rekordvolumes getoon. Tot dusver was slegs Maart 2021 se verkope laer as die vier-jaargemiddeld. Mei se voorlopige verkope blyk heelwat laer te wees, hoofsaaklik weens baie direkte verkope uit veral die Oos-Vrystaat en Noord-Kaap. *Tabel 1* toon die aantal sakkies wat gedurende die eerste 21 weke van 2021 deur die verskeie markte verkoop is.

Die vyf grootste markte gedurende hierdie tydperk was gesamentlik verantwoordelik vir 81% van Suid-Afrika se verkope. Die gemiddelde prys (alle klasse en groottes) vir elke mark verskyn ook

**Figuur 1: Weeklikse gemiddelde prys op alle markte vir alle klasse.**



**Figuur 2: Daaglikse beskikbare voorraad vs. daaglikse gemiddelde prys: Alle klasse en alle markte.**



in *Tabel 1*. Die totale gemiddelde prys is R37.82 per 10 kg-sakkie.

## Tendense by die grootste markte

Van die vyf grootste markte was Johannesburg- en Springsmarkte se gemiddelde pryse laer as die nasionale gemiddelde

prys. Laasgenoemde is ook in die markmonitor-artikel van die vorige CHIPS-uitgawe (Mei/Junie) waargeneem. Neem egter in ag dat Johannesburg meer as 'n derde van alle aartappels bemark. Van Johannesburg se totale verkope het 79% uit Klas 1-sakkies



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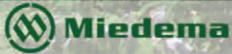
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Tabel 1: Verkope op VPM'e tot week 21 van 2021.

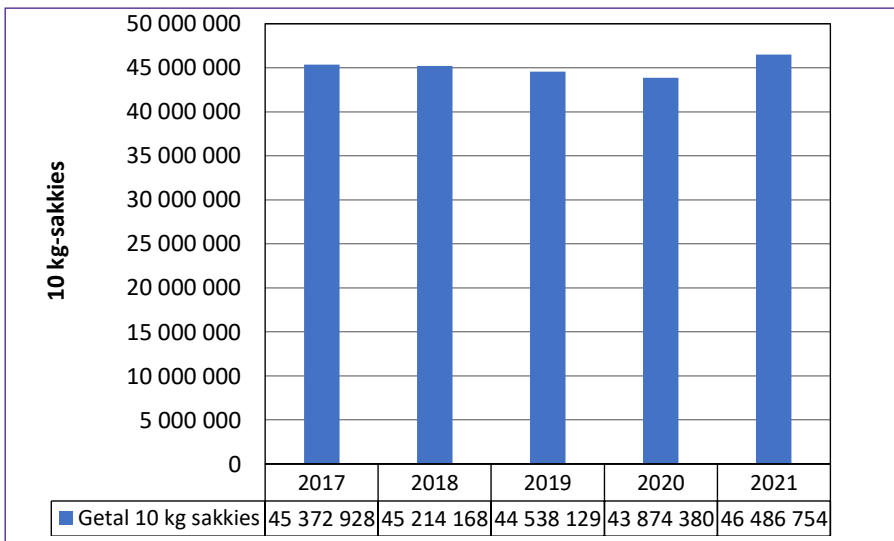
Mark	Aantal 10 kg-sakkies	% van totaal	Gem. prys (R/10 kg)	% van verkope op VPM'e			
				Klas 1	Klas 2	Klas 3 en 4	Klas 1 M
Johannesburg-mark	18 180 283	39,1%	37,64	79%	15%	6%	19%
Tshwane-mark	8 950 532	19,3%	38,37	67%	24%	10%	17%
Durban-mark	4 421 013	9,5%	38,6	73%	16%	10%	23%
Kaapstad-mark	3 743 700	8,1%	40,82	74%	21%	5%	23%
Springs-mark	2 350 717	5,1%	34,48	64%	24%	11%	15%
Klerksdorp-mark	1 536 405	3,3%	33,82	62%	25%	13%	15%
Port Elizabeth-mark	1 335 204	2,9%	37,87	68%	21%	11%	24%
Oos-Londen-mark	1 302 720	2,8%	39,98	70%	21%	9%	22%
Bloemfontein-mark	1 218 918	2,6%	38,43	66%	21%	13%	17%
Pietermaritzburg-mark	1 133 338	2,4%	33,66	56%	26%	17%	14%
Welkom-mark	923 387	2,0%	36,68	61%	24%	15%	13%
Vereeniging-mark	467 174	1,0%	31,47	72%	17%	10%	15%
Mpumalanga-mark	275 887	0,6%	44,8	72%	23%	5%	8%
Witbank-mark	264 826	0,6%	40,12	69%	23%	9%	13%
Nelspruit-mark	123 841	0,3%	38,78	72%	21%	7%	17%
Kimberley-mark	118 163	0,3%	40,99	59%	22%	19%	3%
George-mark	73 923	0,2%	37,21	70%	19%	12%	15%
Kei-mark (Umtata)	66 723	0,1%	32,56	41%	30%	30%	6%
Totaal	46 486 754	100%	37,82	72%	19%	9%	19%

Tabel 2: Voorsiening aan VPM'e tot week 21 van 2021.

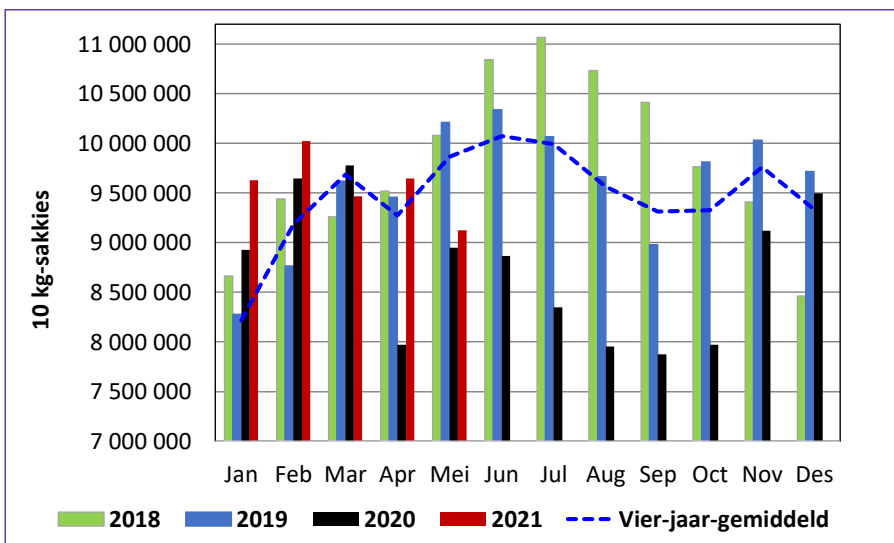
Streek	Aantal 10 kg-sakkies	% van totaal	Gem. prys (R/10 kg)	% van verkope op VPM'e			
				Klas 1	Klas 2	Klas 3 en 4	Klas 1 M
Oos-Vrystaat	13 585 228	29%	39,11	66%	22%	12%	13%
Suidwes-Vrystaat	7 233 956	16%	37,42	69%	23%	8%	23%
Noordwes	5 959 127	13%	36,87	78%	13%	9%	23%
KwaZulu-Natal	5 320 851	11%	37,34	80%	12%	8%	17%
Wes-Vrystaat	3 597 523	8%	39,68	73%	20%	6%	16%
Sandveld	2 759 298	6%	39,86	74%	24%	2%	21%
Gauteng	2 045 457	4%	31,31	85%	12%	4%	27%
Limpopo	1 773 328	4%	37,37	64%	21%	15%	20%
Noordoos-Kaap	1 324 873	3%	38,64	66%	25%	9%	20%
Mpumalanga	1 142 230	2%	32,18	82%	13%	5%	18%
Noord-Kaap	796 571	2%	32,17	70%	25%	5%	14%
Ceres	781 741	2%	44,47	85%	8%	7%	29%
Oos-Kaap	96 496	0,21%	36,71	70%	20%	10%	22%
Suidwes-Kaap	36 780	0,08%	35,63	81%	18%	1%	24%
Suid-Kaap	33 295	0,07%	34,75	54%	44%	2%	21%
Totaal	46 486 754	100%	37,82	72%	19%	9%	19%



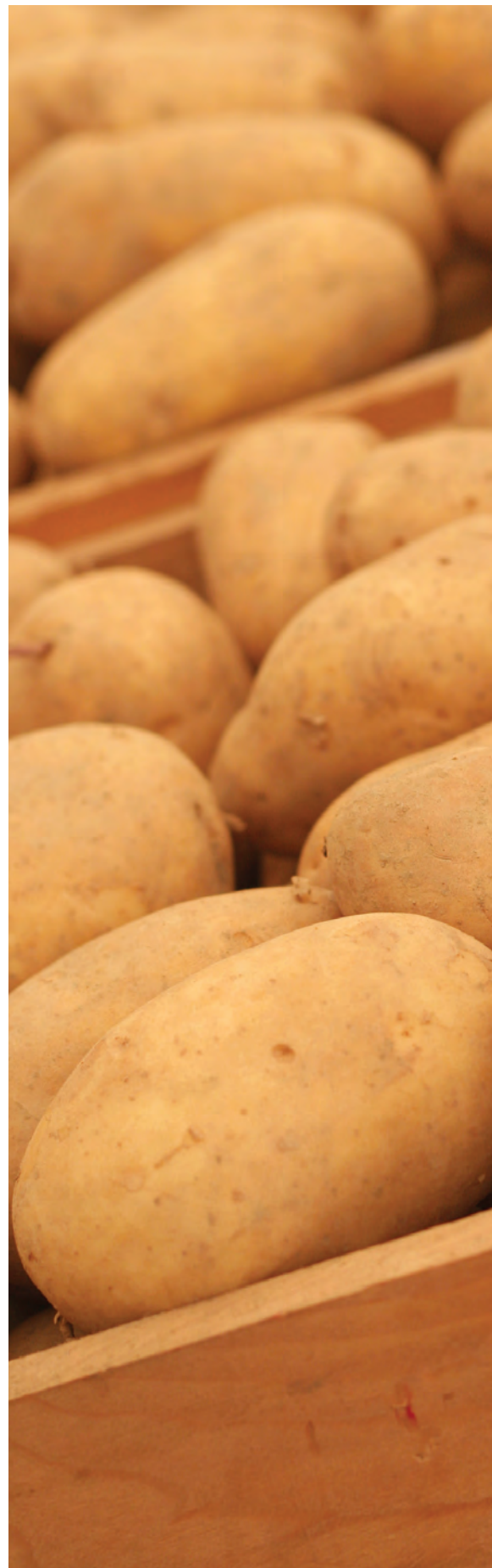
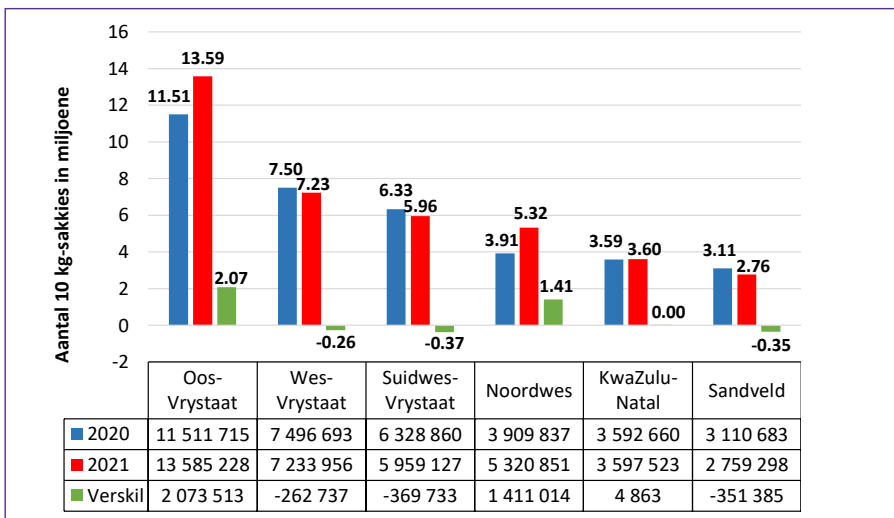
Figuur 3: Kumulatiewe getal 10 kg-sakkies verkoop op markte tot week 21 van elke jaar.



Figuur 4: Maandelikse verkope op markte, 2018 tot 2021: Alle verpakkings omgeskakel na 10 kg-sakkies.

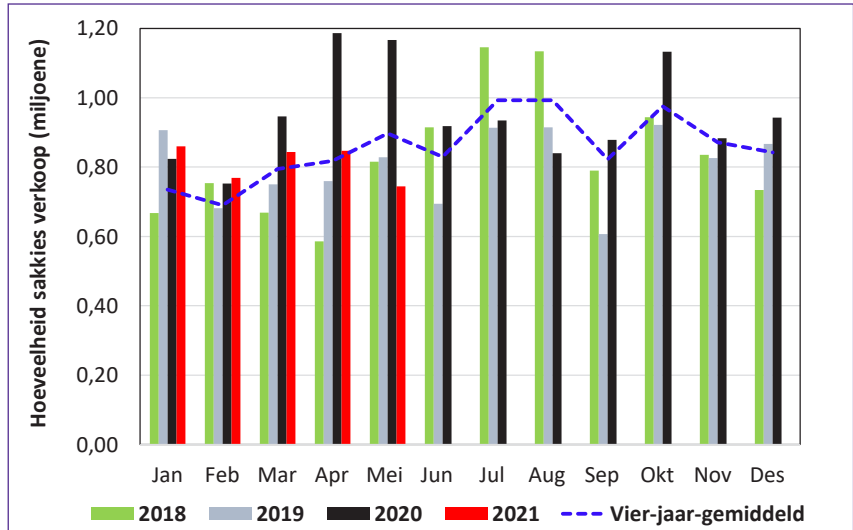


Figuur 5: Aantal 10 kg-sakkies verkoop gedurende die eerste 21 weke, per streek (2021 vs. 2020).

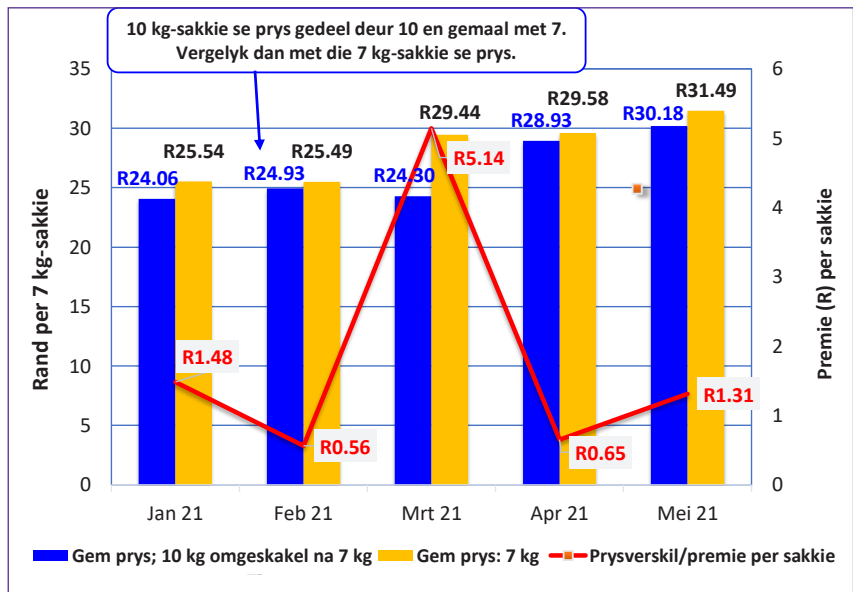




**Figuur 6: Maandelikse verkope van 7 kg-sakkies op markte, 2018 tot 2021: Alle klasse, markte en kultivars.**



**Figuur 7: Johannesburg-mark 2021: Gemiddelde maandelikse prys per 7 kg en 10 kg (omgeskakel na 7 kg), asook 'premie' verdien op 'n 7 kg-sakkie.**



bestaan – die hoogste van alle markte.

Die drie grootste streke wat gedurende hierdie tydperk in die mark was, het 58% van die aartappels op markte verkoop, aldus Tabel 2. Ceres en die Sandveld het van die hoogste gemiddelde pryse (alle klasse en groottes) vir hierdie tydperk gerealiseer. Tabel 2 illustreer ook die persentasie-samestelling van elke streek se Klas 1, 2, 3 en 4 wat gedurende hierdie tydperk voorsien is.

Indien ons die ses grootste streke se voorsienings vir 2021 met 2020 vergelyk, is dit duidelik dat twee streke gedurende die eerste 21 weke meer gelewer het as die vorige jaar (Figuur 5). Die Oos-Vrystaat het vanjaar tot dusver 2.07 miljoen sakkies meer bemark as

dieselfde tyd laasjaar, en Noordwes ongeveer 1.4 miljoen sakkies meer, aldus Figuur 5.

Figuur 6 dui die maandelikse verkope van 7 kg-sakkies sedert 2018 aan. In die eerste drie maande van 2021 was die aantal verkope van 7 kg-sakkies meer as die vier-jaar-gemiddeld. Vanaf April het die markte minder 7 kg-sakkies begin verkoop en het die verkope onder die vier-jaar-gemiddeld inbeweeg.

Vanaf Maart 2021 het die VPM'e ook heelwat minder 7 kg-sakkies verkoop, vergeleke met

dieselfde tyd laasjaar. Figuur 7 dui die premie vir 'n 7 kg-sakkie op die Johannesburg-mark vir die vyf maande onderskeidelik aan. Slegs gedurende Maart 2021 is 'n premie van meer as R2 (R5.14) op 'n 7 kg-sakkie verdien. Sommige produsente lewer geen 7 kg-sakkies nie, tensy hulle 'n premie van meer as R2.50 verdien. ©

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# Online potato trading:

## Logistics and payments hold the key to unlocking the full potential of e-commerce in Africa

**T**he adoption of online platforms for trading fresh produce is accelerating across the developing world.

Pinduoduo, an online trading portal focussed on agri-food products, is now China's largest e-commerce company. In Kenya, Twiga connects thousands of producers directly to informal vendors in cities via a mobile app. Pinduoduo and Twiga are examples of how digital applications – combined with sophisticated logistics – can improve market opportunities for producers.

Closer to home, Nile.ag Marketplace has gained widespread traction with well-known producers across southern Africa. While the company has buyers in every province and all major cities in South Africa, the main focus is on enabling greater cross-border trade between African countries.

The main advantage of online marketplaces is that they are not bound by physical spaces. Instead, these platforms have the potential to showcase products to buyers across different cities and countries, thereby increasing the market potential of a producer's products. However, to enable transactions across regions and countries, marketplaces need to solve complex logistical challenges.

### Optimised logistics

Nile.ag, an online marketplace established for the trading of fresh produce, was designed based on the understanding that logistics optimisation across regions holds the key to improved efficiency. The company's founder, Louis de Kock, previously worked at Amazon, the world's largest e-commerce platform.

His experience at Amazon included managing the produce



division at Amazon Fresh in both the United Kingdom and the United States. According to Louis, Amazon's key differentiator has always been its ability to co-ordinate and optimise complex logistics across 50 states in America and other international markets.

Nile.ag optimises logistics by enabling three 'routes to market'. This includes direct deliveries by producers or third-party logistics providers to buyers, farmgate collections, and shipments via Nile.ag's consolidation hubs. By capturing all the different logistics variables, Nile.ag is able to simultaneously offer a potato load from a Harrismith farmer to a shop owner in Kuruman, as well as a processor in Mbabane, Swaziland.

### Expanded reach with Nile.ag's e-hub

To accelerate cross-border trade through the platform, Nile.ag recently opened its e-hub in Kempton Park to enable more complex cross-border transactions to neighbouring countries. Fresh produce buyers from African countries are mostly interested in buying a 'basket of produce' instead of a single commodity,

which needs to be consolidated before being shipped.

Nile.ag's facility is located within five minutes from the Perishable Products Export Control Board offices at OR Tambo International Airport, which enables effective clearance. Phyto clearance is done online and will in future be integrated into the Nile.ag platform.

### Secured payments

The ability to secure payments on behalf of sellers is another cornerstone of successful online marketplaces. When producers have confidence that payments from many unrelated parties are secured up front, they are more likely to trade online. Nile.ag secures funds from buyers before an order is sent to producers. The platform disburses funds to sellers once delivery has been made.

Nile.ag was founded on the belief that a platform for efficient cross-border trade of agri-food products to the rest of Africa, will enable South Africa's producers to access a large and growing market. 🌍

For more information,  
visit [www.nile.ag](http://www.nile.ag).





## Cover crops as part of an integrated approach to nematode management: Screening crops for tolerance against *Meloidogyne enterolobii*

By Dr K Pofu, ARC-VIMP, the University of Limpopo,  
Prof P Mashela, the University of Limpopo, and Dr M Marais, ARC-PHP

**M**eloidogyne *enterolobii* (*M. enterolobii*) is a relatively unknown, aggressive root-knot nematode. In South Africa, root-knot nematodes are the most damaging genera of plant-parasitic nematodes in all potato producing

regions, with *Meloidogyne incognita* (*M. incognita*) and *Meloidogyne javanica* (*M. javanica*) being widely distributed species.

However, the growing number of localities in South Africa at which *M. enterolobii* is reported, as well as its short life cycle of 15 days compared to the 30-day life cycle

of its counterparts in the genus, compels the search for non-hosts of the nematode.

*M. enterolobii* was first observed in guava orchards (*Psidium guajava*) and blackjack (*Bidens pilosa*) in Mpumalanga. It is now found in guava, potato, sweet pepper, pumpkin, tomato, beans, lettuce, chilli pepper, groundnuts, and the weeds *Bidens pilosa*, *Physalis viscosa*, *Alternaria pungens*, and *Guzotia abyssinica* in South Africa. It has since been shown to be more aggressive than other *Meloidogyne* species and can therefore be a devastating pest in crop production systems.

**Figure 1: Cowpea cv. black-eyed under greenhouse conditions at 56 days after sowing.**



### The objective of the study

The aim of the study was to screen for the host status of crops used as rotation crops by potato producers, as well as several cover crops against *M. enterolobii*. The research was conducted under greenhouse and field conditions at the University of Limpopo. The first results of greenhouse trials are reported in this article.

Crops tested included tillage radish, white Maluti oats, dolichos, forage sorghum, sunn hemp (*Crotalaria juncea*), black saia oats, stooling rye wintergrazer, sunflower, barley, *Crotalaria spectabilis*, forage rape, Japanese radish, common



vetch, Rhodes grass, velvet beans, *Eragrostis curvula* (*E. curvula*), Tolgar Rhodes grass, sito white mustard, Tajuna radish, *Urochloa oligotricha* (var. 'Kuffer'), *Brachiaria nigropedata* (var. 'sweet velvet'), Cordoba radish, Pearler hybrid millet, power green stooling rye, Esterossa saia oats, SCALA brown mustard, and three commercially available cowpea cultivars, namely IT18, Dr Saunders and black-eyed.

**Determining the host status**

Potted plants were inoculated with 5 000 second-stage juveniles (J2) of *M. enterolobii* each. At harvest, 56 days after sowing, plants were removed from the soil and the roots were washed and weighed. Nematodes were extracted from the roots using standard nematode extraction methods.

The host status was assessed using the reproductive potential (RP) values, a proportion of eggs and J2 per gram of fresh root. Nematode population numbers are used to calculate the RP potential. If the RP is < 1, a crop is

rated as non-host, whereas if the RP is > 1, it is classified as a host.

**Promising initial results**

Tillage radish, white Maluti oats, sunn hemp, common vetch and Tolgar Rhodes grass recorded RP values of less than one, suggesting that they were non-hosts to *M. enterolobii* and could be used in crop rotation systems. Forage sorghum and *E. curvula* had moderately low RP values of 1.99 and 1.14, respectively.


Cowpea cultivars IT18, Dr Saunders and black-eyed pea had the highest RP values of 335.26, 966.39, and 465.8, respectively. Crops with high RP values are hosts to *M. enterolobii* and should not be used in crop rotation intended to manage nematode population densities.

**Cover crops for population control**


A nematode-resistant cultivar for a particular region should preferably be resistant to all *Meloidogyne* species in the region, since in most cases, mixed populations co-exist.

These crops could be used to manage high population densities of *M. enterolobii* where it occurs as a single species.

However, where it occurs as a mixed population with other *Meloidogyne* species, the test crops might not be suitable for use in potato crop rotation systems to manage other *Meloidogyne* species. Studies are currently under way to test the crops against *M. incognita* and *M. javanica*.

Prior to recommending the use of the aforementioned crops in rotation with potatoes, it is imperative that *Meloidogyne* species that are present in the soil of the target field, be identified. 

For more information on nematode identification and sampling methods, contact Dr Marais at email [MaraisM@arc.agric.za](mailto:MaraisM@arc.agric.za). For information regarding the trials and test crops, contact Dr Pofu at email [Kgabo.Pofu@ul.ac.za](mailto:Kgabo.Pofu@ul.ac.za).



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# The critical role of pesticide maximum residue limits in market access and consumer confidence in potato producers

Principal author: Dr Gerhard Verdoorn • Contributors: Roleen la Grange, Dr Fienie Niederwieser and Desireé van Heerden

**P**esticide residues are unavoidable in all crops when these essential agricultural inputs are used to control potato pests, potato diseases and weeds encountered in potato production. It is seldom possible to produce a crop without a residue of the applied pesticide, unless special measures are implemented to manage the residues down to below-detectable limits.

A maximum residue limit (MRL) is set for all pesticides (including plant and insect growth regulants) that are registered in South Africa – and potatoes are no exception. MRLs are published in a regulation by the Department of Health in terms of the *Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972)*. Potato producers are therefore legally required to only sell produce that meets the published MRLs of all pesticides used on crops.

If potato producers follow label instructions for dosages, application timings, repeated applications, application intervals, and pre-harvest intervals, pesticide residues should be below or equal to the published MRLs at the time of harvest. CropLife South Africa's Agri-Intel is the perfect tool for potato producers

to ascertain whether pesticides are registered for use on potatoes. It also offers a comprehensive data set on MRLs for local consumption and export markets.

## Market requirements

Markets (buyers), processors such as chip manufacturers, retailers and consumers are meticulous about food safety, with a strong focus on pesticides that are used on foodstuffs.

Problems that may arise with potato buyers, processors and consumers are as follows:

- If pesticides that are not registered for use on potatoes are applied, buyers, processors and retailers may reject such stock, which will be returned to producers or destroyed at their expense.
- Even if residues of such unregistered pesticides are below detectable limits, they will be within their rights to reject such potatoes.
- If pesticides registered for use on potatoes are not applied strictly according to label instructions – for example exceeding dosage rates, applying more frequently than advised,

applying too late in the season (within the pre-harvest interval or during the pre-harvest interval), or any other deviation from label instructions – residues may very well exceed the published MRLs. Buyers, processors, and retailers analyse potatoes for pesticide residues and if the MRLs have been exceeded, they may reject these batches.

## Unexpected residue exceedance

It is possible, though unlikely, that the MRL of a certain active ingredient may be exceeded even if producers follow label instructions strictly. In such cases, the potato producer must inform the registration holders of such pesticides immediately for investigation and further action on their part.

An example of such an incident occurred in 2015, when cyromazine residues on potatoes exceeded the South African MRLs. CropLife South Africa members, as well as the registration holders and Potatoes South Africa (PSA), collaborated to elevate the MRLs thereby solving the problem.

## Market demands vs taking risks

Potato producers should only use pesticides that are registered for

potatoes in South Africa and ensure that MRLs are not exceeded.

Potato producers should also take note that the label is the only legal 'advisor' of a pesticide; neither consultants nor crop advisors may advise the use of a pesticide for any other purpose or in any other manner than instructed on the label. If a potato producer uses a pesticide off-label, any negative consequence of such off-label use is for the account of the producer, even if the producer acted upon the advice of a third party.

The consequences of off-label pesticide usage may be far-reaching and can affect all potato producers in the country. Many producers export potatoes to other countries and a decision by such countries to prohibit import of South African potatoes because of misconduct with pesticides, will affect all South African potato producers.

**Trade barriers**


The trade in agricultural fresh produce is highly competitive.

Certification agencies, buyers and export destinations use the slightest reason in an attempt to terminate trade agreements with countries like South Africa. It is also evident in the retail market that certain retailers mark their foodstuffs as chemical-free, among others.

Should unacceptable pesticide residues be found in potatoes, trade may very well become a challenging issue for potato producers. The slightest hint of 'unsafe' potatoes, whether true or not, may also cause unfounded consumer resistance against potatoes and potato-derived products. This is something that producers can ill afford.

**Sustainability of local producers**

Potato producers have a responsibility towards themselves and their fellow producers to protect their commercial interest by only using pesticides that are registered for use on potatoes and by following label instructions meticulously to

prevent unacceptable pesticide residues in potatoes. 

This article is Monograph 2 of the Potato Production Stewardship Programme – A Collaborative Initiative of Potatoes South Africa, CropLife South Africa, and the Insecticide Resistance Action Committee. For more information, contact Dr Gerhard Verdoorn. Growers can subscribe to CropLife Agri-Intel by visiting [www.agri-intel.com](http://www.agri-intel.com).



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# Wat beteken navorsing vir die aartappelboer? (Deel 4)

## Verbeterde kultivars is 'n antwoord op stygende insetkoste

Deur dr Fienie Niederwieser, Aartappels Suid-Afrika

'n Hoë bemarkbare opbrengs word allerweë beskou as een van dié belangrikste meganismes om die effek van 'n stygende kosteknyptang die hoof te bied. Daarom beskou die bedryf die ontwikkeling en evaluasie van verbeterde kultivars as 'n prioriteit in die navorsingsprogram. Die ideale kultivar is wyd aanpasbaar, met 'n hoë opbrengs van goeie gehalte wat aan die vereistes van die verbruiker voldoen. Daarmee saam sal dit goed wees as die kultivar geskik is vir die varsmark én verwerking.

Die potensiële opbrengs van enige aartappelaanplanting word bepaal deur die genetiese eienskappe van die kultivar wat geplant is, sowel as die CO<sub>2</sub> in die atmosfeer, temperatuur en sonlig. Die potensiële opbrengs word egter dikwels beperk omdat die beskikbaarheid van water en voedingstowwe asook moerkwaliteit, nie altyd optimaal is nie. Insekpeste, siektes en onkruid kan 'n verdere oesverlagende effek hê, veral wat bemarkbare opbrengs betref.

**Figuur 1: Kultivar-evaluasieproewe in verskeie produksiestreke.**



ASA se navorsers is verantwoordelik vir die statistiese uitleg van proewe, en hulle verwerk ook die resultate en stel verslae hieroor beskikbaar.

### Aanpasbaarheid is belangrik

In Suid-Afrika is ons gelukkig om elke dag vars aartappels op die winkelrakke te hê. Dit is te danke aan die feit dat aartappels in verskillende streke van die land geproduseer word en dat daar elke dag aartappels geplant en geoes word.

Aartappelproduksie en toestande in die 16 verskillende produksiestreke van Suid-Afrika, verskil ten opsigte van die volgende:

- Plant- en oestyd.
- Temperatuur.
- Instralings van sonlig (daglengte en aantal bewolkte dae).
- Beschikbaarheid en gehalte van water.
- Voorkoms van peste en plaë.
- Grondtipe.
- Produksiepraktyke.
- Gehalte en plantgereedheid van moere wat tydens planttyd beskikbaar is.

Om die aanpasbaarheid van nuwe kultivars vir toestande in die verskillende streke te bepaal, word kultivar-evaluasieproewe in die meeste produksiestreke gedoen (Figuur 1).

### Gestandaardiseer en wetenskaplik

Navorsers in diens van Aartappels Suid-Afrika (ASA) is verantwoordelik vir die statistiese uitleg van proewe, verwerking van resultate en beskikbaarstelling van verslae. Gesertifiseerde moere word in kommersiële aanplantings geplant om te verseker dat kultivars wat by verskillende toestande en praktyke aangepas is, geïdentifiseer word.

Hierdie projek is egter nie moontlik sonder die samewerking van produsente en verteenwoordigers van die ses kultivar-agente wat buitelandse kultivars in Suid-Afrika bemark nie. Om geloofwaardigheid van die proses te verseker, is die verteenwoordigers van elke agentskap wat kultivars vir proewe inskryf, teenwoordig tydens plant en oes.

Die gewildste kultivar in die land op 'n spesifieke tyd word in elke proef ingesluit en die opbrengs, bemarkingsindeks en gehalte van die kultivars word bepaal. Tot 2010 was die standaardkultivar BP1. Daarna was daar 'n tydperk waarin BP1 en Mondial beide as die standaardkultivars geplant is, en sedert 2015 word Mondial as standaard geplant.



**Opbrengs en kwaliteit gemeet**

Omdat aartappels in Suid-Afrika gewas word, is uitwendige kwaliteit nie onderhandelbaar nie. Daarom word beide opbrengs en gehalte in proewe gemeet en word die prestasie van kultivars uitgedruk as die bemarkings-indeks.

Die bemarkingsindeks van die betrokke kultivars word bereken deur elke kultivar te klas en volgens gehalte te sorteer. Dienooreenkomstige prysvergelykings word dan gemaak met markpryse soos verkry ten tyde van oes.

**Evaluasie van talle kultivars**

In die eerste dekad ná die projek geloods is (2005 tot 2014), is 69 kultivars in proewe ingeskryf. In die volgende fase van die program (2015 tot 2020), is 50 kultivars in proewe geëvalueer.

Sommige kultivars word slegs vir 'n paar jaar ingeskryf en dan deur die

agent onttrek, onder meer weens die volgende redes:

- Die kultivar is nie aangepas by die plaaslike klimaat nie, met lae of wisselende opbrengs.
- Die kultivar is meer vatbaar vir siektes as standaardkultivars.
- Probleme word ondervind met uitwendige kwaliteit asook inwendige afwykings onder normale toestande.
- Dit is moeilik om moere te produseer wat plantgereed is vir die meeste produksiestreke.
- Die kultivar voldoen nie aan die voorkeure van Suid-Afrikaanse verbruikers nie.

Ander kultivars, daarteenoor, is nie aangepas by die meeste produksiestreke nie, maar toon goeie of spesifieke eienskappe soos 'n kort groeiseisoen, siekteverdraagsaamheid, of het dalk 'n spesifieke bemestingsprogram nodig. Die agent van sulke kultivars kan dan besluit om verdere ontwikkelingswerk te doen

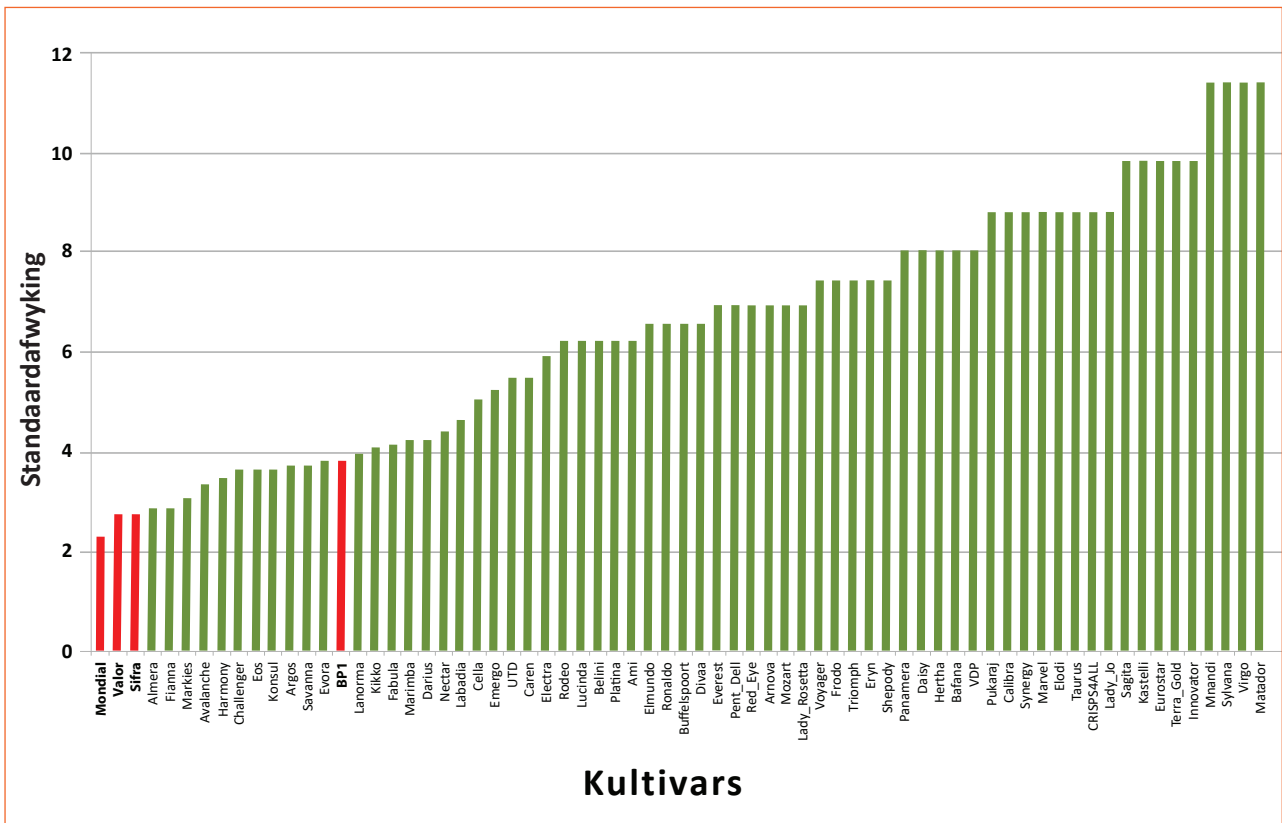
en dit vir nog 'n klompie jare by proewe in te skryf. Hierdeur word verseker dat kultivars wat spesifieke voordele bied, vir die produsent beskikbaar raak.

**Evaluasies baat die hele bedryf**

Kultivar-agente word die geleentheid gegun om nuwe kultivars onder wyd uiteenlopende toestande te evalueer. Sodoende kan kultivars wat potensiaal toon, vinnig geïdentifiseer word en kan die skaal van moerproduksie dien-ooreenkomstig aangepas word. Kultivars wat nie presteer nie, kan gou uit hul program verwyder word en sodoende word koste ook bespaar.

Die produsent wat vir die varsmark produseer het gemoedsrus dat kultivars wat bemark word, onder verskillende toestande getoets is en deur 'n onafhanklike instansie geëvalueer is. Verslae van elke proef word in CHIPS gepubliseer en is vrylik beskikbaar.

**Figuur 2: Die waarde van aanpassingsvermoë van kultivars onder besproeiing.**





Omdat aartappels in Suid-Afrika gewas word, is uitwendige kwaliteit ononderhandelbaar. Beide opbrengs en kwaliteit word daarom in proewe gemeet.

van die 59 kultivars wat van 2005 tot 2014 in proewe geëvalueer is, is bereken.

Die standaardafwyking word beskou as 'n aanduiding van die aanpasbaarheid van kultivars. Hoe kleiner die standaardafwyking, hoe meer konstant is die bemarkingsindeks, en hoe beter is die aanpassingsvermoë van 'n kultivar.

Heel links in *Figuur 2* is die standaardafwyking van Mondial, Sifra en Valor. Hierdie kultivars is steeds van die gewildstes. BP1, wat vir baie jare die gewildste kultivar was, is nie so wyd aanpasbaar soos Mondial, Sifra en Valor nie. Buiten die hoë opbrengs van die nuwe kultivars, het dit tot gevolg gehad dat BP1 tans op 'n relatiewe klein skaal aangeplant word. ©

Die voordele wat hierdie kultivar-evaluasieproewe vir produsente en agente inhou, spoel uiteindelik oor na die verbruiker, omdat bekostigbare aartappels beskikbaar bly.

**Aanpassingsvermoë gemeet**

*Figuur 2* toon die waarde van die aanpassingsvermoë van verskillende kultivars onder besproeiing. Die gemiddelde bemarkbaarheidsindeks

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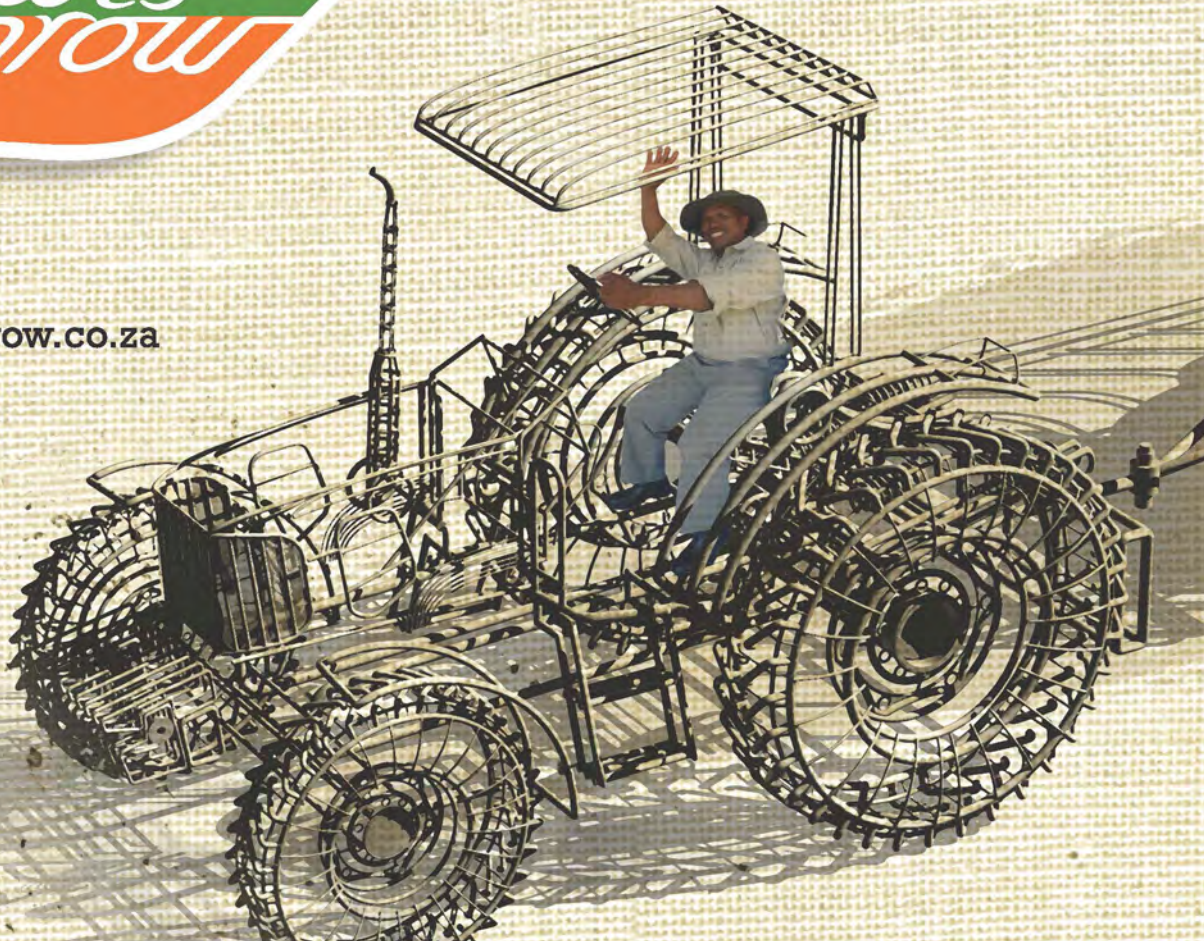
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# VARIETY

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## SABABA

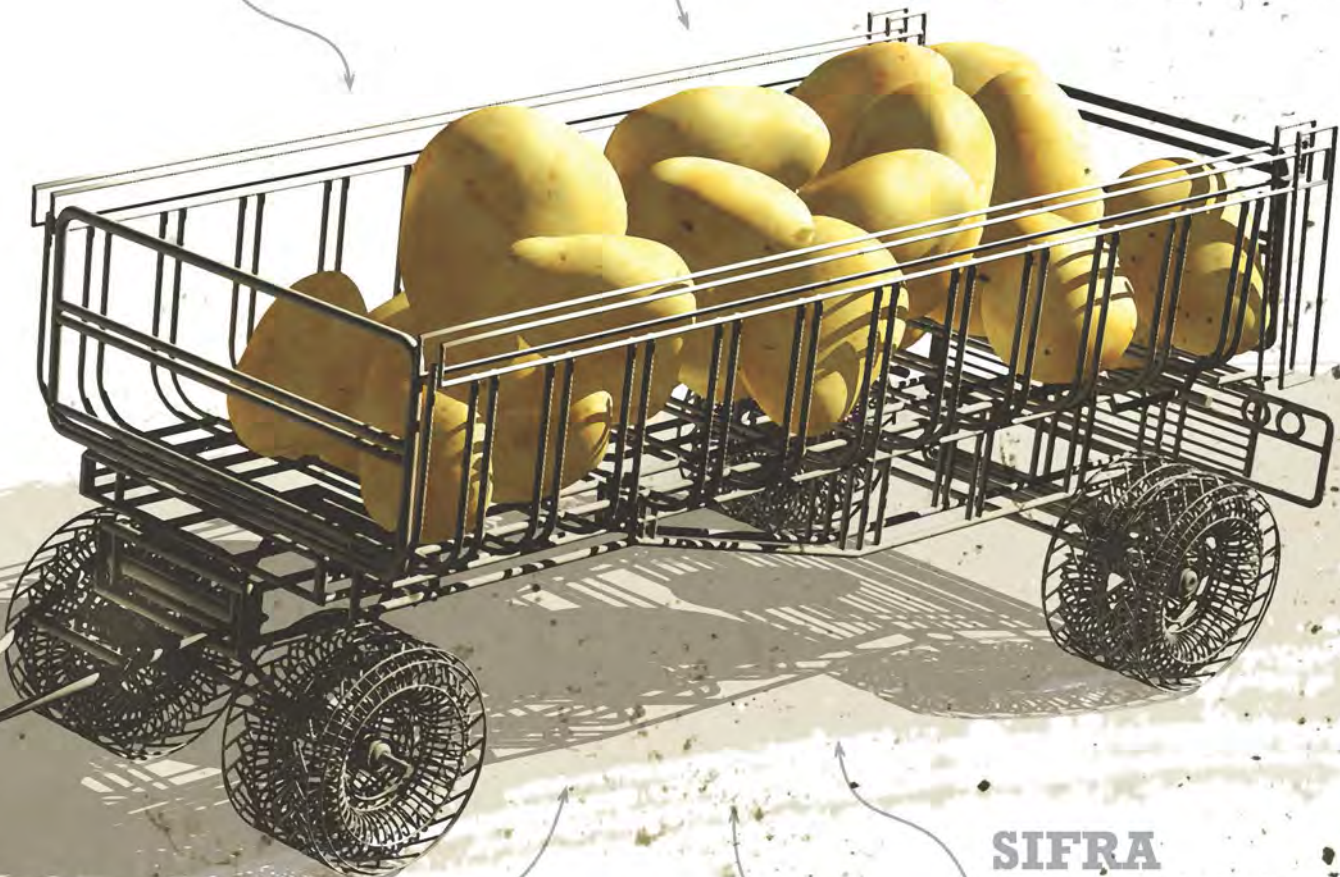
- \* big size tubers
- \* powdery scab resistant
- \* very strong foliage
- \* blight resistance

## TYSON

- \* early bulking
- \* powdery scab resistance
- \* even tuber set, big sizes

## ALLISON

- \* very high yield
- \* strong emergence
- \* drought tolerance



## PANAMERA

- \* high yield
- \* bright smooth skin
- \* blight resistance

## SIFRA

- \* bright smooth skin (prepacker)
- \* high yield
- \* high percentage first grade

## MONDIAL

- \* we still aim to supply the best quality seed all year round





# KwaZulu-Natal cultivar trial under irrigation at Greytown in 2020/2021

By Chantel du Raan and Louis Pretorius, Potatoes South Africa

The KwaZulu-Natal (KZN) production region produces about 5% of the South African potato crop. The region plants potatoes for the seed, table and processing market, under irrigation as well as on dryland. The main cultivars earmarked for the table and processing market include

Mondial, Valor and Sifra in winter, and Valor, Mondial, Up-to-Date, Lanorma and Fianna in summer. The popular cultivars for the seed market produced in this area are Mondial, Valor and FL2108.

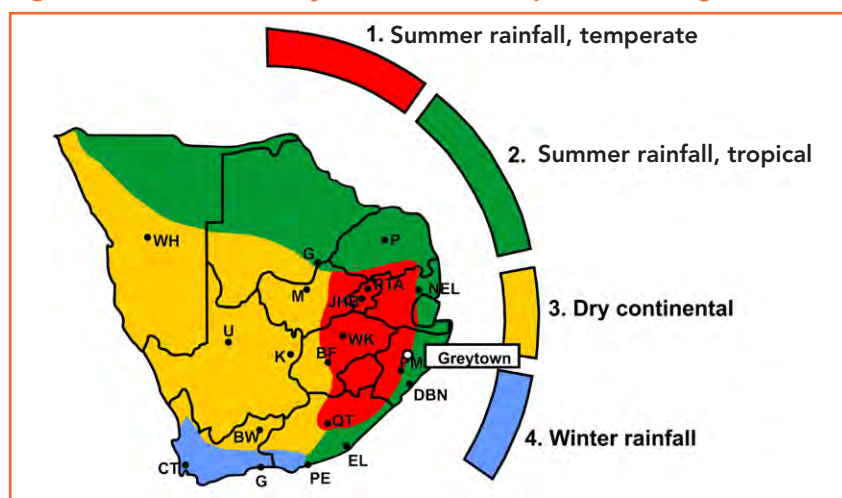
Trials were conducted at Greytown, a town situated 1 155 m above sea level on the banks of the Umvoti River, in a fertile, timber-producing area of KZN. Greytown is situated in a warm and temperate area with a significant annual average rainfall of 688 to 1 140 mm throughout the year (Figure 1).

Greytown has two production seasons, namely a winter planting that takes place from February to July, and a summer planting from August to January. The trial site consisted of sandy loam soil and the trial was laid out in a randomised block design with three replications per cultivar. Additional technical information regarding the trial site and layout is summarised in Table 1.

**Table 1: Summary of technical information regarding the trial site and layout.**

Farm	
Planting date	18 August 2020
Harvest date	19 January 2021
Irrigation/dryland	Irrigation
Double or single rows	Two single rows
Leaf senescence	Chemical
Spacing between rows	0.75 m
Inter-row spacing	0.3 m
Area per plot	15 m <sup>2</sup>
Plant density	44 444 plants/ha

**Figure 1: Location of Greytown in the KZN production region.**



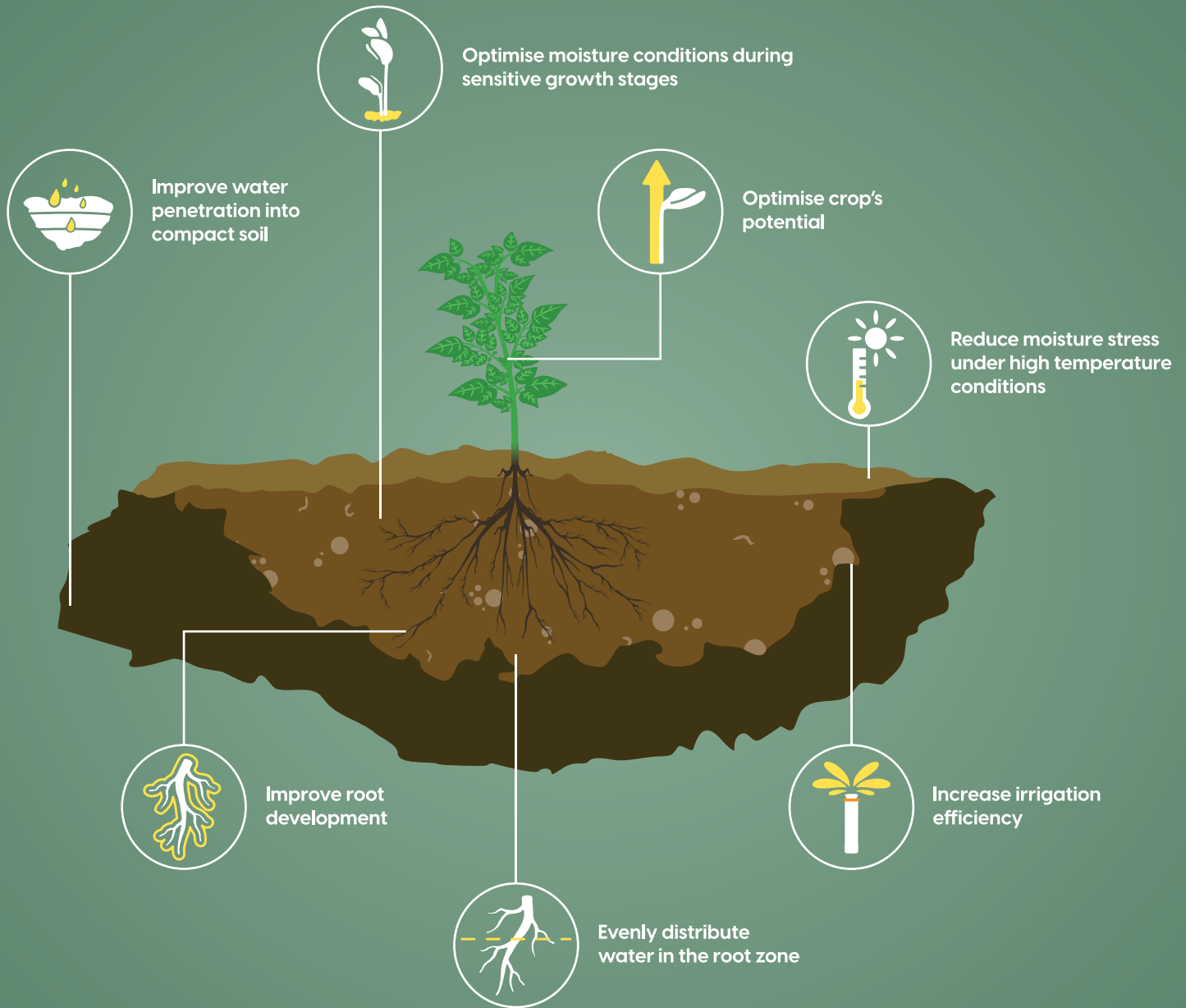
### Effect of certain characteristics

It is important to note that growth periods can influence the yield of cultivars. Growth periods are defined as the total number of days from emergence to leaf senescence, depending on the season.

The exact timing of the four stages of growth depends on the environment and management practices, which vary between localities as well as cultivars due to the different growth periods, among others. The plant readiness of seed potatoes, population density (%)

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**Table 2: Characteristics regarding growth period, population density (%) and haulm count for each of the relevant cultivars in 2020/2021.**

Agent	Cultivar	Growth period (days) <sup>1</sup>		Plant readiness <sup>2</sup>	Population density (%)	Haulms per plant	Haulms per ha
	Allison	Medium to long	(120)	3	100	6.9	306 664
	Alverstone Russet	Medium to long	(110-115)	2	98.53	5.6	245 153
	Belmonda	Short to medium	(100)	2	98.53	3.8	166 354
	Electra	Short to medium	(100)	3	100	7	311 108
	Kingsman	Medium	(100-110)	2	100	4.1	182 220
	Lanorma	Short	(80-90)	3	100	4.4	195 554
	Markies	Medium to long	(120)	3	100	5.8	257 775
	Mondial	Short to medium	(95-100)	3	100	4.3	191 109
	Panamera	Short to medium	(95-100)	3	100	6.1	271 108
	Sababa	Medium to long	(110-115)	3	100	4.6	204 442
	Sifra	Short to medium	(90-100)	3	100	4.4	195 554
	Sound	Medium	(100)	3	100	6.8	302 219
	7 Four 7	Short	(80)	2	100	2.6	115 554
	Taisiya	Short to medium	(90)	3	100	3.8	168 887
	Tyson	Short to medium	(90-100)	3	100	2.6	115 554

<sup>1</sup>General guidelines and categories (days from emergence to natural leaf senescence, depending on the season): Short = 70 to 90 days, short to medium = 80 to 100 days, medium = 90 to 110 days, medium to long = 90 to 120 days, long = 90 to 140 days.

<sup>2</sup>Plant readiness of seed potatoes: 1 = fresh, 2 = slightly fresh, 3 = plant-ready, 4 = slightly old, 5 = old.

<sup>3</sup>Plant density was determined by one replicate of each cultivar comprising two rows with 34 plants, which equate to 68 plants per unit.

and haulm count of this trial are indicated in *Table 2*.

Temperature, photoperiod (day length) and water are the most important abiotic factors

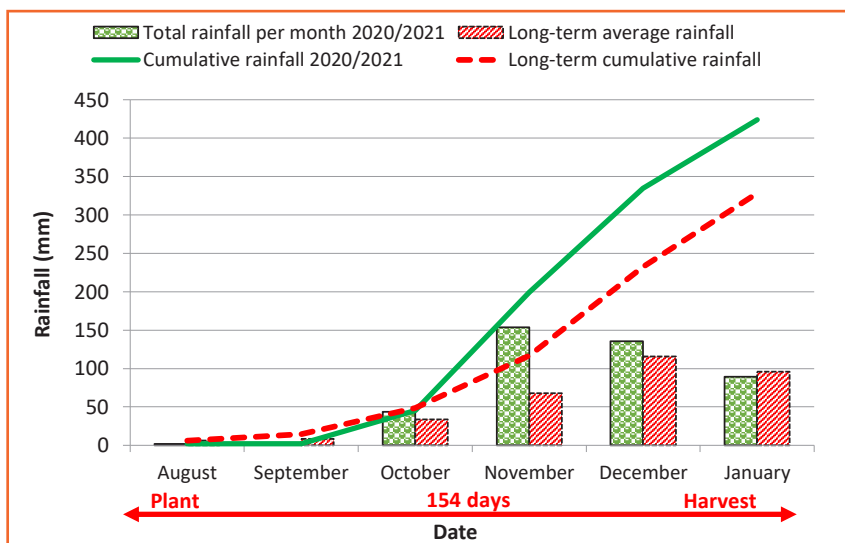
that influence the growth pattern, yield and quality of potatoes. To determine the adaptability of new cultivars in the Greytown area, it is important to take these factors

into account when evaluating the performance of the different cultivars.

It is also important that the cultivars are evaluated for several seasons, as climatic conditions differ from one season to the next. The daily weather data was obtained from the Agricultural Research Council's (ARC) Ivala Muden Station (-28.97029, 30.37931), situated 30 km from the trial site.

Rainfall during the 2020/2021 growing season followed the same trend as in previous years, except for November which received more rainfall (during the bulking stage) compared to the long-term data (*Figure 2*).

**Figure 2: Rainfall during the growing season (2020/2021) as well as the long-term average rainfall.**



**Minimum vs maximum temperatures**

The minimum and maximum temperatures (*Figure 3*) of the 2020/2021 growing season followed the same trend as in





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The average yield for the 2020/2021 season was 47.4 t/ha.

previous years, except for the maximum temperatures being lower in January. The minimum temperatures, on the other hand, were slightly higher in November compared to the long-term data.

During the last two months of the growing season, both the minimum and maximum temperatures fluctuated significantly and were higher than 35°C for 18 days, and higher than 30°C for 86 days. Heat units are another vital factor to consider, as the development of the plant is primarily dependent on the accumulation of heat units. It is therefore accepted that the plant must accumulate a certain number of heat units for the development phase to be completed.

The heat units for the 2020/2021 growing season followed the same pattern as the long-term average (Figure 4). At the end of the season, the heat units of the relevant year's growing season were 5.4% higher than the long-term cumulative heat units.

The yield data was statistically processed using the GenStat® program and the average was separated using the Tukey test of least significant differences (LSD). The cultivar effect of the 2020/2021 trial (Figure 5) was statistically significant ( $p < 0.05$ ) in terms of yield, while the coefficient of variation (CV) was low (10.4%).

This indicates that the trials were well executed, and the results

Figure 3: Minimum and maximum temperatures (°C) during the growing season (2020/2021) as well as the long-term average.

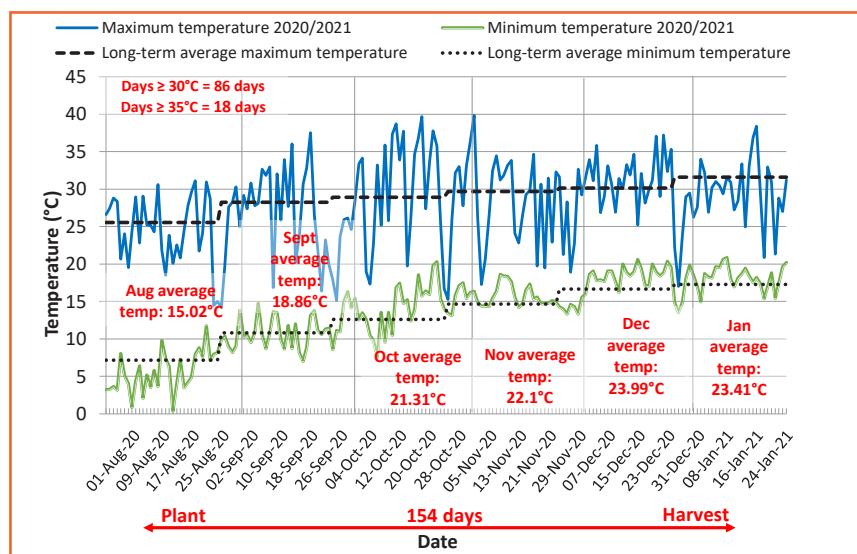
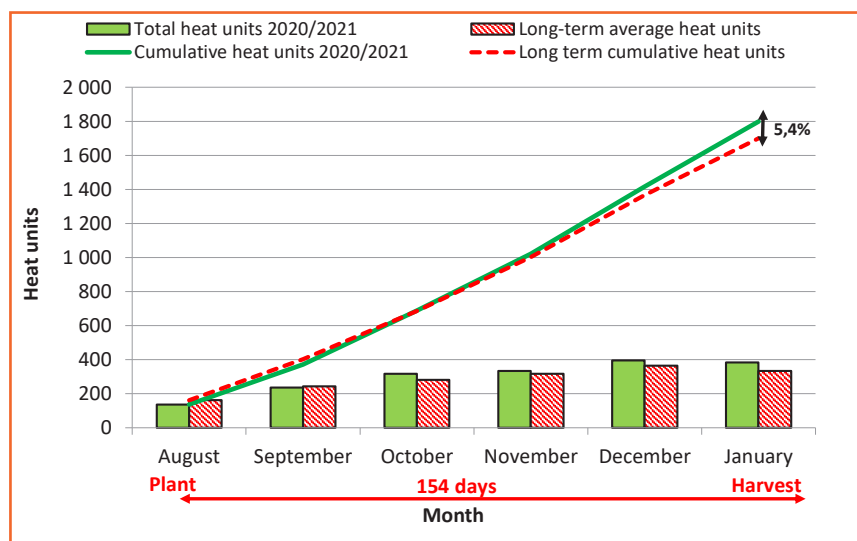


Figure 4: Heat units during the growing season (2020/2021) as well as the long-term average.



\*Total heat units determined specifically for potatoes (threshold temperature = 5°C) as a crop. Calculated from hourly data.



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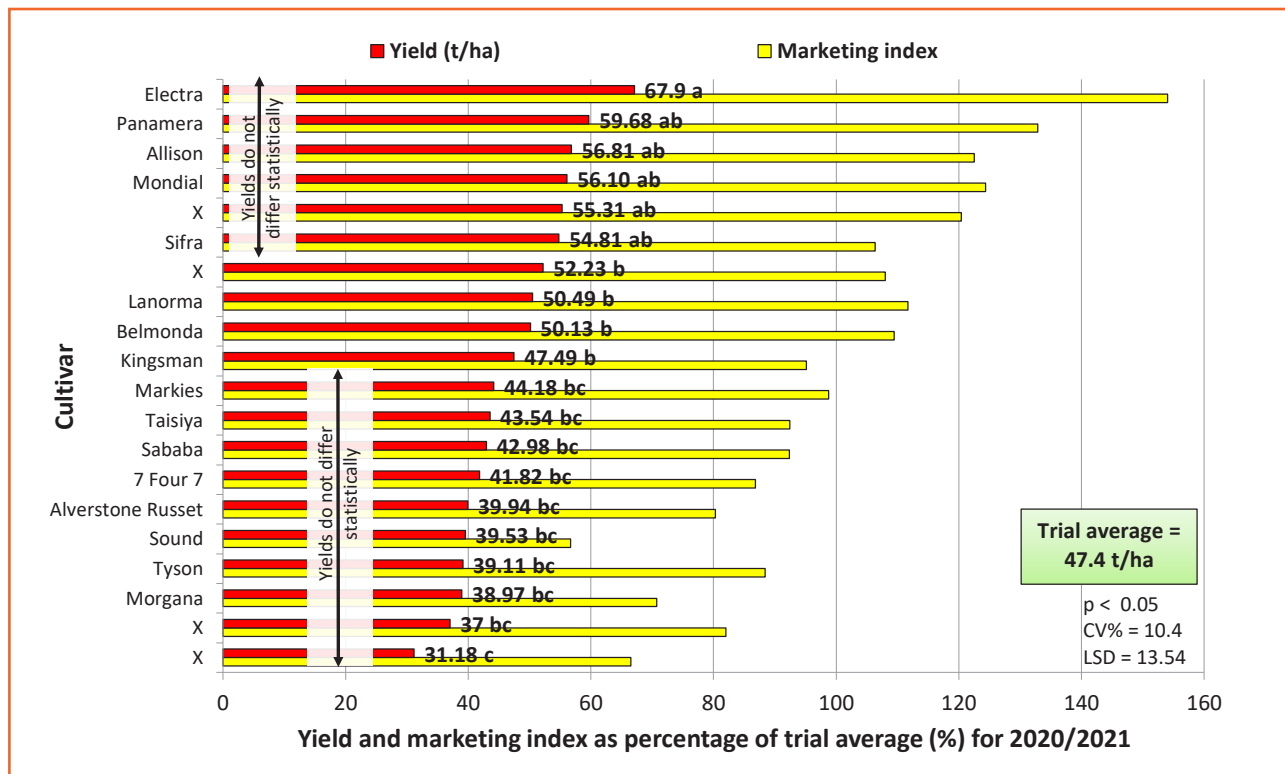


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Figure 5: Total yield and marketing index per cultivar as a percentage of the trial average.



\*Values followed by the same letter do not significantly differ from one another.

Table 3: The main reasons for downgrading during the 2020/2021 Greytown harvesting.

Cultivar	Insect damage	Mechanical damage	Common scab	Sun damage	Malformation	Stem-end rot	Greening	Growth cracks
Allison	X					X	X	X
Alverstone Russet	X						X	
Belmonda	X		X				X	X
Electra	X				X		X	
Kingsman	X			X				
Lanorma	X	X						
Markies	X	X					X	
Mondial	X				X			
Morgana	X			X			X	X
Panamera	X		X				X	
7 Four 7	X	X						
Sababa	X	X		X	X		X	
Sifra	X		X					
Sound	X	X					X	
Taisiya			X				X	
Tyson	X	X						



are reliable. The average yield for the 2020/2021 season was 47.4 t/ha. During the 2020/2021 trials (Figure 5), the cultivars Electra, Panamera, Allison, Mondial and Sifra produced the highest yields. The cultivars Electra, Panamera, Allison, Mondial, Sifra, Lanorma, Belmonda and Kingsman delivered a yield higher than the trial average (47.4 t/ha).

### Highest marketing index for Electra

To determine the performance of the cultivars in terms of yield and quality, the trial utilised yield, size distribution and class to calculate the marketing index according to the average market prices of that

specific day. The yield, multiplied by the prevailing price (which is determined by the tuber size distribution and grading), equals the marketing index (Figure 5).

The highest marketing index, which was attained by Electra, was the result of a high percentage large tuber size distribution (Figure 6) and a high percentage Class 1 grading (Figure 7). Size distribution and grading are also used to class potatoes. These factors are therefore crucial to ensure an optimal, economically marketable yield.

The tuber size distribution is indicated in Figure 6, the grading of the yield in Figure 7, and the main reasons for downgrading

of the various cultivars are indicated in Table 3. The LINTUL-POTATO-DSS plant-growth model was used to calculate the potential potato yield, which is defined as the theoretical top-yield limit if water, nutrients and biological factors are at a seasonal optimum during the trial's growing season.

This allows us to evaluate how the actual yield attained compares with the simulated potential yield. The control cultivar, Mondial, was used to determine the potential potato yield of 73.6 t/ha, as influenced by the specific area's environmental factors (soil type, climate, planting date and harvest date, among others).

**Table 4: Cooking and processing characteristics as well as internal quality of the yields for 2020/2021 (conducted by ARC Roodeplaat).**

Cultivar	Chip colour <sup>1</sup>	SG <sup>2</sup>	Dry matter (%) <sup>3</sup>	Hollow heart (%)	Brown spot (%)
Allison	43	1.08	20.3	-	-
Alverstone Russet	57	1.059	15.86	-	-
Belmonda	47	1.091	22.64	-	-
Electra	39	1.065	17.3	-	-
Kingsman	44	1.094	23.42	-	-
Lanorma	53	1.091	22.59	-	✓
Markies	54	1.086	21.55	-	-
Mondial	47	1.055	15.01	-	-
Morgana	56	1.056	15.24	-	-
Panamera	49	1.06	16.08	-	-
7 Four 7	36	1.061	16.34	-	-
Sababa	58	1.098	24.14	-	-
Sifra	39	1.086	21.67	-	-
Sound	49	1.11	26.62	-	-
Taisiya	48	1.061	20.6	-	-
Tyson	55	1.076	19.45	-	-
≥ Norm (Acceptable for processing)			< Norm (Not acceptable for processing)		

<sup>1</sup>Chip colour with a value of > 50 and without defects is acceptable for the chip industry.

<sup>2</sup>SG of > 1.075 is acceptable for the processing industry.

<sup>3</sup>The percentage dry matter is a calculated value:  $DM\% = 24.182 + 211.04 * (SG - 1.0988)$ .

The actual percentage value will differ slightly between varieties based on this calculating value.



All cultivars except Alverstone Russet, Lanorma, Markies, Morgana, Sababa and Tyson complied with the chip colour standard of > 50.

Figure 6: Tuber size distribution of each cultivar during final harvesting.

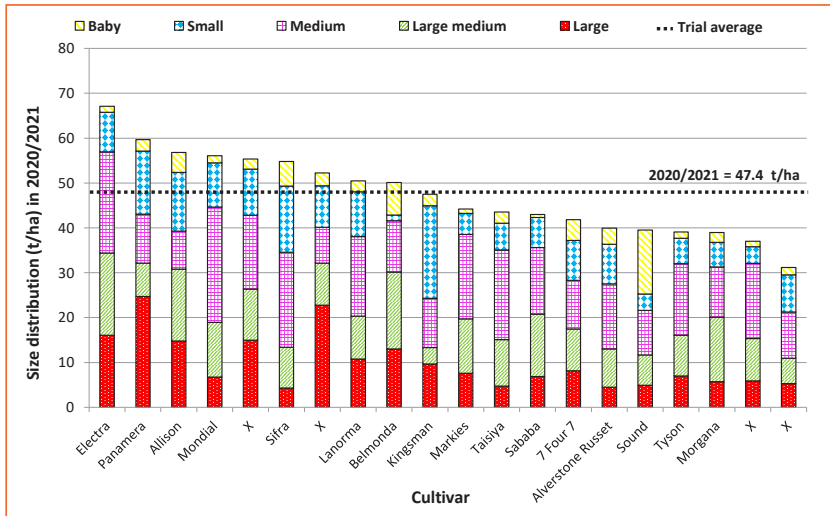
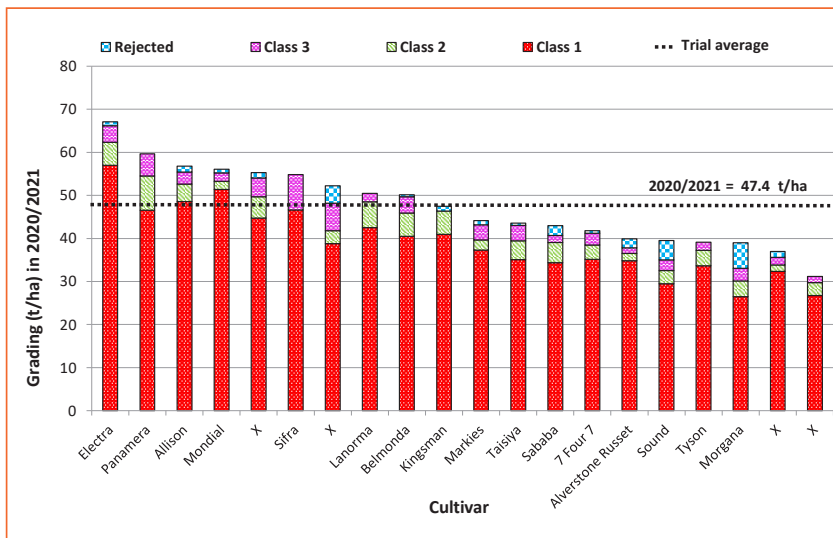


Figure 7: Grading of each cultivar during final harvesting.



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Figure 8: Flesh colour and internal quality of yields during 2020/2021 at Greytown.







The difference between the potential and actual trial yield refers to the yield gap. It illustrates the extent to which producers optimally utilise their environment and available resources to attain high yields. The ratio between the actual and potential yield rate reached 65% for this trial.

**Cultivar performance not yet known**


As the cultivar trial was carried out in Greytown for the first time, no feedback could be given on the performance of the cultivars

over the past three years as yet.

It is furthermore important to focus on the internal quality of the product to ensure an optimal economically marketable yield and thus profitability.

This includes important factors such as processing characteristics, specific gravity (SG) and internal defects (hollow heart, brown spot and vascular bundle discolouration), as summarised in Table 4. During the 2020/2021 growing season, all the cultivars except Alverstone Russet, Lanorma, Markies, Morgana, Sababa

and Tyson complied with the chip colour standard of > 50.

As far as SG is concerned, the cultivars Allison, Belmonda, Kingsman, Lanorma, Markies, Sababa, Sifra, Sound and Tyson achieved the norm of  $\geq 1.075$  for processing. In the case of internal defects, the cultivar Lanorma presented brown spot. Figure 8 illustrates a virtual display of each cultivar’s characteristics. 

For more information, email the author at [chantelr@potatoes.co.za](mailto:chantelr@potatoes.co.za).

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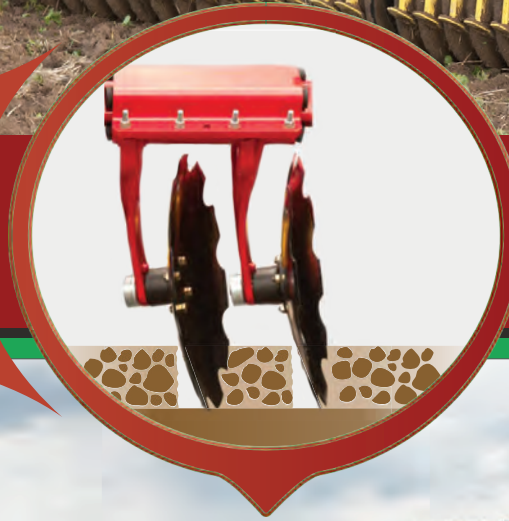






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# Wes-Vrystaatse kultivarproef onder besproeiing op Bultfontein in 2020

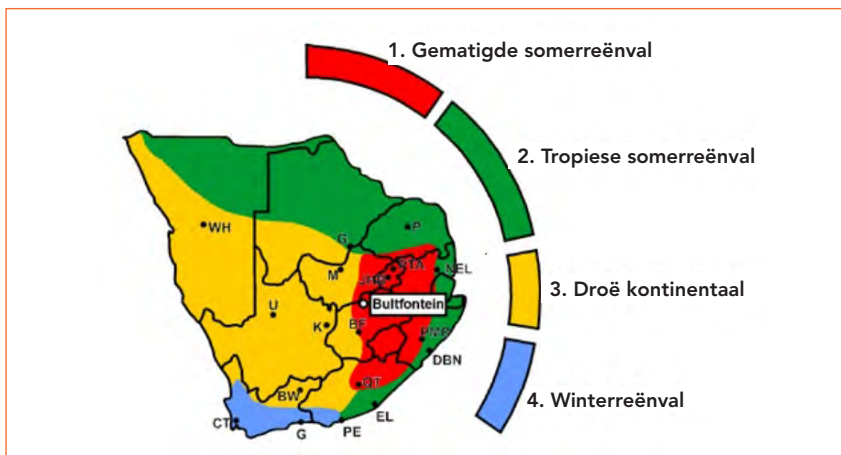
Deur Enrike Verster, Herman Haak (Aartappels Suid-Afrika) en Izak Cronjé (produsent)

Die Wes-Vrystaat is 'n groot aartappelproduksiestreek met 40 produsente wat sowat 14% van die land se aartappels op ongeveer 7 372 ha produseer. Die mees prominente kultivars wat vir kommersiële verbruik (tafel- en verwerkingsaartappels) geproduseer word, is Mondial (33%), Sifra (39%) en Lanorma (18%).

Bultfontein is in Suid-Afrika se somerreënvalgebied geleë (Figuur 1) en het vir die afgelope 15 jaar tussen September en Junie 'n gemiddelde reënval van ongeveer 450 mm per jaar ontvang. Die matige klimaat van die streek sluit in baie warm somers (die warmste in Desember en Januarie), tot koue winters met ryp wat van April af kan voorkom.

Die kultivarproef by Bultfontein is uitgevoer in sandleemgrond en is uitgelê in 'n ewekansige blok-ontwerp met drie herhalings per kultivar. In Tabel 1 word relevante tegniese inligting van die proef gegee. Ingesluit in die kultivarproef is kultivars met kort tot lang groeitydperke. Derhalwe kan groeitydperke die uiteindelijke opbrengs van sekere kultivars beïnvloed.

Figuur 1: Ligging van Bultfontein in die Wes-Vrystaatse produksiestreek.



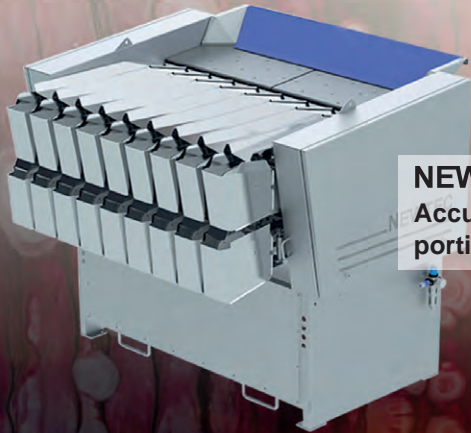
## Omgewingsfaktore en plantgereedheid

Die lengte van groeitydperke is onderhewig aan die aard van die seisoen, maar word gesien as die hoeveelheid tyd wat verloop vanaf opkoms tot natuurlike loofafsterwe. Tabel 2 sit uiteen hoe groeitydperke van een kultivar na 'n ander verskil. Omgewingsfaktore en bestuurspraktyke beïnvloed ook die verskillende groeifases en wanneer hulle begin.

Stand en aantal halms per moer beïnvloed knolgrootte en -opbrengs. Die aantal ogies per knol is kultivar-afhanklik en bepaal die hoeveelheid spruite wat per knol



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voortgebring kan word. In hierdie verband is plantgereedheid van moere baie belangrik, aangesien moere wat plantgereed is beter spruit, en per kultivar die ideale aantal stamme per spruit as knolle voortbring wat nog nie plantgereed is nie.

Moere wat te oud is maak baie stingels en vorm klein knolle. Die plantgereedheid van moere toe die proef geplant is, sowel as die standpersentasie en halmtelling wat later in die groeitydperk waar-geneem is, word in *Tabel 2* aangedui. Verteenwoordigende grond-monsters is voor plant geneem en ontleed om grondvoedingstatus van die proefperseel te bepaal (*Tabel 3*).

### Berekening van resultate

Die evaluering van nuwe kultivars soos in die Bultfontein-kultivarproef verskaf onder andere resultate met betrekking tot opbrengs- en bemarkingsindeks. Die bemarkingsindeks van die betrokke kultivars word bereken deur elke kultivar te klas en te sorteer volgens kwaliteit en grootte-groep (byvoorbeeld, Klas 1 Groot of Klas 2 Groot tot Medium). Dienooreenkomstige prysvergelykings word dan gemaak met markpryse soos verkry ten tye van oes.

Die prestasie van nuwe kultivars kan nie net op die resultate van een bepaalde seisoen geskoei word nie, omdat die klimaat van een jaar na 'n volgende kan wissel. Juis daarom word die kultivars verkieslik oor 'n aantal seisoene getoets.

### Faktore wat groei beïnvloed

Soos met enige gewas is temperatuur, beskikbaarheid van water (hetsy goeie besproeiingskudering of reënval), sowel as hitte-eenhede belangrike faktore wat 'n wesenlike invloed gedurende die aartappelplant se groeitydperk het. Hierdie faktore word dus in aanmerking geneem wanneer die prestasie van kultivars geëvalueer word.

Toepaslike daaglikse en langtermynweerderdata word verkry van 'n

**Tabel 1: Opsomming van tegniese inligting van die proefperseel en -uitleg.**

<b>Plaas</b>	<b>Oasis</b>		
<b>Boer</b>	Izak Cronjé		
<b>Plantdatum</b>	16 Januarie 2020		
<b>Oesdatum</b>	11 September 2020		
<b>Besproeiing/droëland</b>	Besproeiing		
<b>Dubbel- of enkelrye</b>	Dubbelry in een wal		
<b>Loofafsterwe</b>	Natuurlik		
<b>Tussenry-spasiëring</b>	1 m		
<b>Inry-spasiëring</b>	37 cm		
<b>Plotgrootte</b>	20 m <sup>2</sup>		
<b>Plantestand</b>	27 000 plante/ha		
<b>Bemestingsprogram</b>			
	<b>Voedingswaarde</b>		
	<b>N (kg/ha)</b>	<b>P (kg/ha)</b>	<b>K (kg/ha)</b>
<b>Totaal</b>	265	88	150

**Tabel 2: Karaktereïenskappe van groeitydperk, plantgereedheid, stand (%) en halmtellings vir betrokke kultivars.**

Kultivar	Groeiperiode (dae) <sup>1</sup>		Plant-gereedheid <sup>2</sup>	Stand (%)	Halms per plant	Halms per ha
<b>7 Four 7</b>	Kort	(80)	4	77 <sup>3</sup>	3.8	79 002
<b>Allison</b>	Medium tot lank	(120)	3	100	6.2	167 400
<b>Belmonda</b>	Medium	(100-110)	3	100	6.4	172 800
<b>Kingsman</b>	Medium	(110)	2	100	4.4	118 800
<b>Lanorma</b>	Kort	(80-90)	3	94 <sup>3</sup>	2.8	71 064
<b>Mondial</b>	Medium tot lank	(110-115)	3	100	5.2	140 400
<b>Panamera</b>	Medium	(90-110)	3	100	4	108 000
<b>Sababa</b>	Medium tot lank	(110-115)	3	100	5.2	140 400
<b>Sifra</b>	Kort tot medium	(90-100)	3	100	3.6	97 200
<b>Sound</b>	Medium	(110)	2	90 <sup>3</sup>	5.2	126 360
<b>Tyson</b>	Kort tot medium	(90-100)	3	100	5	135 000

<sup>1</sup>Algemene riglyne en kategorieë (dae van opkoms tot natuurlike loofafsterwe, afhangend van die seisoen): Kort: 70 tot 90 dae; kort tot medium: 80 tot 100 dae; medium: 90 tot 110 dae; medium tot lank: 90 tot 120; lank: 90 tot 140 dae.

<sup>2</sup>Plantgereedheid van moere: 1 – vars, 2 – effens vars, 3 – plantgereed, 4 – effens oud, 5 – oud.

<sup>3</sup>Standpersentasie is bepaal deur te kyk na die herhaling van elke kultivar wat bestaan uit 18 plante per ry per 10 m – dit werk dus uit op 36 plante per plot (dubbelry).

**Tabel 3: Grondvoedingstatus van proefperseel voor plant.**

pH (KCl)	P-Bray					% van KUK <sup>1</sup>			
	p	K	Ca	Mg	Na	K	Ca	Mg	Na
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	%	%	%	%
5.5	38	125	265	55	12	20	57	21	2

<sup>1</sup>KUK = Katioon-uitruilkapasiteit.



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Die voordelige **EndoMaxx**® swamme ontwikkel swamdrade (bekend as hifes) wat klein grondruimtes binnedring waar die aartappelwortelvolumen normaalweg nie ontwikkel nie. Sodoende word die effektiewe wortelstelsel uitgebrei en vergroot die wortelmassa aansienlik.

### VOORDELE

- Verhoog die effektiewe wortelmassa
- Verhoog die toegang tot voedingstowwe en water, asook die opname daarvan
- Maksimiseer opbrengste
- Verbeter droogte- en stresverdraagsaamheid
- Verbeter die grondstruktuur en -gesondheid.

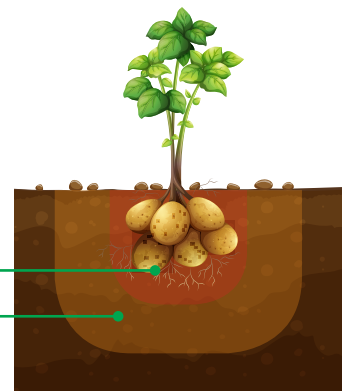
**EndoMaxx**® span die krag van die natuur in om die heel beste uit jou oes te haal.

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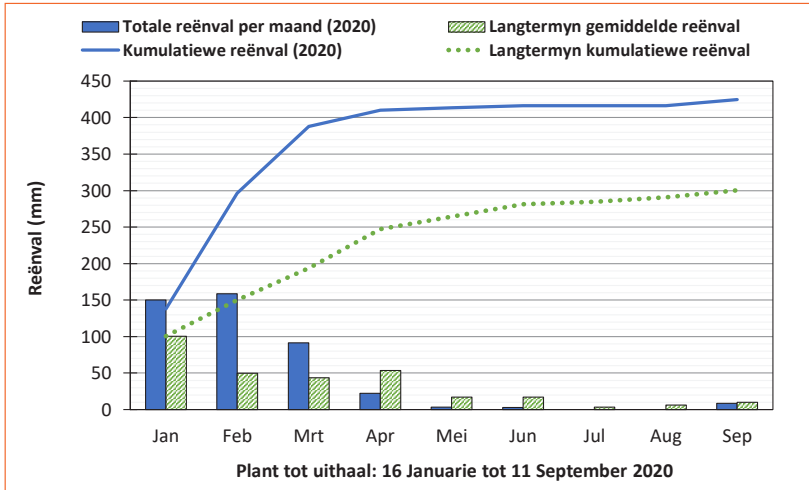
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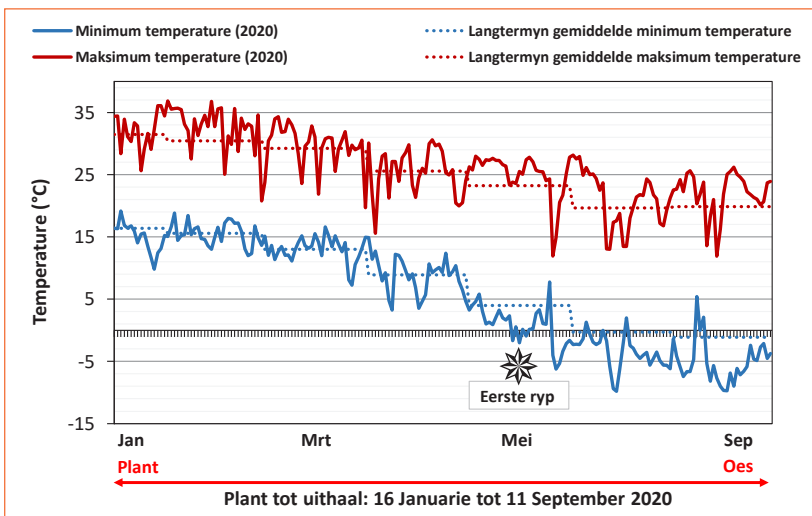
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**Figuur 2: Reënval vir die 2020-seisoen asook die langtermyn gemiddelde reënval.**



**Figuur 3: Minimum en maksimum temperature vir die 2020-seisoen sowel as langtermyn temperature.**



gekoose weerstasie van die Landbounavorsingsraad (LNR) wat so na as moontlik aan die proefperseel geleë is. Vanaf Januarie tot Maart was die reënval vir die seisoen aansienlik hoër as die langtermyn-gemiddeld. Daarna het die tendens vir die seisoen vanaf April 'n laer as langtermyn-gemiddelde ontvangs getoon (Figuur 2).

Minimum en maksimum temperature word in *Figuur 3* uiteengesit. Temperature wat ietwat hoër was as die langtermyn-gemiddelde maksimum temperature, is vanaf einde Januarie tot middel-Maart (temperature wat voortdurend hoër as 30°C is) aangeteken. Temperature onder vriespunt het in ongeveer middel-Mei 2020 ontstaan en daarmee saam natuurlike loofafsterwe.

Die seisoen is ook deur aansienlik laer minimum temperature as die langtermyn-gemiddeld gekenmerk. Versameling van hitte-eenhede in 'n groeitydperk is 'n kardinale faktor in die ontwikkeling van 'n plant.

Die tendens van hitte-eenhede beskikbaar vir die kultivarproef van die betrokke seisoen, blyk baie na te wees aan die langtermyn-data-tendens tot en met April, met 'n aansienlike laer versameling van hitte-eenhede vanaf Mei tot September weens 'n koue winter (*Figuur 4*).



Bultfontein is in Suid-Afrika se somerreënvalgebied en het vir die afgelope 15 jaar tussen September en Junie 'n gemiddelde reënval van ongeveer 450 mm per jaar ontvang.





# Japanese (forage) radish: Versatility redefined



Pannar's Japanese radish, Endurance.

By Petrus van Rooyen, product manager: forage crops, Pannar Seed

**J**apanese radish (*Raphanus sativus*) is an excellent forage crop. It is also a good choice in crop rotation systems as it has soil conservation and health benefits. Before utilisation, the large taproot and foliage help protect the soil against erosion. The large taproot of radishes allows these crops to penetrate and break up shallow layers of compacted soils or plough pans. This is where the common nickname of 'biodrills' comes from. This action promotes increased infiltration of water into the soil profile and promotes deeper rooting in subsequent crops.

## A crop above the rest

Research conducted in Maryland, the United States, found that four times as many corn roots penetrated compacted subsoil after a forage radish cover crop than after leaving it to lie fallow. If planted early enough (preferably six weeks prior to frosts), radish can produce an aggressive growth habit that will spread out and canopy, which outcompetes autumn and winter weeds.

This foliage also helps with the infiltration of any late rainfall into the soil. If unutilised and left to decay in the field, water infiltration and surface drainage improves due to channels left by the large decaying roots. Japanese radish, which is from the *Brassicaceae* (or *Cruciferae*) family, is well known and utilised as an autumn or winter crop in the cooler cropping areas in South Africa.

Japanese radish is used widely both in pure stands and mixed pasture

**Table 1: The expected dry matter production and stocking rates under different ranges of rainfall (Source: Pannar forage crops production guidelines).**

Production (summer rainfall)		
Rainfall (mm)	t DM/ha	SSU/ha for 120 days
550 tot 600	4	35
600 tot 800	6	50
> 800	10	85

\*DM: dry matter. SSU: small stock unit.

systems. Planting times vary across the country, with some cool areas able to plant as early as mid-December. For most areas with relatively reliable rain, the recommended planting window is from January to early March.

Seeding rates are between 2 to 3.5 kg/ha in rows. If planted too early, there is a risk that seedlings could be damaged by hot weather, as well as plants switching into the reproductive phase and flowering early. However, keep in mind that it is normal for a percentage of Japanese radishes to flower earlier and change to seed formation.

Insects can damage seedlings, so be on the lookout for them and apply the necessary chemicals. Conversely, if planted on dryland too late, there is a risk of missing the last rain and having lower soil moisture content, resulting in lower yields.

The production potential of Japanese radish can vary dramatically depending on time of planting, soil potential and rainfall. Under irrigation

and high potential soils, 14 ton DM/ha can be achieved. Under dryland conditions, tonnage ranges between 4 to 10 ton DM/ha depending on parameters mentioned (Table 1). The stocking rate on Japanese radish is outstanding for a winter crop, with 6 ton DM/ha able to carry 50 small stock units for 120 days.

## Endurance – Exclusive to Pannar

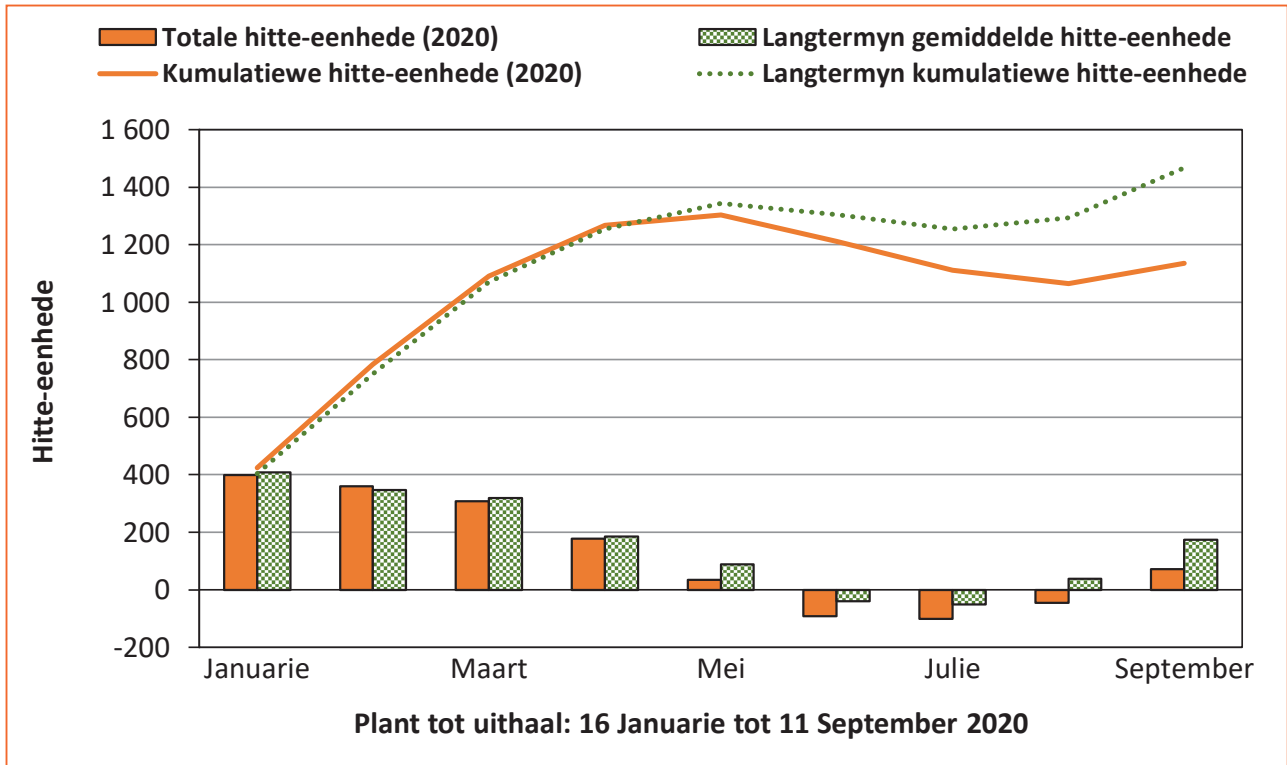
Pannar markets the variety Endurance, which originated from an intensive breeding programme run between the Agricultural Research Council's Animal Production Institute (ARC-API) in Cedara, KwaZulu-Natal, and PGG Wrightson in New Zealand.

The aim was to produce a high-yielding, late-flowering fodder radish variety. Endurance is a later-flowering variety with soft, hairless leaves, and moderate to good resistance to rust infection. Pannar Seed has the exclusive marketing rights to Endurance in Southern Africa.

Japanese radish's lower water requirements and ability to produce high yields and quality forage compared to other winter crops, has increased its popularity. It is a good choice to fill the forage gap in the winter and early spring.

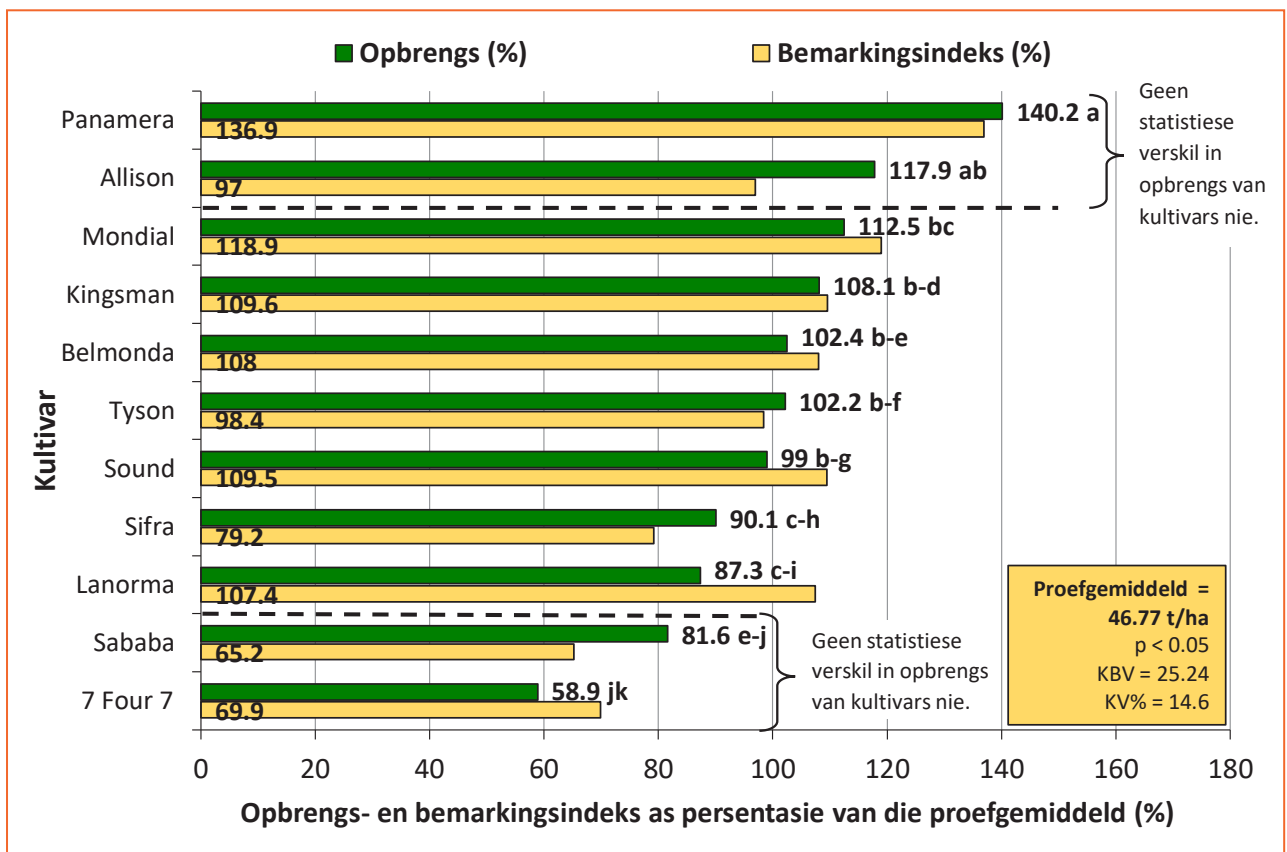
For more information, contact the author at [petrus.vanrooyen@pannar.co.za](mailto:petrus.vanrooyen@pannar.co.za) or 082 822 6438. Alternatively, contact your Pannar Seed representative.

Figuur 4: Hitte-eenhede van die 2020-seisoen asook langtermyn gemiddelde hitte-eenhede.



\*Totale hitte-eenhede spesifiek bepaal vir aartappels as gewas (drumpeltemperatuur = 5°C). Bereken vanaf uurlikse data.

Figuur 5: Totale opbrengs en bemarkingsindeks per kultivar as persentasie van die proefgemiddeld.



\*Waardes gevolg deur dieselfde letter is nie beduidend verskillend van mekaar nie.





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Die kultivars Panamera en Allison het die hoogste opbrengs gelewer. Panamera het ook die hoogste bemarkingsindeks behaal.

Tabel 4: Hoofredes vir afgradering.

Kultivar	Vergrote lentiselle	Swartspikkel	Insek	Mot	Holhart
7 Four 7			X	X	X
Allison		X	X		
Belmonda		X	X	X	
Kingsman	X		X		X
Lanorma			X	X	
Mondial		X	X		X
Panamera	X		X		
Sababa		X	X		
Sifra	X		X		
Sound			X	X	
Tyson	X		X		

Tabel 5: Kook- en prosesseringseienskappe van kultivars (uitgevoer deur LNR Roodeplaat).

Kultivar	Skyfiekleur <sup>1</sup>	Droëmateriaal <sup>2</sup>	SG <sup>3</sup>
7 Four 7	53	14.71	1.053
Allison	51	17.62	1.067
Belmonda	58	18.80	1.073
Kingsman	61	18.12	1.069
Lanorma	69	16.42	1.061
Mondial	56	18.31	1.070
Panamera	64	17.97	1.069
Sababa	59	16.69	1.063
Sifra	53	16.37	1.061
Sound	61	17.71	1.067
Tyson	68	16.56	1.062

<sup>1</sup>Skyfiekleur met waarde >50 en sonder defekte is aanvaarbaar vir die droëskyfiebedryf.

<sup>2</sup>Die persentasie droëmateriaal (DM) is 'n berekende waarde:  $DM\% = 24.182 + 211.04 * (SG - 1.0988)$ . Die werklike persentasiewaarde sal effens verskil tussen kultivars uit hierdie berekeningswaarde.

<sup>3</sup>SG van  $\geq 1.075$  is aanvaarbaar vir die prosesseringbedryf.

### Statistiese verwerking

Opbrengsdata wat tydens die oesdag versamel word, word onderwerp aan statistiese verwerking met behulp van die GenStat®-program. Die Tukey-toets van kleinste betekenisvolle verskille (KBV) is gebruik om die gemiddelde te skei.

Die kultivareffek in die betrokke proef (Figuur 5) was statisties beduidend ( $p < 0.05$ ) en die koëffisiënt van variasie was laag (14.6%). Hierdie faktore dui daarop dat die proef goed uitgevoer is en die resultate betroubaar is.

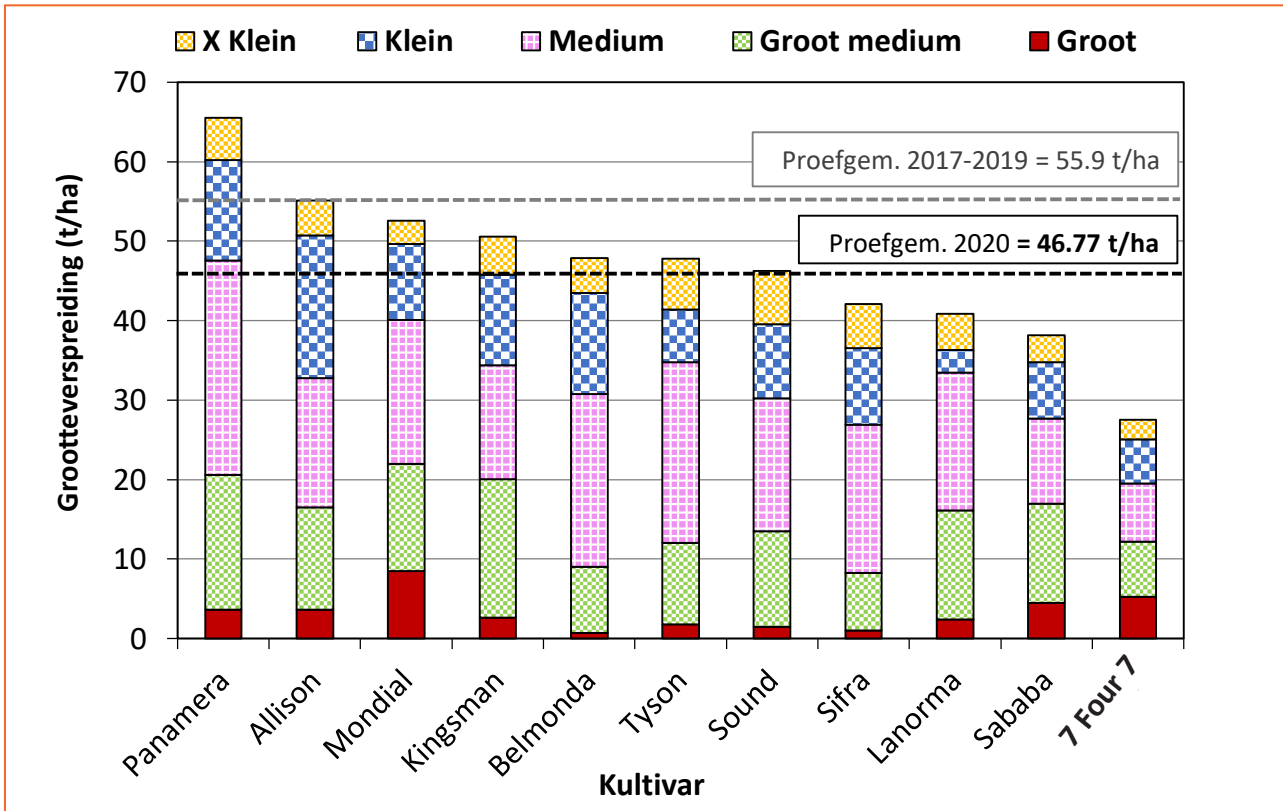
Die opbrengs van elke kultivar word deur die proefgemiddeld gedeel (die proefgemiddeld van al die kultivars word as 100% geneem). Hierdeur word 'n opbrengsindeks bepaal en word elke kultivar se prestasie in terme van opbrengs as 'n persentasie van die proefgemiddeld gelees.

Die gemiddelde opbrengs van die proef vir die 2020-seisoen is 46.77 t/ha, wat effens laer as die 2019-proefgemiddeld van 51.88 t/ha is. Die kultivars Panamera en Allison het die hoogste opbrengs gelewer. Panamera het ook die hoogste bemarkingsindeks behaal. Dit kan aan 'n baie goeie opbrengs in Groot-en Klas 1-knolle (Figure 5, 6 en 7) toegeskryf word.

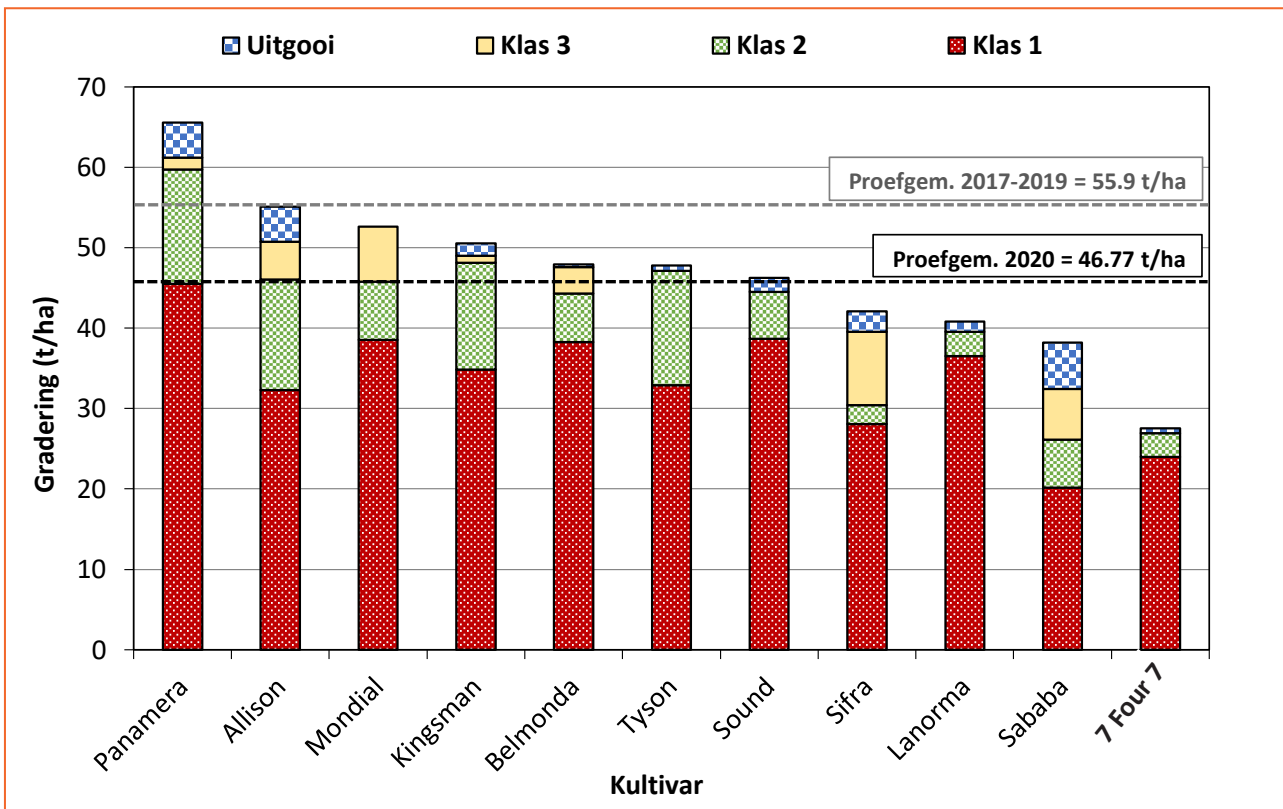
Groottegroepverspreiding en gradering is onontbeerlike evaluasies wanneer na 'n kultivar se bemarkbaarheid gekyk word. Die hoofredes vir die afgradering van elke kultivar (Tabel 3) asook interne kwaliteit, is alles belangrike faktore en moet dus ook geëvalueer word.



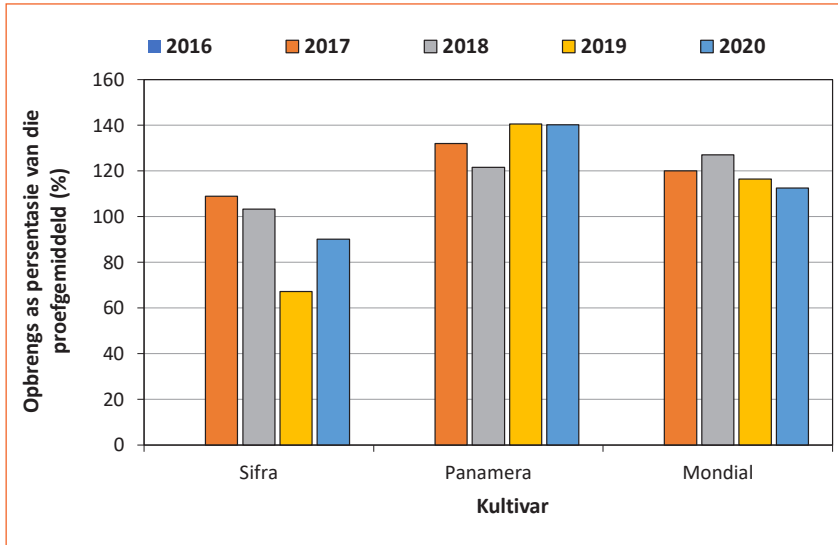
Figuur 6: Groottegroepsverspreiding van elke betrokke kultivar.



Figuur 7: Gradering van elke betrokke kultivar.



**Figuur 8: Prestasie van kultivars wat vir drie jaar in die proef ingesluit was (uitgedruk as persentasie van die proefgemiddeld).**



Motskade, silwerskurf en relatiewe lae soortlike gewig (SG) soos aangeteken in hierdie proef, is probleme wat kan intree wanneer knolle so lank onder die grond lê voor uithaal. Soos die aard van

seisoene is, fluktueer die prestasie van kultivars van seisoen tot seisoen – bloot omdat die klimaat van een seisoen na 'n volgende nooit anders is nie. Derhalwe is dit belangrik om die konsekwente prestasie van

kultivars oor 'n aantal seisoene in ag te neem.

**Voldoende skyfiekleur, maar nie SG**

Mondial en Panamera toon tans die minste variasie vanaf 2016 tot 2020 vir die Bultfontein-gebied (Figuur 8). Laastens, wanneer na interne kwaliteit van aartappels gekyk word, kan kook- en prosesseringseienskappe ook geëvalueer word. Om te voldoen aan prosesseringseisoene, moet kultivars aan 'n skyfiekleurnorm van >50 en 'n SG van ≥1.075 voldoen. Alle kultivars het aan die voorgeskrewe skyfiekleur voldoen, maar nie een het aan die voorgeskrewe SG voldoen nie (Tabel 5). ©

Vir meer inligting, kontak **Enrike Verster** by [epos.enrike@potatoes.co.za](mailto:epos.enrike@potatoes.co.za) of **Herman Haak** by [epos.herman@potatoes.co.za](mailto:epos.herman@potatoes.co.za).

## Ondersteuning van jou plaas tot op die mark.

- Laat ons jou ondersteun in elke aspek van die proses om jou handelsmerk te laat uitstaan.
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# Palmer amarant: 'n Onkruid om mee rekening te hou

Deur Enrike Verster, Aartappels Suid-Afrika (Foto's deur prof. Charlie Reinhardt)

**P**almer amarant (*Amaranthus palmeri*) is sedert 2005 as 'n nommer-een-onkruid in die Verenigde State van Amerika (VSA) onder mielies, katoen en sojabone gelys. Wetenskaplike navorsing in die VSA toon dat Palmer amarant reeds weerstandig is teen agt uit 15 van die belangrike meganismes van onkruidodderwerking.

Hierdie onkruidodders sluit in glifosaat, fotosintese-inhibeerders (triasiene), seldelinginhibeerders (dinitroaniliene), PPO-inhibeerders, HPPD-inhibeerders, vetsuursintese-inhibeerders (asetaniliëde) en ALS-inhibeerders.

Palmer amarant is reeds in Suid Afrika aangemeld. Indien dié onkruid nie beperk of reg bestuur word nie, is daar 'n sterk moontlikheid dat dit 'n ekonomiese impak in Suid-Afrika kan hê, met enorme implikasies binne die volgende ongeveer tien jaar. Die onkruid is inheems tot die semi-woestynde van die VSA, wat goeie aanpassing in Suid-Afrika se groot graanproduksiegebiede tot gevolg kan hê.

## Palmer amarant plaaslik gevind

Die onkruid is in 2018 in 'n katoenland in die Douglas-distrik in die Noord-Kaap, waargeneem. Sedertdien is dit ook in die Howick-distrik in KwaZulu-Natal, die noorde van die Nasionale Krugerwildtuin, asook by Kasane in Botswana bevestig.

In Suid-Afrika het die onkruid aandag getrek nadat dit in die Douglas-distrik geïdentifiseer is, juis omdat dit weerstandigheid getoon het teen onkruidodders wat



Palmer amarant beskik oor talle eienskappe wat die verspreiding van die plant buitengewoon vinnig kan bevorder.

normaalweg goeie beheer teen ander amarantsoorte toon. Die samewerking van alle rolspelers word nou verlang om die onkruid in Suid-Afrika te identifiseer en om bewusmaking onder alle belanghebbendes te bewerkstellig, ten einde die onkruid sover as moontlik te beperk.

Palmer amarant beskik oor talle eienskappe wat die verspreiding van die plant potensieel buitengewoon vinnig kan bevorder. Een plant beskik oor die vermoë om tot 600 000 sade, wat drie jaar lank kiemkrachtig in grond kan oorleef, te produseer. Sade is klein (1 tot 2 mm in deursnee), diep-pers wanneer dit ryp is (blink swart) en glad, rond of plat. Die onkruid is hoogs aanpasbaar in baie omgewings danksy die

plant se groot genetiese diversiteit – nóg 'n rede vir die vinnige ontwikkeling van weerstand teen verskeie onkruidodders.

## Gids vergemaklik identifikasie

In Suid-Afrika word altesaam 17 ander amarant-soorte aangetref. Dit bemoeilik identifikasie van Palmer amarant, omdat sekere kenmerke tussen die soorte ooreenstem. Derhalwe is die *Gids vir identifikasie van Palmer amarant (Amaranthus palmeri) in Suid-Afrika* deur prof Charlie Reinhardt, projekteur van die Suid-Afrikaanse Inisiatief vir Onkruidodderweerstand (SAHRI) aan die Universiteit van Pretoria, saamgestel.

Hierdie gids bevat omvattende inligting sowel as foto's van Palmer amarant in verskeie lewensstadia



Die onkruid is inheems tot die semi-woestynde van die VSA, wat beteken dat dit goed aanpasbaar in Suid-Afrika se graanproduksiegebiede behoort te wees.

en bloeiwyses. Die gids bevat ook foto's van ander amarant-soorte asook bykomende waardevolle inligting. Die gids is vrylik beskikbaar.

**Eienskappe van Palmer amarant**

Palmer amarant is 'n eenjarige somer-onkruid wat lang dae en hoë dag- en nagtemperatuur verkies. Stamme vertoon tipies rooi-groen en groei tot twee meter lank met heelwat sytakke. Lang blaarstele (langer as die blare) is 'n onderskeidende eienskap in die VSA, maar nie elke blaar vertoon dié eienskap nie.

Sommige plante se blare het 'n wit V-vormige chevron-vlek aan die bokant, 'n instulping op die blaarpunt en/of 'n trigoom (haartjie) in die instulping. Bloeiwyses van veral die vroulike onkruid word tot 60 cm lank, en die manlike blomme (sag met sigbare stuifmeel) en vroulike blomme (hard en stekelig) kom op aparte plante voor.

Saailinge kan wisselende voorkomste hê en derhalwe is

onderskeiding tussen amarant-soorte in die saailingfase moeilik. Foto's van alle bogenoemde eienskappe kan in die gids besigtig word.

Vir navrae oor verwysings in hierdie artikel, epos Enrike Verster by [enrike@potatoes.co.za](mailto:enrike@potatoes.co.za).

Vir 'n eksemplaar van die Gids vir identifikasie van Palmer amarant (*Amaranthus palmeri*) in Suid-Afrika, besoek <https://www.agriorbit.com/palmer-amarant-n-groen-monster-bedreig-sa-landbou/>.

Vir identifikasie van plante wat verdag voorkom, kontak prof Charlie Reinhardt by 083 442 3427 of epos [dr.charlie.reinhardt@gmail.com](mailto:dr.charlie.reinhardt@gmail.com). Foto's van verdagte onkruid per epos of WhatsApp word sterk aanbeveel.

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# Motte maak amok



*Tuta absoluta* of die tamatieblaarmyner. 'n Skaal van 5 mm is hier van toepassing. (Foto: IDtools.org).

Deur dr Fienie Niederwieser, Aartappels Suid-Afrika

**B**uitengewone skade deur aartappelmotte, is die afgelope seisoene uit verskeie produksiestreke aangemeld. Aartappels Suid-Afrika (ASA) het met 'n reeks werkwinkels begin oor die beheer van hierdie insek, en die eerste drie werkwinkels het vóór planttyd in Limpopo plaasgevind.

Omdat tamaties oral in Limpopo geplant word, is die beheer van die tamatieblaarmyner, *Tuta absoluta* (*T. absoluta*), ook bespreek. In hierdie artikel word 'n paar belangrike uittreksels uit die aanbiedings van prof Hannalene du Plessis van die Noordwes-Universiteit, en dr Diedrich Visser van die Landbounavorsingsraad (LNR), weergegee.

## Tamatieblaarmyner en aartappels

In dié stadium is *T. absoluta* nie 'n probleem op aartappels nie, maar indien dit weerstand teen insekdoders het, kan dit 'n probleem raak. Die rede hiervoor is dat dit die fotosinterende weefsel van die plant sal verminder. *T. absoluta* is daarvoor bekend dat dit vinnig weerstand teen insekdoders ontwikkel.

Weerstand teen verskeie groepe insekdoders is reeds in Suid-Amerika en Europa aangeteken, en sluit onder andere verskeie organofosfate,

piretroïede, abamektien, indoksakarb, chitien biosintese-inhibeerders, spinosad, emamektienbesoat en chloorantraniliprol in.

## Wat is weerstand?

Weerstand is geneties gebaseer. In enige insekbevolking is daar altyd een individu of meer wat weerstand biedend is, nes mense wat natuurlike weerstand teen byvoorbeeld griepvirsusse het.



Aartappelmotte wat in 'n Delta-val gevang is, gee 'n aanduiding van die infestasiedruk in die omgewing.

Indien daar gespuit word en 'n paar weerstandige insekte bly oor, en 'n middel met 'n ander doodmaak-aksie word daarna gespuit, kan daar van die weerstandige insekte ontslae geraak word. Indien dieselfde middel telkens gebruik word, gaan die weerstandige insek-

“**Indien een of twee produsente nie bestuur van weerstand toepas nie, kan almal in die omgewing na 'n ruk met weerstandige insekte sukkel.**

te toeneem. Só word vir weerstand geselekteer.

## Dis nie nét jou probleem nie

'n Produsent se moeilikheid bly ongelukkig nie net op sy plaas nie – motte vlieg oor die draad na die buurman toe, of die wind waai die motte oor 'n afstand heen. Indien een of twee produsente nie bestuur van weerstand toepas nie, kan almal in die omgewing na 'n ruk met weerstandige insekte sukkel.

## Kan weerstand omgeswaai word?

As weerstand nog nie volledig plaasgevind het nie, kan dit omgeswaai word, maar nie as dit weerstand-permanent is nie. Dit wil sê dat as al die insekte in die bevolking weerstand het, kan die situasie nie omgedraai word nie.

## Rede tot kommer

Organofosfate en piretroïede (ouer middels) was die eerste middels waarteen weerstand opgebou is. Daarna is abamektien gebruik,



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waarteen daar ook baie vinnig weerstand opgebou is. Nuwe middels is toe aangewend, maar weerstand het keer op keer ook teen al hierdie middels ontwikkel. In Europa, in lande soos Griekeland, Italië, Spanje en ander, is daar nie meer middels waarvoor daar nie weerstand aangemeld is nie.

### Oorsake van swak beheer

Daar is verskeie redes waarom die beheer van beide aartappelmotte en *T. absoluta* swak is, en dikwels is dit te wyte aan 'n kombinasie van faktore, byvoorbeeld:

- Beide aartappelmotte en *T. absoluta* vermeerder vinnig in warm weer.
- As daar reeds 'n hoë bevolking is vóór of tydens plant, sal beheer regdeur die seisoen moeilik wees, veral gedurende warm somers.
- Opslag, onkruid en ander gasheerplante wat nie beheer word nie, kan probleme veroorsaak.
- Indien insekdoders nie doeltreffend aangewend word nie, sal die teiken nie bereik word nie.
- As die insekte vermoedelik weerstand teen een of meer insekdodergroepe ontwikkel het, moet dit eers wetenskaplik bewys word.

### Die etiket: 'n Wetlike dokument

Indien die aanwysings op die etiket nie gevolg is nie, en swak beheer verkry word, het die produsent nie 'n been om op te staan nie.



*T. absoluta*-myners op aartappelblare.



'n Delta-val met 'n feromoon-lokval.

### Om te meet is om te weet

Die aantal motte wat in feromoonvalle gevang word, is 'n aanduiding van die infestasiedruk in 'n omgewing. Deur getalle weekliks te monitor, kan bepaal word of 'n spuitprogram doeltreffend is of nie. Groot getalle motte vóór planttyd beteken dat daar 'n bron van infestasië is. Dit moet opgespoor en uitgewis word. Deur verskeie jare se data te versamel, kan seisoene met mekaar vergelyk word.

### Die kort en lank

Produsente behoort altyd middels van verskillende doodmaak-aksies te roteer. Sistemiese middels vir gebruik op *T. absoluta* in Suid-Afrika is nie geregistreer vir gebruik deur drup nie.

Wanneer 'n middel gedrup is, word dit deur wortels opgeneem en versprei deur die plant. Daar is verskeie voordele aan drup, onder andere beskerming regdeur plant, maar as 'n middel gedrup is, bly dit vir langer as 60 dae in die plant. Dus moet 'n mens aanhou

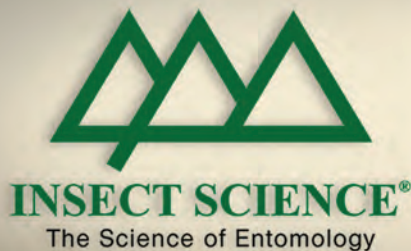


Aartappelmotskade op knolle.

selekteer vir individue wat weerstand teen 'n spesifieke middel het.

Daar is heelwat middels wat vir die behandeling van *T. absoluta* geregistreer is, maar min groepe. Bestudeer die etiket, kyk na die groep en roteer die groepe. Moet nie 'n middel met dieselfde wyse van aksie vir meer as een generasie spuit nie. ©

Vir meer inligting, kontak dr Niederwieser by [eposfienie@potatoes.co.za](mailto:eposfienie@potatoes.co.za).



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Potatoes require large quantities of soil K, as this nutrient is crucial to metabolic functions such as the movement of sugars from the leaves to the tubers and the transformation of sugar into potato

starch. K<sup>+</sup> deficiencies reduce the yield size and quality of the potato crop in association with low specific gravity in potatoes. Excessive K<sup>+</sup> levels can lead to reduced Ca<sup>2+</sup> and/or lowered magnesium uptake.

Ca<sup>2+</sup> is a key component of cell walls, helping to build a strong structure and ensuring cell stability. Cell walls that are enriched with Ca<sup>2+</sup> are often also more resistant to bacterial or fungal attacks. Ca<sup>2+</sup> also helps the plant regulate the active transport of K<sup>+</sup> through stomatal opening and closing. Deficiencies in Ca<sup>2+</sup> interfere with root growth, cause deformation of foliage growth tips, and could result in reduced yields and poor quality.

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supply for maximum efficiency and optimal plant development, while minimising losses to the environment. The nitrate (NO<sub>3</sub><sup>-</sup>) facilitates synergistic uptake and improves K<sup>+</sup> as well as Ca<sup>2+</sup> absorption by the plant.

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## Deel 3: Oorwaaiskade

Deur Enrike Verster, Aartappels Suid-Afrika



Vergeling het plek-plek ook lukraak op die jonger blare ontstaan.

**T**ydens die eerste week van Februarie 2021, met lang periodes van aanhoudende reën, is foto's van 'n streek ontvang waar tekens van oorwaaiskade in 'n aartappelaanplanting en tamatieplante opgemerk is. Die simptome het vergeling vanaf die middelpunte en tussen die are van die jongste blare ingesluit.

Die vergeling het plek-plek ook sommer lukraak op die jonger blare ontstaan. Daarmee saam het van die letsels begin nekroties raak en verbruin. Verskeie siektes is as die moontlike kwaaddoener oorweeg onder die omgewingstoestande van lang tye van reën en min sonskyn, maar geen opsie het klinkklaar gepas nie.

'n Rukkie daarna is skade by omliggende en meer geharde plante en bome waargeneem. Nadat dit bekendgeraak het dat omliggende mielielande, as gevolg van die aard van die seisoen, noodgedwonge onder bedenklike toestande lugbespuit is, is die afleiding gemaak dat die simptome op die aartappel- en tamatieplante die gevolg van oorwaaiskade was. **C**

Indien daar produsente is met foto's van soortgelyke simptome wat op aartappelplante waargeneem is, hoor ons graag van julle. Stuur gerus jul foto's na Enrike Verster by epos [enrike@potatoes.co.za](mailto:enrike@potatoes.co.za). Enige navrae kan ook aan Enrike gerig word.



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# PSA Transformation: Expanding the small grower development programme to Limpopo

Nomvula Xaba and Masabatha Motsoeneng

**P**otatoes South Africa's (PSA) transformation division has been assigned to promote the production of potatoes in rural communities as part of educating and addressing household food security. The programme is conducted by establishing small-scale demonstration trials on the identified host farms.

The programme is mainly focussed on teaching communities about simplified potato cultivation methods; pest control approaches that can be applied by individual producers to control pests, diseases and weeds; record-keeping during production; and crop monitoring.

In this month's edition of *CHIPS*, the transformation division gives feedback on new projects launched in the Limpopo region.

## Limpopo projects

We have introduced six small-grower development projects in Limpopo in the Blouberg Local Municipality. The district is home to 65% of producers currently participating in PSA's Enterprise Development Programme (EDP).

The region is surrounded by villages, with community members farming vegetables and livestock on communal lands or commercial farms. The main purpose of farming in the area is income generation. During interactions with residents in Avon Village, most said they believe that potatoes are delicate crops to produce and require sufficient funds, irrigation, infrastructure and implements.



*Avon Village community members busy planting.*

The programme aims to educate communities about simple methods that can be incorporated by anyone who has a small patch of land, water, basic pre-planting fertilisers and handheld tools. The objective is to continue disseminating information about potato production and provide business advice that will further potato production enterprises and increase their chances of success.

## Partnering for growth

We have once again collaborated with the Limpopo Department of Agriculture and Rural Development (LDARD). Local and provincial officials have played a significant role in assisting PSA to identify villages that can host the projects, mobilising community members to attend information sessions and providing some chemicals.

They have contributed to making the information sessions

a success and we look forward to partnering with them on future projects.

Nearby producers who are currently part of the EDP, such as Robert Chauke, Ratsetla Fresh Produce Co-operative, Tswetsi Ya bo Makgafela and Aldrin Lawrence, are contributing to these projects by availing their tractors and implements for land preparation, as well as providing technical support.

We also look forward to establishing additional partnerships with industry role-players to continue spreading information on potato production to rural and urban communities.

## Information sessions

Six information sessions and the planting of demonstration trials took place at the Gemarke, Ga-Mashalane, Avon-A, Kibi, Dendron and Buisdorp villages. An average of 300 community members were reached through the programme.

Information sessions covered various topics, including the availability and selection of potato cultivars, standard fertiliser application, use and handling of chemicals, planting demonstrations, and monitoring and maintenance of crops.

Valor and Mondial potato cultivars were planted to compare yield, tolerance to blight, and



The small grower development project in Avon Village.

climate conditions. The size of each demonstration trial is 0.2 ha.

**Making a tangible difference**

Cynthia, a young woman from Gemark, said she is grateful for the project as it has taught her a great deal about producing potatoes. She also learned how to identify tuber moth and *Tuta absoluta* in potatoes, and gained knowledge about the use of pesticides. The programme has inspired her to plant potatoes on a bigger scale.

District co-ordinator of LDARD, Mokgadi Ramoroka, remarked that the programme gave producers the opportunity to improve their farming skills and that “small-scale farmers received first-hand information from PSA, inspiring them to grow potatoes”.

Harvesting in Gemark, Avon and Ga-Mashalane will take place from July to August, during which



An information session held at Gemark.

information sessions will focus on identifying the differences between Valor and Mondial, harvesting methods, as well as handling and marketing potatoes after harvesting. 📍

For more information, contact Masabatha Motsoeneng at email [masabatha@potatoes.co.za](mailto:masabatha@potatoes.co.za).



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Late blight

**Dithane**<sup>®</sup> M45 800 WP NT

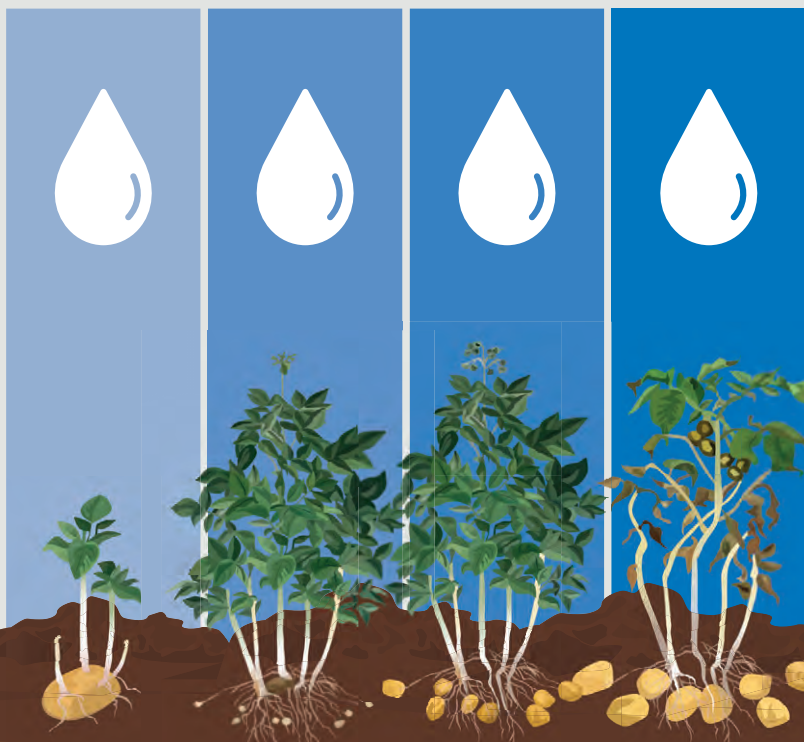
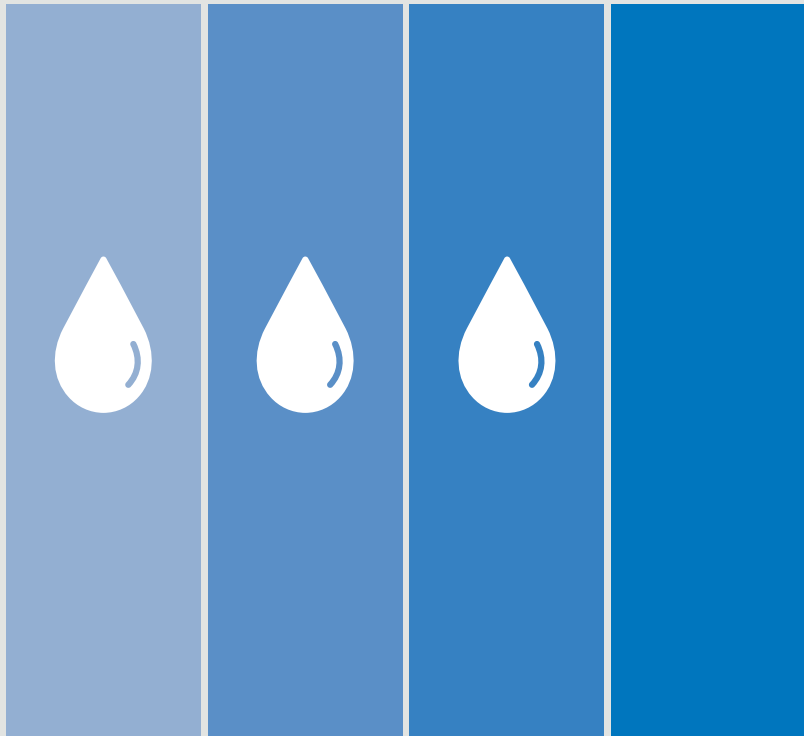
FUNGICIDE

**Curzate**<sup>®</sup> 600 WG

FUNGICIDE

**Tanos**<sup>®</sup> 50 WG

FUNGICIDE



VEGETATIVE  
DEVELOPMENT

TUBER  
INITIATION

TUBER  
BULKING

MATURATION

# TAKE A CLOSER LOOK

# POTATO SPRAY CALENDAR

## GROUP 4C

**Closer® 240 SC**  
Isoclast® active

INSECTICIDE

Closer® 240 SC gives lightning fast knock-out of aphids in potatoes. Seed potato growers rely on Closer to keep their crop clean and free of viruses transmitted by aphids. There is no cross-resistance between Closer® and neonicotinoids (Group 4A).

## GROUP 27

**Curzate® 600 WG**

FUNGICIDE

\*Curzate® 600 WG delivers exceptional control of late blight in potatoes. The active ingredient is cymoxanil, providing curative and preventative action against late blight.

\*EARLY BLIGHT IS CONTROLLED BY THE REGISTERED TANK MIX WITH DITHANE® M45 800 WP NT.

## GROUP 5A

**Delegate® 250 WG**  
Jemvelva™ active

INSECTICIDE

Delegate® 250 WG with Jemvelva™ active provides exceptional control of Potato Tuber Moth larvae, Potato Leaf Miner and Tomato Leaf Miner moth (*Tuta absoluta*). It's translaminar activity combined with high efficacy through ingestion knocks these pests out cold.

## GROUP M03

**Dithane® M45 800 WP NT**

FUNGICIDE

The class leading rainfastness of Dithane® M45 800 WP NT contributes to excellent early and late blight control, whilst also serving as the backbone of many resistance management programs.

## GROUP 5A

**Tracer® 480 SC**  
Qalcova™ active

INSECTICIDE

Tracer® 480 SC, with Qalcova™ active, is a naturally derived insecticide that provides excellent control of potato tuber moth larvae, African Bollworm, Potato leaf miner and Tomato leaf miner moth.

## GROUP 2

**Hit® 500 SC**

FUNGICIDE

\*Hit® 500 SC delivers exceptional control of early blight in potatoes. The active ingredient is procymidone, providing curative and preventative action against early blight.

\*EARLY BLIGHT IS CONTROLLED BY THE REGISTERED TANK MIX WITH DITHANE® M45 800 WP NT.

## GROUP 11

**Acanto® 250 SC**

FUNGICIDE

\*Acanto® 250 SC delivers exceptional control of early blight in potatoes. The active ingredient is picoxystrobin, providing preventative and curative action against early blight. Translaminar and xylem systemic movement, coupled with diffusion in cuticular waxes and redistribution via vapour action, results in uniform coverage and resistance to wash-off.

## GROUPS 27 AND 11

**Tanos® 50 WG**

FUNGICIDE

\*Tanos® 50 WG provides excellent control of both early and late blight in potatoes. The combination of two unrelated active ingredients provides curative as well as preventative protection and helps to prevent the development of fungicide resistance.

\*EARLY BLIGHT IS CONTROLLED BY THE REGISTERED TANK MIX WITH A CONTACT FUNGICIDE.

\*APPLY ACANTO® 250 SC EVERY 14 DAYS AS A PART OF A WEEKLY ALTERNATING SPRAY PROGRAMME WITH THE MAXIMUM REGISTERED DOSAGE OF THE CONTACT FUNGICIDES MANCOZEB OR CHLOROTHALONIL 720 SC.

## PRE-HARVEST INTERVAL IN POTATOES

**Acanto® 250 SC	7 days	Dithane® M45 800 WP	3 days
Closer® 240 SC	21 days	Hit 500® SC	35 days
Curzate® 600 WG	14 days	*Tanos® 50 WG	7 days
Delegate® 250 WG	3 days	Tracer® 480 SC	7 days

\*EARLY BLIGHT IS CONTROLLED BY THE REGISTERED TANK MIX WITH A CONTACT FUNGICIDE. \*\*APPLY ACANTO® 250 SC EVERY 14 DAYS AS A PART OF A WEEKLY ALTERNATING SPRAY PROGRAMME WITH THE MAXIMUM REGISTERED DOSAGE OF THE CONTACT FUNGICIDES MANCOZEB OR CHLOROTHALONIL 720 SC.

FOR MORE INFORMATION CONTACT THE REGISTRATION HOLDER: Dow AgroSciences Southern Africa (Pty) Ltd Reg. No. 1967/007147/07 • Paarl +27 (0) 21 860 3620 • Centurion +27 (0) 12 683 5700  
Local Emergency No +27 (0) 82 895 0621 (SA only) • 24 Hour Emergency No +32 3 575 5555 • Maxwell Office Park, Magwa Building, Ground Floor, Magwa Crescent, Waterfall City, Midrand, 1686, South Africa • DuPont de Nemours South Africa (PTY) Ltd • Block B, 1st Floor, 34 Whiteley Road, Melrose Arch, South Africa.

ALWAYS USE ACCORDING TO LABEL RECOMMENDATIONS: Acanto® 250 SC contains picoxystrobin (Caution) | Reg. No. L8233 | Act No. 36 of 1947 • Closer® 240 SC contains Isoclast® (sulfoxalor) (Caution) | Reg. No. L9694 | Act No. 36 of 1947 • Curzate® 600 WG contains cymoxanil (Caution) | Reg. No. L10150 | Act No. 36 of 1947 • Delegate® 250 WG contains Jemvelva™ (spinetoram) (Caution) | Reg. No. L8392 | Act No. 36 of 1947 • Dithane® M45 800 WP NT contains mancozeb (Caution) | Reg. No. L7484 | Act No. 36 of 1947 • Hit® 500 SC contains procymidone (Caution) | Reg. No. L7575 | Act No. 36 of 1947 • Tanos® 50 WG contains cymoxanil and famoxadone (Caution) | Reg. No. L6564 | Act No. 36 of 1947 • Tracer® 480 SC contains Qalcova™ (spinosad) (Caution) | Reg. No. L6557 | Act No. 36 of 1947 • \* \* \* Trademarks of Corteva Agriscience and its affiliated companies. © 2021 Corteva.

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# Finding the perfect potato for small-scale farmers

By Louis Pretorius

**A** need for blight-resistant cultivars to be used in rural regions was recently identified. These cultivars would enhance the success of small-scale farmers who mainly produce potatoes for food security and to develop new skills to generate income. These producers focus on alleviating poverty and creating job opportunities.

In the past, the cultivar Electra was frequently used due to its strong resistance against blight in the rural regions of KwaZulu-Natal and the Eastern Cape. Sadly, this cultivar is no longer available and a quest to find new cultivars for these regions, was undertaken. This led to a joint venture between Potatoes South Africa (PSA), the Department

of Agriculture, Rural Development and Land Administration (DARDLA) in Cedara, KwaZulu-Natal, and four potato seed companies.

## Cultivars are put to the test

The trials were planted on 18 May 2021 at the Makhathini Research Station, situated in the very northern part of KwaZulu-Natal in proximity to the Jozini Dam, not too far from Pongola. This region experiences very hot summers – far too hot for potato production – but is ideal for winter planting.

The results of these trials will also prove useful for other areas that are mainly winter regions, such as Limpopo. Fifteen cultivars were planted at each trial and repeated three times. One trial will receive all fungicides needed throughout



*A joint venture between PSA, DARDLA in Cedara in KwaZulu-Natal, and four potato seed companies was launched to find new cultivars for the rural regions.*



*These small-scale farmers work to alleviate poverty and create job opportunities in their communities.*



*The trials were planted at the Makhathini Research Station, situated in the northern part of KwaZulu-Natal near Pongola.*

the growing process. The other identical trials will receive no fungicides at all. The results will determine the natural resilience against blight between the cultivars.

The cultivars that show the most resistance against blight, will be selected for use in future small-scale farmer development projects in rural regions. In these areas, spraying is not always as good as it is on commercial farms, due to the very high cost of systemic fungicides in particular.

This is the second year that this project has been conducted. Next year, the final repetition of the project will take place in order to have three years' data for a more reliable conclusion of results. 🌱

**For more information on PSA's transformation projects, contact the author at email [louis@potatoes.co.za](mailto:louis@potatoes.co.za).**

# The future of agriculture: Innovation bridges the gap between producers and consumers

By Phindiwe Nkosi

The Covid-19 pandemic has brought several industries to their knees. Despite this, agriculture has stood the test of time, so much so, that the Bureau for Food and Agricultural Policy (BFAP) reported that 2020 had been a remarkable year for African agriculture.

“While the national economy as a whole experienced its greatest contraction since at least 1946, amounting to a decline of 7% in gross domestic product (GDP), the agricultural sector experienced an annualised real GDP growth rate of 13.1%. The total agricultural sector income rose by 7.3% last year,” Creamer Media’s senior deputy editor, Rebecca Campbell, wrote in an article published in March 2021 on the *Engineering News* website.

Theo Venter, an independent political and policy analyst, reaffirmed this in a *Farmer’s Weekly* online article, also published in March 2021. According to Venter, despite the many challenges brought about by Covid-19, the State of the Nation Address (Sona) “was upbeat about the role of agriculture”. Venter further asserted that “the agricultural sector still offers huge opportunities for risk-takers”.

## Windows of opportunity

This exceptional performance during a global crisis has caught attention further afield, attracting people and organisations other than producers and typical role-players to the agricultural industry. Experts across the world, including those from Maryville University in the United States, have described agriculture as one of the ten hottest

fields for software developers to become involved in.

Contenders on this esteemed top-ten list of fired-up fields in line for radical digitisation, evolving technology, and innovative change include, but are not limited to, chatbots, the Internet of Things, wearable tech, cybersecurity, and artificial intelligence.

It is with this in mind that experts foresee the rise of an agricultural innovation system gaining momentum to propel people, knowledge, technology, infrastructure and cultures forward. Yet, with the introduction of both trusted and experimental advancements disrupting the way the advancement of knowledge is viewed, supported and interpreted, comes the need for revolutionary agricultural marketing communication to bridge the gap between potato producers and consumers.

## Agri-marketing communication

The marketing division strives to inform, educate, and inspire consumers. The role of communication within the agricultural sector, particularly at grassroots level, cannot be overstated. We need to interrogate that which we send out. Innovation is a part of this new dispensation, but to fully embrace it and not leave our target audience behind, we must make it a priority to continuously check whether our messages are decoded as intended, lest we lose connection.


Initiatives by the marketing department include an informal sector study aimed at unpacking the size and potential of farmgate sales, product development that

seeks to find innovative ways of enhancing our product offering through tailor-made potato spices, as well as initiating foreign market development studies, of which the chief objective is to identify new markets for South African potatoes in the Southern African Development Community region.

Our preliminary studies into the informal sector, point to the rising phenomenon of farmgate trading (*bakkie trading*) – a phenomenon that is not backed by any literature – to ensure that those interested pursue this route as a way of diversifying the industry’s route-to-market offering. Agricultural marketing communication is key and needs to be based on research if it is to have any chance of advancing the industry.

## Credibility and co-operation

Agricultural innovation systems, particularly those with a focus on niche marketing and communication, must be based on facts in order to be credible. It is not only top-down communication from Potatoes South Africa to our constituents that matters; all facets need to work together.

This is an ongoing process to ensure that we are neither left behind nor trailblazing to the extent that we are downright irrelevant. The State of the Potato Industry Address (SOPIA) held on 5 May 2021, was but one such initiative to bring industry stakeholders together to listen, learn and connect. 

For more information,  
contact Phindiwe Nkosi at  
email [phindi@potatoes.co.za](mailto:phindi@potatoes.co.za).



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# The effect of the new earnings threshold on labour legislation

By Christo Bester, manager: legal services, LWO Employers Organisation

**A**long with the new national minimum wage that came into effect on 1 March 2021, employers have to take note of the increased annual earnings threshold that has been introduced. The previous earnings threshold has been in effect since 1 July 2014, but has now been increased from R205 433,30 to R211 596,30.

The earnings threshold affects the application of the provisions of the *Basic Conditions of Employment Act, 1997 (Act 75 of 1997) (BCEA)*, the *Labour Relations Act, 1995 (Act 66 of 1995) (LRA)* and the *Employment Equity Act, 1998 (Act 55 of 1998) (EEA)*.

## What are earnings (income)?

First off, the meaning of 'income' or earnings must be made clear. Earnings refer to an employee's regular annual remuneration before deductions (for example, income tax, pension and medical aid contributions), excluding any contributions by the employer in respect of the employee.

Accommodation and transport allowances, performance rewards and remuneration for overtime worked are also excluded from the scope of earnings.

## Act 75 of 1997 (BCEA)

In terms of the *BCEA*, employees earning in excess of the earnings threshold are excluded from the provisions regulating the following: ordinary hours of work, overtime, compressed work weeks, average hours worked, meal intervals, daily and weekly rest periods, Sunday pay, as well as pay for night work and work on public holidays.

This means that regulation of the aforementioned should be by mutual agreement and will not be regulated by the *BCEA* as is the case with employees earning below the threshold.

## Act 66 of 1995 (LRA)


In terms of the *LRA*, employees earning in excess of the earnings threshold are not subject to the provision deeming the employees engaged by a temporary employment service/labour broker, to be employees of the employer/client for purposes of the *LRA*.

In addition, employees earning in excess of the earnings threshold fall outside the scope of the provisions relating to fixed-term employees who are deemed to be employed indefinitely after three

months (in the absence of justifiable reasons for fixing the term of the contract).

## Act 55 of 1998 (EEA)

An employee earning in excess of the earnings threshold and who has lodged a dispute relating to unfair discrimination under *Chapter II*, is not permitted to refer the dispute to the CCMA for arbitration. Such an employee is obligated to refer the dispute directly to the Labour Court for adjudication, unless the dispute relates to alleged unfair discrimination on the grounds of sexual harassment, or the parties all agree to arbitration.

It is vital that every employer determines which employees earn above the earnings threshold and which employees earn below the threshold, as this has a huge impact on the terms and conditions of employment that the employer and employee can agree on. 

Die LWO help **boere as werkgewers** om aan arbeidswetgewing te voldoen.



## Geniet 'n stresvrye arbeidsomgewing

**Word lid:**  
 ➔ beskerm **jou** boerdery  
 ➔ beskerm **jou** regte as werkgewer

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 Gratis arbeidsreg dokumentasie & **dienskontrakte** |  
**Dissipline in die werksplek** - konsultasies, waarskuwings, dissiplinêre verhore |  
**KVBA en Arbeidshof verteenwoordiging**  
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**Personeelvermindering** | Vakbond onderhandelinge |  
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During May 2021, a total of 14 potato producing regions as well as non-producing suppliers delivered potatoes nationally to fresh produce markets.



Note that this issue's report contains only one month's data, due to the magazine stepping into its correct frequency deadlines. In the next issue of CHIPS, the Prokon News page will again be in its usual format with two months' worth of data.

Average percentage downgraded: **9.99%.**

Total number of bags delivered from 14 regions and non-producing suppliers and inspected on the fresh produce markets: **8 027 458.**

Figure 1: Classes inspected during May 2021 at all fresh produce markets.

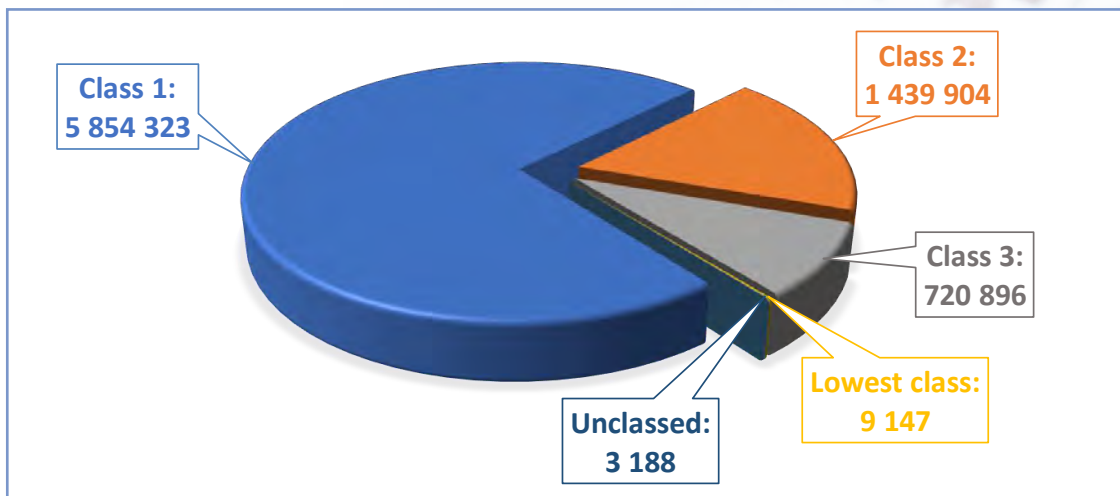


Figure 2: Potatoes downgraded in percentage (%) at all fresh produce markets during May 2021.

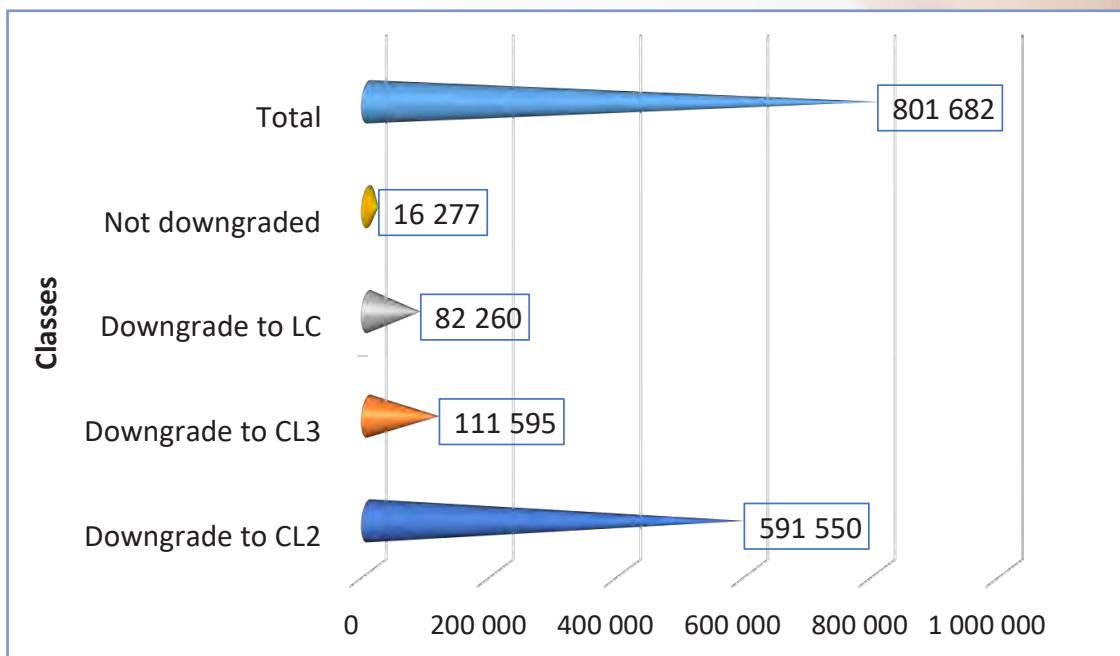


Figure 3: Potatoes downgraded (%) in all regions at fresh produce markets during May 2021.

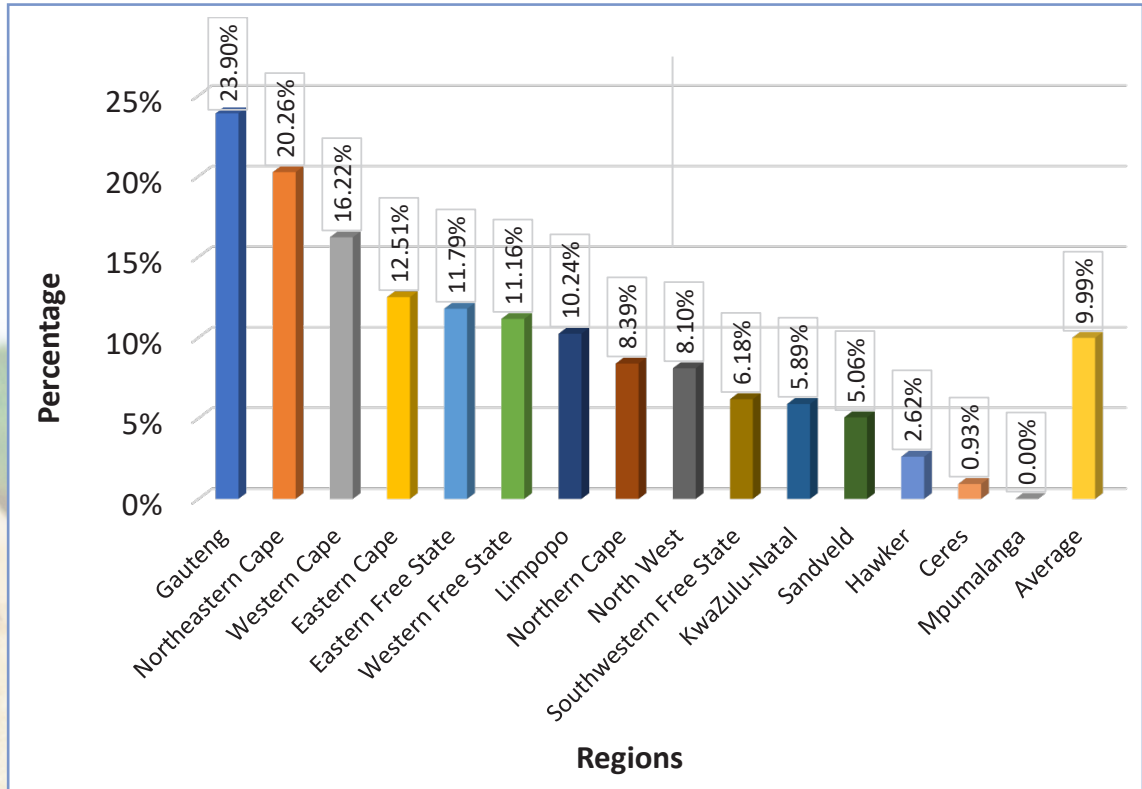
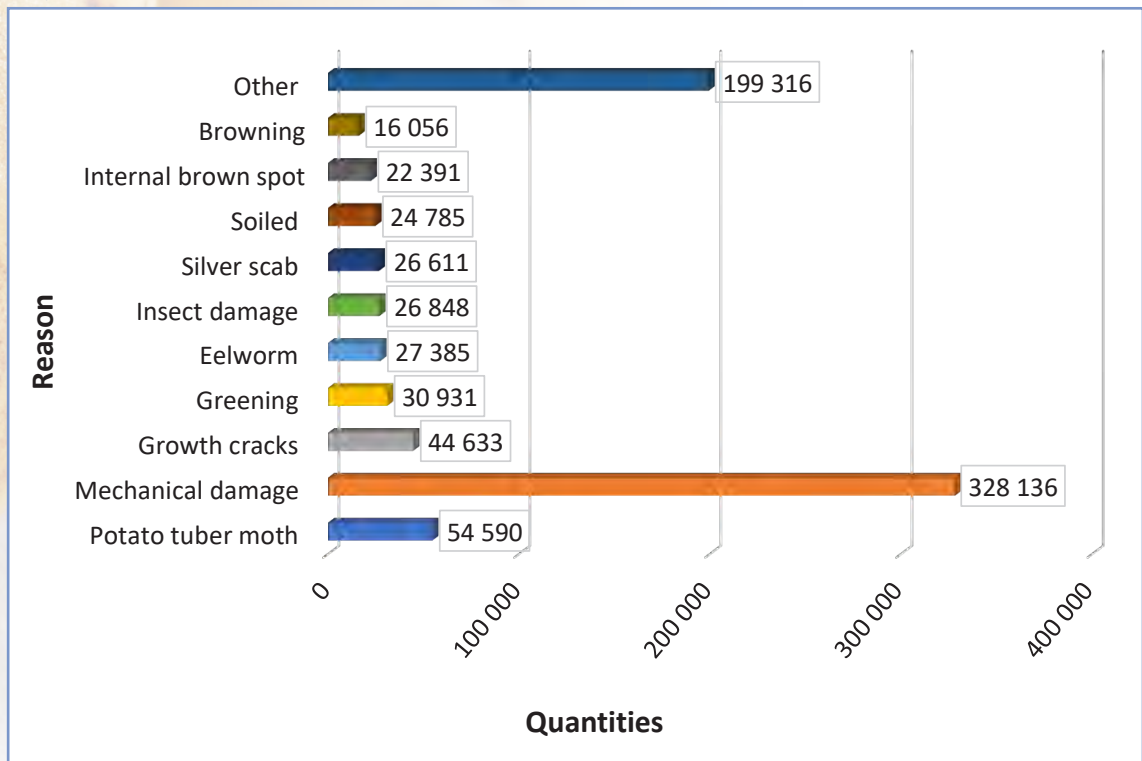


Figure 4: Reasons for downgrading in percentage (%) at all fresh produce markets during May 2021.



Others include: Common scab, malformed, stem-end rot, enlarged, lenticels, decay, abraded, skin eelworm, appearance, hollow heart, dry rot, wilted, anthracnose, broken tubers, sprouted, water grass, rhizoctonia, too small, cold cracks, and powdery scab.





## REGISTERED FRESH PRODUCE AGENCIES

### BLOEMFONTEIN FRESH PRODUCE MARKET

Bloemfontein Market Agency  
 Modise Market Agency  
 RSA Bloemfontein Market Agency  
 Subtropico Bloemfontein Market Agency  
 Vrystaat Market Agency

### CAPE TOWN FRESH PRODUCE MARKET

Boland Market Agency  
 Fine Bros Market Agency  
 Rhoda's Market Agency  
 RSA Cape Town Market Agency  
 Subtropico/Spes Bona Market Agency

### DURBAN FRESH PRODUCE MARKET

Delta Market Agency  
 Hanly Market Agency  
 Port Natal Market Agency  
 RSA Coastlands Market Agency

### EAST LONDON FRESH PRODUCE MARKET

AA Market Agency  
 Border Farmers Market Agency  
 Martin & Scheepers Market Agency  
 Subtropico East London Market Agency

### GEORGE MUNICIPALITY

Maverick Market Agency

### JOBURG FRESH PRODUCE MARKET

Botha Roodt Johannesburg Market Agency  
 CA-TU Fresh Market Agency  
 C L de Villiers Market Agency  
 Citi Deep Waatlemoen Market Agency  
 Citifresh Market Agency  
 Dapper Market Agency  
 DW Fresh Produce Johannesburg Market Agency  
 Egoly Johannesburg Market Agency  
 Exec-U-Fruit Market Agency  
 Marco Market Agency  
 Matla Market Agency  
 Metro Market Agency  
 Pula Nala Market Agency  
 RSA Johannesburg Market Agency  
 Subtropico Johannesburg Market Agency  
 Swartberg Market Agency  
 Uni Dev Market Agency  
 Wenpro Johannesburg Market Agency

### KEI FRESH PRODUCE MARKET

Farmers Direct Market Agency

### KING WILLIAM'S TOWN FRESH PRODUCE MARKET

King William's Town Market Agency

### KIMBERLEY FRESH PRODUCE MARKET

Kimberley Market Agency  
 Subtropico Kimberly Market Agency

### KLERKSDORP FRESH PRODUCE MARKET

Garfield Market Agency  
 J Frances & Son Market Agency  
 Matlosana Market Agency  
 Subtropico Klerksdorp Market Agency  
 W.L. Ochse & Kie Market Agency

### LIMPOPO PROVINCE

RSA Limpopo Market Agency  
 RSA Mooketsi Market Agency

### NELSPRUIT MUNICIPALITY

Nelspruit Market Agency  
 RSA Nelspruit Market Agency  
 Whoopi Up Nelspruit Market Agency

### NOORDEINDE FRESH PRODUCE MARKET

Noordeinde Market Agency

### PIETERMARITZBURG FRESH PRODUCE MARKET

G.W. Poole Market Agency  
 Natalia Market Agency  
 Nkosi Market Agency  
 Peter & Co Market Agency  
 Subtropico Pietermaritzburg Market Agency

### PORT ELIZABETH FRESH PRODUCE MARKET

African Market Agency  
 Algoabaai Market Agency  
 Gouws & Co Market Agency  
 Lansdell Market Agency  
 W Finlayson & Co Market Agency

### SPRINGS FRESH PRODUCE MARKET

AM Meyer Market Agency  
 New Africa Market Agency  
 RSA Springs Market Agency  
 Springs Vegetable Market Agency  
 Subtropico Springs Market Agency

### TSHWANE FRESH PRODUCE MARKET

Botha Roodt Pretoria Market Agency  
 Du Plessis & Wolmarans Market Agency  
 DW Fresh Produce Tshwane Market Agency  
 Farmers Trust Market Agency  
 Fresh Way Market Agency  
 Mabeka Market Agency  
 Noordvaal Market Agency  
 Prinsloo & Venter Market Agency  
 RSA Tshwane Market Agency  
 Subtropico/Protea Market Agency  
 Tshwane Green Market Agency

### VAAL MUNICIPALITY

RSA Vaal Market Agency

### VEREENIGING FRESH PRODUCE MARKET

Subtropico Vereeniging Market Agency

### WELKOM FRESH PRODUCE MARKET

Botha & Roodt Welkom Market Agency  
 Opkoms Market Agency  
 Subtropico Welkom Market Agency

### WITBANK FRESH PRODUCE MARKET

Subtropico Witbank Market Agency  
 Witbank Market Agency

### OTHER

Agri Empire Market Agency  
 Comfy Fresh  
 Core Fruit  
 Farm Fresh Direct  
 Farm Market  
 Federated Farmers  
 Fresh Pro  
 Fruitways  
 Garden Route Fresh Express Market Agency  
 Green Network  
 Lucerne Fresh  
 Multiflora  
 RSA Beyond  
 RSA Beyond North  
 Stargrow  
 Subtropico Online  
 Westfalia Marketing

## VISIT APAC'S WEBSITE REGULARLY

Do you know if your fresh produce agent practise sound financial management? Did your agent received an audit qualification on his last audit report? Does your agent submit their monthly trust reconciliation timeously and has no trust account shortages?

Ensure that you visit our website monthly as it is updated regularly with information on the financial status of agencies.

## REGISTRATEUR • REGISTRAR

Francois Knowles

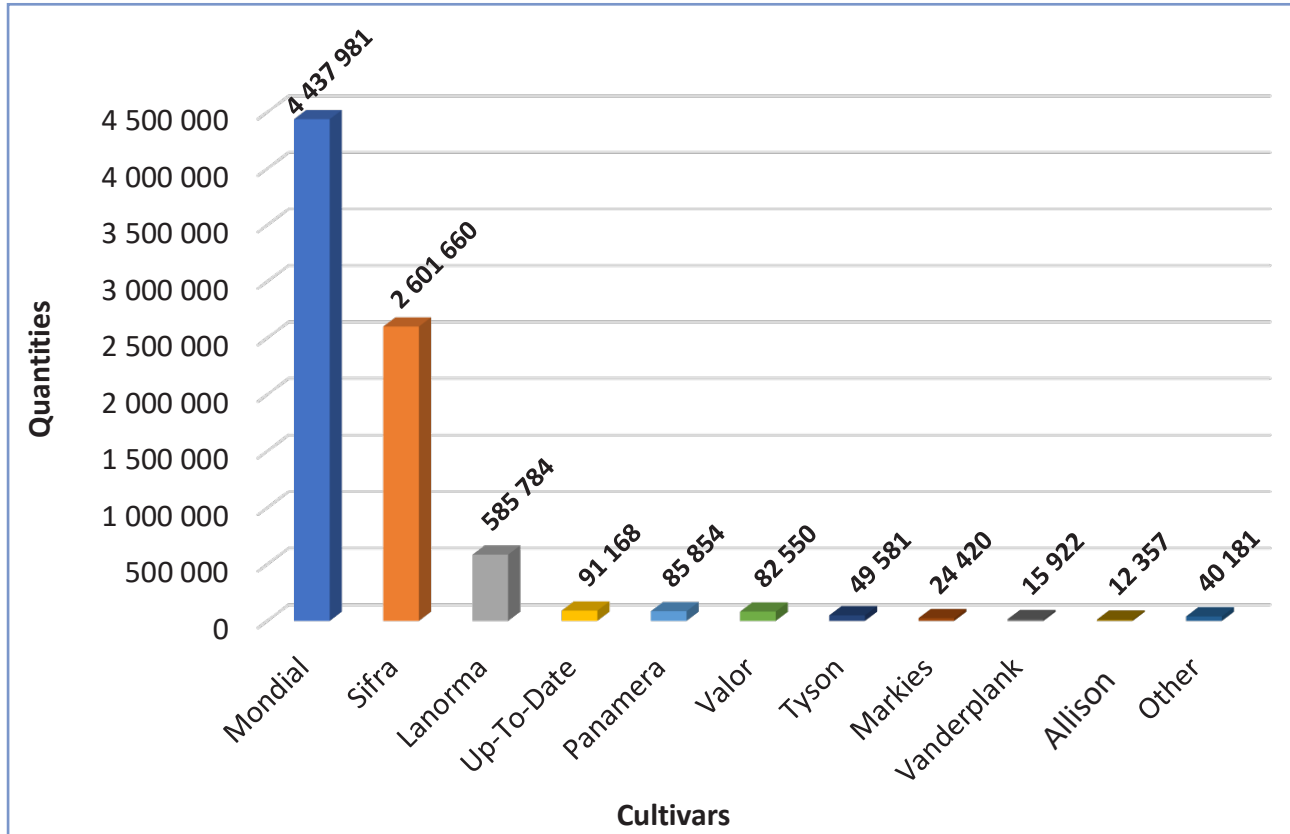
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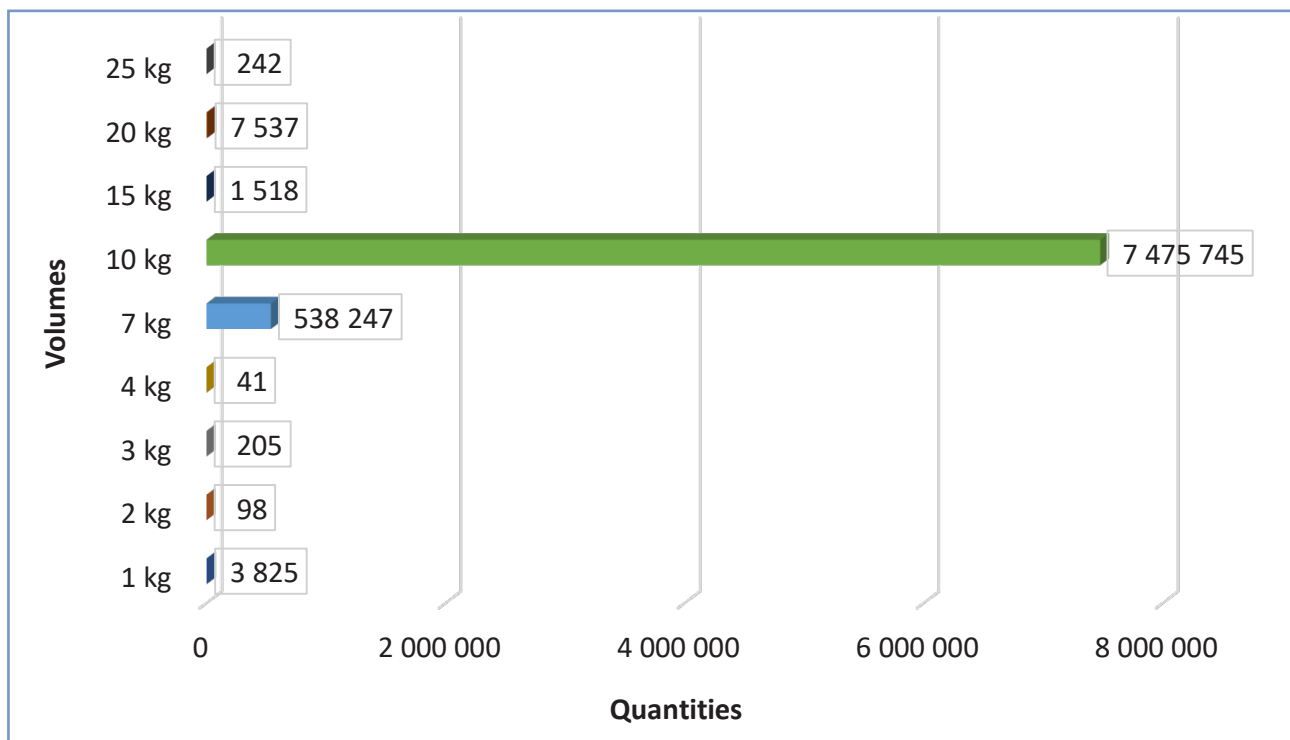
[www.apacweb.org.za](http://www.apacweb.org.za)

Figure 5: Cultivars inspected (%) at all fresh produce markets during May 2021.



\*Others include: Savanna, Taisya, Almera, Hertha, Innovator, Markies, BP1, Ami, El Mundo, Nicola and Daisy.

Figure 6: Volumes inspected on all fresh produce markets during May 2021.





# Personal servitudes and how they apply to agricultural land

Supplied by VDT Attorneys

A personal servitude is one in which a specific person acquires certain rights to and powers of use over a specific item or property of another person. The rights of the servitude attach to a person in their personal capacity.

## Usufruct

This personal servitude is unique as it consists of a right of use and a right of residence, giving a person broad rights and powers of use over someone else's property.

The servitude holder acquires the right to use the property or item and collect the benefits that come along with it, without any restrictions. This means, for example, that the servitude holder may rent out property over which they have the servitude and can enjoy the rental income without restrictions.

In the case of farmland, the servitude holder is entitled to the breeding of livestock, the yield from crops, and fruit from orchards. The servitude holder receives all the excess benefits arising from the item or property.

Even with these benefits in mind, the servitude holder is still obligated to use and maintain the item or property so that it will benefit the owner of the property when the personal servitude expires.

## Usus

A servitude of use, or *usus*, gives the servitude holder and their family the right to use someone else's property for the purpose

of satisfying basic needs. One example is when a producer allows the use of his/her farm or implements to meet the living needs of another person and his/her family. Note that the servitude holder may use the property or item for no other reason than to meet personal daily needs.

The servitude holder must not use the property to the extent that it is destroyed. Thus they must ensure the house remains in good condition, the farmlands are well maintained, and the livestock are healthy and safe.

The servitude holder may not sell or trade any benefits they receive from the item or property by virtue of the servitude, meaning he/she may not rent out the property or sell the crops and livestock.

## Habitatio

The habitation servitude gives the holder the right to occupy another person's property for a specified or unspecified period. This personal servitude is most common in residential properties, where, for example, a person owns a property and provides for his/her parents and siblings to receive a lifelong right of residence, which still exists after the owner passes away or the property is sold.

This personal servitude is also available on plots, smallholdings and agricultural lands already subdivided into smaller portions. One key difference between a right of use and a right of residence is that the servitude holder of the right of residence can rent out the


property and enjoy the income from it.

The servitude holder must still maintain the property to the benefit of its owner.

## Pre-emptive rights

Pre-emptive rights apply when, for example, a producer wants to expand his/her farm in the future and needs a neighbour's land to do so. Hence a pre-emptive right can be registered against the title deed of the property, ensuring that the producer has the first right to buy his/her neighbour's property, should the neighbour decide to sell or when he/she passes away.

The two producers, as parties to the agreement, will agree on a price per hectare which will be valid for the period of the pre-emptive right. The two producers can also agree that once the pre-emptive right is exercised, a price will be agreed upon based on the current market value in the area.

A pre-emptive right can be applied wisely if you cannot yet afford a crucial piece of land, but wish to have the option to purchase it at a later stage. 

This article is intended for information purposes only and is a brief exposition of the above-mentioned legal position. It should under no circumstances be construed as formal legal advice.

Contact VDT Attorneys at [info@vdt.co.za](mailto:info@vdt.co.za) or 012 452 1300 or visit [www.vdt.co.za](http://www.vdt.co.za).



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Fanus van Zyl | Wes-Vrystaat/Noordwes | 082 554 7652  
Attie van den Berg | Oos-Vrystaat/Kwazulu Natal | 082 878 9490  
Birtie Myburgh | Suidwes-Vrystaat | 082 372 7875  
Danie van Heerden | Oos-Kaap/Suid-Kaap | 082 415 3666  
Johann Botes | Noord-Kaap/Direkte verkope | 082 865 7813  
C.P. Smit | Sandveld | 082 555 4833  
Petrus Slabber | Ceres/Suidwes-Kaap | 083 306 6153

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