KATOEN COTTON SA

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THE HARVESTING EDITION

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Hennie Bruwer
HUB: Katoen SA
CEO: Cotton SA

ONSEKERHEID SKEP NUWE OPTREDE

Na 'n tyd van inperking by die huis wonder 'n mens of enigiets noemenswaardig in die werksomgewing verander het. Gereelde vergaderings en afsprake vind steeds plaas, navorsing gaan voort en die gradering van katoen duur voort. In isolasie vind die meeste kommunikasie oor die internet plaas. Oornag het almal se lewens verander. Die vraag kan nou met reg gevra word: Gaan ons ooit terugkeer na die lewe vóór die coronavirus? Is dit nie dalk hoe die moderne lewe alreeds daarbuite lyk nie?

Sommige mense is meer produktief wanneer hulle afstandswerk verrig. Daaglikse pendel tussen woon- en werksplek dra ekstra stres by tot 'n persoon se werksdag. In die VSA werk meer as 5% van die totale arbeidsmag van die huis af, terwyl byna tweederdes afstandswerk verrig. Afstandswerk kan produktiwiteit verhoog en werknemersomset verlaag. Dit het egter ook sy nadele. Sommige mense hou nie daarvan om op dieselfde plek te werk én te leef nie. Dit is ook moeilik om 'n maatskappykultuur te vestig en onderhou wanneer mense nie in een vertrek bymekaar kan kom nie.

In hierdie era van onpersoonlike verbintenisse sal een-tot-een interaksie van nóg groter waarde in die werksomgewing wees as vantevore. Gegewe die beskikbaarheid en betroubaarheid van afstandstegnologie, sal die fisiese kantooromgewing dus steeds met ons bly in hierdie vinnig veranderende wêreld.

UNCERTAINTY CREATES NEW FUNCTIONING

After a time of confinement at home one wonders whether anything significant has changed in the working environment. Regular meetings and appointments continue, research and the grading of cotton continue. In isolation people communicate mostly over the Internet. Everybody's lives have changed overnight. One can rightfully ask: Are we ever going to return to the lives we lived before the coronavirus? Is it not already what modern life out there appears to be like?

Some people find working remotely more productive. Commuting adds extra stress to people's lives. In the USA more than 5% of its total workforce work from home, whereas nearly two-thirds work remotely or outside of the traditional office environment. Working remotely can increase productivity and lower employee turnover. It does, however, have its disadvantages. Firstly, some people dislike working in the same place where they live and relax. Secondly, it can be difficult to create and maintain a company culture when people cannot gather in the same room.

In this era of impersonal connections one-on-one interaction with people will now be of even greater value in the work environment than ever before. Given the availability and reliability of remote technology, the physical office environment will remain with us in this quickly evolving world.

CONTENTS






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OUTLOOK ON TEXTILES

by Helena Claassens, Cotton SA

CHINA'S LOOMING CRISIS – A SHRINKING POPULATION?

China is the largest cotton-producing country in the world (more than 20% of the world's production), with nearly 300 million people involved in cotton production. Cotton is an important cash crop in China. During the 2018/19 season China produced about 5,9 million tonnes of cotton, while its usage is estimated at around 41,5 million bales (approximately 8 300 million tonnes).

The textile industry in China is the largest in the world, both in production and exports. Cotton is an important raw material in the textile industry. The cotton textile sector is the largest sector and employs over 10 million workers. During November 2019, approximately 4,2 billion metres of fabric for the make of garments have been produced in China.

Being a major part of the textile industry, clothing manufacturing with its labour-intensive production processes, traditionally makes out a large part of China's national employment figures. Currently, China's population is said to be around 1,43 billion people.

For years, China's ruling Communist Party implemented a series of policies intended to slow down the population growth of the world's most populous nation. According to one of the policies, couples could only have one child. The long-term effect of this policy means that the country will soon enter an era of negative population growth, leading to a reduction in the size of the total Chinese population.

According to a recent article in the *New York Times*, a decline in the birth rate and an increase in life expectancy mean there will soon be too few workers available to support an enormous and ageing population. The looming demographic crisis could have a negative impact on China's economic transformation that has taken place over the past 40 years.

A decline in the working-age population could also slow consumer spending and thus have an impact on the economy of China in the future. Production capacity could reduce due to a decline in employment.

However, the possible effect in the decline of the Chinese population will not happen overnight and will only be visible in a generation or two in the future. Should this happen, production of textile goods in China could decline, with a subsequent decline in exports, and particularly in cotton manufactured exports. The hope is that this might boost local production of cotton textiles.

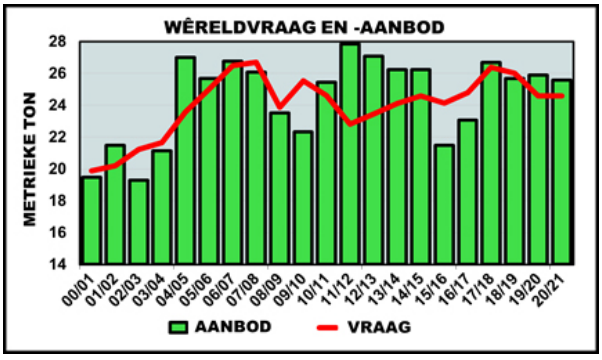
How would this affect the South African textile industry? In the short term, imports of clothing may stay stable, and the long-term effect remains to be seen. In the context of China, South Africa makes out a very small portion of the export market, while textile products from China will continue to flood the African continent.

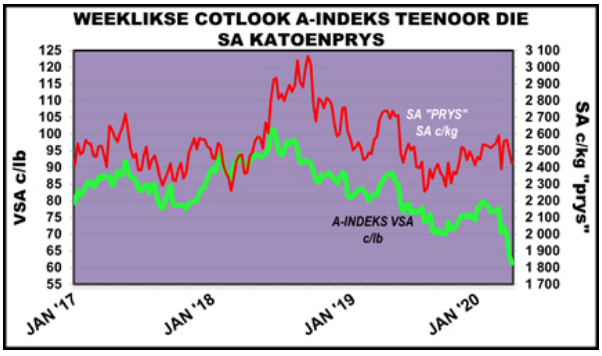
KATOEN SA MARKVERSLAG

deur Mario Botha, Katoen SA

DIE NEGATIEWE IMPAK VAN COVID-19 LEI TOT ONSEKERHEID IN HANDEL, WAARDEKETTINGS EN VOORUITSKATTINGS

Die volle impak en gevolge van die coronapandemie op menslike welstand en die globale ekonomie is nog onbekend, terwyl die situasie voortgaan om groter afmetings aan te neem. Maatreëls word wêreldwyd ingestel om die verspreiding van die virus te probeer beperk, terwyl sakebedrywighede en alledaagse aktiwiteite feitlik tot stilstand gekom het.





Streng inperkingsmaatreëls om die verspreiding van die coronavirus teë te werk, het aansienlike sosiale en ekonomiese kostes tot gevolg. Veral vervaardigings- en leweringsbedrywighede in Asië en Suidoos-Asië het afgeneem as gevolg van bestellings wat vertraag en/of selfs gekanselleer word. 'n Verdere verlangsaming in wêreldwye ekonomiese groei kan verwag word, wat bykomende druk op die katoensektor kan plaas.

Die International Cotton Advisory Committee (ICAC) se skatting vir wêreldproduksie vir die 2019/20-seisoen bly onveranderd op 25,9 miljoen ton vesel, terwyl die verwagte verbruik afwaarts na 24,6 miljoen ton aangepas is. Verbruik in Asië en Suidoos-Asië is afwaarts aangepas omdat kleinhandelverkope in Europa, Noord-Amerika en China aansienlik afgeneem het. Chinese katoenverbruik vir die 2019/20-seisoen is reeds afwaarts aangepas, deels weens die handelsdispuut met die VSA, maar ook weens die verlangsaming van die wêreldwye ekonomiese groei. Katoenverbruik deur China vir die huidige seisoen word nou op 7,1 miljoen ton geraam, 'n 14%-verswakking teenoor die vorige seisoen.

> "Die volle impak en gevolge van die corona-pandemie op menslike welstand en die globale ekonomie is nog onbekend."

Regeringsoptrede is nou nodig vir nuwe beleggings en algemene ekonomiese herstel, insluitend die katoenmark. Voor die uitbreek van die pandemie het die wêreldekonomie reeds tekens van swakker groei getoon, en daarom voorsien die ICAC dat die impak van die jongste internasionale gebeure beduidend op die bruto binnelandse produk (BBP) van die meeste groot ekonomieë gaan reflekteer.

Terwyl huidige verwikkelinge waarskynlik 'n groter invloed op globale katoenverbruik as -produksie sal hê, word wêreldproduksie vir die 2020/21-seisoen tans op 25,6 miljoen ton vesel beraam, 'n 1%-daling teenoor die huidige seisoen. Aanplantings sal waarskynlik onder druk bly as gevolg van dalende pryse asook die mededinging van voedselgewasse. Voorts, gegewe die afname in die globale sakebedrywighede weens die inperkingsmaatreëls, word verwag dat dit beperkte voorsiening en bekostigbaarheid van saad en ander insette gedurende die 2020/21-seisoen tot gevolg sal hê.

Ander ongunstige aspekte vanweë die afgeskaalde handelsbedrywighede, is voorrade katoen wat by hawens ophoop en vasgevang is tussen die verkopers wat vesel wil verskeep en kopers wat nie wil hê dat die lewering van katoen moet plaasvind nie. Verkopers wat nie hul oeste vooruit verskans het nie, sal gedwing word om die prys aan produsente vir die volgende seisoen te verlaag.

SUID-AFRIKAANSE KATOENPRODUKSIE

Die derde oesskatting van aangeplante katoen dui op 'n oes van 142 829 bale vesel, wat 'n 3%-afname in vergelyking met die vorige maand aandui. Die afname kan toegeskryf word aan ongunstige weerstoestande wat in sommige van die produksiegebiede tydens die oorsigperiode geheers het.

Wêreldvraag en -aanbod (miljoen ton)			
	2018/19	2019/20	2020/21
Beginvoorraad	18,74	18,37	19,68
Produksie	25,68	25,89	25,57
Verbruik	26,02	24,59	24,59
Uitvoere	9,23	9,29	8,62
Eindvoorraad	18,37	19,68	20,65

KATOENPRYSBEWEGINGS

Die ICAC se huidige prysvooruitskatting vir die 2019/20-jaareindgemiddeld van die Cotlook A-Indeks is hersien tot 72,2 VSA c/lb vesel. Die eerste prysvooruitskatting vir die 2020/21-jaareindgemiddeld is 64 VSA c/lb.

Katoenoesverslag: Derde skatting vir die 2019/20 produksiejaar

Produksiestreek	Hektare besproeiing	Hektare droëland	Opbrengs besproeiing kg katoenpluksel/ha	Opbrengs droëland kg katoenpluksel/ha	Produksie 200-kg bale katoenvesel
LIMPOPO					
Loskop	1 797	0	4 500	0	14 555
Noord- en Suidvlakte	822	7 525	4 566	600	14 967
Koedoeskop, Dwaalboom, Thabazimbi	4 078	450	5 500	750	42 118
Limpopo en ander	25	643	3 000	600	829
Weipe	1 000	0	4 500	0	8 325
NOORD-KAAP					
Vaalharts	961	0	5 000	0	8 885
Benede-Oranjerivier	272	0	5 463	0	2 749
Res van Noord-Kaap	879	0	4 707	0	8 688
NOORDWES					
Stella, Delareyville, Schweizer-Reneke, ens.	99	4 472	5 000	2 302	19 963
Taung, Skuinsdrif	892	0	5 243	0	8 652
KWAZULU-NATAL	68	600	3 500	800	1 400
MPUMALANGA	501	1 836	4 000	800	6 425
VRYSTAAT	490	440	5 000	1000	5 273
SA TOTAAL	**11 884**	**15 966**	**4 752**	**1 095**	**142 829**

NUUS / NEWS

BESOEKE AAN NAVORSINGSPROEWE

Katoen SA besoek katoenstrookproewe en ander navorsingsproewe deur die seisoen. Daar is reeds oor die besoeke tot en met Januarie verslag gedoen. Besoeke is verder gedurende Februarie by proewe en produsente in die Schweizer-Reneke-, Jan Kempdorp- en Vaalharts-omgewings afgelê. Samewerking deur die produsente en pluismeulens is aan die orde van die dag, en die katoen vertoon goed.

Die aanplantings op droëlandstrookproewe lyk goed, veral waar die "skip-row"/oorslaanrysisteem gevolg word, terwyl die boor/kaliumproef in Jan Kempdorp ook goed vorder. Data op tellings van vrugknoppe, blomme en bolle word tans versamel om te bepaal of 'n verskil in afspening van vrugknoppe die vrugdrag deur die seisoen beïnvloed het, en of daar verskille tussen die behandelings is. Veselsterkte sal verder vergelyk word. Hael het op die strookproef in Vaalharts 'n bietjie skade aangerig, maar die katoen herstel en beloof steeds om 'n vergelykende waarde wat oesopbrengs en kwaliteit tussen variëteite betref, te gee.

Twee strookproewe in die Koedoeskop/Makopa-area is besoek: boldrag lyk goed en plante groei welig. Daar sal moontlik meer intens gekyk moet word na Pix-bestuur op katoen onder besproeiing, veral waar "pivots" (sentrale besproeiingstelsels) gebruik word, rakende stikstoftoediening en stikstofhoeveelhede in die besproeiingswater.

Die Pix-proef op die Loskop proefplaas is gebruik vir voorligtingsopleiding gedurende Februarie, en die verskille tussen behandelings lyk belowend. By dié proefplaas is daar ook 'n kalsium/boorproef spesifiek vir die area. Katoen word goed bestuur, en die effek op veselsterkte sal nog bepaal word.

Strookproewe in die Pongola/Mkuze-omgewing is ook besoek. Dié katoen word goed beheer vir oormatige welige groei, en insekpopulasies is onder beheer. Met besoek, was die katoen reeds meer as 70% gebars.

Ryspasiëringsproef by 'n kleinboer in die Makhathini area – foto's twee dae uitmekaar geneem; let op die verlepte plante waar enkelryspasiëring toegepas is.

Die Pix-proef in die Makhathini-area is geplant en word onder moeilike veiligheidstoestande bestuur, maar vertoon besonder goed. Daar is duidelike verskille tussen die behandelings waar geen Pix gespuit is nie, die Australiese manier van Pix-toediening, en die ander twee behandelings wat op weeklikse groei gebaseer is. Die proef beloof om interessante inligting op te lewer. Kleinboeraanplantings in Mkuze en Makhathini (J. Steyn)

om enkel- en dubbeloorslaanrye te vergelyk met konvensionele enkelry-aanplantings, wys 'n duidelike verskil in plantgesondheid en plantgroei (sien foto).

Baie dankie aan die pluismeulenaars, die Landbounavorsingsraad (LNR), Jurie Steyn, voorligters van produkverspreidingsmaatskappye en produsente vir hul ondersteuning en die volgehoue werk met dié navorsing.

COTTON LEADER HIGHLY RESPECTED IN THE AGRICULTURAL COMMUNITY

Phineas Gumede, a well-known, respected, and experienced cotton farmer, has been elected as president of the KwaZulu-Natal Agricultural Union (Kwanalu). Gumede plays a key role in small-scale farmer communities in the Makhathini region. He does not only have the small-scale farmers' interests at heart, but also supports the needs of the commercial farmer in South Africa. Gumede has been the vice-president of AgriSA since 2013 and serves as the vice-chairman on the board of Cotton SA. He also leads the Cotton SA Small-scale Farmers' Forum as the chairperson and is the manager of the cotton gin in the Makhathini region. Gumede is dedicated to cotton as a commodity and is a leader in his community. He is well acquainted with facilitating funding mechanisms for upcoming farmers and supports the development of the cotton pipeline. Congratulations, Phineas, the industry is proud of you.

Phineas Gumede.

COTTON LEADERS RE-ELECTED FOR 2020/21

Cotton leaders serve a one-year term, with the annual elections scheduled for March every year. Leonard Venter was re-elected as the chairperson of the Cotton SA Board, and Phineas Gumede was re-elected as the vice-chairperson of Cotton SA.

The Cotton SA Executive Committee consists of four members, to include Leonard Venter, Johan Hartman, Phineas Gumede, and Louis Olivier as a co-opted member. Evert Genis was re-elected as chairperson of the South African Cotton Producers' Association (SACPO), with Johan Hartman elected again as the vice-chairperson. SACPO represents the cotton producers in South Africa, and the association makes important decisions about funding for development, research and production.

Louis Olivier, from Vaalharts Cotton Gin was re-elected as the chairperson of the South African Cotton Ginners'Association (SACGA) to serve for another year, and Johan Buitendag from Koedoeskop Gin was elected as the vice-chairperson. All members who were present at the recent Cotton SA, SACPO and SACGA meetings held in March, supported the re-elections unanimously.

These leaders have been serving the industry with dedication and are committed to further contribute towards maintaining the momentum currently experienced in cotton production, with a vision to further stimulate production in new areas.

The industry salutes them for their leadership and loyalty. Congratulations to all.

Front: The SACGA representatives, Phineas Gumede (Makhathini Gin), Dolf van der Westhuizen (GWK Gin). Back: Johan Marais (Northern Cape Gin), Johan Buitendag (Koedoeskop Gin), Louis Olivier (Vaalharts Gin) and Joseph Kempen (Loskop Gin). Absent – Jaques Willemse (Weipe Gin).

KATOENOPLEIDING – 'N GROOT SUKSES

Leerders wat die katoenopleidingskursus bygewoon het.

Katoen SA het in samewerking met die LNR-IG (Industriële Gewasse) 'n opleidingskursus gedurende Februarie 2020 in Groblersdal aangebied. Die reaksie op die uitnodiging was oorweldigend en bywoning was besonder goed. Die kursus was gemik op landbouvoorligters, pluismeulenaarvoorligters, verkoopspersone van chemiese produkte vir katoen, katoenkommoditeithandelaars en ander belanghebbendes. Die kursus is bygewoon deur 58 leerders, waarvan ongeveer agt vanaf SADC en aangrensende lande was. Voorligtingsbeamptes van die KwaZulu-Natal Rural Development, Limpopo, Noordwes, Mpumalanga (Ephraim Mogale munisipaliteit), asook van die Nokaneng-area, was teenwoordig.

Die kursus het gehandel oor die volgende:

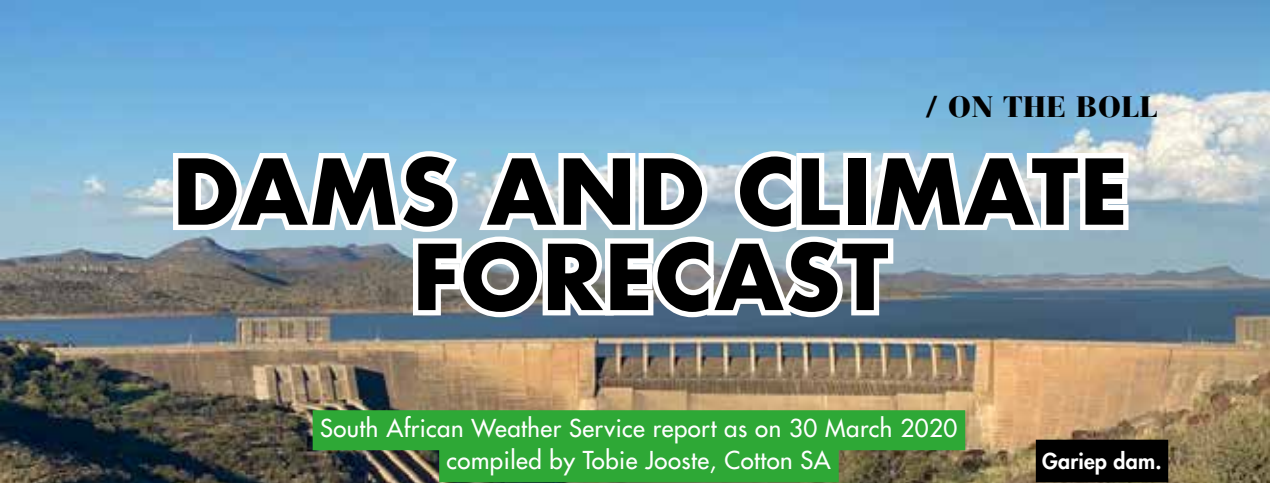
- Die katoenpyplyn
- Die katoenplant se ontwikkeling
- Besproeiing
- Onkruidbeheer
- Insekbeheer en verkenning
- Kalibrasie
- Ontblaring van katoen
- Masjien- en handpluk
- Kleinboerinisiatiewe
- Katoenpluis
- Landvoorbereiding en plant
- Tegnologie
- Insekweerstand
- Identifikasie van plae en siektes
- Die rol van groeireguleerders
- Veselkwaliteite
- BCI-katoen
- Die status van Suid-Afrikaanse katoen

'n Praktiese middag is op die Loskop proefplaas (LNR) gehou, om verkenning te oefen en insekte te identifiseer en 'n proef te besoek waar groeireguleerders getoets word. Baie dankie aan Coleen Fourie (LNR-IG) vir die puik ondersteuning wat sy gebied het met die besoek aan die proefplaas.

Insette is gelewer deur Katoen SA-personeel, LNR-IG (dr. Tilla van der Westhuizen, Johan de Bruin en Coleen Fourie), Bayer (Fanie Friss), Syngenta (dr. Francois Viljoen), Loskop Pluismeule (Joseph Kempen en John Ramashala), Mahyco (Marcus Botha) en Sabi Farming (Eugene du Plessis). Die leerders was ook bevoorreg om insette van privaatkonsultante te geniet, onder andere Jurie Steyn, Hennie Boshof, Giel van Helsdingen (CotMaster), Hein Schröder, Andrew Bennett en Percy McCaskill.

Die kursus blyk suksesvol te wees, te oordeel aan die positiewe terugvoer wat ontvang is. Katoen SA bedank alle insetverskaffers, die onderskeie staatsdepartemente van die landbousektor en die pluismeulens vir hulle ondersteuning om verteenwoordigers te stuur. Leerders wat ál drie dae van die kursus bygewoon het, het bywoningsertifikate ontvang, asook ongeveer 80% van die leermateriaal wat aangebied is.

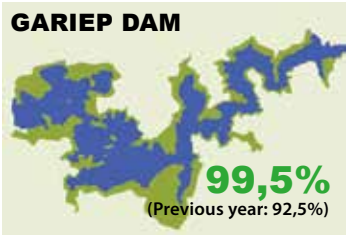
DAMS AND CLIMATE FORECAST



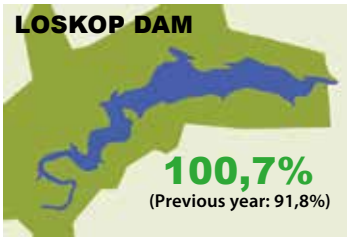
South African Weather Service report as on 30 March 2020
compiled by Tobie Jooste, Cotton SA

Gariep dam.

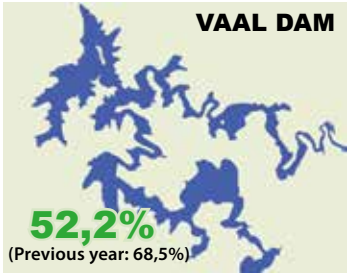
CURRENT DAM LEVELS COMPARED TO THE PREVIOUS YEAR



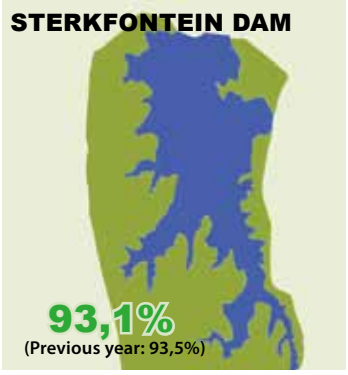
Capacity (million cubic metre): 5 196



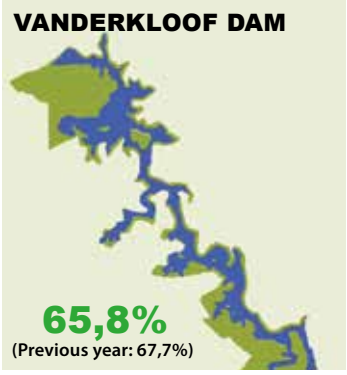
Capacity (million cubic metre): 56,9



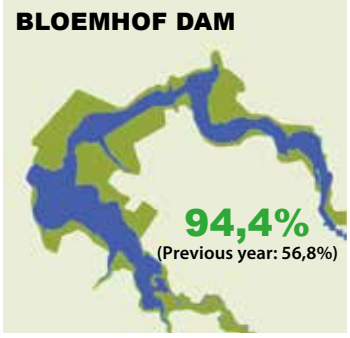
Capacity (million cubic metre): 2 603,5



Capacity (million cubic metre): 2 616,9



Capacity (million cubic metre): 3 171,3



Capacity (million cubic metre): 1 240,2

The El Niño–Southern Oscillation (ENSO) is currently in a borderline weak El Niño state, and the forecast indicates that it will most likely remain at the border between the weak El Niño and neutral states during autumn and early winter. The influence of ENSO during the autumn and winter months on South African rainfall and temperature will be limited during the coming seasons, therefore there is no additional information to interpret concerning the seasonal forecasts.

The multi-model rainfall forecast for mid-autumn (March to May) indicates increased chances of above-normal rainfall over the eastern, central and south-western parts of the country, while above-normal rainfall is only expected over the south-western parts during late autumn (April to June) and early winter (May to July). The rest of the country is expected to experience below-normal rainfall for the entire forecast period.

In general, most of the country is expected to experience above-normal temperatures, except for the central parts of the country, which are expected to experience below-normal minimum temperatures.

The South African Weather Service will continue to monitor and provide updates on any future assessments that may provide more clarity on the current expectations for the coming seasons.

AN UNCERTAIN economic environment

by Dr Koos Coetzee, an independent agricultural economist

The COVID-19 epidemic will result in slower global and South African economic growth.

POSITIVE PRE-COVID-19 OUTLOOK

In its World Economic Outlook (WEO) report of January 2020 the International Monetary Fund (IMF) expected an increase in global economic growth from 2,9% in 2019 to 3,3% in 2020 and 3,4% in 2021. The IMF expects growth in advanced economies to stabilise at 1,6% in 2020/21. In the emerging market and developing economies growth will increase to 4,4% in 2020 and 4,6% in 2021. These estimates are lower than in the October 2019 WEO report.

This is 0,1 and 0,2 percentage points lower than the IMF's October 2019 estimate. The IMF says that negative surprises in emerging market economies result in the decrease in growth estimates. While the IMF regarded global downside risks as lower than in October 2019,

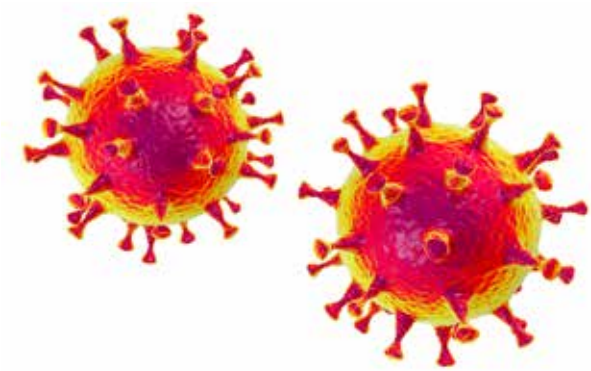
tension between the USA and Iran, intensifying social unrest in many countries, and worsening trade relations between the USA and its trading partners, could still result in much slower growth.

THEN CAME THE VIRUS

The IMF's report was published before the coronavirus crisis developed in January 2020. At the time of writing it is still impossible to predict the full impact of the coronavirus epidemic in China and on the global economy. In 2002/03 the Severe Acute Respiratory Syndrome (SARS) epidemic in China did no real damage to global economies. However, conditions are now quite different from that of 2003. In 2002, China contributed 4,3% of the world GDP. This has increased to more than 16% currently.

More countries and industries are heavily dependent on supplies produced by Chinese factories. The SARS epidemic resulted in 8 000 cases by 2003. According to official World Health Organisation (WHO) reports, the detected number of COVID-19 cases exceeded 46 500 by 13 February 2020. By 2 March 2020, the WHO reported that the number of cases in China was decreasing and that more new infections were reported outside China than inside China. According to the WHO the quick reaction of the Chinese government to identify and quarantine cases resulted in limiting the number of new cases developing.

COVID-19 is a "new" virus and humans do not have any immunity to it. However, the mortality rate from COVID-19 is very low. Up to 3 April, more than 1,1 million people in 181 countries were infected with the virus, while 60 000 people had died. Currently the USA is the country with the most confirmed cases. In many cases these were people who had experienced other pulmonary problems. COVID-19 is a unique virus with a high transmission rate, it presents fatal outcomes for high-risk people and has the ability to cause social and economic disruption. At the time of writing, it seems as if the epidemic has already peaked in China. COVID-19 quickly became a global crisis. In South Africa, the first cases were identified at the beginning of March. Government acted quickly and decisively and placed the whole country in lockdown from 27 March. It seems as if the number of new cases has been slowing down since the lockdown started. However, the numbers may increase again as government embarks on an intensive testing procedure.



GLOBAL OUTLOOK POST-COVID-19

COVID-19 has potentially serious implications for the global economy. A significant portion of global manufacturing of goods takes place in China. The IMF predicts that the growth of the Chinese economy will slow down to 4,5%, the slowest pace since the financial crisis. Oil demand is down and factory shutdowns in China have already resulted in the slowing down of the flow of parts and products from China. For the global economy, the COVID-19 outbreak came at the wrong time. The world economy did improve slightly but lower consumer demand and trade uncertainties caused weaker growth in the last quarter of 2019.

The Organisation for Economic Cooperation and Development (OECD) issued an interim economic assessment in March 2020. The OECD expects that global growth in 2020 will be 0,5 percentage points lower than in 2019 at 2,4%, while the Chinese economy will grow by 4,9% in 2020, possibly increasing to 6,4% in 2021. The OECD revised its growth predictions to point downwards as the COVID-19 epidemic has adversely affected global confidence, financial markets and the travel sector, and has disrupted supply chains. The global economy is highly interconnected, and China plays a huge role in global manufacturing, trade, tourism, and commodity markets. In 2019 China accounted for 22% of global industrial production, 17% of global GDP, and 11% of global international trade. It also accounted for a large share of global demand in commodities.

Table 1: South African imports and exports.

Imports			Exports		
Country	Value (R billion)	Percentage of total (%)	Country	Value (R billion)	Percentage of total (%)
China	16,3	18,5	China	9,6	10,7
Germany	8,8	10,0	Germany	7,5	8,3
USA	5,8	6,6	USA	6,3	7,0
India	4,3	4,9	United Kingdom	4,7	5,2
Saudi Arabia	3,7	4,2	Japan	4,3	4,8

Source: PwC calculations based on Trade Map data

SOUTH AFRICA POST-COVID-19

The South African economy is already in a recession technically, with an annualised growth of -1,4% in the fourth quarter of 2019, following on -0,8% growth in the third quarter. The economy only grew by 0,2% during 2019, the lowest annual growth since the global recession. In contrast to the 3,5% growth expected for sub-Saharan Africa as a whole, the IMF in its latest January 2020 World Economic Outlook predicts only 0,8% and 1,0% growth for the South African economy in 2020 and 2021. However, the IMF published this report before COVID-19 became an issue. The OECD predicted 0,6% growth for South Africa in 2020, which is down from their November 2019 prediction of 1,2%.

Global crises usually lead to a flight to quality on currency markets. After improving to just below R14,00 per dollar at the end of December 2019, the rand weakened to more than R18,00 per dollar at the beginning of April 2020. While the weaker rand is bad news for importers, it is good news for South African exporters and especially agricultural exporters.

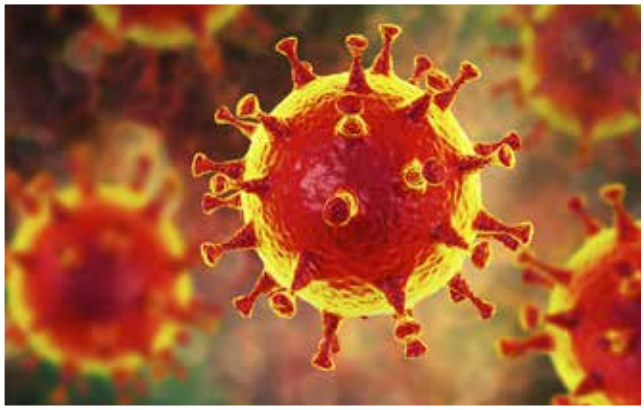
Our economy is highly integrated with the Chinese economy. China is our most important trading partner (see Table 1) with over 10% of exports going into that market.

COVID-19 will impact on the demand for South African exports to China. As COVID-19 also impacts on economic growth in other countries, the demand for exports to these countries will also suffer.

COTTON OUTLOOK POST-COVID-19

China is a major manufacturer of textile products and therefore an important market for raw textiles like cotton and wool. According to the US Department of Agriculture, the outbreak lowered Chinese cotton consumption, cancelling the benefits of the truce between the USA and China after the signing of the recent trade agreement between China and the USA.

The lockdown of factories and travel restrictions reduced commercial activity, and to a lesser extent retail demand. A recent issue of the *Textile Outlook International* expects that international cotton markets will remain weak during 2020 and 2021, as supply outstrips demand, even if the Chinese demand recovers. However, for South African growers, conditions will probably not deteriorate to the same extent, as the rand weakens.



THE POSSIBLE IMPACT OF THE COVID-19 PANDEMIC ON THE SA COTTON CROP

by Hennie Bruwer and Mario Botha, Cotton SA

The COVID-19 pandemic and consequent lockdown is still in full swing and is having a severe impact on the economy and the entire population. COVID-19 has caused widespread turmoil and volatility since the start of 2020 and the measures implemented to contain it have sent shockwaves throughout the global economy.

Consecutive downgrades of the sovereign credit rating of South Africa to sub-investment level has led to a weakening of 40% of the local currency against the US dollar since the beginning of 2020. Economic activity is slowing down and early indications are that the economy can contract by as much as 6% in the year under review. The South African economy is already in a recession technically, with an annualised growth of -1,4% in the fourth quarter of 2019 following on the -0,8% growth in the third quarter.

EFFECT ON THE AGRICULTURAL SECTOR WITH SPECIFIC REFERENCE TO COTTON

Although South Africa is a net exporter of agricultural products, including the cotton sector, it

> **"The COVID-19 pandemic and consequent lockdown is still in full swing and is having a severe impact on the economy and the entire population."**

imports a substantial share of the inputs required to produce this surplus, which implies that local prices are subjected to the same supply and demand forces that drive international markets. Farm gate prices of domestic inputs would therefore be affected strongly by international price fluctuations, currency exchanges, shipping, and distribution costs. Another worrying factor is that most of South Africa's critical inputs are sourced from countries/regions that are severely affected by the pandemic.

The risks associated with the high dependence on imports for critical inputs are twofold. Firstly, it relates to the availability of inputs due to supply disruptions in major sourcing countries experiencing logistical challenges arising from COVID-19 containment measures. Domestic uncertainty regarding the supply and distribution of agricultural inputs may further aggravate the challenges regarding the timely availability of inputs. While most agricultural value chains have been exempted from the lockdown restrictions, many of the support services required for the agricultural value chains to function efficiently are not operating at full capacity.

Secondly, the affordability and availability of imported inputs are influenced by the macroeconomic environment, where the weakness of the exchange rate, for instance, has the potential to cause substantial price volatility. From an affordability perspective, the two important factors that influence the costs of inputs are the rand/US dollar exchange rate and the price of crude oil.

From a cotton point of view, the timely procurements of inputs and commencement of such required processes are critical to optimise both the quantity and quality of the harvested product. South Africa's cotton crop is at the end of the growing season and harvesting has already started. This will require adequate labour for harvesting, transport, and storage-related activities, as well as machinery and parts for repairs. For winter crops like wheat, barley, and canola, the planting period will commence soon. Producers need to start with land preparation and planting, which requires an adequate number of farm workers to operate machinery. Initiating these activities will be dependent on inputs being available on time, such as seed, chemicals, fuel, fertiliser, machinery/implement parts, repair services, and/or technology support.

Moreover, another huge challenge is the current marketing of the remaining 2019 cotton stocks. The most important threat for affected farmers will be liquidity and cash flow for follow-up crops, or when making planting decisions, seeing that the finance model for cotton is based on the sales of the lint as collateral. Without selling the lint the ginner/trader cannot pay the farmer upfront when the raw cotton is delivered. Timely sales of these supplies are important because of the looming worldwide recession and resulting lower demand from textile manufacturers. This will have an impact on the current and future price paid to farmers. The challenge will come when farmers need to make planting decisions towards the end of 2020. The relatively lower prices due to the macroeconomic demand and supply factors will have a significant impact on the cash flow position of farmers going forward.

The largest impact will be felt in the recovery phase, during which new crops will be established due to price pressure of critical inputs as explained above. Cotton farmers might opt for alternative summer crops, for example maize, which is cotton's main competitor and also the staple food of the country. From a food security perspective, there might be a higher demand for maize and resultant higher relative prices, which could lead to a reduction in cotton hectares planted.

THE POSSIBLE EFFECT ON THE TEXTILE, CLOTHING, AND RETAIL INDUSTRIES

Before the pandemic, the South African economy was already in a tough position, with load-shedding's negative effect on production and productivity, and a low growth rate. The result of the pandemic will be an even lower growth rate, as mentioned above, and a decline in production. It is expected that a few textile companies that are already on the edge, will have to close. Unemployment will increase, with the resultant fall in consumer spending. This will put retailers under pressure and will result in the closure of some. There are already companies, both in manufacturing and retail, that indicated they might not be opening their doors after the phased reopening of the economy.

Imports of textiles and clothing from China account for about 60% of imports. Retailers could be hurt by the slower imports from China and other countries. During the first two months of 2020 (compared to the same period in 2019) imports of cotton and other textile articles decreased by 16%, while exports decreased by 11%. The production index volume for textiles and clothing declined by 28% during the first two months in 2020 compared to the same period in 2019 (although part of it could be as a result of a generally slower period of the year).

GOVERNMENT ACTIONS

The first phase began in mid-March when government declared the coronavirus pandemic as a national disaster. This included a broad range of measures to mitigate the worst effects of the pandemic on businesses, communities, and individuals. The measures included tax relief, release of disaster relief funds, emergency procurement, wage support, and funding for small businesses.

As a second phase, government announced a massive social relief and economic support package of R500 billion (US$ 27 billion), which amounts to around 10% of South Africa's GDP, to stabilise our economy, address the extreme decline in supply and demand and protect jobs.

The third phase is the economic strategy that government will implement to drive the recovery of our economy as the country emerges from this pandemic. Central to the economic recovery strategy are the measures that government will take to stimulate demand and supply. Interventions such as a substantial infrastructure programme, speedy implementation of economic reforms, transformation of the economy, and embarking on all other steps that will ignite inclusive economic growth, are needed.

CONCLUSION

It is likely that the worldwide situation will not return to normal until a vaccine is available to prevent seasonal outbreaks in the future. Things will not return to normal overnight. Borders and trade will not be opened with immediate effect and the world economy would need to continue to grow for a long and indefinite period before the local economy will register any growth.

Although there is uncertainty as to what the country, economy and business will look like after the lockdown has been lifted, it is certain that a different world will emerge, one for which everyone must start preparing today. Employers will not be able to return to "business as usual" at the flip of a switch, but will have to take some tough decisions to reinvent their businesses going forward. This may require implementing several different business strategies to address, for example, conditions of employment and redundancy.

Acknowledgement:
Extracts from a BFAP document titled: *The Use of Agricultural Inputs in South Africa.*

EMPOWERING

small-scale cotton farmers in South Africa

by Mario Botha, Cotton SA (shortened article)

In the recovery phase of a country like South Africa, everyday challenges surface on various levels of the socio-economic environment. Some of the biggest challenges facing many South Africans are unemployment, poverty, unequal divisions in social and geographical status, insufficient access to quality health systems, a high crime rate, and insufficient finance for the necessary infrastructure. These challenges have a severe impact on the local economy. Currently, the unemployment rate is 29% (2019).

The latest trend, both globally and locally, is to DIY (do it yourself). Dr Koos Coetzee (independent agricultural economist) says that farmers need to go "off-grid". The agricultural sector can thrive, but each sector will have to do it on its own. Currently, the demand for food and fibre is on the increase and this is encouraging. Challenged and faced by many external, political, and socio-economic factors, farmers have the willingness to improve, adapt, and change. In cotton, upcoming farmers create these opportunities for themselves. Higher yields per hectare are achieved annually and opportunities created within the cotton pipeline, locally or abroad, are unlimited. Current production figures show that 27 850 ha of cotton were planted in the 2019/20 season, and a total crop of 28 565 metric tonnes of lint is expected.

Figure 1: Percentage unemployment rate.
***Source:* Tradingeconomics.com – Statistics South Africa**

Newly-entering small-scale dryland farmers can consider an input cost model of around R5 900/ha of cotton for rain-fed farming, with a return of R8,50/kg seed cotton and an estimated yield of 900 kg/ha. Profits can be as high as R1 693/ha. It is important for farmers to aim for a farm size of around ten hectares. They can use this model to support themselves without government intervention to work towards sustainable cotton farming.

Table 1: An example of an estimated small-scale farming input cost model on dryland.

Management costs	R/ha
Seed	R980
Fertiliser (25:10:6) (35) – 200 kg/ha	R1 320
Roundup PowerMax® – 5 litres/ha	R438
Velocity Super® – 1 litre/ha	R80
Cypermethrin® – 400 ml/ha	R46
Maintain® 200 SP – 80 g/ha	R128
Dimethoate® 400 EC – 1,2 litres/ha	R175
Labour: • Land preparation (once a season) – 4 persons x 4 days • Planting – 4 persons x 4 days • Spraying • Harvesting • Post-harvest • Picking bag – 2 bags/ha • Twine	 R672 R672 R672 R420 R336 R16 R2
Total	R5 957
Budgeted income @ R8,50/kg	R7 650
Gross margin	R1 693

The most important method of sustaining economic growth for small businesses is entrepreneurship. There are many platforms and resources available for commercial farmers, small-scale farmers, and new entrants to this market. Farmers should aim to use these resources to become self-sustainable.

BETTER COTTON FOR ALL – BCI COTTON

by Tobie Jooste, Cotton SA

The Better Cotton Initiative (BCI) is a global non-profit organisation and the largest cotton sustainability programme in the world. BCI cotton aims to ensure that global cotton production is better for the people who produce it, better for the environment it grows in, and better for the sector's future.

The BCI and its partners have provided training on sustainable farming practices to more than two million cotton farmers in 21 countries. In the 2017/18 cotton season, licensed BCI farmers produced more than five million metric tonnes of "Better Cotton", which accounted for ±19% of global cotton production.

The four specific aims of the BCI are:

- to reduce the environmental impact of cotton production;
- to improve livelihoods and economic development in cotton-producing areas;
- to improve commitment to Better Cotton, and the flow of it throughout the supply chain; and
- to ensure the credibility and organisational sustainability of the BCI.

The BCI is a member of the ISEAL Alliance, the global membership association for credible sustainability standards. Only entities that are independently assessed, are credible, and that follow robust standards, are granted membership. The BCI and its fellow ISEAL members embrace the ISEAL Credibility Principles and comply with ISEAL's internationally recognised Code of Good Practice.

COTTON SOUTH AFRICA

Cotton SA and the cotton producers and ginners in South Africa embarked on the BCI journey in 2014. The project is growing year by year. The BCI cotton produced in the 2018/19 season was more than 30% of the total crop.

"The BCI is a member of the ISEAL Alliance, the global membership association for credible sustainability standards."

Training was conducted to all producer units (gin managers), field facilitators (extension officers), supporting personnel and all the famers participating in the project. This included the ongoing transfer of information around the preferred chemicals to use on cotton for weed and pest control and the safe use of chemicals. Only registered products for cotton and products supported by Crop-life SA are promoted.

COTTON SA'S ROLE IN SUSTAINABILITY

Cotton SA has the responsibility to explore new and better ways to produce cotton. It does not happen overnight, but the concept of producing "environmentally friendly cotton" is growing in South Africa and around the world.

Cotton SA embraces the global point of view that:

- what benefits one aspect of the industry, benefits the cotton pipe-line;
- the industry must be helped to develop an awareness on sustainability; and
- information transfer must take place from production issues to consumer attitudes and behaviour.

AGDA to channel R25 BILLION into SA agriculture

by Ivor Price, TV presenter, columnist and co-founder of Food For Mzansi (shortened article)

The Agriculture Development Agency (AGDA) was officially launched in February 2020 and is set to change the face of South African agriculture through investments worth R25 billion over the next decade. AGDA believes it can positively impact job creation at farm level and throughout the agricultural value chain.

Malcolm Ferguson (former ambassador and AGDA board member) said the agency believes that it can provide sustainable finance to large numbers of smallholders and new commercial farmers. He said, "We believe this is possible working with development-funding institutions, such as the International Finance Corporation (the World Bank's private sector arm) and the European Investment Bank."

The agency's primary focus is on smallholder and micro-farmers, as well as "newly commercialised farmers". It supports existing commercial farmers and "super commercial farmers". The AGDA is spearheaded by Dr Johan van Zyl, the CEO and president of Toyota in Europe, and Roelf Meyer, the former chief negotiator for the National Party government.

Thoko Didiza, minister of the Department of Agriculture, Land Reform and Rural Development, addressed the attendees at Africa Agri Tech, and praised the AGDA as "an initiative where the private sector is engaged in agricultural development". This follows a call by President Cyril Ramaphosa to work with government in solving the challenges we are facing today with regard to our economy. The minister said, "We, as government, would like to welcome this initiative, appreciating of course that it is an addition to a variety of structures that are there in the form of organised agriculture in South Africa at national level".

Important organised agriculture like the African Farmers' Association of South Africa (AFASA), AgriSA, Transvaalse Landbou-unie (TLU) and many others were mentioned. The AGDA has brought together organisations of the financial sector,

to find a way in which they can partner with government on agriculture and land reform. The agency is supported by leader farmers, including Nick Serfontein, chairperson of Sernick Group, and cattle farmer Aggrey Mahanjana, the group managing director of the National Emergent Red Meat Producers' Organisation (Nerpo).

Malcolm Ferguson also said: "It is ambitious to say that the AGDA is South Africa's last hope, but this is probably true". He believes that South Africa now faces "two gigantic routes, both impacting severely on confidence in the country". The first is the state of parastatals, such as Eskom, "which messed up the country's financial status", and the other is the land question. He said, "The severely racially skewed character of land ownership in South Africa also symbolises the great divide between people. We have to change the state of land ownership. If we don't, we are awaiting a future we don't want."

Through a combined effort, Ferguson said, great emphasis must be placed on sustainable food security and skills transfer to new farmers. "The focus of the agency's activity is to ensure that farmers have access to the right kind of skills. The AGDA will create the circumstances where these farmers are able to sell into the value-chain to build a better future for themselves for their families and future." He mentioned that injustices must be addressed, otherwise we will increasingly see people who have radical and populist solutions come to the fore. His warning follows the ANC's recent proposal of a constitutional amendment allowing expropriation of land without compensation in a move that could effectively give government unlimited powers. "We do, however, need to give government credit for spending a lot of money on acquiring land and the redistribution of land; to ensure that people will have land in living memory, and to restore that land to them," he said.

Leona Archary, former director-general: land reform and rural development, said, "One of the biggest challenges with land reform programmes is not just financial support, but technical and business skills, and assistance in getting access to markets." The agency will also help to root out corruption in the sector.

Ferguson said that the AGDA is in conversation with, among others, the European Investment Bank about ways to empower small-scale and other farmers in South Africa. While this might mean greater access to funding, it will also lead to crucial partnerships to enable new farmers. "Essentially, we become a partner with the farmer to ensure that they achieve success."

Assassin bug.

BENEFICIAL INSECTS ON COTTON

by Dr Annette Bennett, Cotton SA

Integrated pest management (IPM) is the concept of scouting, recording, and spraying according to thresholds when pest numbers reach an economic threshold. As part of this system, one must count the beneficial insects on a crop.

The pollinators are of less importance since cotton is a self-pollinating crop. On the other hand, the predators are the "good" insects that control pest insects by feeding on either their eggs, the larvae or, in some cases, the adult stages. Some of these predators are not insects and belong to our eight-legged friends, which include spiders and mites.

It is a prerequisite to be familiar with the predators on cotton in order to control pests successfully. In addition, the cotton farmer should not only know about the pests and predators, but should have some knowledge of the life stages of both the pests and the predators. This would help to understand which of these predate on what stage of a pest.

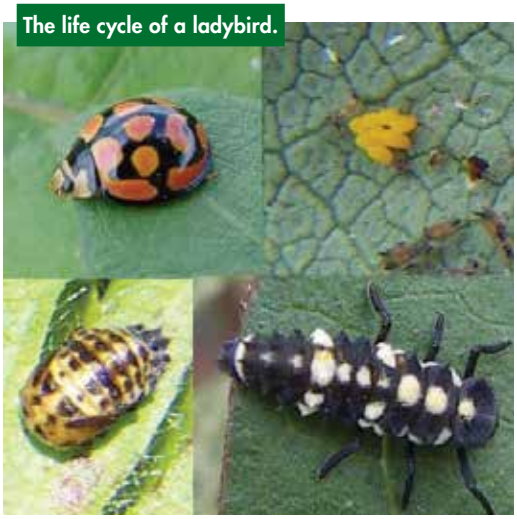
Table 1: Life cycle stages of pests. (X = stage absent)

Pests (common pests are not named, only sporadic pests)	Egg stage controlled by	Larval stages controlled by	Pupal stage controlled by	Nymph stages controlled by	Adult stage controlled by
Cutworm	Unknown	Earwigs, birds, species from wasp families (Braconidae, Ichneumonidae), and parasitic flies (Tachinidae)	Unknown	X	None
Wireworm and false wireworm	Unknown	Unconfirmed for larvae and pupae. Predatory ground beetles (Carabidae)		X	Possibly birds e.g. guineafowl
Thrips	Spiders, lacewing larvae, ladybird larvae and assassin bugs	X	X	Bugs: *Orius* sp. (Antrhocoridae), ladybirds, lacewing larvae, hover fly larvae and predatory thrips	Same as nymphs
Aphids	Ladybirds and lacewings	X	X	Ladybirds: *Cydonia* sp., *Chilomenes* sp. Hoverfly: *Xanthogramma* sp. Lacewing: *Chrysopa* sp.	Ladybirds and lacewings
Leafhoppers	Unknown	X	X	Spiders and others unrecorded	None
Whitefly	Lacewings	X	X	Ladybird adults and spiders	None
Mealybugs (Pseudococcidae) species unknown, possibly *Pseudococcus filamentosus*	Unknown (spiders?)	X	X	Unknown	Spiders? Earwigs?
Grasshoppers and crickets	Unknown (soil beetle predators)	X	X	Nymphs	None
Tip-wilters: *Anoplocnemis curvipes* (Coreidae)	None	None	X	Nymphs	None
Leaf-eating worms	None	Wasps? Earwigs? Spiders?	Unknown	X	None
Black cotton beetle	None	Ground beetles? (Carabidae)		X	None
Cotton stem weevil	None	Wasp: *Entodon apionidis*	None	X	None
Nisotra beetles	None	None	None	X	None
African bollworm	T*richogramma* sp. and *T. luteum* (Trichogrammatidae)	Earwigs and spiders: *Sturmia* spp., *Tachina* sp., *Linnaemyia* sp. (Tachinidae); (Bombyliidae); *Bracon* sp., *Cardiochiles* sp. (Braconidae); *Metopius* sp. (Ichneumonicae); *Telonomus* sp. (Scelionidae)	Birds and carnivorous beetles	X	None
Red bollworm	Egg parasite	Wasps: *Apanteles* sp. (Braconidae) Fly: *Sturmia* sp. (Tachinidae) Ants: *Myrmicaria* sp., *Anoplolepis* sp., *Pheidole* sp.	Birds, ant species and rats	X	None
Spiny bollworm	Wasps: *Apanteles* sp. and *Trichogramma* sp.	Wasp: *Bracon* sp.?	Birds	X	None
Dusky cotton stainer	None	X	X	Assassin bugs: *Phonoctonus* and *Rhinocoris* spp.	Spiders
Common cotton stainer	Assassin bugs	X	X	Nymphs	Assassin bugs
Green vegetable stinkbug	None known, egg parasite in other countries	X	X	Nymphs	None
Mirid: *Helopeltis schoutedeni* and *Lygus vosseleri* (Miridae)	Unknown	X	X	Spiders? Nothing recorded in SA Assassin bugs and wasps: *Euphoris* sp.? and other predatory mirids in other countries	Assassin bugs
Red spider mite	Spiders and predatory mites	X	X	Nymphs	Predatory mites

The farmer must be able to distinguish between egg predators, larval predators, pupal predators, and predation on the adult stages of pests.

Some pests do not have a pupal stage like bugs (which include stainers), while in the case of other pests like bollworm moths, it is more difficult for a predator to predate on the adult stage.

With the use of *Bt*-cotton, there is a shift towards secondary pests being the primary pests on cotton, and they are becoming more important. The inherent characteristics of the cotton to control bollworm larvae and any indecisive spraying for secondary pests will not only harm their adult predators, but also the egg predators and parasitoids of all pests. To sustain any biological control of bollworm eggs on the 20% sprayed refugia (that has no *Bt*), it is important to apply an IPM strategy. However, this is seldom the case, since the 5% unsprayed refuge area is mostly planted by producers.



The life cycle of a ladybird.

Other important predators on aphids and whitefly nymphs are hover fly larvae (top) and lacewing larvae (bottom).

Hard chemicals (Class I and II), will harm the predators and disturb the balance in the cotton field. Always give the predators a chance first! During scouting, if predators are observed on 12 out of 24 plants scouted, refrain from spraying to give the predators a chance to control pests; for example give ladybirds a chance to control aphids. Table 1 provides an indication of what kind of predators can be expected to control which pests.

The farmer, the farm manager, and the chemical salesperson must be aware of the presence of predators on cotton, and be knowledgeable about their life cycles!

Predators that are often seen include the crab spider (left) and the earwig (right).

IMPORTANT ASPECTS TO REMEMBER WHEN DEFOLIATING

by Jurie Steyn, a private consultant

WHAT IS DEFOLIATION?

Defoliation is the shedding of leaves by the cotton plant. It is a natural process when leaves are mature. Leaf shedding or abscission results from the activity of special cells at the base of the leaf petiole where it joins the stem. This area is called the abscission layer.

Shedding or abscission can be induced by different factors like frost, insect damage, disease, drought, and nutrient deficiency. It can also be induced artificially by using certain chemicals, called defoliants or harvest aids. The aim of cultivating the cotton crop is to produce high-quality lint that is uncontaminated. With hand-picked cotton this is possible, but with machine-picked cotton the cotton needs to be defoliated, otherwise the trash content will be very high and the grade very low. Defoliation of mechanically picked or harvested cotton is a must!

BENEFITS OF DEFOLIATION

The removal of the leaves, by eliminating the main sources of stain and trash, provides better lint grades and leads to the following benefits:

- Prevention of boll rot
- Faster and more efficient picking
- Increased air movement and quicker drying of lint
- Reduction of moisture to less than 12%
- Decreasing of green leaf material in lint

IMPROVEMENT OF STORAGE IN MODULES

At least 50% of bolls in a cotton field must be open before defoliation can be done safely. "Safely" means not forcing immature bolls to open and give a low-quality lint. Defoliating too early or too late can cause cotton lint quality to be negatively affected. In areas where the night temperature drops below 10 °C, care must be taken that defoliation is not delayed unnecessarily. The success of defoliation is influenced or determined by the following:

- Uniform germination that leads to uniform physiological development and maturity of plants in the field
- Older and younger plants mixed in a field that affects harvesting and lint quality negatively
- A uniform plant stand that ensures uniform defoliation
- Excessive vegetative growth or having plants at various growth stages that have a negative effect

DEFOLIANT ACTION

Defoliants increase the ethylene concentration in the leaves by reducing the hormone auxin and enhancing ethylene production. This change in ethylene production triggers a separation of plant tissue in the abscission layers of petioles. Defoliants have a translaminar mode of action, meaning they enter the plant through the stomata or cuticula of the leaves. It is important to distinguish between defoliants and desiccants.

DESICCANTS

Desiccants can burn and dry out the plant leaves and even parts of the plant stem. Desiccants are

used for purposes similar to that of defoliants, but desiccants function differently. They cause green foliage to lose water – an accelerated drying process that results in leaf removal, which could be faster than the results achieved by using a defoliant (**edis.ifas.ufl.edu/pi138**). In cotton, desiccants often do not cause the leaves to drop, and the greenish leaf growth that dries out can stain the lint, causing a lower grade of fibre.

Desiccants should not be used on cotton in the place of defoliants. They cause a disruption of the leaf membrane integrity, leading to rapid moisture loss, which results in a desiccated leaf. Because they dry out plant matter, they lead to a higher trash content and often stain the lint. Desiccants cause plant tissue to die, and its use on cotton results in a great deal of dead plant matter, or trash in seed cotton that lowers the quality of the seed cotton. The product Paraquat® is sometimes used but is not registered on cotton for this specific use. Numerous materials that are applied for weed control are also registered for use as harvest aid chemicals. For example, paraquat and diquat dibromide are very fast-acting and are labelled for the control of a wide spectrum of weeds and have been used as effective harvest aids in crops for many years. Desiccants, such as paraquat, are not recommended in the place of defoliants.

NUTRIENT STATUS

Too much nitrogen (N) causes delayed maturity of bolls. Therefore, fertilisers should not be applied later than nine weeks after the emergence of cotton plants.

MOISTURE

Too much moisture can cause rapid regrowth, while too little can cause wilting, which influences the working of the defoliant negatively. Plants do not absorb the defoliant well.

MATURITY OF BOLLS

Defoliation interrupts the movement of nutrients to green and immature bolls. To prevent loss of yield and quality, it is important for as many bolls as possible to be mature before defoliation. A boll takes 35 to 60 days to mature after flowering.

A boll is physically mature if it is too hard to be dented when pressed with your fingers. When the first mature bolls and the last mature bolls ripen in a short space of time, defoliation can take place around 60% to 70% of boll burst. When the

A crop before defoliation.

A defoliated cotton crop ready for harvesting.

Table 1: Registered defoliants and conditioning chemicals used on cotton.

Trade name ®	Problem	Active ingredient	Reg. no.	Hazardous classification	Formulation*	Recommended dosage
Ginstar 540 SC	Defoliant, leaf regrowth suppressor	diuron/ thidiazuron	L7786	III	SC	180/360 g/litre
Ginstop 540 SC	Defoliant, leaf regrowth suppressor	diuron/ thidiazuron	L10519	III	SC	180/360 g/litre
Striptease SC	Defoliant, leaf regrowth suppressor	diuron/ thidiazuron	L10518	III	SC	60/120 g/litre
Effon 480 SL	Accelerates boll burst	ethephon	L5536	III	SL	480 g/litre
Ethapon 480 SL	Promotes boll burst, earlier harvesting	ethephon	L5023	III	SL	480 g/litre
Ethephon 480 SL	Accelerates opening of mature, unopened bolls	ethephon	L4776	III	SL	480 g/litre
Ethephon 480 SL	Accelerates opening of mature, unopened bolls	ethephon	L7511	III	SL	480 g/litre

*SC = Suspension concentrate; SL = soluble liquid

boll-maturing time between the first and the later ripened bolls differs a lot, it will be necessary to wait for 80% boll burst to occur before defoliation.

DEFOLIATION OF THE BOTTOM HALF OF THE PLANT

In areas with high humidity during boll-maturing time, the bottom half of the plant can be defoliated by spraying with drop-arms on a boom-sprayer. Bolls on the top half can still mature before defoliation.

DEFOLIATION AND CLIMATIC CONDITIONS

Defoliation is more successful at higher temperatures – day temperatures above 21 °C, and night temperatures above 10 °C. Temperatures below these will delay defoliation. In unfavourable conditions defoliation can be enhanced by adding wetting agents and stickers to the mixture.

DEFOLIATION TIME

In favourable conditions, defoliation can take 7 to 10 days, while in unfavourable conditions, it can take up to 20 days and more. Registered chemicals are listed in Table 1. The defoliant Striptease® SC is a combination of thidiazuron and diuron, and is more effective when adding mineral oil at 2 litres/ha and sprayed at optimum temperatures of 25 °C to 35 °C, while night temperatures should be above 12 °C.

The product Ginstop® 540 SC is also a combination of thidiazuron and diuron (as is Ginstar®) and a combination of Ethephon 480 SL (2 to 3 litres/ha) and 1% Link (100 ml/100 litres) is recommended, sprayed at 300 litres of water/ha. For small-scale farmers who defoliate, a knapsack application of 5 to 18 ml/10 litres water is adequate with Ethephon sprayed at 60 to 100 ml/10 litres of water. Optimum temperatures for application are between 25 °C and 35 °C with night temperatures also above 12 °C, and no rain expected within 24 hours.

INFLUENCING FACTORS

The success of applying chemicals on the total harvest is influenced by weather conditions throughout the season, and specifically at the time of application in relation to the maturity of the cotton.

The effect of defoliants on yield and fibre quality is also influenced by:

- cotton variety;
- water management; and
- management of nutrients up to harvest time.

Check the recommendations and instructions on the product label regarding the withholding period for defoliants.

ROOISPINMYT OP KATOEN
in die Thabazimbi-gebied

deur Ernst Kotze, GWK

'n Spinmyt is 'n klein agtbeengeleedpotige Arthropoda en nie 'n insek nie. Spinmyte kom algemeen voor op mielies en katoen tydens warm en droë periodes van die somermaande. Die rooispinmyt (Tetranychidae) vereis oordeelkundige bestuur. *Tetranychus urticae* (Koch), voorheen bekend as *T. cinnabarinus* (Boisduval), is een van drie spesies op katoen, waarvan die ander *T. lombardinii* en *T. ludeni* is (Smith Meyer, 1990).

LEWENSIKLUS

Nimfies broei uit eiers, terwyl sommige wyfies partenogeneties voortplant en aan mannetjies geboorte gee. Dit neem nege dae om drie onvolwasse stadiums deur te gaan teen 25 °C, en wyfies kan tot vier weke lewe en tot 'n honderd eiers lê.

VOORKOMS EN SKADE OP KATOEN

Spinmyte lewe in kolonies aan die onderkant van blare waar hulle sy spin vir beskerming teen predatore. Spinmyte eet aan die epidermale selle aan die onderkant van die blaar en beskadig die blaaroppervlak, wat lei tot waterverlies en blaaruitdroging.

Die eerste skade is 'n rooibruinverkleuring aan die onderkant van die blaar, waarna dit na die bokant versprei en as 'n rooiperskleur waargeneem word, en dus fotosintese beïnvloed. Soos die blaarskade toeneem, verlaag die "produksiekapasiteit" van die blaar en dit lei tot 'n vermindering van koolhidraatproduksie en vorming van sellulose, wat bolgewig en veselkwaliteit benadeel.

Thabazimbi is hoofsaaklik 'n koring- en sojaboongebied met ongeveer 25% mielie-aanplantings gedurende Augustus tot Oktober. Teen Desember is rooispinmyte redelik algemeen op mielies teenwoordig, maar word nie streng beheer nie, aangesien die mielieplant al in die hardedeegstadium is, en watertoediening word reeds onttrek sodat die mielies in Januarie gestroop kan word. Boerderye wat roteer met 'n mielie-aanplanting in Augustus en katoen in November, kan verwag dat spinmyte sal beweeg vanaf die mielies, wat reeds uitdroog, na die katoen.

Rooispinmytskade aan die onderkant van 'n katoenblaar.

Daar is natuurlike predatore wat spinmytgetalle redelik onder beheer kan hou, naamlik predatoriese myte, spinnekoppe, predatoriese blaaspootjies, blinkswart kortskildkewers (Staphylinidae), larwes van die lieweheersbesies/-kewers (*Exocomus* spp. – Coccinellidae), larwes van die galmuggie (Cecidomyidae), en ander predatoriese Arthropoda. Die belangrikste predator in die Groblersdal-area wat op myte en myteiers floreer, is gelys as onvolwassenes van die roofbesie (*Orius thripoborus* – Anthocoridae) (Botha 1990).

Spinmyte vermeerder in warm, droë weer. Wees versigtig vir 'n vroeë aanwending van 'n breëspektrum-insekdoder, want dit verlaag die populasies van alle insekte, en onder die regte

weersomstandighede kan spinmytpopulasies vinniger as hul predatore aanteel. Spinmyte word maklik deur die wind versprei.

In nat en vogtige weer kan spinmytpopulasies drasties verminder. Buiten die reën wat hulle kan afwas, kan patogeniese fungi sekere myte help beheer, deur die vervelling van jong spinmyte te beïnvloed.

FAKTORE WAT EFFEKTIEWE ROOISPINMYTBESPUITING BEÏNVLOED

Kolbespuiting word aanbeveel as myte voorkom as kolbesmettings. Indien spinmyte wydverspreid voorkom, is beheer moeiliker. Omdat spinmyte onder die blare voorkom, word middels wat 'n translaminêre werking het, aanbeveel. Kontakmiddels moet met 'n goeie bedekking onder die blare gespuit word. Met die spuit van sistemiese middels moet jonger plante wat aktief groei liefs gespuit word om die middels vertikaal en afwaarts in die plant te kan vervoer. Spinmyte is 'n groot probleem wanneer plante ouer is en nie meer so aktief groei nie.

Let op na besproeiingstye en hoëvolume-watertoediening, wat nie net die middels kan afwas nie, maar ook spinmyte só verder kan versprei. Gewasse op aangrensende mielielande is besig om te droog en is besmet met myte. Let op na die weervooruitsig – word warm of nat weer voorspel?

Bepaal die totale insekpopulasie-indeks en kyk of ander insekte soos stinkbesies en plantluise ook bespuit word, wat terselftertyd spinmyte sal beheer. Kyk na die plantgroeistadium – spinmyte rig meer skade aan tydens die bolgroeistadium as in die bolbarsstadium. Probeer om chemiese middels wat in Klas Ia & Ib en II voorkom, te vermy, asook herhaaldelike piretroïedbespuitings.

Met herhaaldelike bespuitings van piretroïedes vroeg in die seisoen, kan spinmyte vinnig weerstand opbou en vermeerder. Let op die venstervrye tyd vir piretroïedes, waar dit nie voor nege weke na plant gespuit moet word nie. Kyk ook na alternatiewe effekte van herhalende nikotinoïedes wat spinmytpopulasies kan laat toeneem.

Middels soos Tedion® (tetradifon) – Klas IV, en Pegasus® (diafenthiuron) – Klas III, kan gebruik word. Wissel die middels af uit verskillende groepe met ander meganismes van werking. Kombinasiemiddels soos acetamiprid/bifenthrin (Aceta Star®) moet nie meer as twee maal per seisoen gespuit word nie. Let op dat die herhaaldelike gebruik van middels in Klas III en IV mytpopulasies ook kan laat toeneem. Dit geld vir enige herhaaldelike gebruik van middels, veral piretroïedes en organofosfate. Die spinmytdrempel word steeds bepaal deur die populasie-indeks van 48 plante/ha land, getel op drie blare per plant, waar geen myte = 0, 1–10 myte = 1, 11–30 myte = 2, en bo 30 myte = 3. Neem die som van die totale indeks, deel dit deur 48, en 'n syfer >1 dui bespuiting aan. Verwys na die etikette van die middels vir verdere instruksies.

Verwysings:

- Smith Meyer, M.K.P. 1990. *Myte op Katoen: bio-ekologie*. Katoen G.3. Boerdery in Suid-Afrika.
- Botha, J.H. 1990. *Natuurlike vyande van die rooispinmyt by katoen*. Katoen G.4. Boerdery in Suid-Afrika.

Geregistreerde middels sluit die volgende in:

- Abamectin – Klas Ia en II
- Acetamiprid/bifenthrin (neonicotinoid/piretroïed) – Klas II
- Amitraz (octopamine agonis) – Klas II
- Bifenthrin (piretroïed) – Klas II
- Bromopropylate (onbekende meganisme) – Klas III
- Chlorfenapyr (pyrol dinotrol phenol sulfluromid) – Klas II
- Diafenthiuron (mitochondriale adenosien trifosfaat ATP-sintese inhibeerder) – Klas II en III
- Fenpropathrin (piretroïed) – Klas Ib en II
- Profenofos (organofosfaat) – Klas II
- Propargite (mitochondriale ATP-sintese inhibeerder) –Klas II
- Tetradifon (mitochondriale ATP-sintese inhibeerder) – Klas IV

"Spinmyte kom algemeen voor op mielies en katoen tydens warm en droë periodes van die somermaande."

QUALITY PERFORMANCE
of the 2018/19 production year

by Gert Klindt and Calvin Knight, Cotton SA

For the past several years, the size of the South African cotton crop has been increasing, with the 2018/19 production year being the biggest cotton crop since the 1998/99 production year. Lint bales increased to reach nearly 194 000 running bales (at time of print) for grading and classification purposes, in comparison with the running lint bales of 171 196 for the 2017/18 season.

Favourable weather conditions experienced during the first half of the season have helped to improve the grade and quality performance of the local cotton crop.

A 10% increase of the top two grades, namely Good Middling (GM) and Strict Middling (SM), and a decrease of 8% in the lowest grade, Strict Good Ordinary (SGO), can be seen in Figure 1.

Fibre lengths achieved in the longer staple group ($1^{3}/_{16}$" and better) comprised 46% of the total crop (Figure 2).

Figure 1: Grade performance of South African gins – 2017/18 vs 2018/19 production year.

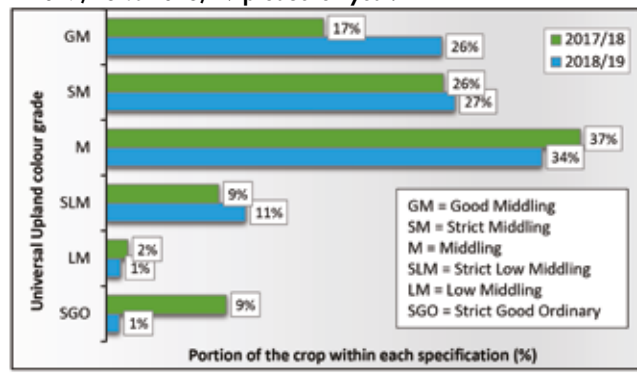


Figure 2: Length performance (inches) of South African gins – 2017/18 vs 2018/19 production year.

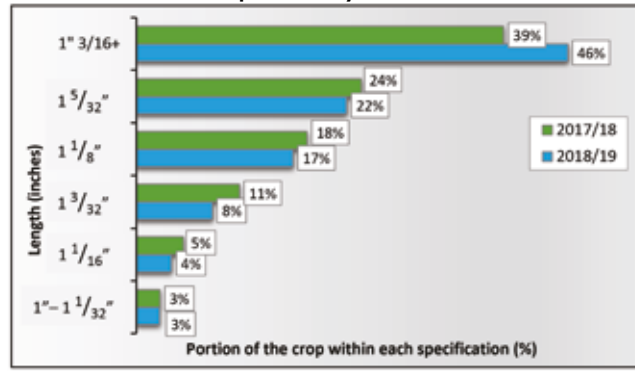
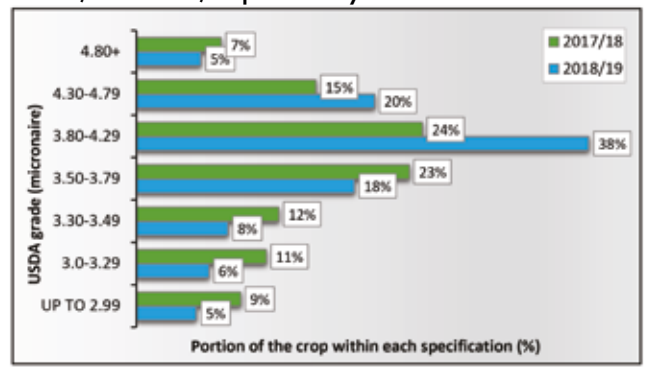


Figure 3: Micronaire performance of South African gins – 2017/18 vs 2018/19 production year.



In Figure 3, the micronaire performance shows an acceptable result due to better climatic conditions. Fibre belonging to the premium range (3,80 to 4,29 micronaire) of cotton has improved by as much as 14%.

The fibre strength performance is given in Figure 4, and it highlights the overall improvement of the cotton crop, with an increase of up to 61% in the groups of 28 gms/tex and better.

The performance of the short fibre index (SFI) achieved over the past two seasons is given in Figure 5. The SFI is a value that is calculated using a sophisticated algorithm. The SFI is an indication of the portion of the crop (%) that has fibres that are below a certain length (less than 0,50 inches or 12,7 mm). The lower the range of values for a group, the longer the overall fibre length of that group. For the 2018/19 season, around 59% of fibres belonged to the lower-value group, indicating a longer fibre.

> **"The 2018/19 season shows a better overall spinning consistency index (SCI) trend than the previous season."**

The 2018/19 season shows a better overall spinning consistency index (SCI) trend than the previous season. The SCI is an index that consolidates all the critical high-volume instrument (HVI) quality measurements into one value to determine spinning consistency – the higher the number, the higher the consistency, values between 120 and 140 are generally preferred (see Figure 6).

Figure 4: Strength performance (gms/tex) of South African gins – 2017/18 vs 2018/19 production year.

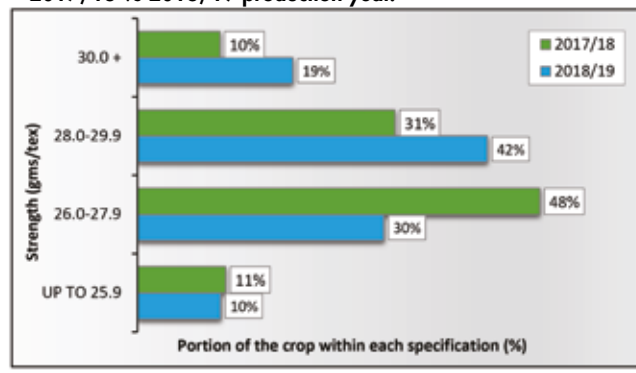


Figure 5: Short fibre index of South African gins – 2017/18 vs 2018/19 production year.

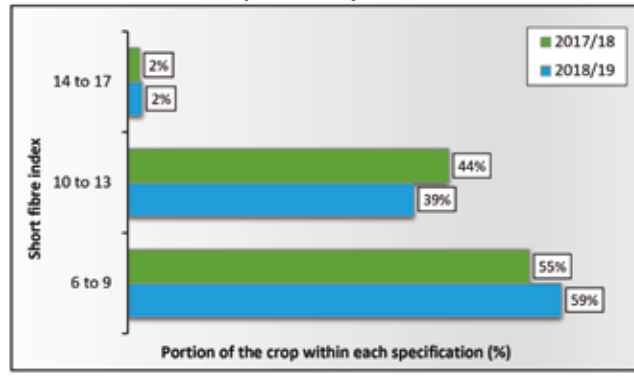
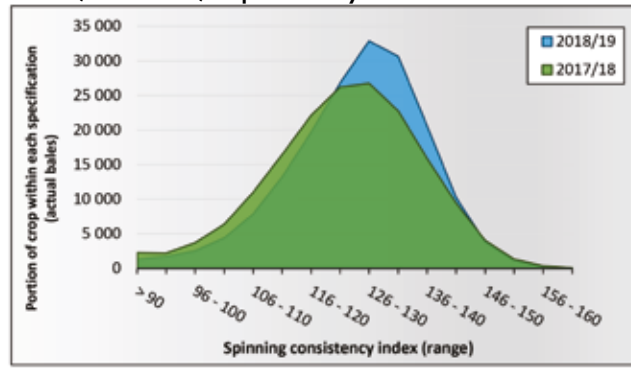


Figure 6: Spinning consistency index of South African gins – 2017/18 vs 2018/19 production year.



THE IMPORTANCE OF MICRONAIRE

by Calvin Knight, Cotton SA

A large emphasis is placed on the micronaire of cotton fibre. Farmers go out of their way to ensure good micronaire values. Ginneries take time not to mix lint with variable values and spinners place emphasis on specific values in their requirements to ensure high quality yarn.

Micronaire is a description of the cotton fibre's fineness, but it does not relate directly to linear density. Micronaire is determined by the cotton variety (Uster Technologies, 2008). For example, a fine fibre cotton variety such as Candia will usually have lower micronaire values than the Delta Pine-type cottons.

Furthermore, growth conditions during the cotton plant's development strongly influence the micronaire. The amount of sunlight, day and night temperatures, variety, and agronomic inputs influence year-to-year variations in quality (Chaudhry & Guitchounts, 2003). Cotton of the same variety can therefore have different micronaire values from one season to the next and from one production area to another.

Cotton fibre is more than 90% cellulose, and is developed from sugars that the plant produces during photosynthesis. Cotton fibres are cylindrical and have an outer perimeter consisting of a thick wall of cellulose and a small inner hole, called a lumen. Figure 1 shows the variance between fibres, with some having thicker cellulose walls and some having larger overall perimeters than others.

The outer perimeter of a single fibre represents the "fineness" of a single fibre. The thickness of the cellulose layer influences the perimeter; the thicker the layer the larger the perimeter. A larger perimeter indicates a higher micronaire value, and a smaller perimeter indicates a lower micronaire value (Chaudhry & Guitchounts, 2003). As cotton elongates throughout the season, more cellulose is laid on the inside of the fibre. At the end of a season as the fibre dries out and matures, the lumen collapses, which in turn, leads to the collapsed and twisted shapes of a cotton fibre.

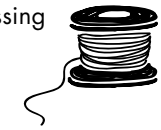
Air pressure is used during high-volume instrument testing (HVI testing) to measure micronaire. A fibre sample of known weight (measured on the micronaire scale to ±10 g) is measured by passing air through the fibres and measuring the drop in pressure. The micronaire scale has been set up empirically with a standard set of cottons and is not linear. Other factors such as fineness and maturity have an influence on micronaire results (Chaudhry & Guitchounts, 2003). Table 1 shows the standard range of output values. Very fine and very coarse cotton each have their own different issues when it comes to further processing. The micronaire of cotton fibre influences other properties that will present when testing cotton on the HVI, for instance maturity, spinning consistency index (SCI) and fibre strength.

Table 1: Micronaire ranges of Upland cotton (Uster Technologies, 2008).

Micronaire	Description
Less than 3,0	Very fine
3,0 to 3,6	Fine
3,7 to 4,7	Medium
4,8 to 5,4	Coarse
5,5 and higher	Very coarse

The impact of the micronaire value on the rest of the products down the cotton value chain needs to be kept in mind. It can be explained as the impact of raw material on the rest of the value chain. Poor micronaire/immaturity leads to the following issues:

- Nep formation during processing
- White specks/shiny neps
- Poor yarn and fibre strength
- Poor product appearance
- Processing of waste
- End breaks in spinning



The micronaire directly determines the number of fibres in the cross section of material. This affects the evenness, strength, and count range of yarn, as well as other products further down the production line. In addition, the following aspects can be affected:

- **Material evenness** – finer fibres (or low micronaire) means more fibres per cross section of the material, making it more even.
- **Material strength** – finer fibres (or low micronaire) means more fibres per cross section of the material, indicating more fibre-to-fibre surface area. This creates higher fibre-to-fibre cohesion and therefore higher material strength.
- **Yarn count range** – finer fibres (or low micronaire) means more fibres per cross section and higher counts of fibres in the yarn.

Keeping in mind the micronaire ranges mentioned in Table 1 creates the impression that very fine cotton complements better yarn and eventually the final product. However, the reality is that coarse and very coarse fibres lead to more inconsistencies and issues with the final product, while very fine cotton lacks the strength of fibre to be used effectively. Therefore, medium fineness is often the preferred range in micronaire.

However, it is not possible for a farmer to control factors that influence micronaire, such as daylight, rainfall, and seasonal temperatures. Avoiding plant stress, maintaining good crop health, and having good farming practices are the simplest methods for providing a good quality crop.

References

- Chaudhry, M.R. & Guitchounts, A. 2003. *Cotton Facts*, Technical Paper no. 25 for the Common Fund for Commodities. Published by the International Cotton Advisory Committee, ISBN: 0-9704918-3-2.
- Uster Technologies, 2008. Uster HVI Best operating practices for lab technicians, Uster.

PIX-BESPUITINGSPROEWE
op katoen in Loskop

deur dr. Tilla van der Westhuizen, Coleen Fourie en Johan de Bruin (LNR-IG) en Nico Botha (produsent)

Die gebruik van groeireguleerders sluit in Pix® (mepiquat chloride) en Quat® 50 SL (mepiquat chloride), wat geregistreer is op katoen. Groeireguleerders word gebruik om planthoogte te beheer en om masjienpluk van saadkatoen te vergemaklik. Deur oormatige vegetatiewe groei te verhoed, word die beskikbare voedingstowwe gebruik vir bolvorming en veselrypwording. Die tyd en dosis van toediening hang af van die kultivar wat geplant word en die spesifieke verbouingspraktyke wat gevolg word.

'n Pix-katoenproef onder besproeiing is op 26 November 2018 by 'n produsent, Nico Botha, in Loskop geplant en die proef is in Mei 2019 geoes. Die verbouingspraktyke, kunsmisverbruik en insek- en onkruidbeheer word in Tabel 1 opgesom. Die produsent het twee bespuitings toegedien as deel van sy verbouingspraktyke (Pix teen 300 en 400 ml/ha). 'n Totaal van 700 ml/ha Pix is dus teen middel Januarie (voor week sewe) oor al die behandelings gespuit. Hierdie toediening is verder as 'n basisdosis beskou, met die aanname dat enige moontlike effek dieselfde is, oor al die behandelings.

Die opvolgende behandelings is daarna verder vergelyk. Op die onderskeie kultivars is vier behandelings vier keer herhaal, naamlik 'n geen-Pix-behandeling, 'n behandeling wat begin met 'n lae dosis, 'n behandeling wat begin met 'n hoë dosis, en 'n toediening volgens die Pix-lineaalmetode, soos deur BASF voorgeskryf (sien Tabel 2).

RESULTATE VAN DIE GEMIDDELDE SAADKATOEN-OPBRENGS PER KULTIVAR

DP1240 B2RF: Die hoogste saadkatoenopbrengs (Figuur 1) van 6 556 kg/ha is verkry waar die Pix-lineaalmetode gebruik is. Veselkwaliteite was aanvaarbaar by al die behandelings (sien Tabel 3).

DP1531 B2RF: 'n Saadkatoenopbrengs (Figuur 1) van 5 667 kg/ha was die hoogste met die Pix-lineaalmetode. Veselkwaliteite was aanvaarbaar by al die behandelings (sien Tabel 3).

DP1541 B2RF: Hoë saadkatoenopbrengste (Figuur 1) van 6 279 en 6 278 kg/ha is verkry in die kontrole en die hoë Pix-behandeling. Die verdere toediening van Pix het nie veel verskil gemaak tussen die behandelings nie, en die oesopbrengs was min of meer dieselfde as in die kontrole. Dit is moontlik as gevolg van die toediening van Pix op die kontroles deur die produsent, voor week sewe na die plantdatum. Veselkwaliteite was aanvaarbaar, behalwe vir die lae 26,8 g/tex veselsterkte wat by die lae dosis Pix-behandeling verkry is (sien Tabel 3).

'n Proef met 'n hoë dosis Pix (700:800) toegedien, wat korter vertoon (links), teenoor 'n kontrolebehandeling, wat langer vertoon (regs).

Tabel 1. Verbouingspraktyke van die Pix-proef in Loskop, 2018/19.

Verbouingspraktyke	Middel	Dosis	Weke na plant
Kunsmis	3:2:2 (38)	250 kg/ha	Met plant
Kunsmis	45 0 15	130 kg/ha	4
Kunsmis	45 0 16	130 kg/ha	4
Kunsmis	25 3 20	120 kg/ha	4
Onkruidbeheer	Roundup Powermax®	1,7 liter/ha	4,6 en 8
Insekbeheer	Mullan®	100 g/ha	6
Insekbeheer	Karate®	75 ml/ha	6
Ontblaring	Ginstar®	180/360 g/liter	±17–18
Oes	Handpluk	N.v.t.	20

Candia BGRF: 'n Hoë saadkatoenopbrengs (Figuur 1) van 6 944 kg/ha is verkry by die lae Pix-behandeling wat vier keer oor die seisoen toegedien is. Veselkwaliteite het nie goed vertoon nie, veral by die Pix-lineaal, wat lae veselsterktes van 26,7 g/tex gelewer het. 'n Lae mikronêr is by die hoë Pix-behandeling van 3,3 gelewer (sien Tabel 3). 'n Vroeër aanplanting van ten minste twee weke van dié kultivar sou heel moontlik gehelp het om 'n verbeterde mikronêrwaarde, maar plant-aksies is deur reën verhoed.

BESPREKING EN AANBEVELINGS

Candia BGRF het die beste gevaar wat betref saadkatoenopbrengs (6,9 ton/ha), by die lae Pix-dosisse wat gereeld gespuit is. Indien Candia onder droëlandtoestande verbou word, is Pix-bespuitings dikwels nie nodig nie. DP1240 B2RF het die tweede hoogste opbrengs gelewer met die toepassing van die Pix-lineaal teen 6,6 ton/ha, sonder enige mikronêrprobleme.

By DP1531 B2RF en Candia BGRF het die lae Pix-dosis behandelings die beste presteer, in vergelyking met die ander behandelings tussen hierdie twee kultivars. Die oesopbrengste van DP1531 B2RF was relatief laag in verhouding met die ander kultivars, maar het wel 'n aanvaarbare oesopbrengs van oor die 5 ton/ha gelewer, selfs in die kontrolebehandelings. Die goeie opbrengs in die kontrolebehandelings is heel moontlik te wyte aan die eerste twee toedienings van Pix deur die produsent. Laat aanplantings van kultivars met 'n kort groeiseisoen kan mikronêr beïnvloed.

DP1541 B2RF is 'n uiters geil groeier onder optimum besproeiing, stikstoftoediening en gunstige klimaat, en dié katoen kan "weghardloop". Die hoë Pix-dosis word tentatief aanbeveel, beginnende met vroeë bespuiting. Verhoed vegetatiewe groei om plant-energie in bolvorming om te sit.

Daar moet met groot omsigtigheid besluit word watter dosis om te spuit by watter kultivar. Geen definitiewe riglyne kan saamgestel word uit die proefresultate vir DP1541 B2RF nie. Selfs met die lae 300 ml en 400 ml Pix-behandelings vroeg in die seisoen, en met die addisionele Pix toegedien as basisbehandeling deur die produsent, was daar nie veel verskil tussen die behandelings nie. 'n Oesopbrengs van ten minste 6 ton saadkatoen/ha is gelewer, selfs in die kontrole. Die aantal en dosisse van Pix-bespuitings op DP1541 B2RF, in verhouding met die hoeveelheid stikstof wat beskikbaar is vir die plant in besproeiingswater en reën en dit wat tydens bemesting as stikstof toegedien word, behoort verder ondersoek te word. In die huidige seisoen (2019/20)

Tabel 2. Pix-bespuitings, -dosisse en tyd toegedien by die Pix-proef in Loskop, 2018/19.

Pix	Dosis (ml/ha)	Datum toegedien
Kontrole	300:400*	3 en 9 Jan.
Hoë dosis	300:400:800	3, 9 en 22 Jan.
Lae dosis	300:400:400:400	3, 9, 22 Jan. en 5 Feb.
Pix-lineaal	300:400:200:200:300	3, 9, 22 Jan., 5 Feb. en einde Feb.

*Basisbehandeling deur die produsent gedoen – kontrole is dus nie 'n geen-Pix-kontrole nie.

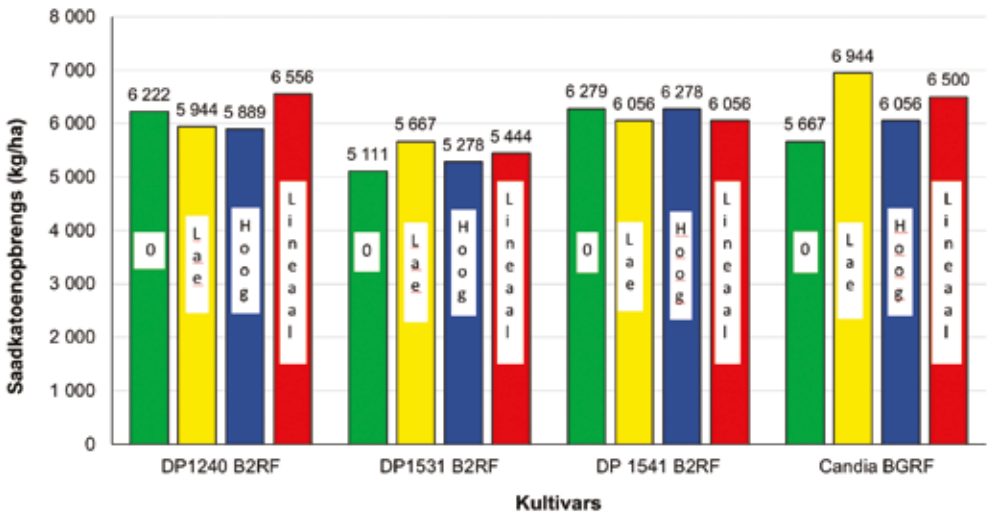
Tabel 3. Kwaliteite van verskillende kultivars behandel met verskillende Pix-dosisse (2018/2019).

Kultivar	Pix-behandelings	Mikronêr	Vesellengte (duime/"inches")	Sterkte (g/tex)
DP1240 B2RF	Geen Pix	4,6	1 1/8"	28,6
DP1240 B2RF	Lae dosis	4,3	1 1/8"	29,4
DP1240 B2RF	Hoë dosis	3,8	1 3/16"	29,5
DP1240 B2RF	Lineaal	4,0	1 1/8"	30,4
DP1531 B2RF	Geen Pix	4,4	1 1/8"	27,6
DP1531 B2RF	Lae dosis	4,7	1 5/32"	26,7
DP1531 B2RF	Hoë dosis	4,2	1 3/16"	30,3
DP1531 B2RF	Lineaal	4,1	1 3/16"	28,0
DP1541 B2RF	Geen Pix	4,1	1 3/16"	27,5
DP1541 B2RF	Lae dosis	4,0	1 5/32"	26,8
DP1541 B2RF	Hoë dosis	4,3	1 5/32"	28,7
DP1541 B2RF	Lineaal	4,5	1 3/16"	28,1
Candia BGRF	Geen Pix	3,3	1 5/32"	28,3
Candia BGRF	Lae dosis	3,8	1 7/32"	29,6
Candia BGRF	Hoë dosis	3,3	1 3/16"	28,4
Candia BGRF	Lineaal	3,5	1 5/32"	26,7

het DP1541 B2RF baie ruig gegroei en die hooggroeiende plante met baie vegetatiewe groei is waargeneem, wat masjienpluk sal bemoeilik.

Tans (2019/20-seisoen) word Pix verder geëvalueer wat betref die begindosis as 'n baie hoë Pix-dosis – soortgelyk aan dit wat in Australië toegepas word. Tot op hede lyk resultate belowend met betrekking tot boltellings. Faktore waarna intensief opgelet moet word, is kultivar, besproeiing, stikstof, hitte-eenhede, moontlike verwagte stresperiodes, en die feit dat Pix nie tussen 12:00 en 14:00 gespuit moet word nie, omdat die son die produk afbreek. Tans is die aanbeveling nie meer as 1,5 liter/ha oor die seisoen nie. Daar sal later terugvoer gegee word oor die huidige proefresultate van 2019/20.

Figuur 1. Die gemiddelde saadkatoenopbrengs by verskillende katoenkultivars met verskeie Pix-dosisse in Loskop, 2018/19.



IMPORTANT PARTNERSHIPS IN SMALLHOLDER FARMING

by Tertius Schoeman, Cotton SA

Henry Lynn (commercial farmer from Thabazimbi), Spencer Mocumi (new entrant into cotton farming), and Tertius Schoeman (Cotton SA).

Partnerships have proven to be the tool to create sustainability in cotton development programmes.

Smallholder cotton farmer projects in all the cotton-producing regions in South Africa were visited, following approximately two months after the planting date in the current production cycle.

Visiting farms in Mkhuze and Makhathini (KwaZulu-Natal); Nkomazi, Meisjesvalley, Nokaneng, Senotlelo and Dennilton (Mpumalanga); Rust de Winter (Gauteng); Dichoeng, Matlerekeng and Thabazimbi (Limpopo); Tlhabelang (North West); and Hoopstad (Orange Free State) showed that taking part in a project and forming partnerships among farmers, project leaders, and funders make a world of difference in enabling smallholder cotton farmers to become skilled.

It is true that adverse weather conditions will always influence crop performance, but the continuous benefit that participants of the projects with partnerships have, either with a local commercial farmer or with an institution like the local cotton gin, makes a visible difference to the crop in the field.

When mentoring farmers, it should include linking the smallholder, especially new entrants and even larger unit farmers, to such support structures. In an article of the *ICAC Recorder*, June 2019, the authors highlighted the following facts as the main reasons for the poor yields achieved and as constraints in achieving quality cotton in Africa. These include the time of planting, seedbed preparation, and the correct use of fertilisers and pesticides.

In South Africa, it was determined that partnerships made a significant impact on the projects mentioned. The one outstanding fact about cotton production in Africa is the low yield per hectare and the subsequent poor fibre quality. The average lint yield for sub-Saharan African countries for rainfed production is 388 kg/ha, as recorded in Kenia (Musebe, *ICAC Recorder*, 2018), 324 kg/ha in other countries, and up to 955 kg/ha in South Africa (Katende *et al., ICAC Recorder,* June 2019). The weighted average lint production (dryland and irrigated) to date in South Africa (2018/19 season) is around 1 163 kg/ha, at a gin outturn (GOT) percentage of 38%, and a seed cotton yield of 3 061 kg/ha (Cotton SA).

Some farmers in the rest of Africa have a disadvantage because of not having access to genetically modified cotton seed that expresses bollworm resistance and herbicide tolerance, dynamic fertilisers, and a variety of herbicides and pesticides with different modes of action. In South Africa, supporting partnerships together with the correct input and cultivation practices to improve yields and fibre quality produced by smallholders, will make the difference now and in the future.

Although it is too early to estimate crop results, the excursions in the field are promising, especially where support partnerships are in place.

GRONDVOGMONITERINGS

EN DIE INVLOED VAN GRONDVOG OP GRONDVORME ONDER DROËLANDPRODUKSIE

deur Ruan Gagiano, NWU

Katoenverbouing onder 'n droëlandsisteem hou verskeie uitdagings in vir die katoenprodusent. Grondvog is van kardinale belang in die produksie van katoen en moet sodanig goed bestuur word vir volhoubare droëlandproduksie. Die tipe grond van 'n land het uiteraard 'n groot effek op die land se grondvog, en moet bepaal word deur 'n grondopname om optimale grondvogbestuur moontlik te maak.

'n Voorbeeld hiervan is in die Schweizer-Reneke area, waar 'n watertafel op een meter die gewasproduksie bevoordeel en 'n positiewe verskil aan die beskikbare grondvog kan maak. Dit is belangrik vir droëlandverbouing om verskynsels soos die teenwoordigheid van 'n watertafel te bepaal, aangesien dit die oes-opbrengs direk mag affekteer. Deur die grondverspreiding van die area vas te stel met verwysing na spesifieke grondprofiele en hul onderskeidelike kenmerke, kan watertafels geïdentifiseer word. Watertafelgronde is 'n komplekse aspek en kennis van grond-eienskappe is krities. In watertafelgronde vind fluktuering van watervlakke plaas, en water kan tussen seisoene in die profiel gestoor word.

KLASSIFISERING VAN WATER-TAFELGRONDE

Vir 'n grond om geklassifiseer te word as 'n watertafelgrond, is die volgende grondkenmerke van toepassing op 'n diepte van een meter:

- Grys, geel en rooi grondverkleurings wat 'n aanduiding is van seisoenale versadiging van water.
- Beperkende lae wat die perkolasie van water verhoed onder die horison (grondprofiel) met grondverkleurings.

Die bogenoemde kenmerke dien slegs as 'n verwysing vir die identifisering van watertafel-gronde, en mag verskil tussen areas, afhangende van die klimaat.

GRONDVORME EN ASSOSIASIE MET GRONDVOG

In die huidige studie word daar klem gelê op die invloed van die grondprofiel en die grondvog op katoen. Die fokus is die invloed van verskeie grondprofiele en hul beperkende lae op die waterbeskikbaarheid, hoeveelheid grondvog wat verbruik word deur die verskillende groeistadiums en die onttrekkingskapasiteit van water deur die katoenplant in grondprofiele met 'n hoër klei-inhoud.

Die watertafelgronde wat ondersoek word, is Avalon en Bainsvlei. Beide die grondvorme word gekenmerk deur 'n ortiese A-horison en 'n B-horison wat 'n "apedale"-struktuur bo-op 'n plintiese horison het, wat waterfluktuasie aandui. Onder die plintiese horison kom 'n beperkende laag voor.

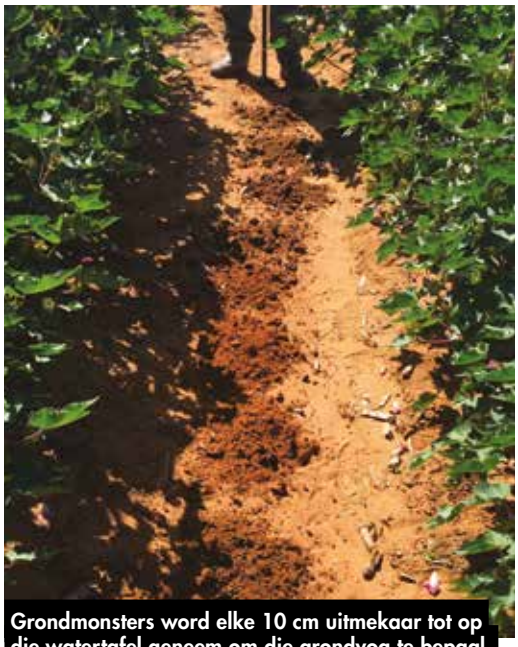
Daar is ook op die Tukulu- en Westleigh-grondvorme gefokus. Dié grondvorme in hierdie area word deur 'n hoër klei-inhoud en 'n swak, hoekige grondstruktuur gekenmerk. Die Tukulu- en Westleigh-grondvorme het ook 'n dieper beperkende laag wat waterinfiltrasie keer. Die beperkende grondprofiele is van kardinale belang onder droëlandproduksie, omdat dit grondvog vir die katoenplant vanaf

die vierblaargroeistadium verskaf. Gedurende hierdie groeistadium het die penwortel die watertafel bereik, en 'n hoër waterverbruik kan verwag word. Op die insetfoto kan gesien word hoe die grondtekstuur verskil hoe dieper die monsters geneem word. Grond bo die watertafel het fyn "klippies" en is ryk aan yster en mangaan.

RESULTATE TOT OP HEDE

Vanaf Oktober 2019 tot en met Desember 2019 was daar is 'n duidelike toename in grondvog tesame met die toename in reënval. Die katoen is begin November 2019 geplant, en gedurende dié tydperk het ontkieming plaasgevind, en die eerste "squares" of vrugknoppe en blomme, met gevolglike bolle, het begin vorm. Vanaf Desember 2019 het die reënval sowel as die grondvog begin afneem, wat daarop dui dat die vogonttrekking deur die katoen meer as die reënval was.

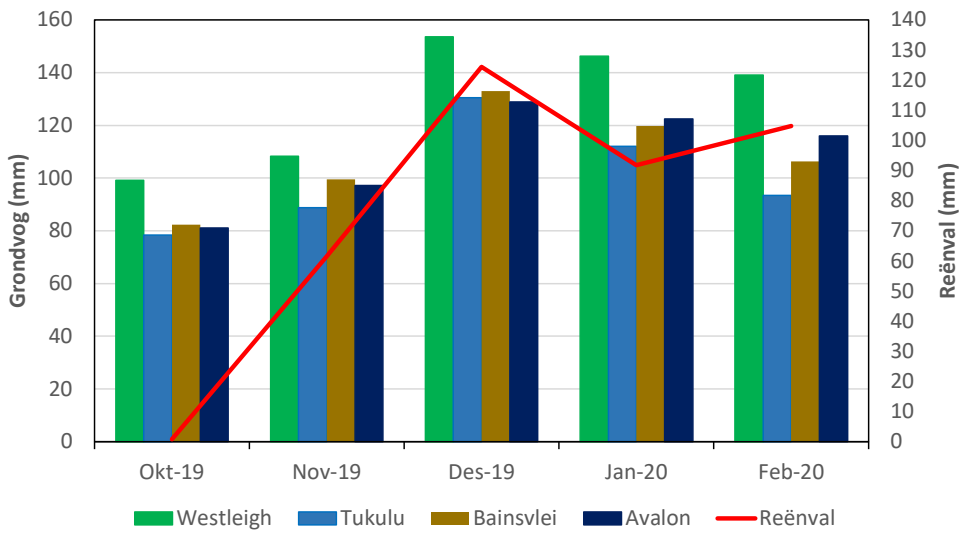
Die hoër vogverbruik is te wyte aan die vegetatiewe groeistadiums van die katoen. Die grootste merkwaardige afname in grondvog het in die Bainsvlei- en Tukulu-grondvorme plaasgevind. Die resultate wat tot dusver gelewer is, is merkwaardig, aangesien die Bainsvlei- en Tukulu-grondvorme, wat 'n hoër klei-inhoud as die res van die profiele het, meer grondvog verloor het. Dié situasie dui daarop dat die hoëkleigronde tot dusver meer vog verloor het in die dieper lae van die profiel.



Grondmonsters word elke 10 cm uitmekaar tot op die watertafel geneem om die grondvog te bepaal.

Die meer sanderige gronde se grondvog het oor dieselfde tydperk min of meer konstant gebly, en geen merkwaardige afname in grondvog is waargeneem nie. Die resultate word maandeliks gemonitor en interessante resultate word vir die komende paar maande tot en met die oestydperk verwag.

Figuur 1: Reënval en grondvog van verskillende grondvorme, Oktober 2019 tot Februarie 2020.



PREFERRED FIBRES AND MATERIALS

by Tanya Aucamp, communication specialist for Cotton SA


Seed cotton.


Raw wool.


Hemp.


Goose down.


Mohair.

Textile Exchange's *Preferred Fiber and Materials Market Report (PFMR)* of November 2019 measures the production of fibre and materials with improved social and environmental impacts. These are labelled as "preferred" fibres and materials. This in-depth report focuses on the industry's supply side, analysing production volumes, availability of fibres, and emerging fibre trends.

The *PFMR* reports that global fibre production has doubled in the past 20 years, reaching an all-time high of 107 million metric tonnes in 2018. It is expected to grow to 145 million metric

tonnes by 2030. Included in this production increase from the 2018 reporting year are more responsible, or "preferred" options for almost all fibre categories. However, the volumes of "preferred fibres" are still quite low compared to conventional fibres.

The *PFMR* focuses on data in various fibre categories, which include plant-based natural fibres, animal-based fibres and materials, man-made cellulosic fibres, and synthetic fibres. The report also looks at sustainability standards, initiatives, and trends. The following are key findings:

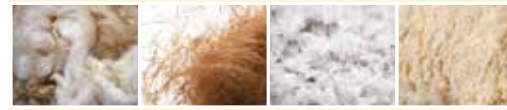
- In the plant-based natural fibres category, cotton was the most used fibre. Preferred cotton had a market share of 22% of the total global cotton production and was produced in 30 countries during the 2018 reporting year. Preferred cotton programmes include: ABRAPA (Associação Brasileira dos Produtores de Algodão/The Brazilian Association of Cotton Producers), BASF e3®, Better Cotton Initiative (BCI), Cleaner Cotton, Cotton made in Africa (CmiA), and Fairtrade.
- The same year (2018) was also an important year for hemp.
- Due to concerns about the treatment of animals used for textile and apparel, animal welfare standards and initiatives are in place to define responsible practices and provide assurance that specific criteria are being met in the animal-based fibres and materials category.
- In 2018, "preferred down" was produced on thousands of farms in 13 countries. Preferred down is recognised through the adherence to standards and include the Responsible Down Standard (RDS) that was developed in 2014, the Global Traceable Down Standard (TDS) and the Downpass standard.
- Wool is the most used animal-based fibre, with more than one million metric tonnes produced globally. Preferred wool is estimated to be below 3% of the global market share. The Responsible Wool Standard (RWS) was launched in 2016 and covered sheep farmed on 278 farms in six countries during 2018.
- Mohair, with the development of a Responsible Mohair Standard (RMS), sits alongside the RWS and provides assurance that mohair comes from farms with high animal welfare and progressive land management practices.
- The man-made cellulosic fibres category (MMCFs) shows a steady market increase, with a market share of approximately 6,2% of the total fibre production volume, which is double of what it was in 1990 and it is expected to continue growing. MMCFs include viscose, acetate, lyocell, modal, and cupro.
- In the synthetic fibre category for 2018, polyester was reported to have a market share of around 52% of the global fibre production, making it the most widely used fibre worldwide.

To accelerate the use of preferred fibres, the Textile Exchange has committed to promote the recycling of polyester. It promotes one type of preferred polyester in particular, that encourages brands and retailers to publicly commit to increase their use of recycled polyester by 25% by 2020. This goal was achieved in 2018 – two years early! This momentum is exciting and will hopefully not be deterred by the 2018 recycled polyester market share, being approximately 3% lower when compared to 16% the previous year. The decrease is due to the ban on importing different types of solid waste, including plastic bottles and polyester textile waste into China, which came into effect in January 2018.

The continued growth of global fibre production will have a significant impact on people and the planet. Now is the time to accelerate a transition to preferred fibre and materials. This is a critical step to reduce the footprint on the planet, which is being left by conventional fibre, i.e. synthetic fibre, and material production.

The full report is available on the Textile Exchange's website.

Sources:
textileexchange.org/press/
BASF e3®: agriculture.basf.us/crop-protection/e3-cotton.html



MODE-TENDENSE VIR 2020

NEEM ONS VIER DEKADES TERUG

deur Tanya Aucamp, Katoen SA

Vanjaar se mode-tendense bied ons weer die bestes van die 80's, dié keer in ontploffings van helder kleure. Sitruskleure soos geel, oranje en groen, asook sterker kleure soos elektriese blou, skokpienk en pers sorg vir spontane vreugde.

Daar is 'n gees van "rebelse vryheid" in die lug, met inspirasie uit die 1980's se "rave"- en "punk"-kultuur. Vanjaar se mode is 'n blatante oproep tot aandag en reaksie op die vrou en haar rol in die samelewing. Die ontwerpers lag in die gesig van "konvensioneel"-wees en vier die vrou van vandag, eerder as om 'n onmoontlike ideaal te skep van wat sy behoort te wees.

Die modelandskap word gedefinieer deur pofmoue en groot skouerkussings. Hoewel 'n ligblou denim nooit die vleiendste opsie is nie, is die uitgewaste, ligkleurige denim weer die gunsteling vir die seisoen. Die Bermuda-kniebroek, geplooide wyepypbroeke, of dié met uitkloksome sorg vir stylvolle gemak. Maak seker jy het 'n "blazer"-tipe baadjie, 'n "trench"-jas en 'n lang "cape" in jou kas om weerstand te bied teen die naderende koue.

Sagter skakerings soos borriegeel en grys-groen bied wel 'n alternatief vir diegene wat 'n stemmiger kleurpalet verkies. Vir 'n stylvoller voorkoms is die veilige keuse neutrale skakerings van kop tot tone, met gepaardgaande bykomstighede in byna identiese skakerings.

Tydlose neutrale kleure, soos wit, room, swart, grys en rooi bly die duursame keuses vir die eko-koper. Terwyl die skakerings 'n veelsydigheid van funksionaliteit bied, verleen dit terselfdertyd unieke kleurstellings wat uitstaan, en hierdie kleure moedig kreatiwiteit sowel as pragmatisme aan. Dit weerspieël die veranderende ingesteldheid van vandag se verbruiker, vir wie waarde en duursaamheid belangriker is as die kleurkeuses wat vandag beskikbaar is. Die refleksie van 'n "minder is meer"-ingesteldheid word toenemend belangrik vir verbruikers wat waarde en funksionaliteit vooropstel.

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