KATOEN COTTON SA

Volume 21 No. 3
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A Cotton SA publication for the cotton industry of Southern Africa

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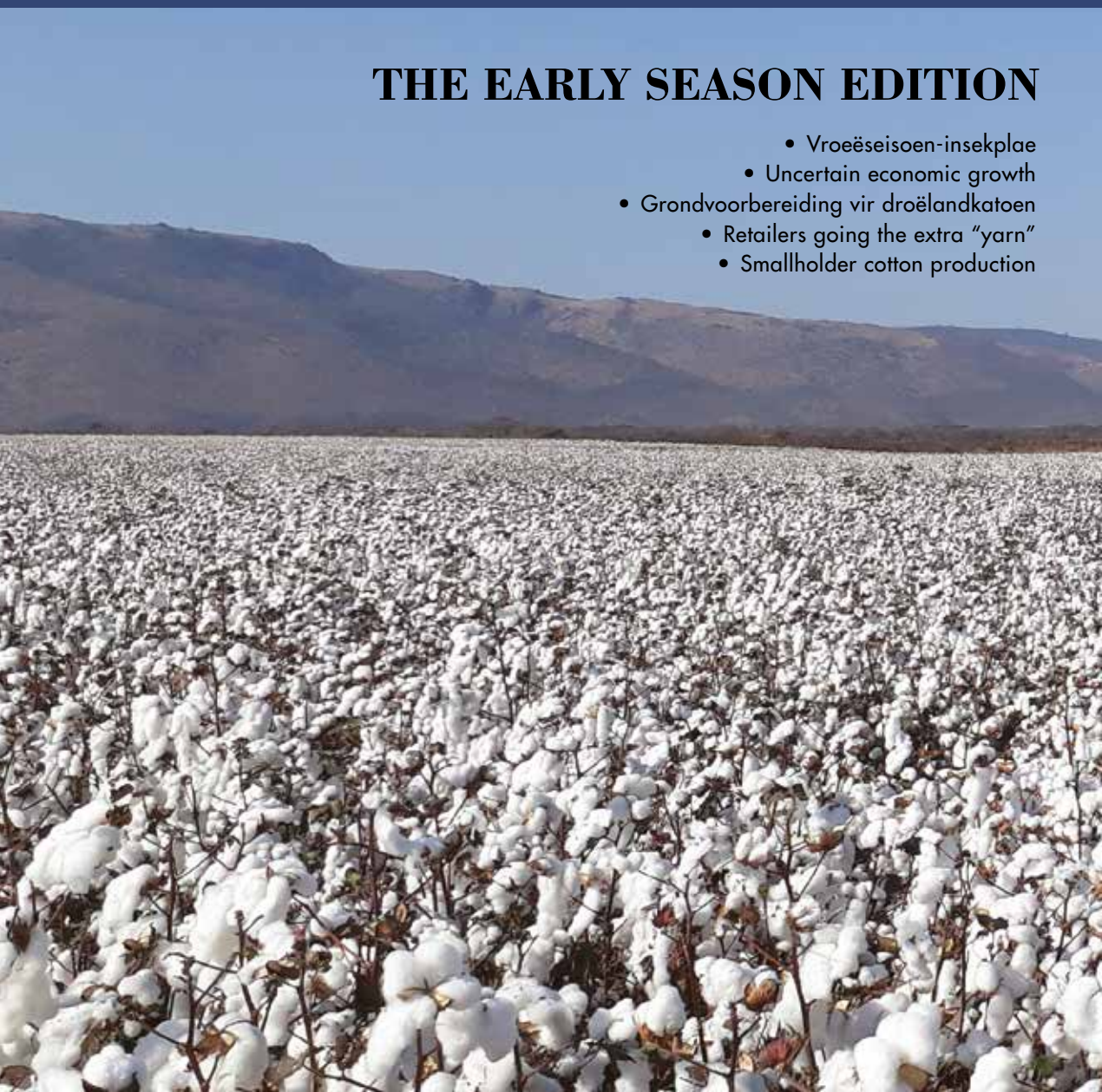
THE EARLY SEASON EDITION

- Vroeëseisoen-insekplae
- Uncertain economic growth
- Grondvoorbereiding vir droëlandkatoen
- Retailers going the extra "yarn"
- Smallholder cotton production



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RUBIN 12 SWAERDIENS KOMPAKTE SKOTTELEG

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LEMKEN se Rubin 12-skotteleg is die ideale hulpmiddel om groot hoeveelhede plantmateriaal doeltreffend in die grond te werk. Die Rubin 12 is ontwerp met 'n aggressiewe invalshoek wat bewerking in moeilike omstandighede vergemaklik. Die hidroliese beheerde rollers beheer die diepte van die werktuig en verseker 'n uitsteekende ferm saadbed

- Werksdiepte van 7 - 20 cm, hidrolies aangepas
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The Agrovision Company

Hennie Bruwer
HUB: Katoen SA
CEO: Cotton SA

"CLUSTER"-PROGRAM DRA BY TOT HERLEWING VAN KATOENBEDRYF

Met 'n terugblik op die eerste vyfjaartermyn van die katoen "cluster"-program, is dit opmerklik dat die plaaslike katoenbedryf baie goeie resultate getoon het sedert dit op 1 April 2014 in werking gestel is.

Hoewel daar in eie geledere steeds 'n geringe mate van twyfel mag bestaan oor die werklike impak hiervan op die bedryf, behoort die volgende feite meer duidelikheid te bring:

- Sedert 2013/14 neem produksie negevoudig toe tot bykans 250 000 bale vesel
- Die waarde van die oes vermeerder met meer as 'n miljard rand oor die vyfjaartydperk
- Investering in nuwe kapitaaltoerusting deur produsente en pluismeulens beloop meer as R500 miljoen
- Invoere van katoenvesel daal met nagenoeg 39%
- Uitvoere van katoenvesel styg met 680% tot 'n rekord van 26 000 ton wat Suid-Afrika met 'n netto-uitvoersurplus laat
- Plaaslike inhoud van Suid-Afrikaanse spinnerverbruik styg van 8% tot 'n verwagte 28% oor dié periode

Die ondersteunende rol wat die "cluster"-program, buiten gunstige katoenpryse, in die oplewing van die primêre en sekondêre katoensektore gehad het, spreek vanself. Hiermee saam moet die ekonomiese inspuiting, meegebring deur groter produksie-insette en meer werksgeleenthede, ook nie uit die oog verloor word nie.

CLUSTER PROGRAMME CONTRIBUTES TO REVIVAL OF COTTON INDUSTRY

Looking back at the first five-year term of the Cotton Cluster programme, the local cotton industry has shown very good results since the programme's implementation on 1 April 2014.

Although there may still be some doubt among own ranks concerning the actual impact on the industry, the following facts should provide clarity:

- Production increased nine-fold since 2013/14 to nearly 250 000 bales of lint
- The value of the harvest increased by more than a billion rand over the five-year period
- Investment in new capital equipment incurred by producers and ginners amount to more than R500 million
- Imports of cotton lint decreased by almost 39%
- Exports of cotton lint increased by 680% to a record of 26 000 tonnes leaving South Africa with net export surplus
- Local content of South African mill consumption increased from 8% to an estimated 28% over the same period

The supportive role played by the Cluster programme in the revival of the primary and secondary cotton sectors, aside from favourable cotton prices, speaks for itself. Coupled with this, the resulting economic boost in terms of increased production inputs as well as the provision of more job opportunities should also be taken into account.

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Cover picture: Hail-damaged cotton ready for harvesting.

OUTLOOK ON TEXTILES

by Helena Claassens, Cotton SA

TARIFFS – GOOD OR BAD?

The USA is threatening China and Mexico with tariffs. The question one could ask is whether tariffs are good or bad for trade and/or the economy of a country.

The definition of tariff protection: "A duty imposed on imports to raise their prices, making them less attractive for consumers and thus protecting domestic industries from foreign competition."

There are various opinions regarding tariff protection; some in favour, but most against such measures. The convictions among some politicians and economists are that lower tariffs spur growth and reduce prices generally. Many development policy analysts argue that it is sometimes necessary to implement import tariffs to protect infant industries from foreign competition. In the short term it works but is very destructive in the long term. It makes the country and its industries less competitive in international trade.

If a country is trying to grow strong in a new industry, tariffs will protect it from foreign competition. That gives the new industry time to develop its own competitive advantages. Protection also temporarily creates jobs for domestic workers. However, in the long term, trade protection weakens the industry. Without competition, companies within the industry have no need to innovate. Often the local product will decline in quality and will be more expensive than foreign imported goods.

The moving away from tariff protection had a negative impact on the South African textile and clothing sectors. For a long time textiles and clothing were protected from imports. During that time the industry grew in terms of investments, employment, and production. The tariff phase-down for textiles and clothing started in 1995 and in 2005 tariffs were further reduced from relatively high levels to a much lower *ad valorem* percentage duty.

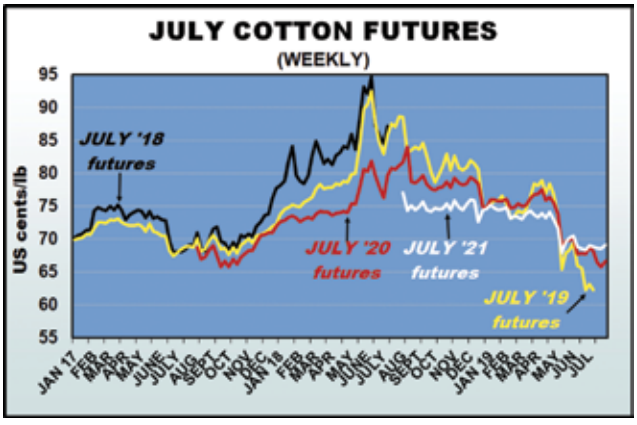
In 2005, China also became part of the World Trade Organization (WTO) and imports from China into South Africa flooded the market at very low prices. For example, in many instances the finished garments were imported at the same price level as locally produced yarn. Since then the value chain collapsed and there was a decline in local production and employment and the resultant closure of many companies.

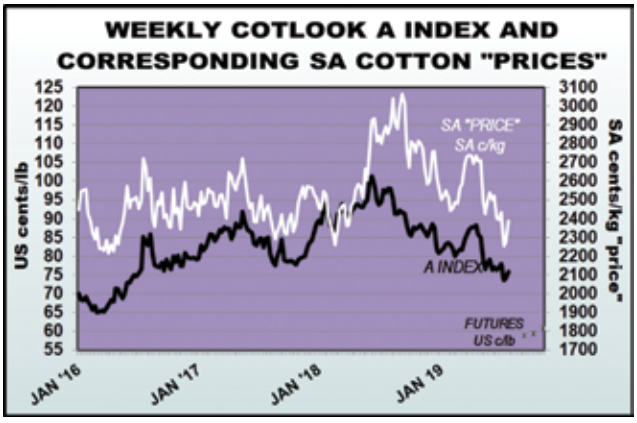
Whether tariff protection is ultimately good or bad, is open to debate, but it would be interesting to see what effects the proposed USA tariffs may have on the countries in question, as well as the rest of the world.

KATOEN SA MARKVERSLAG

deur Koot Louw, Katoen SA

Die **COTLOOK A INDEKS** is 'n daaglikse aanwyser van internasionale katoenveselpryse en is die gemiddeld van die vyf goedkoopste kwotasies (koste en vrag) van die belangrikste katoentipes wat internasionaal verhandel word. Bestemming: Verre Ooste.	**COTLOOK A INDEKS**	**AFGELEIDE SA "PRYS"**
	Gemiddelde VSA c/lb	Gemiddelde SA c/kg
Junie 2019	77,65	2 497,19
Verlede week (29/07/19 tot 02/08/19)	74,79	2 368,78
Julie 2019	75,52	2 338,89
Vandag (02/08/19)	**73,40**	**2 380,36**
Vandag 'n jaar gelede	98,25	2 885,16
Vandag twee jaar gelede	79,50	2 356,83





WÊRELDKATOEN-PRODUKSIE VAN 27,2 MILJOEN TON DIE TWEEDE HOOGSTE OP REKORD

Die handelsdispuut tussen die VSA en China het 'n belangrike rol gespeel in die voortgesette daling in katoenpryse gedurende die verloop van die afgelope seisoen. Die verswakkende ekonomiese omgewing en verlangsaming in ekonomiese groei is ook besig om 'n negatiewe impak op die vraag na katoen te hê; so ook die groei in verbruik, wat bykomende afwaartse druk op katoenpryse uitoefen.

Volgens die International Cotton Advisory Committee (ICAC) sal hulle jongste 2019/20 voorspelling vir wêreldkatoenproduksie van 27,2 miljoen ton die tweede hoogste op rekord wees. Die ICAC raam dat wêreldkatoenproduksie met 6% teenoor die vorige seisoen sal styg, terwyl wêreldkatoenverbruik op 26,9 miljoen ton geskat word, wat 'n styging van 1,7% verteenwoordig.

As gevolg van minder as normale passaatwindreënval in Indië, het die ICAC hierdie land se 2019/20 katoenproduksieprojeksie tot 5,75 miljoen ton verlaag. Op hierdie vlak toon produksie egter nog steeds 'n toename van 6% teenoor die 2018/19 seisoen. China neem dus die topposisie in globale katoenproduksie terug met 'n geskatte 5,9 miljoen ton. Behalwe vir China, word katoenproduksietoenames in al die wêreld se topkatoenproduserende lande verwag.

Die 2019/20 Wes-Afrika katoenoes sal volgens die ICAC na verwagting 'n rekordvlak van 1,3 miljoen ton bereik, wat die vyfde seisoen van geleidelike stygings in aangeplante oppervlakte en produksie verteenwoordig. Benin, Burkina Faso, die Ivoorkus, Mali en

Togo het almal uitbreiding van katoenhektare vir 2019/20 gerapporteer. Onvoldoende reën gedurende Junie kan egter aanplantings vertraag en 'n impak op opbrengste hê.

Na 'n afname van 5% in wêreldkatoenvoorraad vir die 2018/19 seisoen, raam die ICAC dat die wêreldeindvoorraad van katoen met sowat 2% in 2019/20 sal toeneem. Katoenvoorraad buite China sal egter na raming met sowat 7% toeneem tot ongeveer 10 miljoen ton teen die einde van die 2019/20 seisoen. Afgesien van China, sal katoenvoorraad na verwagting in byna al die groot katoenproduserende en -verbruikerslande toeneem, namate wêreldproduksie relatief tot verbruik styg. Die ICAC verwag dat China se eindvoorraad van katoen in 2019/20 vir die vyfde agtereenvolgende seisoen sal afneem.

SA KATOENOES

Die sewende skatting vir die 2018/19 produksiejaar dui op 'n katoenoes van 245 641 bale vesel vir Suid-Afrika, 'n styging van 31% teenoor die vorige seisoen en 1% minder as die vorige maand se skatting. Droëland- en besproeiingshektare toon onderskeidelik toenames van 42% en 22% teenoor die vorige seisoen, hoofsaaklik weens die meer gunstige pryse van katoen teenoor mededingende gewasse, asook die hernieude belangstelling in katoenproduksie.

PRYSE

Die internasionale verwysingprys vir katoen (soos gemeet aan die Cotlook A Indeks) het vir die afgelope 2018/19 seisoen (geëindig 31 Julie 2019), gemiddeld 85 VSA c/lb beloop, 3 VSA c/lb minder as die gemiddelde vir 2017/18. Die ICAC se prysvoorspelling vir die 2019/20 seisoen dui op 'n gemiddelde Cotlook A Indeks van tussen 66 en 102 VSA c/lb, met 'n middelpunt van 81 VSA c/lb (Suid-Afrikaanse prysekwivalent van ongeveer R25/kg).

Die onopgeloste handelspanning tussen die VSA en China, groeiende produksie en verlangsaming in vraag plaas addisionele druk op katoenpryse, terwyl die verhoging in wêreldvoorraad dui op 'n verwagting van laer pryse.

Katoenoesverslag: sewende skatting 2018/19 produksiejaar

Produksiestreek	Hektare besproeiing	Hektare droëland	Opbrengs besproeiing kg katoenpluksel/ha	Opbrengs droëland Kg katoenpluksel/ ha	Produksie 200-kg bale katoenvesel	% Van oes hand-gepluk	% Van oes sover gepluis
LIMPOPO							
Loskop	4 487	0	4 600	0	37 152	0	0
Noord- en Suidvlakte	1 236	11 875	3 200	700	22 082	0	0
Koedoeskop, Dwaalboom, Thabazimbi	7 720	0	5 699	0	81 393	0	20
Limpopo en ander	385	142	3 500	400	2 528	0	0
Weipe	1 000	0	3 500	0	7 123	0	35
NOORD-KAAP							
Vaalharts	2 333	0	4 580	0	19 768	0	54
Benede-Oranjerivier	364	0	4 000	0	2 694	0	15
Res van Noord-Kaap	4 065	0	4 858	0	38 313	0	28
NOORDWES							
Stella, Delareyville, Schweizer-Reneke, ens.	628	3 178	4 349	1 946	16 496	0	30
Taung, Skuinsdrif	388	0	4 489	0	3 222	0	0
KWAZULU-NATAL	736	1 989	4 075	800	8 493	18	22
MPUMALANGA	10	2 441	4 000	800	3 687	100	0
VRYSTAAT	50	800	3 500	1 600	2 692	0	0
RSA TOTAAL	**23 502**	**20 425**	**4 863**	**949**	**245 641**	**2**	**18**
Swaziland*	250	1 500	4 000	750	3 825		40
Botswana*	0	0	0	0	0	100	
Namibië*	50	0	0	0	370		
Zimbabwe*	0	0	0	0	0		
Mosambiek*	0	0	0	0	0		
GROOTTOTAAL	**23 802**	**21 925**	**4 854**	**935**	**249 836**	**4**	**18**

* Besonderhede het betrekking op verwagte aankope van katoenpluksel deur Suid-Afrikaanse en Swazilandse pluismeulens vanaf hierdie lande.

NUUS / NEWS

COTTON PRODUCTION IN BURKINA FASO CONTINUES ITS DOWNWARD SLIDE

Cotton production in Burkina Faso is continuing its downward trend three years after the nation phased out the use of GMO cotton.

In April this year, the Inter-professional Cotton Association of Burkina (AICB), an industry body comprising farmers and other sector players, set a production target of 800 000 t of cotton for the 2018/19 cotton season. However, the country produced only 436 000 t, despite a record US$27,4 million being offered as incentives to farmers in the form of subsidies on insecticides, fertilisers and irrigation facilities. The 436 000 t represented a decline of 29% from the 2017/18 season, which was 10% down from 2016/17. The decline in production has been consistent over the past three years, which is of great concern to industry players.

Burkina Faso, previously Africa's largest cotton producer, is now fourth, trailing Côte d'Ivoire (455 000 t), Mali (653 000 t), and Benin (675 000 t).

The decline in production has been attributed to a number of factors, including regional farmer boycotts over unfair treatment, insecurity resulting from terrorist attacks, and bad weather. But farmers mainly blame the situation on increased pest attacks following the government's decision to phase out GMO cotton and return to conventional seeds.

In 2008 Burkina Faso approved the cultivation of GMO cotton, which reduced the use of pesticides by up to 70%, while increasing productivity by about 22% and smallholder farmer profits by an average of 51%. However, following complaints that the fibre from the new varieties was shorter in length, a decision was taken in 2016 to completely phase out GMO varieties and return to conventional seeds.

Burkina Faso cotton farmers loading their crop.

SWAZILAND (ESWATINI) FINDS SUCCESS WITH GMO COTTON

Cotton has a long history in eSwatini, serving as a source of livelihood to over 50 000 Emaswati. However, drought and a drop in the price of cotton crippled the industry and the kingdom started looking for other options suitable for the unique nature of its environment, which is prone to drought in the regions where cotton farmers reside.

Taking a cue from farmers in neighbouring South Africa, who had been planting and enjoying the benefits of GMO cotton since 1998, eSwatini moved to adopt regulations that would allow it to apply biotechnology and its first *Bt*-cotton in 2018.

In just the first season since GMO cotton was introduced, cotton production has doubled by only planting an additional 250 ha of cotton under irrigation. It has also improved the farmers' profit margin as over 10 insecticide sprays per season have been eliminated with the added benefit of improved yields.

KATOEN KAN HOUE VAT MET HAEL

Tydens 'n swaar haelstorm op 5 Januarie 2019 het Frederik Coetzer van Pongola groot skade op 'n katoenland gehad (sien Foto 1). Die katoen het op daardie stadium sowat 30 cm hoog gestaan. Hy het egter soveel as moontlik blaarvoeding toegedien en die katoen het in ses weke baie goed herstel (sien Foto 2 wat op 18 Februarie 2019 geneem is).

Frederik het daarna voortgegaan om die normale produksieroetine te volg. Foto 3 wat op 12 Julie 2019 geneem is, toon dat 'n bogemiddelde oes op hande is. Hierdie haelskade-voorval is ongetwyfeld 'n bewys van katoen se uitsonderlike herstelvermoë, nadat die plante tot op die grond beskadig was. – Tertius Schoeman, Katoen SA

POTENTIAL EMPLOYMENT IN THE TEXTILE-APPAREL INDUSTRY IN SUB-SAHARAN AFRICA

In sub-Saharan Africa, cotton-producing countries export about 90% of their fibre. Cotton is produced mainly by small-scale farmers and the total sub-Saharan production reached about 1,5 million tonnes in 2017/18. Cotton consumption in sub-Saharan Africa has remained steady over the past two decades, with an average annual consumption of 240 000 t between 1999 and 2018. Currently, Ethiopia, Tanzania, Nigeria and South Africa are the major cotton-consuming countries in sub-Saharan Africa. According to figures from the World Bank, for the period 2008 to 2017, exports of textiles and garments from sub-Saharan Africa accounted for only 2% of the region's total export revenue.

Data from major textile-producing countries show that the textile-apparel industry provides tremendous scope for generating employment. India for example, has a strong textile industry that provides direct employment to 45 million people and indirect employment to another 60 million. Because cotton accounts for 60% of the raw material used by the textile industry, it has been estimated that the production of cotton textiles and garments in India generated about 27 million jobs and supported 36 million people with indirect employment. Given that India produces about 5,3 million tonnes of cotton, it can be inferred that one tonne of cotton fibre provides direct full-time employment to about five people. Closer to home, in South Africa, the textile-apparel sector generated about 120 000 jobs, and a cotton consumption figure of about 22 000 t would imply that every tonne of cotton also gives employment to at least five people.

If all cotton-producing countries in the sub-Saharan region were to fully develop their textile-apparel industries, it could generate slightly more than a six-fold increase in jobs, which would have a significant impact on the African continent's economy. – Summary of an article by Lorena Ruíz and Keshav Kranthi of the International Cotton Advisory Committee that appeared in the March 2019 edition of *The ICAC Recorder.*

In India, one tonne of cotton fibre can provide direct full-time employment to about five people.

PORTABLE SOLAR COTTON PICKER

In 2012, Sunil Kumar bought a portable Chinese-made cotton harvester, stripped it down and thought of combining the harvester with a solar panel. With the help of a friend, Sunil improved on the design and after a few crude prototypes, started his own company, Agventures Corporation, and produced a portable solar cotton picker. He built a solar panel pack that a farmer can carry on his back, which is connected to the cotton-picking machine to supply power.

Over the years, several tweaks were made in the design of the device. The current version, the patent-pending "Virat Portable Solar Cotton Picker & Home Power System", is sleekly designed and very sturdy. It can pick 200 kg of cotton in six hours compared to 50 kg through handpicking, giving up to 30% in cost savings due to increased productivity and time saving. Having already sold 2 000 units in Africa and 500 in India, Agventures expects to sell 5 000 units in the next three years.

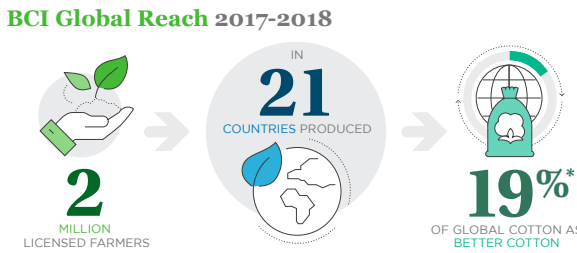
GLOBAL COTTON SUSTAINABILITY CONFERENCE

by Tobie Jooste, Cotton SA

Cotton SA attended the conference that was held from 11 to 13 June in Shanghai with the theme "Driving Change from Field to Fashion". Cotton SA was represented by the CEO of Cotton SA, Hennie Bruwer, and Tobie Jooste, Business Information Manager of Cotton SA. The conference was hosted by the Better Cotton Initiative (BCI) and CottonConnect of China.

The aim of the conference was to create a platform where the entire cotton sector can come together to network, collaborate and focus on the future of more sustainable cotton. The conference was attended by 300 attendees, speakers, panellists, leaders of breakout sessions, exhibitors, and sponsors from across the cotton sector, representing 33 countries.

The opening session covered the growth, training, and support to two million farmers in 21 countries during the 2017/18 season. The session also hosted a global showcase of work happening at farm level, updates on the revised assurance programme, impact studies, the updated communications framework, gender strategy, updates on field performance monitoring, and finally a progress update on the BCI 2030 strategy.



COLLABORATION ACROSS STANDARDS

It is important that different cotton sustainability programmes and standards work together to drive real change in the sector. Representatives from the Fairtrade Foundation, Organic Cotton Accelerator (OCA), Cotton Australia, the Brazilian Association of Cotton Producers (ABRAPA), Cotton made in Africa, the Textile Exchange, BCI and the International Social and Environmental Accreditation and Labelling Alliance (ISEAL), came together at the conference to share their insights on capacity building and field-level impacts.

FARMER STORIES

Smallholder cotton farmers from India, Pakistan and China, and large-scale cotton farmers from Australia, Brazil, China and South Africa took to the stage to share their personal stories from the field. From making homemade natural pesticides (derived from ingredients found in nature), to embracing the latest technological innovations to improve water-use efficiency, BCI farmers are striving to make cotton production more sustainable. South Africa was represented by Heinrich Schultz from Organimark South Africa.

KNOWLEDGE SHARING

Throughout the conference, attendees joined industry experts to take part in hands-on, interactive sessions covering timely field-level, supply-chain and consumer-facing topics. Participants explored subjects such as adapting to a warmer world, the value of raw cotton, challenges faced by women in agriculture, and how to engage consumers on sustainability.

Panel members during the "Large Farmer discussions".

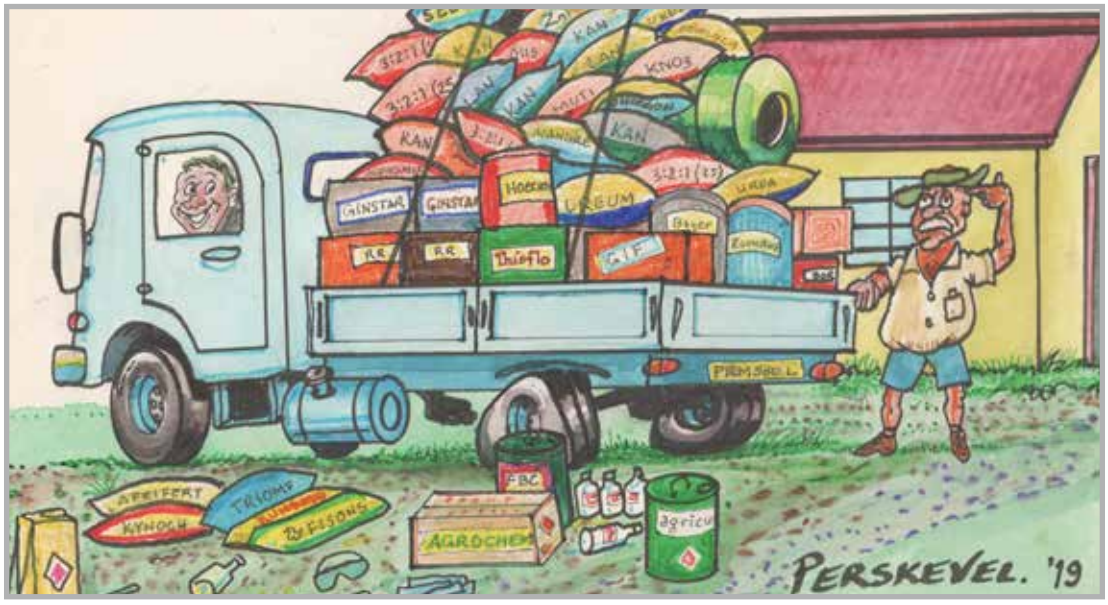
ONS GROET 'N LEGENDE
– HEIN SCHRÖDER

Hein se betrokkenheid in die katoenbedryf het oor 'n tydperk van meer as 50 jaar gestrek. In Januarie 1965 sluit hy aan by die Departement van Landbou waar hy as leerlingtegnikus in die katoenafdeling geplaas word, en vir die eerste keer kennis maak met katoengradering en -klassifikasie en ander verwante katoenfunksies. Gedurende hierdie tydperk studeer hy verder en verkry sy Nasionale Diploma vir Landboutegnikusse in 1967. In 1987 word die graderingsafdeling wat onder Landbou- en Produkstandaarde by die departement gehuisves was, oorgeplaas na die Katoenraad (nou Katoen SA) waar Hein tot en met sy aftrede die posisie van kwaliteitsbestuurder beklee het.

Hein het hom oor die jare onderskei as 'n internasionale kundige op die gebied van katoenontleding. Hy is een van 'n paar kundiges wat, voordat tegnologie sy opwagting gemaak het, die tegniek vervolmaak het om katoen met die hand en oog te gradeer en te klassifiseer. Ons sal hom altyd onthou vir sy passie vir die bedryf en dat geen taak ooit te groot vir hom was nie.

Nadat Hein amptelik die aftreeouderdom van 65 jaar bereik het, het hy vir verskeie jare nog sy dienste op 'n kontrakbasis aan die bedryf beskikbaar gestel. Ongelukkig het sy gesondheid 'n jaar of twee gelede begin agteruitgaan. Dit het hom gedwing om sy betrokkenheid by Katoen SA verder af te skaal en uiteindelik die tuig neer te lê sodat hy meer tyd saam met sy geliefdes kan spandeer.

Ons bring hulde aan 'n legende wat vir baie jare net sy beste gegee het vir die bedryf waarvoor hy soveel liefde en passie het. Sy teenwoordigheid en kundigheid sal beslis gemis word en die voorsitter, raad en personeel by Katoen SA wens hom 'n welverdiende ruskans en seën toe, met goeie gesondheid vir die goue jare wat vir hom voorlê.

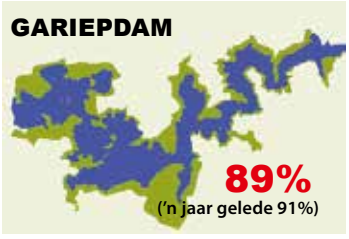


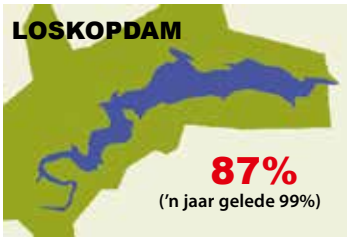
DAMME EN KLIMAATS-VOORUITSIGTE

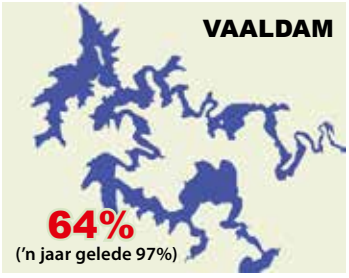
SA Weerdiens-verslag soos op 30 Julie 2019
Saamgestel deur Katoen SA

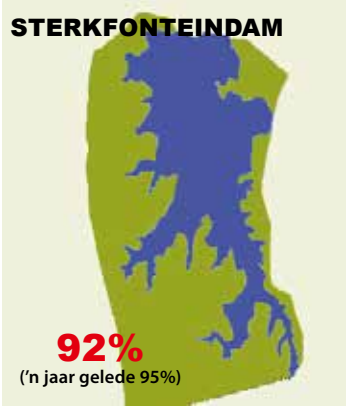
Loskopdam.

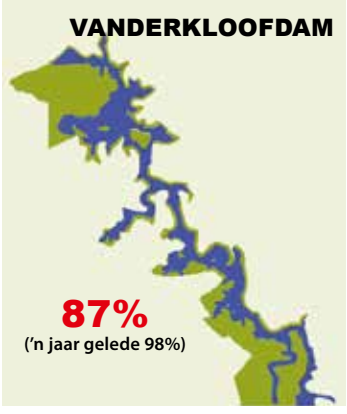
DAMMESTAND SOOS OP 5 AUGUSTUS 2019

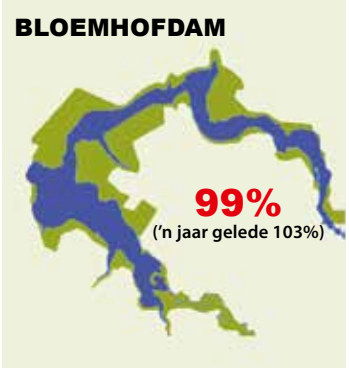












KLIMAATSVOORUITSIGTE VIR AUGUSTUS TOT DESEMBER 2019

Die El Niño-Suidelike Ossillasie (ENSO) bly in 'n matige El Niño-staat en die voorspelling dui daarop dat dit in ten minste 'n swak El Niño-staat dwarsdeur die vroeë- en midsomer sal bly.

Daar is 'n aanduiding van bo-normale reënvaltoestande gedurende die vroeë lente (Augustus tot Oktober) vir dele van die winterreënvalgebied. Onder-normale reënval word egter verwag oor dele van die suidkus regdeur die vroeë-, middel- (September tot November) en laatlente (Oktober tot Desember). Die oostelike kusgebiede sal na verwagting bo-normale reënval gedurende die laatlente ondervind. Voorspellings vir die sentrale binneland dui op 'n groter kans van verhoogde reënval-intensiteit (>15 mm reënval per dag) tydens die middel van die lente.

Wat temperature betref, word meestal hoër-as-normale temperature verwag vir die mees noordelike dele van die land vanaf vroeë- tot laatlente.

Uncertain economic growth

by Dr Koos Coetzee, an independent agricultural economist

SLOW GLOBAL ECONOMIC GROWTH

Global economic activity is slowing down. According to the recently released April 2019 World Economic Outlook update from the International Monetary Fund (IMF), global economic growth slowed down in the second half of 2018 after robust growth in 2017 and the first part of 2018. Chinese growth slowed down because of tightening monetary rules as well as the trade tension between the USA and China. In the euro area both business and consumer

The outlook for the global economy remains positive but with huge downside risks, while the South African economy hovers on the brink of a recession.

Table 1: Global economic growth and expected growth, 2010 to 2020*.

Year	World	Advanced economies	Developing economies	South Africa
2010	5,1	3	7,4	2,9
2011	3,9	1,7	6,2	3,5
2012	3,5	1,4	5,1	2,5
2013	3,4	1,4	5	2,2
2014	3,4	1,8	4,6	1,5
2015	3,4	2,1	4,3	1,3
2016	3,2	1,7	4,4	0,4
2017	3,7	2,3	4,8	1,4
2018	3,6	2,2	4,5	0,8
2019*	3,3	1,8	4,6	1,2
2020*	3,6	1,7	4,8	1,5

Source: IMF WEO, April 2019

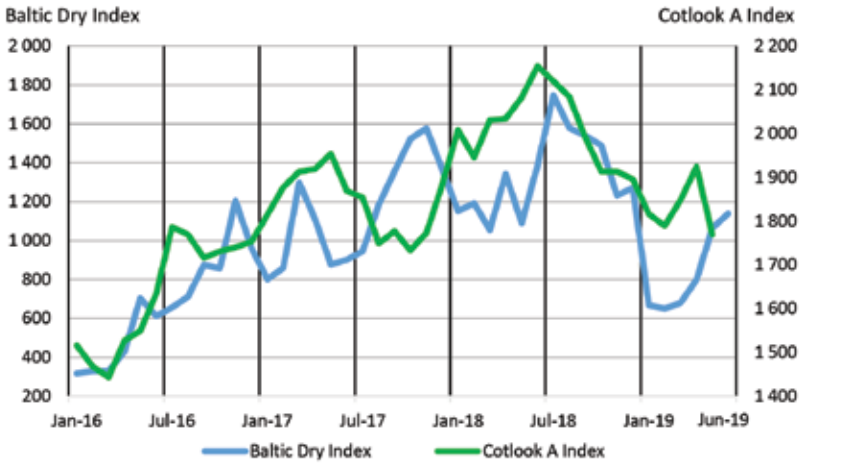
confidence decreased. In Germany, new environmental rules limited car production while investment decreased in Italy. Credit conditions tightened, initially in developing countries and later in 2018 in developed economies.

The IMF adjusted its forecasted economic growth downwards and expects global growth to slow down from 3,6% in 2018 to 3,3% in 2019 and return to 3,6% in 2020. The April 2019 forecast growth for 2019 is 0,4 percentage points lower and the forecast for 2020 is 0,1 percentage points lower than the October 2018 estimate. Table 1 shows the IMF's economic growth and predicted growth to 2020. The IMF bases its expected recovery from the second half of 2019 on more policy stimulus in China, improved global financial market sentiments, higher growth in the euro area and more stable conditions in stressed emerging market economies like Argentina and Turkey. Activity in the developed world will continue to slow down.

Currently the trade tension between the USA and China is a major source of concern. Not only will it have a negative impact on the US economy but also on global economic growth. The IMF expects the existing and proposed US–China tariffs to lower global growth by 0,3 percentage points and if trade differences escalate to other countries and industries it could further limit global economic growth.

The Baltic Dry Index (BDI) reflects the cost of freight and is an indication of global economic activity. After a sharp decrease to 649 in January 2019, from July 2018, the index recovered to 1 138 in June 2019. Figure 1 shows the Baltic Dry Index and the Cotlook A Index. The Cotlook A Index follows the Baltic Dry Index closely and if it continues to do so, chances are that the Cotlook A Index may increase slightly in coming months. However, in its February report the USDA forecasts a slight decrease of 5% in the Cotlook A Index from 2017/18 to 2018/19. They base this on higher production and slow demand growth. The effect on South African

Figure 1: Baltic Dry Index and Cotlook A Index, January 2016 to June 2019.



producers and processors will largely depend on the changes in the value of the rand.

The IMF stresses that there are major downside risks to their growth predictions. Further trade wars can hurt global economies and growth in the euro area and China. The risks associated with Brexit remain high. If market sentiments deteriorate, it can result in tighter financial conditions. This will hurt countries with large public and private sector debt like South Africa. In March 2019, the US interest rates on short-term credit exceeded the rate on long-term securities. Economists regard this as a clear red flag pointing towards a recession. A recent survey among US business leaders also shows that they fear the impact of Trump's protectionist trade policies towards China, but also towards other countries like Mexico and India.

SOUTH AFRICAN ECONOMIC OUTLOOK

South Africa was shocked by the recent release of an annualised quarter-to-quarter negative growth rate of -3,2% for the first quarter of 2019. If one compares the first quarter of 2019 with the first quarter of 2018, there was no real growth (0%). Stats SA reported negative quarter-to-quarter growth for nearly all sectors with only marginal growth in the financial services and government services sectors. A stagnant economy and growing population implies that consumers are getting poorer.

Unemployment for the first quarter of 2019 is at 27,1%; close to the highest level in 15 years. Both business and consumer confidence is at lower levels; weaker retail sales and the decrease in share values on the JSE contributed to weaker business confidence. Consumer confidence did improve slightly in the aftermath of the election. However, as unemployment remains high, wage increases remain at or below inflation and administered prices continue to increase at high levels, while retail sales growth remains slow. Base effects will ensure that Stats SA reports positive economic growth in the second quarter of 2019, thus preventing us from going into a technical recession. However, chances of regaining meaningful economic growth in the rest of 2019 are slim.

The rand has ended its positive trend and has weakened since February 2018. Since September 2018 "Ramaphoria" resulted in some recovery, however since then the downward trend has accelerated. Contradictory statements about the future of the South African Reserve Bank accelerated the weakening of the rand. At its May 2019 meeting the Reserve Bank's monetary policy committee decided to leave the repo rate at its current level. However, the current and expected future level of inflation, combined with slow economic growth, will probably result in a slight decrease in interest rates later this year.

The policy uncertainty created by the confusing statements about the future of the Reserve Bank combined with the global policy uncertainty, mainly driven by Trump vs China and Brexit, have already resulted in a flight away from South Africa. On 7 June, foreigners sold an all-time record R9,6 billion worth of government bonds. In the current year capital inflow for government bonds and to the JSE are still positive. However, the combination of international and local uncertainty can result in a further serious outflow of capital.

IMPLICATIONS FOR AGRICULTURE

Weak retail demand will affect food prices negatively. Lower global economic demand may affect export demand. However, demand in the huge Chinese and Indian markets will continue to grow, driven by the new emerging middle class. The weaker rand will result in higher prices for exporting industries. Unfortunately, a weaker rand also results in higher prices for import-based farm requisites. Higher summer grain prices caused by the lower US plantings and the weaker rand will affect the price of cotton by-products positively. Chances are that interest rates will remain at current levels or decrease slightly in coming months. Global and local economic conditions are uncertain. Now is not the time to take big financial risks. Farmers should compile capital budgets with conservative income projections.

> **"Farmers should compile capital budgets with conservative income projections."**

REGIONAL WORKSHOP promoting cotton by-products

by Tanya Aucamp, Communication Specialist for Cotton SA

Cotton SA hosted a regional workshop in partnership with the United Nations Conference on Trade and Development (UNCTAD), promoting cotton by-products in eastern and southern Africa. The two-day workshop, held at the Premier Hotel, OR Tambo in Johannesburg from 28 to 30 May 2019, was attended by 70 delegates, of which 50 were international delegates. The workshop was followed by a tour to Marble Hall on 31 May, visiting a small-scale farmer, a commercial farmer, and a cotton gin.

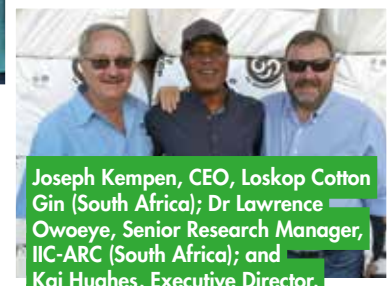
"The project, implemented by UNCTAD in collaboration with both the United Nations Economic Commission for Africa (UNECA) and the Common Market for Eastern and Southern Africa (COMESA), is aligned with regional and global efforts to support Africa's economic diversification through value addition", says Stephen Karingi, Director of Regional Integration and Trade, United Nations Economic Commission for Africa (ENECA). He also mentioned that "the importance of the cotton sector to African economies cannot be overemphasised, and it includes the value chain from seedcotton to textiles and other by-products such as cottonseed oil and seedcake."

The results of the three-year programme, implemented by UNCTAD, show that cotton

National and international cotton experts attending the cotton by-product workshop in Johannesburg, South Africa.

Hennie Bruwer, CEO, Cotton SA.

Mathias Knappe, Senior Programme Manager, ITC (Switzerland); Tanya Aucamp, Communication Specialist, Cotton SA (South Africa); Kris Terauds, Economic Affairs Officer, Commodities Branch, DITC/UNCTAD (Switzerland); and Joseph Nkole, CEO, Mumbwa Ginnery Limited (Zambia).



Joseph Kempen, CEO, Loskop Cotton Gin (South Africa); Dr Lawrence Owoeye, Senior Research Manager, IIC-ARC (South Africa); and Kai Hughes, Executive Director, International Cotton Advisory Committee (USA).

by-products provide great possibilities for obtaining a higher income with new opportunities for cotton farmers. "As cotton is a high-input cost crop, every possible opportunity must be investigated to increase the value of cotton at farm level. Through value addition of cotton by-products such as briquettes and pellets made from cotton stalks, hygienic cotton products such as absorbent cotton, and utilising cottonseed oil, new opportunities can be created that can contribute to the profitability of cotton and job creation at farm level", says Hennie Bruwer, CEO of Cotton SA.

During roundtable discussions, distinguished experts reflected on the potential for cotton by-products to contribute to sustainable development in African cotton-producing countries and identified what is necessary to realise viable businesses and markets for cotton by-products. High-level topics, such as challenges on national level, government policies, knowledge and technology required for manufacturing cotton by-products, as well as specific detailed proposals for projects were discussed. Lessons learnt were also shared among the "Cotton-4" (Zimbabwe, Uganda, Zambia and Mozambique). "There was an openness between the parties involved. This openness is very powerful to grow the industry going forward", says Yanchun Zhang, Chief, Commodities Branch, UNCTAD.

As the three-year programme is nearing the end, the question is, what is the way forward? Kris Terauds, Economic Affairs Officer, UNCTAD replied: "There are two ways that can be pursued. The first is to take commercial niches that were developed in the countries, and accompany them as best we can in finding new partners, in finding the help needed to implement those initiatives. The second is, we have now a joint initiative with two other trade institutions, both in Geneva, the WTO (World Trade Organization) and the International Trade Commission (ITC). Together we have been trying to coordinate our technical assistance activities on cotton by-products. This new initiative will be able to take up some of the ideas that have been developed to carry the project further."

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Retailers going the extra "yarn" FOR LOCAL COTTON

by Tanya Aucamp, Communication Specialist for Cotton SA

According to Cotton SA's CEO, Hennie Bruwer, South African cotton production has increased more than nine-fold, from 25 000 bales in 2013 to the latest estimate of 245 000 bales for the 2019/20 season. South African retail's commitment to local beneficiation, through the South African Cotton Cluster (SACC) (previously known as the Sustainable Cotton Cluster), has restored cotton farmer confidence.

The South African Cotton Cluster programme, funded by government through the Department of Trade and Industry (the dti), was initiated by Cotton SA in 2014 in partnership with other like-minded industry stakeholders. The programme effectively leveraged retailer commitment to increase the consumption and processing of South African cotton lint.

SACC's vision is to develop a sustainable and dynamic cotton value chain that provides its customers with compelling products which are invested in growing local capabilities and employment. This is achieved through several interventions that are focused on competitive localisation and sustainability.

Retailer visits to farms deliver a deeper understanding of the cotton supply chain and encourage buyers to shift their mindset from solely price to competitive localisation.

Bruwer noted that if South Africa increased its local beneficiation of cotton to a level of 50% import substitution it could create more than 75 000 jobs in the industry, and inject nearly R10 billion into the economy. This is possible if import substitution is applied on four basic retail items – t-shirts, towels, chinos and underwear.

EDCON GROUP

A hundred delegates from the Edcon Group, with retail chains Edgars and Jet clothing stores, visited cotton farms and a processing plant on

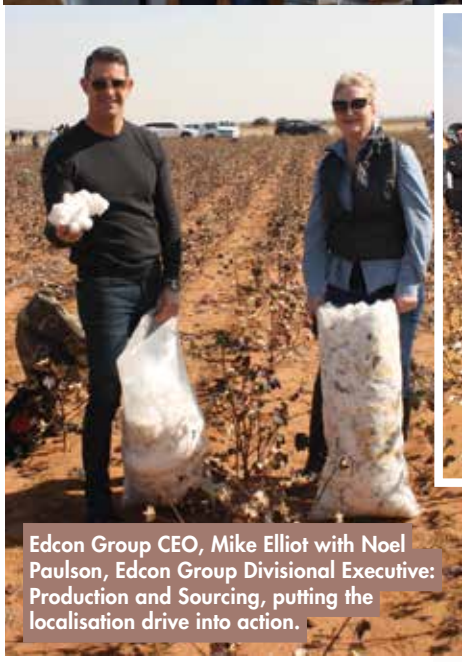
In 2018, the Edcon Group conducted a field visit to the Loskop Cotton Gin in Marble Hall as well as small and commercial farmers in the area. The result was a deeper understanding of the cotton supply chain, an increased commitment to localisation, and the initiation of a fabric strategy. The 2018 visit spiked renewed interest and enthusiasm for a follow-up visit to the area, this time with a delegation of close to 100 people. These included Edgars Chief Executive, Mike Elliott; Cotton SA CEO, Hennie Bruwer; five suppliers; spinner representatives; knitters; many buyers; and transformation representatives from the various chains. Joseph Kempen, the CEO of Loskop Gin, led the visit.

The Woolworths delegation: Vuyo Mjoli (Womenswear Buyer); Marcel Seaman (Marketing Head); Lynne Hanley (Kidswear Buyer); Roxanne Gillan; (Womenswear Planning Head); Denalda Tuckett (Menswear Buying Manager); Ralph Jewson (Marketing GBJ); Lynn Willoughby (Marketing Manager); Renske Pentz (Lingerie Buyer); Shane Chinasamy (Lingerie Technology); Sunil Sunkur (Kidswear Technology); Alison Lloyd (Menswear QIS Manager); and Anton Peters (Sourcing Project Manager); with Joseph Kempen (Loskop Gin CEO).

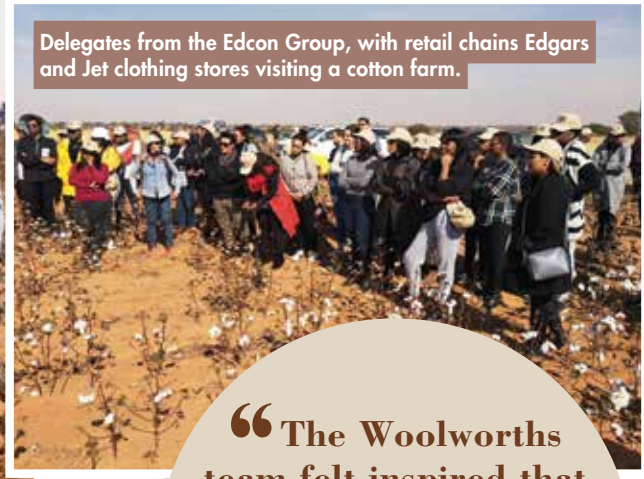
Alison Lloyd, Anton Peters, and Tanya Aucamp (Communication Specialist for Cotton SA).

Anton Peters, showing off his harvest for the day.

The success of the Edcon Group localisation strategy is the result of committed leadership and a dedicated cotton team driving the Edcon Cotton Fabric strategy. This team includes: Brightness Sibiya, Noel Paulson, Seelan Gounden, Sadhasivan Moodley, Lance Julius, and Norman Naicker.



Edcon Group CEO, Mike Elliot with Noel Paulson, Edcon Group Divisional Executive: Production and Sourcing, putting the localisation drive into action.



Delegates from the Edcon Group, with retail chains Edgars and Jet clothing stores visiting a cotton farm.

> **"The Woolworths team felt inspired that its business is able to touch lives at grass-roots level by supporting the small farming initiatives."**

18 June 2019. They announced their commitment to increase their order for cotton lint to 2 200 t for the next year as part of their commitment to the local clothing and textile industry.

WOOLWORTHS

Woolworths visited cotton farms and a processing plant (cotton gin) on 19 June 2019 with a delegation of 12 strategic division leaders. For the majority of the delegation it was the first time they saw how cotton is grown, harvested and ginned.

The Woolworths team felt inspired that its business is able to touch lives at grass-roots level by supporting the small farming initiatives and making a significant impact on people's lives.

Understanding the commitment that agriculture makes, and the commitment involved in the process, Woolworths is proud to be part of this initiative, and is on a journey to become the leading sustainable retailer in South Africa.

Woolworths Holdings is the only South African retailer to become a member of the Better Cotton Initiative (BCI) and has committed to sourcing 100% of its cotton as "more sustainable cotton" by 2020.

BCI compliant lint comprised 32% of the cotton lint produced in 2018 in South Africa.

GRONDVOORBEREIDING MET SPESIFIEKE VERWYSING NA DROËLANDKATOEN

deur dr. Annette Bennett, Katoen SA

Só kan droeëlandkatoen lyk! Foto: J. du Plessis

Hierdie manier van katoenproduksie het unieke uitdagings vir die katoenprodusent. Die kritiese faktor met droëlandproduksie van katoen is die bewaring van vog in die grond. Die besluit of so 'n produksiestelsel gevolg gaan word, hang nie van die prys van katoen af nie, maar van die vlak van grondvog net voor planttyd. Die grondprofiel en vlak van vog ten opsigte van grondkapasiteit is die beperkende faktore. Beperkte landbewerking ("minimum tillage") asook geen bewerking ("no tillage") op lande wat braak lê gedurende die winter wat die plantseisoen voorafgaan, help om vog in die grond te bewaar en die ontkieming van onkruide te verhoed.

Nadat die produsent se katoen geoes is, moet opsies oorweeg word ten opsigte van:

- rotasiegewasse;
- moontlike oorlê van lande;
- onkruidbeheer;
- landvoorbereiding;
- vogbewaring;
- "no-till" of geen-bewerking;
- grondprofielbepaling;
- katoenkultivarsaadkeuses; en
- 'n strategie van plantpopulasiedigtheid met inagname hoe dit besproeiing, insekbeheer, bolset en oes beïnvloed.

Vroeë toediening van kunsmis sal help om die grond kans te gee om vog in die grondprofiel te bewaar. Dit is belangrik om te onthou dat katoenplukkers ("spindle"-plukkers of "strip"-plukkers) gewoonlik standaard twee meter-wielspasiëring het, met rywydtes van 0,91 m. Party plukkers het sensors wat kan aanpas by rywydtes. Rywydte en landuitleg moet beplan word om voorsiening te maak vir gewasbestuur en landbewerking asook oes. Ry-konfigurasie kan

Figuur 1: Rykonfigurasievoorstelling (aangepas – www.csd.net.au).

produksiekoste, oesopbrengs en veselkwaliteit beïnvloed, en besluite moet gebaseer word op jaarlikse reënval, seisoenvooruitsigte, grondkwaliteit, plantdatum asook die ondersteuning wat die produsent geniet van die pluismeulens in die omgewing (www.csd.net.au). Namate rywydte toeneem, is daar 'n potensiaal vir laer oesopbrengste in goeie seisoene.

Wyer rykonfigurasies vertoon egter soortgelyke oespotensiaal as digter plante binne die tipe konfigurasie, in jare waar toestande minder gunstig is, terwyl veselkwaliteit gehandhaaf word. Volgens Cotton Seed Distributors (CSD) se aanbeveling is rykonfigurasie 'n metode waarby oesopbrengs verseker kan word en kwaliteitsafname geminimaliseer kan word. Dit bied ook 'n geleentheid vir veranderlike koste wat tesame die risiko van droëlandproduksie verlaag.

Faktore wat 'n rol speel by die aanplant van katoen, is in die tydskrif *KatoenSA/CottonSA*,

Figuur 2: Plante per meter (liniêr) en plantpopulasies in vergelyking met rywydtes (aangepas, www.csd.net.au).

Plante/m	Aantal plante per ha	Enkel-oorslaanrye (1,5 m)	Dubbel-oorslaanrye (2 m)	Ekstra enkel-oorslaanrye (3 rye) (3 m)
4	40 000	26 800	20 000	13 333
6	60 000	40 200	30 000	20 000
8	80 000	53 600	40 000	26 000
10	100 000	67 000	50 000	33 333
12	120 000	80 400	60 000	40 000

vol. 20, no. 2, Sept. 2018 beskryf. Saadkwaliteit en ontkiemingspotensiaal word gereguleer deur saadsertifisering. Die produsent moet in gedagte hou dat sekere variëteite, wanneer toestande minder gunstig is, moontlik 'n laer saailingstukrag ("vigour") kan toon (www.csd.net.au). Dit vereis dat aandag gegee moet word aan landvoorbereiding, vestiging van die saadbed, sowel as plantdiepte.

Die algemene doel moet wees om 'n plantpopulasie van ses tot tien plante per meter te vestig. Die produsent moet in gedagte hou dat met droëland en minder plante per ry, die plant sal aanpas en meer vegetatiewe takke sywaarts sal groei om te kompenseer vir die groter ruimte. Alhoewel dit kan bydra tot die oesopbrengs, moet hierdie vrugtakke goed bestuur word om boldrag te behou, maar dit kan ook die plukproses bemoeilik. Plante binne 'n ry sal ook meer kompeteer vir voeding.

Vir droëlandbestuur raak presisieboerdery al hoe meer van belang om die spesifieke grondprofiel in verhouding te bring met die toediening van kunsmis binne 'n spesifieke rykonfigurasie. Heelwat instansies bied nou sagteware aan om presisieboerdery te vergemaklik.

MINIMUMBEWERKING VAN GROND MET "RIP-ON-THE-ROW" OF RIP-OP-DIE-RY

Minimumbewerking is aan die orde van die dag in 'n droëlandopset. Na die oes word die grond nie versteur nie, behalwe vir die opsny van katoenreste en katoenstamme net onder die grondoppervlak om hergroei te verhoed. Onkruidbeheer kan dan toegepas word op oorlê- of braaklande tydens die winter deur 'n breëblaaronkruiddoder te spuit om katoenreste wat uitloop te beheer. 'n Rotasiegewas van 'n grasfamilie word aanbeveel om onkruide wat ontkiem te verdring as die produsent nie die land wil laat oorlê nie.

Wissel lande af waar katoen verbou word om die vore waarin katoensaad geplant word, oop te maak ("rip-on-the-row") met behulp van vlaktandbewerking. Die planter het 'n tand voor wat veroorsaak dat nadat die voortjie oopgevou is, die saad geplant kan word met rollertjies om ferm druk op die geplante saad te plaas. Hierdie metode is die afgelope seisoen suksesvol toegepas op Schweizer-Reneke, waar sommige produsente voor planttyd 'n fyn snyimplement gebruik het om die boonste grond wat 'n korsie vorm, te lig, ten einde ontkieming en bo-grondse groei te vergemaklik.

Indien 'n gewas soos mielies in die seisoen vooraf op die betrokke land wat vir katoen opsygesit word, geplant was, moet die mieliereste in die grond ingewerk word voor planttyd. Enige plantreste wat op die land lê, versteur die egaligheid van die saadbed en veroorsaak verskille in plantdieptes oor die land, asook in plantestand (Figuur 3).

'n Minimumbewerkingsisteem kan nie hier gevolg word nie (Figuur 3) en landvoorbereiding begin reeds na die oes met 'n ligte dis, en die oorlê van 'n land tot vroeg in die lente. Die hoofdoel van dié metode is om nie die plant-aksie uit te stel wanneer lande geploeg

Figuur 3: Mieliereste op 'n katoenland.

Figuur 4: Dubbelrye/treinspoorrye droëlandkatoen. Hier word die gebruik van dubbelrye met 'n oorslaanry tussenin aangedui. Dit help met vogbewaring en vergemaklik pluk (Jozeph du Plessis, Schweizer-Reneke, Februarie 2019).

Figuur 5: Konvensionele landbewerking op droëland in 'n kleinboeropset. Let op na minimum grondbewerking in 'n kleinboeropset met swak plantstand en plantspasiëring (regs). Foto: W.M. Green

> “Indien ’n gewas soos mielies in die seisoen vooraf op die betrokke land wat vir katoen opsygesit word, geplant was, moet die mieliereste in die grond ingewerk word voor planttyd.”

of gedis moet word in die lente op swaar kleigronde nie. Grondstruktuur word bewaar as geen verdere landbewerking voorkom nie, ten einde verdere uitdroging van die grond en verdere kompaksie te verhoed, asook die ontkieming van onkruide te voorkom. Kontakonkruiddoders kan vroeg in die lente gespuit word om lande vry te hou van onkruide. As minimumbewerking nie toegepas word nie, moet ’n egalige saadbed met planttyd voorberei word, deur te dis en te eg. (Sien hooffoto). ’n Fyn en gelyke saadbed met plantreste ingewerk in die bolaag is nodig vir goeie ontkieming.

Minimumbewerkingsisteme werk ook vir die kleinboer wat ’n voortjie trek met ’n handskoffel om tussengewasreste wat eenvormig op die land lê, te plant (Figuur 5, regs). Dikwels word dubbelrye ook hiervoor gebruik. Sommige kleinboere se katoen word in teenstelling hiermee in enkelrye geplant met behulp van implemente en konvensionele grondbewerking. Dit is dikwels die geval waar hul toegang het tot implemente. (Figuur 5, links).

Neem grondmonsters ongeveer vier tot ses weke voor planttyd om die uitslag betyds te kry om die regte voedingstowwe te kan toedien voor- en met planttyd.

Verwysing

http://www.csd.net.au/system/resources/files/000/000/051/original/A_Guide_to_Dryland_Cotton

Participants at the Dolbi presentation held in Hilton, KwaZulu-Natal.

NEW COTTON HARVESTING EQUIPMENT UNDERWAY

by Tertius Schoeman, Cotton SA

Various new options are under investigation to assist cotton production units in South Africa with new harvesting equipment. A delegation from Cotton SA visited Argentina during 2017 to experience the equipment manufactured by Dolbi SA of Argentina first-hand. Dolbi has been manufacturing agricultural equipment since 1962.

Dolbi has now partnered with Branson Commodities, a South African company, to import their cotton harvesting equipment. On 15 June 2019, Branson Commodities facilitated the presentation with Cotton SA, farmers, and other interested parties attending in Hilton near Pietermaritzburg, KwaZulu-Natal. Cotton SA was represented by the chairperson and vice-chairperson of the SA Cotton Producers’ Organisation, Evert Genis and Johan Hartman, together with Tertius Schoeman.

Although video material was shown, accompanied by a detailed presentation, the participants requested Dolbi and Branson Commodities to have cotton-harvesting equipment available for demonstration purposes in future.

Plantluise op katoenblare.

VROEËSEISOEN-INSEKPLAE

deur dr. Annette Bennett, Katoen SA en
dr. Jeannie van Biljon, voorheen LNR-IG

Insekplae kan ingedeel word in vroeë-, middel- en laatseisoen-insekplae, terwyl sommige insekte regdeur die seisoen kan voorkom.

- **Vroeëseisoenplae** sluit in aalwurms, snywurms en die valsdraadwurm, katoensnuitkewer, katoenstamkalander, swartkatoenkewer, katoenplantluise en soms bladspringers.
- **Middelseisoenplae** sluit in die vier bolwurmspesies, plantluise, bladspringers, witvlieë, vlekbesies asook ander blaarwurms en blaarmyners, "tip-wilters"/besies, en vlooikewers.
- **Laatseisoenplae** sluit in die gewone katoenvlekbesie, stinkbesie, katoensaadbesie, rooispinmyt en bladspringers.

Middelseisoen- en laatseisoenplae sal in latere uitgawes van die tydskrif verskyn.

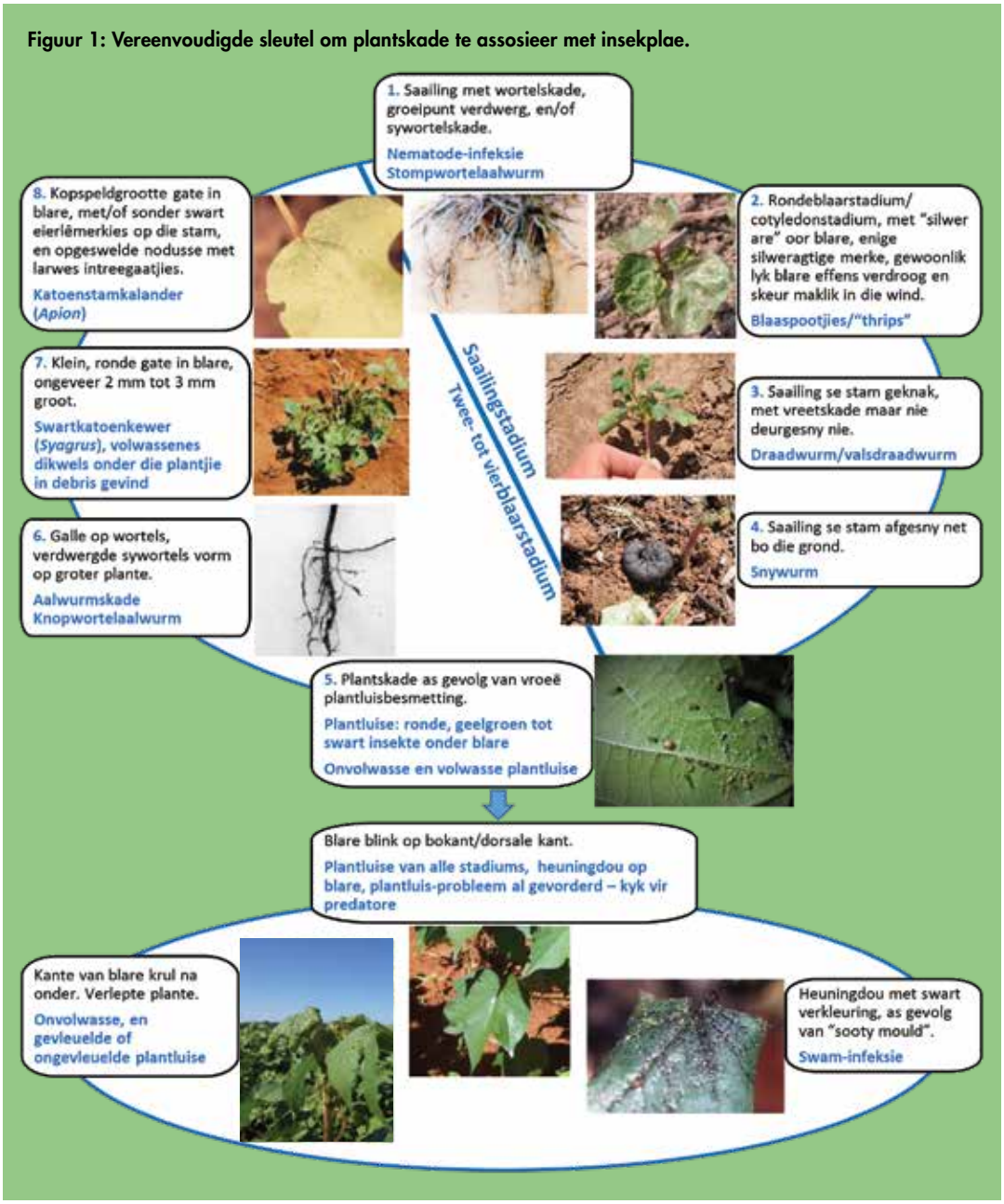
KATOENSAAILINGE

Aalwurms

Aalwurmbeheer word toegepas op grond van aalwurmtellings en die identifikasie wat op grondmonsters gedoen is. Tans word

Knopwortelaalwurm.

Figuur 1: Vereenvoudigde sleutel om plantskade te assosieer met insekplae.



knopwortelaalwurm, *Meloidogyne incognita,* wêreldwyd as die belangrikste plaag op katoen beskou. Binne hierdie spesie is twee verskillende biologiese rasse wat katoen aanval, geïdentifiseer, naamlik rasse 3 en 4. Van dié twee rasse kom slegs ras 4 op katoen in Suid-Afrika voor. Die teenwoordigheid van knopwortelaalwurm veroorsaak betekenisvolle oesverliese, beide direk en indirek deur interaksies met ander grondgedraagde patogene.

“Twee *Meloidogyne* spesies, naamlik *M. incognita* en *M. acronea*, kom op katoen voor, terwyl *M. acronea* slegs in geïsoleerde gevalle in Suid-Afrika aangetref word.”

Twee *Meloidogyne* spesies, naamlik *M. incognita* en *M. acronea,* kom op katoen voor, terwyl *M. acronea* slegs in geïsoleerde gevalle in Suid-Afrika aangetref word. Reuseselle ontwikkel waar die nematode binne die wortel voed. Die selle veroorsaak ’n sekondêre reaksie in die vorm van galle buite op die wortel. Die teenwoordigheid van galle is dus die mees diagnostiese kenmerk van ’n *M. Incognita*-probleem. *M. incognita* val beide die penwortel en die sywortels aan. Skade aan die wortels het ’n kleiner wortelstelsel tot gevolg met minder sy- en voedingswortels. Bogrondse simptome sluit vertraagde plantgroei, gebreksimptome, tydelike verwelking gedurende die hitte van die dag (selfs al is genoeg water beskikbaar) en laer opbrengste, in.

Ander spesies wat voorkom, is letselaalwurm en stompwortelaalwurm. Laasgenoemde dring nie die plantwortels binne nie, maar voed slegs uitwendig aan die wortels, en beskadig wortelpunte. Tipiese simptome is stomp, verdwergde sywortels. Gevolglik is die plant nie in staat om genoeg voedingstowwe te absorbeer nie. Hierdie nematode doen veral baie skade aan saailinge. Sodra die saad ontkiem, word die groeipunt aangeval en dit sterf gevolglik af. Die nuwe sywortels wat dan ontwikkel, word ook aangeval. Sodoende ontwikkel ’n wortelstelsel wat bestaan uit stomp, verdwergde of somtyds ook verdikte wortels.

’n Aansienlike verhoging in opbrengs kan verkry word deur die gebruik van nematosiedes (aalwurmdoders) vir die beheer van *M. incognita*. Fenamiphos is geregistreer teen aalwurm, en word meer algemeen gebruik as ’n korreltoediening, maar die middel is ’n organofosfaat en het ’n baie toksiese werking op die senustelsel van alle insekte. ’n Ander opsie is Abamectin, maar dit word minder dikwels vir aalwurms aanbeveel.

Snywurm, draadwurm (Elateridae) en valsdraadwurm (Tenebrionidae)

Snywurms van verskeie spesies (*Agrotis* spp.) wat die larwes van motte is, was in die verlede ’n plaag op katoen, maar hedendaags word geen ernstige probleme met snywurm ondervind nie. Die stingel van saailinge kan kort bo die grond afgebyt word, wat dan ’n standverlies veroorsaak. Somtyds word die stingel net bo die grond halfpad gebyt/gevreet, wat gewoonlik die larwes van ’n toktokkie-tipe kewer is (valsdraadwurm). Die plantjies het dan ’n verswakte stam, en kan knak in die wind en ook lei tot standverlies. Die katoensnuitkewer (*Protostrophus* sp.) is van minder belang.

Hierdie insekte kom minder algemeen voor, en dit is nie gewoonlik nodig om enige beheer toe te pas nie. Alpha-sipermetrien is geregistreer teen snywurm, maar word minder dikwels gebruik, as gevolg van die lae plaagstatus op katoen.

Snywurm (*Agrostis ipsilon*).

Draadwurm (Elateridae).

Valsdraadwurm (Tenebrionidae).

Blaaspootjies.

Blaaspootjies/"thrips"

Blaaspootjies van verskeie spesies is algemene plae op katoen, onder andere die westelike blomblaaspootjie, die uieblaaspootjie, en die katoenblaaspootjie. Dié insekte doen relatief min skade, maar verswak die blaaroppervlak sodat windskade meer dikwels voorkom. Blaaspootjies is moeilik om te sien, maar kom gewoonlik op die eerste ronde blare voor. Katoen herstel gewoonlik van enige blaaspootjieskade en dit is dikwels nie nodig om te spuit vir blaaspootjies nie. Met erge infestasies kan hulle skade aan die groeipunte van jong plante veroorsaak. Saadbehandelings soos imidacloprid gee beskerming teen erge blaaspootjieskade. Geen drempelwaarde vir blaaspootjies is bekend op katoen in Suid-Afrika nie, en die katoen herstel gewoonlik goed. Profenofos is geregistreer teen blaaspootjies, maar die gebruik daarvan is dikwels nie nodig nie.

TWEE- TOT VIERBLAARSTADIUM

Swartkatoenkewer

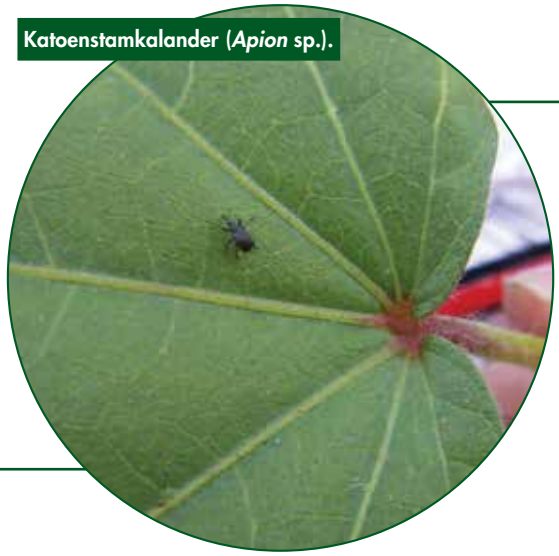
Die blinkswart *Syagrus*-kewer, van ongeveer een sentimeter lank, vreet gate in die blare van katoen in die saailingstadium en latere stadiums. Die larwes voed op die plantwortels; hulle kan die wortels van jong plante ringuleer, en die plant kan verlep voorkom en afsterf. Vreetskade het min effek op volwasse plante. Die insek kom voor in oorstaankatoen, of op lande waar katoen voorheen toegelaat is om oor te staan en toegelaat is om te hergroei. Somtyds kan dit 'n probleem onder droëlandproduksie wees, maar dit is selde nodig om vir dié plaag te spuit.

Swartkatoenkewer (*Syagrus* beetle).

Geen ekonomiese drempel is beskikbaar nie en thiomethoxam en karbaril is geregistreer teen die plaag.

Katoenstamkalander

Die *Apion*-kewer is bitter klein, ongeveer 2 mm tot 3 mm lank, en word dikwels verwar met ander snuitkewers. Volwassenes is moeilik te vinde, aangesien hulle wegkruip agter plantmateriaal en "skyndood" gebruik om hulself te verberg. Volwassenes vreet kopspeldgrootte gate in jong saailinge of op jong katoen, en larwes vreet en pupeer in katoenstingels. Wanneer die volwassenes aangetref word, is dit gewoonlik in lae getalle, die stamskade is reeds gedoen en dikwels help dit nie om enige beheer toe te pas nie. Geen middel is geregistreer nie,



Katoenstamkalander (*Apion* sp.).

maar 'n sistemiese middel in kombinasie met 'n kontakmiddel behoort effektief te wees. Die kewer is 'n probleem waar oorstaankatoen voorkom en sal nuutaangeplante katoen in die omgewing aanval.

Plantluise

Plantluise kom gewoonlik reeds vroeg in die seisoen voor. Indien die katoensaad met imidacloprid as 'n saadbehandeling behandel is, behoort plantluise nie probleme te gee binne die eerste ses weke na plant nie. Plantluise word gewoonlik goed beheer deur predatore, en hierdie voordelige insekte sluit in sweefvlieglarwes, goudogies, larwes en volwassenes van lieweheersbesies ("ladybirds"), spinnekoppe, parasitiese wespes, parasitiese blaaspootjies, parasitiese myte, roofwantse, ens. Die voordelige insekte moet 'n kans gegun word om hul werk te doen om 'n mate van biologiese beheer toe te pas.

Al die stadiums van plantluise kan voorkom, wat onvolwasse stadiums of nimfe insluit, gevleuelde en ongevleuelde volwassenes, geparasiteerde plantluise of "mummies", asook die vervelsels (wit eksoskelette) van plantluise. Die drempelwaarde vir plantluise word bereik wanneer 15 uit 24 plante wat verken is, meer as 30 plantluise tesame op drie blare het. 'n Sagwerkende middel moet verkieslik gespuit word, wat voordelig is vir plantluise, en dit sluit die voortdurende gebruik van enige piretroïed uit. Enige geregistreerde middel met acetamiprid is 'n goeie keuse, terwyl acetamiprid in kombinasie met bifenthrin (piretroïed-gekombineerde middel), slegs as laaste uitweg gekies moet word, asook produkte met dimetoaat en karbosulfan, aangesien dié produkte die natuurlike vyande kan benadeel.

Plantluise.

Bladspringers

Bladspringers ("Jassids").

Bladspringers kan ressorteer onder vroeë-, middel- en laatseisoenplae. Hulle kom minder dikwels vroeg in die seisoen voor, maar kom voor in areas waar oorstaankatoen as 'n praktyk bedryf word. Bladspringers kan vroeg in die seisoen toeneem en kan 'n probleem word vanaf die vierblaarstadium as piretroïdes herhalend gebruik word. Saadbehandelings met imidacloprid gee gewoonlik goeie beheer vroeg in die seisoen teen bladspringers. Die plant van harige kultivars soos PM3225 B2RF help om bladspringers regdeur die seisoen te beheer. Die drempelwaarde vir bladspringers word bereik wanneer daar meer as drie bladspringers in totaal op drie blare voorkom, en op meer as 12 uit 24 plante wat verken is.

Predatore het 'n effek op die nimfe van bladspringers; dus moet daar nie onnodig vroeg in die seisoen vir bladspringers gespuit word nie. Geregistreerde produkte met acetamiprid of pymetrozine word aanbeveel vir bladspringerbeheer, as gevolg van hulle wyse van werking. Geregistreerde produkte wat profenofos, indoxacarb, diafenthurion, of karbaril bevat, is minder voordelig vir natuurlike vyande.

Met erkenning aan die volgende persone of instansies vir insekfoto's:
- T. Joffe (voorheen Agri-Biotech Research Consultancies cc)
- J. van Biljon (voorheen LNR-IG)
- A.L. Bennett en A. Bennett (voorheen LNR-IG)

Afdrukke:
- thebeatsheet.com.au
- cotton.ces.ncsu.edu/2018/05
- agrilifecdn.tanu.edu
- utcrops.com
- entoweb.okstate.edu

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Onkruidbeheer in katoen

deur dr. Annette Bennett, Katoen SA

Die plant van katoenvariëteite wat tesame met bolwurmweerstand, ook glifosaatweerstand bied, vergemaklik onkruidbeheer. Dit word aangedui deur die "RF" ná die kultivarnaam, bv. DP1541 B2RF. Al die *Bt*-katoenvariëteite wat vandag in Suid-Afrika beskikbaar is, het die Roundup Ready Flex-geen wat onkruidbeheer vergemaklik vir die produsent, deurdat glifosaatprodukte wat 'n breë spektrum van werking het vir 'n langer tyd bo-oor die katoen gedurende die seisoen gespuit kan word. Een kultivar, Delta 18RF, wat dikwels vir die toevlugsarea geplant word, bied net glifosaatweerstand en nie bolwurmweerstand nie.

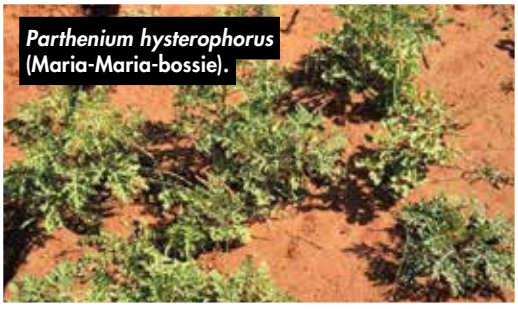
Die eienskap van glifosaatweerstand wat katoen tans bied, vergemaklik die beheer van onkruide voor en ná plant. Katoenvariëteite met glufosinaat- en dicambaweerstand is nog nie in Suid-Afrika beskikbaar nie.

Bespuiting moet geskied op die regte plek, regte tyd en met die regte toerusting. Let daarop dat met glifosaatbespuitings, die bespuiting op die onkruidplant self moet plaasvind en nie op die grond nie, aangesien die produkte inmeng met die fotosinteseproses in die onkruidplant. Onkruide neem tot 'n week of langer om te vrek, aangesien die onkruide eers geel sal verkleur en daarna sal afsterf weens die wyse van werking. Glifosaat sal smalblaar (grasse) en breëblaar onkruide dood (eenjarige of meerjarige plante).

Volgens Croplife, is daar twee geregistreerde glifosaatprodukte vir katoen: Roundup Powermax® en Touchdown Forte HiTech®. Ander glifosaatprodukte, vir ander gewasse, is beskikbaar in die mark, maar moet verkieslik nie op katoen gespuit word nie. Glifosaatprodukte is meer effektief op jong of kleiner plante, en 'n tweede bespuiting mag nodig wees ná die vierblaarstadium van katoen om sekere onkruide te dood.

'n Aantal bespuitings kan gedoen word – tot 'n maksimum van 12,4 ℓ/ha tydens die hele seisoen. Lees die etiket vir instruksies. Die voordeel van die "Flex"-tegnologie is dat die produk nou bo-oor die katoen ná die vierblaarstadium gespuit kan word. Twee tot drie bespuitings mag nodig wees op katoen vir voldoende onkruidbeheer.

Glifosaat kan ook gebruik word om onkruide rondom die lande te bespuit, maar bespuiting moet verhoed word op ander gewasse soos gras, bome en blomme. Ander glifosaatprodukte mag effektief wees in 'n meerdere of mindere mate, maar word nie aanbeveel nie, as gevolg van die byvoeging van buffers en soute soos gelys op die etikette. Dit is swak praktyk om net op glifosaat staat te maak, en die afwisseling van glifosaat met ander goedgekeurde onkruiddoders word aanbeveel om weerstand te bekamp. Indien ander onkruiddoders met ander wyses van werking gebruik sou word, moet dit nie bo-oor katoen gespuit word nie.



Parthenium hysterophorus **(Maria-Maria-bossie).**

Hibiscus trionum. **Foto: T. Joffe**

Tribulus terrestris. Foto: T. Joffe

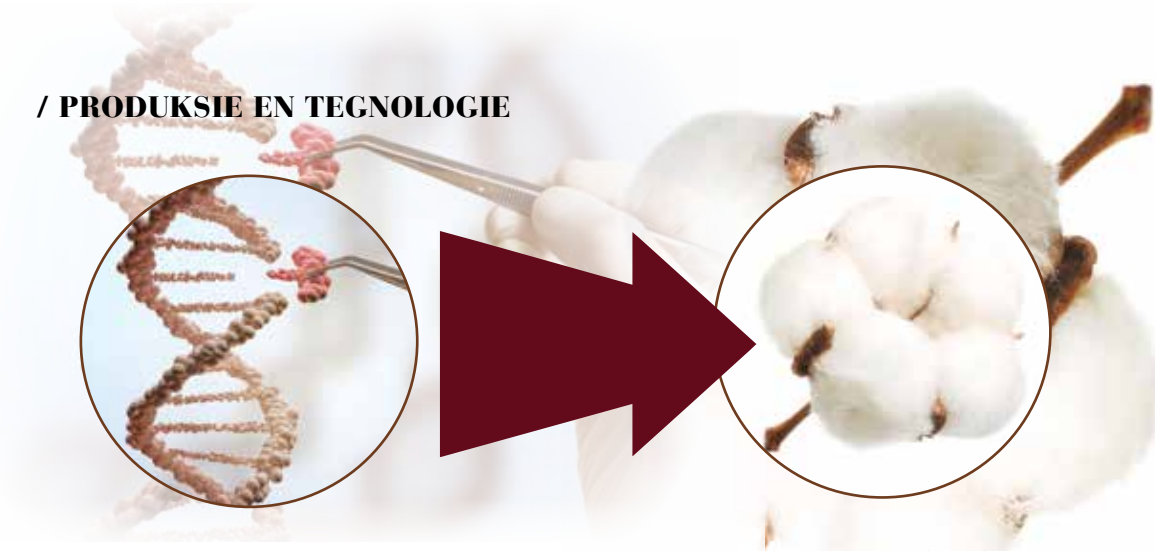
Chemiese beheer van onkruide in katoen gee besparings op arbeids- en insetkoste. Vir die droëlandprodusent is onkruidbeheer baie belangrik, aangesien onkruide kompeteer met katoen vir vog en nutriënte. Derhalwe dien onkruide ook as alternatiewe gasheerplante vir menige plaag op katoen, onder andere bolwurms, plantluise, witvlieë, ens. Bekamping van onkruide in katoen help om addisionele druk van insekplae op die *Bt*-katoen te beperk, en beskerm só die tegnologie.

Tans is daar aksies om kombinasies van middels met verskillende wyses van werking teen die onkruid *Amaranthus palmeri* te toets, wat nou katoenlande in die Douglas-area bedreig.

Indien u enige klagtes het oor onkruide wat lyk of hul weerstand toon teen glifosaat, kontak die "Herbicide Resistance Action Committee" (HRAC), 'n tegniese groep wat help om gewasopbrengste te beskerm in die geveg rondom die ontwikkeling van weerstandige onkruide.

Kontak Elbé Hugo, Voorsitter van HRAC, Suid-Afrika by Syngenta, of https://www.hracglobal.com/

Wandelende jood. Foto: T. Joffe



TRACEABILITY OF GMO COTTON (*Bt*-COTTON)

by Calvin Knight and Dr Annette Bennett, Cotton SA

Genetically modified organisms (GMOs) are plants or crops that have had genes inserted into their genetic makeup in order to improve yield, quality or durability. According to a webinar, "DNA Analysis of GMO Cotton", presented by Dr Lothar Kruse from Impetus Bioscience, about 64% of cotton worldwide is now GMO cotton. The International Service for the Acquisition of Agri-biotech Applications (ISAAA Brief 53-2017) listed global biotech cotton production at 24,21 million hectares in 2017.

Consumers are interested in the traceability of genetically modified organisms and their products. Recent work on cotton fibres has shown that *Bt*-cotton can be identified through a standard technique used in general DNA analysis as used by most laboratories. For the consumer interested in the cotton component of textiles this is good news.

Bt-cotton has had the *Bt*-gene inserted into its general genetic make-up in order to improve resistance to bollworm pests, while the commercially available varieties now also show herbicide-tolerant traits. *Bt*-gene identification is commonly done on cottonseeds (1/10 000 seeds sensitivity), as they have a large amount of DNA available. However, DNA analysis can also be done on fibre. Cotton lint is made up of 95% cellulose, but there is still a dehydrated cell nucleus within the fibres with enough sample material from which the DNA can be extracted.

It is well known that DNA is specific for each species. The arrangement or sequence of the four nucleotides that DNA comprises of, determines the nature and characteristics of the species. The presence of the *Bt*-gene can be determined by means of a laboratory polymerase chain reaction (PCR) technique, where specific pieces of DNA (in this case that of the *Bt*-gene) are proliferated or multiplied, and then sequenced and sent for identification to confirm the specific arrangement of the nucleotides. In this case, the *Bt*-gene's DNA is made up of the four base nucleotides with a specific arrangment in their complimentary amino-acid patterns.

DNA can be extracted by various procedures involving crushing or breaking down of cells and chemical elution of DNA strands into a solution. The solution is then placed in a thermocycler with primers that match the

sequences that one is looking for. By making use of Taq polymerase, the DNA template (from the cotton fibre with the primers attached to the specific region of the foreign *Bt*-material) are elongated and extended to provide enough material for further identification. This is the basic premise of PCR.

Plant DNA ▶ 35s promoter ▶ CTP2 gene ▶ CRY gene ▶ NOS terminator ▶ Plant DNA

Depicted above is an overview of the section of the plant DNA strand where the foreign gene (CRY gene)would be inserted. PCR will be able to target the specific nucleotide sequences on either side of this specific DNA region.

Screening is done to identify any GMO insert by detecting the 35s promoter, the CTP2 gene, the CRY gene, the terminator, and the plant DNA. The PCR product with the specific foreign DNA is then sequenced and compared to a standard database (e.g. Basic Local Alignment Search Tool [BLAST]) of known organisms with a similar nucleotide pattern. A specific similarity is traced with the new "DNA string" arrangement, which would then identify the foreign piece of DNA.

By making use of this PCR technique, it is possible to identify GMOs in cottonseed and in the fibre if it is present. This is an advantage for breeding programmes and in research protects to ensure that new cultivars carry the *Bt*-gene. Unknown seed or fibre could also be analysed with this method to determine if it is GMO cotton (although determining the cultivar can also provide this information).

It should be noted that once lint has been spun, dyed and treated with heat or chemicals, most of the DNA will have been destroyed, so the analysis must be done on raw cotton fibre. Dyes interfere with the PCR technique and will not give reliable results.

The possibility to detect GMO in cotton fibre is now officially recognised.

Reference:

IWA 32:2019 Preview. Screening of genetically modified organisms (GMOs) in cotton and textiles.

UPDATE ON SMALLHOLDER COTTON PRODUCTION

by Tertius Schoeman, Cotton SA

An information session presented by Bongani Nkosi from Agronet (centre).

Most of the smallholder cotton farmers had to wait for sufficient moisture before planting cotton in the 2018/19 production season. The Nkomazi region, however, experienced good follow-up rains that were in excess of the 50-year average annual rainfall figure of 647 mm.

This season, smallholder cotton production is spread over a number of provinces (see Table 1). The figures reflect the farmers that Cotton SA is aware of, but production may be more. Most of the production is on rainfed fields with ever-increasing irrigation hectares due to partnerships that are being established between commercial entities and emerging farmers.

Cotton SA is of the opinion that there are relatively large areas of unutilised land available to be planted to cotton in the near future. The dryland and irrigation hectares known potential is estimated at about 20 000 ha and 5 000 ha respectively.

Smallholder cotton farmers harvesting in Nkomazi.

Table 1: Smallholder cotton production in South Africa during the 2018/19 season.

Province / Co-ops	Smallholder cotton farmers	Hectares dryland	Hectares irrigation	Estimated lint bales (200 kg)
Mpumalanga – Nkomazi 22 Co-ops	715	1 771	0	3 028
Mpumalanga – Matlerekeng 1 Co-op	3	60	10	140
Mpumalanga – Nokaneng 17 Co-ops	188	610	0	690
Limpopo – Dichoeng 2 Co-ops	11	10	100	1 120
North West – Taung 1 Co-op	23	0	230	2 185
North West – Batshweneng 1 Joint venture	6	0	106	1 007
KwaZulu-Natal – Makhathini 38 Co-ops	1 247	1 989	200	4 239
Total	2 193	4 440	646	12 409

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PURE COTTON

MR PRICE: FINALIST IN SUPPLIER DEVELOPMENT AWARDS

submitted by Tanya Aucamp, Communication Specialist for Cotton SA

Natasja Ambrosio, Mr Price Group Sustainable Value Chain Executive.

Through its innovative work in developing a local cotton value chain, Mr Price Group Limited earned a finalist position in the Absa *Business Day* Supplier Development Awards on 14 June 2019 in Durban, South Africa.

The group was a runner-up in the Overall Winner category, as well as in the Nation-builder and Small Supplier and Local Manufacturing sections. The awards acknowledge the role of business in developing suppliers, with the overall aim of strengthening South Africa's economy.

Together with the South Africa Cotton Cluster (SACC), previously known as the Sustainable Cotton Cluster, Mr Price Group has made a significant contribution to the growth of local cotton production since 2013. The group finances loans for small-scale cotton farmers to buy seed and other agricultural inputs. In addition to this, an early payment facility allows small-scale farmers to be paid immediately for their crop.

In the 2019 fiscal year, the group supported over 263 South African small-scale farmers,

167 of whom are women and 52 youth. During the year, 552 tonnes of cotton lint from these farmers were used in Mr Price Group products.

"Strengthening our local value chain is key to unlocking business and socio-economic value and has the potential to create a competitive advantage for the business," explained Natasja Ambrosio, Mr Price Group Sustainable Value Chain Executive. "A crucial theme throughout this initiative is building towards the entire value chain being sustainable."

Mr Price Group CEO, Mark Blair, said, "We are proud of the impact made through our innovative work in developing a local cotton value chain. Ensuring that our partnerships with all stakeholders create shared value is something that we are passionate about and the Cotton Cluster has been a great example of this."

The group's sustainability journey, "Together We Do Good", is anchored in the very purpose of the business: "… to add value to the lives of our customers and worth to our partners' lives, while caring for the communities and environment in which we operate."

For further reading please visit:
- https://www.bizcommunity.com/Article/196/183/190069.html;
- https://www.bizcommunity.com/Article/196/183/191134.html; https://www.farmersweekly.co.za/agri-business/empowerment/sa-cotton-industry-created-5-500-jobs-four-years/

> "A crucial theme throughout this initiative is building towards the entire value chain being sustainable."

Finalists of the 2019 Absa *Business Day* Supplier Development Awards.

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