

KATÖN COTTON SA

Volume 20 - No. 3
DEC 2018



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grow**



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Mahyco Grow bestaan sedert 1964 waartydens hulle baanbreker werk doen in landbounavorsing om die beste produk aan die boer te bring ten einde die opbrengste en kwaliteit op die plaas konstant te verbeter. Nou het Mahyco Grow SA hierdie filosofie uitgebrei na Suid Afrika om dieselfde kwaliteit aan die Suid Afrikaanse boer te verseker.

Deltapine® die variëteite wat nog steeds top presteer op besproeiing sowel as droëland omstandighede:

DP 1541B2RF—Vol seisoen, uitstaande opbrengste met hoë veselpersentasie.

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PM 3225B2RF—Vol seisoen, uitstaande opbrengste harige blaaroppervlak teen bladspringers—uiters geskik vir handpluk kleinboer.

Delta 18RF— Toevlugsvariëteit, medium vol seisoen, hoë opbrengspotensiaal.

Navrae : Mahyco Grow SA—Tel 013 262 2972 of 083 305 6160

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VOORWOORD / PREFACE

Met die ter perse gaan van hierdie uitgawe is die 2018-jaar so te sê op sy einde. Daar is sekerlik baie dinge waarvoor ons dankbaar kan wees en een so 'n verwikkeling is die astronomiese groei wat in die verbouing en verwerking van katoen oor die afgelope jaar plaasgevind het! 'n Ongelooftlike groei van meer as 160% in produksie teenoor die vorige seisoen dui op 'n hernude belangstelling in die gewas en is die verwagting dat groei nog verder sal toeneem, veral met inagneming van die verswakende winsgewendheid van meeste somergewasse.

Volgens die jongste saadverkope is die verwagting dat katoenproduksie in die 2018/19-seisoen vir die 3de agtereenvolgende jaar gaan styg. Die verwagte styging van minstens 25% sal verdere druk op die bestaande oes- en pluiskapasiteit plaas wat groter vaste kapitale investering in toerusting en prosessering gaan verg ten einde met die groter produksie tred te kan hou!

Die invloed van landbou op die land se makro-ekonomie kan nie meer onderskat word nie terwyl 'n groeiende landbousektor 'n al hoe groter wordende faktor vir ekonomiese groei is! Dit is dus duidelik dat landbou 'n stabiliserende sektor in die Suid-Afrikaanse makro-ekonomie geword het. Gelyklopend hiermee ontsluit 'n vooruitstrewende landbou ook broodnodige werksgeleenthede vir ongeskoolde en seisoenale werkers in die landelike gebiede.

Die toekoms van landbou en al sy vertakkinge sal wêreldwyd deur die **4de Industriële Revolusie**¹⁾ gedryf word wat daarop gemik is om tradisionele besigheidsmodelle te ontwig. Innoverende denke, vaardigheidsontwikkeling en veranderingsbestuur in landbou en agri-besighede sal benodig word om tred te hou met die eise wat die nuwe digitale wêreld aan landbou en sy vennote in die toekoms gaan stel! Die Cluster se besigheidsmodel met betrekking tot geïntegreerde en volhoubare voorsieningkettings wat strek van plaas- tot kleinhandelsvlak en ondersteun word deur 'n IT-platform met operasionele sigbaarheid en naspeurbaarheid, val binne die spektrum van nuwe en innoverende maniere om die uitdagings aan te spreek en is die katoenbedryf dus goed geposisioneer in die opsig!

Waar ons dan nou die einde van 2018 nader wil ek graag, namens die Voorsitter, Raadslede en personeel, ons lesers en adverteerders 'n vreugdevolle feesseisoen en Voorspoedige Nuwejaar toewens. Mag 2019 aan al u verwagtinge voldoen en net die beste vir u en u geliefdes inhou.



Hennie Bruwer

By the time of writing of this, the 2018 year is almost at an end. There are certainly many things we can be thankful for and one such a development is the astronomical growth that occurred in the production and processing of cotton over the past year! An amazing growth of over 160% in production over the previous year indicates a renewed interest in the crop, with the expectation that there will still be further growth, especially against the background of the deteriorating profitability of most summer crops.

According to the latest seed sales, the expectation is that cotton production in the 2018/19 season will increase for the 3rd consecutive year. The expected increase of 25% will put further pressure on the existing harvesting and ginning capacity, requiring larger fixed investment in equipment and processing in order to keep pace with the increased production!

The impact of agriculture on the country's macro-economy can no longer be underestimated as a growing agricultural sector is increasingly becoming a factor for economic growth! It is clear that agriculture has become a stabilizing sector in the South African macro-economy. Concurrent with this, a thriving agriculture also unlocks much needed job opportunities for unskilled and seasonal workers in rural areas.

The future of agriculture and all its branches worldwide will be driven by the **4th Industrial Revolution**¹⁾ which aims to disrupt traditional business models. Innovative thinking, skills development and change management in agriculture and agri-businesses will be required in the future to keep pace with the demands put to agriculture and its partners in the new digital world! The Cluster's business model with regard to integrated and sustainable supply chains ranging from farm to retail level and supported by an IT platform with operational visibility and traceability, falls within the spectrum of new and innovative ways to address challenges, with the cotton industry being well-positioned in this regard!

Where we now come to the end of 2018, I would like, on behalf of the Chairman, Board members and staff, wish our readers and advertisers a joyous holiday season and a prosperous New Year. May 2019 meet all your expectations and only offer the best for you and your loved ones.

¹⁾ The fourth industrial revolution is the current and developing environment in which disruptive technologies and trends such as the Internet of Things (IoT), robotics, virtual reality (VR) and artificial intelligence (AI) are changing the way we live and work. Industrial revolution is defined as the changes in manufacturing and transportation that began with fewer things being made by hand but instead made using machines in larger-scale factories.

The Truth About Cotton

WATER

Cotton is a xerophyte - a plant that requires very little water to grow. It is basically a desert crop, with a deep root system that's ideal for arid climates. A cotton plant needs water at critical times during its growth to produce a good yield, but most of the time, seasonal rainfall (sometimes assisted by irrigation) is all that cotton needs.

Those who say cotton is a thirsty crop are promoting fake news as:

- 73% of cotton produced uses less than 288 litres of irrigation water/kg lint; and
- 55% of cotton produced uses no irrigation water whatsoever!

Despite its thirsty reputation, the reality is that cotton consumes only about 3% of the world's irrigation water and farmers across the globe are improving their productivity and water use efficiency every day.

It's summer time and home owners are watering their lawns and golf courses are

pampering their immaculate greens and fairways. Here's something for cotton's critics to consider, as they water their lawns and prepare to tee off on a Sunday morning.... It takes more water to grow a hectare of grass than it does to grow a hectare of cotton.

LAND USAGE

Talk about efficiency. Cotton occupies a mere 3% of the world's agricultural area yet it meets 36% of the world's textile needs. That's getting your fibre's worth! Globally, cotton's land use has remained relatively constant over the past 50 years, but the volume of fibre produced has increased almost three-fold. In other words, cotton growers are producing more cotton without planting on more land.

SYNTHETIC

The skyrocketing amount of plastic trash is unquestionably a scary situation, and the calls to ban plastics straws and "cotton buds" are worth considering. However, note that in this context,



"cotton bud" refers to the plastic stem, NOT the cotton swabs themselves. Also, many manu-
factu-

urers have replaced the plastic stems with paper ones to minimise their environmental impact.

When water molecules penetrate a fibre, they often act like a lubricant, which weakens the material. But water only makes cotton stronger, unlike viscose rayon (which loses strength) and synthetics (which are unaffected). Cotton is 99% cellulose, and hydrogen atoms in the water bond with those in the cellulose. That increases cotton's strength by about 20% - and, since cotton can absorb more than 25X its weight in water, it's the ideal material for 'wet work'.

Extracts from reports on the International Cotton Advisory Committee's (ICAC) website - Koot Louw, Cotton SA.



Pix® is 'n blaartoegediende sistemiese plantgroeireguleerder wat die katoenplant se groeiwyse reguleer. Pix se werking inhibeer en verkort stamgroei sowel as internodes van die hoofstam en laterale sytakke. Pix veroorsaak verhoogde bolretensie in die middel en onderste dele van die katoenplant.

Die voordele van Pix is kleiner en meer kompakte plante wat die mikroklimaat tussen plante verbeter. Dit verseker meer hanteerbare katoenplante met meer spasie tussen die rye wat die verkenningproses makliker en meer effektief maak. Plaag- en pesbeheer kan gevolglik ook meer

doeltreffend toegepas word. Kompakte plante vergemaklik ook die oesproses.

Verhoogde vroeë bolset en retensie verseker eweredige bolgroottes wat gevolglik meer gelykmatig ryp word. Die resultaat is beter kwaliteit katoen, minder laat bolle, vroeër oes en 'n hoër persentasie ryp katoen tydens eerste pluk. Pix dra by tot die effektiewe benutting van voedingstowwe en verhoogde opbrengspotensiaal.

Produkligting is beskikbaar op die BASF webwerf:
www.agro.basf.co.za.

GROWTH REGULATORY GUIDELINE Based on Mepiquat Chloride, 50g/l

DETERMINE GROWTH RATE

Average Max. Int. Length (mm) between 4th and 5th node	Average Total Mainstem Nodes												
	10	11	12	13	14	15	16	17	18	19	20	21	22
40	S	VS	VH	VS	VS	VS	VS	VS	VS	VS	S	S	N
50	N	N	S	VS	VS	VS	VS	VS	S	S	N	N	H
64	H	H	N	N	N	S	S	N	N	N	H	H	VH
76	VH	H	H	N	N	N	N	N	N	H	H	VH	VH
89	VH	VH	VH	H	H	N	N	H	H	H	VH	VH	VH
100	VH	VH	VH	H	H	H	H	H	H	VH	VH	VH	VH

GUIDELINE (ml/ha)	Average Plant Height (mm)					
	380	500	635	760	890	1010
VS	0	0	0	0	0	0
S	0	0	0	0	0	0
N	0	375	500	625	800	975
H	125	500	750	920	1100	1200
VH	250	600	975	1200	1375	1500

VS: Very Slow
S: Slow
N: Normal
H: High
VH: Very High

DIRECTIONS

1. Determine the average total mainstem nodes for the area
2. Measure the average distance between the 4th and 5th nodes from top (**Maximum Internode Length**) #1 is as big as thumb nail
3. Determine growth tempo on table above (VS, S, N, H or VH)
5. Determine average plant height for the area
6. Determine dosage growth regulator on table below (ml product / ha)
7. Above mentioned guideline is based on optimal growth conditions!

DIE BESPROEIING VAN KATOEN

Katoenopbrengste kan verbeter word deur 'n toename in watertoediening tydens blom- en bolontwikkeling. Besproeiingdoeltreffendheid kan verkry word deur die korrekte toediening van water tydens die sensitiewe waterstresperiodes oor die lang reprodutiewe groeifase. Daar is drie fases tydens die groei- en ontwikkelings stadium wanneer katoen uiters sensitief vir watertekorte is, naamlik: vroeë blomtyd, piek blomtyd en piek bolontwikkeling.

Sensitiewe stadiums wat betref watertekorte

Groei stadium	Tyd	Besproeiingbehoefte
Vroeë blomtyd	66 – 82 dae na opkoms	Gee twee 74 mm besproeiings – in totaal 148 mm
Piek blomtyd	88 – 117 dae na opkoms	Gee vyf 56 mm weeklikse besproeiings – in totaal 280 mm
Piek bolontwikkeling	129 – 141 dae na opkoms	Gee twee 35 mm besproeiings – in totaal 70 mm

Voor plant: Dien water toe volgens land se kapasiteit. Besluit of 'n stresperiode vir die eerste 3 weke tot 'n maand na aanplant, wat voordelig vir wortelontwikkeling is, toegepas gaan word. **BELANGRIK:** Dien besproeiing toe gedurende die stadiums wanneer katoen dit die meeste nodig het! Staak besproeiing wanneer 10% bolbars plaasgevind het. *Vogsensitiwiteit bereik 'n piek teen dag 114.*

KATOEN BESPROEIINGSKALENDER

Vroeë ontwikkeling = 35 mm per week
3 weke stres na aanplanting is
voordelig vir wortelontwikkeling

Vroeë blomtyd
Katoen benodig 148 mm
(2 x 74 mm)

Piek blomtyd
Katoen benodig 280 mm
(5 x 56 mm)

Piek bolontwikkeling
Katoen benodig 76 mm
(2 x 38 mm)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Volle water kapasiteit																					35 mm								35 mm
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
						35 mm							35 mm							35 mm							35 mm		
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
			74 mm									74 mm													56 mm				
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
		56 mm							56 mm							56 mm							56 mm						
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
								38 mm						38 mm										Bolle open					
151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180

Ontleen van de Bruyn en Human, 1991. "Besproeiing van katoen tydens die reprodutiewe fase" Verrigtinge van die SA Besproeiingsimposium. Ontleen deur dr Tilla van der Westhuizen, LNR-IIG. tillap@arc.agric.za

Superweed discovered in SA in cotton

Amaranthus palmeri, described as the USA's number one weed because of its strong competitive ability with crops and its ability to thwart the best weed control measures and to establish rapidly across diverse environments, was confirmed in April 2018 for the first time in South Africa in a cotton field in the Douglas district.

Amaranthus palmeri (vernacular names: Palmer amaranth; careless weed) is currently rated America's top 'wicked' weed in terms of its detrimental impact on maize, cotton and soya bean production. Investigation on its current distribution in South Africa, its tolerance to various herbicides, and management options is underway in the South African Herbicide Resistance Initiative (SAHRI) research programme at the University of Pretoria.

Because it originates from semi-arid regions in the USA, this weed has the ability to wreak havoc in most parts of South Africa where crops are produced, perhaps with the exception of the winter rainfall region. But then again, it might happen that no region in the country will be spared this wicked weed.

This weed reportedly produces as many as 500 000 to 1 million seeds per plant. Seeds can apparently survive for at least three years in soil and remain viable. The photosynthetic efficacy of *A. palmeri* is reportedly three to four times greater than that of cotton, maize and soya bean, and explains its successful competition with these crops.

An exacerbating characteristic of *A. palmeri* is its ability to evolve resistance in a relatively short time to a range of herbicides. At this stage in the US, the weed has developed resistance to five groupings of herbicides, classified according to their mechanism of action, namely: protoporphyrinogen oxidase (PPO) inhibitors, photo-synthesis (PSII) inhibitors, acetolactate synthase (ALS) inhibitors, micro-tubule disruptors, and to glyphosate herbicide, an EPSPS enzyme inhibitor.

In the US, different Palmer amaranth populations show variable resistance to the aforementioned herbicide mechanisms of action, with the most common type of resistance to ALS inhibitors and glyphosate. The rendering ineffective of such major herbicide groups has had

nearly incalculable crippling consequences for especially maize, cotton and soya bean production in the US.

Summarised from an article in the Sept. issue of Oilseeds Focus by Dr Charlie Reinhardt. Dr Reinhardt is an academic in the Monash/Villa Partnership for training in crop protection, extraordinary professor in weed science at Stellenbosch University, and project leader for the SAHRI at the University of Pretoria.

Contact him on 083 442 3427 or email dr.charlie.reinhardt@gmail.com.



A. palmeri female flower in Douglas cotton field.

Photos - Charlie Reinhardt

COTTON SA MARKET REPORT AS AT 1 NOV. 2018

Production decreases are expected from the world's top 3 cotton producing countries

	A INDEX <i>Avg: US c/lb</i>	DERIVED RSA "PRICE" <i>Avg: SA c/kg</i>
Last week (22/10 - 26/10/18)	87.56	2785.48
Oct 2018	86.78	2774.34
Today (01/11/18)	86.40	2784.81
Sept 2018	90.36	2942.28
Today a year ago	79.25	2499.02
Today two years ago	77.75	2343.79

The **COTLOOK A INDEX** is a daily indicator of international cotton lint prices and is the average of the cheapest 5 quotations (cost & freight) from a selection of the principal upland cottons traded internationally, destination Far East.

The recent drop in cotton prices can mainly be ascribed to larger arrivals of the new season's crop and relatively weak demand from spinners in India, China and Pakistan. The decrease in cotton futures over recent months reflected the negative impact of the US-China trade war, resulting in US cotton export sales slowing down due to prohibitive Chinese import tariffs. Cotton is however testing higher prices, as weather factors have severely restricted the availability of US premium quality high grades.

While cotton production increases in 2017/18 originate from area increases due to high prices from the previous season, additional production growth is not expected by the International Cotton Advisory Committee (ICAC) in 2018/19 as the global area is expected to decrease. Production decreases are expected from the world's top 3 cotton producing countries: India, China and the United States in 2018/19. The ICAC's current cotton production forecast for India for 2018/19 is 6.05 million tons. However, even with a 5% decrease from the previous season, India would continue to remain the leading global producer with a 23% share of global cotton production. The ICAC's cotton forecast for China is 5.8 million tons, a 2% decrease from the previous season. The USA's current cotton projection stands at 4.3 million tons, 6% down from the previous season. However recent weather difficulties in Georgia (the second largest cotton producing region after Texas) have not yet been taken into account. In West Africa, area expansion, increased government support and investment is expected to boost cotton production in this region in 2018/19 to a record 1.3 million tons.

In the Southern Hemisphere, Australia's cotton production forecast by the ICAC is estimated to be 44% lower than that of the previous season due to limited water availa-

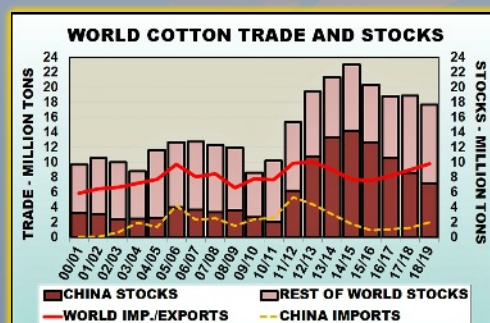
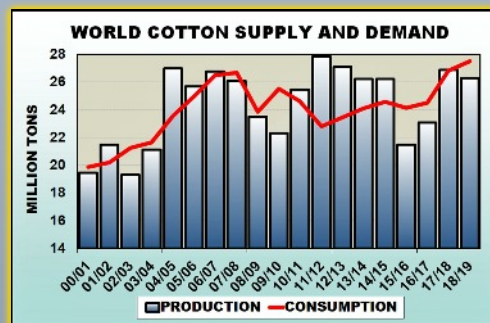
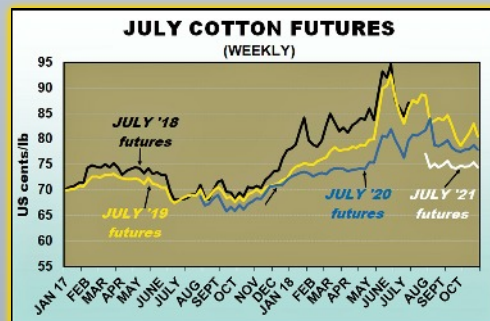
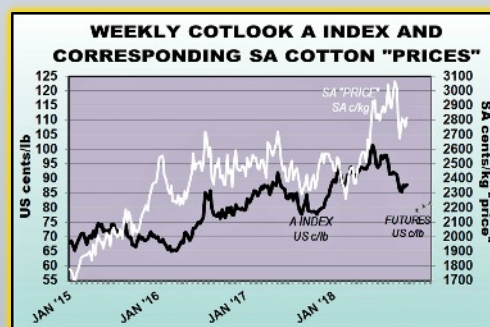
bility. Cotton production increases are however expected in Brazil where cotton hectares are to be expanded and cotton production is forecast to increase to a potential record high of 2.3 million tons.

The ICAC's current forecast for global cotton consumption for 2018/19 stands at a record 27.5 million tons, almost 3% up from 2017/18. World cotton consumption in 2017/18 grew by 9% over the previous year. With the current projections for supply and demand, global stocks would decrease to 17.7 million tons by 31 July 2019 according to the ICAC. This 6% decrease in stocks over the previous year, would bring global cotton stocks to a level near to what was last seen 7 years ago. World ending cotton stocks have decreased 22% from the record high of 23 million tons in 2014/15 to 18.9 million tons at the end of 2017/18.

Although Chinese cotton stocks have decreased to an estimated 8.2 million tons on 31 July this year, representing the lowest levels since 2011/12, the levels of cotton stocks held outside of China has increased for the third consecutive season surpassing 10 million metric tons on 31 July 2018, a historical high.

Koot Louw - Cotton SA

As far as the local outlook is concerned, the 10th estimate for the 2017/18 production year indicates a cotton crop of 196 206 lint bales for the RSA, an increase of 153% over the previous season and more or less unchanged from last month's estimate. Dryland and irrigation hectares show increases of 68% and 167% respectively over the previous year mainly due to the more favourable prices of cotton in relation to competitive crops but also due to renewed interest in cotton production.



PRODUCTION REGION	HECTARES IRRIGATION	HECTARES DRYLAND	YIELD IRRIGATION kg seed cotton/ha	YIELD DRYLAND kg seed cotton/ha	PRODUCTION 200 kg bales cotton lint	% OF CROP HAND PICKED	% OF CROP GINNED SO FAR
LIMPOPO PROV.							
Loskop	5093	193	3800	500	35010	0%	0%
North & South Flats	723	9285	3500	800	17925	0%	0%
Koedoeskop/Dwaalboom/Thabaz	2717	0	5000	0	25132	0%	15%
Limpopo Other	595	171	3718	600	4215	0%	29%
Weipe	746	0	4053	0	5594	0%	70%
NORTHERN CAPE							
Vaalharts	3009	0	5422	0	31598	0%	70%
Lower Orange River	398	0	4500	0	3313	0%	68%
Rest of Northern Cape	3894	0	5187	0	36564	0%	69%
NORTH WEST							
Stella/Delareyville/Schweizer	451	4919	5000	1487	17997	7%	69%
Rest of North West	591	0	5000	0	5467	0%	0%
KWAZULU-NATAL	1290	1110	4345	600	11601	22%	71%
MPUMALANGA	0	2017	0	480	1790	100%	16%
EASTERN CAPE	0	0	0	0	0	0%	0%
RSA TOTAL	19507	17695	4582	937	196206	3%	41%
Swaziland*	0	1000	0	850	1530	100%	100%
Botswana*	0	0	0	0	0		
Namibia*	0	0	0	0	0		
Zimbabwe*	0	0	0	0	0		
Mozambique*	0	0	0	0	0		
GRAND TOTAL	19507	18695	4582	932	197736	4%	41%

* Particulars relate to expected purchases of seed cotton by RSA & Swaziland ginner from these countries.



Evaluation of biological agents and nematicides for control of root knot nematodes on cotton in SA

S.C. Khuzwayo (ARC-IIC)

The importance of plant-parasitic nematodes as yield-limiting pathogens of cotton has received increased recognition and attention in the South African cotton producing areas in the recent past.

The root-knot nematodes, in particular *Meloidogyne* species, are by far the most important nematode pests of cotton in South Africa.

Farmers use chemicals to control pests in order to increase the yield. Although the usefulness of synthetic chemicals cannot be denied, the negative environmental and human health effects can also not be ignored. Government restrictions on the use of chemicals by farmers and the increasing costs and hazards of applications have stimulated research towards the development of cheaper and more effective control measures that can be recommended. The use of biological control agents to manage plant parasitic nematodes may provide the best alternative to pesticides. The objective of this study was to evaluate efficacy of biological and synthetic nematicides in controlling plant-parasitic nematode species on cotton under field conditions.

A field experiment was conducted in Douglas, Northern Cape and the trial was conducted during the 2017/18 season. The trial was planted in October 2017 under irrigation. The experiment comprised of a randomized block design with 11 treatments, replicated 4 times, three rows per block, which were 3m long and an inter

row spacing of 20cm. A commercially available cotton cultivar, Candia BGRF was used for the experiment. Standard nematicides were compared to each other,

or a combination of some of the nematicides (Table 1). Roots and soil samples were collected at different cotton growth stages to determine the populations of *Meloidogyne* spp. Seed cotton yield was determined at the end of the season. A student's t-test was used to analyze the data, by calculating the Least Significant Differences between treatments ($p < 0.05$).

What are Nematodes?

Nematodes are micro-scopic worm-like animals that feed primarily on the roots of cotton plants. Plant parasitic nematodes puncture root cells with their stylets and withdraw nutrition from the host plant.

The results revealed that all applications had a significantly ($p < 0.05$) lower number of root-knot nematode populations in the soil compared to the untreated control. Plots that were treated with Nemacur showed a lower number of root-knot nematodes on the roots (Figure 1). The control had the lowest significant seed cotton yield of 2.7 t/ha compared to Transformer Nemacur, Nemacur®, Vydate®SL and FirstBase®2. The combination of Transformer + Nemacur had the highest significant seed cotton yield of 5.8 t/ha compared to Poncho®VOTiVO®, Transformer-SA_CropBioLife®, Velum®Prime 500 SC, AVICTA® 500FS and an Untreated Control (Table 1). These yields were above the average yield of 4464 t/ha estimated in South Africa for the 2017/18 season.

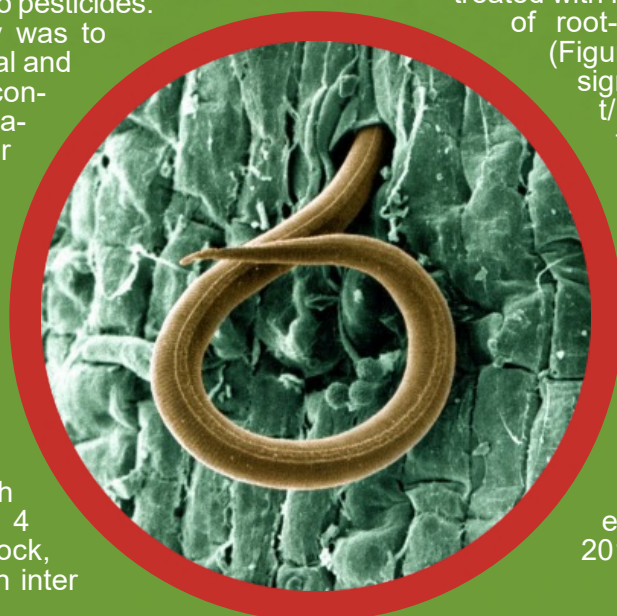


Table 1: Seed cotton yield of different treatments under field conditions

Treatments	Chemical/Biological product	t/ha Mean ^a
Transformer®_Nemacur®	Soil conditioner & chemical	5.8 a
Nemacur®	Chemical	5.1 ab
Vydate ® SL	Chemical	4.5 abc
FirstBase®2	Biological seed treatment	4.3 abc
Vertigo®	Biological treatment	4.3 abcd
Poncho®VOTiVO®_Velum®Prime	Chemical/biological seed treatment & nematicide/fungicide	4.2 abcd
Poncho®VOTiVO®	Chemical/biological seed treatment	4.0 bcd
Transformers ^{SA} ®_CropBioLife	Biological soil conditioner	3.9 bcd
Velum®Prime 500 SC	Chemical (nematicide/fungicide)	3.8 bcd
AVICTA® 500FS	Chemical seed treatment	3.3 cd
UntreatedControl	N/A	2.7 d
LSD		1.624

^a Values followed by the same letter do not differ significantly at the 5% test level according to Student's t-LSD test.

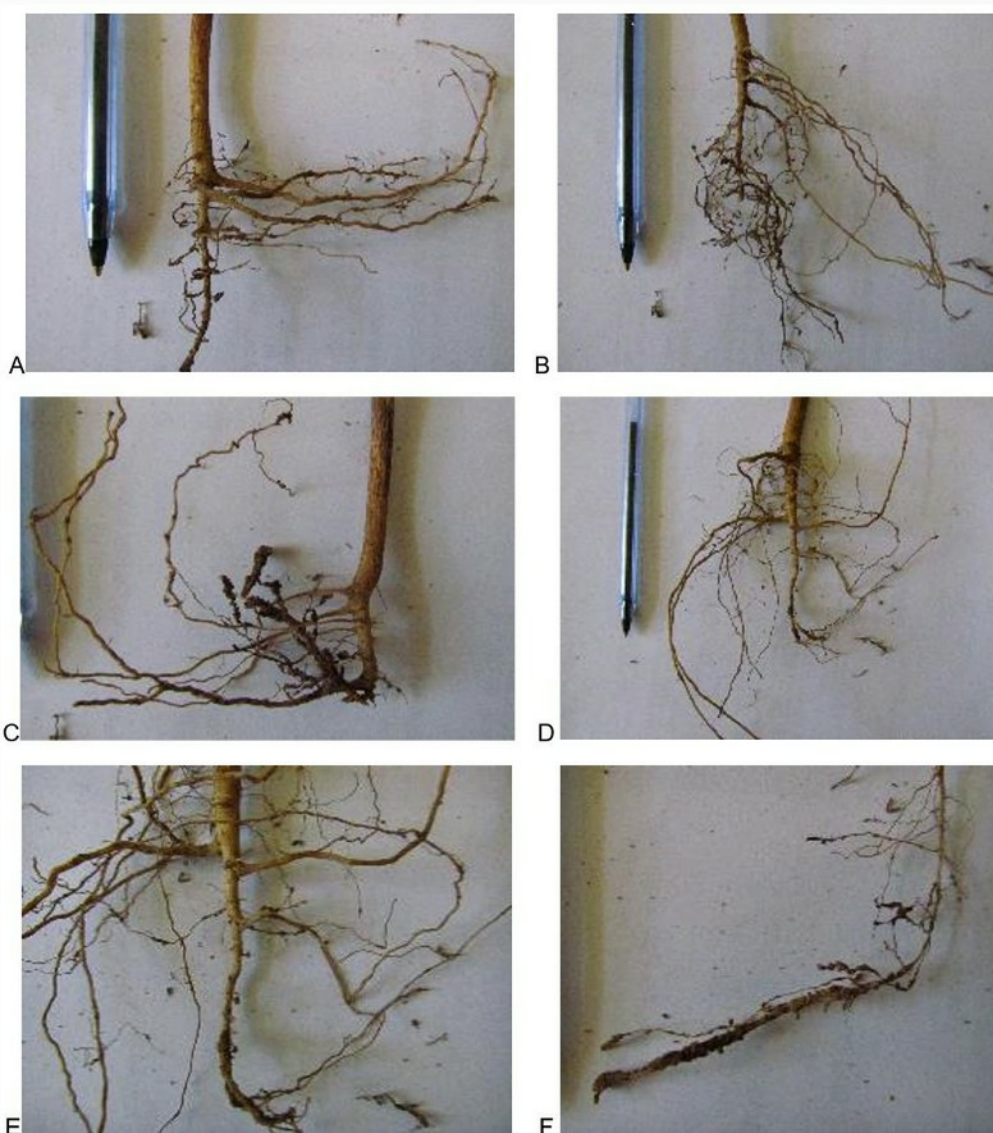


Fig. 1. Impact of nematodes on roots. A: Poncho®VOTiVO® seed treatment, B: Transformers^{SA}® - Crop BioLife® treatment, C: Vertigo®, D: Transformers^{SA}® & Nemacur®, E: Nemacur®, F: Untreated Control. Photo: SC Khuzwayo

COTTON

Implementation of Better Cotton Initiative (BCI) Standards

Cotton SA is the South African BCI Implementing Partner, responsible for implementing the BCI standard at farm-level. In the past year 1110 small-holder farmers, 44 medium farmers and 7 large farmers, farming cotton on 15 607 ha of the total cotton hectares of 37 477 ha, obtained BCI compliance.



Nuwe aanstelling by Katoen SA

Die nuutste toevoeging tot Katoen SA se span, is dr. Annette Bennett. Sy is aangestel as Tegnologie Bestuurder met ingang vanaf 1 Nov. 2018. Annette is 'n opgeleide entomoloog en het haar PhD voltooi op "Peste en Plae op GMO katoen (Bt-Katoen)



en geassosieerde gasheerplante in SA". Annette was voorheen onder andere werksaam by die LNR- IIG waar sy verantwoordelik was vir die eerste registrasieproewe vir Bt-

katoen in Suid-Afrika. Daarna het sy as konsultant gewerk en het 'n integrale rol gespeel in die akkreditasie van Katoen SA by die AgriSETA as opleidingsinstansie vir die opleiding van klein katoenboere. Sy was tesame met die opleidingspan verantwoordelik vir die ontwikkeling van leermateriaal wat tans nog in gebruik is. Nadat sy vir 'n ruk oorsee was, voltooi sy 'n post-doktorale studie aan die Universiteit van die Witwatersrand, gevolg deur vier jaar as projekbestuurder op 'n projek wat handel oor kunsmatige infeksie van muskiete met die malariaparasiet om potensiële middels teen malaria te toets. Gedurende die tydperk het sy ondervinding opgedoen as projekbestuurder wat betref die toepassing van biotegnologie in navorsing en in hedendaagse laboratoriumtegnieke wat haar goeie agtergrond gee vir verdere toepassing in 'n landbou-opset. Sy hoop om deur haar ondervinding 'n bydrae te lewer tot die tegnologiese bestuur, produksie en uitbreiding van katoen en die bewusmaking van nuwe tegnologieë vir die produsent. Annette kan gekontak word by Katoen SA: annette@cottonsas.org.za.

SUB-SAHARAN AFRICAN APPAREL EXPORTS UNDER AGOA

The African Growth and Opportunity Act (AGOA) is a trade agreement between the US and 39 sub-Saharan African nations. It was enacted in 2000 and provides duty-free trade access to the US market for certain products by the eligible sub-Saharan African countries.

SUB-SAHARAN AFRICAN APPAREL EXPORTS UNDER AGOA: 2017; JAN-AUG 2017; JAN-AUG 2018

US \$ million	2017	2017 YTD	2018 YTD
Kenya	\$338.6	\$218.6	\$249.5
Lesotho	\$290.4	\$181.0	\$200.0
Madagascar	\$160.0	\$101.1	\$130.5
Mauritius	\$146.5	\$94.5	\$101.8
Ethiopia	\$53.1	\$32.8	\$67.6
Tanzania	\$40.5	\$25.7	\$26.2
Ghana	\$8.5	\$5.5	\$9.4
South Africa	\$6.2	\$4.0	\$4.6
Rwanda	\$1.5	\$0.9	\$2.0
Botswana	\$1.0	\$1.0	\$0.0
Swaziland	\$0.4	\$0.4	\$0.2
subtotal	\$1 046.7	\$665.5	\$791.8
23 others	\$1.8	\$1.5	\$1.5
TOTAL	\$1 048.5	\$667.0	\$793.3



Zimbabwe Cotton Outlook

The Cotton Company (COTTCO) of Zimbabwe in October started distributing inputs for the coming season, with farmers applauding the company for the timely disbursements, which they say will enable them to plant on time and improve their yield potential. Zimbabwe's cotton production reached 130 000 tons last season, the highest in nearly five years due to inputs support by the Government. The government supported inputs package includes two-50kg bags of basal and top-dressing fertiliser and seed. Farmers will also receive chemicals. In addition to inputs, COTTCO is also providing tillage assistance to high potential cotton farmers. This season the Presidential Cotton Free Inputs program is targeting 400 000 families (up from 350 000 last year) in rural areas who rely on cotton as their main source of livelihood.

The government's intervention came after production dropped to 28 000 tons in 2015, the lowest in nearly two decades after farmers shunned the crop due to lack of funding and poor prices. As a result of inadequate levels of inputs and agronomic support by cotton merchants (which led to low yields), proliferation of side-marketing and poor debt recovery in the past few years, the industry almost collapsed. Five years ago, Zimbabwe had more than 10 cotton merchants but most of them, including Cargill, have closed down.

LESOTHO - TEXTILE SECTOR FACES PROBLEMS

According to Fitch Solutions, Lesotho's textile manufacturing sector, which represents 13.1% of GDP growth in 2016, is expected to underperform due to structural issues and lower demand from South Africa. There continues to be little domestic value addition in the supply chain of the textile sector with most factories preferring to "Cut, Make and Trim", keeping the sector's competitive advantage focused only on cheap labour. Lesotho's textile sector's growth is also largely dependent on the clothing demand from South Africa, where part of the goods are exported to.

COTTON INCORPORATED US CLOTHING SURVEY

More than four in five consumers say cotton is their favorite fibre to wear, according to the Cotton Incorporated Lifestyle Monitor™ Survey. That's followed by a distant 3% who choose polyester, silk (2%), then spandex, rayon, linen, and wool (each 1%).

Compared to manmade fibre clothing, more than eight in ten consumers say cotton clothing is the most comfortable. In further comparisons to synthetics, consumers say cotton clothes are the most sustainable (86%), the softest (83%), highest quality (78%) and most versatile (63%).

Compared to manmade fibre clothing, the overwhelming majority of consumers say cotton clothing is the best for T-shirts (90%), underwear and intimates (83%), childrenswear (82%) and casual clothing (80%), according to Monitor™ research.

When asked why they would pay more to keep their clothes cotton-rich, most (49%) cited the comfort factor, according to the Monitor™.

NEW CLUSTER AFTER FAILURE OF PREVIOUS CLUSTER

SA's Footwear & Leather Industry Cluster (FLIC), the replacement for the National Footwear & Leather Cluster (NFLC), has finally been signed-off by the Department of Trade & Industry (DTI), which means the Industrial Development Corporation (IDC) will release funds for its operation. Unlike its predecessor, which employed multiple staff and included a fully-equipped footwear factory at the Vaal University of Technology, and which was shut down by the IDC because of financial mismanagement, the FLIC will oversee projects run by sub-clusters.

2017/18 Nasionale Kultivar- Proewe

Dr Tilla van der Westhuizen en Piet Maja (LNR -IIG)

Die Nasionale Kultivarproewe (NCP) is die afgelope seisoen op tien lokaliteite aangeplant, naamlik onder besproeiing: by Loskop, Marble Hall, Weipe, Upington en Vaalharts en onder droëlandtoestande: by Loskop, Makhathini, Migdol, Roedtan en Stella. Die droëlandproef by Roedtan is as gevolg van droogte grootliks afgeskryf, maar monsters kon wel vir veseleienskappe ontleed word.

Die hoogste veselpersentasie van 45.6% is by 3 lokaliteite, naamlik Loskop, Vaalharts en Weipe, met die kultivar DP1240 B2RF verkry. Die droëlandproef wat die hoogste veselpersentasie van 45.9% gelewer het, was die by Makhathini met die kultivar DP1541 B2RF.

Wat veselopbrengste by die besproeiingsproewe betref, is die hoogste opbrengs van 3.7 ton vesel/ha by Upington met die kultivar DP1240 B2RF behaal. Hierdie kultivar het ook die beste droëlandopbrengs van 1.2 ton vesel/ha by Makhathini gelewer. DP1240 B2RF het verder uit 6 van 9 proewe die beste veselopbrengste

gelewer. In 2017 is DP1240 B2RF deur middel van 'n AMMI analise as 'n stabiele kultivar geïdentifiseer - dit beteken dat dit nie noodwendig altyd die hoogste opbrengste sal lewer nie, maar in swak seisoene sal dit wel stabiele opbrengste lewer.

BESPROEIIING

LOKALITEIT	KULTIVAR	VESEL %	KULTIVAR	VESEL OPBRENGS KG/HA
Loskop	DP1240 B2RF	45.6	DP1240 B2RF	2.1
Marble Hall	DP1541 B2RF	45.3	Candia BGRF	2.2
Weipe	DP1240 B2RF	45.6	DP1240 B2RF	2.1
Upington	Candia BGRF	44.9	DP1240 B2RF	3.7
Vaalharts	DP1240 B2RF	45.6	DP1240 B2RF	2.1

DROËLAND

LOKALITEIT	KULTIVAR	VESEL %	KULTIVAR	VESEL OPBRENGS KG/HA
Loskop	Candia BGRF	45.0	DP1240 B2RF	0.7
Makhathini	DP1541 B2RF	45.9	DP1240 B2RF	1.2
Migdol	Delta 12 B2RF	42.7	DP1531 B2RF	0.6
Stella	Candia BGRF	44.1	DP1531 B2RF	0.3

'n Woord van dank aan die Departement van Landbou in die Noord-Kaap, veral aan Annette Swanepoel en Kobus Lategan, asook aan tegnici en boere vir hul volgehoue ondersteuning in die plant, handhawing en oes van die NCP proewe.

DIE VOLLEDIGE PROEFRESULTATE IS OP KATOEN SA SE WEBBLAD BESKIKBAAR
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Afrifert – vir optimale grondprestasie

2017/18 KULTIVAR PLANTDATUMPROEWE

Coleen Fourie (LNR-IIG)

Al 5 die kultivars wat gebruik is in die plantdatumproef is geskik om te plant in die Loskop Besproeiingsgebied. Die beste tyd om katoen te plant volgens die 2017-18 katoen groeiseisoen plantdatumproef was vanaf 16 Oktober tot 30 Oktober 2017. Hierdie periode bied ook die beste resultate indien die oesproses vertraag word.

Gedurende die 2017/18 groeiseisoen is 'n plantdatumproef by die LNR – Loskop Proefplaas (Groblersdal) onder besproeiing geplant. Vyf verskillende katoen kultivars is weekliks geplant oor 'n periode van 10 weke om te bepaal watter kultivar is vir 'n spesifieke plantdatum geskik. Die vyf kultivars wat gebruik is: Delta 12 BRF, DP1541 B2RF, Delta 1240 B2RF, Candia BGRF en DP1531 B2RF. Die proewe is vanaf 2 Oktober 2017 tot 4 Desember 2017 weekliks geplant.

Die doel van die proewe was om die opbrengs en veselkwaliteit van elke kultivar te bepaal tydens die normale tyd van oes asook as die oesproses vertraag word met 6 weke.

Die normale oesproses is weekliks gepluk van die 10 plantdatumproewe en het begin op 3 April 2018 en die laaste plantdatumproef is op 6 Junie 2018 ge-oes. Die verdere oesproses om die effek op veselkwaliteit te bepaal, het 6 weke later op 15 Mei 2018 begin en het op 17 Julie 2018 ge-eindig.

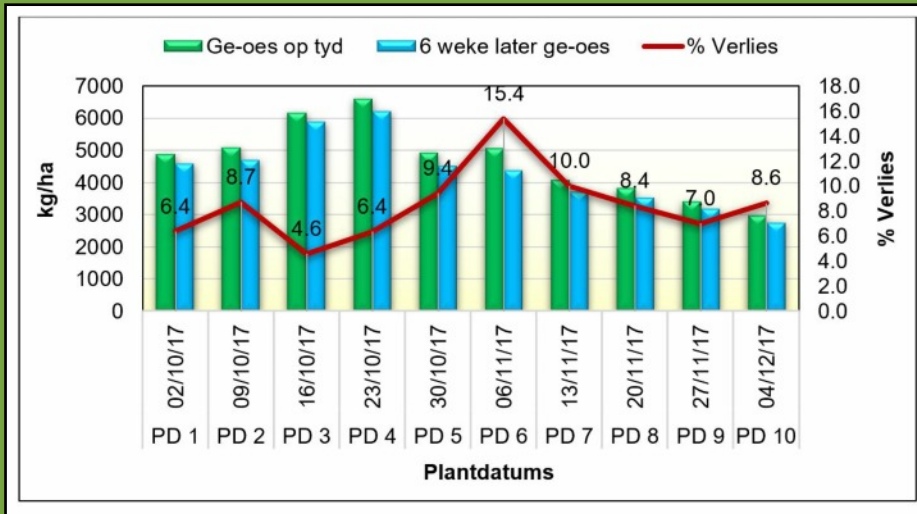


Plukselopbrengs en veselkwaliteit

Verskeie faktore kon gelei het tot die verlaging in oesopbrengs en veselkwaliteite na 6 weke vertraging van die oesproses:

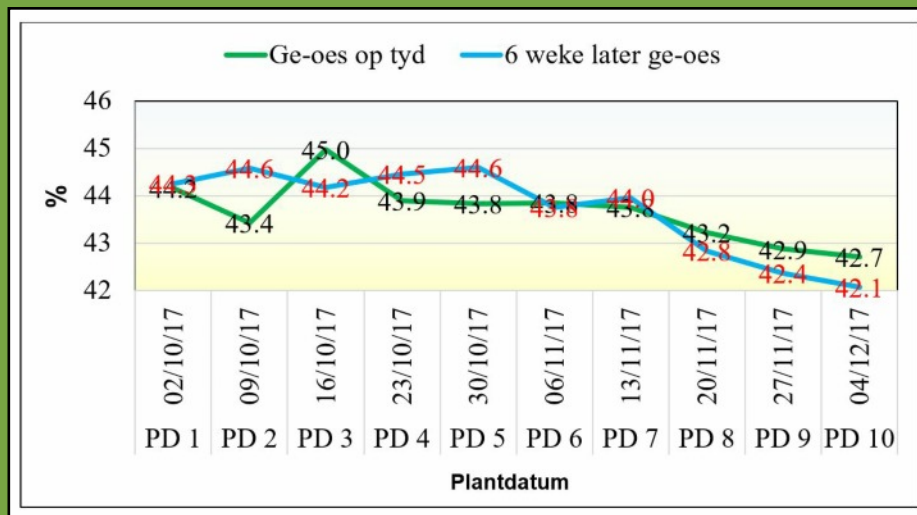
- Met tye het sterk wind gewaai wat die katoen grond toe kon waai.
- Reën in April 2017 kon 'n effek op die veselkwaliteit gehad het.
- 'n Verlies aan gewig as gevolg van mikrobiese agteruitgang kon 'n bydrae gelewer het.
- Die ontveselingsprosesverlies van die verweerde vesels was beduidend gewees.

OPBRENGS - kg pluksel/ha



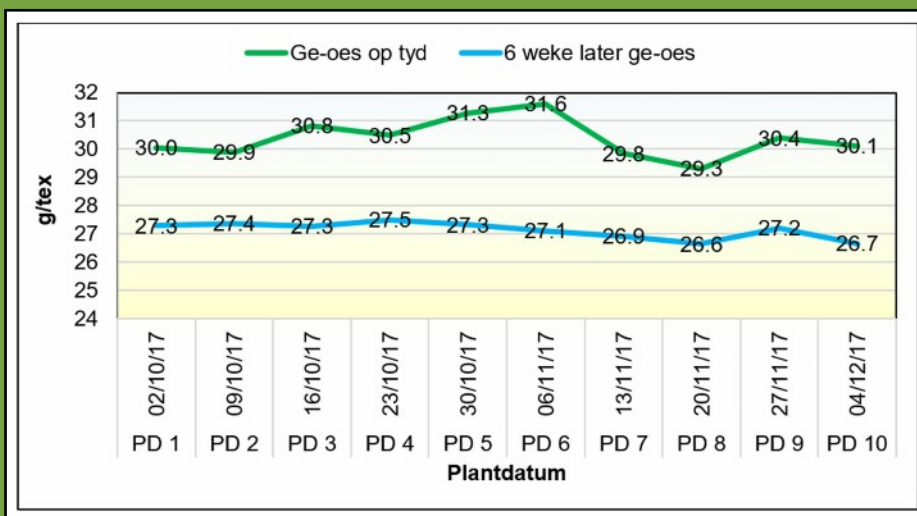
Plantdatums 3 en 4 het die hoogste opbrengs gelever as katoen op tyd ge-oes word. Die verlies aan opbrengs 6 weke later het ook die hoogste opbrengste gelever. Plantdatum 3 en 4 het ook aansienlik laer % verliese in opbrengs getoon van 4.6% en 6.4% onderskeidelik.

VESELPERSENTASIE



Plantdatum 3 en 4 het die beste vesel % gelever van 44.5 en 43.9 onderskeidelik. Hoe later die katoen geplant is, hoe laer was die vesel %. Indien die oes proses met 6 weke vertraag word is vesel % nie noemenswaardig beïnvloed nie.

VESELSTERKTE - g/tex



Veselsterkte word ernstig benadeel deur vesel vertering. Hoe langer daar gewag word voordat katoen ge-oes word hoe laer is die sterkte van die vesel.

Filium makes ordinary fabrics extraordinary



Imagine a life where your favourite cotton, wool, silk, or linen clothes shrug off water, resist stains, and refuse to smell anything but fresh after weeks of wear.

Along with food and shelter, clothing is one of our basic human needs. And while we might think about how much things cost at the store, or complain about doing laundry or dry cleaning bills, we don't see the hidden costs, like the heavy environmental footprint of clothing production. It's a pretty big deal.

Filium's about more than water resistant clothes. It's a breakthrough that could make a huge impact on the world, in the form of drastically reduced carbon emissions and pollution. It feels good to put on a shirt (or coat or whatever) that not only makes you feel more comfortable, better protected, and ready for anything - but also represents a choice that can actually make a difference in the world.

"ABLY", the first brand activated with **Filium**, debuted with a line of 100% cotton T-shirts and hoodies.

APPLICATIONS

HEALTHCARE

From anti-microbial bandages to mess-proof scrubs, Filium can reduce waste and make hospitals safer.

WORKWEAR

Come home from a dirty job looking as clean as you did when you left. Construction workers, chefs, custodians, anyone who makes a mess or cleans one up can benefit from Filium workwear.

CHILDREN'S CLOTHING

It's astonishing how quickly kids get dirty. Filium could change all that with kids' and baby apparel that resists the most determined mess-makers.

ATHLETIC WEAR

Filium's ability to make any natural fabric resist odours, repel water and dry faster, can transform athletic apparel. Work up as much sweat as you like, and still enjoy soft, breathable qualities of natural fabric against your skin.

TRAVEL

Imagine hopping on a plane for a weeklong trip without even bringing a carry-on. Everyone from backpackers to business travellers can go farther with less stuff.

PROPERTIES

NANO FREE

The Filium process is safe for people and the planet. No nanoparticles or harmful chemicals that can break down and leach into skin or the environment, are used.

ODOR FREE

It's not sweat that makes clothes smell, it's bacteria that grows when sweat soaks into fabric. Since Filium repels liquid, perspiration evaporates through the breathable fabric leaving clothes smelling fresh even after a hard workout.

STAIN RESISTANT

Wine, coffee, melting ice cream - anything you used to worry about ruining your clothes runs right off Filium-activated fabric.

FAST DRYING

Dunk a Filium-activated shirt in water and it'll still get wet. But since the fabric repels the liquid, it dries up to 40% faster than regular clothing.

ECO-FRIENDLY

Filium-activated fabric acts and feels just like regular cotton, wool, linen or silk - because it is. The core technology is produced according to bluesign® standards for sustainable materials and production.

LESS LAUNDRY

With clothes that resist stains and odour, less time is spent doing laundry. What's more, by reducing how often clothes are washed and dried, Filium can make a significant dent in our carbon footprint.

Researchers have found a way to silence the gene that makes cottonseed toxic

EDIBLE
COTTON
SEEDS

Cotton has many uses, but it has never been considered a food.

Cotton is used in a variety of ways, but the protein-heavy plant has never been safe to eat. That's because it contains the chemical gossypol, which protects cotton from insects but is toxic to humans. According to Scientific World Journal, gossypol lowers people's blood potassium and can cause weakness, respiratory issues, and paralysis.

After more than 20 years of research, though, scientists at Texas A&M University have figured out how to make cottonseed edible. The new variety of cotton still contains gossypol, just not in the seeds. Scientists have previously tried growing cotton that does not contain any gossypol, but it was never commercially viable because some gossypol is necessary to protect cotton from insects.

According to Texas A&M professor Keerti Rathore, the cottonseed is "not at all unpleasant," comparing it to the taste of hummus.

There's a lot of protein in cottonseeds - enough to meet the daily requirements of 600 million people should all cotton in the world be



replaced with edible varieties, according to Kater Hake, a vice president at Cotton Inc., which does research and marketing for growers and funded the project.

As a tree nut, its nutritional value is similar to other nuts, like almonds or walnuts. Food technologists have experimented by making cottonseed milk, cookies, nut butters and chopped-nut substitutes, Hake said. The protein could also be extracted and made into a powder that can go into energy bars or flours, Rathore said.

The industry is also targeting aquaculture, according to Hake, because cottonseeds can be fed to carnivorous fish like salmon and trout that eat ground-up fish. Cotton would be a low-cost alternative that can replace up to half of all fishmeal.

PRODUCTION AND TRADE SUBSIDIES AFFECTING THE COTTON INDUSTRY

Subsidies to the cotton sector, including direct support to production, border protection, crop insurance subsidies, and minimum support price mechanisms, have been estimated at \$5.9 billion in 2017/18, which is an increase of 33% from \$4.4 billion in 2016/17.

Ten countries provided subsidies in 2017/18, and the subsidies averaged 18 cents/pound, up from 17 cents/pound in 2016/17. Since 1997/98, when the Secretariat began reporting on government measures in cotton, there has been a strong negative correlation between subsidies and cotton prices: In years when prices are high, subsidies tend to decline and in years when prices are low, subsidies tend to rise. This relationship has remained fairly consistent during the past several seasons.

In some countries, including Brazil, Pakistan and India, minimum support price programs were not triggered 2017/18 because market prices were above the government intervention price levels during most of the season. A number of countries implement border protection measures during some seasons and some countries continued to provide subsidies for cotton inputs in 2017/18, especially for fertilisers, storage, transportation, classing services, and other marketing costs. At the same time, the use of crop insurance subsidies is increasing, although still not widespread. The share of world cotton production receiving direct government assistance, including direct payments and border protection, increased from an average of 55% between 1997/98 and 2007/08, to an estimated 83% in 2008/09. From 2009/10 through 2013/14, this share declined and averaged 48%. In 2014/15 and 2015/16, the average percentage of production receiving direct assistance increased to 75%. That number then declined to 47% in 2016/17 and 2017/18.

Estimated Assistance Provided by Governments to the Cotton Sector*

Country	2017/18 **		
	Production 1,000 tons	Average Assistance per Pound Produced	Assistance to Production
		US cents	US\$ Millions
China	5,890	33	4,252
USA	4,555	9	886
Turkey	840	22	398
Greece	220	46	225
Spain	66	50	73
Mali	321	5	35
Burkina Faso	273	5	30
Cote D'Ivoire	185	4	15
Senegal	7	6	1
Colombia	11	5	1
All Countries	12,367	18	5,916

* Credit assistance not included. ** Preliminary.

Report by the Secretariat of the International Cotton Advisory Committee

CLEANER PRODUCTION vs BETTER COTTON INITIATIVE

The production of textiles is one of the most important processes that contribute to pollution in the world.

Sustainability is the buzz word these last couple of years, starting in the late 1990's. In South Africa the Cleaner Production (CP) project, sponsored by DANCED (Denmark) was launched in 2002 and ended in 2004.

Water, energy and chemical use, container management, staff training, vehicle use and maintenance, soil management as well as dust and soil waste generation, were the core issues for CP. Cleaner production assessments helped the industry to better understand how types of waste are generated and how much waste related costs could be reduced. It also touched on ecolabels and the production of organic cotton based on organic standards. The CP did not only investigate the textile industry but also included other sectors like pulp and paper, leather, chemicals, food, metals, plastic and rubber.

Around 2014 a new initiative came about in South Africa, namely the Cotton Cluster. Again sustainability, coupled with traceability, amongst others, was the centre of this project. Part of the Cotton Cluster was the introduction of the Better Cotton Initiative (BCI) which is also an international project with countries like India, Pakistan and Mozambique also participating. The BCI principles and criteria cover the most significant global issues associated with cotton production and the BCI's theory of change, calls for transformation of the cotton production sector towards sustainability from the farm to the retailer.

The core indicators of BCI are, amongst others, standards for crop protection and pesticide use, soil health and structure, water management, decent work ethics, biodiversity enhancement and land use, fibre quality, record keeping and

training. Producers are encouraged to develop their practices further by striving to meet improvement indicators, reflecting the fundamental concept of continuous improvement in BCI initiatives.

The ideas and expectations of both projects are basically the same. The question arises as to which programme is most successful and why. Where it was found that SMMEs had very little success with CP, small-holder cotton farmers on the other hand were successful in obtaining BCI approval.



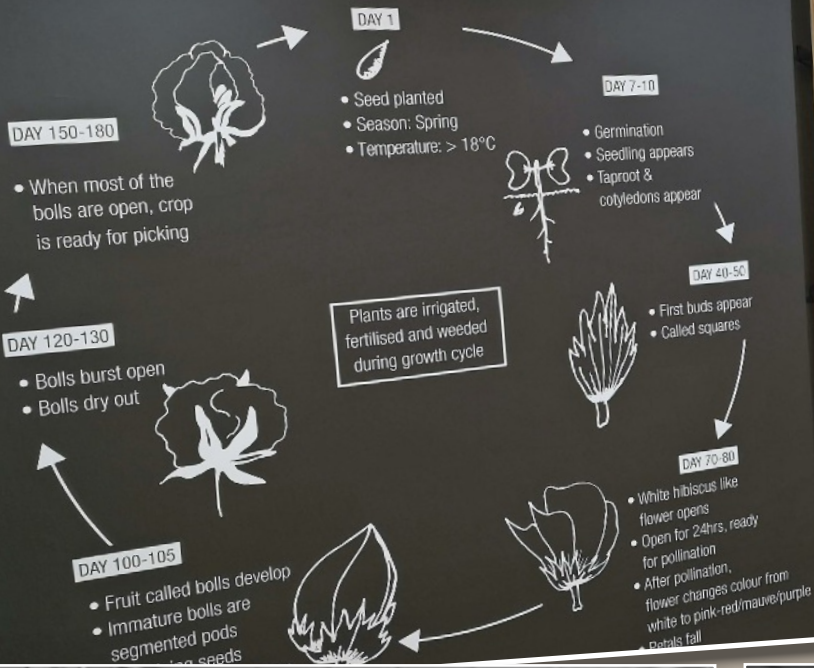
The success of CP can be seen in the change and amendments of a country's legislation dealing with all industries. The outcome of the CP project was the creation of a national programme hosted by the CSIR (the National Cleaner Production Centre (NCPC-SA)) on behalf of the Department of Trade and



Industry. The programme promotes the implementation of Resource Efficiency and Cleaner Production (RECP) methodologies to assist industry to lower costs through reduced energy, water and materials usage, and waste management.

On the other hand, BCI is a voluntary programme without legislation but closely monitored with Cotton SA acting as the South African implementing partner. A growing number of local cotton farmers (large, medium and small) have adopted the BCI standards and according to the assessments have obtained BCI compliancy.

Together with their field-level partners, BCI reduces barriers for smallholder farmers, enabling them to produce cotton more sustainably through ongoing support and capacity building. Participation is voluntary; cotton farmers make their own informed decisions to participate in the BCI programme, and then commit to a process of continuous improvement.



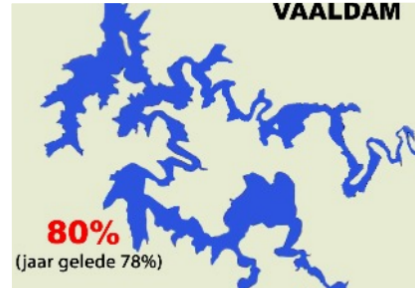
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SOOS OP 19 NOV. 2018

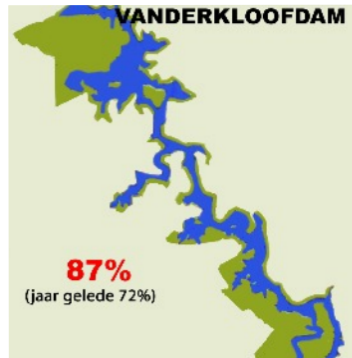
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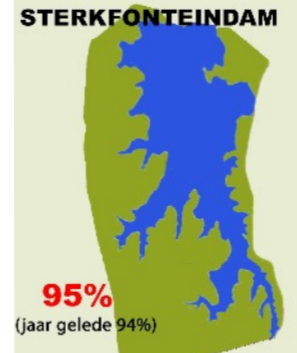
VAALDAM



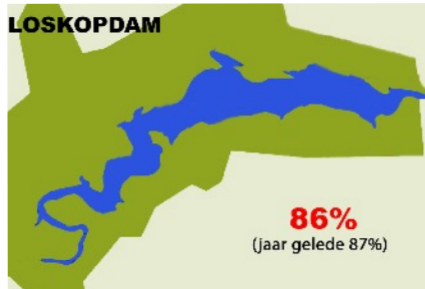
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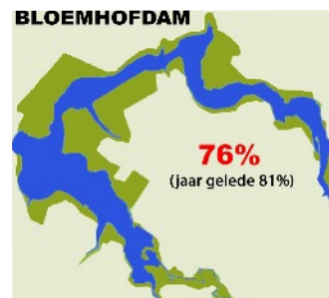
STERKFORTEINDAM



LOSKOPDAM



BLOEMHOFDAM



KLIMAATSVORUITSIGTE: November 2018 tot Maart 2019

Die El Niño-Suidelike Ossaillase (ENSO) is nog in 'n neutrale fase en alhoewel die meeste modelle dui op 'n sterk versterking na 'n El Niño-fase in die vroeë somer-seisoen, sal dit na verwagting nie 'n invloed op Suid-Afrika in die eerste helfte van die somer hê nie.

Bo-normale reënvaltoestande sal na verwagting oor meeste dele van die somerreënvalgebiede tydens die vroeë somer (Nov-Des-Jan) heers, maar onder-normale reënvaltoestande word in die somerreënvalstreke tydens die mid-somer (Des-Jan-Feb) verwag asook vir die ver Noord-oostelike dele tydens die laat-somer (Jan-Feb-Mrt).

Algehele hoër temperature word steeds verwag in die mid- en laat-somertydperk. Daar is 'n besonder vol vertroue voorspelling vir bo-normale maksimum temperature oor die Noordelike dele van die land.

Oor die algemeen word 'n droër en warmer somerseisoen verwag. Beduidende reënval kan egter nog steeds van plek tot plek voorkom. Droë tydperke sal na verwagting teen 'n hoër frekwensie en duur hierdie somerseisoen voorkom.

SA WEERDIENS



*"THE FIT IS EXEMPLARY,
MUM, AND LOOK, I CAN
SEE THE COTTON MARK!"*



*P*eople who know believe in the Cotton Mark. When the Cotton Mark guarantees that the shirt, the sheet, the towel or anything else you're buying is quality-tested, 100% pure cotton, you can be sure it is.

The Cotton Mark tells you that your cotton purchase will hold its shape, hold its colour and resist shrinking.

To be sure you're getting quality, look first for the Cotton Mark.

And if you can't find it, ask for it.

It's your right to get our guarantee.

*Pure cotton and Quality
and that's a promise.*

