



**KATOEN
S U I D -
A F R I K A**



**COTTON
S O U T H
A F R I C A**

NATIONAL COTTON CULTIVAR EVALUATION TRIALS

2017/2018



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Table of Contents

Executive summary	3
Trial localities and outcomes	4
Entries used in the dryland and irrigation trials at the different localities	5
Loskop irrigation	6
Loskop dryland	8
Makhathini dryland	10
Marblehall irrigation	12
Migdol Dryland	14
Roedtan (L Venter)	16
Roedtan (K Roos)	18
Stella	20
Upington Irrigation	22
Vaalharts Irrigation	24
Weipe Irrigation	26
Cultivation practices per NCP localities	28
Weather data	29
Soil sample analysis	33

EXECUTIVE SUMMARY

Different cultivars performed the best at different localities. This is due to environment and cultivar interactions. In 2017, a stable cultivar was however identified with an AMMI analysis namely DP1240 B2RF. Although a stable cultivar does not always yield the highest, in a poor season it gives stable yields.

For the past season (2017/2018), the National Cotton Cultivar Trials (NCP) realized at 10 localities. Two dryland localities at Roedtan were written of due to drought. The two trials at Roedtan was sampled for fibre properties. The Migdol trial did excellent with yields of up to 1.5 ton/ha with cultivar DP1531 B2RF.

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Table 1. Locality, Responsible person, irrigation regime plus outcome of the National Cotton Cultivar Trials, 2017/2018

Province	Locality + Responsible person	Planting date	Outcome
Limpopo	Groblersdal C Fourie	6 November 2017	DP1541 resulted in the highest seed cotton yield of 4589 kg ha ⁻¹ .
	Groblersdal C Fourie	15 Nov 2017	DP1541 resulted in the highest seed cotton yield of 1527 kg ha ⁻¹ .
	Marblehall E Genis	14 Nov 2017	Candia BGRF gave the highest seed cotton yield of 5014 kg ha ⁻¹ .
	Roedtan L Venter	3 December 2017	Very low rainfall as well as planting on a corner of a field lead to an unsuccessful trial. Fibre samples were collected.
	Roedtan K Roos	3 December 2017	Very low rainfall lead to an unsuccessful trial. Fibre samples were collected.
	Weipe J Willemse	13 Dec2017	This was an above average trial with good yields. DP1541 B2RF gave the highest yield of 5016 kg ha ⁻¹ .
KwaZulu-Natal	Makhathini J Steyn	Replant January 2018	Although the trail was replanted due to hail, exceptionally good yields were realized for a dryland trial.
Northern-Cape	Migdol P Niewenhout	14 Dec 2017	Very good yields were obtained for this dryland trial.
	Upington K Lategan	15 Nov 2017	DP1240 B2RF gave the highest yield of 8531 kg ha ⁻¹ .
	Vaalharts J Van Schalkwyk	15 Nov 2017	The best performing cultivar was DP1541 B2RF with 6660 kg ha ⁻¹ seed cotton yield.
	Stella G Cilliers	7 Nov 2017	This trial yielded low due to drought conditions.

Table 2A. Entries used in the national cotton cultivar trials at the different localities under irrigation conditions

Loskop	Marblehall	Vaalharts	Upington	Weipe
DP1240 B2RF	DP1240 B2RF	DP1240 B2RF	DP1240 B2RF	DP1240 B2RF
DP1531 B2RF	DP1531 B2RF	DP1531 B2RF	DP1531 B2RF	DP1531 B2RF
DP1541 B2RF	DP1541 B2RF	DP1541 B2RF	DP1541 B2RF	DP1541 B2RF
Delta12 BRF	Delta12 BRF	Delta12 BRF	Delta12 BRF	Delta12 BRF
Candia BGRF	Candia BGRF	Candia BGRF	Candia BGRF	Candia BGRF

Table 2B. Entries used in the national cotton cultivar trials at the different localities under dryland conditions

Loskop	Makhathini	Migdol	Roedtan	Stella
DP1240 B2RF	DP1240 B2RF	DP1240 B2RF	DP1240 B2RF	DP1240 B2RF
DP1531 B2RF	DP1531 B2RF	DP1531 B2RF	DP1531 B2RF	DP1531 B2RF
DP1541 B2RF	DP1541 B2RF	DP1541 B2RF	DP1541 B2RF	DP1541 B2RF
Delta 12BRF	Delta 12BRF	Delta 12BRF	Delta 12BRF	Delta 12BRF
Candia BGRF	Candia BGRF	Candia BGRF	Candia BGRF	Candia BGRF

Origin of cultivars:

Delta Pine Monsanto: DP1240 B2RF, DP1531 B2RF, DP1541 B2RF Delta 12BRF,
 Bayer: Candia BGRF

LOSKOP IRRIGATION

Yield and quality parameters at Loskop (Irrigation)

DP1541 B2RF gave the highest seed cotton yield of 4589 kg ha⁻¹, followed by DP1531 B2RF with 4524 kg ha⁻¹. Both DP1531 B2RF and Candia BGRF resulted in the highest fibre percentages of 45.1 %. The highest fibre yield was obtained with DP1541 B2RF (2048 kg ha⁻¹), followed by DP 1531 B2RF with 2039 kg ha⁻¹. Fibre length (mm) was the longest with Candia BGRF (31.0 mm). DP1240 B2RF gave the strongest fibre of 31.2 g tex⁻¹. Micronaire values of all the cultivars were in the acceptable range except Delta 12 BRF with 3.2 (Table 3).

Table 3. Yield and fibre characteristics of the cotton cultivar trial planted under irrigation at Loskop, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	DELTA12 BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	4013	4524	4589	4068	3713
Fibre %	41.4	45.1	44.6	39.2	45.1
Fibre yield kg ha ⁻¹	1549	2039	2048	1597	1682
Length (mm)	28.7	29.3	29.1	29.4	31.0
Uniformity	84.1	84.5	84.3	82.1	83.3
Strength	31.2	28.5	30.8	29.4	30.7
Maturity	0.84	0.85	0.86	0.83	0.84
Micronaire	3.8	4.5	4.6	3.2	3.6
Rd	80.1	79.9	81.1	79.6	82.6
PlusB	7.5	7.2	7.6	6.7	6.8
Color	31-1	31-1	21-2	31-2	21-2
CV (Yield)	14.6				
Tukey's LSD (p<0.05) Yield	NS				

**LOSKOP
DRYLAND**

Yield and quality parameters at Loskop (Dryland)

DP1541 B2RF gave the highest seed cotton yield of 1527 kg ha⁻¹, followed by DP1240 B2RF and DP1531 B2RF with 1460 and 1440 respectively. The best performing cultivars regarding fibre yield were Candia BGRF with 45.1 %, followed by DP 1541 B2RF with 44.2%. The highest fibre yield was obtained with DP1541 B2RF (674 kg ha⁻¹), followed by DP1531 B2RF with 625 kg ha⁻¹. Fibre length (mm) was the longest with DP1240 B2RF (27.9 mm). DP1240 B2RF also gave the strongest fibre of 32.5 g tex⁻¹. Micronaire values of all five cultivars were in the acceptable range of 3.5 to 4.9 (Table 4).

Table 4. Yield and fibre characteristics of the cotton cultivar trial planted under dryland at Loskop, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	DELTA12 BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	1460	1440	1527	1340	1294
Fibre %	41.1	43.2	44.2	39.9	45.1
Fibre yield kg ha ⁻¹	597	625	674	535	580
Length (mm)	27.9	27.5	26.1	26.3	27.2
Uniformity	84.3	83.2	80.8	81.8	80.4
Strength	32.5	28.6	29.8	27.2	29.1
Maturity	0.86	0.86	0.86	0.85	0.86
Micronaire	4.8	4.7	4.8	3.9	4.2
Rd	69.3	74.7	69.6	70.3	76.0
PlusB	6.8	6.2	6.2	6.9	5.7
Color	51-2	41-2	51-2	51-1	41-2
CV (Yield)	14.9				
Tukey's LSD (p<0.05) Yield	NS				

**MAKHATHINI
DRYLAND**

Yield and quality parameters at Makhathini

DP1240 B2RF gave the highest seed cotton yield of 2803 kg ha⁻¹, followed by Delta12BRF with 2646 kg ha⁻¹. The highest fibre percentage was obtained from DP1541 B2RF (45.9 %), followed by Candia BGRF with 44.9%. The highest fibre yield was obtained with DP1240 B2RF (1205 kg ha⁻¹), followed by DP1541 B2RF with 1131 kg ha⁻¹. Candia BGRF gave the longest fibres of 30.8 mm. Candia BGRF also obtained the strongest fibre of 32.9 g tex⁻¹. All micronaire values were in the acceptable micronaire range of 3.5 to 4.9 (Table 5).

Table 5. Yield and fibre characteristics of the cotton cultivar trial planted under dryland at Makhathini, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	2803	2408	2463	2646	2435
Fibre %	43.0	44.7	45.9	41.4	44.9
Fibre yield kg ha ⁻¹	1205	1076	1131	1095	1093
Length (mm)	30.2	29.7	30.4	29.1	30.8
Uniformity	84.5	85.2	85.0	83.7	84.4
Strength	28.4	30.5	31.6	29.1	32.9
Maturity	0.85	0.85	0.85	0.84	0.84
Micronaire	4.2	4.5	4.3	4.0	3.7
Rd	80.8	82.8	79.9	83.6	83.4
PlusB	6.4	6.5	7.7	7.0	7.1
Color	31-2	31-1	31-1	21-1	21-2
CV (Yield)	13.3				
Tukey's LSD (p<0.05) Yield	NS				

MARBLEHALL
IRRIGATION
Evert Genis

Yield and quality parameters at Marblehall

Candia BGRF gave the highest seed cotton yield of 5014 kg ha⁻¹, followed by both DP1531 B2RF and DP1541 B2RF with 4727 kg ha⁻¹. The highest fibre percentage was obtained with DP1541 B2RF with 45.7 %, followed by DP1531 B2RF with 44.8%. The highest fibre yield was obtained with Candia BGRF (2241 kg ha⁻¹), followed by DP1541 B2RF with 2160 kg ha⁻¹. Candia BGRF gave the longest fibre of 30.3 mm. DP1240 B2RF gave the strongest fibre of 29.3 g tex⁻¹. Micronaire values were all in the acceptable range, except DP1240 BGRF with a high value of 5.1 (Table 6).

Table 6. Yield and fibre characteristics of the cotton cultivar trial planted under irrigation at Marblehall, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	4639	4727	4727	4686	5014
Fibre %	43.9	44.8	45.7	41.6	44.7
Fibre yield kg ha ⁻¹	2037	2118	2160	1949	2241
Length (mm)	29.6	29.3	29.6	28.8	30.3
Uniformity	85.4	85.1	85.3	84.6	84.9
Strength	29.3	28.5	28.7	27.2	28.7
Maturity	0.87	0.86	0.86	0.86	0.86
Micronaire	5.1	4.8	4.9	4.6	4.4
Rd	79.0	83.9	82.2	83.6	85.1
PlusB	8.4	7.1	8.0	7.2	6.9
Color	31-1	21-1	21-1	21-1	21-1
CV (Yield)	9.9				
Tukey's LSD (p<0.05) Yield	NS				

MIGDOL
DRYLAND

Yield and quality parameters at Migdol

DP1531 B2RF gave the highest seed cotton yield of 1452 kg ha⁻¹. The best performing cultivar regarding fibre percentage was Delta 12BGR with 42.7 %. The highest fibre yield was obtained with DP1531 B2RF (601 kg ha⁻¹). DP1240 gave the longest fibre of 31.1 mm, and the strongest of 28.2 g tex⁻¹. Micronaire values of the cultivars were not in the acceptable range except DP1541 B2RF with 3.8 and DP1240 with 3.7 (Table 7).

Table 7. Yield and fibre characteristics of the cotton cultivar trial planted under dryland at Migdol, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	1338	1452	1172	1041	890
Fibre %	36.4	41.4	38.7	42.7	41.0
Fibre yield kg ha ⁻¹	487	601	454	445	365
Length (mm)	31.1	30.0	29.3	29.3	30.5
Uniformity	85.9	83.1	82.9	83.2	83.2
Strength	28.2	25.9	25.5	23.4	24.4
Maturity	0.84	0.83	0.84	0.82	0.82
Micronaire	3.7	3.2	3.8	2.9	2.8
Rd	79.3	82.6	79.5	81.8	80.9
PlusB	7.8	7.2	8.1	7.2	8.0
Color	31-1	21-2	21-2	21-2	21-1
CV (Yield)	24.8				
Tukey's LSD (p<0.05) Yield	470.8				

ROEDTAN: L VENTER
DRYLAND

Quality parameters at Roedtan: L Venter.

The stand in this trial was poor due to very scarce rainfall. Fibre samples were submitted for analysis. Candia BGRF gave the longest fibre of 29.6 mm. DP1541 B2RF gave the strongest fibre of 28.8 g tex⁻¹. Micronaire values were in the acceptable range except Candia BGRF with 3.4 and DP1240 B2RF with 3.2 (Table 8).

Table 8. Yield and fibre characteristics of the cotton cultivar trial planted under dryland at Roedtan (Lennard Venter), 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Length (mm)	27.4	27.3	26.4	26.5	29.6
Uniformity	81.9	82.5	82.4	79.9	83.2
Strength	28.0	26.4	28.8	27.0	28.4
Maturity	0.83	0.85	0.86	0.85	0.84
Micronaire	3.2	4.2	4.6	3.9	3.4
Rd	76.1	79.7	79.2	79.3	76.4
PlusB	10.2	7.2	7.5	7.7	8.9
Color	22-1	31-1	31-1	31-1	31-3

ROEDTAN: K ROOS
DRYLAND

Quality parameters at Roedtan: K Roos

This trial did not result in yield data due to drought. Candia BGRF gave the longest fibre of 28.5 mm, and DELTA12 BRF gave the shortest and unacceptable fibre of 24.6 mm. DP1240 B2RF gave the strongest fibre of 29.7 g tex⁻¹. Micronaire values were in the acceptable range except DP1541 B2RF with 5.1 (Table 9).

Table 9. Yield and fibre characteristics of the cotton cultivar trial planted under dryland at Roedtan: K Roos, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Length (mm)	26.8	27.6	26.1	24.6	28.5
Uniformity	81.3	83.1	82.2	78.9	81.4
Strength	29.7	27.0	26.5	26.1	28.3
Maturity	0.85	0.86	0.87	0.85	0.84
Micronaire	4.5	4.5	5.1	4.4	3.7
Rd	80.3	83.6	81.0	81.2	84.4
PlusB	8.3	7.1	7.5	7.6	7.3
Color	21-2	21-1	31-1	31-1	21-1

STELLA
DRYLAND

Yield and quality parameters at Stella

DP1541 B2RF gave the highest seed cotton yield of 663 kg ha⁻¹, followed by DP1531 B2RF with 647 kg ha⁻¹. The best performer cultivar regarding fibre percentage was DP1531 B2RF with 44.1 %, followed by Candia BGRF with 42.0 %. The highest fibre yield was obtained with DP1531 B2RF (285 kg ha⁻¹). DP1531 BG2RF gave the longest fibre of 29.8 mm. DP1240 B2RF gave the strongest fibre of 28.3 g tex⁻¹. Micronaire values were in the acceptable range except DELTA12 BRF with 2.9 and Candia BGRF with 3.4 (Table 10).

Table 10. Yield and fibre characteristics of the cotton cultivar trial planted under dryland at Stella, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	548	647	663	513	579
Fibre %	35.4	44.1	39.1	37.8	42.0
Fibre yield kg ha ⁻¹	194	285	259	194	243
Length (mm)	28.6	29.8	29.3	28.5	29.3
Uniformity	83.1	84.0	82.7	82.2	84.8
Strength	28.3	26.4	27.4	24.0	27.9
Maturity	0.84	0.83	0.85	0.82	0.83
Micronaire	3.8	3.8	4.3	2.9	3.4
Rd	76.8	78.5	79.3	79.2	77.2
PlusB	9.2	8.4	8.4	9.2	9.4
Colour	31-3	31-1	31-1	21-4	21-4
CV (Yield)	24.8				
Tukey's LSD (p<0.05) Yield	NS				

UPINGTON IRRIGATION

Yield and quality parameters at Upington

The highest seed cotton yield was obtained with DP1240 B2RF (8531 kg ha⁻¹) followed by DP1541 (8132 kg ha⁻¹). Candia BGRF gave the highest fibre percentage of 44.9, followed by DP1541 with 44.0 %. The two best performers regarding fibre yield were DP1240 B2RF (3660 kg ha⁻¹) and Candia BGRF (3651 kg ha⁻¹). The longest fibre of 31.3 mm was obtained with DELTA12 BRF. The strongest fibre was obtained with DP1541 B2RF (33.1 g/tex). Cultivars were within the acceptable range for micronaire, which is 3.5 – 4.9, except DP1541 B2RF with 5.0. The premium range for micronaire is 3.8 to 4.2 (Table 11).

Table 11. Yield and fibre characteristics of the cotton cultivar trial planted under irrigation at Upington, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	8531	7657	8132	7626	8132
Fibre %	42.9	43.8	44.0	41.5	44.9
Fibre yield kg ha ⁻¹	3660	3354	3578	3165	3651
Length (mm)	31.2	31.2	31.0	31.3	31.0
Uniformity	84.8	84.1	84.8	85.8	86.0
Strength	30.9	30.9	33.1	28.4	32.0
Maturity	0.86	0.86	0.88	0.85	0.87
Micronaire	4.4	4.5	5.0	4.0	4.8
Rd	84.7	79.5	80.0	81.4	78.1
PlusB	7.5	7.2	7.5	6.7	7.3
Color	11-1	31-1	31-1	31-1	31-2
CV (Yield)	9.3				
Tukey's LSD (p<0.05) Yield	NS				

VAALHARTS IRRIGATION

Yield and quality parameters at Vaalharts

DP1531 B2RF gave the highest seed cotton yield of 6660 kg ha⁻¹, followed by DP1240 B2RF with 6557 kg ha⁻¹. DP 1541 B2RF had the highest fibre percentage with 44.0 % followed by DP1531 B2RF with 43.2 %. The highest fibre yield was obtained with DP1531 B2RF (2877 kg ha⁻¹), followed by Candia BGRF with 2781 kg ha⁻¹. The longest fibre of 31.9 mm was obtained with Candia BGRF. The strongest fibre was obtained with DP1541 B2RF of 29.4 g tex⁻¹. Micronaire of all cultivars was within the acceptable norm of 3.8 to 4.9, except DP1240 B2RF (5.2), DP1531 B2RF (5.2) and DP1541 B2RF (5.0) (Table 12).

Table 12. Yield and fibre characteristics of the cotton cultivar trial planted under irrigation at Vaalharts, 2016/2017.

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	6557	6660	5777	6235	6527
Fibre %	42.1	43.2	44.0	41.1	42.6
Fibre yield kg ha ⁻¹	2760	2877	2542	2563	2781
Length (mm)	29.6	30.8	30.0	29.6	31.9
Uniformity	83.0	84.5	83.6	83.0	83.8
Strength	28.8	29.1	29.4	28.7	28.2
Maturity	0.88	0.88	0.87	0.88	0.87
Micronaire	5.2	5.2	5.0	4.9	4.7
Rd	80.1	83.0	81.0	80.8	84.2
PlusB	6.3	5.9	6.1	5.4	5.9
Color	41-1	31-1	31-2	41-1	31-1
CV (Yield)	15.9				
Tukey's LSD (p<0.05) Yield	1357.9				

WEIPE IRRIGATION

Yield and quality parameters at Weipe

DP1541 B2RF gave the highest seed cotton yield of 5016 kg ha⁻¹, followed by DP1531 B2RF with 4549 kg ha⁻¹. The best performing cultivar regarding fibre percentage was Candia BGRF with 45.1 % followed by DP1531 B2RF with 44.9 %. The highest fibre yield was obtained with DP1541 B2RF (2237 kg ha⁻¹), followed by DP1531 B2RF with 2043 kg ha⁻¹. The longest fibre of 31.4 mm was obtained with DP1541 B2RF. The strongest fibre was obtained with Candia BGRF (31.2 g tex⁻¹). Micronaire of all cultivars was within the acceptable norm of 3.5 to 4.9, except DP1240 B2RF (3.4) and Candia BGRF (3.3) (Table 13).

Table 13. Yield and fibre characteristics of the cotton cultivar trial planted under irrigation at Weipe, 2017/2018

	DP1240 B2RF	DP1531 B2RF	DP1541 B2RF	Delta 12BRF	Candia BGRF
Seed cotton yield kg ha ⁻¹	3157	4549	5016	4102	3535
Fibre %	41.3	44.9	44.6	40.6	45.1
Fibre yield kg ha ⁻¹	1304	2043	2237	1665	1594
Length (mm)	30.2	30.4	31.4	30.5	31.3
Uniformity	84.4	85.4	84.6	83.9	83.4
Strength	30.8	29.0	29.9	30.6	31.2
Maturity	0.84	0.85	0.85	0.84	0.84
Micronaire	3.4	3.9	3.9	3.6	3.3
Rd	82.9	74.5	79.3	78.5	77.5
PlusB	12.0	10.1	9.7	10.5	10.6
Color	13-1	11-4	11-4	12-1	12-2
CV (Yield)	18.2				
Tukey's LSD (p<0.05) Yield	996.0				

Table 14. Cultivation practices at the different NCP localities, 2017/2018

Locality	Fertilizer			Weed control	Irrigation	Pix
	(N)	(P)	(K)			
Loskop	300 kg per hectare LAN + 350 kg 4:3:4 (33)			Manual	Central Pivot	None
Makhathini	0	0	0	Manual	Rainfed	None
Marblehall	185	38	78	Manual	Pivot	None
Migdol	50	17	7	Manual	Rainfed	150 ml ha ⁻¹ at flowering and 500 ml ha ⁻¹ at peak flower.
Stella	150 kg 4:3:4 (32)			Manual	Rainfed	None
Vaalharts	180	45	65	Manual	Flood	None
Upington	150 N/ha	30 P/ha	40 K/ha	Manual and Roundup	Flood	None
Weipe	120	20	0	Manual	Drip	None

Table 15. Weather data of Loskop, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	October	30.16	14.14	50.3	370.39
2017	November	31.38	15.06	31.75	400.58
2017	December	31.73	17.6	60.46	441.78
2018	January	33.34	16.99	45.21	458.43
2018	February	31.17	18.62	87.38	389.92
2018	March	31.18	16.45	86.11	404.58
2018	April	28.96	13.65	4.35	315.96

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 16. Weather data of Makhathini, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	30.87	17.86	57.15	393.29
2017	December	30.44	18.96	65.53	420.43
2018	January	-	-	-	-
2018	February	30.64	20.95	295.15	398.92
2018	March	31.64	19.91	212.34	454.6
2018	April	30.66	18.5	4.8	402.72

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 17. Weather data of Vaalharts, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	31.81	12.12	2.79	372.63
2017	December	33.31	15.49	38.61	441.8
2018	January	34.12	17.16	62.74	472.13
2018	February	31.32	16.98	83.57	369.72
2018	March	29.51	14.41	147.32	346.39
2018	April	26.11	11.67	44.7	239.28

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 18. Weather data of Upington, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	34.72	12.3	0.51	430.88
2017	December	37.13	15.12	4.83	516.08
2018	January	38.73	17.06	18.54	562.09
2018	February	36.91	16.91	11.94	468.96
2018	March	34.85	14.71	1.02	449.36
2018	April	30.67	12.68	61.98	320.18

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 19. Weather data of Stella, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	30.68	13.51	15.75	364.2
2017	December	32.39	16.59	38.35	433.84
2018	January	33.73	17.33	61.98	352.21
2018	February	29.99	16.86	49.02	352.75
2018	March	29.05	15.37	82.04	352.75
2018	April	25.27	12.57	101.35	246.87

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 20. Weather data of Migdol, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	30.46	14.12	8.64	369.29
2017	December	31.94	16.99	36.07	440.2
2018	January	32.37	17.48	96.27	453.95
2018	February	29.4	17.68	68.83	367.63
2018	March	29.26	16.13	82.8	377.57
2018	April	26.25	13.83	94.74	285.61

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 21. Weather data of Weipe, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	25.17	25.17	0	81.16
2017	December	-	-	-	-
2018	January	-	-	-	-
2018	February	30.37	21.43	187.97	269.64
2018	March	32.25	19.83	26.16	491.31
2018	April	30.61	15.64	16.01	386.07

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 22. Weather data of Roedtan, 2017/2018

Year	Month	Tx	Tn	Rain	HU
2017	November	31.99	13.79	0	382.21
2017	December	32.25	16.6	0	425.15
2018	January	34.13	15.76	0	442.63
2018	February	32.63	17.85	39.11	395.13
2018	March	33.99	15.23	0.25	134.52
2018	April	0	0	0	0

Tx = Maximum temperature, Tn = Minimum temperature, HU = Heat Units

Table 23. Soil analysis of Loskop (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Loskop
	0 - 30
	cm
pH	6.14
Resistance (ohms)	780
mg/kg	
N	14.58
P	28
K	235
Ca	558
Mg	215
Na	20
S Value	5.26
Ca %	53.1
Mg %	33.8
K %	11.5
Na %	1.7
Sand	78
Silk	3
Clay	19

Table 24. Soil analysis of Marble Hall (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Marble Hall
	0 - 30 cm
pH(KCl)1:2:3	6.18
Resistance (ohms)	945
mg/kg	
N	2
P (Bray2)	79
K	268
Ca	798
Mg	193
Na	35
Cl	
Fe	
Cu	
Zn	
Mn	
S-Value	6.424
Ca%	62.1
Mg%	24.8
K%	10.7
Na%	2.4

Table 25. Soil analysis of Migdol (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Migdol
	0 - 30 cm
pH(KCl)1:2:3	4.82
Resistance (ohms)	1620
mg/kg	
N	9
P (Bray2)	27
K	198
Ca	393
Mg	100
Na	0
Cl	
Fe	
Cu	
Zn	
Mn	
S-Value	3.299
Ca%	59.6
Mg%	25.1
K%	15.4
Na%	0.0

Table 26. Soil analysis of Roedtan (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Roedtan
	0 - 30 cm
pH(KCl)1:2:3	8.03
Resistance (ohms)	465
mg/kg	
N	2
P (Bray2)	9
K	1000
Ca	7180
Mg	1490
Na	0
Cl	
Fe	
Cu	
Zn	
Mn	
S-Value	50.778
Ca%	70.7
Mg%	24.3
K%	5.0
Na%	0.0

Table 27. Soil analysis of Stella (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Stella
	0 - 30 cm
pH(KCl)1:2:3	7.73
Resistance (ohms)	1700
mg/kg	
N	4
P (Bray2)	13
K	165
Ca	573
Mg	75
Na	3
Cl	
Fe	
Cu	
Zn	
Mn	
S-Value	3.9
Ca%	73.1
Mg%	15.8
K%	10.8
Na%	0.3

Table 28. Soil analysis of Uppington (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Uppington	
	0 - 30 cm	30 – 60cm
pH	6.0	5.8
Resistance (ohms)	340	330
mg/kg		
P (Bray1)	107	101
K	129	105
Ca	6.15	5.98
Mg	3.62	3.7
Na	77	76
Cu	2.35	2.37
Zn	1.75	1.74
Mn	90.10	91.66
B	0.35	0.37
C	0.35	0.35
S	6.90	5.70
S-Value		
Ca%		
Mg%		
K%		
Na%		
P(Olsen)	9	8

Table 29. Soil analysis of Vaalharts (National Cotton Cultivar Trials), 2017/2018

Measured parameter	Vaalharts
	0 - 30 cm
pH(KCl)1:2:3	7.17
Resistance (ohms)	1590
mg/kg	
N	4
P (Bray2)	44
K	190
Ca	498
Mg	150
Na	18
Cl	
Fe	
Cu	
Zn	
Mn	
S-Value	4.295
Ca%	58.0
Mg%	28.9
K%	11.3
Na%	1.8