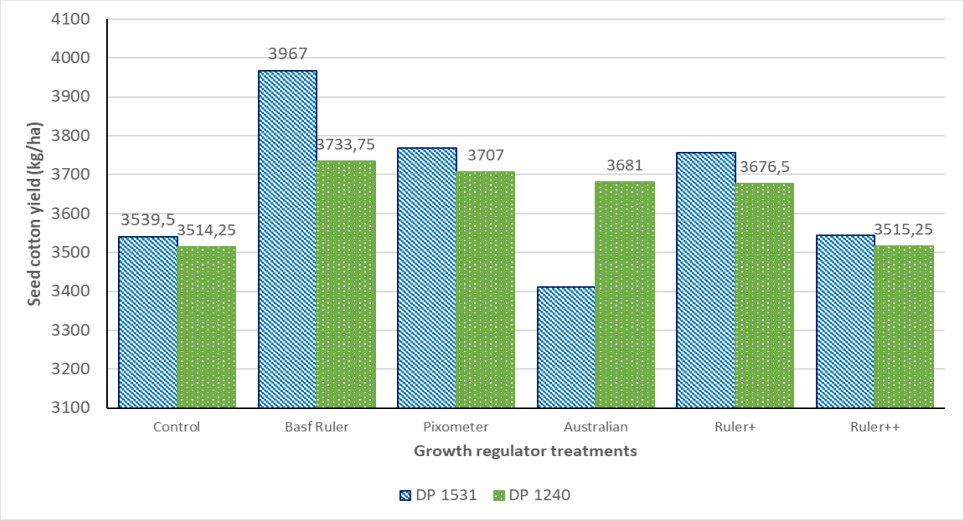
Project	**GROWTH REGULATOR TRIAL**	**Project leader**	**Steyns' Agricultural Services**
Producer	Contractor		
Locality	Makhathini Experimental Farm		
Varieties	DP 1531, DP 1240	Irrigation:	225 mm
Layout	Randomized block design with 5 repetitions	Rain	405 mm
Plot size:	$16m^2$		

Treatments Control

BASF ruler - based on plant height

Ruler +	based on plant height; 400ml per ha maximum
Ruler ++	based on plant height; unlimited dosage per ha
Australian method	based on internode length of nodes 4-5; average of 24?
Pixometer	Plant height, no. of internodes; internode length, about 200-250 ml/ha

Quat® applications (ml/ha)	19/01/2022		3/04/2022		16/02/2022		03/03/2022		Totals	
Cultivars/ Treatments	DP 1531	DP 1240	DP 1531	DP 1240	DP 1531	DP 1240	DP 1531	DP 1240	DP 1531	DP 1240
Control	0	0	0	0	0	0	0	0	0	0
BASF ruler	225	243	250	250	250	250	230	243	955	986
Ruler+	280	286	356	391	355	325	260	260	1251	1262
Ruler++	286	278	346	338	342	278	240	245	1214	1139
Australian	565	630	0	0	761	675	0	0	1326	1305
Pixometer	730	750	1085	1350	0	0	0	0	1815	2100



Results:

*ANOVA showed there is no significant difference with regards to yield between treatments ($p < 0.05$)

* BASF ruler showed highest yield with DP 1531 and DP 1240, with very similar quantities sprayed.

* Less than one litre Quat was sprayed on both cultivars in the BASF ruler treatment

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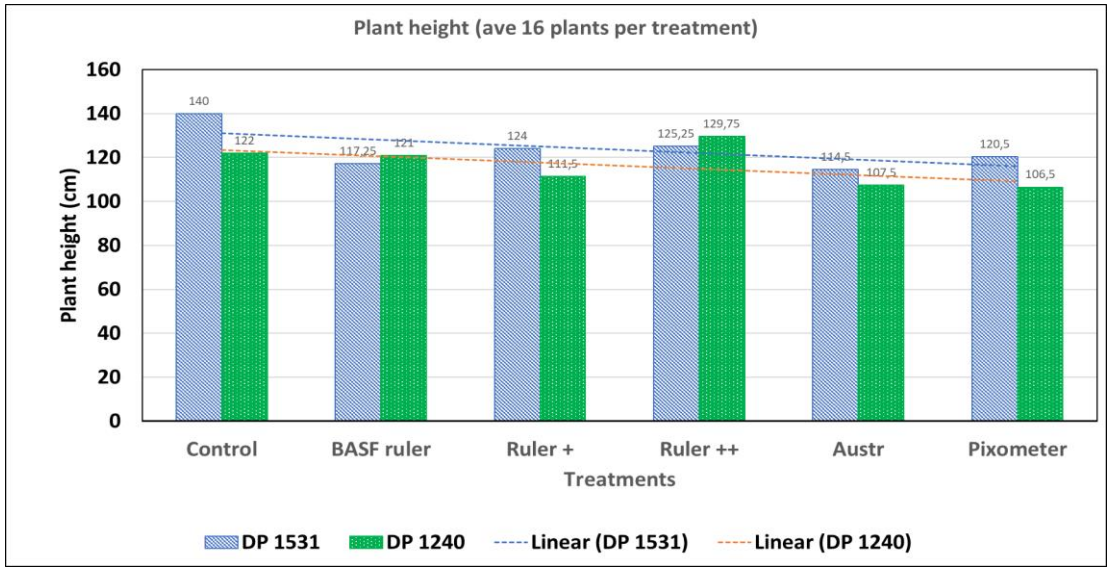


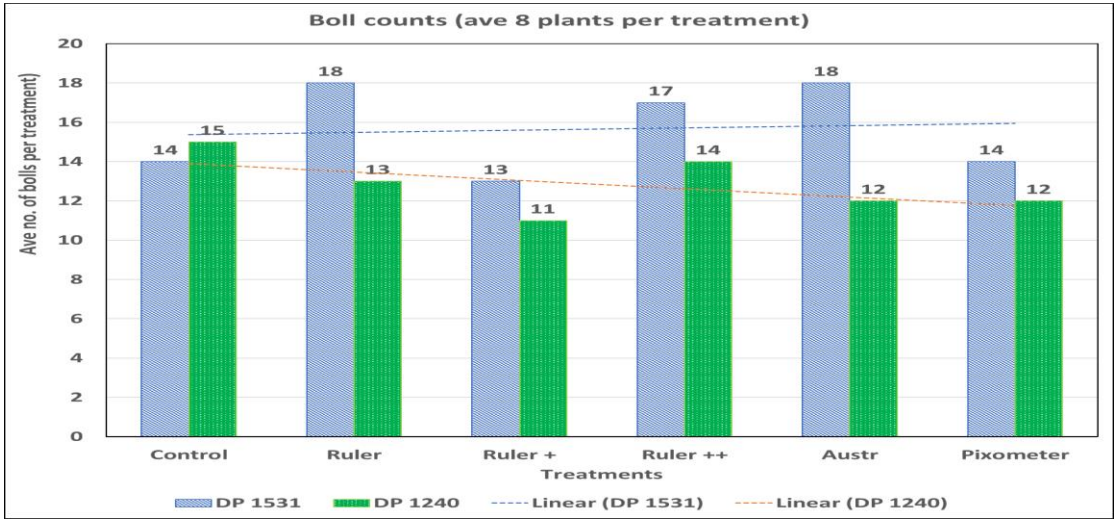
*** Plantheight**

DP1531: lowest in the BASF ruler treatment

DP 1240: lowest in the Pixometer treatments

DP1531: BASF ruler about 23cm shorter than in control:

DP1240: Pixometer about 15,5 cm shorter than control



Boll counts:

* High bollcount on DP 1531 gave corresponding high yield

*Lower bollcount on DP 1240 gave good yield

*No statistically significant differences between yields within a cultivar.

*Increase of 220kg/ha (DP 1240) can have a significant impact on income per ha @R10 per kg seed cotton (Additional income of around R2 200 per ha)

*Income - R4 272/ha can be achieved (DP 1531)

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Quality parameters	Length (UHML - mm)		Uniformity		Strength (gram/tex)		Micronaire		Spining Consistency index (SCI)	
Treatments	**DP 1531**	**DP 1240**	**DP 1531**	**DP 1240**	**DP 1531**	**DP 1240**	**DP 1531**	**DP 1240**	**DP 1531**	**DP 1240**
Control	1,16 (1" 5/32)	1,1 (1" 1/8)	83,7	83,3	29,8	31,7	4,6	4,9	136,4	132,8
BASF ruler	1,14 (1" 5/32)	1,15 (1" 5/32)	84,0	84,3	30,2	32,8	4,6	4,7	137,8	144,0
Ruler+	1,15 (1" 5/32)	1,14 (1" 5/32)	83,7	84,1	30,2	32,7	4,8	5,0	134,8	140,4
Ruler++	1,17 (1" 5/32)	1,2 (1" 1/8)	83,9	83,1	29,7	31,4	4,6	5,0	136,8	130,1
Australian	1,16 (1" 5/32)	1,2 (1" 1/8)	84,0	83,6	30,9	30,9	4,7	4,8	139,9	133,1
Pixometer	1,16 (1" 5/32)	1,15 (1" 5/32)	83,9	83,7	30,7	32,8	4,6	4,9	140,0	139,8

Length:

*DP 1531: lengths were of an acceptable standard

* DP 1240: lengths were somehat shorter with the Ruler+ and Ruler ++ treatments, but still acceptable

Uniformity:

*Uniformity looked good in both cultivars at all treatments

Strength:

* Strenghts looked good for DP 1531, and better for DP 1240, especially the BASF ruler and Pixometer treatments

Micronaire:

* Micronaire was in the acceptable ranges, except somewhat on the high side in DP 1240 with the two Ruler + and Ruler ++ treatments

SCI:

Above averages were seen in both cultivars, with very good values for the BASF ruler in both cultivars.

Conclusion:

BASF ruler which is the recommended method to determine growth, is the most preferred method for these two cultivars, similar to that what was found the previous season with the DP 11541 and Candia cultivars, should growth measurements indicate control.