

Disclaimer:

This document is based on the results from an individual trial and may contain experimental use patterns that are currently off-label. **This document does not provide any interpretation and should not be taken as an endorsement of any unregistered use pattern.** Professional advice should be sought for specific recommendations to ensure access to the most up to date information and knowledge. **Any product referred to in this document must be used strictly as directed, and in accordance with all label or permit instructions. Always consult the label prior to use.**

Management of Chickpea Podset & Yield

Trial ID: RB1804

Location:

Billa Billa

Trial Year: 2018

Investigator:

Richard Black

Objective:	To evaluate the potential of Potassium fertiliser or plant growth regulators for biomass management and yield in chickpea	
Application:	A	B
Application Date:	8/08/2018	22/08/2018 (2 Weeks after Application A)
Growth Stage at Application:	False Flowering	Petals extend to Form Flower (Shortly after First Flower)
Application Volume:	100 L/ha	
Application Nozzles:	AIXR110015	
Planting:	23/05/2018 with Commercial Tyne Planter on 32cm row spacing at a depth of ~6cm	
Harvest Date:	1/11/2018	
Harvest Equipment:	Small Plot Header	
Soil Type:	Grey cracking clay	
Potassium Levels:	Colwell: 0-10cm 282 mg/kg, 10-30cm 120 mg/kg Na/K meq/100g: 0-10cm 0.5, 10-30cm 3.1	
Keywords:	Chickpea, Yield	

Trial designed and analysed as a Factorial

	In Simple Terms
Table of A Means:	Mean of 'Product' performance with ALL 'Timing' treatments
Table of B Means:	Mean of 'Timing' performance with ALL 'Product' treatments
Table of A x B Means:	'Product' performance with EACH 'Timing' treatment

Is there a significant difference for A x B Means ?

If YES

Table A x B Means analysis is the key information

If NO (ie nsd)

Table A or Table B Means analysis is the key information

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Trial ID: **RB1804**Location: **Billa Billa**Trial Year: **2018**

Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit Plant-Evaluation Interval Treatment-Evaluation Interval ARM Action Codes				Chickpea PBA Seamer	
				18/06/2018 EMERGENCE /m ² 26 DP1 AL T1	1/11/2018 YIELD t/ha 162 DP1 85 DAA TY2
Trt No.	Treatment	Product Rate	Appln. Code		
TABLE OF A MEANS (Product)					
1	Untreated	-		28t-	1.58-
2	Yara K-Flow 3-0-9	30000ml/ha		27t-	1.49-
3	Super K 30	1000ml/ha		28t-	1.53-
4	KNO ₃	9.4kg/ha		29t-	1.61-
5	Lokomotive	5000ml/ha		25t-	1.49-
6	Broadstrike	25g/ha		27t-	1.54-
7	Experimental PGR1 Uptake	500ml/ha 0.5% v/v		26t-	1.46-
8	Experimental PGR 2	150mg/l		28t-	1.53-
TABLE OF B MEANS (Timing)					
1	False Flowering		A	27t-	1.52-
2	Petals Extended		B	27t-	1.54-
TABLE OF A x B MEANS (Product x Timing)					
1	Untreated	-	A	28t-	1.51-
1a	Untreated	-	B	28t-	1.64-
2	Yara K-Flow 3-0-9	30000ml/ha	A	28t-	1.51-
2a	Yara K-Flow 3-0-9	30000ml/ha	B	27t-	1.48-
3	Super K 30	1000ml/ha	A	28t-	1.55-
3a	Super K 30	1000ml/ha	B	29t-	1.52-
4	KNO ₃	9.4kg/ha	A	28t-	1.62-
4a	KNO ₃	9.4kg/ha	B	30t-	1.60-
5	Lokomotive	5000ml/ha	A	23t-	1.44-
5a	Lokomotive	5000ml/ha	B	28t-	1.53-
6	Broadstrike	25g/ha	A	30t-	1.49-
6a	Broadstrike	25g/ha		25t-	1.59-
7	Experimental PGR 1 Uptake	500ml/ha 0.5% v/v	A A	26t-	1.53-
7a	Experimental PGR 1 Uptake	500ml/ha 0.5% v/v	B B	25t-	1.38-
8	Experimental PGR 2	150mg/l	A	29t-	1.52-
8a	Experimental PGR 2	150mg/l	B	27t-	1.55-

Means followed by same letter do not significantly differ (P=.05, LSD)

t=Mean descriptions are reported in transformed data units, and are not de-transformed

Management of Chickpea Podset & Yield

Trial ID: **RB1804**Location: **Billa Billa**Trial Year: **2018**

FACTORIAL/POOLED ERROR AOV Chickpea - PBA Seamer 18/06/2018 EMERGENCE /m² 04V2 26 DP1 AL T1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	0.184777				
R	3	0.018530	0.006177	2.423	0.0781	
A	7	0.025222	0.003603	1.414	0.2236	0
B	1	0.000004	0.000004	0.002	0.9689	0
AB	7	0.026313	0.003759	1.475	0.2006	0
ERROR	45	0.114708	0.002549			

FACTORIAL/POOLED ERROR AOV Chickpea - PBA Seamer 1/11/2018 YIELD t/ha 162 DP1 TY2						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	62	1.190478				
R	3	0.203450	0.067817	4.064	0.0124	
A	7	0.131354	0.018765	1.124	0.3653	0.13
B	1	0.003484	0.003484	0.209	0.6500	0.07
AB	7	0.117947	0.016850	1.010	0.4376	0.18
ERROR	44	0.734242	0.016687			

ARM Action Codes

AL = Automatic log transformation of X+1

T1 = LOG ([2]+ 1)

TY2 = 0.555555*[3]

DP1 = Days after Planting

DAA = Days after Application A

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Conclusions:

This trial was conducted to screen fertiliser and PGR products for effects on pod set and yield in chickpea (cv. Seamer), with products evaluated when applied just prior to first flower and also when delayed by 2 weeks.

The season was challenging with low in-crop rainfall and crop yields of ~1.5 t/ha.

A visual assessment was conducted ~14 days after each application. The only treatment that provided any visual difference was Experimental PGR 1, at both application timings. This treatment created a more uniform and level crop canopy but also delayed flowering and podding.

Under these conditions there was no significant impact on yield from any product, at either timing.

Application Description		
	A	B
Application Date:	8/08/2018	22/08/2018
Appl. Start Time:	8:30 AM	8:30 AM
Appl. Stop Time:	11:30 AM	10:00 AM
Application Method:	SPRAY	
Application Placement:	FOLIAR	
Air Temperature, Unit:	17 C	12 C
% Relative Humidity:	42	38
Wind Velocity, Unit:	4 km/h	6 km/h
Wind Direction:	SW	WSW
Dew Presence (Y/N):	No	
Soil Moisture:	NORMAL	SLIDRY
% Cloud Cover:	2	0

Crop Stage at Each Application		
	A	B
Crop:	Chickpea	Chickpea
Stage Scale Used:	GRDC	GRDC
Stage Majority, %:	False Flowering 07 R0 98	Petals extend to Form Flowers 11 R4 98
Diameter, Unit:	25 cm	25 cm
Height, Unit:	30 cm	35 cm
Plant Foliage Height, Unit:	25 cm	25 cm

Application Equipment		
	A	B
Operation Pressure, Unit:	300 kPa	
Nozzle Type:	AIXR	
Nozzle Size:	110015	
Nozzle Spacing, Unit:	50 cm	
Boom Length, Unit:	4 m	
Boom Height, Unit:	50 cm	
Ground Speed, Unit:	10.6 km/h	
Carrier:	WATER	
Spray Volume, Unit:	100 L/ha	