

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.

Chickpea Desiccation – Product Evaluation

Trial ID: RB1802 **Location:** Nee Nee **Trial Year:** 2018
Investigator: Richard Black

Objective:	To evaluate the efficacy of Chickpea desiccation options
Planting Date:	25/05/2018
Planter:	Commercial Tyne Planter
Planting Rate:	65 kg/ha
Planting Depth:	10cm
Row Spacing:	76cm
Application Date:	26/10/2018 (~14 days prior to expected harvest)
Crop Growth Stage at Application :	90% of pods physically mature (yellow/golden pod)
Harvest Date:	12/11/2018
Harvest Equipment:	Small Plot Harvester
Keywords:	Chickpea, desiccation

NB: Sharpen is registered for chickpea desiccation at 34 g/ha when mixed with registered rates of glyphosate or paraquat plus crop oil. Sharpen at 34 g/ha plus crop oil was evaluated alone to evaluate the performance without the mixing partners.

Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit Treatment-Evaluation Interval ARM Action Codes			Chickpea PBA HatTrick			
			8/11/2018 STEM SNAP % 13 DAA AL	8/11/2018 LEAF DROP % 13 DAA	8/11/2018 DISCOLOUR % 13 DAA	12/11/2018 STEM SNAP % 17 DAA
Trt No.	Treatment	Product Rate				
1	Untreated	-	22d	50-	53f	38g
2	Weedmaster Argo	1100ml/ha	34bcd	55-	73a-d	48efg
3	Weedmaster Argo	1800ml/ha	30bcd	63-	76abc	70ab
4	Weedmaster Argo Ally	1100ml/ha 5g/ha	63a	66-	84a	83a
5	Weedmaster Argo Experimental	1100ml/ha 25g/ha	34bcd	60-	70b-e	60b-e
6	Weedmaster Argo Sharpen Hasten	1100ml/ha 9g/ha 1% v/v	39bc	55-	78ab	63bcd
7	Weedmaster Argo Sharpen Hasten	1100ml/ha 34g/ha 1% v/v	31bcd	48-	70b-e	46fg
8	Sharpen Hasten	34g/ha 1% v/v	31bcd	55-	68b-e	50d-g
9	Gramoxone	800ml/ha	26cd	48-	60ef	55c-f
10	Gramoxone Sharpen Hasten	800ml/ha 9g/ha 1% v/v	31bcd	50-	65cde	53c-f
11	Gramoxone Sharpen Hasten	800ml/ha 34g/ha 1% v/v	44ab	60-	76abc	65bc
12	Reglone Chemwet 1000	3000ml/ha 0.2% v/v	25d	58-	63def	45fg
LSD P=			0.2t	nsd	11.8	13.4
Treatment Prob.(F)=			0.0032	0.0677	0.0004	0.0001

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.

Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.

nsd = No significant difference

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Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit Treatment-Evaluation Interval ARM Action Codes			Chickpea PBA HatTrick		
			12/11/2018 LEAF DROP % 17 DAA	12/11/2018 DISCOLOUR % 17 DAA	12/11/2018 YIELD t/ha 17 DAA ER4 TY1
Trt No.	Treatment	Product Rate			
1	Untreated	-	64e	63f	1.20-
2	Weedmaster Argo	1100ml/ha	69cde	76cde	1.25-
3	Weedmaster Argo	1800ml/ha	83b	84bc	1.16-
4	Weedmaster Argo Ally	1100ml/ha 5g/ha	91a	95a	1.30-
5	Weedmaster Argo Experimental	1100ml/ha 25g/ha	74cd	76cde	1.28-
6	Weedmaster Argo Sharpen Hasten	1100ml/ha 9g/ha 1% v/v	84ab	86ab	1.34-
7	Weedmaster Argo Sharpen Hasten	1100ml/ha 34g/ha 1% v/v	73cd	81bcd	1.20-
8	Sharpen Hasten	34g/ha 1% v/v	70cde	71ef	1.50-
9	Gramoxone	800ml/ha	68de	73de	1.24-
10	Gramoxone Sharpen Hasten	800ml/ha 9g/ha 1% v/v	71cde	74de	1.26-
11	Gramoxone Sharpen Hasten	800ml/ha 34g/ha 1% v/v	76bc	78b-e	1.25-
12	Reglone Chemwet 1000	3000ml/ha 0.2% v/v	69cde	73de	1.21-
LSD P= Treatment Prob.(F)= CV=			8.5 0.0001	9.5 0.0001	nsd 0.5188 12.5

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Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit ARM Action Codes			Chickpea PBA HatTrick			
			27/11/2018 PROTEIN %	27/11/2018 MOISTURE %	27/11/2018 TEST WEIGHT kg/hL	27/11/2018 SCREENING %
			ET10	AL	ET4	AL
Trt No.	Treatment	Product Rate				
1	Untreated	-	24.2-	8.8-	70.6-	12.2-
2	Weedmaster Argo	1100ml/ha	24.2-	8.7-	73.3-	12.0-
3	Weedmaster Argo	1800ml/ha	24.2-	9.1-	72.7-	13.0-
4	Weedmaster Argo Ally	1100ml/ha 5g/ha	24.0-	8.6-	75.0	13.1-
5	Weedmaster Argo Experimental	1100ml/ha 25g/ha	23.7-	9.3-	71.2-	11.8-
6	Weedmaster Argo Sharpen Hasten	1100ml/ha 9g/ha 1% v/v	23.5-	9.2-	70.3-	10.9-
7	Weedmaster Argo Sharpen Hasten	1100ml/ha 34g/ha 1% v/v	23.8-	9.2-	73.4-	10.8-
8	Sharpen Hasten	34g/ha 1% v/v	23.6-	9.3-	72.4-	11.8-
9	Gramoxone	800ml/ha	24.0-	9.0-	72.3-	11.2-
10	Gramoxone Sharpen Hasten	800ml/ha 9g/ha 1% v/v	23.3	9.4-	72.2-	13.0-
11	Gramoxone Sharpen Hasten	800ml/ha 34g/ha 1% v/v	23.6-	9.0-	74.4-	11.1-
12	Reglone Chemwet 1000	3000ml/ha 0.2% v/v	23.8-	9.1-	73.4-	11.7-
LSD P=			nsd	nsd	nsd	nsd
Treatment Prob.(F)=			0.2898	0.0724	0.6060	0.8173

Assessment Type

STEM SNAP = Measurement of stem dry down as indicator of harvest readiness. 10 plants/plot were twisted and evaluated. The % of plants were recorded where all stems had snapped in 2 twists.

LEAF DROP = Estimate of % of leaves dropped from plant

DISCOLOUR = Phytotoxicity - % discoloration

SCREENING = Grain screenings 4 mm screen - % defective grains

ARM Action Codes

AL = Automatic log transformation of X+1

ER4 = Excluded replicate 4

ET10 = Excluded treatment 10

ET4 = Excluded treatment 4

TY1 = 0.6944445*[7]

DAA = Days after Application

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Conclusions:

This trial was conducted to evaluate chickpea harvest management options for crop desiccation, yield and grain quality.

Differences in leaf drop, crop discolouration and stem drydown (as assessed by % plants with stems snapping) were evident. The mixture of Weedmaster Argo and Ally generally provided the highest level of leaf drop, crop discolouration and stem drydown. There was a significant rate response to Weedmaster Argo when applied alone with the 1.8 L/ha rate providing higher levels of leaf drop and stem snap at the 17 days assessment.

There were no significant differences between any treatment and the Untreated in grain yield or any grain quality measurement with all treatments, including the Untreated, successfully harvested at 17 days after application.

Applied at a crop stage of ~90% mature pods, desiccation treatments increased leaf drop, crop discolouration and stem drydown but with no impact on yield or grain quality.

Application Description	
Application Date:	26/10/2018
Application Start Time:	8:00 AM
Application Stop Time:	10:00 AM
Application Method:	SPRAY
Application Timing:	PRE-HARVEST
Application Placement:	FOLIAR
Air Temperature, Unit:	22 C
% Relative Humidity:	45
Wind Velocity, Unit:	10 km/h
Wind Direction:	S
Dew Presence (Y/N):	No

Crop Stage at Each Application	
Crop:	Chickpea
Stage Scale Used:	GRDC
Stage Majority	19 R12 – 90% physically mature pod
% Crop Area:	80%
Stage Minimum,	18 R11 -50% of pods mature
% Crop Area:	20 %
Stage Maximum	19 R12 – 90% physically mature pods
% Crop Area:	80 %
Height, Unit:	45 cm

Application Equipment	
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:	7.2 km/h
Carrier:	WATER
Spray Volume, Unit:	100 L/ha