

Disclaimer:

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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.

Impact of *Pratylenchus thornei* on Chickpea

Trial ID: NGA1502 - Chickpea NVT
Location:
Macalister
Trial Year: 2015
Investigator:
Linda Bailey

Planting Date:	28/05/2015	Total Soil N:	150kg N/ha (18/02/2015)
Harvest Date:	2/11/2015	Colwell P:	21mg/kg (0-10cm) 8mg/kg (10-30cm)
Low <i>P thornei</i> (ex-Caparoï 2013):	2.7 Pt/g Soil (18/02/2015)	Target Plant Stand:	25/m ²
High <i>P thornei</i> (ex-Strzelecki 2013):	29 Pt/g Soil (18/02/2015)	BSES P:	24mg/kg (0-10cm) 10mg/kg (10-30cm)
PAW Wheat:	130mm (18/02/2015)	Plot Size (Planted):	9 x 2 m (5 rows x 36cm)
Granulock Z Extra (at Planting):	40kg/ha	Plot Size (Harvested):	6 x 2m
Objective:	To evaluate the impact of <i>Pratylenchus thornei</i> on yield of commercial chickpea varieties together with the impact of variety choice on nematode populations		
Keywords:	Chickpea, <i>Pratylenchus thornei</i> , root-lesion nematode, RLN		

Low *Pt* = Low population density of *P thornei*

High *Pt* = High population density of *P thornei*

Crop Scientific Name:		<i>Cicer arietinum</i>	
Crop Name:		Chickpea	
Rating Date:		7/09/2015	2/11/2015
Rating Type:		NDVI	YIELD
Rating Unit:		Ratio	t/ha
Trt No.	Treatment		
TABLE OF A MEANS (Nematode Population)			
1	Low <i>Pt</i>	0.842a	3.74-
2	High <i>Pt</i>	0.836b	3.68-
TABLE OF B MEANS (Variety)			
1	Jimbour	0.838de	3.60d-g
2	Kyabra	0.846ab	3.80abc
3	PBA Boundary	0.839cd	3.89ab
4	PBA HatTrick	0.832g	3.50g
5	PBA Seamer	0.838de	3.60d-g
6	Experimental 1	0.838def	3.68c-g
7	Experimental 2	0.843bc	3.89a
8	Experimental 3	0.847ab	3.70b-e
9	Experimental 4	0.843bc	3.80abc
10	Experimental 5	0.835efg	3.55efg
11	Experimental 6	0.845b	3.79a-d
12	Experimental 7	0.834fg	3.76a-d
13	Experimental 8	0.838de	3.79a-d
14	Experimental 9	0.833g	3.69c-f
15	Experimental 10	0.849a	3.78a-d
16	Experimental 11	0.831g	3.50fg
TABLE OF A x B MEANS (Nematode Population x Variety)			
1a	Low <i>Pt</i> , Jimbour	0.842-	3.66-
1b	High <i>Pt</i> , Jimbour	0.835-	3.54-
2a	Low <i>Pt</i> , Kyabra	0.848-	3.88-
2b	High <i>Pt</i> , Kyabra	0.844-	3.72-
3a	Low <i>Pt</i> , PBA Boundary	0.841-	3.93-
3b	High <i>Pt</i> , PBA Boundary	0.837-	3.85-
4a	Low <i>Pt</i> , PBA HatTrick	0.838-	3.48-
4b	High <i>Pt</i> , PBA HatTrick	0.826-	3.51-
5a	Low <i>Pt</i> , PBA Seamer	0.841-	3.65-
5b	High <i>Pt</i> , PBA Seamer	0.836-	3.55-
6a	Low <i>Pt</i> , Experimental 1	0.838-	3.65-
6b	High <i>Pt</i> , Experimental 1	0.838-	3.71-
7a	Low <i>Pt</i> , Experimental 2	0.844-	3.91-
7b	High <i>Pt</i> , Experimental 2	0.842-	3.87-
8a	Low <i>Pt</i> , Experimental 3	0.849-	3.88-
8b	High <i>Pt</i> , Experimental 3	0.844-	3.51-

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

Impact of *Pratylenchus thornei* on Chickpea

Trial ID: NGA1502 - Chickpea NVT

Location:

Macalister

Trial Year: 2015

Crop Scientific Name:		<i>Cicer arietinum</i>	
Crop Name:		Chickpea	
Rating Date:		7/09/2015	2/11/2015
Rating Type:		NDVI	YIELD
Rating Unit:		Ratio	t/ha
Trt No.	Treatment		
9a	Low Pt, Experimental 4	0.845-	3.96-
9b	High Pt, Experimental 4	0.840-	3.65-
10a	Low Pt, Experimental 5	0.838-	3.52-
10b	High Pt, Experimental 5	0.831-	3.58-
11a	Low Pt, Experimental 6	0.847-	3.85-
11b	High Pt, Experimental 6	0.843-	3.74-
12a	Low Pt, Experimental 7	0.837-	3.81-
12b	High Pt, Experimental 7	0.830-	3.72-
13a	Low Pt, Experimental 8	0.845-	3.74-
13b	High Pt, Experimental 8	0.831-	3.84-
14a	Low Pt, Experimental 9	0.835-	3.78-
14b	High Pt, Experimental 9	0.831-	3.61-
15a	Low Pt, Experimental 10	0.851-	3.68-
15b	High Pt, Experimental 10	0.848-	3.87-
16a	Low Pt, Experimental 11	0.836-	3.47-
16b	High Pt, Experimental 11	0.827-	3.54-

Yield cv = 5.2%

COMPLETE SPLIT-PLOT AOV						
<i>Cicer arietinum</i> - Chickpea						
07/09/2015						
NDVI Ratio						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	127	0.007351				
R	3	0.000522	0.000174	10.256	0.0001	
A	1	0.001079	0.001079	36.769	0.0090	0.003
ERROR A	3	0.000088	0.000029			
B	15	0.003750	0.000250	14.721	0.0001	0.004
AB	15	0.000384	0.000026	1.506	0.1199	0.006
ERROR B	90	0.001528	0.000017			

COMPLETE SPLIT-PLOT AOV						
<i>Cicer arietinum</i> - Chickpea						
2/11/2015						
YIELD t/ha						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	127	6.451497				
R	3	0.041434	0.013811	0.368	0.7763	
A	1	0.133848	0.133848	1.382	0.3246	0.18
ERROR A	3	0.290553	0.096851			
B	15	1.939688	0.129313	3.446	0.0001	0.19
AB	15	0.668216	0.044548	1.187	0.2964	0.27
ERROR B	90	3.377759	0.037531			

Rating Type

NDVI = Normalized difference vegetation index

Impact of *Pratylenchus thornei* on Chickpea

Trial ID: NGA 1502 - Chickpea NVT

Location:

Macalister

Trial Year: 2015

Pest Scientific Name:		<i>Pratylenchus thornei</i>
Pest Name:		Root-lesion Nematode
Crop Name:		Chickpea
Rating Date:		7/03/2016
Rating Type:		COUNT
Rating Unit:		Pt/g Soil
ARM Action Codes:		AL
Trt No.	Treatment	
1	Low Pt, Jimbour	13.6bcd
2	Low Pt, Kyabra	18.0b
3	Low Pt, PBA Boundary	10.3d-g
4	Low Pt, PBA HatTrick	7.2ghi
5	Low Pt, PBA Seamer	6.3hi
6	Low Pt, Experimental 1	8.9e-h
7	Low Pt, Experimental 2	11.4c-f
8	Low Pt, Experimental 3	7.1ghi
9	Low Pt, Experimental 4	11.9cde
10	Low Pt, Experimental 5	10.4d-g
11	Low Pt, Experimental 6	16.0bc
12	Low Pt, Experimental 7	6.1hi
13	Low Pt, Experimental 8	13.4bcd
14	Low Pt, Experimental 9	14.9bcd
15	Low Pt, Experimental 10	7.6f-i
16	Low Pt, Experimental 11	5.5i
20	High Pt, PBA HatTrick	26.8a
LSD P=		1.06t
Treatment Prob.(F)=		0.0328

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

Mean separations are based on the complete error term.

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.

ARM Action Codes

AL = Automatic log transformation of X+1