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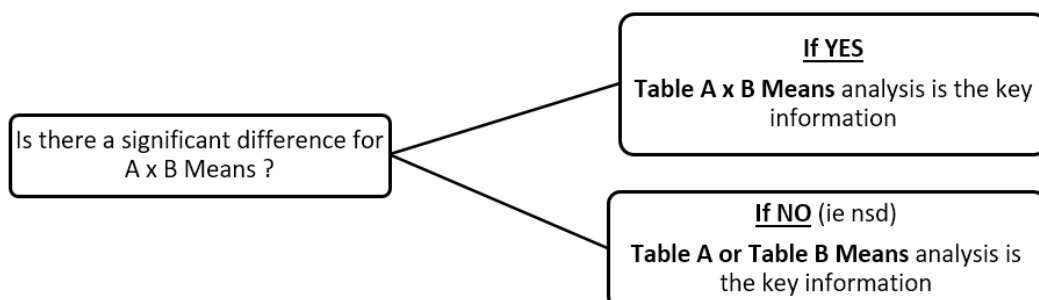
Impact of *Pratylenchus thornei* on Chickpeas - Bullarah 2016

Trial ID: DK1607	Location: Bullarah	Trial Year: 2016
Investigator: Denielle Kilby		

Planting Date:	14/06/2016	Total soil N:	148 kg N/ha (21/04/2016)
Harvest Date:	13/12/2016	Target Plant Stand:	30/m ²
Low <i>P thornei</i> (ex-Suntop 2014):	2.1 Pt/g soil (13/04/2016)	Plot Size (Planted):	12 x 2 m (5 rows x 32cm)
High <i>P thornei</i> (ex-Strzelecki 2014):	9.5 Pt/g soil (13/04/2016)	Plot Size (Harvested):	10 x 2m
PAW Wheat:	~61mm	Cropping History:	Chickpeas 2012
Trial Reliability:	Good		

Trial designed and analysed as a split plot

	In Simple Terms
Table of A Means:	Mean of 'Nematode Population' performance with ALL 'Variety' treatments
Table of B Means:	Mean of 'Variety' performance with ALL 'Nematode Population' treatments
Table of A x B Means:	'Nematode Population' performance with EACH 'Variety' treatment



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Pest Scientific Name						<i>Pratylenchus thornei</i>
Pest Name						Root-lesion Nematode
Crop Name		Chickpea				
Assessment Date		12/07/2016	15/08/2016	15/10/2016	13/12/2016	3/03/2017
Assessment Type		EMERGENCE	NDVI	NDVI	YIELD	COUNT
Assessment Unit		/m ²	RATIO	RATIO	t/ha	/g soil
Crop Stage Majority		02 VE	04 V2	12 R5		
Plant-Evaluation Interval		28 DP1	62 DP1	123 DP1	182 DP1	262 DP1
CV %					8.0	
ARM Action Codes		T1				AL
Trt No.	Treatment					
TABLE OF A MEANS (Nematode Population)						
1	Low	30.9-	0.35-	0.76-	2.24-	45.5tb
2	High	31.3-	0.35-	0.73-	2.05-	88.2ta
TABLE OF B MEANS (Variety)						
1	PBA Seamer	32.3-	0.38a	0.77a	2.38ab	37.2tc
2	CICA1007	30.4-	0.35b	0.76ab	2.54a	93.7tb
3	Kyabra	32.9-	0.35b	0.69c	1.45d	153.1ta
4	PBA Boundary	32.7-	0.35b	0.76ab	2.15c	45.6tc
5	PBA HatTrick	27.2-	0.30c	0.73b	2.21bc	41.7tc
TABLE OF A x B MEANS (Nematode Population x Variety)						
1	Low	34.2-	0.38-	0.79-	2.42-	21.4tc
1	PBA Seamer					
2	High	30.5-	0.39-	0.76-	2.34-	64.1tb
1	PBA Seamer					
1	Low	27.5-	0.35-	0.77-	2.66-	56.1tb
2	CICA1007					
2	High	33.2-	0.35-	0.75-	2.41-	156.1ta
2	CICA1007					
1	Low	33.4-	0.36-	0.72-	1.55-	155.2ta
3	Kyabra					
2	High	32.4-	0.35-	0.67-	1.35-	151.0ta
3	Kyabra					
1	Low	32.4-	0.35-	0.77-	2.26-	31.7tc
4	PBA Boundary					
2	High	33.0-	0.36-	0.75-	2.05-	65.5tb
4	PBA Boundary					
1	Low	27.1-	0.30-	0.76-	2.29-	32.5tc
5	PBA HatTrick					
2	High	27.3-	0.31-	0.71-	2.12-	53.6tb
5	PBA HatTrick					

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

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COMPLETE SPLIT-PLOT AOV						
Chickpea						
12/07/2016						
EMERGENCE /m ² 02 VE 28 DP1 T1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	39	973.983765				
R	3	32.028198	10.676066	0.415	0.7435	
A	1	1.235962	1.235962	0.076	0.8004	
ERROR A	3	48.629761	16.209920			
B	4	182.128906	45.532227	1.772	0.1675	
AB	4	93.139648	23.284912	0.906	0.4762	
ERROR B	24	616.821289	25.700887			

COMPLETE SPLIT-PLOT AOV						
Chickpea						
15/08/2016						
NDVI RATIO 04 V2 62 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	39	0.054763				
R	3	0.008193	0.002731	4.338	0.0141	
A	1	0.000160	0.000160	0.110	0.7619	
ERROR A	3	0.004360	0.001453			
B	4	0.026259	0.006565	10.428	0.0001	0.03
AB	4	0.000682	0.000170	0.271	0.8940	
ERROR B	24	0.015110	0.000630			

COMPLETE SPLIT-PLOT AOV						
Chickpea						
15/10/2016						
NDVI RATIO 12 R5 123 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	39	0.066330				
R	3	0.001386	0.000462	0.677	0.5746	
A	1	0.009369	0.009369	4.141	0.1347	
ERROR A	3	0.006788	0.002263			
B	4	0.031090	0.007772	11.390	0.0001	0.03
AB	4	0.001320	0.000330	0.484	0.7476	
ERROR B	24	0.016377	0.000682			

COMPLETE SPLIT-PLOT AOV						
Chickpea						
13/12/2016						
YIELD t/ha 182 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	39	6.871171				
R	3	0.040936	0.013645	0.476	0.7016	
A	1	0.339849	0.339849	4.516	0.1236	
ERROR A	3	0.225741	0.075247			
B	4	5.548446	1.387111	48.436	0.0001	0.17
AB	4	0.028890	0.007223	0.252	0.9055	
ERROR B	24	0.687309	0.028638			

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Location:

Bullarah

Trial Year: 2016

COMPLETE SPLIT-PLOT AOV For <i>Pratylenchus thornei</i> – Root-lesion Nematode 3/03/2017 COUNT /g Soil 262 DP1 AL						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	39	3.811666				
R	3	0.122909	0.040970	2.620	0.0740	
A	1	0.797759	0.797759	126.096	0.0015	0.1
ERROR A	3	0.018980	0.006327			
B	4	2.197198	0.549300	35.134	0.0001	0.1
AB	4	0.299597	0.074899	4.791	0.0055	0.2
ERROR B	24	0.375223	0.015634			

Assessment Type

NDVI = Normalized difference vegetation index

Crop Stage – GRDC Description

02 VE = Emergence - The plumule emerges and the first two leaves are scales. The first true leaf has two or three pairs of leaflets plus a terminal leaflet

04 V2 = 2nd Node - 1st imparipinnate leaf attached to the second node is fully expanded and flat while the 2nd imparipinnate leaf on the Upper node starts to unroll

12 RF = Corolla collapses - Flower collapses and petals senesce and peduncle reflexes so that the developing pod usually hangs below its subtending leaf.

Plant-Evaluation Interval

DP1 = Days between planting and assessment

ARM Action Codes

AL = Automatic log transformation of X+1

T1 = $([C1]/4)/0.32$