

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.

Macalister *Pratylenchus thornei* Trial - Wheat Row Spacing x Plant Population 2015

Trial ID: LB1509 Location: Macalister Trial Year: 2015
Investigator: Linda Bailey

Planting Date:	28/05/2015	Total soil N:	150kg N/ha (18/02/2015)
Harvest Date:	02/11/2015	Colwell P:	21mg/kg (0-10cm) 8mg/kg (10-30cm)
Low P thornei (ex-Caparoi 2013):	2.7 Pt/g soil (18/02/2015)	BSES P:	24mg/kg (0-10cm) 10mg/kg (10-30cm)
High P thornei (ex-Strzelecki 2013):	29 Pt/g soil (18/02/2015)	Target Plant Stand:	90/m2
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

Crop Name		Wheat			
Rating Date		16/06/2015	7/09/2015	2/11/2015	3/02/2016
Rating Type		EMERGENCE	NDVI	YIELD	PROTEIN
Rating Unit		/m ²	Ratio	t/ha	%
Crop Stage Majority		2 Leaf	30% Flowering	158 DP1	
Plant-Evaluation Interval		19 DP1	102 DP1	TY1	
ARM Action Codes					
Trt No.	Treatment				
TABLE OF A MEANS (<i>P thornei</i> population)					
1	Low	38.7-	0.752a	4.00a	13.56-
2	High	38.4-	0.697b	3.80b	13.49-
TABLE OF B MEANS (Variety)					
1	Suntop	37.2b	0.746a	3.98-	13.31b
2	Elmore CL	40.0a	0.704b	3.83-	13.75a
TABLE OF C MEANS (Row Spacing)					
	36 cm	51.8a	0.780a	4.4a	13.51-
	72 cm	25.4b	0.670b	3.4b	13.58 -
TABLE OF D MEANS (Plant Population)					
	50	31.2b	0.713-	3.7b	13.57
	100	45.9a	0.737-	4.2a	13.48

Crop Name		Wheat		
Rating Date		3/02/2016	3/02/2016	27/11/2015
Rating Type		TEST WT	SCREENINGS	WUE
Rating Unit		kg/hL	%	kg/mm
Trt No.	Treatment			
TABLE OF A MEANS (<i>P thornei</i> population)				
1	Low	75.23-	4.21-	17.24-
2	High	74.85-	4.47-	17.21-
TABLE OF B MEANS (Variety)				
1	Suntop	75.33-	4.68a	17.44-
2	Elmore CL	74.75-	4.00b	17.01-
TABLE OF C MEANS (Row Spacing)				
	36cm	75.1-	4.28-	19.3a
	72cm	75.3-	4.40-	15.2b
TABLE OF D MEANS (Plant Population)				
	50	75.6	4.7a	16.1b
	100	74.5	4.0b	18.4a

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

Macalister *Pratylenchus thornei* Trial - Wheat Row Spacing x Plant Population 2015

Trial ID: LB1509

Location:

Macalister

Trial Year: 2015

COMPLETE SPLIT-PLOT AOV						
Wheat						
16/06/2015						
EMERGENCE /m ² 12 19 DP1						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	136.4	45.5	5.13	0.106	
RLN (B)	1	1.3	1.3	0.14	0.731	
Error A*B	3	26.6	8.9			
Variety (C)	1	132.2	132.2	6.74	0.013	2.22
Row (D)	1	11135.5	11135.5	567.64	0.000	2.22
Plant Popn (E)	1	3463.3	3463.3	176.55	0.000	2.22
B*C	1	5.2	5.2	0.26	0.610	
B*D	1	31.9	31.9	1.63	0.209	
B*E	1	5.9	5.9	0.30	0.587	
C*D	1	0.5	0.5	0.03	0.871	
C*E	1	0.4	0.4	0.02	0.884	
D*E	1	456.9	456.9	23.29	0.000	3.16
B*C*D	1	22.1	22.1	1.13	0.295	
B*C*E	1	104.6	104.6	5.33	0.026	
B*D*E	1	13.0	13.0	0.66	0.421	
B*C*D*E	2	1.3	0.6	0.03	0.969	
Error A*B*C*D*E	42	823.9	19.6			
Total	63	16361.0				

COMPLETE SPLIT-PLOT AOV						
Wheat						
7/09/2015						
NDVI Ratio 53 102 DP1						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	0.0019	0.0006	0.95	0.518	
RLN (B)	1	0.0484	0.0484	74.14	0.003	0.02
Error A*B	3	0.0020	0.0007			
Variety (C)	1	0.0279	0.0279	5.75	0.021	0.04
Row (D)	1	0.1941	0.1941	40.03	0.000	0.04
Plant Popn (E)	1	0.0097	0.0097	1.99	0.166	
B*C	1	0.0117	0.0117	2.42	0.128	
B*D	1	0.0235	0.0235	4.85	0.033	0.04
B*E	1	0.0012	0.0012	0.25	0.619	
C*D	1	0.0012	0.0012	0.24	0.628	
C*E	1	0.0143	0.0143	2.95	0.093	
D*E	1	0.0001	0.0001	0.01	0.908	
B*C*D	1	0.0000	0.0000	0.00	0.950	
B*C*E	1	0.0002	0.0002	0.05	0.823	
B*D*E	1	0.0071	0.0071	1.46	0.234	
B*C*D*E	2	0.0054	0.0027	0.56	0.576	
Error A*B*C*D*E	42	0.2036	0.0049			
Total	63	0.5521				

Macalister *Pratylenchus thornei* Trial - Wheat Row Spacing x Plant Population 2015

Trial ID: LB1509

Location:

Macalister

Trial Year: 2015

COMPLETE SPLIT-PLOT AOV						
Wheat						
2/11/2015						
YIELD t/ha 99 158 DP1 TY1						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	0.4962	0.1654	4.53	0.123	
RLN (B)	1	0.6735	0.6735	18.45	0.023	0.15
Error A*B	3	0.1095	0.0365			
Variety (C)	1	0.3454	0.3454	3.84	0.057	
Row (D)	1	17.4797	17.4797	194.12	0.000	0.15
Plant Popn (E)	1	3.7345	3.7345	41.47	0.000	0.15
B*C	1	0.6735	0.6735	7.48	0.009	0.21 TO 0.21
B*D	1	0.0236	0.0236	0.26	0.612	
B*E	1	0.1335	0.1335	1.48	0.230	
C*D	1	0.1413	0.1413	1.57	0.217	
C*E	1	0.2897	0.2897	3.22	0.080	
D*E	1	0.3290	0.3290	3.65	0.063	
B*C*D	1	0.0585	0.0585	0.65	0.425	
B*C*E	1	0.2637	0.2637	2.93	0.095	
B*D*E	1	0.3579	0.3579	3.97	0.053	
B*C*D*E	2	0.0091	0.0046	0.05	0.951	
Error A*B*C*D*E	41	3.6919	0.0900			
Total	62					
Note: SS are marginal (type III) sums of squares						
(REP*RLN) =		4.89				
CV (REP*RLN* Variety *Row* Plant Popn) =		7.68				

COMPLETE SPLIT-PLOT AOV						
Wheat						
PROTEIN %						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	0.2492	0.0831	7.56	0.065	
RLN (B)	1	0.0689	0.0689	6.27	0.087	
Error A*B	3	0.0330	0.0110			
Variety (C)	1	3.1064	3.1064	84.98	0.000	0.10
Row (D)	1	0.0189	0.0189	0.52	0.476	
Plant Popn (E)	1	0.1139	0.1139	3.12	0.085	
B*C	1	0.0002	0.0002	0.00	0.948	
B*D	1	0.0039	0.0039	0.11	0.745	
B*E	1	0.0014	0.0014	0.04	0.845	
C*D	1	0.1139	0.1139	3.12	0.085	
C*E	1	0.0827	0.0827	2.26	0.140	
D*E	1	0.0127	0.0127	0.35	0.559	
B*C*D	1	0.0264	0.0264	0.72	0.400	
B*C*E	1	0.0002	0.0002	0.00	0.948	
B*D*E	1	0.0264	0.0264	0.72	0.400	
B*C*D*E	2	0.3716	0.1858	5.08	0.011	
Error A*B*C*D*E	42	1.5353	0.0366			
Total	63	5.7648				

Macalister *Pratylenchus thornei* Trial - Wheat Row Spacing x Plant Population 2015

Trial ID: LB1509

Location:

Macalister

Trial Year: 2015

COMPLETE SPLIT-PLOT AOV						
Wheat						
TEST WT kg/HL						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	29.927	9.976	0.65	0.636	
RLN (B)	1	2.326	2.326	0.15	0.724	
Error A*B	3	46.267	15.422			
Variety (C)	1	5.406	5.406	1.12	0.296	
Row (D)	1	0.076	0.076	0.02	0.901	
Plant Popn (E)	1	17.016	17.016	3.52	0.068	
B*C	1	7.701	7.701	1.59	0.214	
B*D	1	2.176	2.176	0.45	0.506	
B*E	1	2.976	2.976	0.62	0.437	
C*D	1	18.706	18.706	3.87	0.056	
C*E	1	0.276	0.276	0.06	0.812	
D*E	1	20.476	20.476	4.24	0.046	1.57
B*C*D	1	22.801	22.801	4.72	0.036	
B*C*E	1	4.101	4.101	0.85	0.362	
B*D*E	1	0.276	0.276	0.06	0.812	
B*C*D*E	2	5.456	2.728	0.56	0.573	
Error A*B*C*D*E	42	203.016	4.834			
Total	63	388.974				

COMPLETE SPLIT-PLOT AOV						
Wheat						
SCREENING %						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	0.668	0.223	0.43	0.745	
RLN (B)	1	1.051	1.051	2.04	0.248	
Error A*B	3	1.543	0.514			
Variety (C)	1	7.290	7.290	13.97	0.001	0.36
Row (D)	1	0.303	0.303	0.58	0.451	
Plant Popn (E)	1	7.426	7.426	14.23	0.001	0.36
B*C	1	0.040	0.040	0.08	0.783	
B*D	1	0.090	0.090	0.17	0.680	
B*E	1	0.106	0.106	0.20	0.655	
C*D	1	6.631	6.631	12.71	0.001	0.52
C*E	1	0.023	0.023	0.04	0.837	
D*E	1	1.210	1.210	2.32	0.135	
B*C*D	1	3.331	3.331	6.38	0.015	
B*C*E	1	0.423	0.423	0.81	0.373	
B*D*E	1	0.423	0.423	0.81	0.373	
B*C*D*E	2	1.341	0.671	1.29	0.287	
Error A*B*C*D*E	42	21.919	0.522			
Total	63	53.814				

Macalister *Pratylenchus thornei* Trial - Wheat Row Spacing x Plant Population 2015

Trial ID: LB1509

Location:

Macalister

Trial Year: 2015

COMPLETE SPLIT-PLOT AOV						
Wheat						
27/11/2015						
WUE kg/mm 183 DP1 T2						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	18.722	6.241	1.65	0.346	
RLN (B)	1	0.009	0.009	0.00	0.963	
Error A*B	3	11.374	3.791			
Variety (C)	1	2.906	2.906	1.28	0.264	
Row (D)	1	268.449	268.449	118.35	0.000	0.77
Plant Popn (E)	1	81.230	81.230	35.81	0.000	0.77
B*C	1	4.831	4.831	2.13	0.152	
B*D	1	0.958	0.958	0.42	0.520	
B*E	1	3.288	3.288	1.45	0.236	
C*D	1	1.972	1.972	0.87	0.357	
C*E	1	5.695	5.695	2.51	0.121	
D*E	1	2.980	2.980	1.31	0.258	
B*C*D	1	0.730	0.730	0.32	0.574	
B*C*E	1	3.861	3.861	1.70	0.199	
B*D*E	1	6.410	6.410	2.83	0.100	
B*C*D*E	2	0.893	0.447	0.20	0.822	
Error A*B*C*D*E	41	93.000	2.268			
Total	62					

Note: SS are marginal (type III) sums of squares

Rating Type

NDVI = normalized difference vegetation index

PROTEIN = protein content

TEST WT = Hectolitre weight

Rating Unit

t/ha = tonnes per hectare

ARM Action Codes

TY1 = 0.00083333*[C4]

T2 = [C6]*1.8848-246.75

DP1 = Days after Planting

Macalister *Pratylenchus thornei* Trial – *P thornei* Counts on/or Between Rows

Trial ID: LB1509 Location: Macalister Trial Year: 2015

Scientific Pest Name Pest Name Rating Date Rating Type Rating Unit		<i>Pratylenchus thornei</i> Root-lesion Nematode
Trt No.		7/03/2016 COUNT Pt/ g Soil
Treatment		
TABLE OF B MEANS (<i>P thornei</i> population)		
1	Low	5.0b
2	High	22.4a
TABLE OF C MEANS (Variety)		
1	Suntop	5.2b
2	Elmore CL	21.8a
TABLE OF D MEANS (Row Spacing)		
	36 cm	11.4-
	72 cm	10.3-
TABLE OF E MEANS (Plant Population)		
	50	11.4-
	100	10.3-
TABLE OF F MEANS (Sampling Location)		
	On- Row	12.8a
	Between Row	9.2b
TABLE OF D x F MEANS (Row Spacing and Sampling Location)		
	36cm On-Row	11.9ab
	36 cm Between Row	11b
	72 cm On-Row	13.8a
	72 cm Between Row	7.6c

COMPLETE SPLIT-PLOT AOV <i>Pratylenchus thornei</i> – Root-lesion Nematode 7/03/2016 <i>P thornei</i> 183 DP1 T2						
Source	DF	SS	MS	F	P	LSD (0.05)
REP (A)	3	0.17096	0.05699	5.58	0.0959	
RLN (B)	1	11.178	11.178	1094.45	0.0001	0.06
Error A*B	3	0.03064	0.01021			
Variety (C)	1	10.3259	10.3259	322.17	0.0000	0.06
Row (D)	1	0.05653	0.05653	1.76	0.1874	
Plant Popn (E)	1	0.04903	0.04903	1.53	0.2193	
Sampling Location (F)	1	0.56547	0.56547	17.64	0.0001	0.06
B*C	1	0.0326	0.0326	1.02	0.3158	
B*D	1	6.38E-04	6.38E-04	0.02	0.8881	
B*E	1	7.38E-03	7.38E-03	0.23	0.6324	
B*F	1	1.27E-03	1.27E-03	0.04	0.8426	
C*D	1	0.08745	0.08745	2.73	0.1019	
C*E	1	0.05167	0.05167	1.61	0.2074	
C*F	1	0.02499	0.02499	0.78	0.3795	
D*E	1	0.03391	0.03391	1.06	0.3063	
D*F	1	0.33845	0.33845	10.56	0.0016	0.09
B*C*D	1	4.71E-04	4.71E-04	0.01	0.9038	
B*C*E	1	6.94E-05	6.94E-05	0	0.963	
B*C*F	1	2.80E-03	2.80E-03	0.09	0.7681	
B*D*E	1	0.01046	0.01046	0.33	0.5692	
B*D*F	1	0.01271	0.01271	0.4	0.5305	
B*E*F	2	0.10812	0.05406	1.69	0.1907	
C*D*E	1	0.03751	0.03751	1.17	0.2822	
C*D*F	1	0.01031	0.01031	0.32	0.572	
C*E*F	1	1.10E-03	1.10E-03	0.03	0.8537	
D*E*F	1	1.26E-05	1.26E-05	0	0.9842	
B*C*D*E	1	0.04084	0.04084	1.27	0.2619	
B*C*D*F	1	0.03271	0.03271	1.02	0.315	
B*D*E*F	1	5.09E-03	5.09E-03	0.16	0.6913	
Error A*B*C*D*E*F	93	2.98074	0.03205			
Total	127	26.1979				