

**Disclaimer:**

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## Root-Lesion Nematode x Sorghum x Deep Phosphorous

Trial ID: **LB1539**                      Location: **Macalister**                      Trial Year: **2015**  
 Investigator: **Linda Bailey**

Planting Date:	14/09/2015
Row Spacing:	81cm
Planting Equipment:	Small Plot Tyne Planter
Harvest Date:	11/02/2016
Deep P Application:	29/11/2013 at 8 inches
Low <i>P thornei</i> (ex-Caparoi 2013):	2.4 Pt/g soil (12/08/2015)
High <i>P thornei</i> (ex-Strzelecki 2013):	29 Pt/g soil (12/08/2015)
PAW Wheat:	130mm (18/02/2015)

Granulock Z Extra (at Planting):	40kg/ha
Total Soil N:	150kg N/ha (18/02/2015)
Colwell P:	21mg/kg (0-10cm)    8mg/kg (10-30cm)
BSES P:	24mg/kg (0-10cm)    10mg/kg (10-30cm)
Target Plant Stand:	90/m <sup>2</sup>
Plot Size (Planted):	9 x 2 m (5 rows x 36cm)
Plot Size (Harvested):	6 x 2m

Trial designed and analysed as a Split Plot

	In Simple Terms
Table of A Means:	Mean of 'Nematode Pop' performance with ALL 'Phosphorus Rate' treatments and 'Variety' treatments
Table of B Means:	Mean of 'Phosphorus Rate' performance with ALL 'Nematode Pop' treatments and 'Variety' treatments
Table of C Means:	Mean of 'Variety' performance with ALL 'Nematode Pop' treatments and 'Phosphorus Rate' treatments
Table of A x B Means:	'Nematode Pop' performance with EACH 'Phosphorus Rate' treatment
Table of A x C Means:	'Nematode Pop' performance with EACH 'Variety' treatment
Table of B x C Means:	'Phosphorus Rate' performance with EACH 'Variety' treatment

### How to interpret?

Is there a significant difference for A x B Means  
A x C Means or  
B x C Means ?

#### If YES

Table A x B Means, A x C Means or  
B x C Means analysis is the key information

#### If NO (ie nsd)

Table A, Table B or Table C Means analysis is the key information

## Root-Lesion Nematode x Sorghum x Deep P

Trial ID: LB1539      Location: Macalister      Trial Year: 2015

Crop Name Assessment Date Assessment Type Assessment Unit Yield CV %		Grain Sorghum			
		20/10/2015 EMERGENCE /m <sup>2</sup>	23/11/2015 NDVI Ratio	23/01/2016 YIELD t/ha 5.6	5/02/2016 PROTEIN %
Trt No.	Treatment				
<b>TABLE OF A MEANS (Nematode Population)</b>					
1	Low RLN population	9.7b	0.759-	6.93-	12.9-
2	High RLN population	10.5a	0.749-	7.13-	12.8-
<b>TABLE OF B MEANS (Phosphorus Rate)</b>					
1	Nil P (10N)	10.4a	0.750-	6.85b	12.9-
2	Deep P (22P10N)	9.8b	0.758-	7.21a	12.8-
<b>TABLE OF C MEANS (Variety)</b>					
1	MR Buster	10.3a	0.735b	7.05b	13.3a
2	MR Apollo	10.6a	0.776a	7.42a	12.9b
3	G33	10.3a	0.760ab	6.64c	12.9b
4	G22	8.8b	0.747b	6.98b	12.5c
5	Dominator	10.4a	0.751ab	7.06b	12.6c
<b>TABLE OF A x B MEANS (Nematode Population x Phosphorus Rate)</b>					
1	Low RLN population Nil P (10N)	10.0-	0.751-	6.8-	12.9-
2	High RLN population Nil P (10N)	10.8-	0.748-	6.9-	12.8-
1	Low RLN population Deep P (22P10N)	9.4-	0.767-	7.0-	12.8-
2	High RLN population Deep P (22P10N)	10.2-	0.750-	7.4-	12.9-
<b>TABLE OF A x C MEANS (Nematode Population x Variety)</b>					
1	Low RLN population MR Buster	10.0-	0.743-	6.84-	13.4-
2	High RLN population MR Buster	10.6-	0.728-	7.26-	13.2-
1	Low RLN population MR Apollo	10.0-	0.769-	7.44-	12.9-
2	High RLN population MR Apollo	11.1-	0.783-	7.41-	12.9-
1	Low RLN population G33	10.1-	0.760-	6.55-	12.8-
2	High RLN population G33	10.4-	0.759-	6.73-	12.9-
1	Low RLN population G22	8.3-	0.766-	6.92-	12.6-
2	High RLN population G22	9.4-	0.729-	7.05-	12.5-
1	Low RLN population Dominator	10.1-	0.756-	6.93-	12.6-
2	High RLN population Dominator	10.8-	0.746-	7.19-	12.6-

**Root-Lesion Nematode x Sorghum x Deep P**

Trial ID: **LB1539**                      Location: **Macalister**                      Trial Year: **2015**

Crop Name Assessment Date Assessment Type Assessment Unit Yield CV %		Grain Sorghum			
		20/10/2015 EMERGENCE /m <sup>2</sup>	23/11/2015 NDVI Ratio	23/01/2016 YIELD t/ha 5.6	5/02/2016 PROTEIN %
Trt No.	Treatment				
<b>TABLE OF B x C MEANS (Phosphorus Rate x Variety)</b>					
1	Nil P (10N)	10.9-	0.732-	6.97-	13.3-
1	MR Buster				
2	Deep P (22P10N)	9.8-	0.739-	7.13-	13.3-
1	MR Buster				
1	Nil P (10N)	10.5-	0.769-	7.29-	13.0-
2	MR Apollo				
2	Deep P (22P10N)	10.6-	0.784-	7.55-	12.8-
2	MR Apollo				
1	Nil P (10N)	10.8-	0.763-	6.34-	12.9-
3	G33				
2	Deep P (22P10N)	9.8-	0.756-	6.94-	12.8-
3	G33				
1	Nil P (10N)	9.1-	0.752-	6.81-	12.5-
4	G22				
2	Deep P (22P10N)	8.5-	0.742-	7.15-	12.6-
4	G22				
1	Nil P (10N)	10.6-	0.732-	6.82-	12.6-
5	Dominator				
2	Deep P (22P10N)	10.3-	0.770-	7.29-	12.6-
5	Dominator				

## Root-Lesion Nematode x Sorghum x Deep P

Trial ID: LB1539

Location: Macalister

Trial Year: 2015

Crop Name Assessment Date Assessment Type Assessment Unit		Grain sorghum		
		5/02/2016 TEST WEIGHT kg/hL	5/02/2016 SCREENINGS %	5/02/2016 N RECOVERY kg N/ha
Trt No.	Treatment			
<b>TABLE OF A MEANS (Nematode Population)</b>				
1	Low RLN population	76.7-	4.7-	155.9-
2	High RLN population	77.0-	4.5-	160.0-
<b>TABLE OF B MEANS (Phosphorus Rate)</b>				
1	Nil P (10N)	76.7-	4.6-	154.0b
2	Deep P (22P10N)	77.0-	4.6-	162.0a
<b>TABLE OF C MEANS (Variety)</b>				
1	MR Buster	77.0a	3.3c	164.0a
2	MR Apollo	76.9a	3.1c	167.7a
3	G33	75.7b	5.2b	149.3b
4	G22	76.8a	5.7ab	153.3b
5	Dominator	77.8a	5.9a	155.7b
<b>TABLE OF A x B MEANS (Nematode Population x Phosphorus Rate)</b>				
1	Low RLN population	76.7-	4.9a	154.0-
1	Nil P (10N)			
2	High RLN population	76.7-	4.3b	154.0-
1	Nil P (10N)			
1	Low RLN population	76.8-	4.5ab	157.9-
2	Deep P (22P10N)			
2	High RLN population	77.2-	4.8ab	166.1-
2	Deep P (22P10N)			
<b>TABLE OF A x C MEANS (Nematode Population x Variety)</b>				
1	Low RLN population	76.7-	3.5-	159.9-
1	MR Buster			
2	High RLN population	77.3-	3.1-	168.0-
1	MR Buster			
1	Low RLN population	76.9-	3.0-	168.0-
2	MR Apollo			
2	High RLN population	76.9-	3.1-	167.3-
2	MR Apollo			
1	Low RLN population	75.9-	5.5-	146.4-
3	G33			
2	High RLN population	75.6-	4.9-	152.2-
3	G33			
1	Low RLN population	76.5-	5.7-	152.1-
4	G22			
2	High RLN population	77.2-	5.8-	154.4-
4	G22			
1	Low RLN population	77.7-	6.0-	153.1-
5	Dominator			
2	High RLN population	77.8-	5.9-	158.3-
5	Dominator			

## Root-Lesion Nematode x Sorghum x Deep P

Trial ID: LB1539      Location: Macalister      Trial Year: 2015

Crop Name Assessment Date Assessment Type Assessment Unit		Grain Sorghum		
		5/02/2016 TEST WEIGHT kg/hL	5/02/2016 SCREENINGS %	5/02/2016 N RECOVERY kg N/ha
Trt No.	Treatment			
<b>TABLE OF B x C MEANS (Phosphorus Rate x Variety)</b>				
1	Nil P (10N)	76.6-	3.4-	161.8-
1	MR Buster			
2	Deep P (22P10N)	77.4-	3.2-	166.2-
1	MR Buster			
1	Nil P (10N)	77.0-	2.5-	165.8-
2	MR Apollo			
2	Deep P (22P10N)	76.7-	3.6-	169.6-
2	MR Apollo			
1	Nil P (10N)	75.2-	5.3-	143.1-
3	G33			
2	Deep P (22P10N)	76.3-	5.0-	155.5-
3	G33			
1	Nil P (10N)	76.9-	5.6-	148.9-
4	G22			
2	Deep P (22P10N)	76.8-	5.9-	157.7-
4	G22			
1	Nil P (10N)	77.8-	6.3-	150.5-
5	Dominator			
2	Deep P (22P10N)	77.7-	5.5-	161.0-
5	Dominator			

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

### Assessment Type

NDVI = Normalized difference vegetation index  
N RECOVERY = Nitrogen Recovery in grain protein

### ARM Action Codes

AL = Automatic log transformation of X+1

## Root-Lesion Nematode x Sorghum x Deep P

Trial ID: LB1539      Location: Macalister      Trial Year: 2015

Pest Scientific Name		<i>Pratylenchus thorneii</i>
Pest Name		Root-Lesion Nematode
Assessment Date		7/03/2016
Assessment Type		COUNT
Assessment Unit		Pt/g soil
Trt No.	Treatment	
6	Low RLN population Deep P (22P10N) MR Buster	3.0-
7	Low RLN population Deep P (22P10N) MR Apollo	4.3-
8	Low RLN population Deep P (22P10N) G33	3.6-
9	Low RLN population Deep P (22P10N) G22	3.2-
10	Low RLN population Deep P (22P10N) Dominator	5.0-
LSD P=		2.35
Treatment Prob.(F) =		nsd

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

Mean separations are based on the complete error term.

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

nsd = No significant difference

### Assessment Unit

Pt/g = *P. thornei* per gram soil

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
20/10/2015						
EMERGENCE /m <sup>2</sup>						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	79	133.55				
R	3	6.85	2.28333	1.3	0.416	
A	1	11.25	11.25	6.43	0.085	
ERROR A	3	5.25	1.75			
B	1	7.20	7.20	6.33	<b>0.015</b>	0.5
C	4	32.80	8.20	7.21	<b>0.000</b>	0.8
AB	1	0.00	0.00	0.00	1.000	
AC	4	2.25	0.56	0.49	0.740	
BC	4	4.05	1.01	0.89	0.476	
ABC	4	2.50	0.63	0.55	0.700	
ERROR BC	54	61.40	1.14			

## Root-Lesion Nematode x Sorghum x Deep P

Trial ID: LB1539

Location:

Macalister

Trial Year:

2015

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
23/11/2015						
NDVI Ratio						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	79	0.1265				
R	3	0.0095	0.0032	4.34	0.130	
A	1	0.0019	0.0019	2.57	0.208	
ERROR A	3	0.0022	0.0007			
B	1	0.0016	0.0016	1.10	0.300	
C	4	0.0149	0.0037	2.60	<b>0.046</b>	0.03
AB	1	0.0011	0.0011	0.78	0.382	
AC	4	0.0057	0.0014	0.99	0.422	
BC	4	0.0063	0.0016	1.09	0.371	
ABC	4	0.0057	0.0014	0.99	0.421	
ERROR BC	54	0.0776	0.0014			

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
23/01/2016						
YIELD t/ha						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	79	22.4998				
R	3	3.2384	1.0795	5.08	0.108	
A	1	0.7547	0.7547	3.55	0.156	
ERROR A	3	0.6377	0.2126			
B	1	2.7122	2.7122	17.53	<b>0.000</b>	0.2
C	4	4.9497	1.2374	8.00	<b>0.000</b>	0.3
AB	1	0.4697	0.4697	3.04	0.087	
AC	4	0.4491	0.1123	0.73	0.578	
BC	4	0.4836	0.1209	0.78	0.542	
ABC	4	0.4509	0.1127	0.73	0.576	
ERROR BC	54	8.3539	0.1547			

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
5/02/2016						
PROTEIN %						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	79	9.358				
R	3	0.175	0.058	1.50	0.373	
A	1	0.013	0.013	0.32	0.610	
ERROR A	3	0.117	0.039			
B	1	0.008	0.008	0.17	0.678	
C	4	5.704	1.426	31.13	<b>0.000</b>	0.2
AB	1	0.061	0.061	1.32	0.256	
AC	4	0.179	0.045	0.98	0.429	
BC	4	0.193	0.048	1.05	0.388	
ABC	4	0.436	0.109	2.38	0.063	
ERROR BC	54	2.474	0.046			

## Root-Lesion Nematode x Sorghum x Deep P

Trial ID: LB1539

Location: Macalister

Trial Year: 2015

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
5/02/2016						
TEST WEIGHT kg/hL						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	75					
R	3	23.469	7.82303	2.33	0.252	
A	1	1.075	1.0752	0.32	0.611	
ERROR A	3	10.063	3.35427			
B	1	0.656	0.65553	0.31	0.578	
C	4	35.776	8.94406	4.27	<b>0.005</b>	1.03
AB	1	1.018	1.01768	0.49	0.489	
AC	4	1.241	0.31037	0.15	0.963	
BC	4	4.189	1.04722	0.5	0.736	
ABC	4	4.417	1.10421	0.53	0.716	
ERROR BC	50	104.686	2.09371			

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
5/02/2016						
SCREENINGS %						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	78					
R	3	3.673	1.2244	2.62	0.225	
A	1	0.629	0.6293	1.35	0.330	
ERROR A	3	1.4	0.4668			
B	1	0.002	0.0018	0	0.966	
C	4	114.294	28.5735	30.02	<b>0.000</b>	0.7
AB	1	3.933	3.9326	4.13	<b>0.047</b>	0.6
AC	4	1.618	0.4044	0.42	0.790	
BC	4	7.957	1.9892	2.09	0.095	
ABC	4	2.855	0.7137	0.75	0.563	
ERROR BC	53	50.441	0.9517			

COMPLETE SPLIT-PLOT AOV						
Grain Sorghum						
5/02/2016						
N RECOVERY kg N/ha						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	79	12286				
R	3	1360.4	453.48	6.38	0.081	
A	1	340.4	340.38	4.79	0.116	
ERROR A	3	213.2	71.08			
B	1	1271.6	1271.56	15.7	<b>0.000</b>	4.0
C	4	3708.6	927.15	11.45	<b>0.000</b>	6.4
AB	1	330.5	330.48	4.08	<b>0.048</b>	5.7-7.0
AC	4	187.1	46.77	0.58	0.680	
BC	4	226.4	56.6	0.7	0.596	
ABC	4	275.6	68.91	0.85	0.499	
ERROR BC	54	4372.2	80.97			