

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.

Mungbean Nutrition

Trial ID: LB1720

Location:

Warra

Trial Year: 2017

Investigator:

Linda Bailey

Objective:	To evaluate the impact of nitrogen application in Mungbean	
Application Date:	29/08/2017	
Application Code:	A	B
Application Depth:	Shallow Placement – Depth 3cm	Deep Placement – Depth 10cm
Planting Date:	12/12/2017	
Planting Depth:	4 cm	
Planting Rate:	27 kg/ha (Target 25 established Plants/m ²)	
Row Spacing:	32 cm	
Planting Equipment:	Small Plot Planter - Tyne	
Harvest Date:	26/03/2018	
Keywords:	Nitrogen, Mungbean	

	In Simple Terms
Table of A Means:	Mean of 'Nitrogen Placement' performance with ALL 'Nitrogen Rate' treatments and '+/- inoculation' treatments
Table of B Means:	Mean of 'Nitrogen Rate' performance with ALL 'Nitrogen Placement' treatments and '+/- inoculation' treatments
Table of C Means:	Mean of '+/- inoculation' performance with ALL 'Nitrogen Placement' treatments and 'Nitrogen Rate' treatments
Table of A x B Means:	'Nitrogen Placement' performance with EACH 'Nitrogen Rate' treatment
Table of A x C Means:	'Nitrogen Placement' performance with EACH '+/- inoculation' treatment
Table of B x C Means:	'Nitrogen Rate' performance with EACH '+/- inoculation' 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

NB: The only interactions that resulted in significant differences were Nitrogen Placement x Nitrogen Rate (A x B) and Nitrogen Placement x Inoculation (A x C Means). AOV tables are presented on the following page for the main effects and the A x B and A x C Means interactions.

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Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit Crop Stage Majority Plant-Evaluation Interval ARM Action Codes				Mungbean Jade AU			
				29/12/2017 EMERGENCE /m ² 13 17 DP1 T1	25/01/2018 NDVI Ratio 71 44 DP1	26/03/2018 YIELD t/ha 104 DP1 TY2	3/04/2018 PROTEIN %
Trt No.	Treatment	Nitrogen Rate	Appln. Code				
TABLE OF A MEANS (Nitrogen Placement)							
1	Shallow Placement		A	35-	0.66-	1.88-	16.6-
2	Deep Placement		B	35-	0.65-	1.95-	16.7-
TABLE OF B MEANS (Nitrogen Rate)							
1	Untreated	-		35-	0.66-	1.90-	16.6-
2	Urea	25kg ai/ha		36-	0.66-	1.96-	16.6-
3	Urea	50kg ai/ha		35-	0.65-	1.93-	16.6-
4	Urea	100kg ai/ha		35-	0.65-	1.87-	16.7-
TABLE OF C MEANS (+/- Inoculation)							
1	No Inoculation			36-	0.66a	1.91-	16.6-
2	Rhizobia Inoculation			35-	0.65b	1.92-	16.6-
TABLE OF A x B MEANS (Nitrogen Placement x Nitrogen Rate)							
1	Shallow Placement	-	A	34.8-	0.67-	1.85-	16.7abc
1a	Shallow Placement	25kg ai/ha	A	35.8-	0.67-	1.93-	16.4d
1b	Shallow Placement	50kg ai/ha	A	36.0-	0.65-	1.90-	16.6bcd
1c	Shallow Placement	100kg ai/ha	A	35.0-	0.65-	1.86-	16.6a-d
2	Deep Placement	-	B	34.6-	0.66-	1.96-	16.5cd
2a	Deep Placement	25kg ai/ha	B	35.6-	0.66-	1.99-	16.8ab
2b	Deep Placement	50kg ai/ha	B	34.3-	0.66-	1.96-	16.6a-d
2c	Deep Placement	100kg ai/ha	B	34.4-	0.64-	1.89-	16.8a
TABLE OF A x C MEANS (Nitrogen Placement x Inoculation)							
1	Shallow, No Inoculation		A	36.3-	0.67-	1.87-	16.5b
1a	Shallow + Rhizobia		A	34.5-	0.65-	1.90-	16.6ab
2	Deep, No Inoculation		B	34.8-	0.66-	1.94-	16.7a
2a	Deep + Rhizobia		B	34.6-	0.65-	1.95-	16.6ab

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

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FACTORIAL/POOLED ERROR AOV Mungbean - Jade AU 29/12/2017 EMERGENCE /m² 13 17 DP1 T1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	963.745117				
R	3	59.738159	19.912720	1.117	0.3523	
A	1	7.476807	7.476807	0.419	0.5206	2.1
B	3	12.512207	4.170736	0.234	0.8723	3.0
AB	3	6.561279	2.187093	0.123	0.9463	4.3
C	1	16.822815	16.822815	0.943	0.3366	2.1
AC	1	11.024475	11.024475	0.618	0.4358	3.0
BC	3	31.852722	10.617574	0.595	0.6213	4.3
ABC	3	15.373230	5.124410	0.287	0.8342	6.0
ERROR	45	802.383423	17.830743			

FACTORIAL/POOLED ERROR AOV Mungbean - Jade AU 25/01/2018 NDVI Ratio 71 44 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	0.050716				
R	3	0.016855	0.005618	12.240	0.0001	
A	1	0.001151	0.001151	2.507	0.1203	0.011
B	3	0.003756	0.001252	2.727	0.0551	0.015
AB	3	0.000556	0.000185	0.404	0.7509	0.022
C	1	0.002586	0.002586	5.633	0.0220	0.011
AC	1	0.000717	0.000717	1.562	0.2179	0.015
BC	3	0.001926	0.000642	1.399	0.2555	0.022
ABC	3	0.002513	0.000838	1.825	0.1562	0.031
ERROR	45	0.020656	0.000459			

FACTORIAL/POOLED ERROR AOV Mungbean - Jade AU 26/03/2018 YIELD t/ha 104 DP1 TY2						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	2.313818				
R	3	0.703174	0.234391	7.758	0.0003	
A	1	0.062500	0.062500	2.069	0.1573	0.09
B	3	0.066646	0.022215	0.735	0.5365	0.12
AB	3	0.012896	0.004299	0.142	0.9341	0.18
C	1	0.003342	0.003342	0.111	0.7410	0.09
AC	1	0.001077	0.001077	0.036	0.8511	0.12
BC	3	0.065598	0.021866	0.724	0.5431	0.18
ABC	3	0.039045	0.013015	0.431	0.7319	0.25
ERROR	45	1.359541	0.030212			

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FACTORIAL/POOLED ERROR AOV Mungbean - Jade AU 3/04/2018 PROTEIN %						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	5.797344				
R	3	0.499219	0.166406	2.295	0.0906	
A	1	0.213906	0.213906	2.950	0.0928	0.1
B	3	0.239219	0.079740	1.100	0.3592	0.2
AB	3	0.965469	0.321823	4.438	0.0081	0.3
C	1	0.003906	0.003906	0.054	0.8175	0.1
AC	1	0.406406	0.406406	5.604	0.0223	0.2
BC	3	0.155469	0.051823	0.715	0.5484	0.3
ABC	3	0.050469	0.016823	0.232	0.8736	0.4
ERROR	45	3.263281	0.072517			

Assessment Type

NDVI = Normalized difference vegetation index

Crop Stage Majority

13 = 3rd True leaf (first trifoliate leaf) unfolded

71 = 10% of pods have reached typical length (beginning of pod development)

ARM Action Codes

T1 = [C1]/1.28

TY2 = 0.625*[4]

DP1 = Days after Planting

Application Description		
	A	B
Application Date:	29/08/2017	
Application Method:	DRILLED	
Application Placement:	3 cm Depth	10 cm Depth