

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: **BD1714** Location: **Mullaley** Trial Year: **2017**
 Investigator: **Branko Duric**

Objective:	To evaluate the impact of nitrogen application in Mungbean	
Application Code:	A	B
Nitrogen Application Date:	13/09/2017	
Nitrogen Application Depth:	Shallow Placement – Depth 3-4cm	Deep Placement – Depth 16-17cm
Planting Date:	12/12/2017	
Planting Depth:	3cm	
Row Spacing:	32 cm	
Planting Equipment:	Small Plot Planter - Tyne	
Harvest Date:	9/03/2018	
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: As there was no significant difference for any interaction, only the main treatment effects are shown.

Crop Name				Mungbean			
Crop Variety				Jade AU			
Assessment Date				27/12/2017	12/01/2018	9/03/2018	28/03/2018
Assessment Type				EMERGENCE	NDVI	YIELD	PROTEIN
Assessment Unit				/m ²	Ratio	t/ha	%
Crop Stage Majority:				13	60	89	
Plant-Evaluation Interval				15 DP1	31 DP1	87 DP1	106 DP1
Trt No.	Treatment	Nitrogen Rate	Appln. Code				
TABLE OF A MEANS (Urea Placement)							
1	Shallow Placement		A	30-	0.59-	0.81-	16.5-
2	Deep Placement		B	30-	0.60-	0.82-	16.4-
TABLE OF B MEANS (Urea Rate)							
1	Untreated	-		31-	0.60-	0.79b	16.0c
2	Urea	25kg N/ha		31-	0.59-	0.78b	16.4b
3	Urea	50kg N/ha		28-	0.59-	0.79b	16.6a
4	Urea	100kg N/ha		31-	0.60-	0.91a	16.7a
TABLE OF C MEANS (Inoculation)							
1	No Inoculation			30-	0.60-	0.81-	16.4-
2	Rhizobia Inoculation			31-	0.59-	0.83-	16.5-

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

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2017

FACTORIAL/POOLED ERROR AOV						
Mungbean - Jade AU						
27/12/2017						
EMERGENCE /m ² 13 15 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	824.241638				
R	3	21.247864	7.082621	0.534	0.6614	
A	1	0.152588	0.152588	0.012	0.9151	2
B	3	64.506531	21.502177	1.621	0.1978	3
AB	3	44.250488	14.750163	1.112	0.3543	4
C	1	6.446838	6.446838	0.486	0.4893	2
AC	1	21.972656	21.972656	1.656	0.2047	3
BC	3	38.871765	12.957255	0.977	0.4122	4
ABC	3	29.754639	9.918213	0.748	0.5295	5
ERROR	45	597.038269	13.267517			

FACTORIAL/POOLED ERROR AOV						
Mungbean - Jade AU						
12/01/2018						
NDVI Ratio 60 31 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	0.102393				
R	3	0.004112	0.001371	0.817	0.4912	
A	1	0.002213	0.002213	1.319	0.2568	0.02
B	3	0.000841	0.000280	0.167	0.9180	0.03
AB	3	0.006721	0.002240	1.335	0.2747	0.04
C	1	0.000004	0.000004	0.002	0.9631	0.02
AC	1	0.003890	0.003890	2.319	0.1348	0.03
BC	3	0.002121	0.000707	0.421	0.7385	0.04
ABC	3	0.007004	0.002335	1.392	0.2575	0.06
ERROR	45	0.075488	0.001678			

FACTORIAL/POOLED ERROR AOV						
Mungbean - Jade AU						
9/03/2018						
YIELD t/ha 89 87 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	0.842486				
R	3	0.089481	0.029827	2.868	0.0469	
A	1	0.001897	0.001897	0.182	0.6714	0.05
B	3	0.194031	0.064677	6.218	0.0013	0.07
AB	3	0.022730	0.007577	0.728	0.5404	0.10
C	1	0.008582	0.008582	0.825	0.3685	0.05
AC	1	0.016748	0.016748	1.610	0.2110	0.07
BC	3	0.034562	0.011521	1.108	0.3560	0.10
ABC	3	0.006378	0.002126	0.204	0.8928	0.15
ERROR	45	0.468076	0.010402			

Mungbean Nutrition

Trial ID: **BD1714**Location: **Mullaley**Trial Year: **2017**

FACTORIAL/POOLED ERROR AOV Mungbean - Jade AU 28/03/2018 PROTEIN % 106 DP1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	63	10.703594				
R	3	0.146719	0.048906	0.508	0.6786	
A	1	0.056406	0.056406	0.586	0.4479	0.2
B	3	5.449219	1.816406	18.874	0.0001	0.2
AB	3	0.341719	0.113906	1.184	0.3266	0.3
C	1	0.131406	0.131406	1.365	0.2488	0.2
AC	1	0.026406	0.026406	0.274	0.6030	0.2
BC	3	0.044219	0.014740	0.153	0.9271	0.3
ABC	3	0.176719	0.058906	0.612	0.6107	0.4
ERROR	45	4.330781	0.096240			

Assessment Type

NDVI = Normalized difference vegetation index

Crop Stage Majority13 = 3rd True leaf (1st trifoliolate) unfolded

60 = First flowers open (sporadically)

89 = Fully ripe: pods ripe (beans hard)

DP1 = Days after Planting

Application Description		
	A	B
Application Date:	14/09/2017	14/09/2017
Application Start Time:	11:00AM	
Application Stop Time:	1:00 PM	
Application Method:	DRILLED	
Application Placement:	3-4 cm depth	16-17 cm depth