

MSU Soil Fertility Research Program

VARIETAL RESPONSE OF DRY BEAN TO POTASSIUM

Trial ID: DB03-19 Location: SVRF Trial Year: 2019

Investigator: Kurt Steinke

Project ID: DBPOT

Crop Code						PHSSS
Crop Name						Bean
Description						lbs
Rating Date						Sep-25-2019
Rating Type						YIELD
Rating Unit						CWT
Crop Stage Scale						HARVEST
ARM Action Codes						AL TY3
Number of Decimals						1
Trt Treatment No. Name	Form Form Conc Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	3
TABLE OF R MEANS						
Replicate 1						24.9
Replicate 2						24.1
Replicate 3						24.9
Replicate 4						23.5
TABLE OF A (Variety) MEANS						
1 Zenith						23.3 a
2 Black Bear						23.2 a
3 Viper						25.3 a
4 Merlin						25.7 a
LSD P=.05						3.57 - 3.73
Standard Deviation						0.10t
CV						6.80t
TABLE OF B (Fertilizer) MEANS						
1 CHECK						24.3 a
1 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	
2 Muriate of Potash 0-0-60	60 GR	25 lb ai/a	41.7 lb/a		PPI	24.7 a
2 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	
3 Muriate of Potash 0-0-60	60 GR	50 lb ai/a	83 lb/a		PPI	23.8 a
3 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	
4 Muriate of Potash 0-0-60	60 GR	100 lb ai/a	167 lb/a		PPI	26.5 a
4 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	
5 Muriate of Potash 0-0-60	60 GR	150 lb ai/a	250 lb/a		PPI	22.9 a
5 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	
6 Muriate of Potash 0-0-60	60 GR	200 lb ai/a	333 lb/a		PPI	24.1 a
6 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	
LSD P=.05						3.50 - 3.51
Standard Deviation						0.08t
CV						5.99t
TABLE OF A (Variety) B (Fertilizer) MEANS						
1 Zenith						22.1 a
1 CHECK						
1 Urea 46-0-0	46 GR	60 lb ai/a	130 lb/a		PPI	

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

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Rating Type Rating Unit Crop Stage Scale ARM Action Codes Number of Decimals							YIELD CWT HARVEST AL TY3 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	3
2	Black Bear							23.2 a
1	CHECK							
1	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
3	Viper							27.7 a
1	CHECK							
1	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
4	Merlin							24.6 a
1	CHECK							
1	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
1	Zenith							25.2 a
2	Muriate of Potash 0-0-60	60	GR	25 lb ai/a	41.7 lb/a		PPI	
2	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
2	Black Bear							23.1 a
2	Muriate of Potash 0-0-60	60	GR	25 lb ai/a	41.7 lb/a		PPI	
2	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
3	Viper							25.7 a
2	Muriate of Potash 0-0-60	60	GR	25 lb ai/a	41.7 lb/a		PPI	
2	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
4	Merlin							25.0 a
2	Muriate of Potash 0-0-60	60	GR	25 lb ai/a	41.7 lb/a		PPI	
2	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
1	Zenith							21.8 a
3	Muriate of Potash 0-0-60	60	GR	50 lb ai/a	83 lb/a		PPI	
3	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
2	Black Bear							22.4 a
3	Muriate of Potash 0-0-60	60	GR	50 lb ai/a	83 lb/a		PPI	
3	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
3	Viper							25.4 a
3	Muriate of Potash 0-0-60	60	GR	50 lb ai/a	83 lb/a		PPI	
3	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
4	Merlin							25.9 a
3	Muriate of Potash 0-0-60	60	GR	50 lb ai/a	83 lb/a		PPI	
3	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
1	Zenith							23.5 a
4	Muriate of Potash 0-0-60	60	GR	100 lb ai/a	167 lb/a		PPI	
4	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	

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Crop Code Crop Name Description Rating Date							PHSSS Bean lbs Sep-25-2019	
Rating Type Rating Unit Crop Stage Scale ARM Action Codes Number of Decimals							YIELD CWT HARVEST AL TY3 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Other Rate	Other Rate Unit	Growth Stage	3
2	Black Bear							27.0 a
4	Muriate of Potash 0-0-60	60	GR	100 lb ai/a	167 lb/a		PPI	
4	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
3	Viper							24.5 a
4	Muriate of Potash 0-0-60	60	GR	100 lb ai/a	167 lb/a		PPI	
4	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
4	Merlin							31.5 a
4	Muriate of Potash 0-0-60	60	GR	100 lb ai/a	167 lb/a		PPI	
4	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
1	Zenith							23.9 a
5	Muriate of Potash 0-0-60	60	GR	150 lb ai/a	250 lb/a		PPI	
5	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
2	Black Bear							23.5 a
5	Muriate of Potash 0-0-60	60	GR	150 lb ai/a	250 lb/a		PPI	
5	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
3	Viper							20.8 a
5	Muriate of Potash 0-0-60	60	GR	150 lb ai/a	250 lb/a		PPI	
5	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
4	Merlin							23.5 a
5	Muriate of Potash 0-0-60	60	GR	150 lb ai/a	250 lb/a		PPI	
5	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
1	Zenith							23.5 a
6	Muriate of Potash 0-0-60	60	GR	200 lb ai/a	333 lb/a		PPI	
6	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
2	Black Bear							20.3 a
6	Muriate of Potash 0-0-60	60	GR	200 lb ai/a	333 lb/a		PPI	
6	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
3	Viper							28.3 a
6	Muriate of Potash 0-0-60	60	GR	200 lb ai/a	333 lb/a		PPI	
6	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
4	Merlin							24.6 a
6	Muriate of Potash 0-0-60	60	GR	200 lb ai/a	333 lb/a		PPI	
6	Urea 46-0-0	46	GR	60 lb ai/a	130 lb/a		PPI	
LSD P=.05							6.72 - 7.78	
Standard Deviation							0.08t	
CV							5.99t	

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COMPLETE SPLIT-PLOT AOV For PHSSS Bean lbs Sep-25-2019 YIELD CWT HARVEST AL TY3 1 (Data Column 3)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.05)
Total	95	0.671381				
R	3	0.009917	0.003306	0.468	0.7058	
A	3	0.036695	0.012232	1.342	0.3209	3.6 - 3.7
ERROR A	9	0.082023	0.009114			
B	5	0.032670	0.006534	0.925	0.4713	3.5 - 3.5
AB	15	0.086181	0.005745	0.813	0.6590	6.7 - 7.8
ERROR B	60	0.423895	0.007065			
FACTORIAL/POOLED ERROR AOV For PHSSS Bean lbs Sep-25-2019 YIELD CWT HARVEST AL TY3 1 (Data Column 3)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.05)
Total	95	0.671381				
R	3	0.009917	0.003306	0.451	0.7175	
A	3	0.036695	0.012232	1.668	0.1819	2.9 - 2.9
B	5	0.032670	0.006534	0.891	0.4920	3.6 - 3.6
AB	15	0.086181	0.005745	0.784	0.6908	6.8 - 7.9
ERROR	69	0.505918	0.007332			

Crop Code

PHSSS, BVBE, Phaseolus sp., Bean = US

Rating Type

YIELD = yield

Rating Unit

CWT = hundredweight (u.s.=100 lb)

ARM Action Codes

AL = Automatic log transformation of X+1

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