

Rice Nutritional Trials 2016

Mabry McCray¹ and Osvaldo Gargiulo²

¹University of Florida, EREC

²Florida Crystals Corporation

Phosphorus/Potassium Trial

Objective: To determine the yield response of rice to phosphorus and potassium fertilization on organic soils and to relate potential yield response to extractable nutrients

Preplant Soil Phosphorus and Potassium

Pw/Pm3/K: 0-6 inches

Rep 8	14/12/98			
Rep 7			12/11/116	
Rep 6		14/20/139		
Rep 5			15/17/118	
Rep 4				13/24/121
Rep 3			12/16/102	
Rep 2		11/13/90		
Rep 1				13/23/85

Phosphorus/Potassium Trial

Harvest Weights

<u>Treatment</u>	<u>Fertilizer Application</u>	<u>Rice Yield (lb/acre)</u>
1	None	4660a
2	75 lb P ₂ O ₅ /acre	4927a
3	75 lb K ₂ O/acre	4752a
4	75 lb P ₂ O ₅ /acre + 75 lb K ₂ O/acre	4771a
F-test		0.767
<u>Contrast</u>		
None vs P		0.302
None vs K		0.721
None vs P+K		0.666

Rice yield means followed by the same letter are not significantly different according to Tukey-Kramer at $P \leq 0.05$.

Phosphorus/Potassium Trial: Conclusions

- There were no yield responses to P or K at this location
- Soil P and K levels at this location were not low enough to have yield response to fertilizer P or K

Silicon Trial

Objective: To compare rice yield response to calcium silicate and stainless steel slag on organic soils

Preplant Soil Silicon

Soil Si 0-6/6-12 inches

22/27	22/46	25/47	28/28	32/31
Rep 5				
18/21	18/13	16/19	32/17	32/24
Rep 4				
31/16	22/18	27/32	48/30	35/32
Rep 3				
32/18	26/20	42/23	38/24	38/43
Rep 2				
28/24	12/12	20/16	35/20	33/26
Rep 1				

Silicon Trial Harvest Weights

Treatment	Material	Rate (tons/acre)	Rice Yield (lb/acre)
1	None	0	5411a
2	Tennessee	2	5064a
3	Tennessee	3	5411a
4	Alabama	2	5173a
5	Alabama	3	5440a
F-test			0.281
<u>Contrasts</u>			
None vs Others			0.453
2,3 vs 4,5			0.640
2 vs 3			0.097
4 vs 5			0.221

Rice yield means followed by the same letter are not significantly different according to Tukey-Kramer at $P \leq 0.05$.

Silicon Trial: Conclusions

- There were no significant differences in yield among any of the Si treatments
- Preplant soil Si values were too high to make a comparison between the two slag materials