Rice Phosphorus/Potassium Experiment

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Background

- We have not determined rice yield responses to phosphorus or potassium fertilizer in previous small-plot experiments in the EAA
- Dr. George Snyder also conducted a number of P and K trials with rice and did not find responses
- In 2018 we set up a strip-plot trial with the Sugar Cane Growers Cooperative

Objective and Design

- Evaluate rice yield response to phosphorus and potassium fertilizer on an organic soil in the EAA

Treatments: No fertilizer

45 lb P_2O_5/acre

60 lb K_2O/acre

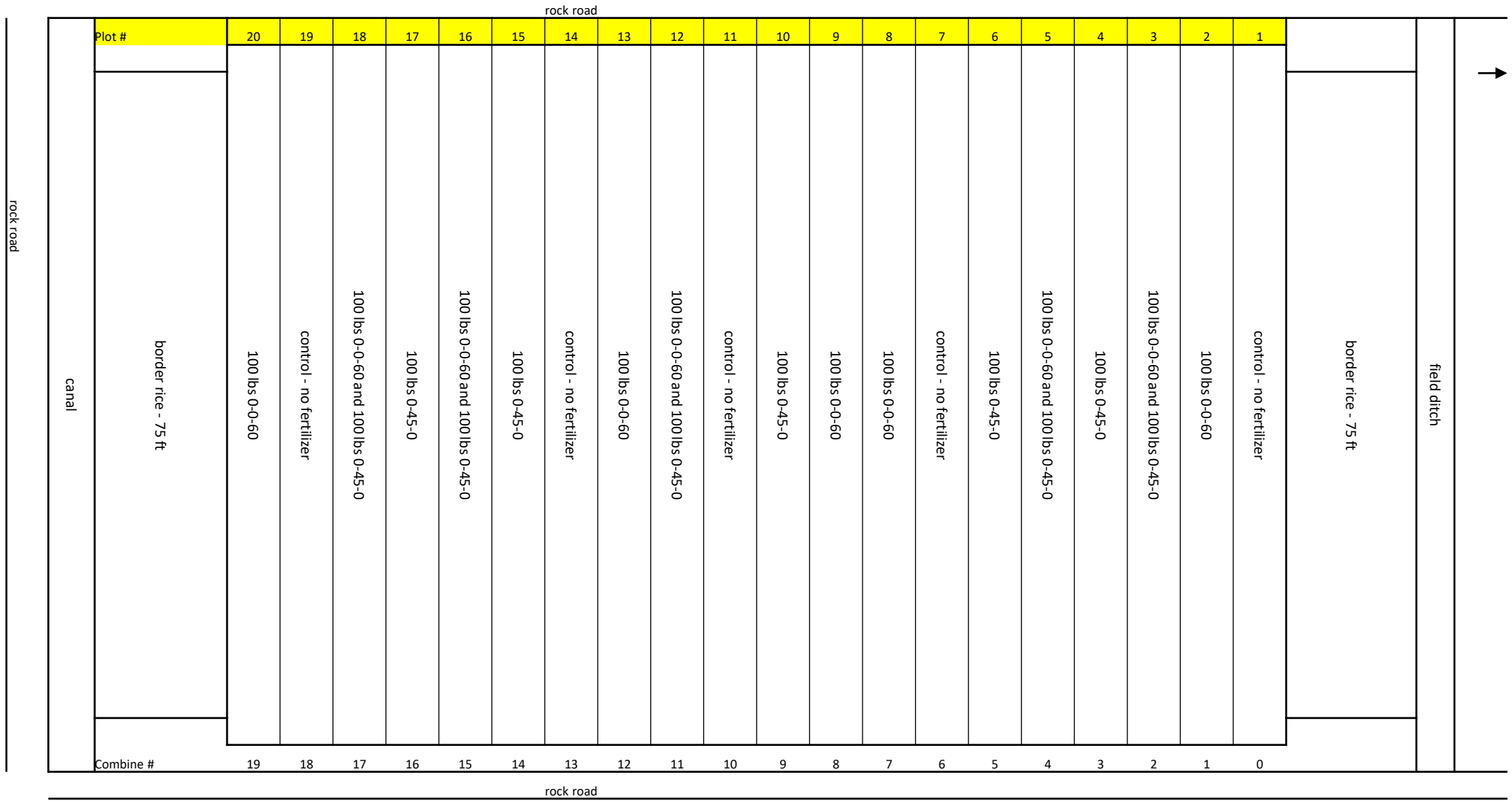
45 lb P_2O_5 + 60 lb K_2O/acre

Randomized Complete Block Design in Strip Plots

Field Layout

SCGC - Glades Sugar Farm **Plant Date: 2/26/2018** **Plot Size: 25' x 2350'**

Field: 38-BC-26N **Variety: Diamond** **North**



Harvest Data

Effect	Harvest Weights Significance (P > F)
P Rate	0.506 (NS)
K Rate	0.361 (NS)
P X K	0.529 (NS)

P Rate (lb P_2O_5/ac)	K Rate (lb K_2O/ac)	Harvest Weight (lb)	% Moisture
0	0	9027	15.5
45	0	8857	15.5
0	60	8823	15.5
45	60	8818	15.6

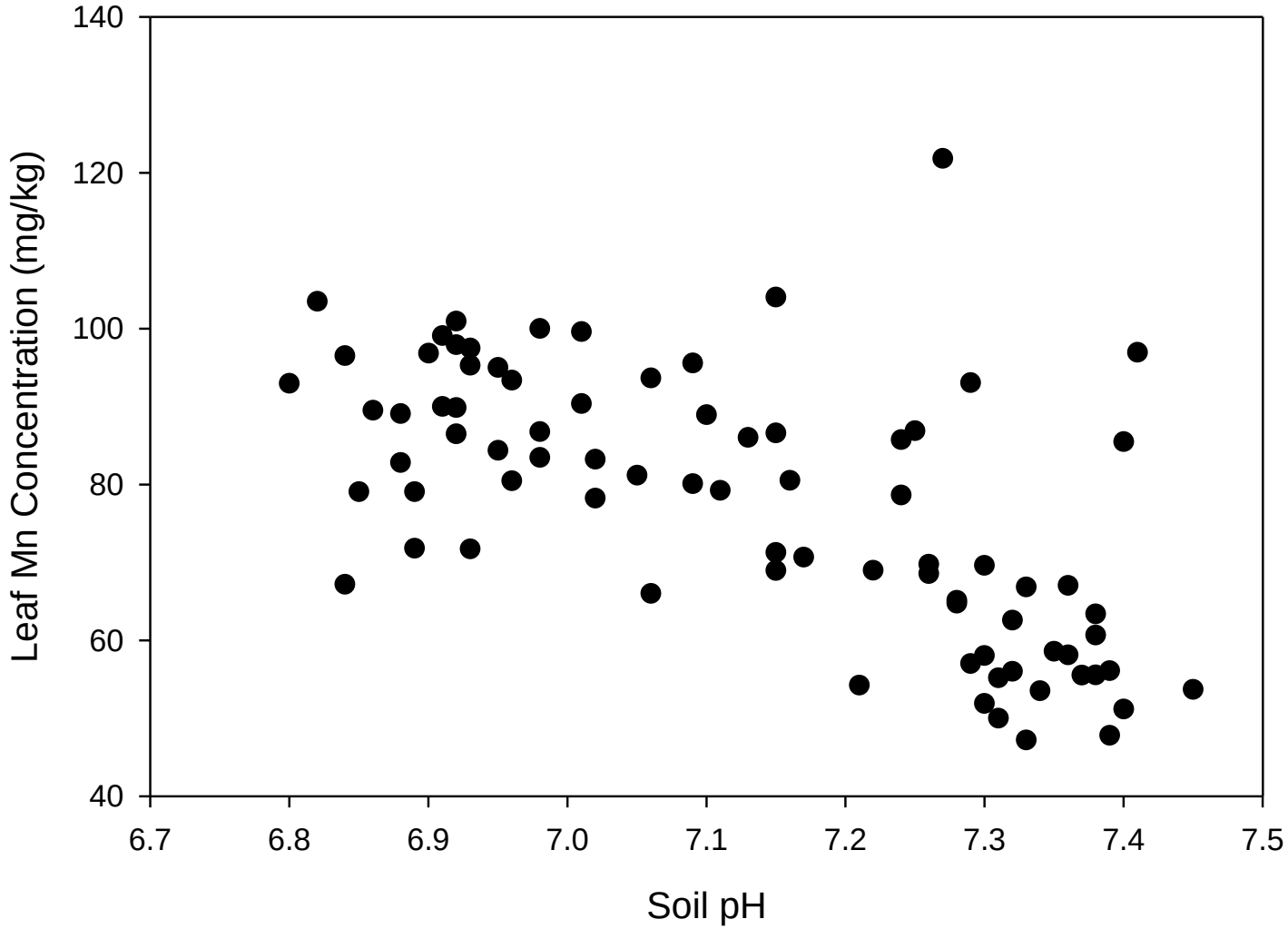
Soil and Leaf P and K Concentrations

Pre-Plant Soil Test Values		
Pm	Pw	K
41	5.5	98

Effect	Leaf P	Leaf K
P Rate	0.795 (NS)	0.695 (NS)
K Rate	0.817 (NS)	0.845 (NS)
P X K	0.673 (NS)	0.710 (NS)

P Rate (lb P_2O_5/ac)	K Rate (lb K_2O/ac)	Flag Leaf P (%)	Flag Leaf K (%)
0	0	0.286	1.62
45	0	0.290	1.63
0	60	0.289	1.63
45	60	0.289	1.63

Soil and Leaf Nutrient Relationships



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