

Experiment Info:

Planted: 4/11
Variety: CL151
Row Spacing: 7.5"
Previous Crop: rice
Plot Size: 8' x 30'
Replications: 4
N applicaiton: 5/26
Harvested: 8/16

Soil Test Values (ppm):

pH: 6.2
CEC: 9.5
% OM: 1.7
M3-P: 47
M3-K: 121
M3-S: 9
% K: 3.1
% Mg: 27.4
% Ca: 55.4
% H: 12.0
% Na: 2.0
Zn: 1.0
Mn: 33.0
B: 0.4

Objective:

Determine the best fit for AgroLiquid fertilizer programs in rice.

Rice is a complicated crop in the South due to its being grown in flooded fields after a certain growth stage is reached. Liquid fertilizer has shown potential as a nutrient supply of all but the nitrogen. Due to the flooding, solution nitrogen has proven ineffective compared to the standard of urea. But research conducted at this site in 2011 has shown that AgroLiquid is superior to the standard dry applications of other nutrients. Furthermore, substantial yield improvement of the dry program was obtained by combining ferti-Rain with a post-emergence herbicide application of Command. So AgroLiquid nutrition was shown to have a good fit, and follow-up research was conducted in 2012 to confirm results. One new treatment was applied, and that was a soil application of the AgroLiquid program for comparison to the same fertilizer treatment applied postemergence with the herbicide. Results are in the table.

				Yield - lb/A		
	Fertilizer	Rate/A	Method	2011	2012	Average
1	5-16-36-4S-0.4Zn	200 lb	Preplant incorporated	4072	3434	3753
2	5-16-36-4S-0.4Zn ferti-Rain	200 lb 1 gal	Preplant incorporated foliar with Command*	4906	4182	4544
3	Pro-Germinator + Sure-K + access + Micro 500 + Liberate Ca	3 gal 5.75 gal 2 qt 2 qt 1 qt	Broadcast after planting	--	4239	
4	Pro-Germinator + Sure-K + access + Micro 500 + Liberate Ca	3 gal 5.75 gal 2 qt 2 qt 1 qt	foliar with Command*	4863	3988	4425.5
LSD(0.05):				749	524	

2012: Plots were planted on April 11 with CL151 rice.
Applied to 2 inch
* - rice on May 20.
Urea (200 lb/A) applied to all plots on May 26 (Note: 300 lb/A urea used in 2011)

Conclusions:

- The yield with the standard dry program was significantly lower than any of the AgroLiquid options.
- Application of ferti-Rain with the Command herbicide resulted in a significant increase in yield.
- Application of the complete AgroLiquid program had a higher yield when applied to the soil shortly after planting vs waiting till postemergence over a month after planting. It is likely that earlier access to applied nutrition is an advantage. But the later application of the Liquid fertilizer still out-yielded the standard dry program. Future research with AgroLiquid should compare pre-plant incorporation vs pre-emergence to the soil surface.
- Two years of similar positive results should prove that AgroLiquid has a good fit in rice.