AGRO-CULTURE LIQUID FERTILIZERS

Fertilizer Effects on Stand and Yield of 38" Row Soybeans. Impact Agronomics. Pantego , NC

Experiment Info:	
Planted:	05/07/14
Harvest:	10/02/14
Yield Goal:	60
Target Fert.:	0-40-60
Variety:	P48T53R
Population:	115,000
Row Width:	36"
Prev. Crop:	soybeans
Plot Size:	12' x 40'
Replications:	4

Soil Test Values (ppm):	
pH:	
CEC:	
%OM:	
Bray P1:	NCDA 30
Bicarb P:	
K:	NCDA 100
S:	
%K:	
%Mg:	
%Ca:	
%H:	
Zn:	
Mn:	
B:	

Objective:

Determine effects of conventional dry broadcast, liquid in-furrow and foliar fertilizers on stand and yield of soybeans in 38" rows.

This area of North Carolina is a new area of AgroLiquid research. Conventional dry fertilizer is commonly broadcast and incorporated prior to planing in this heavy soil that not too long ago was forested ground. Soybeans are commonly planted in 38" rows as is cotton. It would be thought that in-furrow liquid applications would not be recommended due to potential effects on stand in these wider rows. The state of North Carolina has its own soil test system, called the NCDA, and I am not fully informed of interpreting results. But treatments were applied both in furrow, foliar, in furrow and foliar, dry broadcast, and dry broadcast and foliar. Stand counts were taken in soil applied treatments to give relative plants per acre comparisons. Results are in the table.

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Impact Agronomics. Pantego, NC - 2014

#	Treatment	gal or lb/A	placement	Stand x1000	Bu/A	Rank
1	Pro-Germinator + Sure-K + Micro 500	1.5 + 2 + 0.25 (3.75 total)	In furrow	118	76.3	6
2	Pro-Germinator + Sure-K + Micro 500	3 + 4 + 0.25 (7.25 total)	In furrow	115	81.3	3
3	Pro-Germ. + Sure-K + Micro 500 + LiberateCa	3 + 4 + 0.25 + 0.25	In furrow	115	77.2	5
4	Pro-Germ. + Sure-K + M 500 + LiberateCa Sure-K + ferti-Rain + Manganese + Boron	3 + 4 + 0.25 + 0.25 2 + 1 + 0.25 + 0.25	In furrow foliar pre-bloom		82.4	2
5	(No planter treatment) Sure-K + ferti-Rain + Manganese + Boron	2 + 1 + 0.25 + 0.25	foliar pre-bloom		83.3	1
6	6-18-36 (1/3 DAP + 2/3 Potash)	200 lb	pre-plant incorp.		80.8	4
7	6-18-36 (1/3 DAP + 2/3 Potash) Sure-K + ferti-Rain + Manganese + Boron	200 lb 2 + 1 + 0.25 + 0.25	pre-plant incorp. foliar pre-bloom	110	74.8	7
8	No fertilizer			117	63.8	8

LSD(0.1): 6.9. CV: 6.2%

Conclusions:

- In furrow fertilizer applications did not have a negative effect on soybean stand as has been seen elsewhere. In fact, the lowest stand was from the dry broadcast fertilizer which was surprising.
- Although the in furrow liquid fertilizer treatments did increase yield, the highest yield was from the foliar application with no other fertilizer applied. Again it is seen that the foliar applied nutrition can enter the plant and be distributed to the sites of reproduction for yield enhancement effects.
- It is not clear why the yield of the dry fertilizer plus liquid foliar (trt 7) was lower than that of the dry alone. But the yield with the Liquid foliar only was greater than the dry anyway, with less field work.