

Cover Crop Effects on Iron Chlorosis in Soybeans on High pH Soils 2012

Objective

- Evaluate the effects of cover crop and poultry litter on growth and yield of Pioneer® brand soybean varieties on high pH soils in the Blackbelt Region of Alabama.

Study Description

University Cooperator:	Dr. Dennis Delaney, Auburn University
Soil pH:	8.1
Experimental Design:	Randomized Complete Block
Replicates:	4
Factors:	
Cover Crop:	None/Fallow Wheat Cover Crop
Poultry Litter:	None 2 tons/acre
Pioneer® Brand Soybean Varieties:	
95Y40 (RR) -- 3*	95Y70 (RR, STS) -- 4*
95M82 (RR) -- 4*	96M60 (RR) -- 7*

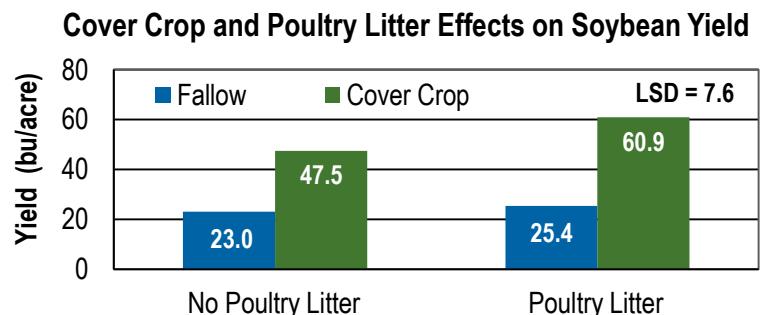
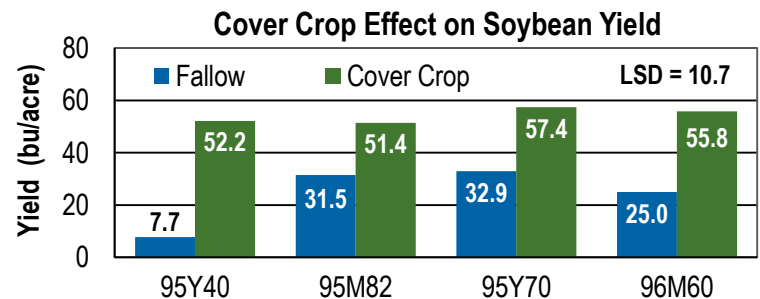
*Iron Chlorosis score rated on a scale of 1-9 where 1=susceptible and 9=tolerant.



Soybean variety susceptible to IDC (95Y40), with poultry litter application. Montgomery county; May 15, 2012.

Results

- Using a cover crop increased yields of all soybean varieties.
- Yield of the most iron deficiency chlorosis (IDC) sensitive variety (95Y40) was increased 45 bu/acre when a cover crop was utilized.
- Yield increases associated with a cover crop ranged from 20 to 31 bu/acre with other varieties.
- Yield of all varieties was similar when a cover crop was utilized.
- Using a cover crop increased yields in the presence and absence of poultry litter.
- Maximum yields were achieved when a cover crop was used in combination with poultry litter.
- These findings suggest that a wheat cover crop can reduce the severity of iron chlorosis on high pH soils and provide a means of effectively using poultry litter as a nutrient source.



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