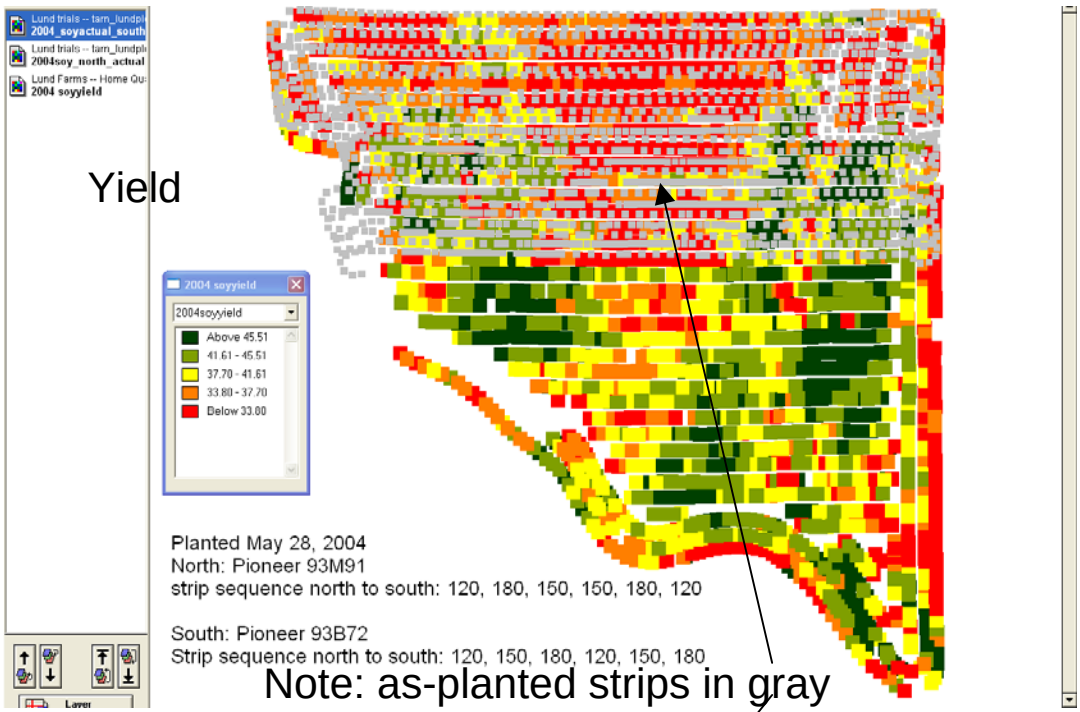
2004 soybean population trial

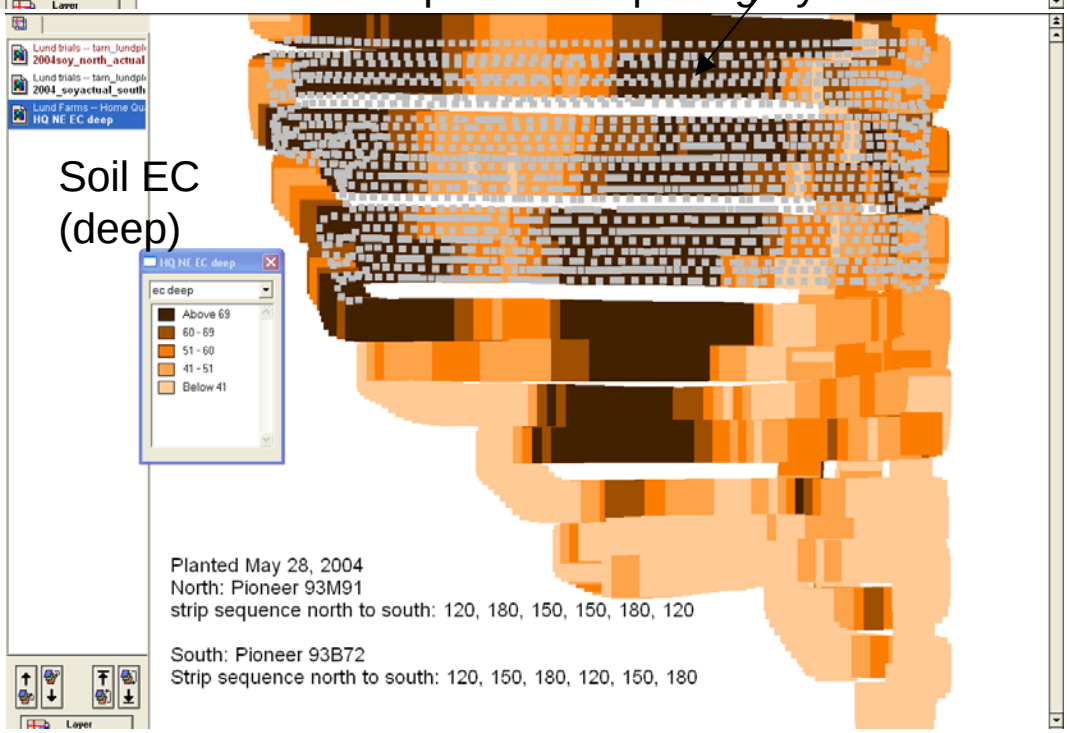
Location: Eastern Saline county

Description: 3 rates (120,000, 150,000, and 180,000) of two soybean varieties were planted across a field with known soil texture and historical yield variability;

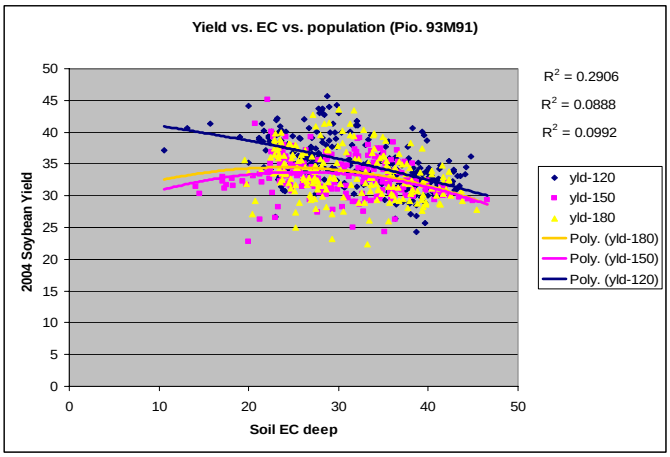
Each population replicated once for each variety

Stand counts were taken in July from all EC-defined texture areas

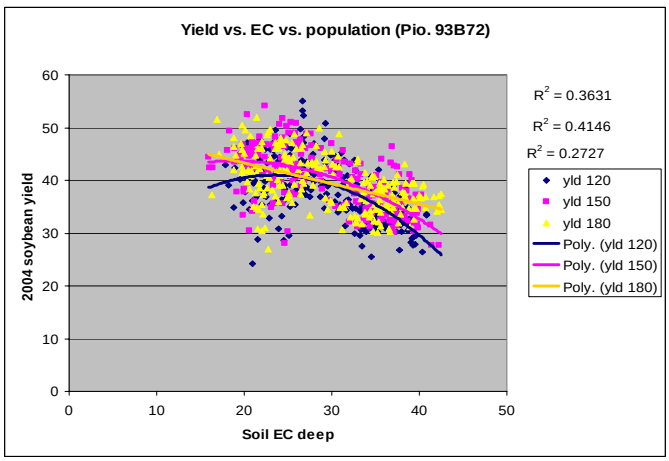




2004 soybean population results



Variety 93M91 120,000 vs. 180,000		
t-Test: Two-Sample Assuming Unequal Variances		
	Variable 1	*Variable 2*
Mean	35.1918105	33.42180797
Variance	15.72631882	13.79790084
Observations	251	220
Hypothesized M	0	
df	467	
t Stat	4.998882624	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.65	
P(T<=t) two-tail	0.000000817	
t Critical two-tail	1.97	

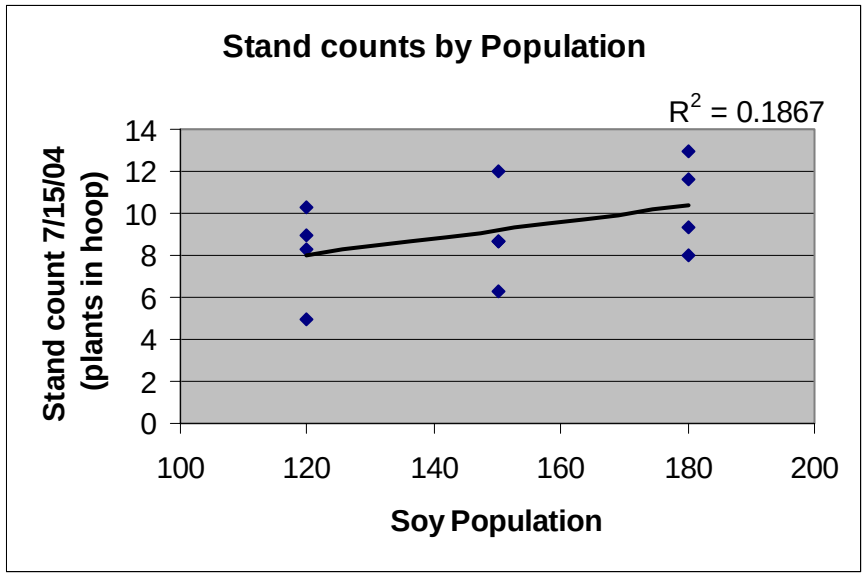


Variety 93B72 120,000 vs. 180,000		
t-Test: Two-Sample Assuming Unequal Variances		
	Variable 1	*Variable 2*
Mean	37.82398663	39.51177197
Variance	34.72143158	25.9684818
Observations	219	231
Hypothesized Mear	0	
df	431	
t Stat	-3.242367224	
P(T<=t) one-tail	0.000638749	
t Critical one-tail	1.648395482	
P(T<=t) two-tail	0.001277499	
t Critical two-tail	1.965481715	

Observations and Results:

1. For varieties combined, no statistically significant difference between populations
2. Earlier soybeans (Group 3.7 vs. 3.9) had a significantly higher yield; likely due to maturing before hot, dry spell in August)
3. Lower population hurt yield in the higher yielding Group 3.7; lower population helped in the Group 3.9
4. Higher EC areas had lower yield, especially on Group 3.7

Both Varieties: 120,000 vs. 180,000		
t-Test: Two-Sample Assuming Unequal Variances		
	Variable 1	*Variable 2*
Mean	36.41829257	36.54105782
Variance	26.24980663	29.27474968
Observations	470	451
Hypothesized Me	0	
df	911	
t Stat	-0.353273773	
P(T<=t) one-tail	0.361982468	
t Critical one-tail	1.646528744	
P(T<=t) two-tail	0.723964936	
t Critical two-tail	1.962571332	


Stand counts by Population
R^2 = 0.1867
Stand count 7/15/04 (plants in hoop)
0
2
4
6
8
10
12
14
100
120
140
160
180
200
Soy Population