

Table 3. Interaction of plant population and fertilizer rates on irrigated corn yields. Crete silt loam soil, 2003-2004.

Population, plants/A	P ₂ O ₅ + K ₂ O + S, lb/A ¹		Response
	30 + 0 + 0	100 + 80 + 40	
	----- Grain yield, bu/A -----		
28,000	202	225	23
42000	196	262	66
Response	-6	37	

¹Plus 230 lb N/A (half preplant; half at V4)

Table 4. Response of irrigated corn yields to application of N,P,K, and S. Crete silt loam soil, 2003-2004. Rates of fertilization were 300 lb N/A, 100 lb P₂O₅/A, 80 lb K₂O/A, and 40 lb S/A.

Treatment	Grain yield	Response to inputs
	----- bu/A -----	
Unfertilized check	137	—
N	187	50
N + P	243	106
N + P + K	256	119
N + P + K + S	265	128
LSD (p<0.05)	7	

ing the number of N applications from 2 to 4 did not increase yields on either soil in any year of the experiment.

Results of this experiment have shown a clear interaction between plant density and fertility management, thus illustrating the importance of using a systems approach when attempting to increase yield levels.

This 5-year study also points out the need for soil test calibration and fertility management research that is conducted at high yield levels. Standard soil test recommendations on these two soils would not have produced maximum yield. **BC**

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