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Soybean Fertility

In 2013, I saw some impressive soybean yields at the Agronology 10 Research Center. Our total soybean management program was employed to allow these outstanding yields to develop in 2013. The average yield for the 2013 critical consideration group had the highest average yield report for the 18 plots of 81.8 Bu/A. This reflects a data source collected for 20 years from 1994 to 2013. Our maximum yield of 89.8 Bu/A was our 5th highest reported soybean yield. For these 18 plots, 17 of the 18 had the following N-P-K applied:

1) 11 of the 18 fertilized plots had a 17-40-80 applied (60 Bu. Rec.)
2) 6 of the 17 fertilized plots had a 21-50-100 applied (70 Bu. Rec.)

For 16 of 17 fertilized plots, micro nutrients were applied (sulfur and/or manganese).

Based on our 13 year sulfur study on soybeans, I would recommend adding 10 lbs. sulfur to your P&K dribble band application for soybeans. The 10 lbs. sulfur added from 2001-2013 has enhanced yields by an average of 2.2 Bu/A/yr. Based on $12.50/Bu. soybeans and sulfur costing $8.73, this would net a profit of 18.77/A/yr. In 2013, we even had a better net dollar ($/A) for the addition of sulfur to our dribble band P&K program, Table 1.

Table 1 Influence of Sulfur on Yields and Profitability in 2013

Fertility (lbs./A)		Yield	$	
P&K Dribble Band	Sulfur	Bu/A	Cost	Net
21-40-80		66.2	----	----
21-40-80	10	71.7	8.73	60.02

Soybeans: $12.50/Bu.
Sulfur: 454.10/T

Source: Twin State, Inc.
Agronology 10 Research Center
Walcott, IA

In our high yield environment, selection of your soybean variety was still a critical item. In the 2013 Soybean Management II study, we placed 3 varieties under three different fertility programs to evaluate their yield potential, Table 2.