

## **Cost Of Sulfur - Steve Wagner**

Sulfur deficiency in MI fields is unpredictable and the benefit of Sulfur application will vary from field to field. Keeping the cost down for sulfur applications is a key to profitably applying sulfur.

Alfalfa trials show increased yield to sulfur applications on sandy soils in MI and other states by 50-25 # S/year >>> 0-25% yield increase, on sandy low OM soils. Tissue test of alfalfa in top 6" early bud is best diagnostic tool.

Corn and soybean trials in MI have not shown significant yield increase to sulfur (2005 & 2006). Sulfur deficiency most likely on low OM and/or sandy soils. Yellow corn just after emergence can be due to lack of sulfur or Mg. This is a common enough occurrence in Michigan, that adding sulfur to corn makes sense to me. Sulfur can also be broadcast in the form of sulfate (Gypsum, AMS, K-Mag) Sulfur removal by Crop 10#/150 bu corn, 24#/4ton alfalfa, 30 #/20ton corn silage, 10#/50bu soybean. Less sulfur comes from rain (about 10#/year since 2000 vs about 20 #/yr in 1980s). Manure provides a good source of both OM & sulfur. A gypsum applications of 1/2 ton or more should provide sulfur for several years of crops.

Tissue test is best indicator of sulfur deficiency. Soil tests (plow layer) are not reliable at predicting crop response to sulfur. Wisconsin Sulfur Availability Index (SAI), in progress, only current objective method, but has not been validated in MI.

Sulfur is leachable, just like nitrate and other + ions. Most Sulfur available to plant is released by OM (organic matter) during season. Sub-soil can supply sulfur to plant (if the sub soil has a clay layer that can bind the sulfur ion).

Product	Cost \$ / Ton	%Sulfur	Other Nutrinets	% other Nutrient	Cost (\$ / #) of Nitrogen, Calcuim	Cost / # of Sulfur
Thiosul (12-0-0-26)	\$445.00	26	Nitrogen	12	\$0.50	\$0.63
Peletized Gypsum	\$200.00	18.6	Calcuim	22.5	\$0.00	\$0.54
Gypsum Ag (17%)	\$25.00	18.6	Calcuim	22.5	\$0.00	\$0.07
Gypsum Ag	\$25.00	18.6	Calcuim	22.5	\$0.02	\$0.04
AMS (21-0-24)	\$500.00	24	Nitrogen	21	\$0.50	\$0.60
Sulfur*	\$645.00	90	none	0	\$0.00	\$0.36
*approximate price 4/1/13						