

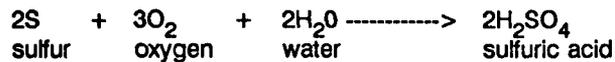
These values reflect gypsum use on non-established soils. Rates should not exceed 5 tons per acre, per application. Rates over 5 tons per acre should be split with successive applications not made until sufficient time for some leaching has occurred. Additional needs should then be verified by a second soil test.

Gypsum should be applied during mild temperatures (e.g.,  $\leq 80^{\circ}\text{F}$ ). It is slow reacting and does not normally burn foliage. Due to its low water solubility, some time will be required before gypsum will disappear from the soil surface.

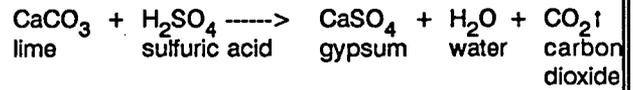
### Sulfur

Elemental sulfur also is used for soil reclamation. Commercial sulfur ranges in purity from 50 to 99%. Value of sulfur for reclamation depends on its purity and fineness. Like gypsum, the finer the material, the faster it is oxidized in soil.

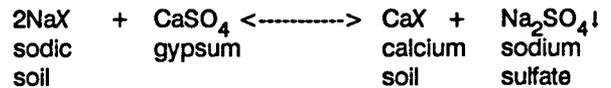
Sulfur furnishes calcium indirectly in a two-step process. Sulfur must first be oxidized by soil bacteria to sulfuric acid.



Sulfuric acid then generally reacts with lime in the soil to produce gypsum.



Gypsum then reacts with sodium ions to produce soluble sodium sulfate.



In soils lacking free lime, the reaction is:



Sulfuric acid produced then reacts directly with sodium ions as follows:



Oxidization of sulfur to sulfuric acid is by soil bacteria, a slow process that requires warm, well-aerated and moist soil. Sulfur application, therefore, should not be made during cooler fall and winter months.