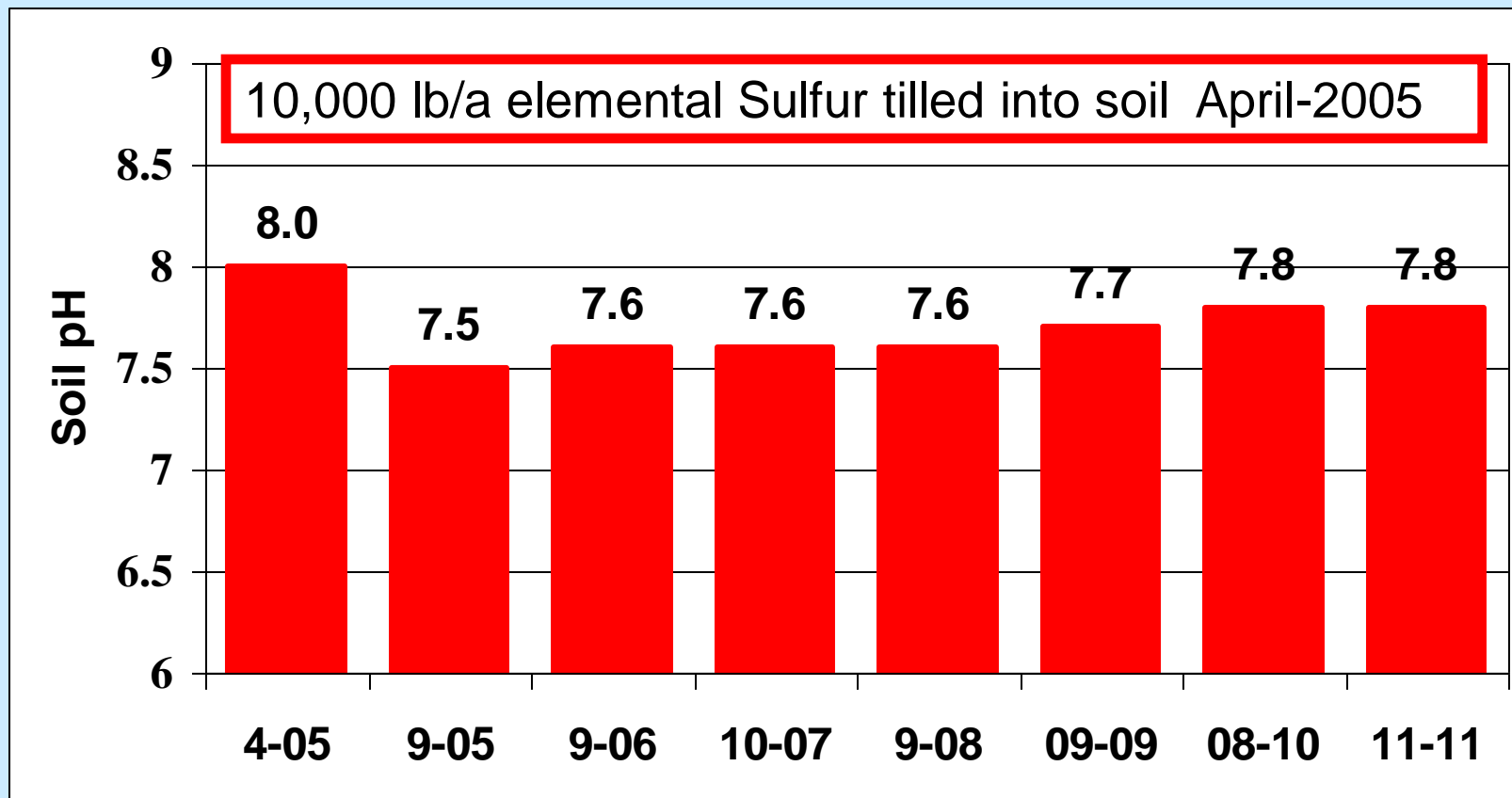


Soil Amendment Project 2005 - 2011

- *Customer questions on how soil amendments will affect soils in our region*
 - *Many questions on*
 - *Gypsum*
 - *Elemental Sulfur*
 - *High rates applied and tilled in 6” deep*

Does Elemental Sulfur Decrease Soil pH?

YES, But The Decrease May Not Be Permanent!



Soil (CCE) Carbonate level is 1.5%, loam soil texture

How Does Elemental S Lower Soil pH?

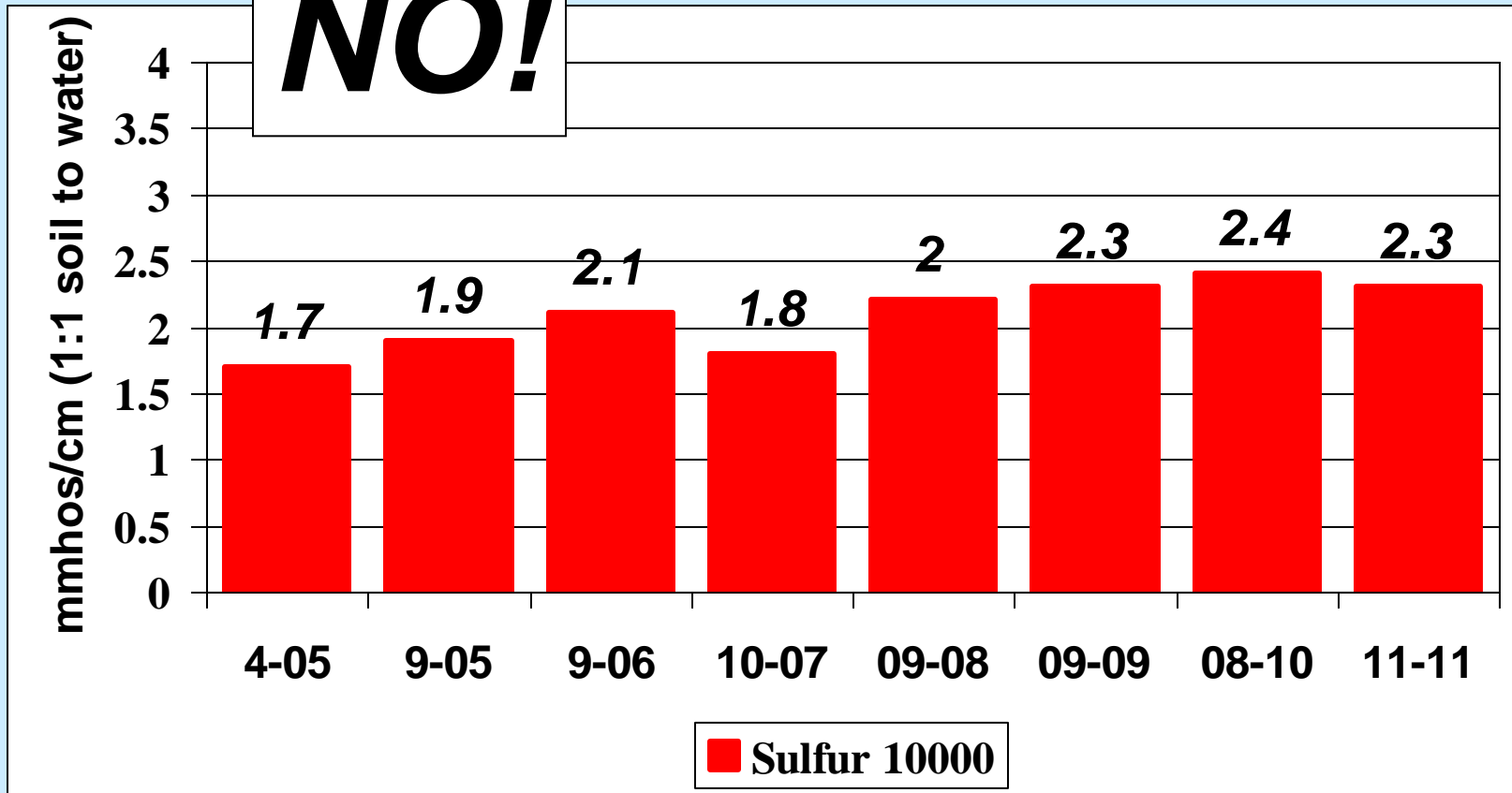


Sulfur + Oxygen + Water \longrightarrow Sulfuric Acid

Elemental sulfur must be mixed with moist warm aerated soil with bacteria (Thiobacillus) for this reaction to happen. The hydrogen (H⁺) from the sulfuric acid interacts with the soil exchange sites resulting in a lower pH. If the soil contains carbonates (pH higher than 7.3) it will take very high rates of sulfur to change pH permanently.

Does Elemental Sulfur Reduce Soluble Salts?

NO!

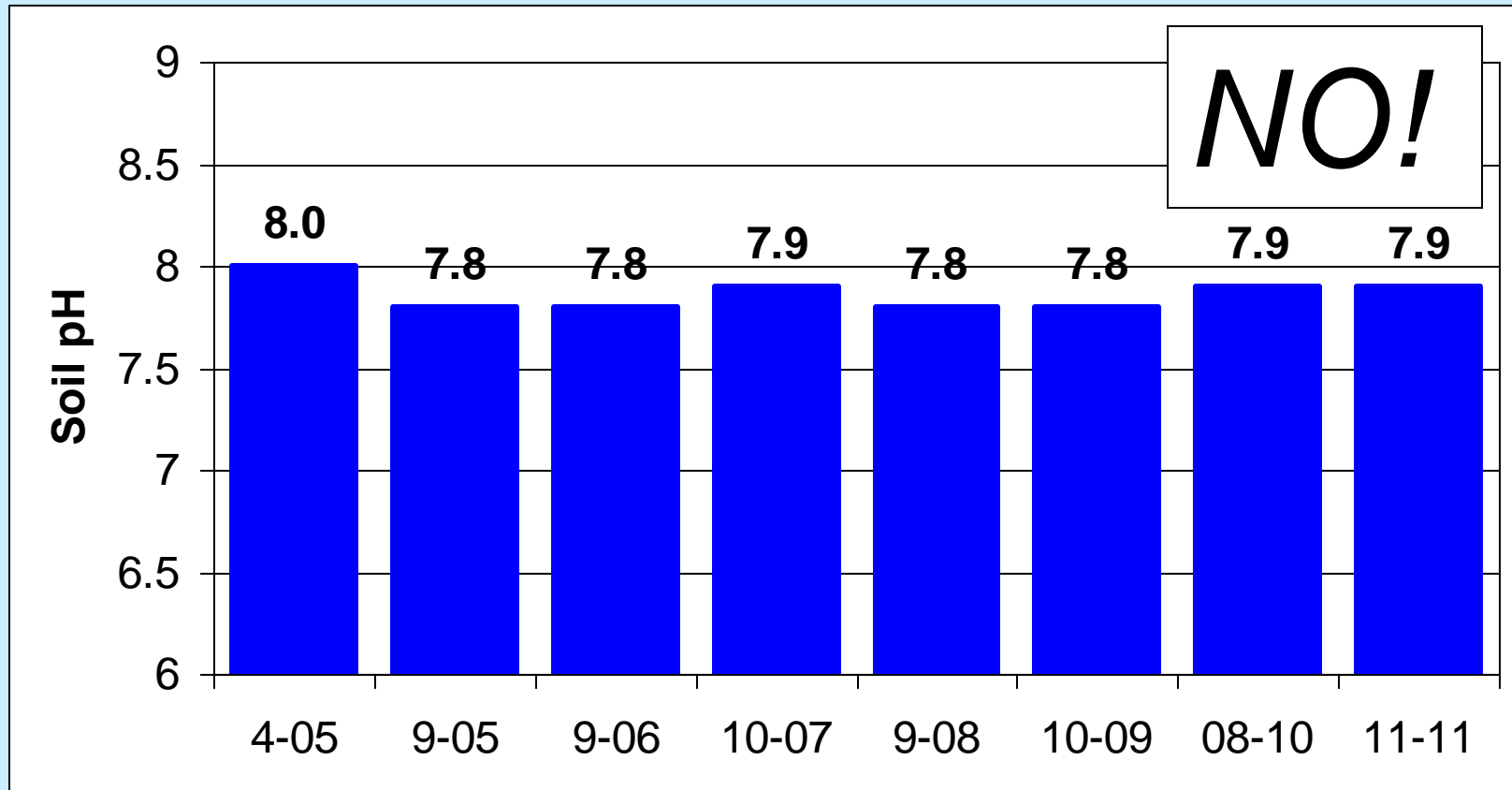


***No Visible Difference in
Grass growth 10,000 lb Sulfur***



Does Gypsum Decrease Soil pH?

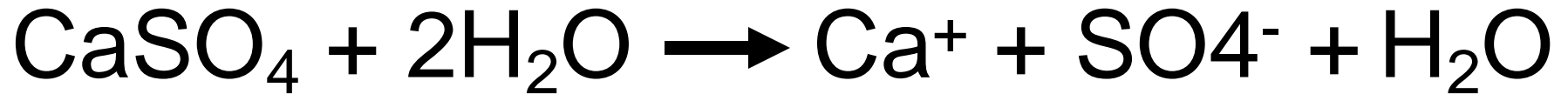
5000 lb/a Gypsum applied in 2005



Loam Soil texture, Carbonate level (CCE) = 1.5%, poorly drained

5000 lb/a Gypsum tilled into top 6" of soil - April 2005

Why can't Gypsum lower the soil pH of productive soils?



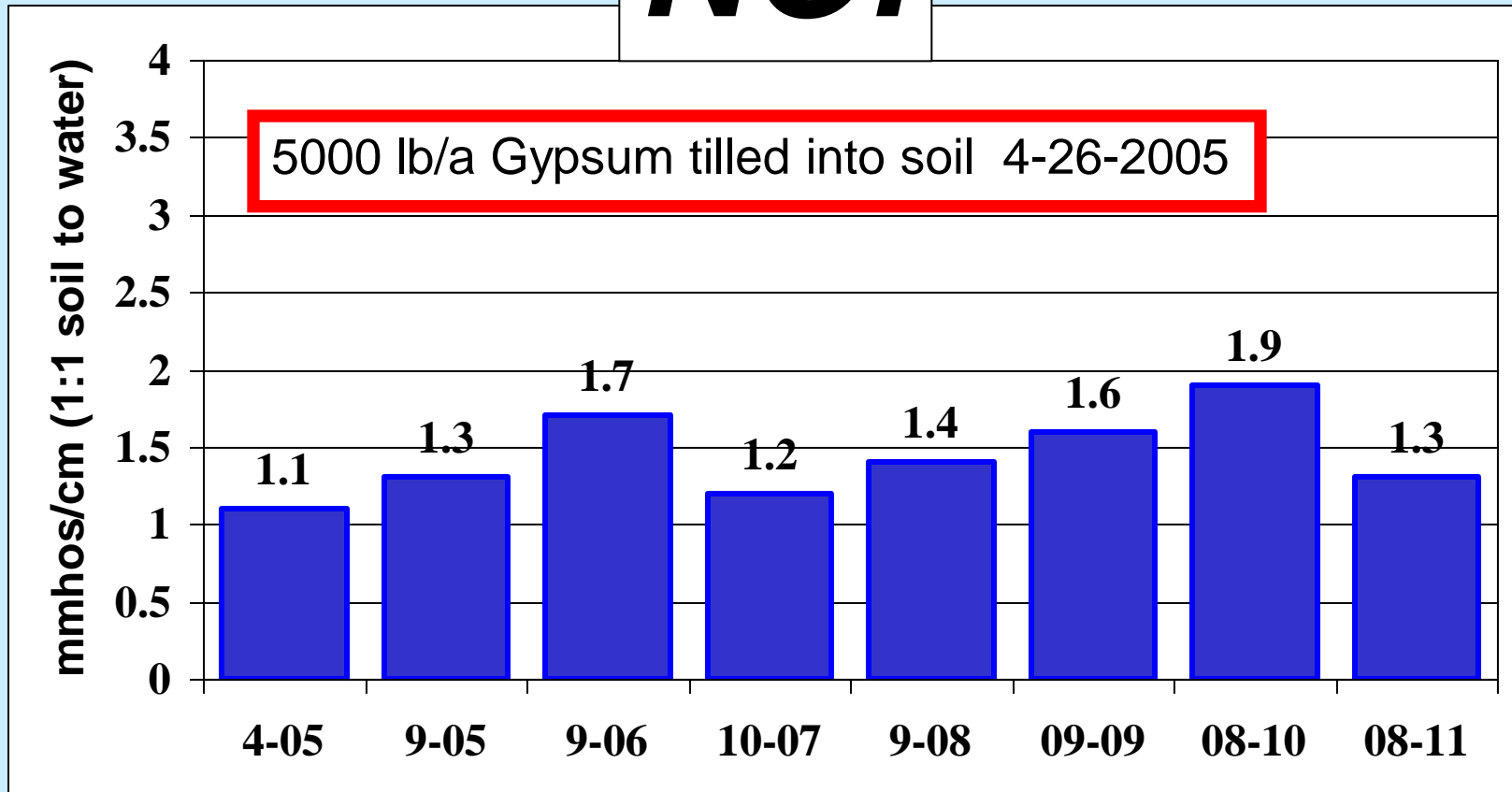
Gypsum + water \longrightarrow Calcium + sulfate + water

No H^+ produced when gypsum slowly dissolves!

If no hydrogen (Acid) is created in a chemical reaction the soil pH will not change!

Does Gypsum Reduce Soluble Salts?

NO!



No Visible Difference in Grass growth 5000 lb Gypsum



Questions?

