United States Department of Agriculture

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Conservation Practice Overview

Amending Soil Properties With Gypsum Products (Code 333)

The use of gypsum products involves managing the amount, placement, source, and application timing of gypsum to improve soil properties to address soil health, ameliorating aluminum toxicity, reducing phosphorus runoff, and reducing potential pathogens in surface runoff.

Practice Information

Gypsum may be used where the land application of gypsum products will be used to alter the physical or chemical characteristics of the soil to improve soil health and reduce the surface transport of phosphorus and other contaminants. It is critical that a current soil test be used to determine if gypsum should be used and how much gypsum will be needed to achieve the planned purpose. It is also critical the gypsum source be validated to ensure it does not contain harmful concentrations of heavy metals and other potential contaminants. The application rates are based on 100 percent calcium dehydrate equivalence so for gypsum sources less than 100 percent calcium dehydrate the rate needs to be adjusted accordingly. The objective is to apply the proper amount of gypsum at the proper time to achieve the desired purpose. Rates of gypsum application is dependent upon the base saturation of calcium, magnesium, potassium, and hydrogen and the cation exchange capacity of the soil. Do not allow livestock into fields treated with gypsum until the gypsum is washed off the vegetation and residue.

Operation and maintenance includes monitoring soil test levels of all nutrients, cation exchange capacity, and base saturations. Do not apply gypsum after the soil test indicates the soil test for calcium level exceeds the maximum level established by the land grant university. Maintain record of gypsum application, timing, rate, and source.

Common Associated Practices

Amending Soil Properties with Gypsum (333) is commonly applied with conservation practices needed to mitigate soil erosion and nutrient runoff.

For further information, contact your local NRCS field office.