

## How, where and when to apply GYPSOIL.

**G**YPSOIL brand gypsum is a highly-consistent, fine granular product that is tan to white. It can be broadcast with a lime spreader, litter spreader or other equipment suitable for bulky, dry material. Apply GYPSOIL any time you can get into the field without the application equipment damaging the crop or the soil. Typically, farmers apply gypsum in the fall, after harvest, or in the spring, before planting. No-tillers let rainfall dissolve the gypsum and carry it into the soil. Other farmers incorporate it into the soil as they do their fall or spring tillage. In alfalfa, GYPSOIL can also be applied in-season, after any cutting.

### Perfect for heavier soils.

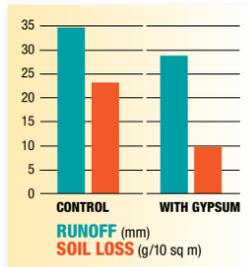
Nearly any soil containing clay, which includes most crop soils, can benefit from gypsum. Gypsum is especially valuable in no-till, and on tight, heavy soils, including gumbo. There, improved soil tilth and permeability *alone* make an application of GYPSOIL worthwhile.

### Apply 1 ton per acre.

Most farmers apply about one ton of gypsum per acre to achieve soil amendment benefits. For very heavy soils you may wish to apply two tons per acre. Typical GYPSOIL rates for sulfur supplementation alone are 300-500 lbs/acre, delivering 48-80 lbs/acre of sulfate sulfur.

Some states regulate the application of gypsum, so be sure to comply with all state laws. If you are using gypsum for the first time as a soil amendment, remember it can take applications for two or three years to see the full benefit. Many farmers apply gypsum annually, year in and year out.

When you use GYPSOIL on your farm, leave an untreated control strip so you can clearly see the difference GYPSOIL makes. We're confident that you'll start seeing significant results after a year or two. Where sulfur is deficient, even sooner! Start making your soil better, more fertile and easier to work. Apply GYPSOIL brand gypsum.



USDA research shows gypsum reduces runoff and soil loss.

### A BRIEF HISTORY OF GYPSUM.

*The benefits of gypsum were established more than 200 years ago. Except in certain specialty crops, the practice was lost because gypsum was too expensive to mine and transport. But now, there's a better and much more economical source of gypsum.*

*GYPSOIL brand gypsum is a co-product of the process that cleans the air from coal-fired plants, sometimes called FGD gypsum, and also a co-product of certain processing plants for food-grade products. Co-product gypsum is generally more pure than mined gypsum. Now, thanks to GYPSOIL, there's a ready supply of this remarkable soil treatment across the Midwest.*

*With GYPSOIL, you contribute to a healthy environment in many ways!*

### Get a Free OSU Gypsum Guide.

Soil scientists at Ohio State University have completed a comprehensive new field guide on the use and benefits of gypsum. For a free copy, email [guide@Gypsoil.com](mailto:guide@Gypsoil.com).



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# The difference is GYPSOIL™

GYPSOIL brand gypsum improves soil quality and adds needed sulfur.

WITH GYPSUM

WITHOUT GYPSUM

**A**pplying GYPSOIL is an easy, economical way to transform tight, compaction-prone soils into softer, more manageable soils. GYPSOIL improves water infiltration, decreases runoff and ponding, and helps alleviate crusting and erosion.

With GYPSOIL, you will create a better, deeper root zone for your crop, allowing plants to maximize moisture and fertility. Many growers who use GYPSOIL report soils come alive with biological activity, including more earthworms, deep into the soil profile.

GYPSOIL is one of the most cost-effective, best sources of sulfur, a nutrient that is deficient in many soils today. GYPSOIL supplies 13-16 percent highly-available sulfate sulfur.

Learn more about GYPSOIL on the following pages. Then try it on your farm this year.



The field on the left was treated with gypsum for five years. The field on the right with nearly identical soil did not receive gypsum.



# How GYPSOIL improves your soil. Economically.



Use GYPSOIL brand gypsum and you'll see less ponding, crusting, and less loss of valuable soil and nutrients due to runoff.

**N**early all soils contain clay. An imbalance of calcium, magnesium, sodium and other salts causes clay particles to disperse in rainwater and seal the soil surface. That causes rainwater to pond or run off, rather than soak in. The result is the loss not only of precious moisture, but also of topsoil and nutrients. Ground stays wet longer, too, keeping you out of the field. The more clay in the soil, the worse the problem.

**Impact of gypsum on runoff and soil loss.** GYPSOIL brand gypsum is calcium sulfate dihydrate  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ . Once applied to the soil, GYPSOIL neutralizes the chemical salts. This loosens the soil, allowing rain to infiltrate rather than run off.

The result is improved soil tilth, less ponding, less crusting and less erosion. In the spring, young seedlings can push up through the soil surface more easily, and their roots penetrate downward faster and deeper. So you get a more even stand, better drought resistance and a healthier crop.

## GYPSOIL improves nutrient utilization.

By loosening soil and improving water infiltration, GYPSOIL creates a much friendlier, deeper environment for soil organisms—microbes as well as earthworms. These soil organisms break down organic matter, releasing nutrients in the soil faster and better and making them more available to the plants. The result is a healthier and more vigorous crop.

## Soil improvement you can see and feel.

One of the first things gypsum users experience is how much easier equipment pulls through the field. The soil is more mellow yet firm. It's sometimes possible to drive at a higher gear when working the ground. Push a soil probe or shovel into the soil, and it goes in more easily and deeper. Because of improved water permeability, the soil surface dries faster. This lets you get into the field faster after a rain, and provides a wider window for fieldwork during critical times.

**GYPSOIL brand gypsum adds sulfur to the soil.** Many soils are low in sulfur, today, in part because this is less sulfur deposition from rainfall. To meet federal emissions standards, coal-fired utilities have installed scrubbers that remove sulfur and other impurities from their emissions. A byproduct of scrubbers is gypsum, formed by the capture of sulfur. Crops such as corn, soybeans and alfalfa perform best when grown in soils with sufficient levels of sulfur.

GYPSOIL offers a highly-available and economical source of sulfur. A typical analysis is 13-16 percent sulfur sulfate. GYPSOIL also provides highly-available calcium (about 17-20 percent) that moves deep into the soil profile, a recognized advantage for no-till farmers.

*"We first started applying gypsum several years ago to individual problem fields that had tighter soils—we've got clay loam and silty clay loam mixed with tight subsoils. We have certainly seen improved water infiltration in those areas and improved rooting. Now we apply gypsum across our entire farm. As continuous no tillers, everything we do is geared to improving soil quality and health and gypsum is one of the tools we use."*

**Rodney Rulon, Indiana**



*"Gypsum is a piece of the puzzle to make soil better and your farm more profitable."*

**Danny Gallagher, Kansas**



*"Our soils, which are silt loam to silty clay loam, were very, very hard. We applied GYPSOIL twice over four years, and the soil was much more permeable. The water didn't stand in it, it went through the profile better and our crops looked great. In one extremely dry year, our neighbor's corn browned-out early in the lower leaves but our corn never lost its lush green color until it matured."*

**Jack Maloney, Indiana**



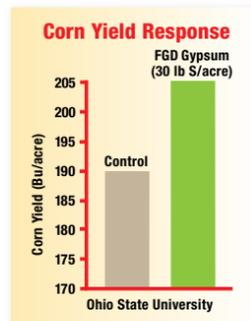
*"We apply gypsum after harvesting wheat. We follow wheat with corn and the calcium and sulfur in gypsum works to help the corn the following year. Not only are the nutrients helpful, it also makes the soil work easier."*

**Chuck Kuiper, Wisconsin**



*"Our soil tilth is improving—we have performed various types of reduced tillage for 25 years and the soil tilth has never been better. Since using GYPSOIL we are definitely seeing more earthworms working in the soil, helping create better tilth by creating more air and moisture channels."*

**Anthony Hession, Indiana**



An Ohio State University study demonstrated an eight percent yield increase in corn with gypsum versus no gypsum.<sup>1</sup>

<sup>1</sup> Chen, Kost and Dick (2008), Soil Science Society of America 72:1464-1470



*An application of gypsum helps loosen soil and improve water infiltration.*

*Because of better soil tilth, it's sometimes possible to operate at a higher gear when working the ground.*