

Lawn & Garden

Gypsum

sof'n-soil®

*a natural soil conditioner that
promotes lush lawns...abundant
gardens...thriving trees and plants
...and does it safely*

- *Loosens heavy clay soil—lets air and water penetrate*
- *Adds calcium and sulfate in a form readily available to plants*
- *Stabilizes soil pH*
- *Helps fertilizers work better*
- *Counteracts winter salt damage*
- *Improves alkali soils*
- *Non-caustic—won't burn grass or plants*
- *Non-toxic—won't harm pets or people*

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What is Gypsum?

Gypsum is a natural mineral that is mined or quarried. Chemically, it is calcium sulfate dihydrate.

Gypsum's most familiar use is in drywall panels, notably

SHEETROCK® Brand Gypsum

Panels. Gypsum is also used in

Plaster of Paris, portland cement, various interior finishes,... and in

Sof' n-Soil Lawn & Garden Gypsum.

SOF'N-SOIL Gypsum: More Effective Than Limestone

Sof' n-Soil Gypsum makes its calcium available to plants far faster than limestone – though similar in chemical composition, Sof' n-Soil Gypsum is 150 times more soluble than limestone.

Sof' n-Soil Gypsum won't upset soil pH balance – it's a neutral material, with a pH value near 7.0. Limestone and other lime products are alkaline materials which raise soil pH – detrimental to acid soil-loving plants.*

Sof' n-Soil Gypsum won't change chemical makeup of plant nutrients – an increase in soil pH induced by adding limestone can change the chemistry of plant nutrients. Sometimes the affected nutrient becomes insoluble and is not available to plants. So, even with sufficient plant nutrients in the soil, an alkali condition can be created which causes plants to starve for nutrients.

You Should Also Know:

If you grow acid soil-loving plants or trees such as rhododendrons, azaleas, roses, pin oak, evergreens or flowering dogwood trees, and have already established the correct soil pH, you can safely apply Sof' n-Soil Gypsum.

*pH is the measure of soil acidity or alkalinity. The neutral point is 7.0. A pH below 7.0 is acid; above, alkaline.



SOF'N-SOIL Gypsum Loosens Heavy Clay Soil

Most soils contain clay, but proportions vary greatly. Heavy clay soil is dense with low porosity, blocking air and water movement. The result is a shallow root system that prevents development of healthy plants and lawns.

Sof'n-Soil Gypsum, a natural soil conditioner, loosens clay soil by chemical action – turns heavy clay into open, porous soil. The clay particles aided by Sof'n-Soil Gypsum and organic matter group together (flocculate) to form a more granular soil structure...a structure that allows air and water to circulate freely...a structure that gains more use from each bag of fertilizer, each gallon of water, each pound of seed. The result: a deep, vigorous root system essential to developing healthy, vibrant lawns, plants and gardens.



You Should Also Know:

How fast does Sof'n-Soil Gypsum work?

That depends on several factors: amount of clay present, type of clay, moisture available, quantity of Sof'n-Soil Gypsum used, and whether surface applied or worked into the soil. (Research shows the latter application takes 50% less water to go into solution.) Generally, a few months after Sof'n-Soil Gypsum is mixed with the soil - and well watered in - its effect on lawns and plants will be beautifully obvious.

For more advice on soil types, call your County Agricultural Extension Agent.

Soils high in clay content exhibit these characteristics:

- **Retarded root growth** – occurs in regions where there are relatively long periods between rains since seedlings may be unable to reach deep moisture before the surface dries
- **Slow water infiltration rate** – runoff is greater, soils are more susceptible to gully and sheet erosion
- **Greater water-holding capacity** – much of it, however, is held in the upper layers which are highly vulnerable to drying
- **Poor aeration** – forces shallow rooting which makes plant susceptible to drought and oxygen deficiency
- **Slower, later warming in spring**

SOF'N-SOIL Gypsum Adds Vital Nutrients - Calcium and Sulfur-in Ready-Available Form to Plants

Calcium is vital to plants in maintaining cellular protoplasmic organization.

It influences protein synthesis, affects the activity of certain enzymes systems and movement of ions into root cells.

Sof'n-Soil Gypsum, because of its sulfur content, provides calcium without increasing soil acidity or alkalinity.

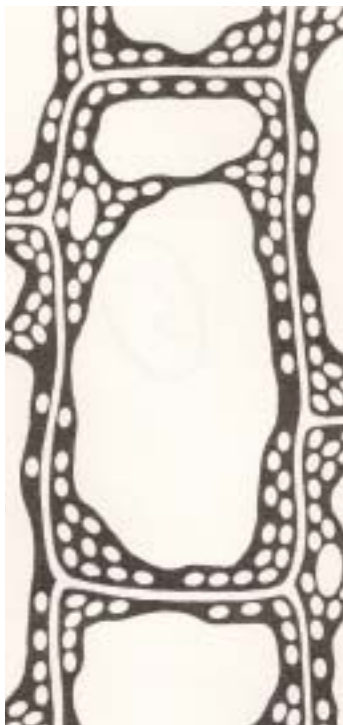
You Should Also Know:

Sulfur, like calcium, is an essential element that functions as follows:

- performs low energy bonding in protein synthesis
- influences the process involved in the hardening of protoplasm in cold or drought conditions
- activates certain enzymes

Some effects of calcium and sulfur deficiencies:

Calcium – terminal buds remain small. Tips and edges of leaves brown and curl. Stems are weak.
Sulfur – entire leaf yellows. Veins are brighter than blade.



lawn and garden gypsum

Lawns

Directions

Established Lawns – spread 40-50 lb. Sof'n-Soil Gypsum over 1,000 sq. ft. Apply it in spring and fall to take advantage of seasonal moisture. Moisture is essential to achieve the desired soil-conditioning effect. If applied at other times, be sure Sof'n-Soil Gypsum is well watered into the soil, double the quantity.

New Lawns – before seeding or sodding, spread 100 lb. Sof'n-Soil Gypsum per 1,000 sq. ft. For high clay soils, use up to 300 lb. Sof'n-Soil Gypsum per 1,000 sq. ft.

Alkali/heavy clay soils in arid regions (west and southwest U.S.)—need up to 20-40 lb. Sof'n-Soil Gypsum per 100 sq. ft.

You Should Also Know:

Green moss results from lack of sunlight and/or poor drainage. To correct, apply 40-50 lb. Sof'n-Soil Gypsum per 500 sq. ft. and aerate soil.



Flowers & Vegetables

Directions

Flowers – spade in 25-30 lb. Sof'n-Soil Gypsum per 100 sq. ft. of bed. Mix uniformly with soil. Soak area with water.

Vegetables – spade in 20 lb. Sof'n-Soil Gypsum per 100 sq. ft. of soil. Mix well. Add compost or organic matter. Note: Sof'n-Soil Gypsum helps prevent blossom end rot in tomatoes.

You Should Also Know:

To construct a rose-bed – you need both a well-drained subsoil and topsoil which retains enough moisture to dissolve plant food, but is porous enough for a free exchange of air between soil and atmosphere. Without oxygen, the bacteria in soil can't work and the organic material in soil can't decompose and become available plant food.



To correct a heavy clay soil condition – mix Sof'n-Soil Gypsum with the top 2-3 inches in soil. The best time is fall to utilize winter moisture.

After planting rose bushes – apply 0.5 to 1 lb. Sof'n-Soil Gypsum per rose bush twice a year. Also add corncob, leaf mold, cow manure or other organic mulch.

To help prolong blooming – many flower growers use Sof'n-Soil Gypsum to extend blooming, and to prevent root rot of fall flowering bulbs. It also eliminates bud rot and topple in many plants. Sof'n-Soil Gypsum and a good phosphate fertilizer are equivalent to instant bone meal.

Calcium from Sof'n-Soil Gypsum is vital to all vegetable grown in home gardens – especially legumes such as peas and beans. Flowers that respond well to calcium are clematis, lilac, iris and delphinium.

Sulfur from Sof'n-Soil Gypsum benefits a variety of vegetables: cabbage, broccoli, cauliflower, radishes, turnips, kale and onions. Flowers that benefit are irises, tulips, gladioli, roses, alyssum, camellias, nasturtium and gardenias.

Tree & Shrubs

Directions

Evergreens – plants no more than 1" deeper than trees was planted in nursery (planting too deeply smothers the root system). When hole is ready, place a large handful of bone meal and Sof'n-Soil Gypsum at the bottom. Then half-fill hole with a 50-50 mix of gravel and soil. Sprinkle with water, but don't wash away the sides of the hole or alter its base. Next, completely fill hole with gravel-soil mix. Then tamp ground firmly in place with your foot to eliminate air pockets or hollow spots. These could sink later and expose roots to drying air or cause plant to tilt.

To stimulate root growth, in mid-November give each evergreen a low nitrogen garden food (5-20-20, 4-12-4 or 5-10-5) and 5 lb. Sof'n-Soil Gypsum. This is in addition to normal feeding which should end August 15.

Nut trees – need well-drained soil and more growing room than fruit trees. Add Sof'n-Soil Gypsum over the root zone when planting and at least once a year to assure adequate drainage.

Shrubs - plant the day of purchase. Make hole twice as large as needed and the same depth as the nursery used. Mix the removed soil with Sof'n-Soil Gypsum. Mulch with 2 inches of wood chips.

You Should Also Know:

Feed all trees twice a year – first in early winter with any low nitrogen garden food and again in mid-spring. Give fruit and flowering trees a low-nitrogen diet. Give shade trees standard lawn food. In late fall, apply generous quantities of Sof'n-Soil Gypsum to the soil beneath trees and shrubs. This stimulates fall root growth, helps control over-winter insects hibernating in the soil.

Heavy clay soil causes problems with large plants – filling a large hole with loose soil can create a cistern effect. Should the hole fill with water in the spring, the roots may drown. When you have heavy clay soil, use the soil removed from the hole to fill it. Add fertilizer beforehand, but make sure it's



mixed throughout the soil and is not lumpy. Apply a few pounds of Sof'n-Soil Gypsum in bottom of the hole, and mix some with the replaced soil. This helps assure adequate drainage.

Some plants love acid soil – evergreens, azaleas, rhododendrons, Mt. Laurel, pin oak, sweet gum and flowering dogwood trees. Yet they all need calcium too. Low calcium in these plants causes the growing tips to whiten, then blacken, and then die. Adding Sof'n-Soil Gypsum to acid soil-loving plants provides calcium without changing soil pH or interfering with intake of other essential nutrients.



Composting

Directions

Add about 1 lb. Sof'n-Soil Gypsum to each wheelbarrow of clipping as it is dumped on the compost pile. Add an extra pound with each daily turning of the pile to help prevent clumping and odor. Also, this often helps accelerate composting - a batch usually takes 7 - 10 days to complete. Wet down fall leaves, then apply Sof'n-Soil Gypsum. Dried leaves need a longer composting period.

You Should Also Know:

A well-kept compost pile need not smell bad, even if you use manure-consider a combination of manure and compost to fortify your garden. Mix 50 lb. Sof'n-Soil Gypsum with liberal quantities of composted leaves and cuttings (or 100 lb. peat moss) for every 100 sq. ft. of soil. Allow this mixture to lie all winter. Spade it into the ground in early May.

Fermenting manures give off a lot of nitrogen in ammonia form – this is quickly lost when manure is stored. To reduce these losses, use gypsum on the manure. Nitrogen is then tied up as ammonium sulfate which goes on the soil with the manure.

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Sof'n-Soil Gypsum Counteracts Winter Salt Damage

Directions

Apply 20-40 lb. Sof'n-Soil Gypsum per 100 sq. ft. Sof'n-Soil Gypsum restores salt-sick soil by replacing (partially or completely) the adsorbed sodium on the soil particles. Specifically, calcium ions from Sof'n-Soil Gypsum replace the sodium ions, which are then free to be leached out of the soil.

For commercial use – apply 5-10 tons of Sof'n-Soil Gypsum per acre of salt-affected soil. Then, apply 1-2 tons Sof'n-Soil Gypsum every third year to maintain soil in proper condition.



United States Gypsum Company

Industrial Gypsum Division
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Chicago, IL 60606-4678
IG220/8-02 Printed in U.S.A

Correcting Alkali Soil

You Should Also Know:

High salt (sodium chloride) concentrations interfere with water uptake by plants – also may adversely affect soil properties and plant growth. As salt concentrations increase, soil becomes less permeable to air and water. The soil then forms surface crusts when dry, becomes sticky when wet. A hard crust restricts seedling emergence and hinders root extension. Soil in this condition is hard to cultivate.

Fruit and nut trees are extremely sensitive to sodium – too much sodium in leaves induces leaf burn, resulting in premature leaf drop. If this continues, the tree dies.

Directions

Apply Sof'n-Soil Gypsum in sufficient quantity to replace excess carbonate sodium (alkali) in a layer of soil deep enough to support the crop you plan to grow. Mix Sof'n-Soil Gypsum thoroughly into the soil to ensure a satisfactory rate of reaction.

On alkali heavy clay soils in arid regions (West & Southwest), apply up to 20-40 lb. Sof'n-Soil Gypsum per 100 sq. ft.



Technical Assistance:
(800) 487-4431
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