

Gypsum treatment

Gypsum treatment is very new and promising method for clay soil to minimize phosphorus runoff from fields. Gypsum is a by-product of fertilizer industry, which can reduce erosion and phosphorus leaching.

Gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) increases ionic strength of soil. It helps to keep phosphorus available for plants, and to improve soil structure in clayey areas.²⁾

With gypsum treatment it is possible to reduce phosphorus leaching, up to 50% total, and also decrease the amount of sheet erosion, which makes water draining from the field less turbid.¹⁾

Gypsum can be spread with normal lime spreader in autumn. Tilling is required after spreading.¹⁾

Treating fields with gypsum do not require change in farming methods or reduce area available for cultivation.²⁾

Application

Gypsum can be used on crop fields. Suitability for grasslands has not been sufficiently tested.²⁾

It is best suited on fields which discharge drainage water directly or indirectly (through river, ditch e.g.) into the sea.

Gypsum should not be used if the soil is particularly permeable or in lake areas because gypsum includes sulphate that may cause releasing of phosphorus from the sediments in lakes.²⁾

Use on over-limed fields with high concentrations of calcium is neither recommended.²⁾

Maintenance

- Gypsum treatment is repeated every 4-5 years¹⁾

Economics

- In Finland, gypsum costs about 20 €/ton
- Additional costs are incurred from the transportation fees and labor & machinery used in spreading



Soil structure before and after gypsum treatment.
Photo: Pasi Valkama, TraP-project

Further information:

[Baltic Deal - Gypsum](#)
[SAVE-Project](#)

Sources: 1) Kaasinen, S. 2013. Baltic Deal, gypsum. Searched 3/2018. ([Link](#))

2) SAVE Project. Web-source. Searched 3/2018. ([Link](#))