

Fertilizers



· HOMEMADE FERTILIZERS ·

WHAT IS FERTILIZATION?

NATURAL SYSTEMS ARE FED BACK CONSTANTLY BY PLANT DEBRIS (LEAVES, BRANCHES, ETC.) WHICH ARE DECOMPOSED IN THE SOIL. AGRICULTURE REMOVES PLANT MATERIALS FROM THE ENVIRONMENTS, THEREIN RESULTING IN ENERGY MOVING FROM FARMING LANDS TO DUMPING SITES, AVOIDING THE RETURN OF MATTER TO SOIL. BY FERTILIZING THE SOIL, NUTRIENTS ARE BROUGHT BACK TO OPTIMAL LEVELS FOR ENSURING PLANT GROWTH.

HOW DO YOU MAKE IT?

ORGANIC HOMEMADE FERTILIZER

When organic fertilizers are used the soil structure can be agronomically improved, the pH is regulated, nutrients lixiviation is avoided, and the soil life is favoured.

Compost:

Organic matter (crop residuals, home organic wastes, celluloses, etc.) decomposed in appropriate/adequate conditions of temperature and humidity in presence of oxygen. **See Organic card.**

Earthworm humus:

Vermicompost is the end-product of the breakdown of organic matter by earthworm activity. Earthworms are fed by organic matter, and humus results from their excrements. Earthworms have to live in darkness and they must often be feed and watered. Both earthworms and the organic matter are arranged in piles on the soil or on a large recycling drum.

Fluid organic fertilizers:

Water solution made from organic matter. A common prepared fertilizer is earthworm's humus (one part) and, preferably, de-chlorinated water (8 parts). It must be shaken in a container and let it stand for 24 hours. Another option is to collect surplus liquid found when the humus is being prepared. If this liquid is collected, it can be mixed with water (1:1).

Slurry:

Teas produced with aromatic or adventitious plants. Nettle slurry is the most known. Nettles (*Urtica dioica*) (1kg) and, preferably, de-chlorinated water (10 l) are mixed in a container (metal containers are not suitable for this). It must be stirred every day. When the fermentation has finished, the slurry is ready. Nettle slurry is also a good solution for weed control. Another well-known slurry is Comfrey (*Symphytum officinale*), prepared in the same way as nettle slurry.

MINERAL HOMEMADE FERTILIZER

Although organic fertilizers contain the majority of mineral elements, crops and soil sometimes need to be amended with some nutrients, such as Nitrogen (N), Phosphorus (P) and Potassium (K⁺), or trace elements such as Calcium (Ca⁺²), Iron (Fe⁺³), and so on. These can be directly added to the soil or along with the compost, using common products.

Wood ashes are the most used mineral fertilizer in gardens. Wood ashes contain a great amount of Potassium (5-10% K₂O). Generally applied to leek, garlic and onion crops. Best applied by burying when the green manure is provided.

Other component that we often find at home is Calcium (Ca⁺²). Crops such as tomatoes, peppers, and so on, need an addition of Ca⁺², which can be found easily. Ca⁺² is present in eggshells. They can be collected in the kitchen and grinded. Later the small pieces will be poured on the soil around the plant. It is also possible to crush some rocks, which contain Ca⁺² such as limestones, loam or gypsum.

SOME CONSIDERATIONS

- As raw material can be used all kind of vegetables and animal wastes given that they are not polluted.
- Adventitious plants can be used to prepare homemade fertilizer too.
- It is very important to recycle waste materials in order to avoid buying them.
- Also, it is important ensure that the materials are close to the place of use and it is not necessary to transport them at long distances

INTERACTIVE QUESTIONS

- What kind of problems could appear with a poor soil organic fertilization?
 - Which are the most important nutrients in the cultivated soils?
- If you had to improve the soil nutrient content o soil mineral content, how would you prepare a complete fertilizer?