

EM: MICROSCOPIC FRIENDS

WHAT ARE EM

EM is the acronym of the English phrase: Effective Microorganisms. They are a composition of a diverse group of bacteria, yeasts and fungi, which have been tried and tested safe for humans and animals. One of the strengths of EMs is that they are a combination of different microbes and this makes them versatile in a wide range of applications. Their coexistence is possible because they feed on each other's metabolic products. The main components of the mixture are lactic bacteria, yeasts, actinomycetes and photosynthetic bacteria.

The versatility and effectiveness of EM is due not only to the sum of the microorganisms present in the mixture, but also to the symbiotic interactions that develop between them. In this way, a system is created where there are no shortages, excesses or waste. EMs are also recognized by FAO and are certified organic in almost all countries of the world.

In some countries their use is promoted by the governments themselves.



THE STORY OF EM

The EM1 blend was developed in Japan more than 20 years ago by Professor T. Higa, widespread in many countries of the world, they are now a global technology (+170 states).

Italy is perhaps the country where they are less known and used, there is no national production, but it is headed by Germany.

The mixture of EM is produced in laboratories authorized by EMRO JAPAN (a non-profit association), using the microorganisms present in the country where they are prepared (those in use in Italy are therefore microorganisms of German origin).

THE MECHANISM OF ACTION

One of the strengths of EM is that they are a combination of different microorganisms and this gives them great versatility in terms of fields of application.

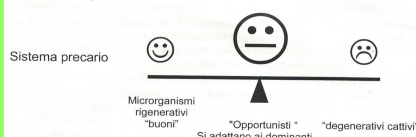
EM were initially developed to improve soils and increase yields, but over time, more and more beneficial applications have been discovered that have greatly increased their use.

They are able to positively direct and strengthen the pre-existing microbial environment, starting a regenerative process that does not kill degenerative microorganisms, but strongly limits their activity, without creating resistant strains as in the case of antibiotics.



Il principio della dominanza

Posizione di partenza:



Aggiungendo EM:



Situazione finale desiderata:



The "microscopic world" is in fact made up of 1-3% degenerative (harmful), 2-5% regenerative (positive) and 90-95% neutral microorganisms, also called opportunists as they "follow" and operate as the group between the other two stronger.

The correct introduction of EMs into an environment determines that, thanks to their fast reproduction, they accumulate space and become dominant in it, dragging the activity of neutrals into this process, thus creating a long-lasting regenerative environment.

They favor the useful fermentation (maturation) to the detriment of the harmful one (putrefaction), decomposing complex molecules and at the same time generating metabolic products such as sugars, proteins, amino acids and antioxidants.

IMPROVEMENT OF SOIL HEALTH AND THEIR PERFORMANCE

The cultivated land is today mostly dominated by harmful microorganisms due to monocultures, poor rotations, incorrect soil processing, run-off, heavy machinery and above all due to the enormous use of chemical fertilizers and pesticides.

The poor state of the soils can be found in the products that derive from them: fruits and vegetables with large chemical residues, rich in water, but poor in nutrients.

Unfortunately, we are bogged down in a vicious circle: most of the land is poor, arid, with no more nutrients and prey to pathogens; the solution seems to be, in order to have an agricultural yield, to continue year after year with the addition of fertilizers, herbicides and pesticides; and in so doing the ground gets worse and worse ... in an infinite circle.

The EMs offer precisely the possibility of breaking this chain: rehabilitating the soils, making them rich in organic matter and controlling pathogens, allowing a profitable agricultural production for the farmer, but at the same time with quality, healthy, nutritious products. Fruits and vegetables that guarantee the contribution of all those substances we need for a healthy life, substances that plants assimilate from a healthy and rich soil.

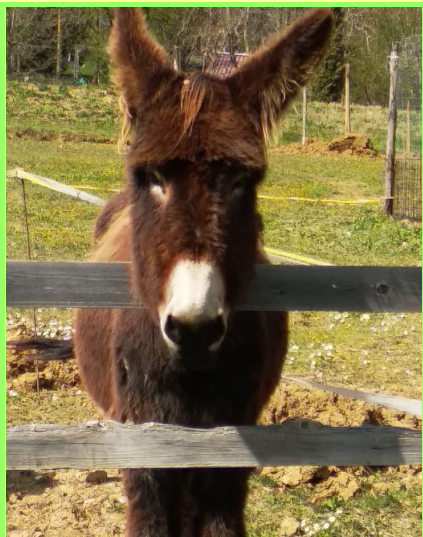


Here's how they "work" in the ground:

- they stimulate the biological activity of the subsoil by increasing the natural fertilization processes
- nitrogen fixation is increased
- there is a significant increase in mycorrhizal activity and terrestrial fauna (earthworms in primis)
- thanks to their disintegrating action and the increase of terrestrial insects, the soil becomes "softer" and airier
- The improvement of the soil structure leads to a better absorption and conservation of water, the same microorganisms in addition to producing adhesives that retain moisture, incorporate microscopic particles of water, becoming the last reserve of the soil in case of drought.
- Improvement of the root systems of plants, thanks also to the "extensions" deriving from mycorrhizae which, living in symbiosis with the plant, at the roots, increase their extension

The results of the use of EM in agriculture, even if they take a few years to be relevant, they are already appreciable in the first cycles: better germination, stronger and more resistant plants, greater production, fruits more resistant to pathogenic attacks.

IMPROVEMENT OF THE HEALTH OF ANIMALS IN FARM



Even in animal breeding, the use of EM brings significant benefits, both to production and to the life of the animals:

- if the EMs are sprayed in the pastures, the animals feed on healthy and nutrient-rich vegetables.
- EMs can be added to their food and water for internal rebalancing and to fight parasites.
- Sprayed on the fur and feathers of animals, they protect against mites, fungi and small annoying insects.
- Sprayed in stables, sheepfolds, chicken coops make the environments healthy, eliminate bad smells and consequently annoying insects (flies, gadflies, etc.)
- Used in sewage pits or dunghill they induce rapid fermentation with the absence of bad odors.

THE STRENGTHS OF THE EM

At the end of our brief presentation of the method used by our company, we propose a reflection on the multiple strengths of EM Technology:

- Safety: there are no contraindications to the use of EM because the mixture is composed solely of useful, unmodified microorganisms. Their use, beneficial for the soil, plants and animals, is not harmful for the farmer (as are many agricultural chemicals). Their use improves agricultural production, but in fall it also improves the whole environment.
- The low cost and the convenience: the mixture is diluted in water in very low percentages, it is therefore a single product that replaces various different chemical products, with also a remarkable yield. An important saving for the farmer, both money and time
- Practicality: the more they are used, the greater will be the benefits; the more they are used, the more stable they are and the effects last.
- The application possibilities are endless: in agriculture, but also in domestic cleaning, for hygiene, for human health and for waste treatment and composting.



Furthermore, the wider their use, the more we improve the environment in general, outside our fields and the home.



We have a simple way to offer you to test the positive effects of EM use in our company: invite you to try our products, walk through our fields and visit our animals.

We are waiting for you in Montesalce!