

EM TECHNOLOGY

A BRIEF DESCRIPTION

EM stands for Effective Micro-organisms; it is a mixed culture of beneficial, naturally-occurring organisms mostly used or found in foods. EM is made up of three main genera: phototrophic bacteria, lactic acid bacteria and yeast. These effective micro-organisms secrete beneficial substances such as vitamins, organic acids, chelated minerals and antioxidants when in contact with organic matter.

The technology was developed over twenty years ago in Japan originally as an alternative for agricultural chemicals. Today it is produced in over fifty countries around the world and is applied not only to enhance sustainable agriculture, but also for environmental, industrial and health applications. It's use in animal husbandry, waste management, water treatment and household uses have allowed a significant reduction in the use of petrochemicals and their derivatives.

The three main cultures serve specific purposes within the EM process:-

1. **YEAST:** Ferment organic matter and contain vitamins and amino acids. They are found in the making of bread, beer and wine.
2. **LACTIC ACID BACTERIA:** Ferment organic matter and produce organic acids that inhibit pathogens. They are used in the production of Yoghurt and Pickles.
3. **PHOTOTROPHIC BACTERIA:** Work as a key component in EM. They help maintain the balance with the other beneficial micro-organisms, allowing them to coexist and work together. Their preparation of the substrate is paramount in the success of all the other bacterial families involved.