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POTENTIAL UTILIZATION OF BIOWASTES IN VERMICOMPOST PRODUCTION AND ITS EFFECT ON GROWTH PARAMETERS OF PLANTS

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ABSTRACT

Vermicomposting is the practice of using earthworms to aid in the decomposition of organic materials (of plant and/or animal origin) in order to create organic fertilizer. The earthworms speed up the breakdown of organic compounds. Organic farming is preferred as a nutrition source. Given that it is an odourless, spotless, organic material that is rich in N, P, K, and a number of other crucial micronutrients for plant growth. Vermicompost is a durable, fine-grained organic manure that enhances the physiochemical and biological qualities of soil. One of nature's top "soil scientists" is the earthworm. Liberated earthworms provide farms with affordable agriculture relief. The worms are responsible for a number of things, including improving the quality of ordinary soil. These are the compounds that are used in the agricultural industry. It is a product made up of live microorganisms that, when added to soil or seed, colonise the rhizosphere of the plant, therefore boosting the host plant's supply or availability of essential nutrients, and encourages growth. It also improves the soil's fertility while enhancing its nutritional quality. Biofertilizers are compounds that naturally fix atmospheric nitrogen, solubilize phosphorus, and stimulate plant growth by synthesizing molecules that promote growth in order to supply nutrients. When compared to chemical fertilizers, biofertilizers are the most economical option. Additionally, it is cleaner and less dangerous. They totally respect the environment. The current state of the soil's fertility is in danger due to the alarming situation of soil degradation, which is also causing a decline in crop yields. Additionally, the use of pricy, environmentally harmful chemical fertilizers has increased in order to maintain fertility. Because of the mutual interaction between bacteria and earthworms based on bio-concentration, which adds humic acid and plant hormones, vermicompost has 5–11 times more nitrogen, phosphorus, and potassium than regular soil. The most crucial stage of a plant's life cycle is seed germination. Farmers may reduce seed waste, seed dormancy, and financial loss if seeds emerge from dormancy on schedule and in adequate numbers. In this paper, the manufacture of vermicompost and its application in seed germination were examined.

Keywords: Vermicompost, fertilizer