



### Importance of Organic Fertilization in Soil

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Organic fertilisers have been found to improve root system health due to improved soil structure. Organic fertilisers enhance soil texture, water absorption, and erosion resistance by increasing the organic matter content of the soil. As a result, it aids in the enhancement of the physical and physiological structure of the soil. When organic matter, such as manure or compost, is added to the soil, the organic matter must first be mineralized, or broken down, by microorganisms, with the nutrients released as ions. This allows the roots of the plants to absorb them. They boost microbial activity while also improving soil structure. Compost and other organic fertilisers have been shown to enhance soil nutrient levels by providing a ready source of carbon and nitrogen for soil microorganisms, improving soil structure, reducing erosion, lowering soil temperatures, facilitating seed germination, and increasing the ability of soil water retention. Organic fertilisers are carbon-based compounds that help plants develop more productively and with better quality. The majority of organic fertilisers can be made on the farm or locally. The use of organic fertilisers guarantees that the food produced is free of harmful chemicals. Mined rock minerals, as well as natural plant and animal products, are used to make organic fertilisers. Manure, guano, dried and powdered blood, ground bone, crushed eggs, finely pulverised fish, phosphate rock, and wood are among the ingredients. The soil recovers its natural buffer ability as organic matter levels rise, resulting in an increase in pH in acidic soils.

Manure is commonly added to the field as raw manure (fresh or dried) or composted manure in organic farming (Kuepper, 2003). Manure can improve soil quality by adding essential plant nutrients to the soil (nitrogen, potassium, and phosphorus, or NPK). A full fertiliser with twice as much phosphorus as nitrogen or potassium is recommended for most gardeners. 10-20-10 or 12-24-12 are two examples. These fertilisers are typically easy to come by. Some soils already have enough potassium to support plant growth and don't need any additional potassium. Matter that is made up of organic compounds Microbial degradation and the synthesis of organic acids cause the pH to drop. Large sums of money are needed. Fertilizers containing ammonium When used in sufficient quantities as a nitrogen fertiliser, it has a relatively minor impact on soil pH.

The ability of a plant to consume some nutrients is disrupted when the pH of its soil rises, which is what happens when the pH of its food rises too high. As a consequence, certain nutrients are not fully absorbed. The high pH of the soil prevents the iron in the soil from converting into a form that the plant can absorb. The proportion of the soil that consists of plant or animal tissue in different stages of breakdown is known as soil organic matter (decomposition).

Organic matter content ranges from 3 to 6% in most of our viable agricultural soils. Organic manure, also known as organic fertiliser, is made up of biodegradable organic waste. It is better than chemical fertiliser because it is biodegradable and does not affect the environment while increasing soil fertility.

Since they aid in the decomposition of organic matter, the replenishment of soil nutrients, root growth, nutrient uptake, and the breakdown of herbicides and pesticides.

It's likely that using too much organic additive could hurt your plants. "Organic fertilisers increase the biological productivity of the soil, which

increases the soil's sustainability," Silva explained. Fresh manures are high in soluble nutrients and should be composted before use; however, if applied fresh, it is better to do so in the spring so that the soluble nutrients do not wash out into ground water, ditches, or drains, posing a contamination risk.

Manures and other organic sources are used to increase soil fertility and organic matter content, as well as to provide micronutrients and other growth factors that inorganic fertilisers do not usually provide.

Microbial growth and nutrient turnover in soil can be aided by the use of these materials. Over-liming acidic soils can result in alkaline soils. Alkaline irrigation waters can also induce soil alkalinity, which can be treated, but alkaline soils are mainly caused by calcium carbonate-rich parent material weathering (developing) in an arid or dry climate.

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