

Harmful Effects Of Chemical Fertilizer

Plants require a number of soil nutrients like nitrogen, phosphorus and sulfur for their growth. But, soil nutrient levels can decrease over time when crop plants are harvested, as nutrients are not returned to the soil. Hence, these essential nutrients needs to be compensated either through the natural process of **decomposition**, when plants die and decay, and the nutrients extracted from the soil return to the soil or by the easy means of adding fertilizers.

Fertilizers are substances used to add nutrients to the soil to promote soil fertility and increase plant growth. Today fertilizer has become essential to modern agriculture to feed the growing population. Use of fertilizers, especially, the chemical fertilizers has brought in blessings on humanity, which helped contain hunger and death in different corners of the world. Though chemical fertilizers increase crop production; their overuse has **hardened the soil, decreased fertility, strengthened pesticides, polluted air and water, and released greenhouse gases**, thereby bringing hazards to human health and environment as well. It has already been proved how chemical fertilizers pose serious challenges to the balanced and sustainable growth. Accordingly, scientists and researchers are seen arguing in favor of organic fertilizers as the best solution to avoid soil pollution and many other threats to environment

and life caused by overuse of chemical fertilizers. Since salt content is one of the most critical characteristics of chemical fertilizers; they are expected to be harmful to agriculture in the long run as salts are harmful for plants as well as soil. Continuous use of these chemical fertilizers **depletes essential soil nutrients and minerals** that are naturally found in fertile soil. When we use chemical fertilizers; they do not help replenish soil nutrients and its fertility contrary to the popular belief; but, replenish only nitrogen, potassium and phosphorous. And we know **phosphorous** does not dissolve in water and its overuse may cause **hardening** of soil. Likewise **alkaline fertilizers** like sodium-nitrate develop alkalinity in soil reducing its fertility and making it **barren**. So to say; soil fertility and vegetation depend much on the balanced supply of essential nutrients and minerals. As such, overuse of specific nutrients may cause imbalance in the supply of soil nutrients further resulting in **soil degradation and the loss of equilibrium** of a stable soil.

Though chemical fertilizers will help plants grow faster; plants will not be healthy and strong as plants grown in that manner do not have enough time to mature to develop a good root growth, strong stems, or nutritious fruits and vegetables. Even they will be less likely to survive because they will be more **susceptible to pests** and diseases as they **lack good immune system and enough resistance** against these

forces. Besides this, chemical fertilizers can cause **root burn or fertilizer burn**, as chemical fertilizers do not allow enough water intake for the plants. As already said; chemical fertilizers are high in nitrogen salts, and when the **nitrogen** is absorbed by soil too quickly; it will **dehydrate and dry up the plant**. Another important issue of using nitrogen fertilizers is the groundwater contamination. Nitrogen fertilizers break down into nitrates and travel easily through the soil. Because it is water-soluble and can remain in groundwater for decades, the addition of more nitrogen over the years has an accumulative effect.

But, **organic fertilizers are not like them**; they are slow release which will allow time for microbial activity to break down the organic materials in the fertilizers. When we talk of microbial activity; we need to remember that natural microbes; which include beneficial insects, fungus, and bacteria found in the soil, are very much helpful for healthy soil and plant growth. Needless to say, use of **chemical fertilizers** will kill these **soil friendly micro-organisms**.

In their larger **threat to environment, animals and human health**; chemical fertilizers will ultimately end up leaking into our water bodies; ponds, streams, ground water etc. and **contaminate water** supply as a result of which humans as well as animals may suffer numerous short term and long term hazardous chemical effects on their health and

body. In reply to this, organic fertilizers will be the right solution without which gardening and growing healthy and natural food and crops could be possible.

Let's keep our earth safe, for the present and the future!!!