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Perspective

Hazardous Effects of Fertilizers on Soil

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DESCRIPTION

Since the 1930s, chemical fertilizers have been critical to the cost-effective production of commercial crops. With a growing population and rising living costs, a plentiful harvest guarantees that adequate food is accessible at reasonable prices for everyone. Chemical fertilizers, on the other hand, contain hidden hazards that most people are unaware of it.

Some people may have a hazy understanding of groundwater contamination and other environmental consequences, but not in depth. Most people are not aware that too much nitrogen in the soil, fertilizers might kill fish in neighboring bodies o f water. To comprehend these consequences, people must first comprehend what chemical fertilizers are and how they work.

Benefits of fertilizers

Any fertilizer's goal is to increase the amount of nutrients in the soil, making it more fertile and conducive to plant growth. One or more of the macronutrients like nitrogen, phosphorus, and potassium, or NPK, are commonly found in fertilizers. A plant doesnot need much more than one of them to thrive and develop quickly. Depending on the source, other nutrients may be present.

Organic and chemical fertilizers are the two basic forms of fertilizers. Organic fertilizers, the name implies, are made from organic materials such as animal manure and plants. They're hit-or-miss unless they're well treated, in which case they are pricey. Chemical fertilizers are made from inorganic materials that have been treated chemically. The formulations are intentional and accurate; they are somewhat cost-effective, depending on their intended usage.

On the surface, chemical fertilizers appear to give farmers more control over their crop yield at the proper price. People's decision is correct, sometimes it is incorrect. Chemical fertilizers assist farmers to produce more and/or higher-quality crops in the short term, but in the long run, they may result in fewer or lower-quality crops. This is due to the complexities of soil health.

To stay healthy, the soil, like us, requires a careful balance of nutrients. While NPK can certainly aid in the growth of plants and crops, adding them to the soil without concern for maintaining the balance can result in unforeseen repercussions or hidden risks.

Concerns about the environment

Chemical fertilizers have the potential to contaminate groundwater and other water sources because they soak through the soil. NPK is now non-toxic in tiny doses, but in large doses, it can disrupt the natural equilibrium in a variety of ways.

One way is to accomplish precisely what it's designed to do, which is to aid in the growth of plants. The issue is that it produces a "dead zone," as specialists refer to it. When it's in the water, it promotes the excessive growth of plankton and other aquatic plants. When they die, the decomposition process consumes oxygen, which fish and other aquatic species require to exist. As a result, the seas nearest to the land, which also have the most agricultural runoff, are devoid of fish and crustaceans. This has a negative impact on the local ecosystem as well as the local fishing business.

Avoiding the use of chemical fertilizer in the worst-affected areas would be ineffective. Nitrogen in the water can last for years, so it will continue to have an impact on the environment even if no more is added. Another issue with nitrogen is that it adds to global warming. Nitrogen, dubbed the "other greenhouse gas," is equally as harmful to global warming as carbon dioxide, although it is less known. Power plants and automobiles are the primary sources of nitrogen in the atmosphere in the form of nitrous oxide, however, applying more nitrogen fertilizers to agricultural plants than they can absorb has a major impact.

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