



Soil: Health Issues and Remedies

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Soil is a living, life-giving natural resource, not an inert growing substrate. It is packed with billions of bacteria, fungus, and other microorganisms, the building blocks of a sophisticated symbiotic ecosystem and it is an integral part of life.

Soil health - The ability of soil to continue to serve as a vibrant living ecosystem that supports humans, animals, and plants is known as soil health. We receive clean air and water from healthy soil, as well as abundant crops, forests, productive grazing pastures, a variety of wildlife, and stunning sceneries.

Healthy soil plays many essential functions such as:

Governing water - Rain, snowmelt, and irrigation water are all directed by the soil. Water permeates the soil and runs through it or over it.

Maintaining plant and animal life - Soil has an impact on the diversification and production of life.

Removing and absorbing possible contaminants - Organic and inorganic substances, such as air deposits and waste products from industry and municipalities, are filtered, buffered, degraded, immobilized, and detoxified by the minerals and bacteria in soil.

Nutritionally cycling - In the soil, carbon, nitrogen, phosphorus, and many other nutrients are stored, changed, and cycled.

Supplying ground support and stability- Plant roots are given a medium by the soil's composition. In addition to providing protection for archaeological riches, soils also sustain human constructions.

Soil Health Issues

SOIL EROSION-
Loss of natural and applied nutrients, water holding capacity, affecting Structure, Texture

WATER LOGGING-
Decaying of root tissues, Leaching and denitrification loss of nutrients

SALT INFESTATION-
Uneven, stunted crop growth and Less water availability

Poor enzyme and microbial activity,
Oxygen level depletion in soil

Causes

The following are the main reasons for soil fertility loss:

- Inappropriate cropping systems.
- Continuous crop cultivation.
- Intensive tillage.

- Monoculture agriculture.
- Thorough clearing of crop residues.
- Soil erosion and land degradation.
- Unfavorable climatic and extreme weather conditions.
- The application of fertilizers irrespective of the field conditions.
- Deforestation.
- Jhum cultivation.

Guidelines for healthy soil management

How to manage soil in a way that enhances soil function has been uncovered by research on soil health.

- Increase the Amount of Living Roots
- Reduce Disruption
- Increase Soil Cover
- Increase Biodiversity

Maintaining our soil's health and productivity is crucial as demands for food production and global population growth increase. More and more farmers are enhancing their soil's organic matter and microbial activity by employing soil health concepts and farming techniques including no-till, cover crops, and diversified rotations. Because of this, farmers are capturing more organic matter, increasing water penetration, and enhancing habitat for wildlife and pollinators—all while reaping higher earnings and frequently higher yields.

