

Natural Farming

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Natural farming is also called do-nothing farming. It is an important agricultural approach that aims to minimize external inputs and work in harmony with nature. Natural farming in turn promotes a sustainable and eco-friendly farming practice which in turn paves the way toward yield maximization and sustainability. The key principles and techniques involved in natural farming, are as follows

No-till Farming: No-till farming averts soil tilling, as it collapses the physical soil properties and diminishes soil nutrients. Thus, it promotes soil erosion and leads to serious consequences. Henceforth no-till farming utilizes the cover crops, mulching, and compost technique to maintain soil fertility instead of tilling.

Cover Crops and Mulching: Legumes or grasses, are usually grown as a cover crop to cover the soil between the standing crops. They help prevent weed growth and erosion. In addition, they help to fix nitrogen, and thus improve the soil structure. Mulching on the other hand utilizes organic materials such as straw or leaves. This plays a major role in weed suppression and moisture retention.

Composting: Composting is considered to be a vital component in natural farming. It recycles the organic waste into nutrient-rich compost. Henceforth, compost helps in enhancing soil fertility, improving the water-holding capacity, and thereby helping in promoting useful microbial activity.

Crop Rotation and Polyculture: Natural farming utilizes crop rotation and polyculture in order to diversify plant species, disrupt pest and disease cycles, and therefore enhance the overall ecosystem resilience. Here various crops with different nutrient requirements are grown in order to maintain the soil health.

Beneficial Microorganisms: Being an important component in natural farming beneficial microorganisms like mycorrhizal fungi and effective microorganisms (EM) help to enhance nutrient uptake, suppress plant diseases, improve soil structure and conclusively improve the overall soil health.

Reference:

- Fukuoka, M. (1978). The One-Straw Revolution: An Introduction to Natural Farming.
- Higa, T. (1993). Effective Microorganisms: A Biotechnology for Mankind. In The Third International Conference on Kyusei Nature Farming.
- Li, X., et al. (2018). Impact of crop rotation and straw return on carbon sequestration in Chinese Mollisols. *Agriculture, Ecosystems & Environment*, 266, 33-40.
- Rathore, A., et al. (2020). Microbial dynamics in composting: a review on recent advances. *Journal of Environmental Management*, 269, 110753.
- Teague, W. R., et al. (2016). Grazing management impacts on vegetation, soil biota and soil chemical, physical and hydrological properties in tall grass prairie. *Agriculture, Ecosystems & Environment*, 235, 264-273.

