

## World Soil Day (December 05)

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### SUMMARY

An international day to celebrate World Soil Day is held annually on 5 December to focus attention on the importance of healthy soil and sustainable management of soil resources. Our planet's survival depends on the precious link between soil and water. Soil water, vital for nutrient absorption by plants, binds our ecosystem together. The World Soil Day (WSD) 2023 and its campaign aim to raise awareness on the importance and relationship between soil and water in achieving sustainable and resilient agrifood systems. WSD is a unique global platform that not only celebrates soils but also empowers and engages citizens around the world to improve soil health.

### INTRODUCTION

World Soil Day (WSD) is celebrated annually on December 05 to highlight the importance of healthy soil and promote sustainable management of soil resources. World Soil Day was first officially designated by the Food and Agriculture Organization (FAO) of the United Nations in 2014. The date, December 5th, was chosen to coincide with the birthday of King Bhumibol Adulyadej of Thailand, a monarch known for his efforts in soil resource management. The FAO of the United Nations has been taking the lead in the promotion of sustainable soil management through its Global Soil Partnership. Members and multiple stakeholders work together as a coalition of the willing for soils. 95% of our food comes from soils. It can take up to 1000 years to produce just 2-3 cm of soil. The primary aim of World Soil Day is to promote awareness and understanding of the importance of soil for sustainable agriculture and food security. Each year, the day is marked with various events, initiatives, and campaigns around the world to highlight the significance of soil conservation and sustainable soil management practices. Efforts on World Soil Day focus on addressing soil-related challenges, such as soil degradation, erosion, pollution, and the loss of soil biodiversity. The goal is to encourage individuals, communities, and governments to take action in preserving and improving soil health for the benefit of current and future generations.

### Need For Healthy Soil And Soil Health Card

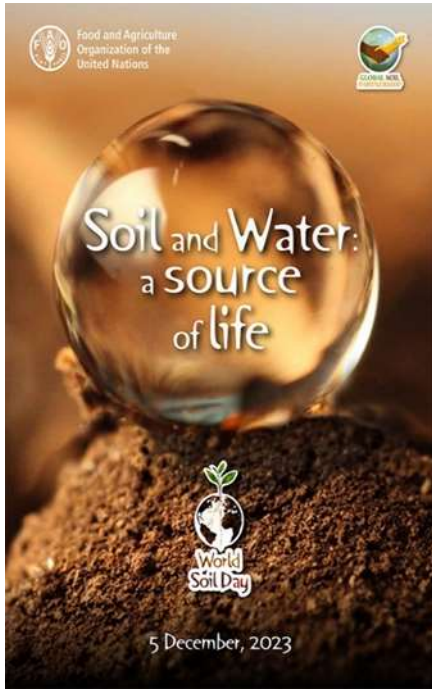
Soils are essential for life on Earth but are threatened by multiple forms of degradation. Nutrient imbalance has been identified as one of the top ten threats to soil health worldwide, with negative environmental, social and economic effects. When crops are harvested, nutrients are removed from the soil. Furthermore, the underuse, misuse, or overuse of fertilizers increases greenhouse gas emissions, degrades soil and water resources and induces potential harm to animals and humans. Currently, two-thirds of the world's population is at risk of nutrient deficiency. Balancing the many ecosystem services provided by soil with the need for enhanced food production is the central challenge of sustainable soil management. Understanding the importance of fertile soils for the farmers of India, Prime Minister Narendra Modi launched the Soil Health Card (SHC) scheme on February 19, 2015 from Suratgarh, Rajasthan. On the occasion, the Prime Minister gave the slogan: "Swasth Dharaa, Khet Haraa." - Healthy Earth, Green Farm. Referring to the song "Vande Mataram," he said that in order to achieve a land that is truly "Sujalam, Suphalam," it is necessary to nurture the soil. Prime Minister added that the Soil Health Card scheme is a step towards fulfilling this dream. The scheme has been introduced to assist State Governments to issue soil health cards to all farmers in the country. The Soil Health Card is a printed report that provides information to farmers on the nutrient status of their soil and recommendation on the appropriate dosage of nutrients to be applied for improving soil health and its fertility.

### Benefits of the Soil Health Card Scheme

❖ Under the scheme, soil is tested and a report is provided to farmers to help them decide which crops to cultivate and which ones to skip. The authorities monitor the soil on a regular basis and provide a report to farmers once in three years so that they always have updated data about their soil.

❖ The Government also employs experts to help the farmers in carrying out the corrective measures as per the SHC.

With this concept every year FAO celebrates world soil day with different themes to protect, increase the productivity of soil. world soil day is important as it raises awareness about the crucial role soil plays in our lives. It emphasizes the need for sustainable soil management to ensure food security, biodiversity, and environmental health. This year’s celebrations likely focus on promoting actions to address soil pollution and protect the earth’s soil resources for future generations. This year i.e., 2023 theme is “**Soil and water: a source of life**”.



SOIL HEALTH CARD		Name of Laboratory	
Farmer's Details		SOIL TEST RESULTS	
Name		S. No.	Parameter
Address			Test Value
Village			Unit
Sub-District			Rating
District		1	pH
Pin		2	EC
Aadhar Number		3	Organic Carbon (OC)
Mobile Number		4	Available Nitrogen (N)
Soil Sample Details		5	Available Phosphorus (P)
Soil Sample Number		6	Available Potassium (K)
Sample Collected on		7	Available Sulphur (S)
Survey No.		8	Available Zinc (Zn)
Khata No. / Dag No.		9	Available Boron (B)
Farm Size		10	Available Iron (Fe)
Geo Position (GPS)	Latitude: Longitude:	11	Available Manganese (Mn)
Irrigated / Rainfed		12	Available Copper (Cu)

Nutrients & Micro Nutrient Recommendations for Soil Applications			Fertilizer Recommendations for Sustainable Yield (with Organic Manure)				
S. No.	Parameter	Recommendations	S. No.	Crop & Variety	Reference Yield	Fertilizer Combination-1 for NPK	Fertilizer Combination-2 for NPK
1	Sulphur (S)		1	Paddy (Dhara)			
2	Zinc (Zn)		2				
3	Boron (B)		3				
4	Iron (Fe)		4				
5	Manganese (Mn)		5				
6	Copper (Cu)		6				
General Recommendations							
1	Organic Manure						
2	Biofertilizer						
3	Lime / Gypsum						

Soil and water, two fundamental resources, are indispensable for the continuation of life on Earth. These elements constitute the very foundation upon which ecosystems thrive, providing essential support for both plant and animal life. Soil, often overlooked, is a dynamic and complex ecosystem in itself. It serves as the medium for plant growth, supplying nutrients and acting as a reservoir for water. Agricultural activities, the primary source of sustenance for the global population, rely heavily on fertile soil. Erosion, contamination, and depletion of nutrients pose significant threats to soil quality. Implementing conservation methods, such as crop rotation and cover cropping, becomes imperative to safeguard this invaluable resource. Water, another cornerstone of life, is essential for numerous biological processes. It is a vital component of every living organism and plays a pivotal role in maintaining ecological balance. Aquatic ecosystems, ranging from oceans to freshwater bodies, harbour diverse life forms and contribute to global biodiversity. However, over-extraction, pollution, and climate change jeopardize the availability and quality of water resources.

The interconnectedness of soil and water underscores the importance of holistic environmental stewardship. Pollution from industrial activities, agricultural runoff, and improper waste disposal can contaminate both soil and water, leading to far-reaching ecological repercussions. Sustainable practices, such as organic farming, afforestation, and responsible water management, are imperative to mitigate these threats. Furthermore, climate change intensifies the challenges associated with soil and water conservation. Altered precipitation patterns, rising temperatures, and extreme weather events can exacerbate soil erosion, reduce water availability, and disrupt ecosystems. Adaptation and mitigation strategies are essential to address these climate-induced challenges and ensure the resilience of our ecosystems. Conversely, the state of water resources profoundly affects soil conditions. Inadequate water availability can lead to soil desiccation, affecting plant growth and productivity. Excessive water, through flooding or poor drainage, can erode topsoil and cause nutrient loss. Integrated management strategies involve responsible water usage, watershed management, and the preservation of wetlands to maintain a balance that supports both aquatic and terrestrial ecosystems.

Climate change adds a layer of complexity to this interconnected relationship. Altered precipitation patterns and temperature fluctuations impact both soil and water resources. Integrated management must incorporate climate-resilient practices, such as agroecology and sustainable water-use planning, to mitigate the

adverse effects of climate change on these critical resources. Moreover, anthropogenic activities, including agriculture, urbanization, and industrialization, significantly influence the health of soil and water. Runoff from agricultural fields, for example, can carry sediments and pollutants into water bodies, affecting both aquatic ecosystems and soil quality. Integrated management necessitates the adoption of sustainable practices, such as precision agriculture and green infrastructure, to minimize these adverse impacts.

**CONCLUSION:**

In conclusion, soil and water are not isolated entities but integral components of a complex ecological web. Their interdependence requires a holistic and integrated approach to management. Sustainable agriculture, water conservation, afforestation, and climate-resilient practices form the pillars of such an approach. By recognizing and acting upon the inherent connection between soil and water, we can forge a path toward a more resilient and sustainable future for our planet.

**REFERENCES**

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World soil day –December 5, 2023, *National Day Calendar*, <https://www.nationaldaycalender.com>