

## **Brief report of World Soil Day**

The World Soil Day was observed on December 5, 2023, at the Library Conference Hall, ICAR-Indian Institute of Sugarcane Research, Lucknow, under the chairmanship of Dr. Rasappa Viswanathan, Director, ICAR-IISR, Lucknow. Dr. K.N. Tiwari, former Professor and Head of the Department of Soil Science and Agricultural Chemistry at Chandra Shekhar Azad University of Agriculture and Technology, Kanpur, was invited as a chief guest and speaker on this occasion. About 100 scientists and students participated in this program. At the outset of the program, Dr. R. Viswanathan, Director, ICAR-IISR, Lucknow, welcomed Dr. K.N. Tiwari, Chief Guest and Key Speaker of this program, followed by Dr. S.R. Singh, Principal Scientist (Soil Science) and convener of this program, who welcomed all the dignitaries and participants. Dr. Manoj K. Srivastava, Principal Scientist and Head, Division of Plant Physiology and Biochemistry, gave a valuable talk on the balanced nutrition of macro- and micronutrients for sustainable management of crop productivity and soil quality. Dr. V.P. Singh, Principal Scientist and Head Division of Production, elaborated on the role of conservation agriculture, crop diversification, and natural farming in soil health improvement. He emphasized the need to reduce the cost of cultivation, increase factor productivity, and conserve organic matter in the soil by using minimum or zero tillage and adopting natural farming. He also suggested the adoption of natural farming to improve soil organic carbon and soil biodiversity. Dr. Dinesh Singh, PC, AICRP on Sugarcane, ICAR-IISR, Lucknow, stressed the traditional cost-effective and chemical-free cultivation for conserving soil health and reducing groundwater pollution. Dr. T.K. Srivastava, Principal Scientist (Agronomy), Division of Crop Production, gave a valuable talk on the key theme of World Soil Day, "Soil and Water: A Source of Life." He discussed the role of soil and water in the survival, existence, and livelihood of human beings on the earth's surface. He talked about the role of the Panchabootha, i.e., earth, water, fire, air, and atmosphere, for the survival and existence of human beings and emphasized that conserving the soil is the prime duty of the present generation for future generations. The chief guest and key speaker gave a holistic talk on key issues such as the progressive increase in fertilizer application over decades, decreasing soil organic carbon, increasing nutrient imbalances, increasing the area of salt-affected soil (saline and saline), soil degradation, decreasing nutrient use efficiency, and factor productivity due to adopting a faulty package of practices in the present scenario. He emphasized the adoption of technology such as site-specific nutrient management, the application of mineral fertilizers based on soil test values, and targeted yield equations with the integration of organic manures, bio-fertilizers, green manuring, and crop residue management. He also stressed the use of nano-urea and nano-DAP, their benefits, their application methods and time, and how to reduce fertilizer load and increase use efficiency through the use of these fertilizers. The concluding talk was given by the Director, ICAR-IISR Lucknow, in which he emphasized the proper use of sugarcane by-products as organic manures for the management of soil. Microbial intervention may be one of the best options for utilizing press mud from the sugar industry as organic manure. He also emphasized the need for converting urban waste to organic manure to supplement soil organic carbon, a policy on tapping irrigation water from deep bore wells, a healthy cropping system to conserve soil carbon, etc.





