

# Ohio State University soil professor gets World Food Prize

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In this undated photo provided by the World Food Prize Foundation, Rattan Lal, a professor of soil science at The Ohio State University poses at the University in Columbus, Ohio. Lal was named the recipient of the 2020 World Food Prize on Thursday, June 11, 2020. He was recognized by the Des Moines, Iowa-based organization for his soil research which has led to improved food production and a better understanding of how atmospheric carbon can be held in the soil improving climate change. (World Food Prize Foundation via AP)

A soil scientist whose research led to improved food production and a better understanding of how atmospheric carbon can be held in the soil to help combat climate change was named this year's recipient of the World Food Prize on Thursday.

Rattan Lal is a professor of soil science at Ohio State University and founding director of the university's Carbon Management and Sequestration Center.

World Food Prize Foundation President Barbara Stinson announced Lal as the winner. The ceremony was held online rather than live in Washington because of concerns about the coronavirus pandemic.

"Dr. Lal is a trailblazer in soil science with a prodigious passion for research that improves soil health, enhances agricultural production, improves the nutritional quality of food, restores the environment and mitigates climate change," Stinson said.

Lal has developed and promoted the idea that healthy soil must not only have the usual nutrients, including nitrogen, phosphorus and potassium, but must have depleted carbon restored by leaving crop residue. This focus on soil's physical properties diverged from the conventional soil fertility strategy in the 1970s, which relied heavily on replacing nutrients by applying fertilizer.

Lal's research in the 1990s revealed that restoring degraded soils through increasing soil carbon and organic matter not only improved soil health, but helped combat rising carbon dioxide levels in the air by sequestering atmospheric carbon. His analysis showed that soils can sequester carbon at rates as high as 2.6 gigatons per year.

His career has taken him to posts in Australia and Nigeria. He has led soil restoration projects in Asia, Africa and Latin America, integrating no-till farming and use of cover crops, mulching and agroforestry to protect soil, conserve water and return nutrients, carbon and organic matter in the soil.



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Though the concepts have been around for 50 years, farmers in developing countries are beginning to understand and implement his suggested practices. Lal also seeks wider use of soil conservation measures focused on soil health in developed countries.

"In the U.S. soil conservation is practiced only on a very small percent of the total areas," he said. "It's catching up, but I wish it could be at a faster speed and more area going to that kind of concept."

U.S. Secretary of State Mike Pompeo said in a videotaped message that a growing world population creates a need to improve agriculture productivity to feed more people.

"He's helping the Earth's estimated 500 million small farmers be faithful stewards of their land through improved management, less soil degradation, and the recycling of nutrients. The billions of people who depend on these farms stand to benefit greatly from his work," Pompeo said.

Lal, 76, was born in India and studied soils from his earliest days at Punjab Agricultural University. His pursuit of higher education led him to Ohio State University for a doctorate. He established the Carbon Management and Sequestration Center in 2000.

Lal said he now is focused on nutrition-centered agriculture to help the world's 850 million undernourished and 2 billion malnourished.

"We must eliminate hunger. We must also make sure that the food consumed is healthy and this is where the concept of healthy soil, plants, animals, people and the environment is a one and indivisible concept," he said.

The World Food Prize was created by Nobel Peace Prize laureate Norman Borlaug in 1986 to recognize scientists and others who have improved the quality and availability of food. The foundation that awards the \$250,000 prize is based in Des Moines.

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