

## BioClay might end the supremacy of pesticides and chemical fertilizers

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**BioClay might end the supremacy of pesticides and chemical fertilizers** The newly discovered clay has the potential to provide the best protection to crop against the specific disease causing pathogens.



In a recent discovery, a fleet of researchers, including Indian-origin researchers, have found a nano-sized degradable clay which might be considered as the best reply to pesticides and chemical fertilizers. The newly discovered clay has the potential to provide best the protection to crop against the specific disease causing pathogens.

Researcher Neena Mitter from the University of Queensland in Australia said, "BioClay is an environmentally sustainable alternative to chemicals and pesticides and could be a game-changer for crop protection."

The study was recently published in Nature Plants. "In agriculture, the need for new control agents grows each year, driven by demand for greater production, the effects of climate change, community and regulatory demands and toxicity and pesticide resistance," she said.

"Our disruptive research involves a spray of nano-sized degradable clay used to release double-stranded RNA that protects plants from specific disease-causing pathogens," the researcher explained. Mitter further stated that the technology reduced the use of pesticides without altering the genome of the plants.

Once BioClay is applied, the plant 'thinks' it is being attacked by a disease or pest insect and responds by protecting itself from the targeted pest or disease, Mitter noted. A single spray of BioClay protects the plant and then degrades, reducing the risk to the environment or human health.

She further said BioClay met consumer demands for sustainable crop protection and residue-free produce. The cleaner approach will value-add to the food and agri-business industry, contributing to global food security and to a cleaner environment.

Another researcher Zhiping Xu said BioClay combined nanotechnology and biotechnology. "It will produce huge benefits for agriculture in the next several decades and the applications will expand into a much wider field of primary agricultural production," Xu said.