

# [***Plastic waste causes poor soil health in cities: CURaj***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6BKF-3XB1-JB3N-T54K-00000-00&context=1516831)

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**Body**

Jaipur: A recent study by the Central University of Rajasthan (CURaj) has found that ***soil health*** in cities has been deteriorating due to increasing plastic waste.

Researchers said that compounds like bisphenol A (BPA), a synthetic chemical used to produce certain plastics, are of particular concern as it is found in most plastic bottles and items.

The study was conducted by research scholar Preksha Palsania under the supervision of Dr Garima Kaushik, senior assistant professor at the department of environmental science at CURaj. As part of the study, which has been published in the Journal of Hazardous Materials, the researcher extracted the additive chemical BPA from daily use disposable plastics and determined the toxicity of BPA on ***soil*** microbial communities, Rhizobium bacteria and Chlorella sp. of algae, and showed its negative impact on their growth.

For the study, ***soil*** samples were taken from seven different locations within a two-kilometre radius from the Mathura Das Pura landfill site near Jaipur city.

“When plastic waste accumulates in landfills or is improperly disposed of in the environment, it poses a significant threat to ***soil health*** and potentially dire consequences for ecosystems and human well-being. BPA disrupts hormonal balance in humans and animals, potentially affecting reproductive ***health***, development, and overall well-being,” said Preksha Palsania, research scholar who conducted the study.

The researcher said that the implications of plastic pollution on ***soil health*** extend beyond agricultural lands and ***soil***-dwelling organisms, from earthworms to microbial communities, are vulnerable to the toxic effects of plastic leachates, disrupting vital ecological processes and threatening the balance of fragile ecosystems.

Kaushik said that with the study they want to advise general public and the authorities to focus on better management of plastic waste and reducing the use of plastic for food consumption

“Chemicals like BPA pose toxic impact on micro and macro-organisms. No wonder they are also harming human bodies when these disposable plastics are used at high temperatures for long durations, interfering with hormones. Studies across the world have also found the presence of microplastics in human placenta too,” said Kaushik.

Palsania said that irresponsible dumping of plastic waste in villages, outskirts of cities, can affect the growth of flora.

“***Soil*** microorganisms are the unsung heroes of our planet, playing a vital role in maintaining ***soil*** fertility, supporting plant growth, and fostering environmental sustainability. I tried growing plants in ***soil*** samples taken as part of the study and clean ***soil*** too, and we noticed, improper plant growth in ***soil*** with plastic compounds,” said Palsania.

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