

Australian scientists decompose harmful plastic waste into an environmentally friendly by-product



Australian scientists have designed a system that decomposes plastic into an environmentally friendly by-product.

Head of Electrical Engineering at Australia's James Cook University, Prof. Mohan Jacob revealed that by using microwaves, plastic waste can be converted into biochar, charcoal that can be used as a soil conditioner.

"We are developing a processing chamber, which could process many kinds of plastic materials, up to 5 kilograms of waste," Jacob told Xinhua.

"It will be a prototype system for the development of biochars from different types of plastics under various conditions."

Jacob explained that microwave energy is used to heat the plastic waste above 600 degrees centigrade within the custom made chamber, where it ends up as a biochar, which can then be used to improve the properties of soil.

Currently underway is step one of the project, testing the chamber, after which, step two will involve optimizing the energy efficiency of the system and maximizing the yield of by-products.

If all goes as planned, step three will be to construct a medium scale waste processing system, which is customizable and can be installed remotely.

Jacob said that with the average person using 130 kg of plastic every year, there is an urgent need for developing better ways of processing it.

“Perhaps contrary to popular opinion, plastic is an indispensable material in modern life. It is cheap, versatile, lightweight, and has many benefits like maintaining food quality and safety and preventing waste,” he said.

However, “discarded plastics endanger our marine wildlife, and have begun to enter the food chain. There is an urgent need for developing technologies to recover plastic waste.”

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