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IIT Kharagpur researchers develop new technology to manufacture biofuel

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Researchers at IIT Kharagpur have developed a new technology that will make biofuel manufacturing process cheaper, quicker and pollution-free



Researchers at IIT Kharagpur have developed ‘soil-to-soil’ manufacturing technology which will change the way biofuels is manufactured by making the process cheaper, quicker and pollution-free.

This new technology developed at the P.K. Sinha Centre for bio-energy at IIT-Kharagpur is in the process of being patented, an IIT-KGP spokesperson said on Wednesday.

Dr. Rintu Banerjee, professor in Department of Agricultural and Food Engineering said, “2gm bioethanol can be produced from various naturally available ligno-cellulosic components. But to do so it needs to be treated chemically. Because of chemical treatment the process contributes to polluting the environment.”

“We have replaced this chemical treatment with enzymes which degrade the lignin specifically there by making the manufacturing process pollution free. Lignin is a complex organic polymer deposited in the cell walls of many plants, making them woody. Unlike the chemical treatment here the waste product is pollution-free and hence utilising the residual biomass to organic fertilizer is possible.”, he added

“It is soil-to-soil technology, an integrated process where we are using natural resources to extract gaseous and liquid biofuel and then converting the wastes into bio fertilizer. It is an unique integrated approach which we have developed in our lab,” Dr. Banerjee claimed.

“The technique that we are suggesting will ensure relatively quicker production of biofuel and that the process is completely green thereby not creating any secondary pollution. This, we feel can change the future of biofuel manufacturing in India and make it more cost effective,” Banerjee said.

Presently the project is funded by the Ministry of Petroleum and Natural Gas, Department of Science and Technology and the Ministry of Human Resource Development.