

For Immediate Release: June 15, 2023

PRESS RELEASE

IIT (ISM) researchers develop water repellent jute which can cope with the adverse environmental impact of usage of plastic bags for packaging of food grains etc; newly developed water repellent jute is cost effective and have greater durability

At a time when there is increased focus on cutting greenhouse gas emission to as close to zero as possible, a group of researchers of IIT (ISM) have developed water repellent but biodegradable jute that has low carbon footprint compared to plastic sacks or bags, used in packaging of food grains etc.

The two member team led by Dr Aditya Kumar, Associate Professor of Department of Chemical Engineering and Dr Poonam Chauhan, research scholar of same department who completed the research in 2.5 year and later also filed the patent application for the same in November last year used a silane based coating to make the jute water repellent.

Explaining the process for development of water repellent jute, Prof Aditya Kumar, who is also the principal investigator of the project that began on Feb 12, 2020 said, "We used inexpensive materials to develop the new jute and coating was done chemically via the spread method under ambient conditions without using any sophisticated instrument".

"The coating is environment friendly and bio degradable, reducing the chance of any negative impact on the environment of human health" clarified Prof Kumar and added the coated jute is mechanically durable and moreover the coating didn't affect the weight or thickness of the Jute.

Elaborating about the advantages of water repellent jute over the traditional one, Prof Kumar said, "The water repellent jute shows self-cleaning property that could help to improve the stains and dust contamination issues".

"The bags prepared from the jute can be used to protect the grains from moisture in a highly humid environment" said Kumar and added expected that the water repellent jute may find extended application such as geotextile where moisture or water problem arises.

Regarding the cost effectiveness of Jute, Prof Aditya said, "It is cost effective as the coating material costs around Rs 70 per liter.

"The newly developed jute can be used by manufacturers, industry owners and customers due to its added properties and also due to simple method of its preparation without involvement of any extra time" said Kumar.

"Though the newly developed jute has only been prepared on lab scale but we may commercialization later on once the idea is patented" elaborated Prof Kumar.

Rajni Singh

Dean (Media & Branding)