

# THE HINDU

## Head Line: Gene editing guidelines facing delay

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# Gene editing guidelines facing delay

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Even as the Centre investigates allegations that unauthorised genetically modified (GM) rice was exported to Europe, it is yet to decide on a research proposal from its own scientists which would allow plants to be genetically modified without the need for conventional transgenic technology.

Scientists at the Indian Agricultural Research Institute are in the process of developing resilient and high-yield rice varieties using such gene editing techniques, which have already been approved by many



The IARI is on the lookout for high-yielding rice.

countries, and they hope to have such rice varieties in the hands of the Indian farmers by 2024. However, the proposal for Indian regulators to consider this technique as equivalent to conventional breeding methods,

since it does not involve inserting any foreign DNA, has been pending with the Genetic Engineering Appraisal Committee for almost two years.

The IARI has previously worked on golden rice, a traditional GM variety which inserted genes from other organisms into the rice plant, but ended trials over five years ago due to agronomic issues, said Director A.K Singh.

The Institute has now moved to newer technologies such as Site Directed Nuclease (SDN) 1 and 2. They aim to bring precision and efficiency into the breeding

process using gene editing tools such as CRISPR.

“In this case, you are just tweaking a gene that is already there in the plant, without bringing in any gene from outside. When a protein comes from an outside organism, then you need to test for safety. But in this case, this protein is right there in the plant, and is being changed a little bit, just as nature does through mutation,” said Dr. Singh. “But it is much faster and far more precise than natural mutation or conventional breeding methods which involve trial and error and multiple breeding cycles.”