

# The Daily Star

BHADRA 28 1403 BS. DHAKA THURSDAY, SEPTEMBER 12, 1996 RABIUS SAANI 28, 1417 HIJRI

## Scientist evolves new technique to develop disease-free jute plants

A Bangladeshi scientist has achieved a major breakthrough by innovating a genetic engineering technique for gene insertion into jute tissue to develop insect and disease-free jute plants, reports UNB.

Dr Rafiqul Islam Khan, a Research Scientist at the Plant Industry Division of the Canberra-based Commonwealth Scientific and Industrial Research Organisation (CSIRO), developed the technique after two years of research.

Dr Khan demonstrated his achievement — world's first genetically engineered jute plant and an efficient method for routine introduction of useful genes into jute — at a seminar in Dhaka yesterday.

He carried out his research works under a project titled "Application of Genetic Engineering Techniques for Varietal Improvement of Jute" of the Dhaka-based International Jute Organisation (IJO).

Dr Serajul Islam, Chief Scientific Officer of Genetic Division at the Bangladesh Atomic Energy Commission, collaborated Dr Khan in implementing

the research project that cost 32,000 US dollars.

Khan told newsmen that with the development of the method, new jute variety could be developed which would be free of insects and diseases, and lead to increased production, reducing farmers' costs for pesticides.

He said the newly developed fully engineered plant would take at least four years to reach the farmers' level.

Citing available data, Dr Khan, who is scheduled to take up a scientist position at the University of Minnesota, USA, said Bangladesh incurs losses every year of at least Taka 750 crore — Taka 608 crore internal loss and 36 million US dollar export loss — due to insect and disease in jute plants.

But with the new technique, jute research has now entered into a new era of biotechnology and this is a good news for everybody involved in jute production as it will help meet the challenges faced by jute growers and jute industry.

It is expected that this genet-

ically engineering technique, through its proper implementation, may bring varietal improvement over existing cultivators of jute leading to increased productivity and production cost of jute.

This innovation is the first of its kind in jute research, where a special kind of bacteria was used to insert genes into leaf tissues of young jute

seedlings. These leaf tissues were then developed into genetically engineered plants by hormone treatment.

Genetic engineering techniques for many crops including rice, wheat, barley, maize, cotton, pea, potato, tomato, tobacco, soyabean and chickpea, have been developed and used for insertion of desirable characters in the advanced laboratories of foreign countries.

"We are in a new era of biotechnology of jute research," said Dr Khan. "With the discovery of the genetic engineering technique for jute, the gate is now opened for further improvement of jute through uses of biotechnology."

"We will also keep our eye open to develop high yielding variety (HYV) and to develop quality and quantity of fibre," he said.

Executive Director of IJO KM Rabbani, Senior Scientific Officer of Agriculture Division of IJO Dr Ayubur Rahman, Chief Scientific Officer of Atomic Energy commission Dr Serajul Islam also discussed various aspects of the technique.



Dr Rafiqul Islam Khan