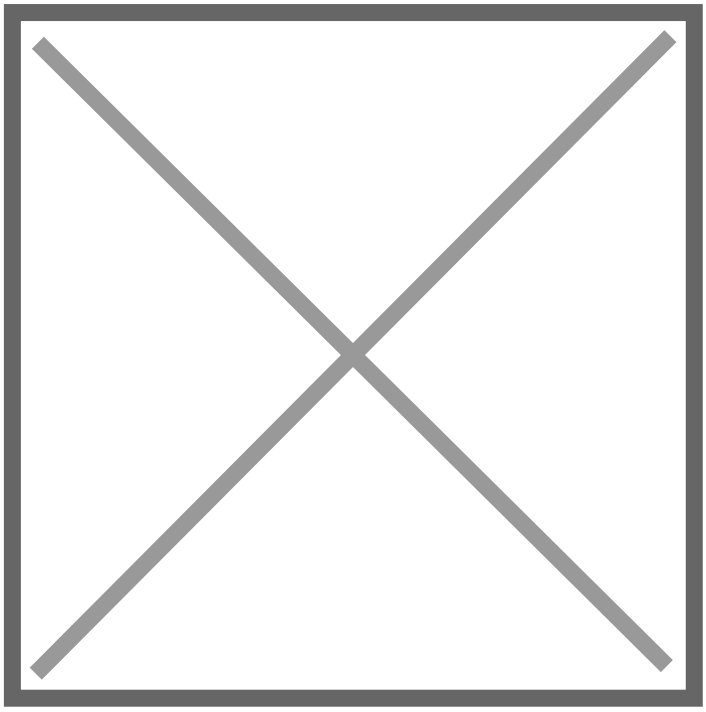
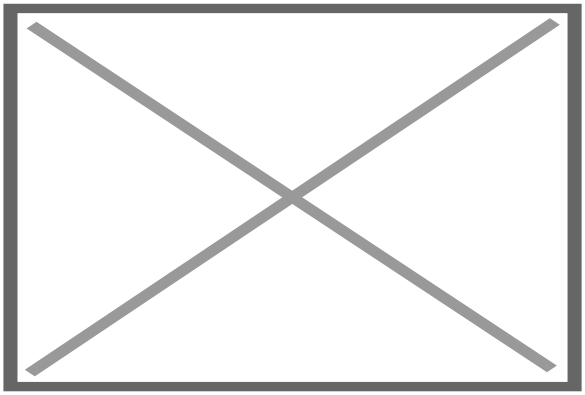
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Virus-free Okra

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Krishidhan Seeds and Jawaharlal Nehru University are developing transgenic okra that is free from yellow vein mosaic virus. The project is being supported by SBIRI scheme of Department of Biotechnology

Yellow vein mosaic virus is one of the major banes in okra production which is a popular vegetable across India. The earlier varieties of okra, known as bhindi in Hindi, derived from Manihot genus used to show excellent resistance. However, the resistance now seems to be wearing off and the viral disease has become prevalent, causing severe problems to farmers engaged in okra cultivation. Further, the lack of genome information in okra makes it difficult to devise alternative solutions to find resistant genes in the plant.

Jalna-based Krishidhan Seeds has partnered with Jawaharlal Nehru University (JNU), New Delhi, to develop a novel and stable resistance against yellow vein mosaic virus by genetically modifying the okra plant with state-of-the-art technology. Professor and researcher at life sciences department of JNU Supriya Chakraborty's research targets at interfering the interactions between plant viruses and their hosts as well as at developing strategies to control begomoviruses in plants. Under the joint project, JNU and Krishidhan will develop the technology and Krishidhan will use its resources for development of resistance against mosaic virus in its elite okra hybrids.

Talking about the partnership, Anup Karwa, director, life sciences, Krishidhan Seeds, says, Ã¢â?¬Å?Our partner in the project from JNU is an enthusiastic virologist, Supriya Chakraborty, who is excited about the concept and at the prospect of partnering with us. Hence, a joint project was drafted using the complementary competence of our labs. Expertise of JNU and Krishidhan's excellent infrastructure and an extraordinary team of accomplished biotechnologists with expertise in recombinant technology, marker-free technology, and crop transformation, will help us achieve the envisaged objective.Ã¢â?¬?

However, Karwa adds, Ã¢â?¬Å?There is a dire need to have robust products based on our indigenous technologies. A partnership in this area will ensure that the excellence in our public sector institutes get converted into usable technologies and useful products. The discovery and development of new genes and introducing them into elite varieties and hybrids will not only resolve the intractable problems in crop production, but will also make up for the lack of existing genetic diversity in many cultivated species.Ã¢â?¬?

The project has been funded by Small Business Innovation and Research Initiative (SBIRI) of Government of India's Department of Biotechnology. Talking about its importance, Karwa says, Ã¢â?¬Å?The support comes as a prestigious award recognizing the inventive strengths of Krishidhan and JNU. This encourages us to undertake more indigenous and innovation-

driven research aiming to generate novel IPs in the domain of agri-biotech and bring more technology choices for the Indian farming community.Ã¢â?¬?

Next step

The final grant was received in January 2012 and the project is moving as per plan. The future relevance of project is important for securing the sustainable vegetable production. Karwa adds optimistically, Ã¢â?¬Å?By the time we develop a product and be ready for subjecting it to require regulatory approvals for a genetically modified organisms, new science-based mechanisms will be in place.Ã¢â?¬?

Rahul Koul in New Delhi