Report on Guest Lecture
on
Conventional and Molecular Approaches for Crop Improvement

On July 9th, 2018, students and faculty from the Department of Agriculture at Integral University had the privilege of attending a guest lecture by Dr. Hemant Yadav, Senior Scientist (Biotechnology) from the Division of Genetics and Plant Breeding at CSIR-National Botanical Research Institute, Lucknow. The Guest Lecture commenced with the Welcome Address of Dr. Saba Siddiqui, Department of Agriculture who welcomed the Guest followed by lecture.

Dr. Yadav began his lecture by highlighting the critical importance of improving crop yields and traits to meet the growing global demand for food amid challenges like climate change, drought, and limited arable land. He discussed both conventional breeding methods that have been used for centuries as well as cutting-edge biotechnological and molecular techniques.

Dr. Yadav explained how traditional crop breeding relies on selecting parent plants with desirable characteristics and crossbreeding them over multiple generations to combine those traits in the offspring. Key conventional methods include:

- Mass selection, Pureline selection, Hybridization and Mutation breeding

He highlighted how these techniques allow for more precise targeting and transfer of beneficial genes to improve yields, nutritional value, resistance to diseases/pests/drought, and other important agronomic traits.

Dr. Yadav discussed some major successes like Golden Rice and insect-resistant Bt crops, but also addressed concerns around biosafety and regulations on genetically modified organisms (GMOs). He emphasized the need for responsible development and public education.

The guest lecture attracted a keen audience of approximately 50 undergraduate students of Agriculture, all deeply engaged in the discussion. The expert speaker meticulously addressed every query raised by the attendees, leaving no stone unturned in clarifying their doubts. The lecture was met with enthusiasm as the content proved highly informative and directly applicable to the challenges encountered in relation to plant breeding programs. The event culminated with a warm vote of thanks, underscoring the value of the insights shared. It was

evident that the program received staunch support from all members of the Department, reflecting a collective commitment to advancing knowledge and practices in agriculture.