



**Integral Institute of Agricultural Science & Technology (IIAST)
Integral University, Lucknow**

**Brief Report on
Journal Club Presentation
Department of Agriculture, IIAST, Integral University, Lucknow**

The Department of Agriculture, Integral Institute of Agricultural, Science and Technology (IIAST) has conducted IIAST Journal Club for the month of April. The proposal of conducting journals club by the Department of Agriculture has facilitated awareness amongst the students, scholars and academicians, and addressed various apprehensions regarding latest trends and advances in the field of agriculture. The Journals Club was held on 15th of April, 2023 at 10:00 A.M. in the Bioinformatics Hall of the Department of Agriculture. Mr. Abhinav Singh, Research scholar, Department of Agriculture, IIAST, continued the same accord by providing an explicit presentation. He presented a research paper entitled “Evaluation of the growth-inducing efficacy of various *Bacillus* species on the salt stressed tomato (*Lycopersicon esculentum* Mill)” published in the Frontiers in Plant Sciences (Impact Factor 6.67) in 2023. The paper was discussed thoroughly and it was explained that Plants are affected by salt stress in a variety of ways, including water deficiency, ion toxicity, nutrient imbalance, and oxidative stress, all of which can cause cellular damage or plant death. Halo tolerant plant growth-promoting Rhizobacteria (PGPR) could be a viable alternative for tomato plants growing in arid and semi-arid environments. The aim of this research was to isolate halo tolerant plant growth promoting *Bacillus* sp. to promote tomato (*Lycopersicon esculentum* Mill.) growth and salt stress resistance. *Bacillus licheniformis* (LCT4), *Bacillus cereus* (LAT3), and *Bacillus safensis* (LBM4)) were chosen for 16S rRNA on the basis of PGPR traits. Compared to PGPR untreated plants, tomato plants developed from PGPR-treated seeds had considerably increased germination percentage, seedling growth, plant height, dry weight, and leaf area. PGPR-inoculated salt-stressed tomato plants had lower MDA, sodium, and chloride levels than non-inoculated plants. In addition, magnesium, calcium, potassium, phosphorus, and iron levels were higher in PGPR treated plants when subjected to salt stress. These results indicate that halo tolerant PGPR strains can increase Tomato productivity and tolerance to salt stress by removing salt stress’s negative effects on plant growth.

Prof. (Dr.) Saba Siddiqui, Head, Department of Agriculture, IIAST, Integral University, addressed the audience and encouraged students for utilizing the platform for skimming the knowledge. The presentation was concluded with the vote of thanks by Dr. Faria Fatima, Associate Professor, IIAST. The program was successfully coordinated by Dr. Faria Fatima, Associate Professor, IIAST and Dr. Suhail Ahmad Khan, Assistant professor, IIAST, Coordinators, Journal Club.

Glimpses of Journals club

