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SCIENCE COLLEGE

Congress Nagar, Nagpur - 440012 (M.S.) India.

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DEPARTMENT OF BOTANY

HANDS ON TRAINING ON PLANT TISSUE CULTURE TECHNIQUE 2019-20

PROGRAM OVERVIEW

General Introduction
Media Preparation
Sterilization Technique
Explant Preparation
Inoculation Technique
Incubation and Observation
Identification

Prof. M. P. Dhore
Principal, Shri Shivaji Science College, Nagpur.

Prof. R. N. Deshmukh
Head, Dept. of Botany, Shri Shivaji Science College, Nagpur

Trainer & Convener

Prof. Punita S. Tiwari
Dept. of Botany, Shri Shivaji Science College, Nagpur

Students are Encouraged to apply

NOTICE

All the students of B.Sc. SEM VI, Botany are here by informed that Department of Botany is organising Workshop on Plant Tissue Culture technique. Interested students can contact coordinator Dr Punita Tiwari.

Date: 9th & 10th January 2020

Venue: Department of Botany

Head, Dept of Botany

Prof. R.N.Deshmukh

HEAD
DEPARTMENT OF BOTANY
SHRI SHIVAJI EDUCATION SOCIETY
AMRAVATI'S SCIENCE COLLEGE
CONGRESS NAGAR, NAGPUR

Science College, Congress Nagar, Nagpur. SEAL

Coordinator

Prof. P. S. Tiwari

REPORT ON PLANT TISSUE CULTURE TRAINING PROGRAM
Academic Year 2019-20

Organized by:
Department of Botany, SSES Amravati's Science College, Congress Nagar

Objective:
To provide practical training in Plant Tissue Culture Techniques to B.Sc. III students and enhance their understanding of tissue culture methodologies.

Conducted by:
Prof. Punita Tiwari, Professor, Department of Botany

Participants:
B.Sc. III year students of SSES Amravati's Science College, Congress Nagar; students from Matagujari College, Jabalpur (as part of student-faculty exchange program); students of INSPIRE camp (Junior college).

Workshop Overview:
The training program encompassed a comprehensive curriculum designed to familiarize students with various aspects of plant tissue culture techniques. Spanning over 3 to 15 days, the workshop covered the following key areas:

1. **Media Preparation:**

Hands-on Experience: Through practical exercises, students were immersed in the intricacies of formulating culture media tailored for tissue culture experiments. By meticulously measuring and mixing ingredients such as agar, macro- and micronutrients, vitamins, and growth regulators, participants grasped the importance of precise media composition in supporting optimal plant growth and development.

2. **Sterilization Technique:**

Ensuring Aseptic Conditions: Demonstrations and guided practice sessions underscored the criticality of maintaining a sterile environment throughout tissue culture procedures. Students were acquainted with sterilization techniques for laboratory equipment, culture vessels, and media, learning essential protocols to mitigate microbial contamination and safeguard the integrity of experimental setups.

3. **Explant Preparation:**

Precision and Sterility: Practical sessions equipped students with the proficiency to meticulously select, sterilize, and prepare plant explants for culture initiation. Through hands-on demonstrations, participants honed their skills in excising healthy tissue samples and implementing stringent sterilization protocols to minimize the risk of introducing pathogens or contaminants.

4. **Inoculation Technique:**

Aseptic Handling: Practical training modules focused on refining students' abilities to inoculate explants onto prepared culture media with precision and aseptic technique. By mastering the art of handling sterile instruments and manipulating delicate plant tissues under laminar flow hoods, participants acquired the dexterity necessary to minimize contamination risks and optimize culture success rates.

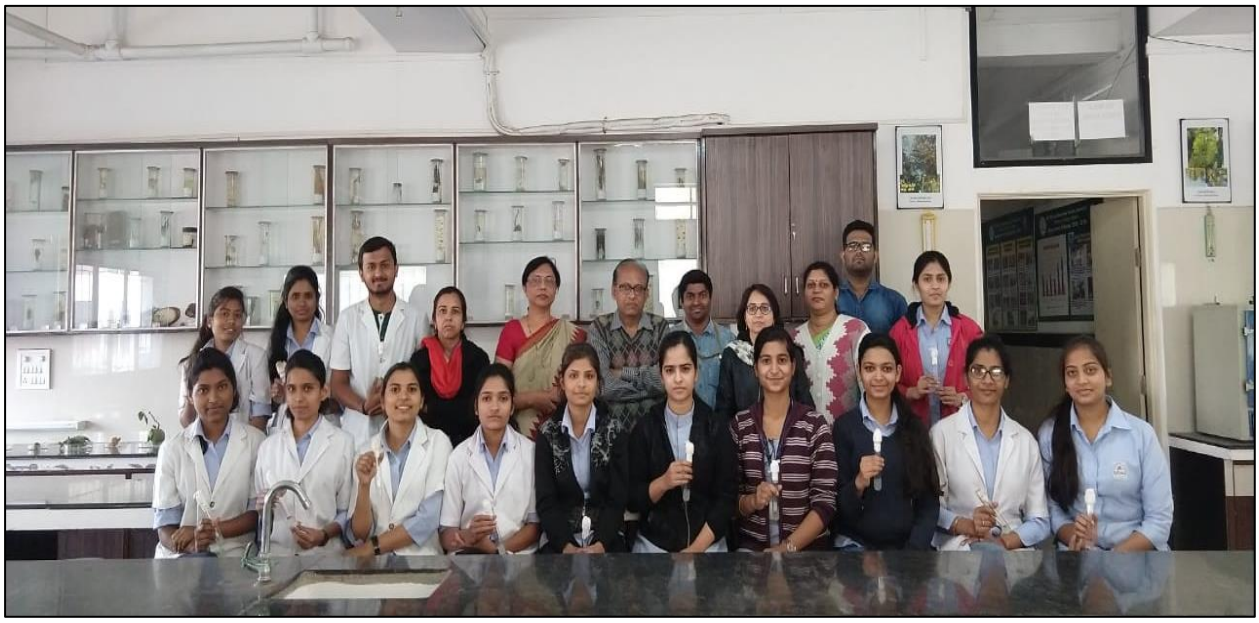
5. **Incubation and Observation:**

Monitoring Growth Dynamics: Participants actively engaged in monitoring the growth and development of cultures under controlled environmental conditions. Through systematic observation and documentation, students gained proficiency in recognizing and interpreting various stages of culture progression, from the initiation of callus formation to the emergence of differentiated shoots and roots, thereby reinforcing theoretical concepts with practical application.

Outcomes:

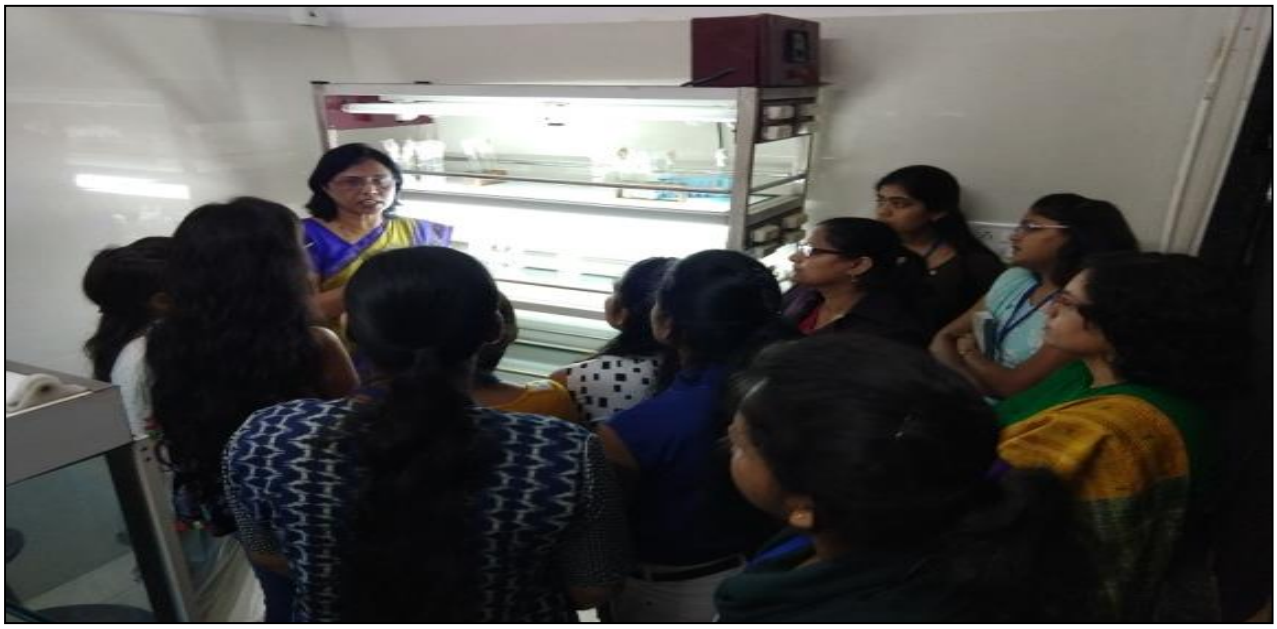
- Enhanced practical skills and theoretical understanding of plant tissue culture techniques among participating students.
- Exposure to real-world applications through industrial visits, facilitating a deeper appreciation of the subject.
- Strengthened intercollegiate ties through the participation of students from Matagujari College, Jabalpur, and INSPIRE camp.

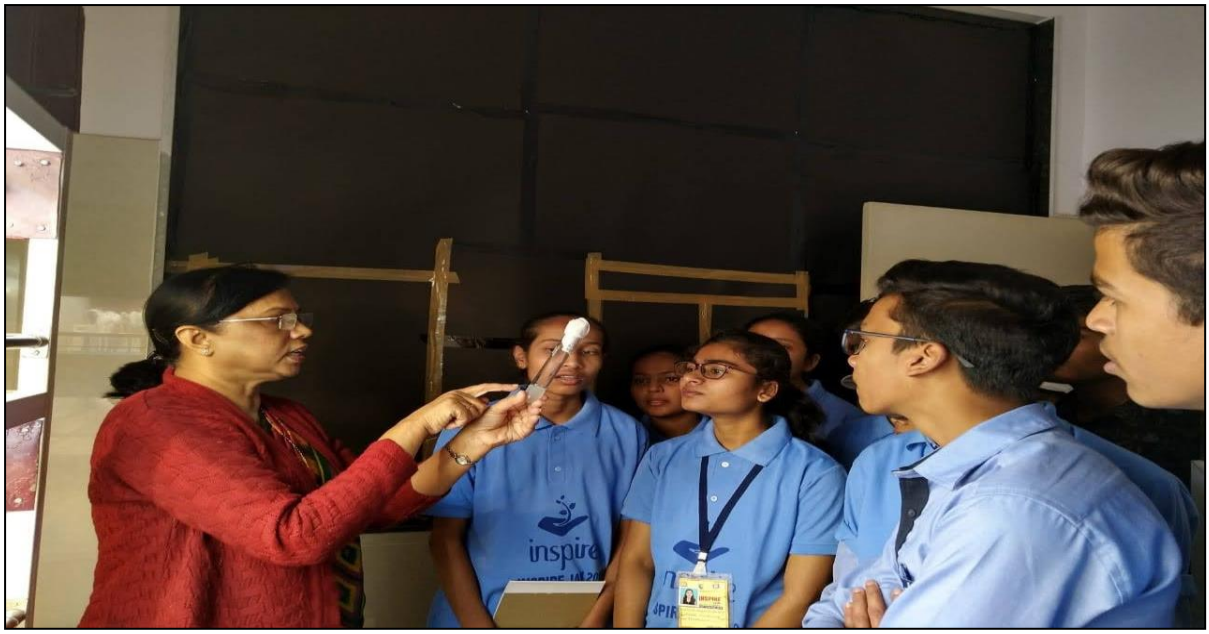
Conclusion:
The Plant Tissue Culture Training Program organized by the Department of Botany at SSES Amravati's Science College proved to be a valuable learning experience for the students. The hands-on training, coupled with theoretical insights and industrial exposure, has equipped them with essential skills and knowledge to pursue further studies or careers in the field of biotechnology and plant sciences.



Group photo with Faculty members

Dr. P.S. Tiwari, Convener & Trainer of the Plant Tissue Culture Workshop, along with the Enthusiastic Participants Engaged in Hands-on Learning





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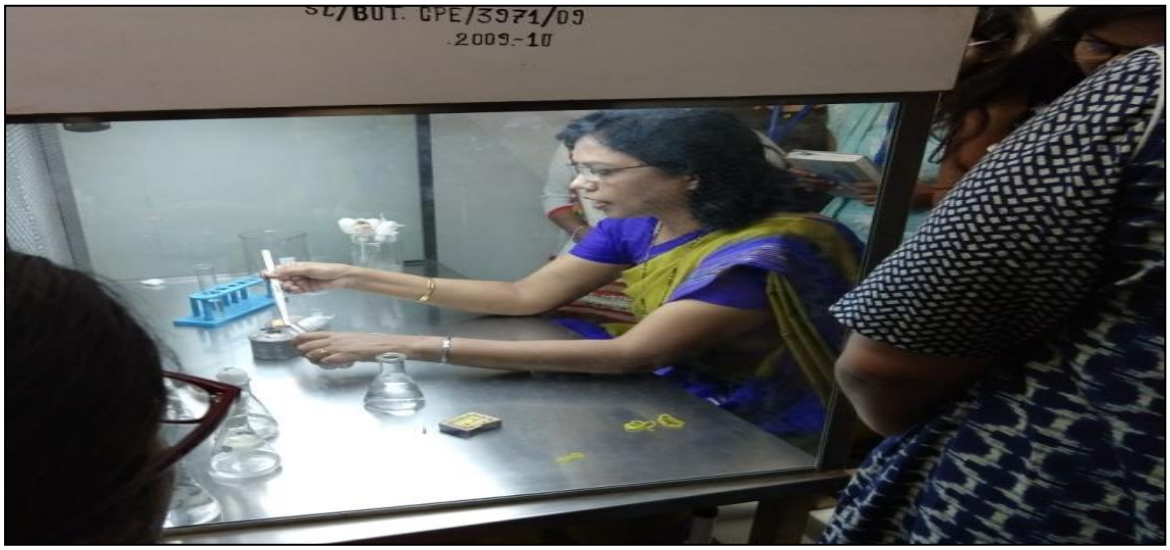

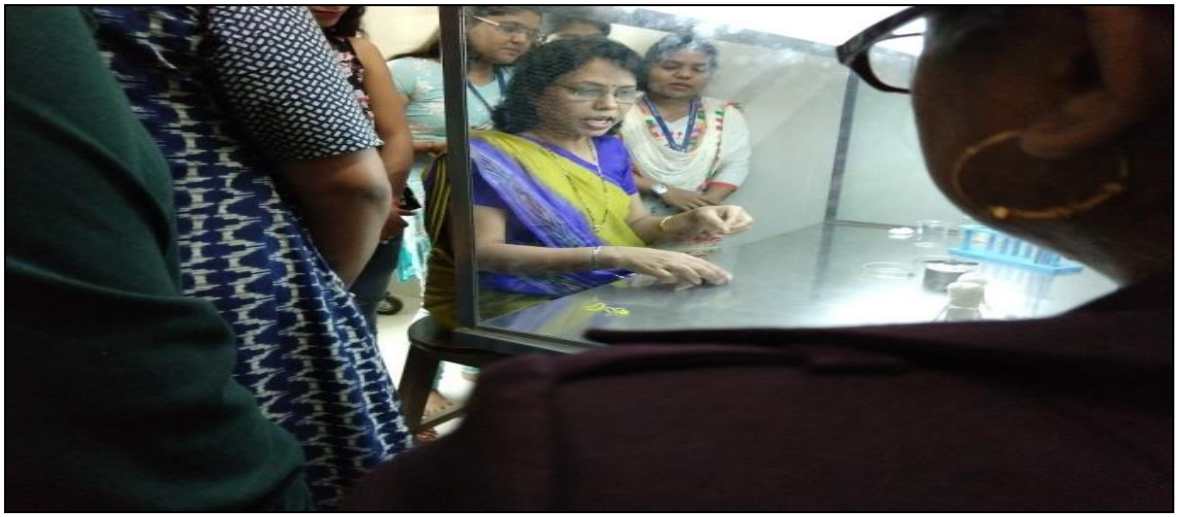

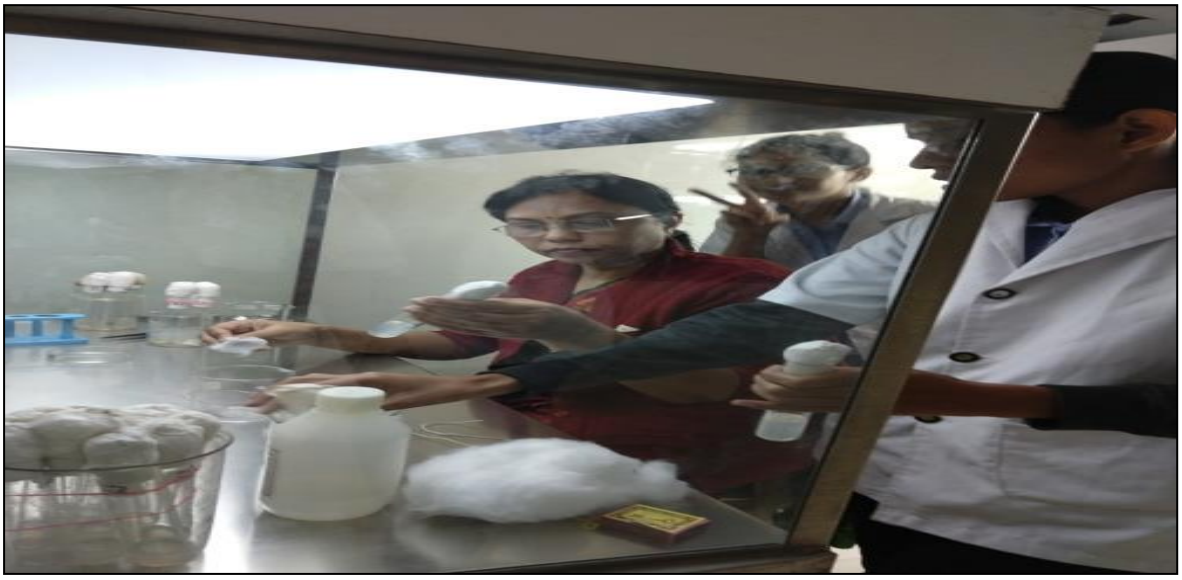

Mastering the Art of Inoculation: on the Inoculation of Explants in Plant Tissue Culture

List of Participants:

Ku	Adhikari	A	S	
Ku	Atkare	S	A	
Ku	Atone	S	B	
Ku	Bhagat	V	R	
Ku	Dange	A	M	
Ku	Fatinge	P	N	
Ku	Gadge	R	R	
	Gajbhiye	M	W	
Ku	Gedam	P	C	
Ku	Jattalwar	S	S	
Ku	Junghare	K	S	
	Kukde	S	S	
	Lokhande	R	T	
Ku	Mahule	S	M	
	Pande	A	S	
Ku	Patil	S	V	
	Patiye	J	P	
Ku	Raghorte	M	S	
Ku	Rajdhar	R	R	
Ku	Ramteke	U	V	
Ku	Suruse	G	S	
	Tekre	S	M	
Ku	Yadav	A	S	

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Action Taken Report

The Plant Tissue Culture Training Program led by Prof. Punita Tiwari significantly enhanced B.Sc. III students' practical skills and theoretical understanding of tissue culture techniques. Key areas covered included media preparation, sterilization, explant handling, and observation. The program yielded successful callus proliferation results and fostered valuable intercollegiate collaboration and industrial exposure. Overall, it provided students with essential skills for further studies or careers in biotechnology and plant sciences.

FEEDBACK FORM

Sr.No.	Question	Response		
		Good	Better	Average
1)	Overall effectiveness of the training program?			
2)	Relevance of practical sessions?			
3)	Clarity of experimental results?			
4)	Faculty support and guidance?