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SCIENCE COLLEGE
Congress Nagar, Nagpur - 440012 (M.S.) India.
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DEPARTMENT OF BOTANY

WORKSHOP ON PROTOPLAST CULTURE AND ISOLATION TRAINING SESSION 2019-2020

Training Program Overview

- General Introduction
- Pre-Plasmolysis Technique:
- Enzymatic Digestion of Cell Wall:
- Washing in Different Solutions:
- Observation and Documentation:

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

REPORT ON PROTOPLAST CULTURE AND ISOLATION TRAINING SESSION 2019-2020

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

Objective: To provide practical training in Protoplast Culture and Isolation techniques to B.Sc. V & VI Botany students and enhance their understanding of advanced plant tissue culture methodologies.

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

Participants: B.Sc. V & VI Botany students of SSES Amravati's Science College, Congress Nagar.

Training Program Overview:
The specialized training session on Protoplast Culture and Isolation, facilitated by Prof. Punita Tiwari, offered B.Sc. V & VI Botany students an in-depth exploration of advanced plant tissue culture techniques. The program, tailored to span over a designated timeframe, included the following key components:

Pre-Plasmolysis Technique:
The session commenced with an introduction to pre-plasmolysis, a preparatory step aimed at facilitating the release of protoplasts from plant cells by reducing turgor pressure.
Students were acquainted with the principles and methodologies involved in pre-plasmolysis treatment, emphasizing its significance in improving protoplast yield and viability.

Enzymatic Digestion of Cell Wall:
Practical demonstrations elucidated the enzymatic digestion process, a crucial step in isolating protoplasts by breaking down the plant cell wall.
Participants gained hands-on experience in preparing enzyme solutions and optimizing digestion conditions to ensure efficient cell wall hydrolysis while preserving protoplast integrity.

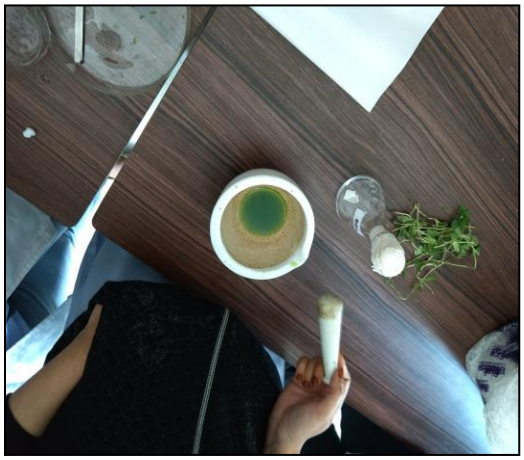
Washing in Different Solutions:
Training modules focused on the meticulous washing of isolated protoplasts in various solutions to remove cellular debris, residual enzymes, and other contaminants.
Emphasis was placed on maintaining osmotic balance, pH, and sterility during the washing steps to safeguard protoplast viability and enhance subsequent culture success rates.

Observation and Documentation:
Practical sessions provided students with opportunities to observe isolated protoplasts under a microscope, assessing their morphology, viability, and overall health.
Through guided observation and documentation exercises, participants honed their skills in interpreting protoplast characteristics and identifying indicators of successful isolation and viability.

Outcomes:
Enhanced understanding of advanced plant tissue culture techniques, specifically focused on protoplast culture and isolation.

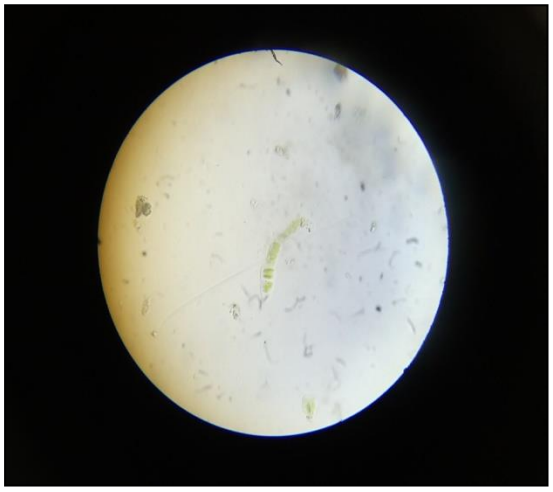
Acquisition of practical skills in pre-plasmolysis, enzymatic digestion, and washing protocols essential for successful protoplast isolation.
Strengthened proficiency in microscopic observation and interpretation of protoplast morphology and viability.
Empowerment with specialized knowledge and competencies conducive to further studies or research endeavours in plant biotechnology and cellular biology.

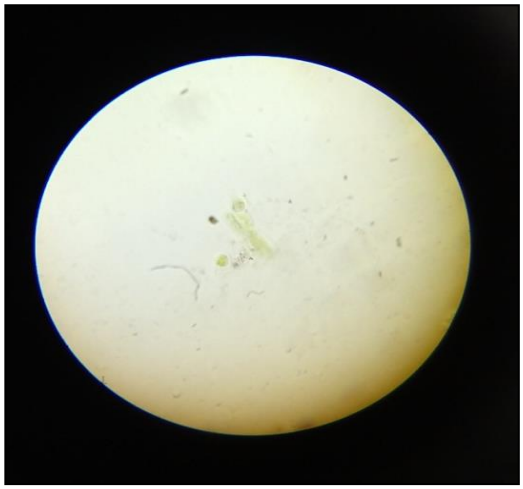
Conclusion:
The Protoplast Culture and Isolation training session conducted by Prof. Punita Tiwari provided B.Sc. V & VI Botany students with a valuable opportunity to delve into the intricacies of advanced plant tissue culture methodologies. Through a combination of theoretical insights and hands-on practical exercises, participants gained a deeper understanding of protoplast isolation techniques, thereby enhancing their skill set and academic preparedness in the field of plant sciences.

Unlocking Plant Potential: Pre-Plasmolysis and Enzymatic Digestion of Cell Wall: Prepares the Path for Protoplast Liberation

Cleansing Nature's Treasures: Nurturing Protoplasts Through Strategic Solution Baths





Unveiling Cellular Secrets: Isolated Protoplasts Await Their Journey of Transformation

LIST OF PARTICIPENTS

Ku	Adewar	S	S	
Ku	Badge	D	R	
Ku	Barshettiwar	N	D	
Ku	Bawankar	S	D	
Ku	Bhanuse	Y	R	
Ku	Channe	P	S	
Ku	Chiwande	E	S	
Ku	Choudhari	P	R	
	Dahilkar	M	G	
Ku	Dhakate	A	L	
Ku	Diwate	V	A	
Ku	Gote	N	R	
Ku	Hulke	N	U	
Ku	Kamble	A	V	
Ku	Katakwar	P	S	
Ku	Kubde	M	M	
Ku	Kureshi	R	S	
Ku	Larokar	P	A	
Ku	Lokhande	K	S	
Ku	Mankar	S	C	
Ku	Matte	G	V	
Ku	Naikwade	S	P	
Ku	Neralwar	A	V	
	Parande	R	G	
Ku	Patel	A	S	
Ku	Pogade	A	S	
	Quazi	S	M	
Ku	Ramteke	U	A	
Ku	Shahu	S	H	
Ku	Shende	A	M	
Ku	Shende	P	K	
Ku	Shirke	N	V	
Ku	Soni	J	S	
Ku	Sushibine	P	N	
Ku	Titarmare	T	N	
Ku	Zurmure	A	R	
Ku	Tadas	M	R	

Action Taken Report

The Protoplast Culture and Isolation training session, organized by the Department of Botany at SSES Amravati's Science College and conducted by Prof. Punita Tiwari, effectively enhanced B.Sc. V & VI Botany students' skills in advanced plant tissue culture techniques. The session covered pre-plasmolysis, enzymatic digestion, and washing protocols, providing hands-on experience and detailed theoretical insights. Participants gained valuable skills in protoplast isolation, observation, and documentation, significantly improving their proficiency and readiness for further studies or research in plant biotechnology and cellular biology.

FEEDBACK FORM

Sr.No.	Question	Response		
		Good	Better	Average
1)	Overall effectiveness of the training program?			
2)	Relevance of practical sessions?			
3)	How helpful were the hands-on activities?			
4)	Faculty support and guidance?