



NATIONAL WEBINAR ON PLANT TISSUE CULTURE : TECHNIQUES & APPLICATIONS

Date: 12-May-2021 Time: 10 am

ORGANIZED BY,

DEPT. OF BOTANY & MICROBIOLOGY



ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

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

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- A College with Potential for Excellence
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DEPT. OF BOTANY

Patrons

Rev. Dr. G. Vazhan Arasu
Principal St. Aloysius College,
(Autonomous) Jabalpur

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

Chief Guest

Prof. Y. K. Bansal
Former Head, PGTD, Dept. of Biosciences, Rani Dugavati Vishwa
Vidyalay, Jabalpur, MP

Conveners

Dr. Shikha Bansal
Head, Dept. of Botany and
Microbiology, St. Aloysius' College

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

Organizing Secretary

Dr. Mamta Gokhale
Associate Prof., Dept. Botany &
Microbiology, St. Aloysius' College

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

Co- Organizing Secretary

Dept. of Botany Shri Shivaji Science College, Nagpur.

Dr. R.H. Mahakhode, Assistant Prof.

Dept. of botany St. Aloysius College, (Autonomous) Jabalpur

Dr. Sonali Nigam, Assistant Prof.

Dr. Femina Sobin, Assistant Prof.

Dr. Roshni Choubey, Assistant Prof.

Speakers

1. **Ms. Isha Deshpande** : Plant Tissue Culture :
Technique , Types & Scope.
2. **Dr. Mathew Chacko** : Somatic Embryogenesis And
Plant Tissue Culture
3. **Dr. Mamta Gokhale** : Secondary Metabolites & Plant
Tissue Culture
4. **Mr. Piyush Sharma** : Protoplast Culture & Cybrids
5. **Dr. Manisha Vyas** : Conservation Of Rare Medicinal
Plants Through Tissue Culture Technique.

Advisory committee

✓Dr. Neeru Agarwal , Associate Prof. Govt. V .Y .T . Auto, PG,
College, Durg CG.

✓Dr. Jarun Chhibbar, Jabalpur (Industrialist)

NOTE

- No Registration fees
- webinar will be via. Google meet.
- All participants will receive E-certificates after submission of feedback form.
- Two quizzes will be conducted on the topic delivered.
- Six best performers and 1 topper will be awarded with a certificate and cash prize

Technical Committee:

Ms. Isha Deshpande,
bio- design innovation center
St. Aloysius College (DIC-SAC),
Jabalpur
Mr. Piyush Sharma,
CHB, Dept. of Botany,
Shri Shivaji Science College,
Nagpur.

Participation Link Will Be Provided After Registration.

Registration link: <https://forms.gle/1VZdLxU4wRW6CbjC8>

Contact us : 9826310755 | 9764007031 :
Email : Mamtashrirang2gmail.com | punitatiwari9@gmail.com

Report on National Webinar on Plant Tissue Culture: Techniques & Applications

Date: 12th May, 2021

Link for webinar Recording :

https://drive.google.com/file/d/1T9T6O9TLmqNsZDKSR8Ihe_cGFSr6UKk/view?usp=sharing

The Department of Botany, SSES Amravati's Science College, Congress Nagar, Nagpur, in association with the Department of Botany, St. Aloysius College, (Autonomous) Jabalpur, organized a National Webinar on Plant Tissue Culture: Techniques & Applications on May 12th, 2021. The webinar garnered participation from 235 delegates, including students and faculty members, representing various colleges and universities across the country.

Session I: Inauguration:

- The National Webinar commenced with an inaugural ceremony graced by Prof. M. P. Dhore, Principal of SSES Amravati's Science College, Congress Nagar, Nagpur, Rev. Dr. G. Vazhan Arasu, Principal of St. Aloysius College, (Autonomous) Jabalpur, and chief guest Prof. Y. K. Bansal, Former Head of PGTD, Dept. of Biosciences, Rani Durgavati Vishwavidyalaya, Jabalpur, MP.
- Following the inauguration, Dr. Roshni Chaubey extended a verbal welcome to the esteemed guests, while Dr. Shikha Bansal, Head of the Department of Botany and Microbiology at St. Aloysius' College (Autonomous) Jabalpur, provided an overview of the webinar's objectives and benefits to the participants.
- Dr. Punita Tiwari, the organizing secretary from the Department of Botany, SSES Amravati's Science College, Congress Nagar, Nagpur, introduced the chief guest and invited him to deliver his address.
- Dr. Bansal delivered an insightful speech on the 'Recent Trends and Advancements in Plant Tissue Culture Technique,' highlighting its significance across various domains of life sciences. He emphasized its crucial role in areas such as plant science, biotechnology, genetic engineering, pharmacy, plant breeding, and biodiversity conservation. Furthermore, he elucidated on synthetic seeds, organ culture, secondary metabolites, and the myriad advantages of this technique.
- Dr. Roshni Chaubey then introduced Prof. M. P. Dhore, who lauded the efforts of the Botany department faculty in organizing the National webinar. Prof. Dhore underscored the importance of such online platforms, particularly amidst the challenges posed by

the COVID-19 pandemic, in facilitating knowledge exchange and skill enhancement within the academic community. He urged researchers in plant tissue culture to bridge the gap between laboratories and agricultural practices for the benefit of society.

- Rev. Dr. G. Vazhan Arasu, Principal of St. Aloysius College, (Autonomous) Jabalpur, provided insights into his institution's endeavours and congratulated the organizing committee for their efforts. He encouraged scientists and faculty members in the field of plant tissue culture to implement a 'lab-to-land' approach for the advancement of agriculture and plant breeding.
- Dr. Shikha Bansal and Prof. R. N. Deshmukh, Conveners of the webinar, reiterated the program's objectives and expressed gratitude to all speakers and participants before concluding the inaugural session.

Technical Sessions:

The technical sessions commenced following the inauguration, featuring presentations by distinguished speakers:

Session I:

- Speaker I: Ms. Isha Deshpande from the Bio-Design Innovation Centre, St. Aloysius College, Jabalpur, delivered a presentation on 'Plant Tissue Culture: Techniques, Types & Scope.'
- Speaker II: Dr. Mathew Chacko, Assistant Professor from Bangalore, shed light on 'Somatic Embryogenesis and Plant Tissue Culture.'

Session II:

- Speaker I: Dr. Mamta Gokhale, Associate Professor at St. Aloysius College, Jabalpur, elucidated 'Secondary Metabolites & Plant Tissue Culture.'
- Speaker II: Mr. Piyush Sharma from the Department of Botany, SSES Amravati's Science College, Congress Nagar, Nagpur, provided insights into 'Protoplast Culture & Cybrids.'

Session III:

Speaker I: Dr. Manisha Vyas, Assistant Professor at Govt. Science College, Sagar, M.P., discussed 'Conservation of Rare Medicinal Plants through Tissue Culture Technique.'

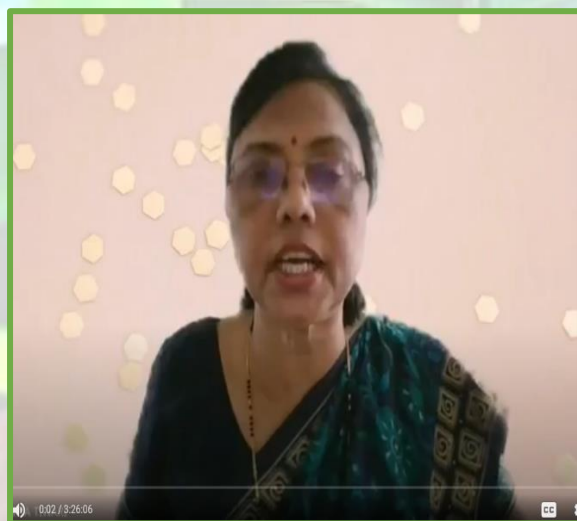
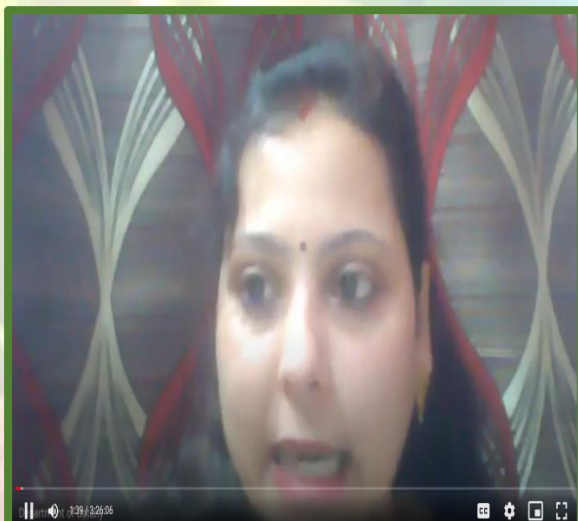
An interactive session followed, allowing participants to pose queries to the speakers, who provided comprehensive responses.

Quiz Competition:

- A quiz was organized at the conclusion of the technical sessions, with 112 students participating.
- Six top performers, along with the overall topper, were awarded certificates and cash prizes.
- The winners included students from various institutions such as M.H. Women's College, Jabalpur, Shivaji Science College, Nagpur, Osmania University, Hyderabad, among others.
- Miss Tanushree Banerjee from the Department of Botany, SSES Amravati's Science College, Congress Nagar, Nagpur, emerged as the top scorer in the competition.

Vote of Thanks:

Dr. R.H. Mahakhode extended a vote of thanks, acknowledging the contributions of all participants, speakers, organizers, and attendees in making the webinar a success. With mutual congratulations, the conference officially concluded, marking a significant milestone in fostering knowledge exchange and collaboration in the field of plant tissue culture.



Session I: Inauguration




Session I: Inauguration

PIONEERS OF THE PLANT TISSUE CULTURE FIELD

- 1934- Gautheret's work on obtaining plant tissues.
- 1939- Independently Gautheret, Nobécourt and White
- 1954- The Principal chapters of this subject were already opened
- 1966- The androgenesis was initiated by Guha and Maheshwari
- Küster's pioneer work on protoplast fusion as basis for Somatic Hybridization

PRINCIPAL CHAPTERS

- ✓ Tissue culture
- ✓ cell culture
- ✓ improving of nutrients- especially of growth substances, vegetative propagation
- ✓ Application to pathological problems.



Somatic Embryogenesis:

- Somatic embryogenesis is a process by which somatic cells or tissues, including haploid cells develops into differentiated embryos and to regenerate plants.
- Stewart et al., (1958): First induced embryo through suspension culture in carrot.
- Reinert (1959): Produce embryo from callus in carrot through suspension culture.

Technical Sessions: I

Primary metabolites	Secondary metabolites
1) They are involved in normal growth, development and reproduction.	1) They are not directly involved in the normal growth, development and reproduction.
2) Examples for primary metabolites are carbohydrates, fats and proteins.	2) Examples for secondary metabolites are alkaloids, tannins, resins, gums and latex etc.
3) They are not poisonous.	3) Some of these compounds are poisonous.



Enzymatic Method

Used for variety of tissues and organs including leaves, petals, fruits, roots, coleoptiles, hypocotyls, stem, shoot apices, embryo microspores.

The enzymatic method could be used as a one step method (direct method), or as a two-step method (sequential method).

In the one step method, protoplasts are isolated directly from the tissue by using two enzymes, cellulase and pectinase, simultaneously.

While, in the two-step method, cells are first isolated from callus or tissue by using pectinase and to this cell suspension cellulase is added to digest the cell wall and release protoplasts.

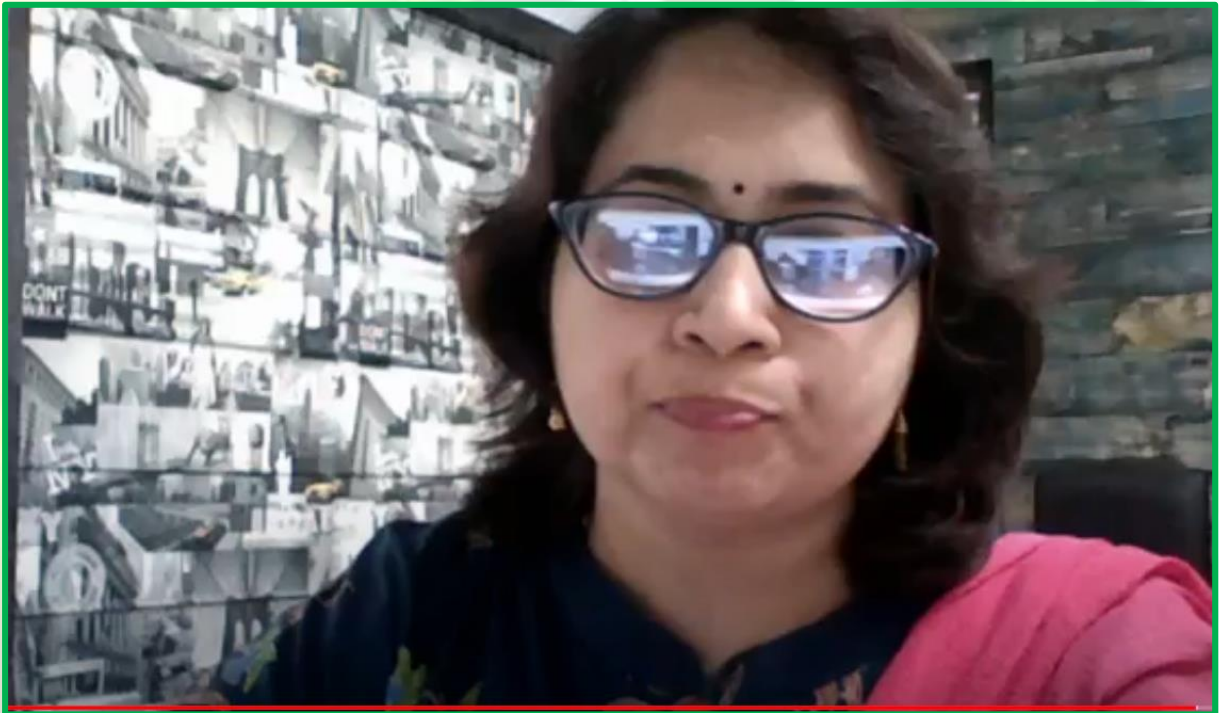
PLANT

Purified protoplasts



Jagdishwar Keche

Technical Sessions: II & III



VOTE OF THANKS

LIST OF QUIZE PARTICIPENT AND WINNERS

Sr.No.	Name	Institution
1.	Deepa Sen	Govt.M.H.College Of Homescience And Science For Women Autonomous Jabalpur M.P.
2.	Gunjan Prakash Likhare	Shri Shivaji Science College, Nagpur
3.	Pallavi Sharma	Govt .Mh Home Science And Science College Jabalpur
4.	Neetu Das	Govtv.Y.T.Autonomous College Durg, C.G..
5.	Sayali Dushyant Mendhe	Shivaji Science College
6.	Hirondi Lahare	Govt. V. Y. T. Pg. Autonomous Science Collage Durg (C.G.)
7.	Akanksha Naresh Bhagat	Shivaji Science College, Nagpur
8.	Mery Prava Ekka	St.Aloysius College,Jabalpur
9.	Kranti Bhooshan Kapadnis	Andhra Mahila Sabha College For Women
10.	Ms. Chandani Kshatri	Dr. C. V. Raman University, Kota, Bilaspur
11.	Prashansa Masih	St Aloysius College
12.	Amita Narayan Lihitkar	Shivaji Science College
13.	Shubhi Soni	St Aloysius College Jabalpur
14.	Dr Annmary Xalxo	Government Science College, Ambikapur, Cg.
15.	Dr Kanchan Vaidya	Govt. Sgs Pg College Ganjbasoda
16.	Ishika Sonker	St Aloysius College
17.	Kiran Netam	Govt.V.Y.T.Pg.Autonomous College Durg
18.	Suhail Ahmad Rather	St Aloysius College
19.	Sandhya Karanga	V.Y.T.Pg Autonomous College Durg
20.	Aradhana Chourasia	Govt.M.H.Collage Of Home Science And Science Women Autonomous Jabalpur Mp
21.	Radhika Fadnavis	Govt. M.H College Of Home Science And Science For Women, Jabalpur
22.	Prachi Krushna Satke	Shivaji Science College , Nagpur.
23.	Sruthi Gopan.M	University College, Thiruvananthapuram
24.	Dr.A.Pramila	Andhra Mahila Sabha Arts And Science College For Women
25.	Ankit Gupta	St. Aloysius Collage
26.	Sheraltiwari	St Aloysius College

LIST OF QUIZE WINNERS

Sr.No.	Name	Institution
a.	Miss Tanushree Banerjee	Department of Botany, SSES Amravati's Science College, Congress Nagar, Nagpur
b.	Deepa Sen	Govt.M.H.College Of Homescience And Science For Women Autonomous Jabalpur M.P.
c.	Gunjan Prakash Likhare	Shri Shivaji Science College, Nagpur
d.	Pallavi Sharma	Govt .Mh Home Science And Science College Jabalpur
e.	Neetu Das	Govtv.Y.T.Autonomous College Durg, C.G..
f.	Sayali Dushyant Mendhe	Shivaji Science College

Action Taken Report

On May 12th, 2021, the Department of Botany at SSES Amravati's Science College, in collaboration with St. Aloysius College, Jabalpur, successfully hosted a National Webinar on Plant Tissue Culture: Techniques & Applications. The event attracted 235 delegates from across India, featuring an inauguration with keynotes from esteemed academics and a series of technical sessions delivered by distinguished speakers. Topics ranged from fundamental techniques to advanced applications in plant tissue culture. A quiz competition engaged 112 students, with top performers receiving awards. The webinar effectively facilitated knowledge exchange and highlighted the relevance of plant tissue culture in modern science. Dr. R.H. Mahakhode delivered the vote of thanks, concluding the event on a high note.

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?			

