

REPORT

ONE WEEK HANDS-ON TRAINING WORKSHOP ON PLANT TISSUE CULTURE

01-12-2021 to 07-12-2021

Organised by

DEPARTMENT OF BIOTECHNOLOGY
GOVERNMENT DEGREE COLLEGE
ANANTNAG

One Week Hands on training Workshop on 'Plant Tissue Culture' 1st to 7th December, 2021

The Department of Biotechnology, GDC Anantnag organized a ***“One-week Hands-on Training Workshop on Plant Tissue Culture”*** from 1st to 7th December, 2021. The aim of this workshop was to provide the knowledge and skill to budding students so that they could either be employable by plant tissue culture laboratories in future or could set up their own tissue culture units. During this workshop, training on basic techniques in the field of plant tissue culture was imparted through theoretical and Hands-on practical sessions. The training workshop was attended by students from different colleges of South Kashmir.



The workshop began its 1st day by registration of participating students who had shown interest in the workshop. For this invitation letters were sent to all colleges of south Kashmir inviting them to send at least two of their students with a science background to register for the training. An overwhelming response was received by the Department and a total of 20 students were finally selected. The registration was followed by an inaugural ceremony where the organizers welcomed

the participating students, briefed them about the technique of PTC in general and the contents of the workshop in particular.

The Inaugural function was conducted in the conference hall of the college and was attended by the participants, Heads of various departments and faculty members while as Principal of the college, Prof. Muzaffar Ahmad Bhat was the Chief Guest on the occasion. The event started with the ice-breaking session in which all the participants introduced themselves.



In her keynote address, Ms. Sameena Ismail, Head Department of Biotechnology emphasized on the need to bridge the gap between industry and academia as there is huge gap between the demand and actual number of skilled manpower in general and in the field of tissue culture in particular. She also said that there is abundance of bio-resources available in the UT of J&K that can be exploited by using such techniques to contribute towards the economic development of



the state. She deliberated upon the importance of such workshops and how students can benefit from the skills acquired during the workshop. She said that our students are competing at national and international levels and it is imperative that they are well trained and equipped to perform well on those platforms. She reiterate the fact that with these skills participants can pick up entrepreneurial ventures that will go a long way in not only leading to overall improvement of indigenous crops but may also help bridge the gap between academia and industry sector and the abundance of bio-resources in the UT of J&K can be exploited for overall economic development. She also appraised them about the day-wise schedule to be adhered to during the workshop.

In his inaugural address, Prof. Muzaffar Ahmad Bhat enlightened the audience with his words of wisdom and urged the participants to learn and participate with full vigor and attention in order to get maximum benefit out of this workshop. Further he appreciated the Department of Biotechnology for conducting such events.



The organizers shared a short video of the events organized by the department in the past so as to gear up the students for the upcoming workshop. The inaugural function ended with the vote of thanks presented by Dr. Tajali Sahar who also conducted the proceedings of the session.

This was followed by the technical session that included a tour to the laboratory facility where Mr. Khalid Bhat acquainted the participants with the working of different equipment/instruments used in Tissue culture laboratories.

The 2nd day began with an introductory lecture on ‘Introduction to plant tissue culture’ by Dr. Minerva Ghani, Assistant Professor, Department of Biotechnology who introduced the technique



to students and give a stepwise description of the process. In the second session of the day, the participants learned how to make solutions/media for culturing of plants invitro.

The 3rd day started with a lecture by Dr. Tajali Sahar, Faculty, Department of Biotechnology on ‘Crop improvement using Plant tissue culture’. She deliberated on the need for crop



improvement and how the technique of PTC in combination with other approaches such as plant genetic engineering, somaclonal variations, haploid production, micropropagation etc. have helped in generating new improved crop varieties, that are disease and stress resistant with improved yield and shelf life, in a relatively shorter period of time. In the afternoon

session, Dr. Minerva demonstrated on the aseptic manipulations of the explant, different regimes of sterilization, the technique of inoculation of the explant in the test-tube containing medium. Each student was allowed to do the inoculation under close supervision by the mentors.

On the 4th day Dr. Shabir Ahmad Lone, Faculty, GCW Anantnag delivered a lecture on ‘Commercialization and mass propagation of plants’. He discussed how PTC ensures a year-round, non-seasonal production of various plants, gives advantage for facilitation of their easy exchange on international commercial platforms leading to an increase in the growth of biotechnology industry in an exponential manner. In the afternoon session he



demonstrated the process of ‘Hardening’ before tissue cultured plants can be transferred to natural soil environments.



On the 5th Day, the participants were then taken to a tour to plant tissue culture lab at Saffron Station Pampore where they were appraised about the procedure for propagation of saffron using tissue culture and explained the standardization of novel methods to improve saffron productivity in the valley. The team at Saffron



Station Pampore also took the students to the India International Saffron Trade Centre where the students were explained the steps for high quality post-harvest processing and packaging to improve quality of Kashmiri Saffron.



On **final** day of the workshop Mr. Khalid Bhat gave a lecture on ‘Setting up and maintenance of a plant tissue culture unit’ in order to shed some light on the possible entrepreneurial ventures that could be taken up by the students. He also apprised the students about the funding sources available for them to start their own units.

In order to evaluate the outcome of the workshop, a concluding assessment test was taken to understand the extent to which the workshop was successful in imparting knowledge about the plant tissue culture and feedback was also taken from students to understand whether their



expectations from the workshop were satisfactorily met. A small documentary on the week-long activity during the workshop was also screened at the end.

The valedictory session was chaired by Principal Sir who congratulated students for successfully completing all the components of the workshop. He also distributed certificates to the



participants. HoD Biotechnology, Ms. Sameena Ismail read out the report of the entire workshop and said that the participants are welcome to approach the Department for any assistance in future. The students thanked the organizers for the amiable atmosphere provided during the entire workshop and requested to conduct more such events in future as well. Principal Sir appreciated Ms. Sameena and her team for their efforts to make this workshop a success.





And miles to go.....!!!!

**Head
Department Of Biotechnology**