

Training School on Dormant Bud Cryopreservation

ECPGR Cryopreservation Working Group

Period: 21-23 May 2024 (2.5 days)

Location: CAV-Centro Attività Vivaistiche, Faenza (Ravenna; Emilia Romagna region)

Participants: 8 students + 3 teachers + 3 supervisors (the Chairs of the Cryopreservation WG, Milos Faltus and Bart Panis, and the representative of the ECPGR Secretariat, Lorenzo Maggioni)

Teachers: Maurizio Lambardi, CNR-IBE of Florence, Italy; Alois Bilavcik, Crop Research Institute of Prague, Czech Republic; Saija Rantala, Natural Resources Institute Finland)

Purpose and expected output(s) of the meeting

The aim of the Training School is to transfer the knowledge acquired by three of the abovementioned cryopreservation teams (i.e., CNR-IBE, Crop Research Institute, and Natural Resources Institute Finland (Luke) to other Institutions dealing with cryopreservation. A further objective will be to start discussing the opportunity to develop an agreement within the Cryo WG for a Network of European Centers aimed to the cryopreservation of germplasm of fruit species by means of the dormant bud cryo-technique. We believe that these objectives fall fully within the priorities of the ECPGR WG "Cryopreservation".

Number and names of participants

The Training School will account 14 participants, divided as follows: 8 students, 3 teachers, 3 supervisors (i.e., the Chairs of the Cryopreservation WG, Milos Faltus and Bart Panis, and the representative of the ECPGR Secretariat, Lorenzo Maggioni).

The students will be carefully selected among the Members of the Cryopreservation WG, following these criteria: experience in the cryopreservation of woody plant species, clear and detailed motivation in their request for participation, supported by their National Coordinator, broad representation of Countries adhering to the ECPGR Cryopreservation WG. Since the participants will be selected among WG members with extensive experience in the basic concepts of cryopreservation and the *in vitro* culture-based techniques, and having the full equipment necessary to manage a cryobank, the two days of the course will certainly be sufficient to introduce them to a technique that can be applied to material (microbuds) coming directly from the field or potted plants. At the end of the TS they will have the knowledge necessary to apply the technique in their respective cryobanks. Furthermore, the students will have the opportunity to complement the Training School by one week of practice in one of the “expert Institutions” further in 2025, during the suitable time for implementation of the dormant bud cryo-technique, at their “own expenses”.

Training School Programme

May 21-1st day

9.00: Transfer from Faenza (location Hotels) to CAV by bus

9.45-10.30: **Welcome to participants** (Lorenzo Maggioni, Milos Faltus, Bart Panis, Marco Pancaldi-Director of CAV)

10.30-11.30: Milos Faltus, Bart Panis: **General introduction to cryopreservation of woody species**

11.30-13.00: Visit to the Centre for the fruit germplasm preservation

Lunch

14.30-15.15: Alois Bilavcik: **Cryopreservation of dormant buds general principles and practical approaches – optimal orchard sampling, frost dehydration, thermal characterisation.**

15.15-16.00: Maurizio Lambardi: **Cryopreservation of dormant buds from potted plants in screenhouses and use of early tests to evaluate bud survival**

16.00-16.45: Sajja Rantala: **Experiences on cryopreservation of black and red currant by dormant bud method using *in vitro* recovery (online)**

17.00: Transfer from CAV to Faenza by bus

May 22-2nd day

9.00: Transfer from Faenza (location Hotels) to CAV by bus

9.45-13.00: **Practice on chip budding using buds from cryopreservation**

Lunch

14.30-16.45: **Discussion and question on the Dormant Bud Cryo-Technique**

(Discussion among the participants and with the Chairs of the Cryopreservation WG on the opportunity to develop an agreement for a Network of European Centers on the Dormant Bud Cryo-Technique.)

17.00: Transfer from CAV to Faenza by bus

May 23-3rd day

8.30: Transfer from Faenza (location Hotels) to Cesena, Battistini Vivai

Visit to the new micropropagation laboratory of Battistini Vivai

12.00: End of the Training School