

Discussion section of the upcoming report of the First Cryopreservation Working Group meeting

Based on a table of the main topics touched by the country reports (*forthcoming*), A. Bilavcik identified three main common requirements that this Working Group (WG) could address:

- 1) Provide training in cryopreservation
- 2) Developing or improving protocols for important species/genotypes
- 3) Setting up collaborative projects

Another very general issue, which is the lack of specific funding at the national programme level, was considered an internal problem beyond the possibility of this WG to influence.

Networking

It was pointed out that not all institutes dealing with plant cryopreservation are already involved in this group and it would be ideal to expand the networking activity for example to the academic area that is doing relevant research. The ECPGR Secretary clarified that membership in the WG is dependent on nominations made by the respective National Coordinators. Current WG members can in any case promote and extend collaboration with other colleagues and build national 'cryopreservation communities'. Examples of coordination within the national programmes are already existing in the Czech Republic, France, Italy and other countries.

M. Faltus expressed the need for this WG to reach out to other ECPGR crop WGs and inform them about the opportunities to promote cryopreservation activities. It was pointed out that a dialogue between WG Chairs is open and recommended (through the dedicated Chairs listserver and/or individual interactions). It was concluded that the best starting point would be to organize introductory webinars on plant cryopreservation, open to the ECPGR community and beyond. These webinars can be the starting point of a necessary dissemination and communication effort.

It would also be useful to understand the needs of the various WGs and verify how this WG could help them. An important development within ECPGR is the imminent establishment of a new Network of Genebank Managers, which is expected to be a relevant forum for interactions.

Training

Training on garlic is already foreseen as part of the recently approved Garlic-CCS project, within the ECPGR Grant Scheme. This opportunity will however be limited to a small group of selected trainees.

Other training opportunities could be possible outside the ECPGR scheme. This depends on available funding and the availability of experienced labs that are willing to host trainees. Various bilateral programmes are ongoing, offering for example the possibility to validate protocols in different labs. Mobility funds should also be monitored.

Group members expressed the need to organize training, for example, on dormant buds' cryopreservation (Portugal, Serbia, Spain) and cryobank standards (Poland).

M. Lambardi (Italy) confirmed that CNR could host a training workshop on dormant buds in Italy, which should be organized at the right time, i.e. grafting time at the end of May. He advised that the ongoing COST Action COPYTREE could support training. It is necessary to register in the COST Action and a proposal could be made to organize the next training in May 2024 on dormant buds.

M. Faltus volunteered to contact all the WG members in order to create a list of the existing expertise, interests and needs.

Collaborative project preparation

After informal consultation about prevalent interests within the group, B. Panis proposed to prepare a project proposal to optimize the dormant bud methodology, which is not standardized and often needs to be adapted to local conditions. The project should envisage training, have the purpose of developing a standard protocol, and use accessions representing apple diversity, from which to obtain dormant buds.

Volunteers were selected to take the lead in project preparation: M. Höfer, M. Lambardi and A. Bilavcik will start preparing a project and they were encouraged to start with a short concept note. The project can then be further developed for submission to ECPGR, providing the new ECPGR Phase XI will maintain the opportunity to request project funds. Alternatively, it can be submitted to other donors.

L. Maggioni encouraged the group to develop a concept for the most rational and efficient way to collaboratively conserve under cryopreservation the relevant European material. A discussion followed with many questions regarding the meaning and scope of 'collaborative action'.

M. Faltus confirmed that a concept will start to be developed as part of the Garlic-CCS project, anticipating that a decentralized system will need to be developed and a key factor will be the choice of the priority species/accessions and the guidelines to define them (i.e. national origin, unique diversity testified through molecular analysis, inclusion into the AEGIS European Collection, etc.).

Conclusion

M. Faltus concluded the meeting by thanking all the participants who came to Prague and also the online participants. He was happy to be starting a new era of collaboration in cryopreservation, with the possibility to spread knowledge and improve safety of the conserved material. B. Panis was also delighted about the collaboration enabled by the WG and the joint planning made, also acknowledging that a lot more needs to be done, since cryopreservation still remains an activity that is not very well known and not widely applied. All the local organizers were warmly thanked for their commitment and excellent organization.

Working Group Workplan

- *M. Faltus to provide and circulate a frame for the preparation of a one-page country report to be published in the report of this meeting.*
- *M. Faltus to contact WG members and compile a table of existing expertise, needs and offers to provide training.*
- *M. Faltus and B. Panis to organize introductory webinars on cryopreservation to be offered to the ECPGR Community, with the help of the ECPGR Secretariat.*
- *L. Maggioni to finalize the WG meeting's report on the basis of the offered presentations and country reports to be provided by the WG members.*
- *M. Lambardi to explore the opportunity to organize a COST Action training at CNR, Firenze on dormant bud cryopreservation in May 2024 and keep the WG informed.*
- *M. Höfer, M. Lambardi and A. Bilavcik to prepare a two-page concept note of a project proposal on droplet vitrification and dormant buds cryopreservation.*