



Meeting Report of the ECPGR Activity “CarrotDiverse” Second Meeting, 13-14 November 2018, Zaragoza, Spain



Meeting hosted by the Centro de Investigación y Tecnología Agroalimentaria (CITA), Zaragoza, Spain

Present

Cristina Mallor(Host)
Charlotte Allender
Emmanuel Geoffriau
Annette Hägnfelt
Thomas Nothnagel
Violeta Rolim Lopes (by videoconference)

Meeting Report and Notes

13th November

The meeting was opened with a welcome and presentation by Ana Wunsch who gave an introduction to Aragon and CITA, including the locations of the five stations and the focus of the organization.

An introduction to the system for the management and conservation of genetic resources in Spain at the national and international level was provided by Cristina Mallor. The BGHZ holdings represent over 17 000 accessions of vegetables - mostly landraces and wild relatives.

Charlotte Allender described the aims of the meeting and outline of the rest of the agenda, as well as an introduction to ECPGR Phase X objectives and a preliminary discussion of the priorities of the Working Group (WG) for the next phase. The potential for a European Evaluation Network for vegetable crops was also discussed.

Thomas described the phenotyping work carried out at the JKI on the accessions sent as part of CarrotDiverse. This included morphological characterization as well as sampling for profiling of polyacetylenes and volatiles. Six plants have been grown out, currently DNA has been extracted from one plant. Resistance testing against three *Alternaria* pathogens will shortly commence, with other tests potentially available for other pathogens such as *Mycocentrospora*. The timeline for the rest of the analyses was also discussed, including Genotyping By Sequencing (GBS).

Decisions/Outcomes

1. WG priorities: it was agreed that the WG should focus on the conservation of landraces (including coordinating assistance with regeneration as well as a possible call for landraces to be donated to the relevant national Genebank). Much work has been carried out on carrot, therefore further focus should be given to other root crops and crop wild relatives in the

Apiaceae. These suggested priorities should be circulated to the wider Working Group as soon as possible for comment/agreement.

2. Further work on understanding optimum germination conditions for wild carrot needs to be undertaken; Charlotte to look at various factors including length of time in long-term storage and potential pre-treatments to enable germination tests to better reflect viability.
3. The concept of a European Evaluation Network for vegetables and how this might include carrot or other crops from the Apiaceae should be explored further.
4. GBS analysis: funding is available within the project for 1 x 96 well plate (cost to be billed the University of Warwick). Charlotte to explore any underspend in the project with Lorenzo to determine if enough money is available for a second plate to be sent. This plate will enable a second individual from each accession to be genotyped.

14th November

Violeta Lopes joined the meeting via Skype. The shared experiences of the latitude and morphological characterization were discussed. Problems with different weather patterns between years were noted and the most efficient way to record and analyse the data were presented. Characterization data were acquired on 90 accessions by Annette, Violeta and Emmanuel as planned and 2018 trials were discussed. Emmanuel presented the analysis of year 1 results of the latitude trial and circulated an article by Thomas Charpentier, master 1 student at IRHS. Emmanuel's previously circulated list of descriptors with example photographs was very useful.

Decisions/Outcomes

1. Basic characterization data should be prepared for upload to EURISCO by the end of the project. This will require input from relevant project partners – Charlotte to coordinate
2. Other project data should be made public after appropriate valorization, checking and the preparation of publications
3. The group agreed on a list of minimum descriptors for carrot wild relatives based on the experience from the project – Emmanuel to prepare a document
4. Potential publications were discussed:
 - a. Genome Wide Association Study on polyacetylenes/volatile organic compounds
 - b. GWAS – resistance to pathogens
 - c. GWAS – bolting and other morphological traits
 - d. General genetic diversity?
 - e. Latitude/environmental impact on morphological descriptors