

Área Científica **Sistemas Agrários: Produção e Sustentabilidade**

Código N808EC-BEC001 **Início** 2015/03/04 **Termo** 2016/03/03

Título COCHEVABRAS - Collection, Characterization and Evaluation of wild and cultivated Brassicas

Programa

Medida

ECPGR - European Cooperative Programme for Plant Genetic Resources

Instituição Líder Universidade de Catania

Investigador Responsável INIAV Maria Paula Mesquita dos Santos Coelho

Orçamento Total 15 000,00€

Orçamento INIAV 4 000,00€

Parceria

UnivCatania	Universidade de Catania	Itália
INIAV	Instituto Nacional de Investigação Agrária e Veterinária, I.P.	Nacional
UTAD	Universidade de Trás-os-Montes e Alto Douro	Nacional

Equipa

Maria Paula Mesquita dos Santos Coelho
Ana Maria Barata Silva

Resumo

The main characterization field will be established at the experimental farm of Catania University where 25 accessions of *B. oleracea* crops from Europe will be compared with 5 commercial cultivars (F1) and with 10 wild Brassica (n=9) accessions for the main bio-morphological descriptors. The same accessions will be grown in the characterization field established in Braga. The criteria for selecting accessions among the European ex situ Brassica collections are their availability for inclusion into AEGIS, their geographic origin and the expression of already known specific bio-morphological, biochemical and genetic traits in view to further characterize them with the same descriptors utilized for the VIII phase ECPGR project of the BWG.

The following activities will be carried out:

- All wild Brassica relatives will be regenerated by Di3A. 40 plants will be transplanted for each accession. 10 leaf samples will be collected for single plant in the juvenile phase after 60 days from transplanting in view to extract DNA, whereas two replications of 10 samples of the produce harvested in bulk will be freeze dried and samples will be sent to the other research units for biochemical analysis (total polyphenols and polyphenol profiles, individual and total glucosinolates and their profiles, antioxidant capacity, etc.).
- In the other characterization field located in Braga, BPGV INIAV will characterize 40 plants per accession for the same morphological traits utilized in the VIII phase project of the BWG. DNA will be extracted by BPGV INIAV from 10 plants per accessions. At the same time 2 replicates will be collected from 10 bulked plants to freeze-dry and send them to the research units involved in antioxidant characterization.
- DNA will be analyzed by Di3A with 8 SSR strictly related to the genes involved in glucosinolate metabolic pathway in *B. oleracea*.
- BPGV INIAV will analyze 40 accessions with 30 SSR to improve the Brassica database. SSR with linkage to C5 and C9 will be chosen.
- The freeze dried samples of leaves/produce will be analyzed by Di3A for GLS and PHP profile, whereas by CRA IAA for PHP and antioxidant content (AC),
- CSIC Cordoba and UNIVR will analyze freeze dried samples received from Di3A and BPGV INIAV for GLS profile.
- INIAV Oeiras will evaluate 40 accessions in controlled environmental conditions (plantlets grown in containers) for downy mildew (*Hyaloperonospora brassicae*) resistance