

# Berry Genetic resources - Portugal -

**Pedro Brás de Oliveira**

**Instituto Nacional de Investigação Agrária e Veterinária  
Unidade Estratégica de Sistemas Agrários e Florestais e Sanidade Vegetal**

pedro.oliveira@iniav.pt

## Summary

- The collection;
- Constraints to efficient conservation;
- Existing use and its valorization;
- Ongoing projects (national and international level);
- Expectations from WG.

# The collections

- Raspberry;
- Blackberry;
- Blueberry;
- Crowberry.

# *Rubus* species - Raspberries

- 10 commercial varieties
- Small breeding program < 4000 seedlings/year
- 2018 advance selections – 5
- 2019 selections - 65
- 2020 seedlings - > 3500



# *Rubus* species - Blackberries

## 4 - *R. ulmifolius* ecotypes:

Barrancos

Serpa

Fataca

Arrepiado



*Rubus ulmifolius*  
Arrepiado



*Rubus ulmifolius*  
Serpa



*Rubus ulmifolius*  
Barrancos



*Rubus ulmifolius*  
Fataca



## Seven endemic species

*R. genevieri*

*R. brigantinus*

*R. sampaioanus*

*R. henriquesii*

*R. hochstetterorum*

*R. vagabundus*

*R. vigoii*



## Interspecific hybrids (>40)

*R. ulmifolius* x *R. henriquesii*

*R. ulmifolius* x *R. hochstetterorum*

*R. hochstetterorum* x *R. henriquesii*

*R. hochstetterorum* x *R. ulmifolius*

*R. henriquesii* x *R. hochstetterorum*

*R. henriquesii* x *R. ulmifolius*

# *Corema album* - Crowberry



## ***In situ* plants with georeferencing (>80)**

- 20 Aldeia do Meco;
- 20 Quiaios;
- 20 Comporta;
- 20 Monte Clérigo.

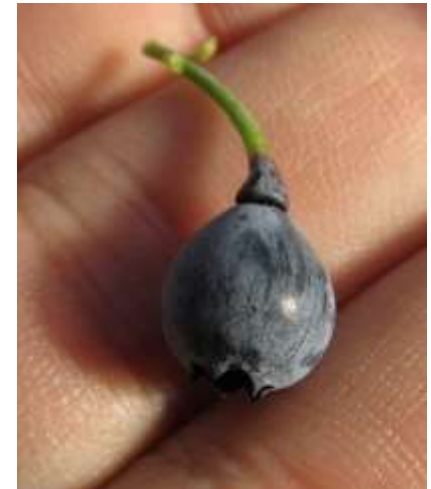
## ***Ex situ* collection of *Corema album***

- 12 Aldeia do Meco genotypes (2014);
- 100 OP seedlings from 6 sites (2015);
- 6 genotypes per 10 sites (2016).



# *Vaccinium* species - endemic

- 1 endemic species – *Vaccinium cylindraceum*





# *Vaccinium* species - collection

- SHB commercial varieties – 10
- Hybrids between blueberries varieties and *V. cylindraceum*:
  - V. Cylindraceum* x Cipria - 62
  - V. Cylindraceum* x Bluecrop - 44
  - V. Cylindraceum* x Gupton - 5



# Constraints to efficient conservation

## *Rubus* species - Blackberries



# Constraints to efficient conservation

Objective: to find the best seasonal period to detect 'Rubus stunt disease' (symptoms and laboratory)

Blackberry plants analyzed at INIAV laboratory for:

- *Candidatus phytoplasma rubi*, Stobur phytoplasma (16Sr XII)
- Aster yellow phytoplasmas (16SrI).

DNA extracts used in nested-PCR

Field team



# Existing use and its valorization

- **Breeding** - Raspberry
- **Variety trials** - Blueberry
- **Breeding only with endemic species** - Blackberry
- **Collections** – *Corema* and endemic blackberries
- **Introduction into culture, new crop** - *Corema*

# Ongoing projects

- Raspberry
  - Breeding
- Blueberry;
  - Cultivar evaluation
- Blackberry;
  - Operational group
- *Corema*
  - Students
  - Characterization



## Expectations from WG

- Access to databases;
- Exchange of plant material;
- Breeding cooperation with cvs for all growers;
- Possible joint projects;
- Understand better how to keep old planting materials no longer used at lower costs;
- Germoplasm bank for berries.