

CROP WILD RELATIVES: NEW DEVELOPMENT IN EURISCO DATABASE.

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What is EURISCO?

https://eurisco.ipk-gatersleben.de/apex/eurisco_ws/r/eurisco/home

About EURISCO

The **European Search Catalogue for Plant Genetic Resources** (EURISCO) provides information about more than **2 million accessions** of crop plants and their wild relatives, preserved *ex situ* by about **400 institutes**. It is based on a network of National Inventories of **43 member countries** and represents an important effort for the preservation of world's agrobiological diversity by providing information about the large genetic diversity kept by the collaborating institutions.

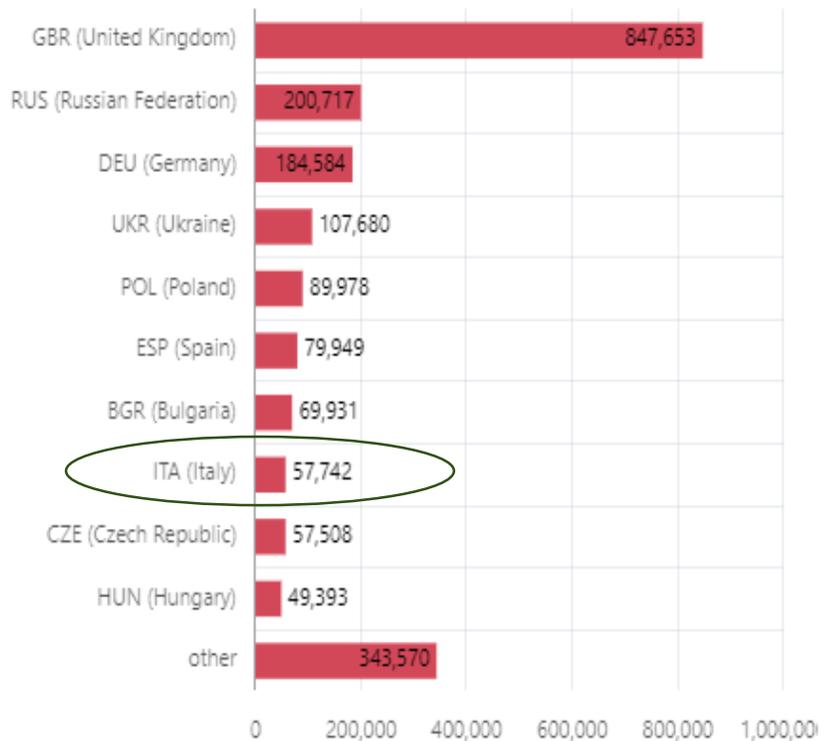
Between 2003 and 2014, EURISCO was hosted and maintained by Bioversity International, Rome, Italy. Since 2014, EURISCO is being maintained at the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, Germany. The central goal of EURISCO is to provide a one-stop-shop for information for the **scientific community and for plant breeders**. EURISCO contains both **passport data** and **phenotypic data**.

EURISCO is being maintained on behalf of the **Secretariat of the European Cooperative Programme for Plant Genetic Resources** (ECPGR), in collaboration with and on behalf of the National Focal Points for the National Inventories.

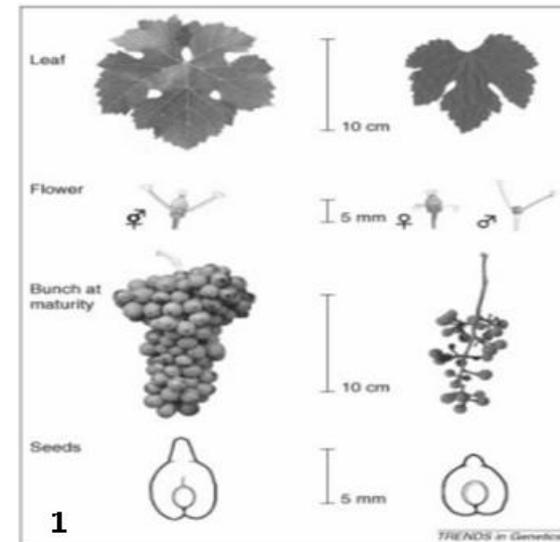
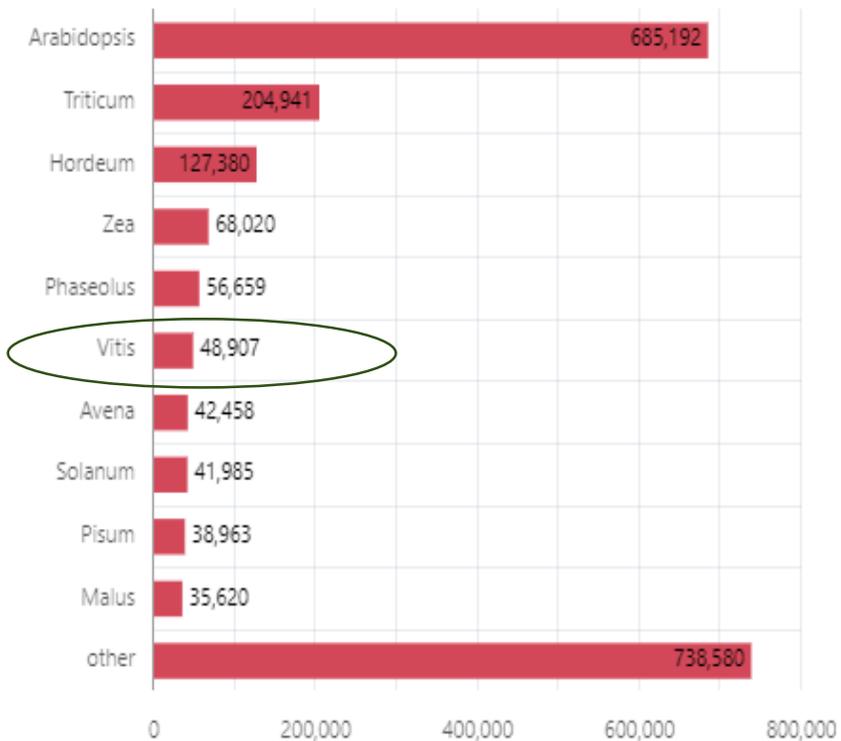


What is include in EURISCO catalogue?

Accessions per National Inventory



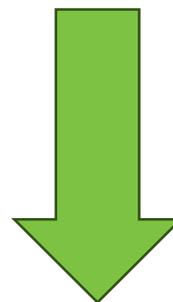
Accessions per genus



Italy share in EURISCO a total of 5.097 accessions of *Vitis spp* and, among these, only 83 accession are CWR

What will be include in EURISCO catalogue?

- Since 2014, the ECPGR Documentation and Information Working Group discussed the issue of *in situ* conservation data and recommended their inclusion in the EURISCO catalogue;
- EURISCO contains high-quality passport data of all European *ex situ* collections, progressively extended to include actively-managed *in situ* CWR populations data



A group of pilot countries is involved in ECPGR program with the issue to extend of EURISCO for Crop Wild Relatives (CWR) *in situ* data, principally based on “Descriptors for Crop Wild Relatives conserved *in situ*” and published by FAO in 2021.

Italy is involved in this ECPGR Project as: Istituto di Bioscienze e Biorisorse (IBBR-CNR, Bari), Department of Agricultural, Food and Environmental Science, University of Perugia; Council for Agricultural Research and Economics (CREA Headquarter, Rome) and Research Centre for Forestry and Wood (CREA-FL, Trento)

Principles for the Inclusion of CWR Data in EURISCO

Prepared by Theo van Hintum and José Iriondo, within the framework of the ECPGR project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets' (CWR data in EURISCO), funded by the German Federal Ministry of Food and Agriculture.

Agreed by project partners and EURISCO Advisory Committee in May 2022

Introduction

Populations of crop wild relatives (CWR)¹ occurring *in situ* are potentially valuable resources for crop science and plant breeding. Therefore, they need to be conserved and made available to users. However, the current conservation of, and access to these CWR populations varies strongly. *In situ* conservation of CWRs is often in the hands of nature conservation organizations, who are sometimes not even aware that they are managing these resources. Other CWR populations occur in farmers' fields, roadsides and other locations, where they are not managed at all. Furthermore, information about the CWR populations, their occurrence and availability, is hardly available.

The issue of CWRs has recently received much attention, e.g. from EU-funded projects such as Farmer's Pride and from the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). The latter coordinated and led the publication of a descriptor list for CWRs conserved *in situ* (Alercia et al., 2021). For ECPGR and its database EURISCO, the issue of properly handling information about *in situ* CWRs has been on the table for a while, but for various reasons never resulted in substantial improvements.

In Europe, depending on the country, information about CWRs is heterogeneous: sometimes it is scattered over various sources or not available at all, whereas in some other European countries national checklists of CWRs, priority lists, population occurrence records and *ex situ* and *in situ* conservation assessments are available (e.g. Maxted et al., 2007; Smekalova, 2008; Phillips et al., 2014; Landucci et al., 2014; Labokas et al., 2018; Taylor et al., 2017; Rubio Teso et al., 2018; van Treuren et al., 2017). In some cases, specific websites have been created to showcase CWR in a country, providing information about the occurrence, distribution, availability and other data (such as <https://www.cwr.nl/en/CWRPop-1.htm>) with information about CWRs occurring in the Netherlands). This heterogeneity of cases is one of the reasons why it is difficult for users (plant breeders and crop scientists) to find out about and access these resources.

To improve the situation this proposal aims at:

- 1- Supporting the development of CWR National Inventories providing information on the CWR taxa and occurrence of CWR populations, their conservation status and their availability.
- 2- Feeding EURISCO with information on CWR populations that are – in principle – available.

The approach suggested in this proposal is based on various documents such as the *Concept for a possible extension of EURISCO for in situ crop wild relative and on-farm landrace data* (Weise et al., 2020), the *Descriptors for Crop Wild Relatives conserved in situ* (Alercia et al., 2021), and on discussions held in various platforms. It also relies on previous publications on CWR descriptors, such as those of Thormann et al. (2017) and Biodiversity International & University of Birmingham (2017). It presents an approach that will hopefully result in the desired outcome: a) properly organized information about CWRs occurring in a country, arranged in an *in situ* CWR National Inventory, and b) information in EURISCO about CWR populations occurring *in situ* and potentially accessible for use. However, success will depend on the willingness of the European countries to create these National Inventories for CWRs and

¹ This document is focused on CWR, however, most of the approaches proposed here can also be applied to wild food plants.



Thanks for your attention!