Portugal National Inventory (NI) development and status

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ECP/GR

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GOVERNO DE PORTUGAL
MINISTÉRIO DA AGRICULTURA E DO MAR

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Portugal is located in Southwestern Europe, in the most western part of the Iberian Peninsula.

The insular territories comprehend the Atlantic archipelagos of Azores and Madeira.

Mainland Portugal is essentially integrated within the Mediterranean region, although the frontier between the latter and the Atlantic region crosses the country's extreme north-eastern.

The Azores and Madeira Archipelagos are situated within the Macaronesian region.

Terrestrial biogeographical regions

The geographical location and geophysical conditions on the Portuguese territory, shaped by human intervention, have led to a wide variety of biotopes, ecosystems and landscapes, more or less humanized, which are home to a rich range of autochthonous flora. About 3,600 species of plants occur in Portugal (ICNF, 1998).

Portugal is also very rich in crop diversity as it is a secondary center of diversity for several crops, has very particular traditional agricultural systems and traditional knowledge associated to those crops and agricultural systems.

Portugal has a large biodiversity in general and crop diversity in particular.

Since the 1970s, Portugal has been carrying out systematic and coordinated efforts for *ex situ* conservation of plant genetic resources:

- **National and international collecting missions;**
- In 1983, IBPGR,FAO appointed Portugal-BPGV as the **responsible** for the **Maize Mediterranean collection**;
- **Signed** in 2002 and **ratified** in 2005, the **International Treaty on PGRFA;**
- Portugal is a **founding member** (1980) of the **European Cooperative Programme for Plant Genetic Resources (ECPGR);**
- Within the framework of the ECPGR, Portugal **participated *in the development of the* European Genebank Integrated System (AEGIS)** and **provide EURISCO Catalogue** with updated passport information from the **National Inventory (NI).**

Plant genetic resources maintained in *ex situ* conditions, are mainly under the responsibility of public institutions, the Ministry of Agriculture and the Ministry of Education and Research.

It is however noteworthy that over 80% of the genetic material of these collections is under the responsibility of the Ministry of Agriculture, with INIAV assuming a leadership role.

Portuguese *ex situ* crop collections location

Collections

- 1 - Cereals; Grain legumes; Fibers; Forages; Medicinal and Aromatic Plants; Vegetables; Other species
- 2 - *Cucurbits*
- 3 - *Lupinus*
- 4 - Fibers; Forages; Grain legumes
- 5 - *Malus* – **Reference collection**
- 6 - *Malus* – **Regional Collection**
- 7 - *Pyrus* – **Reference collection**
- 8 - *Pyrus* – **Regional collection**
- 9 - *Prunus* – **Reference collection**
- 10 - *Prunus* (Cherry Trees, Sour cherries trees) – **Regional collection**
- 11 - *Prunus* (Plum trees) – **Regional collection**
- 12 - *Ficus*– **Reference collection**
- 13 - *Prunus dulcis*; *Citrus*; *Ceratonia siliqua*; *Eriobothrya japonica*; *Punica granatum*; *Pyrus malus* (“Pêros”) – **Regional collection**
- 14 - *Olea europaea*
- 15 - *Vitis*
- 16 - *Cereals; Grain legumes; Forages; Medicinal and Aromatic Plants; Vegetables; Other species*
- 17 - *Grain legumes*

Institutions

1 Banco Português de Germoplasma Vegetal; 2 Universidade de Trás os Montes e Alto Douro; 3 Instituto Superior de Agronomia; 4 INIAV – Elvas; 5 DRAPC; 6 INIAV, DRAPN, DRAPALG; 7 DRAPN; 8 INIAV, DRAPN; 9 INIAV; 10 DRAPN; 11 INIAV; 12 DRAPALG; 13 DRAPALG; 14 INIAV, DRAPN; 15 INIAV, PORVID; 16 ISOPLEXIS, Madeira; 17 Universidade dos Açores

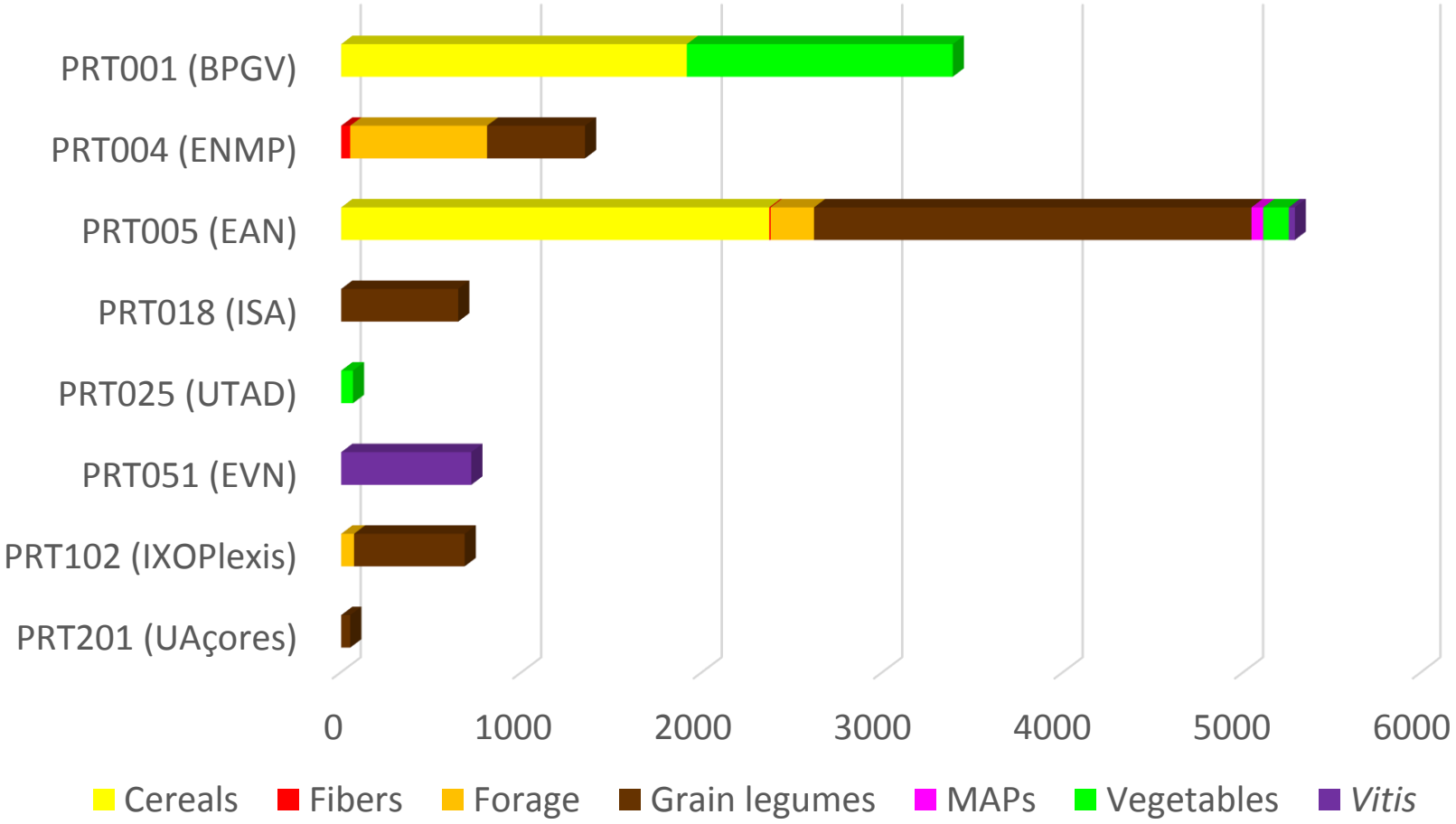
Portuguese collections in EURISCO

FAO CODE	INSTITUTION	SPECIES GROUP	ACCESSIONS
PRT001	BPGV - Banco Português de Germoplasma Vegetal/INIAV, Braga	Cereals; Vegetables	**3,389**
PRT004	ENMP - Estação Nacional Melhoramento Plantas, Elvas	Fibers; Forages; Grain legumes	**1,351**
PRT005	EAN - Banco de Germoplasma, Estação Agronómica Nacional, Oeiras	Cereals; Fibers; Forages; Grain legumes; MAPs; Vegetables; *Vitis*	**5,285**
PRT018	ISA - Instituto Superior de Agronomia, Lisboa	Grain legumes	**648**
PRT025	UTAD - Universidade Trás-os-Montes e Alto Douro, Vila Real	Vegetables	**65**
PRT051	EVN – Estação Vitivinícola Nacional, Dois Portos	*Vitis*	**721**
PRT102	ISOPLEXIS - Banco de Germoplasma - Universidade da Madeira	Forage, Grain legumes	**684**
PRT201	Banco do Centro de Biotecnologia dos Açores	Grain legumes	**50**
	TOTAL		**12,193**

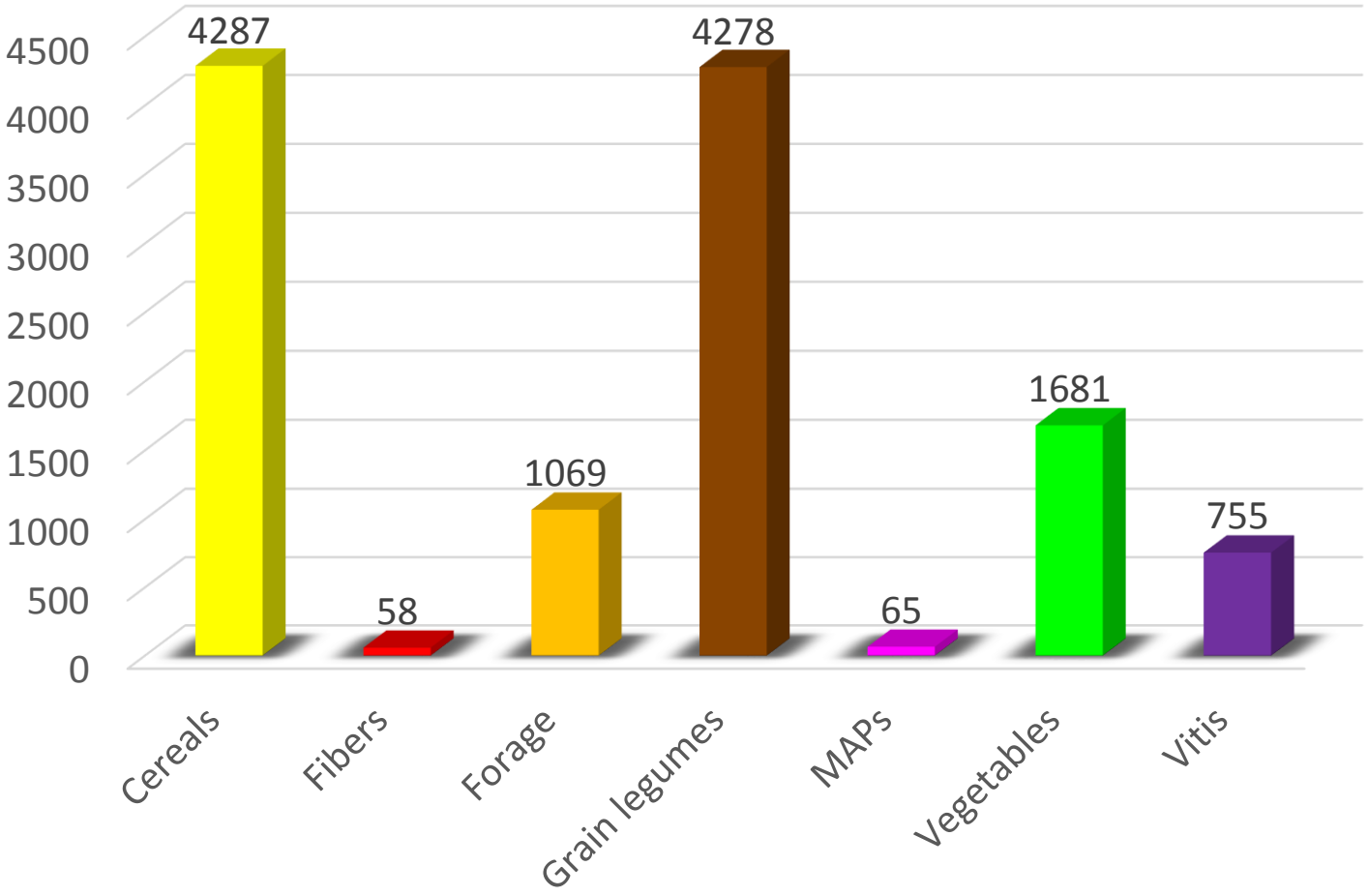
The existing information in the EURISCO was uploaded by the former National Focal Point.

Data of Portuguese *Allium*, *Brassica* and maize collection maintained at BPGV, have been collated and uploaded, through the former National Focal Point, into the EURISCO, following the data integration in the ECPGR Central Crop Databases. It means that the same information of these species, is in Eurisco and CCDBs (Rocha *et al*., 2010a, 2010b,2010c).

Portuguese collections in EURISCO: Number of accessions by FAO codes and species group

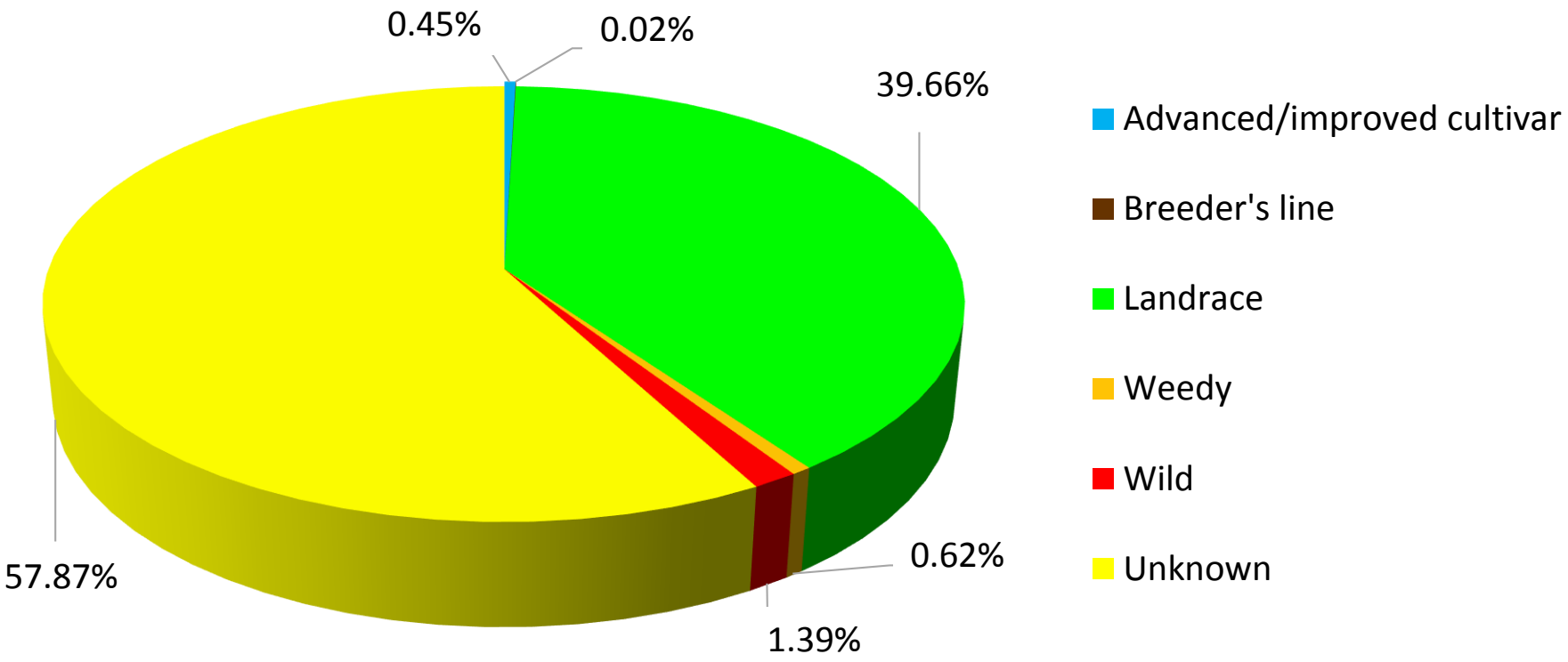


Portuguese collections in EURISCO: Number of accessions by species group



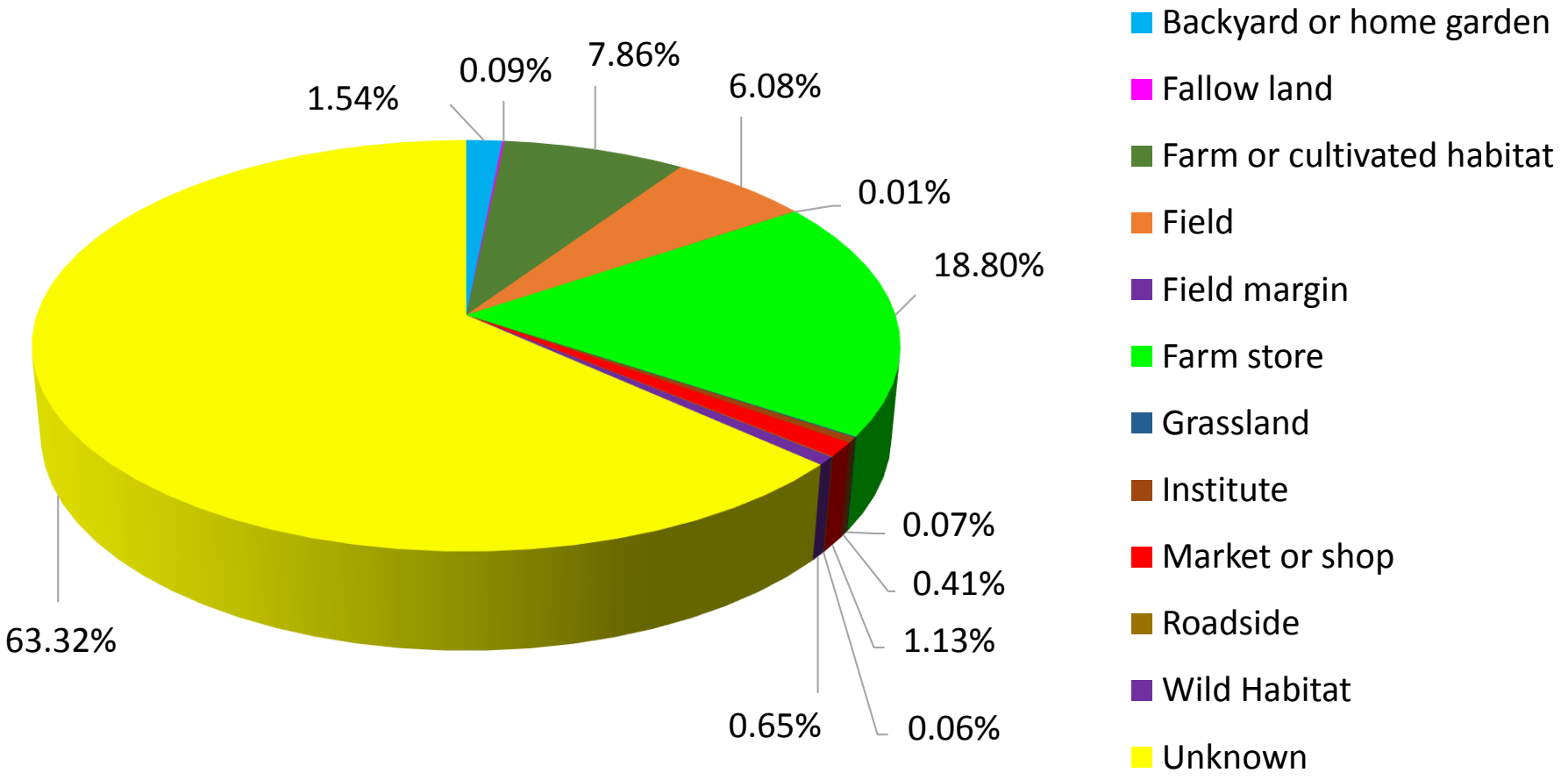
Portuguese collections in EURISCO: Biological status

percentage of the total number of accessions



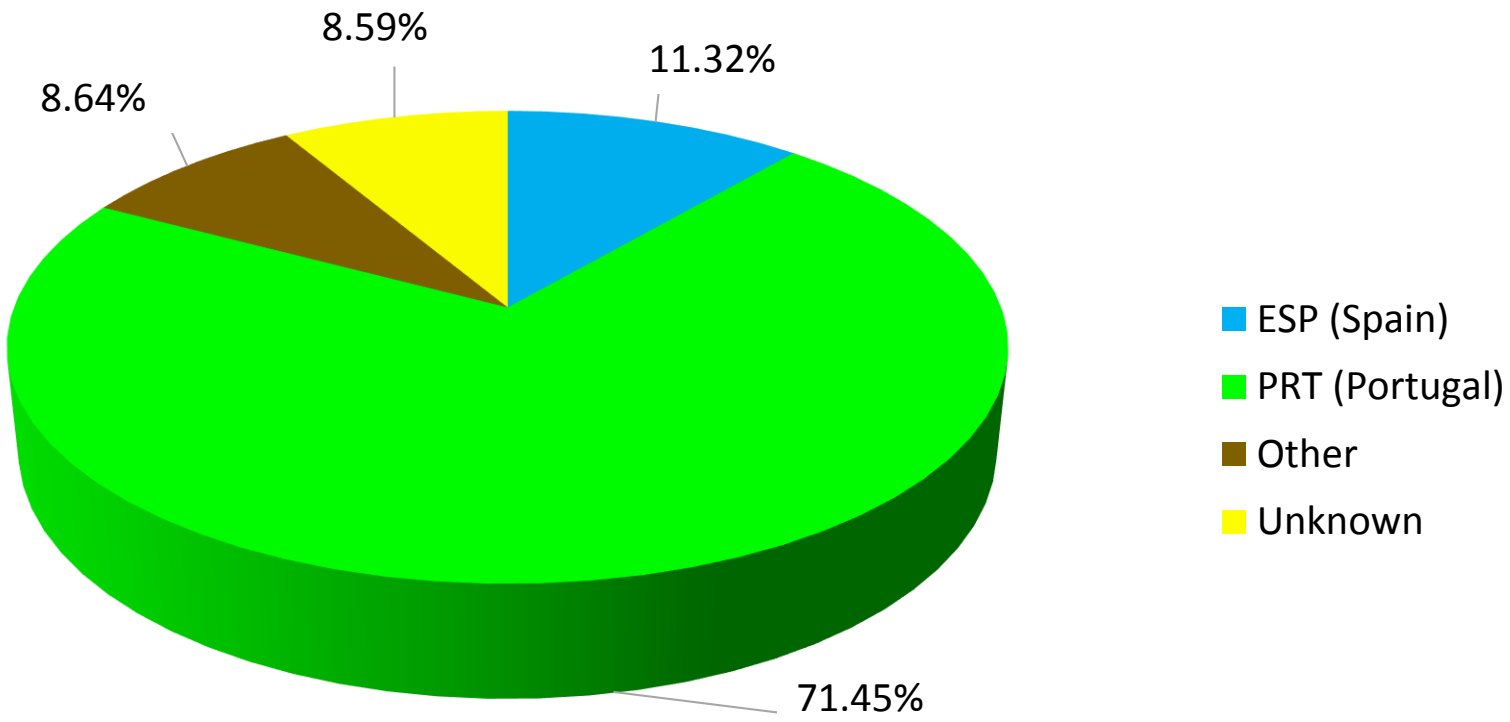
Portuguese collections in EURISCO: Acquisition source

percentage of the total number of accessions



Portuguese collections in EURISCO: Country of origin

percentage of the total number of accessions

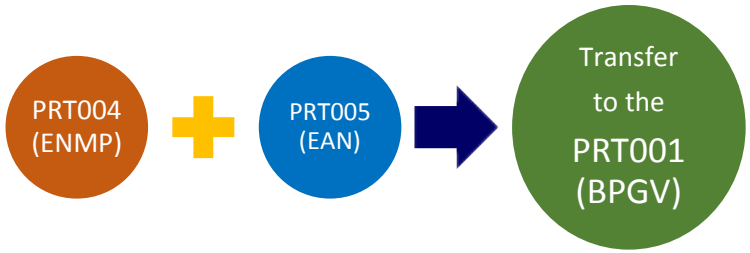


At the moment, Portugal is further developing and consolidating its National Programme for Plant Genetic Resources, with all national stakeholders, directly or indirectly involved in PGR conservation and use, framed by the International Treaty and the Global Plan of Action of the Food and Agriculture Organization of the United Nations (Barata *et al.,* 2014a).

Recently, INIAV was entrusted with the responsibility for the conservation and sustainable use of genetic resources in Portugal.

With the new INIAV mandate of Genetic Resources Conservation, a need to merge and reorganize collections is on the way, specially seed collections.

The objective is to concentrate the long-term collection in BPGV, in Braga – National Genebank.



As a result, it became necessary to implementing a new database system.

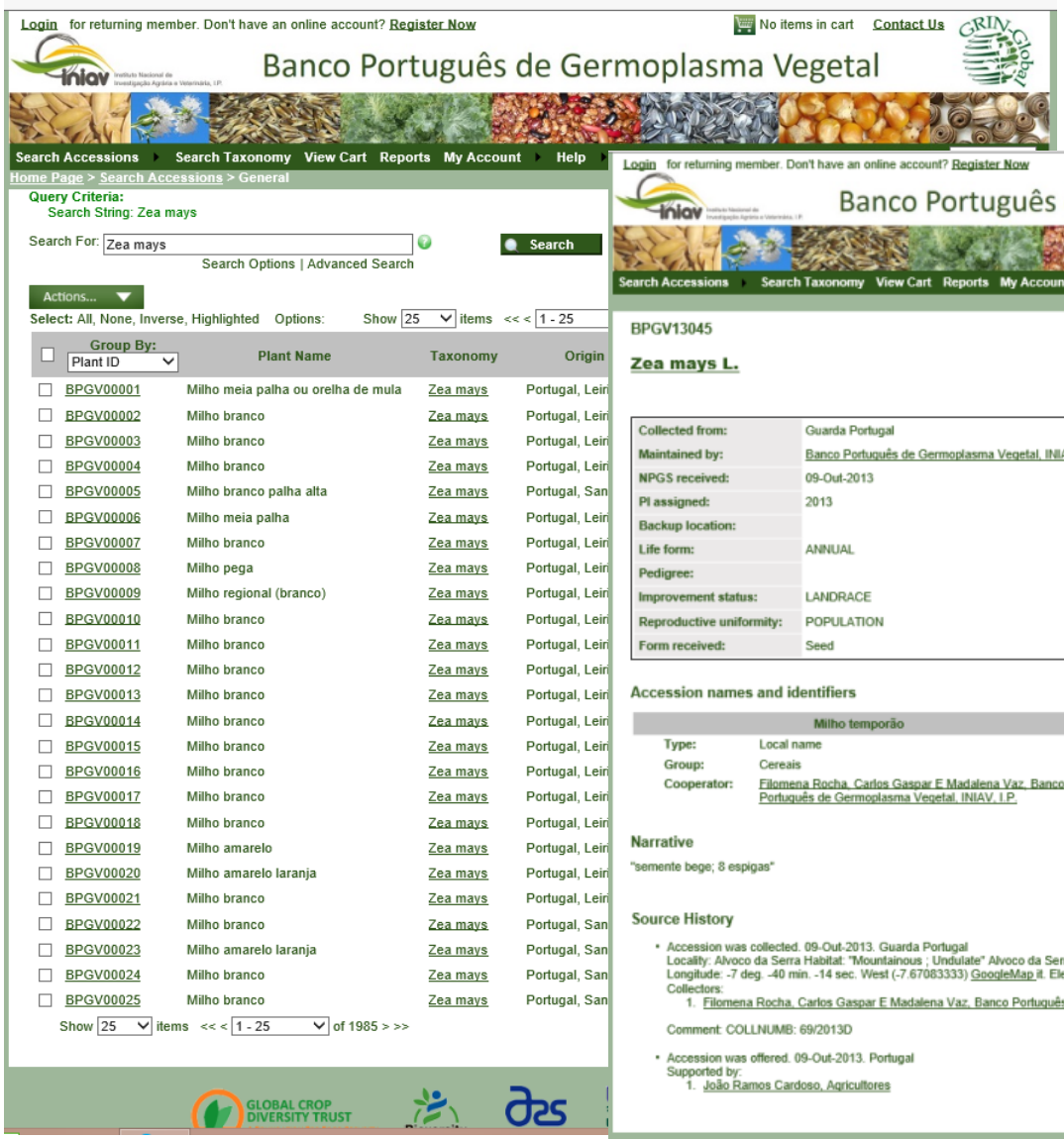
Presently, BPGV and ISOPlexis Genebanks, are implementing the new documentation system - GRIN-Global as their genebank platform (Barata *et al.,* 2014b; Bioversity International, 2015; INIAV, 2015; Pinheiro de Carvalho and Nóbrega, 2013).

GRIN-Global was jointly developed by the USDA Agricultural Research Service, Bioversity International and the Global Crop Diversity Trust.

The main objective is to integrate all collections' data and related information, from each Genebank (BPGV and ISOPlexis), in this management system, using international agreed standards for plant genetic resources .

GRIN-Global system components include: the Curator & Search tool, Administrator Tool, Import Wizard, Middle Tier, Updater Application, and the Public Website.

The GRIN-Global Website, provides “public” user access to the germplasm collections, and will deliver this information globally.



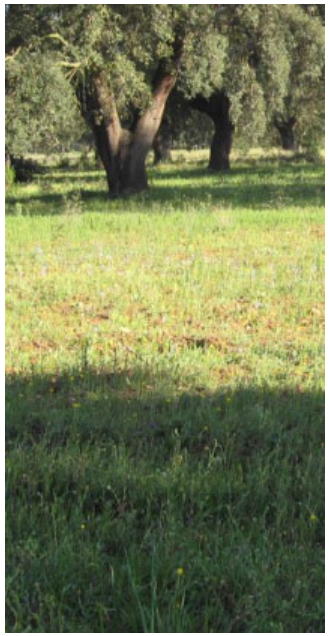
The wide adoption of the PGR Global Documentation system would facilitate and enable access and interoperability between documentation systems, giving a wider access to existing material maintained in the country.

The integration of all collections and information in this management system, will contribute to a more complete and updated the National PGR Inventory.

Future

As a result of collections reorganization, we must proceed with the information update registered in EURISCO.

It will be pursued the quality improvement and quantity of information available in EURISCO.



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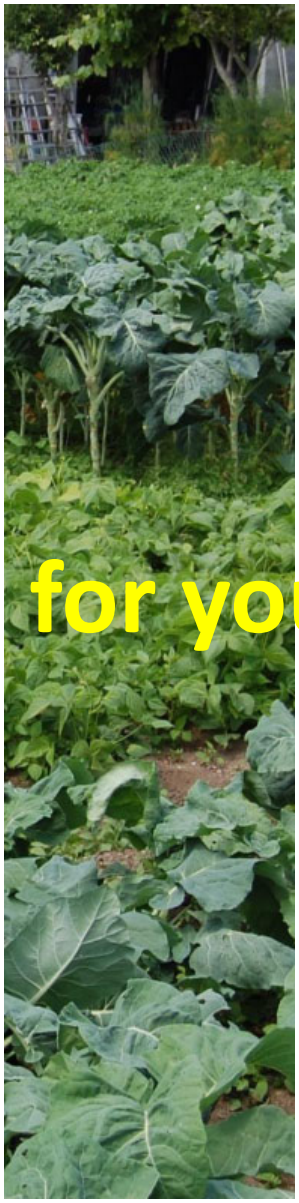

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