

The Italian National Germplasm Database - PlantA-Res

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CRA
CONSIGLIO PER LA RICERCA
E LA SPERIMENTAZIONE
IN AGRICOLTURA

PlantA-Res

National Network on Plant Genetic Resources
for Food and Agriculture

MINISTERO DELLE POLITICHE AGRICOLE
ALIMENTARI E FORESTALI

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National Network on Plant Genetic Resources for Food and Agriculture

This network has been realized within the project "Plant Genetic Resources/FAO" (RGV/FAO), approved and financed by the Ministry of Agriculture in order to recognize Italy's adhesion, in 2004, to the International Treaty of the FAO on Plant Genetic Resources for the access to plant genetic material and for the fair and equitable sharing

germplasm collections held by participating institutions but is intended to grow over time in order to include also the collections held in other institutions, such as universities, of which some (University of Perugia, University of Potenza) "Nazareno Strampelli" Institute have already included their collections. The documentation of the accessions

fully bilingual

PlantA-Res is the Italian online portal dedicated to activities concerning the safeguard and sustainable utilization of Plant Genetic Resources for Food and Agriculture (PGRFA) in Italy, according to the International FAO Treaty for PGRFA.

In 2004, the Ministry of Agriculture, Alimentation and Forestry Policy (MiPAAF), after the ratification of the [ITPGRFA](#) and in response to this launched an open-ended [Research Project](#) named [“Plant Genetic Resources/FAO International Treaty”](#) (RGV/FAO), specifically targeted at the implementation of the objectives outlined in the Treaty, for the access to plant genetic material and related information and the fair and equitable sharing of benefits arising from their utilization.

CRA - Fruit Tree Research Centre (Rome) was entrusted with the scientific coordination of this project which includes a total of 32 Partners (30 of them are CRA Research Centres/Units):



Research activities are aimed at the collection, conservation, characterization, documentation and utilization of more than 100 crops essential for Italian agriculture, 26 of which are currently included in the Multilateral System of the ITPGRFA.

“Home page”;

“The Project”;

“ Documents” (international and national)

”The Database”;

”The Network” of Plant Genetic Resources;

”The News” section which reports on events, PGRs newsletter
and other relevant publications;

“Contact us” with information about participants.

AIMS:

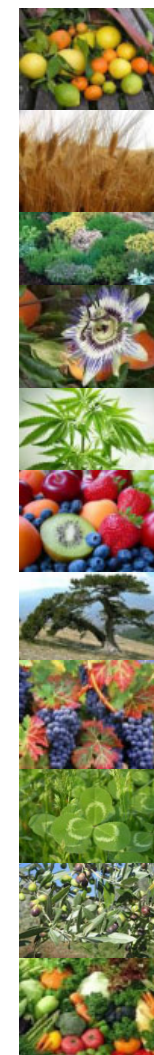
- **Establish a common platform on PGRFA conserved in Italy and share the information at national and international level (e.g. EURISCO, WIEWS)**
- **Facilitate access to information on the accessions maintained in different collections.**
- **Promote utilization of the material by providing information concerning the evaluation of agronomical, qualitative, technological and ornamental aspects of these accessions.**



It currently includes 241 genera for a total of **48.872** accessions, grouped in 10 categories:

Categories	Species n.	Accessions n.
Cereals	68	17.626
Vegetables	101	2.768
Grapevine	21	3.764
Olive	2	883
Forage crops	187	7.580
Industrial species	82	2.724
Aromatic/Medicinal spp.	166	280
Ornamental species	225	596
Forest species (*)	36	3.744
Fruits, Nuts and Citrus	171	8.907

(*) not included in EURISCO





- MAC Agrumicoltura e Colture Mediterranee, Acireale
- API Apicoltura e Bachicoltura, Padova
- CAT Colture alternative al Tabacco, Scafati
- CER Cerealicoltura, Foggia
- MAC Maiscoltura, Bergamo
- QCE Cerealicoltura, Roma
- RIS Riscicoltura, Vercelli
- SCV Cerealicoltura, Sant'Angelo Lodigiano
- CIN Colture Industriali, Rovigo
- CIN Colture Industriali, Bologna
- FLC Colture Foraggere e Lattiero-Casearie, Lodi
- FRC Frutticoltura, Caserta
- FRF Frutticoltura, Forlì
- FRU Frutticoltura, Roma
- FSO Floricoltura e Specie Ornamentali, Sanremo
- SFM Valorizzazione Specie Floricole Mediterranee, Bagheria
- VIV Vivaismo e Gestione Verde Ambientale e Ornamentale, Pescia
- GPG Genomica e Post-Genomica, Fiorenzuola d'Arda
- MPF Monitoraggio e Pianificazione Forestale, Villazzano
- SEL Selvicoltura, Arezzo
- PLF Produzioni Legnose Fuori Foresta, Casale Monferrato
- OLI Olivicoltura e Industria Olearia, Rende
- ORA Orticoltura, Monsampolo del Tronto
- ORL Orticoltura, Montanaso Lombardo
- ORT Orticoltura, Pontecagnano
- PAV Patologia Vegetale, Roma
- SCA Sistemi Culturali degli Ambienti caldo-aridi, Bari
- VIC Viticoltura, Arezzo
- VIT Viticoltura, Conegliano Veneto
- UTV Uva da Tavola e Viticoltura in Ambiente Mediterraneo, Turi

HOLDING INSTITUTE	COLLECTING SITE
InstCode	Collsite
IDENTIFICATION AND TAXONOMY	Latitude
AcceName	Longitude
Genus	Elevation
Species + SpAuthor	ADVANCED MATERIAL
SubTaxon + Sub TAuthor	BredCode/ BredDescr
Syn (Taxonomic synonyms) ●	Ancest
CropName + CropName ENG ●	DonorCode/ DonorDescr
OrigCtry	DonorNumb
SampStat	OTHER INFORMATION
ACQUISITION AND MAINTENANCE	DuplSite/ DuplDescr
AcqDate	OtherNumb
CollSrc	YearReg (Year of registration/first description)
Storage	Remarks
AccNumb	AcceURL
MLSStatus	AcceUse (main attitude) ●
AEGISStatus	Avail (Availability) ●
COLLECTED MATERIAL	
CollCode/ CollDescr	
CollNumb	
CollDate	

Research within the database allows to choose among one or more elements of the 7 core criteria for the identification of an accession, or to start a targeted search by combining multiple criteria. Depending on the criteria chosen, the system generates a list of accessions corresponding and also indicates the total number of these.

Advanced Search

Choose one or more fields to search accessions

Search for CropName...

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FRUIT AND CITRUS

Search for AcceName...

MLSstat

SampStat

OrigCty

Malus

Species

Search

Reset

Search

Reset

1202 Accession Found

MALUS FLORIBUNDA

GENUS/SPECIES: *Malus floribunda*, Sieb.

SUBTAXA: /

SYN:

CROPNAME: Melo giapponese da fiore/Crabapple, Japanese flowering

CRA-FRU Centro di Ricerca per la Frutticoltura

JAY DARKING

GENUS/SPECIES: *Malus spp.*,

SUBTAXA: /

SYN:

CROPNAME: Melo ibrido/Apple hybrid

CRA-FRU Centro di Ricerca per la Frutticoltura

MALUS PROFUSION

GENUS/SPECIES: *Malus spp.*,

HOLDING INSTITUTE CODE			
INSTCODE (<i>holding institute code</i>):	CRA-FRU Centro di Ricerca per la Frutticoltura		
IDENTIFICATION OF ACCESSION AND TAXONOMIC INFORMATION			
ACCENAME (<i>accession name</i>):	Abbondanza Rossa		
ACCENUMB (<i>number of accession in the collection</i>):	Me 0928	SYN (<i>synonyms</i>):	
GENUS (<i>genus</i>):	<i>Malus</i>	SPECIES (<i>species</i>):	<i>domestica</i>
CROPNAME (<i>common crop name</i>):	Melo/Apple	SPAUTHOR (<i>species authority</i>):	Borkh.
SUBTAXA (<i>subtaxa</i>):		SUBTAUTHOR (<i>subtaxa authority</i>):	
SAMPSTAT (<i>biological status of accession</i>):	Advanced or improved cultivar	ORIGCTY (<i>country of origin</i>):	Italy
INFORMATION ON ACQUISITION AND MAINTENANCE			
ACQDATE (<i>acquisition date of accession</i>):	2004----	COLLSRC (<i>collecting or acquisition source</i>):	

In order to give information concerning the evaluation of agronomical, qualitative, technological and ornamental aspects of this material we collect morphological, phenological, agronomical and biochemical data.

For most species, we use specific descriptors based on **internationally standardized protocols** (UPOV, CPVO, OIV, COI, IPGRI etc) and integrated, as appropriate, by **further descriptors** agreed by the species-specific experts.

For other species (es. milk thistle, *Silybum marianum* L.) where no official descriptor list is available, we use the descriptors applied by the respective experts working on these species.

ACTINIDIA: CARATTERI DEL FIORE					
Nome accessione	JINTAO (f5p9-10)		DATA: 09/05/2015		
Inizio fioritura	09/05/2015				
Carattere	espr. verb.	espr. num.	carattere	espr. verb.	espr. num.
Inflorescence: Type (30)	solitary	1	Flower: attitude of styles (40)	irregular	4
Flower bud: position of first spike (32)	n.a.		Petal: main colour on adaxial side (40)	white	1
Flower: main colour of sepals (33)	green	2	Petal: shading of main colour (42)	even	2
Flower: density of sepal hairs (34)	medium	2	Petal: second colour on adaxial side (43)	green	3
Flower: arrangement of petals (37)	overlapping	3	Petal: distribution of second colour (44)	basal spot only	3
Flower: shape in profile (38)	convex	3	Anther: colour (45)	yellow	

Adopted from CPVO and integrated according to personal experience (e.g. number of petals, number of anthers)

Infiorescenza: numero di fiori (31)		Fiore: numero dei sepli (33)		Fiore: numero dei petali (extra)		Fiore: diametro (36)		Numero degli stili (39)		Numero delle antere (extra)	
1.	1	1.	6	1.	7	1.	59,8	1.	32	1.	58
2.	1	2.	7	2.	8	2.	61,1	2.	34	2.	67
3.	1	3.	7	3.	6	3.	64,2	3.	37	3.	66
4.	1	4.	6	4.	6	4.	53,2	4.	42	4.	60
5.	1	5.	6	5.	6	5.	58,9	5.	32	5.	70
6.	1	6.	6	6.	6	6.	55,7	6.	33	6.	64
7.	1	7.	7	7.	7	7.	57,6	7.	32	7.	62
8.	1	8.	6	8.	7	8.	61,6	8.	38	8.	68
9.	1	9.	6	9.	7	9.	59,4	9.	28	9.	62
10.	1	10.	6	10.	7	10.	67,2	10.	36	10.	68
11.	1	11.	6	11.	6	11.	57,1	11.	36	11.	60
12.	1	12.	7	12.	8	12.	61,3	12.	30	12.	64
13.	1	13.	7	13.	8	13.	62,3	13.	39	13.	68
14.	1	14.	6	14.	7	14.	55,8	14.	40	14.	66
15.	1	15.	7	15.	8	15.	55,6	15.	36	15.	78
16.	1	16.	7	16.	8	16.	58,1	16.	40	16.	62
17.	1	17.	7	17.	8	17.	60,9	17.	37	17.	72
18.	1	18.	6	18.	6	18.	50,1	18.	38	18.	60
19.	1	19.	6	19.	6	19.	61,7	19.	34	19.	63
20.	1	20.	7	20.	6	20.	62,8	20.	34	20.	75

For measurable characteristics, 20 data are taken each and the medium value enters in the database and is used for further elaboration

elaborated by experts working on the species (in case of no common descriptor lists)



MILK THISTLE (*Silybum marianum* (L.) Gaertn.)

DESCRIPTORS AND EXPRESSIONS	LEVEL
1) Plant: maximum height (incl. branches)	
short	1
medium	3
tall	5
2) Main stem: height	
short	1
medium	3
tall	5
3) Number of branches	
small	1
medium	3
large	5
4) Main head: diameter (no spines)	
small	1
medium	3
big	5
5) Head: external spines angle at flowering	
small	1
medium	3
large	5
6) Flower: colour	
purple	1
white	3
7) Leaf: colour	
variegated	1
green	3
8) 1000 fruits weight	
low	1
medium	3
high	5
9) Fruit colour	
black	1
dark brown	3
light brown	5

10) Fruit: length	
short	1
medium	3
long	5

11) Fruit: width	
narrow	1
medium	3
wide	5

12) Vegetative period (days to maturity)	
early	1
medium	3
late	5

13) Beginning of flowering (days to flowering)	
early	1
medium	3
late	5

14) Fruit: yield	
low	1
medium	3
high	5

15) Biomass yield (no fruits)	
low	1
medium	3
high	5

16) Fruit: oil content (%)	
low	1
medium	3
high	5

17) Fruit: oleic acid content (%)	
low	1
medium	3
high	5

18) Fruit: silymarin content (%)	
low	1
medium	3
high	5

19) Fruit: silybin content (isomers A+B, %)	
low	1
medium	3
high	5

Transformation of data into judgements

In order to be able to give objective information, the expressions of qualitative traits are first recorded as measured data. For this purpose, a sample of 20 representative organs (fruits, leaves, etc) is chosen, single values are recorded and the medium value is elaborated.

Data are collected for more than one year (3 or 4).

Only afterwards, statistical analysis of all data allows to elaborate the obtained information in such a way to transform these numeric values into specific verbal judgements corresponding to the scales of expressions applied to the descriptor. In this way it is possible to translate «a value» into «a judgement» which describes the value.

Comparison of data of the examined accessions with those of commonly known reference varieties is a useful tool of verification.

For the purpose of transparency and further elaboration, the database will report both the numeric values and the corresponding verbal judgement.

- **Increase** the **number of accessions** in the Database;
- **Make available** the specific **descriptor lists** used to describe the accessions within PlantA-Res;
- Continue elaboration of **further specific descriptor lists**;
- **Expand** the database with **specific descriptors** of single species, in order to enable the sharing, at national and international level, of information derived from the activities of characterization which institutions have been carrying out for years.

It is hoped that **more institutions** (Universities, Regions, private collectors, ...) will join the database in order to make the website a complete **reference portal for Plant Genetic Resources** preserved in Italy.



THANK YOU FOR YOUR ATTENTION!

