



**Food and Agriculture
Organization of the
United Nations**



**International Treaty
on Plant Genetic Resources
for Food and Agriculture**

Second Reporting Cycle
**Report on the implementation of the International
Treaty on Plant Genetic Resources for Food and
Agriculture (ITPGRFA)**
ITALY

20/01/2025

Country Report on Compliance on the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

ITALY

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Country: Italy

Date of submission: 20/01/2025

Article 4: General Obligations

1. Are there any laws, regulations, procedures or policies in place in your country that implement the Treaty?

Yes **X**

No

If your answer is 'yes', please provide details of such laws, regulations, procedures or policies:

- Italy ratified the Treaty on 29 April 2004, under Law n. 101/2004.
The responsibility for implementation of the Treaty's provisions is given to the 21 Regions and Autonomous Provinces which act under respective implementation plans on which they report annually to the Ministry of Agriculture, Food Sovereignty and Forestry (MASAF). The MASAF is the National Focal Point for the Treaty to which it reports on activities undertaken and progress made at national level.
- Furthermore, a specific open-ended Project for the implementation of the Treaty's provisions was put in place by the MIPAAF in 2004 which involves several national research institutions and local farmers ("*Plant Genetic Resources-Implementation of the FAO International Treaty*", "RGV-FAORGV-FAO"), specifically addressing Articles 5, 6, 9, 11, 12 and 17 of the Treaty.
- Italian regions produce regional laws that implement the safeguard of PGFRA
 - Puglia: <https://pugliacon.regione.puglia.it/web/sit-puglia-paesaggio/l-osservatorio>
<https://psr.regione.puglia.it/en/sottomisura-10.1.4>;
 - Campania: Regional Regulation No.6 of 3 July 2012 implementing Art. 33 of Regional Law No.1/2007 published on BURC n.42 of 9.07.2012)
<http://www.agricoltura.regione.campania.it/biodiversita/biodiversita-vegetale.html>;
 - Sicilia: Regional Law "Tutela e valorizzazione delle risorse genetiche "Born in Sicily" per l'agricoltura e l'alimentazione" (L.R. n. 19 del 18/11/2013);
 - Lazio: Regional Law 1 March 2000, n. 15 "Tutela delle risorse genetiche autoctone di interesse agrario";
 - Calabria: Regional Law n. 14 25/05/2021 "Tutela, conservazione, valorizzazione della diversità del patrimonio di varietà, razze e ceppi microbici di interesse agrario e alimentare del territorio calabrese". The law expressly refers to ITPGRFA and cite the national law that ratify the Treaty (Law 101 6 April 2004);
 - Piemonte: Regional Law 1/2019 art. 44 "Tutela e valorizzazione della biodiversità di interesse agricolo ed alimentare";
 - Emilia Romagna: Regional law 29 January 2008, n. 1 " Tutela del patrimonio di razze e varietà locali di interesse agrario del territorio emiliano-romagnolo";
 - Toscana: Regional Law 64/04 "Tutela e valorizzazione del patrimonio di razze e varietà locali di interesse agrario, zootecnico e forestale" and Decree of Presidente della Giunta Regionale, Regulations 1 March 2007, n. 12/R "Regolamento di attuazione della legge regionale 16 novembre 2004, n. 64";
 - Umbria: Regional Law n. 12 of 9 April 2015 "Testo unico in materia di agricoltura". specifically artt. 67-71 contained in Capo IV "Tutela delle risorse genetiche autoctone di interesse agrario";
 - Marche: Regional Law 12/2003 "Tutela delle risorse genetiche animali e vegetali del territorio marchigiano";
 - Basilicata: Regional Law n. 26 of 14 October 2008 "Tutela delle risorse genetiche autoctone di interesse agrario";

- Veneto: “Complemento Regionale per lo Sviluppo Rurale del Piano Strategico Nazionale della PAC 2023-2027 per il Veneto (CSR)”; url: <https://www.regione.veneto.it/web/agricoltura-e-foreste/sviluppo-rurale-veneto-23-27>

□

- In December 2015, a national law (Law n. 194 of 1 December 2015) on the safeguard and sustainable use of genetic resources for food and agriculture was released which makes explicitly reference to the Treaty as well as to the Convention on Biological Diversity. This Law provides instruments both for the safeguard and for the utilization of Italy's rich agricultural patrimony and specifically recognizes the role of small farmers in their efforts to maintain and develop plant and animal GRFA. The Law establishes, *inter alia*, a national Network for Biodiversity for Food and Agriculture, composed of *ex situ*, *in situ* and on farm stakeholders.

2. Are there any other laws, regulations, procedures or policies in place in your country that apply to plant genetic resources?

Yes X

No ☐

If your answer is 'yes', please provide details of such laws, regulations, procedures or policies:

Further to Law 101/2004 (see Q1), different laws, plans and guidelines are in place which address specific aspects of GRFA, their management and utilization:

- National Plan on Biodiversity of interest for Agriculture (PNBA), adopted on 14 February 2008 (http://plantares.politicheagricole.it/docs_pdf/Piano_nazionale_biodiversita_di_interesse_agricolo.pdf):

The PNBA aims at coordinating the many and diverse initiatives and activities in place at national and regional level on the safeguard of plant, animal and microorganisms GR for Food and Agriculture, as well as enhancing relationships with the respective involved national and international organisms. Furthermore, the purpose of the PNBA is to assist Regions and Autonomous Provinces in the implementation of the Treaty, by developing a national system of GRFA safeguard, sustainable agriculture and rural development. Target genetic resources are those which are autochthonous and/or at risk of extinction/genetic erosion.

- The PNBA was integrated, in 2012, by specific Guidelines (“Linee Guida per la Conservazione *in situ*, *on farm* ed *ex situ* della Biodiversità vegetale, animale e microbica di interesse per l'agricoltura”) to assist stakeholders at national, regional and local level in the characterization and conservation of GRFA. The “Guidelines” represent a standardized instrument, elaborated and agreed by all involved stakeholders at national level and therefore allow for harmonized approaches and activities towards the implementation of the PNBA. (<https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/9580>).
- Furthermore, several regional laws are in place addressing the safeguard and sustainable use of PGRFA of local origin (these laws are available in Italian language at <http://plantares.politicheagricole.it/pages/documents.php?t=3>).
- In 2010, the Ministry for the Environment, Land and Sea published a “National Strategy for Biodiversity” which dedicates a section to PGRFA and their conservation and sustainable use within the framework of international regimes (Treaty, CBD). (http://plantares.politicheagricole.it/docs_pdf/Strategia%20Nazionale%20Biodiversit%20italiano.pdf).
- Concerning introduction, registration, management, distribution and marketing of commercial plant material, the following National Laws are in place:
 - Presidential Decree n. 1164 of 24 December 1969 (and subsequent amendments)

implementing Council Regulation n. 68/193/EEC on the marketing of material for the vegetative propagation of the vine

- Council Regulation (EC) No 870/2004 of 24 April 2004 on the conservation, characterisation, collection and utilisation of genetic resources in agriculture (repealing Regulation (EC) No 1467/94)
- Law n. 110 of 23 March 1998: Ratification of the UPOV Convention
- Law n. 1096 of 25 November 1971 (and subsequent amendments): Marketing and control of seed, implementing
 - Council Directive 2001/64/EC of 31 August 2001 amending Directive 66/401/EEC on the marketing of fodder plant seed and Directive 66/402/EEC on the marketing of cereal seed
 - Council Directive 2002/53/EC of 13 June 2002 on the common catalogue of varieties of agricultural plant species
 - Council Directive 2002/54/EC of 13 June 2002 on the marketing of beet seed
 - Council Directive 2002/55/EC of 13 June 2002 on the marketing of vegetable seed
 - Council Directive 2002/56/EC of 13 June 2002 on the marketing of seed potatoes
 - Council Directive 2002/57/EC of 13 June 2002 on the marketing of seed of oil and fibre plants,
And National Law n. 194 of 1 December 2015 (see Q1): modification of Art 19-bis, point 6 – allowing farmers to exchange and sell certain amounts of their seed on local markets within the Network of Biodiversity for Food and Agriculture)
- Legislative Decree n. 124/2010, implementing Council Directive 2008/90/EC of 29 September 2008 on the marketing of fruit plant propagating material and fruit plants intended for fruit production, and related Implementing Directives
- Legislative Decree n. 230 of 15 December 2017 implementing Regulation EU n. 1143/2014 on the prevention and management of the introduction and spread of invasive alien species
- Organic Seeds: EU Regulation n. 2018/848
- Legislative Decree 2 February 2021, n. 16: Rule for the production and commercialization and production of grape multiplication materials
- Legislative Decree 2 February 2021, n. 18: Rule for the production and commercialization and production of fruit vegetables multiplication materials
- Calabria region in 2010 adopted “Strategia Regionale per la Biodiversità” among which there are actions acting at preserving agrobiodiversity.
- In Campania region
 - Regional regulation n.6 of 3 July 2012 for the implementation of art.33 of Regional Law n.1/2007 published on BURC n.42 of 9.07.2012
 - DGR n.260 of 15.05.2017 (BURC n.41 of 22.05.2017) gives rules on the list of farmers engaged in safeguard of genetic resources for food and agriculture.
- In Sicily region
 - Regional Law “Tutela e valorizzazione delle risorse genetiche "Born in Sicily" per l'agricoltura e l'alimentazione” (L.R. n. 19 del 18/11/2013)
 - PSR 2007/2017 and PSR 2014/2020 specifically on conservation of PGRFA.
- In Lazio region
 - Resolution 26 September 2017, n. 585
 - Amendments to Giunta regionale resolution 30 January 2001 n. 146 concerning "Modalità per la tenuta del registro volontario regionale delle risorse genetiche autoctone vegetali ed animali e per l'iscrizione in esso, ai sensi della legge regionale 1 marzo 2000, n. 15".
 - Resolution of Consiglio Regionale 8 August 2018, n. 14
 - “Piano settoriale di intervento per la tutela delle risorse genetiche autoctone di interesse agrario (L.R. 15/2000)”. Triennium 2018-2020
 - Resolution 20 November 2018, n. 688
 - Regional Law 1 March 2000, n. 15. “Piano settoriale di intervento per la tutela delle risorse genetiche autoctone di interesse agrario”. Triennium 2018 - 2020. Operational Programme first and second annuality.
 - Decree of President of Lazio Region 29 May 2017, n. T00090

- In 2010 Calabria region adopted the document “Strategia Regionale per la Biodiversità” for safeguarding agrobiodiversity.
 - Furthermore, on 25 maggio 2014 the Regional Law n. 14 named “Tutela, conservazione, valorizzazione della diversità del patrimonio di varietà, razze e ceppi microbici di interesse agrario e alimentare del territorio calabrese”
- Trento Province adopted
 - the Provincial Law 11/2007 “Governo del territorio forestale e montano, dei corsi d'acqua e delle aree Protette”,
 - L.P. 4/2003, “Sostegno dell'economia agricola, disciplina dell'agricoltura biologica e della contrassegnazione di prodotti geneticamente non modificati” to avoid genetic erosion of PGRFAa gene Bank was set up a IASMA in San Michele all'Adige.
- In Veneto Regional Law n. 40/2003 and since 2012, actions have been conducted within the Rural Development Programme (PSR) dedicated to biodiversity and, in particular, to the establishment of the regional network for biodiversity of agricultural and food interest in Veneto.
- In Umbria region
 - DGR n. 796 of 10/07/2017 on “L.R. n. 12/2015 – Capo IV “Tutela delle risorse genetiche autoctone di interesse agrario”. “Piano delle attività per la tutela e lo sviluppo della biodiversità di interesse agrario della Regione Umbria”, 2014/2020 and “Disposizioni per la gestione del registro regionale per la tutela del patrimonio genetico e della rete di conservazione e sicurezza.” in agreement with articles 68 e 69 of L.R. n. 12/2015.
 - DGR 605 of 26/06/2024 on: L.R. n. 12 of 09/04/2015 “Tutela delle risorse genetiche autoctone di interesse agrario”. Plan of activities for the protection and development of biodiversity of agricultural interest in the Umbria region - 2024/2027.
- In Valle D'Aosta region:
 - Region Law 21 may 2007, n. 8 “Disposizioni per l'adempimento degli obblighi della Regione autonoma Valle d'Aosta derivanti dall'appartenenza dell'Italia alle Comunità europee”. Implementation of Directives 79/409/CEE, on the conservation of wild birds, 92/43/CEE, on the conservation of natural habitats and of wild fauna and flora. Community Law 2007;
 - Regional Law 7 december 2009, n. 45 “Disposizioni per la tutela e la conservazione della flora alpina. Abrogazione della legge regionale 31 marzo 1977, n. 17”;
 - Regional Law 30 july 1991 n. 30 “Norme per l'istituzione di aree naturali protette”.

3. Is there any law, regulation, procedure or policy in place in your country that needs to be adjusted / harmonized to ensure conformity with the obligations as provided in the Treaty?

Yes X

No

If your answer is 'yes', please provide details of such adjustments and any plans to make those adjustments:

The Law on the safeguard of Biodiversity for Food and Agriculture (Law n. 194 of 1 December 2015) in Article 3.5 states that the GRFA or any part thereof subject to the Law may not be incorporated in any new product which is going to be protected by anykind of Intellectual Property. This is in clear contrast to Treaty Art. 11.2 and Art. 13.2. Therefore, this part of the Law will need to be adjusted accordingly.

In Campania region implementation are expected by the PSR Sottomisura 10.2 TIP 10.2.1 “*Conservazione delle risorse genetiche autoctone a tutela della biodiversità – Risorse Genetiche vegetali*”.

In Basilicata region the Regional Law n. 40/2003 needs to be revised and implemented.

¹ For the purpose of this report, a Contracting Party may choose whichever term (adjusted or harmonized) is appropriate in relation to their legal systems

Article 5: Conservation, Exploration, Collection, Characterisation, Evaluation and Documentation of Plant Genetic Resources for Food and Agriculture

4. Has an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA) been promoted in your country?

Yes **X**

No

- The RGV-FAO Program (see Q1) aims at the identification, collection, conservation, utilization and documentation of PGRFA, especially of those which are of national origin. Collected accessions are included in the *ex situ* collections of the participating research institutions and subsequently characterized agro-morphologically, genetically and from a biochemical point of view, with the aim of promoting their sustainable utilization, through cultivation at local level or through their inclusion in breeding programmes for different purposes.

Small farmers are specifically recognized under the Project and part of the activities are dedicated to informal seed systems and local products.

Involved partners operate on the whole national territory, representing 29 crop-specific research institutions operating under the framework of 9 Research Centers of the Council for Research in Agriculture and Economics (CREA), further 5 institutions of the National Research Council (CNR) as well as the Non-Governmental Organization “Rete Semi Rurali” which represents 33 partners.

The Project does not only focus on those crops which are currently included in Annex I of the Treaty, but relates to all crop species considered of economic and strategic importance for Italy. Species covered are cereals, vegetables, fruit species (including citrus, olive and grape), forage crops, industrial plants, medicinal and aromatic plants, forest and ornamental species.

- At regional level, laws are in place to ensure the safeguard of local/regional varieties, their reintroduction into cultivation and their conservation both *ex situ* and on farm.
- Several other stakeholders are also involved in PGRFA collection, conservation and characterization, often in the framework of academic/national/international projects.
- At regional level Puglia promoted through the “sottomisura 10.1.4” of Regione Puglia that is aimed at supporting the maintenance and reintroduction into the territory of varieties, cultivars, clones and populations naturally adapted to local and regional conditions and threatened by genetic erosion, in order to reduce the risk of extinction and protect regional agricultural biodiversity
- Campania Region promoted an integrated approach for the exploration and conservation of PGRFA autochthonous at risk of extinction within four projects -SALVE ed AGRIGENET, ABC e DICOVALE with the constitution of 5 local gene banks.
- Sicilia Region funded several initiatives aimed at safeguarding regional PGRFA: “Valorizzazione dei vitigni autoctoni”, “Risorse Genetiche Vegetali – Sicilia”, “Caratterizzazione e conservazione del germoplasma di mandorlo siciliano”, “Proteine vegetali”, “Frutticoltura Etnea”.
- In the frame of Operazione 10.2.01, Lombardia Region has funded projects (e.g. “CORE-SAVE, Costituzione di una rete regionale per la salvaguardia del germoplasma vegetale tradizionale Lombardo”, “OLIMPO, Caratterizzazione del germoplasma OLIVicolo tradizionale e conservazione *ex situ* in caMpi catalogo nel territorio dell’Oltrepò pavese”, and others) aiming to support *in situ* and/or *ex situ* conservation activities of native plant and animal breeds of agricultural interest.
- Basilicata Region with his “Agenzia Lucana di Sviluppo ed Innovazione in Agricoltura” has collected plant genetic resource for food and agriculture that are conserved in the local repository

in ALSIA at Rotonda (PZ) and a backup at IBBR CNR in Bari.

- Bolzano Province collected and conserved PGRFA at Centro di Sperimentazione Laimburg (Bz).
- Umbria Region institutes a society 3A – Parco Tecnologico Agroalimentare dell’Umbria soc. consortile a.r.l.to deal with agrobiodiversity.
- Veneto Region adopted the Programma BIONET – CSR 2023 – 2027 - Intervento SRA 16 – “Conservazione agrobiodiversità - banche del germoplasma” and intervento SRG 07 – “Cooperazione per lo sviluppo rurale, locale e smart villages Ambito Cooperazione per la Sostenibilità ambientale - Biodiversità agraria” among which it collects, maintain, characterize, record and use PGRFA.
- Lazio Region according to L.R. n. 15/2000:
 - The survey and characterization of PGRFA
 - *In situ* conservation in “Rete di Conservazione e Sicurezza”
- Calabria Region according to L.R. n. 14/2014:
 - Art 7 institution of regional *ex situ* conservation of the regional germoplasm of plant and animals
 - Art 10 take measures for the commercialization of PGRFA material.

5. Have PGRFA been surveyed and inventoried in your country?

Yes X

No

If your answer is 'yes', please provide details of your findings, specifying species, sub-species and/or varieties, including those that are of potential use:

- Inventorying PGRFA present *ex situ* in Italy is one of the priority work areas of the RGV-FAO Program. A web page has been set up serving as the national entry point to PGRFA and related documents and activities (<http://planta-res.politicheagricole.it>).

The PGRFA inventory which is available on this website does not only include the accessions managed in the context of the project, but is open to all collections. It currently includes the 29 collections held by the RGV-FAO Program Partners, and 12 collections managed under other administrations (7 universities, 2 regional, 1 private and 2 local). The database currently provides passport information on 49.018 accessions belonging to 241 genera and 863 species. This National Inventory is periodically shared, at international level, with the European Catalogue EURISCO and with WIEWS of FAO, as part of the ongoing updating of the implementation of the Global Plan of Action on PGRFA.

- However, in Italy there are still many more collections held, with different objectives and priorities and by different other stakeholders, and the long term aim is to identify, invite and include these in the National Inventory.
- Furthermore, *in situ* and on farm inventories of PGRFA were compiled in 2014 in the framework of the EU funded Project PGRSecure (see Q 13) and are available at <http://vnr.unipg.it/PGRSecure/html/project.html>. These inventories list 2.365 landraces belonging to 329 species and 2.093 taxa of CWR. Both inventories comprise cereals, vegetables, legumes, fruit and fodder crops.
- In Campania Region the results (morphological, genetical nutritional characterization) of the SALVE et AGRIGENET were inventoried through the database available on the portal www.genidellacampania.it. Recently, two more projects ABC and DICOVALE were also approved with the aim to continue these activities in particular the database.
- Sicilia Region approved the regional inventory through the Decreto Assessoriale n. 18/2011, published in Suppl. ord. n. 1 Gazzetta Ufficiale of Sicilia Region (p. I) n. 11 of 11-3-2011 (n. 9) available at <http://www.gurs.regione.sicilia.it/Gazzette/g11-11o1/g11-11o1.pdf> with action related to aprico, plum, peach, cherry, almond, Citrus pistachio, carob, mulberry, pomegranate and other minor fruit crops. Inventory of these accessions are available at <https://www.vivaioipaulsen.it/fruttiferi/>.
- Lazio Region has released the “Registro Volontario Regionale” with 223 accessions available at <http://www.arsial.it/arsial/biodiversita/registro-volontario-regionale/>.
- The Trento Province has set up several initiative aimed at inventorying accessions of local interest (corn, Barley, Bean, Potato, Broccoli, Lettuce, Plum, Apple, Pear, Cherry, Grape, Walnut, Chestnut).
- Bolzano Province with the Laimburg Experimental Centre in the last two decades has promoted several projects (about 40) with the aim to collect, characterize and inventory and record PGRFA.
- Toscana Region reports all PGRFA, surveyed, chracterize and inventoried at the following url: <https://www.regione.toscana.it/-/consultazione-delle-banche-dati>.
- Puglia Region, the Mediterranean Germplasm Database (MGD) is the primary database for the agro-food plant germplasm collection stored at the CNR-IBBR in Bari, Italy. It was established around fifteen years ago and the complete catalog of conserved accessions is currently available online at the following URL: <https://www.ibbr.cnr.it/mgd/>. Passport data for over 59000 accessions are freely available, along with maps of collection sites for more than 12000 records and approximately 1500 accession images.

6. Has any threat to PGRFA in your country been identified ?

Yes X

No

If your answer is 'yes', please indicate:

The species, subspecies and/or varieties subject to such threats; The sources (causes) of these threats;

Any steps taken to minimise or eliminate these threats;

Any difficulties encountered in implementing such steps.

Crops:

- Many activities of recovery of PGRFA are targeted at those PGRFA (mainly local varieties of cereals, vegetables and fruit species) which are at risk of extinction or genetic erosion due to abandonment and/or underutilization. These PGRFA have been transferred to *ex situ* collections maintained by the different actors involved in PGRFA management at national level, with the aim

not only of safeguarding the genetic material, but also of promoting the reintroduction of these varieties into cultivation. This is especially true for vegetable varieties (for example tomato, onion, lettuce, pumpkin) rediscovered and reintroduced to local markets in the course of the RGV-FAO Program.

- A list of Red List species of Italy was published in 2013 by the Ministry of Environment, Land and Sea (available, in Italian language, at the following link: <http://www.iucn.it/liste-rosse-italiane.php>). Of the 297 vascular plants listed in this “Red List of Italian Flora”, 59% are CWR present in Italy, according to the work conducted in the context of the PGR Secure Project (see Q 5).

Sources of threats:

- Main environmental threats to species have been identified in habitat fragmentation, uncontrolled urbanization and infrastructure development. From an agricultural point of view, intensive plant and animal production systems, mainly done with few elite genotypes, are reported to pose risks to plant genetic diversity. Problems are also related to the uncontrolled exploitation of wild populations (especially aromatic and medicinal plants).
- Among pests and diseases threatening PGRFA, the bacterium *Xylella fastidiosa* is a serious problem to both old local and cultivated olive trees, while the red palm weevil (*Rhynchophorus ferrugineus*) attacks different species of palms all over the country.
- Concerning field collections, several biotic stresses can cause threats to the conserved accessions, such as the Mediterranean fruit fly (*Ceratitis capitata*) attacking several fruits, the fungus *Taphrina deformans* (causing leaf curl in peach and almond), the fire blight bacterium (*Erwinia amylovora*) threatening pome fruits, the PSA bacterium destroying *Actinidia* plantings, the Plum pox virus (PPV) in stonefruits, Ca. Phytoplasma *vitis* in grapevine, or the Citrus Tristeza virus and, Huanglongbing (greening disease) in citrus and, more recently, the Brown Marmorated Stink Bug (or cimice asiatica, *Halyomorpha halys*) poses several problems to different fruit crops.
- Seed collections can be exposed to the risk of low germination rate or viability of samples .

Measures to minimize threats:

- Concerning PGRFA, on farm conservation is being promoted, to be carried out by farmers which have been selected for this purpose (“Caring Cultivators”), mainly under regional laws.
- In *ex situ* collections,
 - phytosanitary controls need to be carried out both before introduction of the accessions into the collections as well as during the whole year. Timely sanitation/multiplication actions can be necessary all year around.
 - an assessment of duplications of accessions among the different collections present at national level will be needed in order to elaborate a program for the sustainable conservation of material; this might also include the allocation of specific funding for genebank operations targeted at specific regeneration and maintenance activities.

In situ conservation of PGR including CWR currently falls to a large extent under the management activities of Protected Areas, as prescribed in the Technical Report annexed to the Law on Implementation of the Treaty.

Most of the Italian regions have undertaken actions aiming at minimizing the risks of genetic erosion promoting *ex situ* conservation in regional genebanks and on farm conservation.

7. Has the collection of PGRFA and relevant associated information on those plant genetic resources that are under threat or are of potential use been promoted in your country?

Yes **X**

No

If your answer is 'no', please indicate:

Any difficulties encountered in surveying or inventorying PGRFA; Any action plans to survey and inventory PGRFA;

The most important PGRFA that should be surveyed and inventoried:

See Q. 5

- The collection of PGRFA at risk has been an important workstream of the RGV-FAO Program over the last 20 years. Several hundreds of accessions have been collected, accompanied by associated information given by local people, where possible.
- Also at regional level, PGRFA which are under threat are being identified and collected, under the single regional administrative frameworks. Accessions are conserved *ex situ*, and local farmers are identified which conserve them on farm as well, on behalf of the respective region.
- In addition, other stakeholders like Universities, Botanic Gardens etc have also collected PGRFA for different purposes.
- At regional level in Apulia, annually in May according to the International Day for Biological Diversity are planned activities planned to promote the PGRFA as well as their potential use.

8. Have farmers and local communities' efforts to manage and conserve PGRFA on-farm been promoted or supported in your country?

Yes **X**

No

If your answer is 'yes', please provide details of the measures taken:

The legal and operational background is given in Q1 and Q2.

- Both the national Law on Biodiversity for Food and Agriculture and the existing Regional Laws promote the involvement of farmers in on-farm conservation of landraces, farmer varieties and breeds. Farmers are chosen according to their experience in the management of the specific species and related farm management. They are registered in specific registers of maintainers ("Caring Farmers") and receive regular payment for their services.
- The National Plan on Biodiversity for Food and Agriculture (PNBA) provides a conceptual framework for a rural development which creates economic, social and cultural conditions in which farmers' families can continue to conduct their agricultural activities, while maintaining traditional knowledge, integrated into new contexts of conservation, utilization and commercialization.

In the framework of the national RGV-FAO Program, the Farmers' Association "Rete Semi Rurali" is conducting work on supporting and recognizing the role of seed networks and farmers' organization on sustainable use and conservation of PGRFA. In this way, it also contributes to the protection and re-creation of traditional knowledge and to the involvement of farmers and farmers' networks in policy decision-making. Recently, also approaches of participatory breeding have been introduced in the work program. In addition, farmers and other stakeholders are involved through the Italian Seed Network in specific activities.

Thanks to the RGV-FAO program, each year around 5.000 people participate in on farm trials and activities, including consumers and technicians.

- Also Italy's participation in the ECPGR "On Farm" Working Group and different EU funded Projects promote the work of local farmers and farmers' communities(see QQ 13, 36).
- In Campania Region within the PSR Misura 10 "Sostegno per la conservazione, l'uso e lo sviluppo sostenibili delle risorse genetiche in agricoltura" Sottomisura 10.1 and more recently with the sottomisura 10.2.1 (TIP 10.1.4 "Coltivazione e sviluppo sostenibile di varietà vegetali autoctone minacciate di erosione genetica") contributions are given to farmers that preserve genetic resources (900,00 €/ha for fruit crops; 600,00 €/ha for horticultural crops and corn; 558,00 €/ha per le pulse).
- The Sicilia Regional Law n. 19/2013 established the role of *gardian farmers* (Agricoltori custodi) and support them with the misure 214/2 Azione B del PSR 2007/2013.
- Lazio Region promotes and supports local farmers the Regional law L.R. n. 15/2000 (fruit crops 700 €/ha; horticultural crops 500 €/ha; Cereal and other arable crops 250 €/ha)
- Calabria Region promotes and supports the "Agricoltori Custodi" (Caring Farmers) with the art. 8 law n. 14 del 25 May 2018 and following laws and regulations.
- Marche Region within the PSR 2014-2020 sottomisura 10.1 and 10.2 gives contributions to farmers and farmer organizations and local communities.
- Puglia Region contributions are given to farmers that preserve PGRFA on farm within the PSR 2007/2013 Misura 214 – Azione 4 Sub azione a) "progetti integrati per la Biodiversità", the PSR 2014-2020 Misura 10 - Sottomisura 10.2.1 Trascinamento Mis. 214 P.S.R. Puglia 2007-2013 "Progetti Integrati per la Biodiversità" and the PSR 2014/2022 – Misura 10 "Pagamenti Agro Climatico Ambientali", Sottomisura 10.2 – "Sostegno per la conservazione, l'uso e lo sviluppo sostenibili delle risorse genetiche in agricoltura", Operazione 10.2.1 – "Progetti per la conservazione e valorizzazione delle risorse genetiche in agricoltura".

9. Has *in situ* conservation of wild crop relatives and wild plants for food production been promoted in your country?

Yes **X**

No

If your answer is 'yes', please indicate whether any measures have been taken to:

X *Promote in situ conservation in protected areas;*

Support the efforts of indigenous and local communities.

If such measures have been taken, please provide details of the measures taken:

The "Second Italian Country Report to the FAO on the State of the World's Plant Genetic Resources for Food and Agriculture", reports on a survey on the flora growing in the 156 most significant Protected Areas in Italy, carried out in 2008. This assessment revealed the presence of about 4,000 different taxa belonging to 953 genera. In this context and based on the European CWR Checklist elaborated in the course of the EU financed project "European Crop Wild Relative Diversity Assessment and Conservation Forum" (PGR Forum), the presence of 3,267 taxa of CWR belonging to 620 genera in Italian Protected Areas was revealed. The list of species is available at <http://www.fao.org/3/i1500e/Italy.pdf>.

Italy was involved in the project "Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets" and IBBR was the national coordinator. The main objectives were:

- Identification and prioritization of CWR species of socio-economic importance for conservation;
- Collection and verification of *in situ* occurrence data for prioritized taxa;
- Collaborate with relevant institutions to facilitate access to CWR material and promote conservation action;
- Establish a framework for population monitoring and inclusion of key data in EURISCO.

However, apart from inventorying, so far no specific coordinated measures targeted at *in situ* conservation of CWR have been put in place at national level.

The Trento Province within the areas of Natura 2000 WCR has been promoted for food consumption and as genetic resource.

10. Are there any *ex situ* collections of PGRFA in your country?

Yes **X**

No

If your answer is 'yes', please provide information on the holder and content of such collections:

As indicated in Q5, several *ex situ* collections of PGRFA are co-existing in Italy, held by different stakeholders and for different purposes. Their exact number is unknown, as it is difficult to access information on these.

Nearly all national research centers and institutions have their own thematic collections according to the priorities of their research. Also most University faculties maintain PGRFA collections which are often well developed.

Many Regions have established collections of local germplasm found on their territory, often integrating these accessions in already existing *ex situ* collections managed by one or more of the above-mentioned facilities. Furthermore, many Botanic Gardens, Agricultural Schools as well as locally established germplasm collections are existing.

- At a national level the two main institutions that maintain, characterized and inventoried PGRFA *ex situ* are CREA and CNR.
 - CREA hold its collections in the 28 research structures belonging to 10 of its Centers. The activities are mainly under the frame of RGV FAO program, even if the financial resources made available within this program are not sufficient. A survey of the activities of CREA research Centers within RGV FAO was recently published in a research journal that can be accessed at this url: <https://www.mdpi.com/2073-4395/14/6/1263> (Vaccino et al 2024). Here is a summary by crop groups of the 40.555 accessions maintained at CREA centers:

Crop group	N. of accessions
Cereal crops	17,006
Fruit crops (including nuts, berries, citrus, olive and grape)	11,719
Vegetable crops	521
Forage crops	7,643
Industrial crops (including grain legumes)	1,950

Medicinal and aromatic plants	9
Ornamental crops	974
Forest and woody crops	733
TOTAL	40,555

- At the genebank IBBR CNR in Bari they maintain, characterize and inventoried 59187 accessions from 868 species:

Accessions	N.
N. Accessions	59.187
N. Specie	868
N. Genera	203
N. Families	37

- In Puglia Region, apart from IBBR-CNR in Bari, for example there are several collections of agricultural crop germplasms of different species (grapevine, olive, citrus, stone fruits, pome fruits, minor fruits, etc.). They are conserved in field collections of the Research Center “Basile Caramia (CRSFA)” in Locorotondo (Bari, Italy) and in the Department of Soil, Plant and Food Sciences (DISSPA – Vegetal Pathology section), of the University of Bari. Mainly the material has been conserved and sanitary and genetically characterized during the rescue activities of biodiversity projects of PSR Puglia 2007-2013 and 2014-2020 (i.e. Regevip, Regefrup, Regerop projects). More information are available at the link: <http://www.fruttiantichipuglia.it/>
- In Campania Region initiatives are undergoing within PSR Sottomisura 10.2.1 del PSR Campania 2014-2020, approvato con DRD n.223 del 11.07.2018 -BURC n.48 del 16 luglio 2018; In 2023 it has been approved the “Complemento per lo sviluppo rurale del Piano strategico PAC 2023-2027 della Regione Campania (versione 1.0) with the l’ACA 16 (Conservazione agrobiodiversità- Banche del germoplasma). A regional diffused genebank has been set up:
- PGRFA of tree fruit crops (n. 258) preserved in:
 - CRAA -Azienda Agricola Sperimentale Regionale “Improsta” - Salerno
 - CREA OFA –Centro di Ricerca per la Frutticoltura e Agrumicoltura- sede di Caserta
 - UNINA- Dipartimento di Agraria - Portici

Moreover, Reproduction materials of erbaceous autoctonous (n. 84) are preserved at:

 - CREA - Centro di ricerca per l’Orticoltura e il Florovivaismo (CREA -OF) sede di Salerno
 - ARCA 2010 - in Acerra (Napoli)
 - Information available at :
http://www.agricoltura.regione.campania.it/PSR_2014_2020/M1021.html
http://www.agricoltura.regione.campania.it/PSR_2014_2020/1021/ABC.html
http://www.agricoltura.regione.campania.it/PSR_2014_2020/1021/DICOVALE.html
http://www.agricoltura.regione.campania.it/CSR_2023-2027/CSR-23-27.html
- In Sicilia Region there are several *ex situ* collections:
 - Università degli Studi di Palermo (Agrumi, Nespolo, Pesco, Albicocco, Susino, Olivo, Vite)
 - Università degli Studi di Catania (Agrumi, Melo, Pero, fruttiferi vari)
 - CNR, IGV (Vite, olivo, fruttiferi vari)
 - CREA OFA (Agrumi, Olivo, fruttiferi vari)
 - Regional Conservation Centres for pome fruit and minor fruit crops in Vendicari (SR) e Ficuzza (PA), with facilities for *in vivo* e *in vitro* conservation.
- In Lazio Region there are 5 *ex situ* collections:

- Arisial farm in Montopoli in Sabina, 550 accessions among pome fruit, stone fruit, grape, olive.
- ARSIAL farm in Cerveteri collection of artichoke.
- ARSIAL farm in Alvito (159 accession among fruit trees and orticuoltural crops)
- In Gene bank Arisial in Rome are preserved seeds at -20°C.
- CREA OFA Centro di Ricerca per la Frutticoltura e Agrumicoltura- sede di Caserta (Fruits about 5000 accession *in vivo*)
- In the Trento Province the Museum MUSE has a Gene Bank preserving seeds of local interest both wild (300 species) and cultivated (100 species). Eighty specie among them are endemic and at risk of extinction.
- In Lombardia Region, CREA-ZA holds a collection of over 7,000 accessions belonging to more than 60 forage and feed grain legume species. In the same region, the University of Pavia hosts a Bank of Plant Germplasm with a special focus on threatened species, both wild and cultivated. The Bank is part of the AEGIS system, the Planta-Res inventory, and is registered in the VIEWS FAO system.
- Toscana Region has set up its own genebank with several locations (http://germoplasma.regione.toscana.it/index.php?option=com_content&view=article&id=12&Itemid=127)
- Basilicata Region realized its own genebank at ALSIA – F. Sassone di Rotonda.
- In 2021 the Veneto Region set up its own genebak in Lonigo (VI) (Cereals and vegetable crops).
- Umbria Region has its own *ex situ* genbanks located in several locations:
 - 3A-PTA (in vitro collection),
 - University of Perugia at San’Andrea Pagliano (cereals, Vegetable and forage crops),
 - ARPA genebank Collezione Polvese (vegetable crops)
 - Fruit tree collections (*in vivo*),
 - Casalina di Deruta (PG), Fondazione per l’Istruzione Agraria (Fruit Tree);
 - Pantalla di Todi (PG), 3A-PTA (Fruit tree).
 - Lugnano in Teverina (TR), Comunanza Agraria (Olive tree)
 - Scuola Agraria "Ciuffelli" di Todi (Olive and Grape)
- Bolzano Province has its own *ex situ* genebanks:
 - Apple *ex situ in vivo* at Experimental Center in Laimburg
 - Cereal and Vegetable crops both in Laimburg and in Land Tirolo genebank

Main *Vitis ex situ* collections:

- Piemonte: CNR (ITA360)
- Trentino: Fondazione Edmund Mach (ITA362)
- Veneto: CREA-VE (ITA388)
- Toscana: Università di Pisa (ITA419)
- Puglia: CREA-VE (ITA422)

Undoubtedly, all these collections hold a very high number of accessions, but related problems concern the unknown state of duplications, health state of accessions, as well as related duplication of maintenance efforts. In most case genetic characterization is done without coordination, using different procedures and tools that would avoid any comparison aimed at knowing redundancies among and within collections, synonymies, homonymies, labelling errors. A more concerted action in the management of these collections and resources is definitely needed, bringing together the different financing institutions (Ministry of Agriculture, Ministry of Research, Regions,) and developing a rational and effective conservation system at national level.

11. Has the development of an efficient and sustainable system of *ex situ* conservation of PGRFA been promoted in your country?

Yes ☒

No ☐

*If your answer is 'yes', please indicate the measures taken to promote *ex situ* conservation, in particular any measures to promote the development and transfer of technologies for this purpose:*

As indicated above, many collections are co-existing, under different administrations and with different objectives and different levels of financial resources. Duplications are not monitored and gap analysis has not been carried out at national level.

An effort was made in 2001 to assess all *ex situ* collections of PGRFA held by the Experimental Institutes for Agriculture working under the Ministry of Agriculture (now CREA). This work laid the conceptual base for the development of the RGV-FAO Program.

A similar assessment was made in 2003 to collect information on all fruit genetic resources present in Italian collections. This survey included 18 entities (CREA, CNR, Universities, regional collections, private/commercial sector collections).

So far, an important systematic follow-up has been undertaken by the establishment of a National Fruit Tree Germplasm Collection, located at the premises of the Experimental Institute for Fruit Trees (now CREA - Research Centre for Olive, Fruit and Citrus Crops - CREA OFA - Rome). This collection currently holds about 5.000 accessions of old and modern varieties of more than 20 species of temperate and subtropical fruits, both of national and foreign origin. It is foreseen that this collection will host the most 12.000 strategically important fruit accessions of national and global interest.

The CREA OFA - Rende also hosted the World Olive Germplasm Bank (WOGC-CREA OFA) which accounts 562 Italian accessions e 54 foreign accessions, from 11 different countries.

It is desirable that a similar approach of rationalization of collections will be pursued also for other crop groups.

A more recent update of the CREA collections, including all crops, can be found in a recent paper published in the journal Agronomy (<https://www.mdpi.com/2073-4395/14/6/1263>). See Q10 for details.

As underlined in Q10 the Italian system for *ex situ* conservation is highly fragmented with little or absent coordination among the subjects involved preventing an efficient management of *ex situ* PGRFA at nation level. A central coordination is highly needed with a clear definition of roles and scopes of each subject.

12. Has the maintenance of the viability, degree of variation, and the genetic integrity of *ex situ* collections of PGRFA been monitored in your country?

Yes ☒

No

If your answer is 'yes', please provide details of the main conclusions of these monitoring activities:

Collection holders are careful not to lose any material. Material at risk is timely being reproduced. However, lack of sufficient stable financial resources is more and more hindering continuation in these activities and some public collections are at risk of being reduced or even abandoned.

In the IBBR genebank accessions are regenerated when viability falls below a predefined threshold. Viability is monitored by testing the germination capacity of seed lots at specific intervals. The germination tests are carried out in a cooled incubator in accordance with the ISTA guidelines (2003) and the FAO genebank standards for Plant Genetic Resources for Food and Agriculture.

As already stated the major drawback of the Italian system is the lack or little coordination among the subject involved. The degree of variation and the genetic integrity of the *ex situ* collections is better done with the genetic characterization with molecular markers. Many *ex situ* collections have been characterized or are in the way of characterization. Unfortunately, in many cases characterization is not done in a coordinated way (ie using the same set of markers) preventing whole comparison.

13. Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation, exploration, collection, characterization, evaluation or documentation of PGRFA?

Yes **X**

No

If your answer is 'yes', please indicate the other Contracting Parties with whom the cooperation was undertaken (where additional to cooperation through the Governing Body or other Treaty mechanisms) and, where possible, details of any relevant projects:

- In the context of the International Treaty, Italy has promoted the conservation, exploration collection, characterization, evaluation or documentation of PGRFA through contributions to the Benefit Sharing Fund in the years 2008-2023, (see Q.35).
 - In 2019 and in 2023 Italian delegation within the ITPGRFA frame has visited Guatemala (2019) and Zimbabwe (2023) to evaluate the efforts within the BSF in those countries and provide assistance in their efforts in conservation, characterization and sustainable use of PGRFA.
- Italy is Member Country in the European Collaborative Program on Crop Genetic Resources (ECPGR) and is represented by experts in nearly all thematic and cross-cutting Working Groups. Therefore, Italian experts collaborate with experts and colleagues from the European Region on a wide range of issues, contributing to the long-term conservation of crop genetic resources in Europe on a cooperative basis, and facilitating their increased utilization.
- In the context of ECPGR, Italy is member to AEGIS, “A European Integrated Genebank System”, an initiative aiming to implementing at regional level the ITPGRFA by efficiently conserving and providing access to material under the sMTA to unique germplasm in Europe, through the establishment of a European Collection. So far, 8605 accessions have been included in AEGIS.
- Through its annual payments to ECPGR, Italy has contributed to the realization of a total of 31 Grant Scheme Activities carried out since 2014, enabling also the participation of Italian experts in 15 of these (see list of projects in Q35).
- Also within the context of ECPGR, Italy shares information on PGRFA thus providing facilitated access to accessions conserved *ex situ*, through the European Catalogue, EURISCO.
- Italian partners are also involved in the new ECPGR “EVA” initiative (European Evaluation Network), which aims specifically at bringing together public and private entities in research and breeding of new crop varieties able to cope with future challenges at European level. The Initiative started with cereals and vegetables but is laid down to cover all crops for PGRFA purposes.
- In the context of Research Projects funded by the European Commission under different research frameworks, a wide range of stakeholders from Italy (representing the public and the private sector, research, academia, farmers associations) were or are partners in a number of Projects aimed at the conservation, exploration, collection, characterization, evaluation and documentation of PGRFA, such as (list not exhaustive):
 - G2P-SOL (2017-2019) “*Linking genetic resources, genomes and phenotypes of Solanaceous crops*”

- Farmers' Pride (2017-2019): *"Conservation actions to safeguard the wealth of Europe's in situ plant genetic resources and integration of the user community to maximize sustainable use of these in situ PGR"*
- DYNAVERSITY: (2017-2019) *"Conserving diversity in situ in agriculture and in the food chain"*
- TomRES (2017-2020) *"A novel and integrated approach to increase multiple and combined stress tolerance in plants using tomato as a model"*
- TomGEM (2016-2019) *"Improving tomato yield and quality in the face of climate change"*
- DIVERSIFOOD (2015-2019) *"Embedding crop diversity and networking for local high quality food systems"*.
- TRADITOM (2015-2018) *"Traditional tomato varieties and cultural practices"*.
- WHEALBI (2014-2018): *"Wheat and Barley Legacy for Breeding Improvement"*
- PGRSEcure (2011-2014): *"Novel characterization of crop wild relative and landrace resources as a basis for improved crop breeding"*
- SOLIBAM (2010-2014): *"Strategies for organic and low-input breeding and management"*
- FRUITBREEDOMICS (2011-2015): *Integrated approach for increasing breeding efficiency in fruit tree crops.*
- MADOGEN (2020-2022): *Analisi genetico-molecolari finalizzate alla caratterizzazione di accessioni di melo (Malus domestica) nell'ambito delle attività previste dalla L.R. n.15/2000 "Tutela delle risorse genetiche autoctone di interesse agrario". PSR Lazio 2014-2020 – Tipologia Operazione 10.2.1*
- GenResIS – AEGRO (2007-2010): *"Genetic Reserve Information System"*
- GrapeGen06 (2007-2010): *"Management & Conservation of Grapevine Genetic Resources"* *"Leafy vegetables germplasm, stimulating use"* (2007-2010)
- AVEQ (2004-2007): *"Avena genetic resources for quality in human consumption"*
- EURALLIVEG (2007-2011)- *"Vegetative Allium, Europe's Core Collection, Safe and Sound"*
- HiDRAS (2003-2007): *"High Quality Disease Resistant Apples for a sustainable Agriculture"*
- PGRForum (2003-2005): *"European Crop Wild Relative Diversity Assessment and Conservation Forum"*
- INNOBREED (2023-2026): *"Innovative Organic fruit Breeding and uses"*
- PRO-GRACE (2023-2025): *"Promoting a Plant Genetic Resource Community for Europe"*
- Agent (2020-2025): *"Global Access to Plant Genetic Resources"*
- Pulse Increase (2020-2026) – *Intelligent Collections of Food Legumes Genetic Resources for European Agrofood Systems*
- RECOBAR (2023-2026): *"Recovering and Exploiting Old and New Barley Diversity for Future-Ready Agriculture"*
- Still at European regional level, Italy is Partner in several bilateral European Neighbourhood Policy And Enlargement Programmes "Twinning" and "TAIEX", targeting at the establishment of National variety catalogues, variety registration and characterization, and strengthening of the seed sector, according to the relative regulations of the European Community.
Collaborations are currently ongoing with Serbia, Georgia and Kosovo.
- At global level, Italian experts are involved in the "Wheat Initiative" (Coordinating global research for wheat), established in 2011 following endorsement from the G20 Agriculture Ministries, which aims to encourage and support the development of a global public-private research community sharing resources, capabilities, data and ideas to improve wheat productivity, quality and sustainable production around the world.
At regional level several initiatives have been established:
- Lazio Region participated to the European project REVERSE (REgional exchanges and policy making for protecting and valorizing biodiVERSity in Europe) 2010-2012 whose aim was to improve the regional policies for conservation and sustainable use of agrobiodiversity.
- Umbria Region has activated collaborations with neighbor regions (Toscana, Emilia Romagna, Piemonte, Marche, Lazio) for common genetic resources.

- Toscana Region has activated collaborations with Umbria for the registration of Aglione and with Liguria for the registration of wheat Avanzi 3- Grano 23.
- Marche Region has activated collaboration with Umbria, Basilicata e Toscana for the genetic resources of common interest.
- Bolzano Province has activated collaboration with Bundesland Tirolo in Austria for the collection, conservation, characterization, documentation and valorization of their common genetic resources.
- Basilicata Region has activated collaboration with IBBR-CNR in Bari (Puglia) for the
- Valle D'Aosta Region has established agreements with:
 - Institut Agricole Régional with AGROSCOPE, Changins (CH) for the conservation di local populations of *Secale cereale*, *Triticum aestivum* and *Zea mays*;
 - Sortengarten Erschmatt (CH) for the characterization of local populations of *Secale cereale*;
 - Università Cattolica Sacro Cuore, Piacenza, for the characterization of ecotypes and local varieties of several species (*Zea mays*, *Vitis vinifera*, *Olea europaea*, ecc.)

Article 6: Sustainable Use of Plant Genetic Resources for Food and Agriculture

14. Are there any policy and legal measures² in place in your country that promote the sustainable use of PGRFA?

Yes X

No ☐

If your answer is 'yes', please indicate whether such policy and legal measures include:

X Pursuing fair agricultural policies that promote the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;

X Strengthening research that enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers;

X Promoting plant breeding efforts, with the participation of farmers, that strengthen the capacity to develop varieties particularly adapted to social, economic and ecological conditions, including in marginal areas;

X Broadening the genetic base of crops and increasing the range of genetic diversity available to farmers;

X Promoting the expanded use of local and locally adapted crops, varieties and underutilized species;

X Supporting the wider use of diversity of varieties and species in on-farm management, conservation and sustainable use of crops and creating strong links to plant breeding and agricultural development.

NO Reviewing and adjusting breeding strategies and regulations concerning variety release and seed distribution.

If such policy and legal measures are in place, please provide details of the measures taken and any difficulties encountered in implementing them:

- The Law on Biodiversity for Food and Agriculture (194/2015) promotes the development of agricultural policies and/or the implementation of existing measures to enhance biological diversity in agricultural production systems, raising awareness on the importance and roles of diversified agro-ecosystems and local foods.
- During the 20 years of the RGV-FAO Program,
 - Reintroduction into cultivation of local varieties was realized through recovery and genetic cleaning of local varieties, mainly vegetables. Examples are tomato, peppers, artichoke, potato in the Campania Region, tomato, potato and bean in the Marche Region, and radicchio, onion, pumpkin in Lombardia Region.
 - Partners are continuously carrying out research targeted at the identification of use of PGRFA in sustainable agricultural production. Main targets are reduction of irrigation (rice), phyto-pharmaceutical interventions (disease resistance in cereals, fruit species), adaptation and mitigation of the effects of climate change (forest species, fodder crops), requalification of landscapes (industrial species), as well as broadening the genetic base of cultivated species for sustainable agriculture (cereals, fruit species).
 - an activity on participatory breeding was initiated on cereals, based on reintroduction of local maize varieties held *ex situ* into the areas of origin, in collaboration with local farmers.
 - Many Italian regions within the PSR and the PAC 2023-2027 activated actions aiming at

promoting the sustainable use of PGRFA (ie ACA 16 -Conservazione agrobiodiversità- Banche del germoplasma; ACA 1, ACA 29)

² For the purpose of this report, legal measures may include regulations.

Article 7: National Commitments and International Cooperation

15. *Has the conservation, exploration, collection, characterization, evaluation, documentation and sustainable use of PGRFA been integrated into your country's programmes and policies?*

Yes ☒

No ☐

If your answer is 'yes', please provide details of the integration of such activities:

☒ Conservation

☒ Exploration

☒ Collection

☒ Characterization

☒ Evaluation

☒ Documentation

☒ Sustainable use

Please indicate into which type of programmes and policies:

☒ Agriculture and rural development

☒ Food security

☒ Biodiversity conservation

☒ Climate change

☐ Other

Additional

details:

16. *Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation and sustainable use of PGRFA?*

Yes ☒

No ☐

If your answer is 'yes', please indicate whether the aim of such cooperation is to:

☒ *Strengthen the capability of developing countries and countries with economies in transition with respect to conservation and sustainable use of PGRFA;*

X *Enhance international activities to promote conservation, evaluation, documentation, genetic enhancement, plant breeding, seed multiplication, and sharing, providing access to and exchanging PGRFA and appropriate information and technology, in conformity with the Multilateral System of Access and Benefit-Sharing under the Treaty.*

If, in addition to cooperation through the Governing Body or other Treaty mechanisms, your country has cooperated with other Contracting Parties directly or through FAO and other relevant international organizations, please indicate such other Contracting Parties and, where possible, details of any relevant projects:

See Q 13.

Article 8: Technical Assistance

- 17. Has your country promoted the provision of technical assistance to developing countries and countries with economies in transition, with the objective of facilitating the implementation of the Treaty?**

Yes **X**

No ☐

Not applicable ☐

If your answer is 'yes', please provide details of the measures taken:

X Exchange of information

X Access to and transfer of technology

X Capacity building

Please explain:

Within the funding contributions to the BFS activities targeted at Treaty implementation were financed (see Q36, and Q13); these activities comprised also technical assistance as identified in the course of the respective projects.

- 18. Has your country received technical assistance with the objective of facilitating the implementation of the Treaty?**

Yes ☐

No **X**

Not applicable ☐

If your answer is 'yes', please provide details of such technical assistance:

Exchange of information ☐

☐ Access to and transfer of technology ☐

Capacity building ☐

Please explain:

Article 9: Farmers' Rights

19. Subject to national law, as appropriate, have any measures been taken to protect and promote farmers' rights in your country?

Yes ☒

No ☐

If your answer is 'yes', please indicate whether such measures were related to:

☒ Recognition of the enormous contribution that local and indigenous communities and farmers of all regions of the world have made and will continue to make for the conservation and development of plant genetic resources;

☒ The protection of traditional knowledge relevant to PGRFA;

☒ The right to equitably participate in sharing benefits arising from the utilisation of PGRFA;

☒ The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA;

☒ Any rights that farmers have to save, use, exchange, and sell farm-saved seed / propagating material.

If such measures were taken, please provide details of the measures taken and any difficulties encountered in implementing them:

- Farmers and Farmers' Associations are explicitly recognized in the National Law on the safeguard of Biodiversity for Food and Agriculture. They are active part in the onfarm conservation processes initiated under regional laws. Also the preservation and active application of traditional knowledge on PGRFA is part of the law.
- In the context of the RGV-FAO Program, seed networks and farmers' organizations are recognized for their role in sustainable use and conservation of PGRFA.
- They are furthermore present in the national Table on PGRFA and Treaty implementation as well as in the Treaty's WGs on Farmers' Rights and on Sustainable use, and are therefore involved in policy decision-making both at national and international level.
- Campania Region promoted of laws and tools to protect and promote farmer rights such as art.33 della Legge Regionale n.1 del 19 gennaio 2007; Regolamento del 3 luglio 2012, n.6
- In Sicilia Region through the PSR 2007/2013 – Misura 214 Azione B.
- Calabria Region promotes farmer rights through art. 8-9-10-11 of regional law 14/2018
- Umbria Region promotes farmer rights through the regional law 12/2015

Article 11: Coverage of the Multilateral System

20. **Has your country notified all PGRFA listed in Annex I to the Treaty that are under the management and control of your Government and in the public domain as included in the Multilateral System of Access and Benefit-Sharing (MLS)?**

All ☐

Partially ☒

None ☐

If your answer is 'all', please provide details of any difficulties encountered in including Annex I PGRFA in the MLS:

If your answer is 'partially', please provide details of:

The extent to which Annex I PGRFA have been included in the MLS; The crops that have been included in the MLS; and

The difficulties encountered in including Annex I PGRFA in the MLS:

So far, only part of Annex I accessions 46.788 (16.943 from CREA and 29.845 from CNR) which are conserved *ex situ* in Italy have been notified to the Treaty, but efforts are ongoing to include them all in the MLS. Within the ECPGR Programme, Italy is further stimulating also the inclusion of non Annex I material in the MLS through AEGIS. So far, 10.946. accessions have been flagged through AEGIS (see Q. 13). Interested curators are also those of non- RGV-FAO partners

If your answer is 'none', please indicate the difficulties encountered in including Annex I PGRFA in the MLS:

☐ Lack of guidelines for the identification and inclusion of material; ☐ There is no national genebank;

☐ Lack of catalogue of PGRFA in the country; Lack of specialised human resources;

☐ Limited economic resources and the need for capacity building;

☐ Other, please explain

21. **Has your country taken measures to encourage natural and legal persons within your jurisdiction who hold Annex I PGRFA to include those resources in the MLS?**

Yes ☒

No

If your answer is 'yes', please provide details of:

- The natural or legal persons within your jurisdiction that included Annex I PGRFA in the MLS;
- The crops that have been included in the MLS by these persons; and
- Any difficulties these persons encountered in including Annex I PGRFA in the MLS:

Material has been included in the MLS by the Council for Research in Agriculture and Economics (CREA) and the National Research Council (CNR).

Also, some Universities and other public collections included some material. Information on the included material is available from PlantA-Res, EURISCO and WIEWS.

If your answer is 'no' please provide details, in particular details of any difficulties encountered in encouraging these persons to include Annex I PGRFA in the MLS:

Article 12: Facilitated access to plant genetic resources for food and agriculture within the Multilateral System

22. **Has your country taken measures to provide facilitated access to Annex I PGRFA, in accordance with the conditions set out in Article 12.4 of the Treaty?**

Yes ☒ X

No ☐

If your answer is 'yes', please provide details of such measures:

- Access to information on all materials included in the databases of PlantA-Res, EURISCO and WIEWS is facilitated: passport data of these accessions are searchable in these inventories, as well as contact details of the collection holders. The sMTA for exchange of material has been made available on the website of PlantA-Res (http://planta-res.politicheagricole.it/docs_pdf/SMTA_english.pdf), to promote its use in the exchange of material.

If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex I PGRFA:

23. **Has facilitated access been provided in your country to Annex I PGRFA using the Standard Material Transfer Agreement (SMTA)?**

Yes ☒ X

No ☐

If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex I PGRFA using the SMTA:

24. **Has the SMTA been used voluntarily in your country to provide access to non-Annex I PGRFA?**

Yes **X**

No

No, but the issue is under consideration ☐

25. **Does the legal system of your country provide an opportunity for parties to the material transfer agreements (MTAs) to seek recourse in case of contractual disputes arising under such agreements?**

Yes ☐

No ☐

If your answer is 'yes', please provide details of the relevant laws, regulations or procedures:

26. **Does the legal system of your country provide for the enforcement of arbitral decisions related to disputes arising under the SMTA?**

Yes ☐

No ☐

If your answer is 'yes', please provide details of the relevant laws, regulations or procedures:

27. **Have there been any emergency disaster situations in respect of which your country has provided facilitated access to Annex I PGRFA for the purpose of contributing to the re-establishment of agricultural systems?**

Yes

No **X**

If your answer is 'yes', please provide details of such emergency disaster situations and the Annex IPGRFA to which access was provided:

Article 13: Benefit-sharing in the Multilateral System

28. **Has your country made any information available regarding Annex I PGRFA?**

Yes ☒

No

If your answer is 'yes', please provide details of any information made available regarding Annex I PGRFA:

☒ Catalogues and inventories

☐ Information on technologies

☒ Results of scientific and socio-economic research, including characterization, evaluation and utilization

☐ Other

- The National Inventory on PGRFA, available from the PlantA-Res website shares passport data on all 16.943 Annex 1 accessions which are currently notified to be available under the SMTA.
- This information is also available in the European Search Catalogue EURISCO, as well as in WIEWS. Specific information concerning characterization and evaluation on this material is being made available upon request to the relative collection managers whose contact details are available from the PlantA-Res website. (see Q. 5)
- In addition to the above-mentioned National Inventory, further 29.845 accessions (*Triticum* and *Hordeum*) are made available by the National Research Council. Information on the availability of this material is contained in the relative notification published on the Treaty website.
- Campania Region made available this information at the following url: www.genidellacampania.it

29. **Has your country provided or facilitated access to technologies for the conservation, characterisation, evaluation and use of Annex I PGRFA?**

Yes ☒

No

☐

If your answer is 'yes', please indicate whether your country:

☒ Has established or participated in crop-based thematic groups on utilization of PGRFA;

☒ Is aware of any partnerships in your country in research and development and in commercial joint ventures relating to the material received through the MLS, human resource development and effective access to research facilities.

Please provide details:

- Italian experts chair different crop-specific and/or cross-sectorial Working Groups

operating under ECPGR. Work carried out by these groups is also based on the use of technologies as defined and chosen for specific purposes.

- In the context of the G2B-SOL Project (see Q13), technologies are shared with a wide range of countries (Treaty members and non-members) for the molecular and phenological characterization of Solanaceae accessions, and the sharing of this information through a dedicated web tool (<http://www.g2p-sol.eu/G2P-SOL-gateway.html>)

30. Has your country provided for and/or benefitted from capacity building measures in respect of Annex I PGRFA?³

Yes ☒

No ☐

If your answer is 'yes', please indicate whether such measures were related to:

☒ Establishing and/or strengthening programs for scientific and technical education and training in conservation and sustainable use of PGRFA;

☒ Developing and strengthening facilities for conservation and sustainable use of PGRFA;

☒ Carrying out scientific research and developing capacity for such research

If your country provided for and/or benefitted from such measures, please provide details:

Capacity building is/was part of the projects and activities listed under Q13.

³ Please note that this question differs from question 15 as it only concerns Annex I PGRFA and is more specific

Article 14: Global Plan of Action

31. Has your country promoted the implementation of the Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture?

Yes ☒

No ☐

If your answer is 'yes', please indicate whether the implementation of the plan was done through:

☒ National actions;

☒ International cooperation;

☐ Other actions Please provide details:

- Priority Areas II (*ex situ* conservation) and III (sustainable use) of the GPA are core elements of the national RGV-FAO Program and are therefore extensively implemented at national level.(see above). Since this project is not limited to Annex I crops, a wide range of PGRFA species including landraces and wild relatives benefit from the activities.
- Priority Area I of the GPA (*in situ* conservation) has not been systematically approached yet, but surveys on CWR including their threat assessment have been carried out, which lays the base for future elaboration of an *in situ* conservation strategy.
On farm management, on the other hand, is quite well implemented at national level, both through the RGV-FAO Program and within regional measures and action plans on the conservation of local PGRFA.
- Concerning Priority Area IV (Institutional and Human Capacities), these aspects are in part covered under different activities, for example through the work carried out within ECPGR and other collaborations.

Article 15: *Ex Situ* Collections of Plant Genetic Resources for Food and Agriculture held by the International Agricultural Research Centres of the Consultative Group on International Agricultural Research and other International Institutions

32. Has facilitated access to Annex I PGRFA been provided in your country to the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (IARCs) or other international institutions that have signed agreements with the Governing Body of the Treaty?

Yes ☒

No ☐

If your answer is 'yes', please indicate:

To which IARCs or other international institutions facilitated access was provided; The number of SMTAs entered into with each IARC or other international institution:

Access is facilitated to any interested stakeholder, through the websites of PlantA-Res, EURISCO

and WIEWS.

The IBBR genebank exchanges seeds with numerous research institutions that use SMTA to confirm access. In the more than 50-year history of the institute, numerous exchanges have taken place with IARC centres, in particular ICARDA and IITA. However, no SMTAs have been signed with these institutions in the last six years (2019-2024). As far as the other exchanges that took place via SMTAs:

2 SMTA CREA Italy; 3 SMTA Rete semi Rurali Italy; 1 SMTA Institute for Plant Genetic Resources "Malkov"- Bulgaria; 1 SMTA Cereal Cultivation Zurich- Switzerland; 1 SMTA UNIBA Italy; 1 SMTA Universidad de Cordoba Spain; 4 SMTA Uni Pisa Italy; 2 SMTA Uni Trieste Italy; 1 SMTA INCDA Fundulea Romania; 1 SMTA Università di Napoli l'orientale Italy; 5 SMTA CNR Italy; 1 SMTA Food Integrity Unit F.4 - JRC European Commission Geel; 1 SMTA Institut Polytechnique UniLaSalle France; 1 SMTA UNISS Italy; 2 Centre for Genetic Resources - Netherlands; 1 SMTA Stockholm University Sweden; 1 SMTA University of Rennes France; 1 SMTA Department of Biotechnology, Institute of Vegetables and Flowers - Chinese Academy of Agricultural Sciences (CAAS) China; 1 SMTA Department of Plant Biology - Swedish University of Agricultural Sciences Sweden. In addition, agreements have been in place since 2023 for the transfer of material to the Global Seed Vault in Svalbard with the transfer of an important part of the genus *Triticum*.

CREA-GB has exchanged PGRFA (*Hordeum* ssp, *Triticum* ssp) with the International Center for Agricultural Research in the Dry Areas (ICARDA).

If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex I PGRFA to IARCs and other international institutions that have signed agreements with the Governing Body of the Treaty:

33. Has access to non-Annex I PGRFA been provided in your country to IARCs or other international institutions that have signed agreements with the Governing Body of the Treaty?

Yes ☒

No ☐

If your answer is 'yes', please indicate:

To which IARCs or other international institutions access was provided;

The number of MTAs entered into with each IARC or other international institution:

Non-Annex I material has been included in the MLS through AEGIS and is available from the EURISCO website.

All available information is made available to any interested stakeholder, including the IARCs.

Information about sMTAs exchanged with the IARCs are known to the Secretariat of the Treaty.

The IBBR gene bank is in exchange with numerous research institutions that use SMTA to confirm access. In the more than 50-year history of the institute, numerous exchanges have taken place with IARC centres, in particular ICARDA and IITA. However, no SMTAs have been signed with these institutions in the last six years (2019-2024). As far as the other exchanges that took place via SMTAs are concerned

1 SMTA Food Integrity Unit F.4 - JRC European Commission Geel; 1 SMTA CNR Italy; 1 SMTA; 1 SMTA CREA Italy; 1 SMTA Chinese Academy of Agricultural Sciences China.

If your answer is 'no', please provide details of any difficulties encountered in providing access to non-Annex I PGRFA to IARCs and other international institutions that have signed agreements with the Governing Body of the Treaty:

Article 16: International Plant Genetic Resources Networks

34. Has your country undertaken any activities to encourage government, private, non-governmental, research, breeding and other institutions to participate in the international plant genetic resources networks?

Yes ☒

No ☐

If your answer is 'yes', please provide details of such activities:

National stakeholders of different characters have been (in part successfully) invited to participate in ECPGR and AEGIS related activities, as well as to join the National Inventory published on the PlantA-Res website.

Article 18: Financial Resources

35. Has your country provided financial resources for national activities for the conservation and sustainable use of PGRFA?

Yes ☒

No ☐

If your answer is 'yes', please provide the estimated amount of funds provided during the last five years, including government resources:

The Technical Report to the Law on the implementation of the Treaty identifies three actors who receive funds for the development and implementation of activities targeting at the conservation and sustainable use:

- The Ministry of Agriculture, Food Sovereignty and Forest (MASAF) has funded since 2004 a long-lasting Program, the RGV-FAO, with the aim of implementing the International Treaty in Italy, in particular art 5, to promote the collection, conservation, characterization, record and sustainable use of PGRFA. The Program supports 2 research institutions, CREA and CNR, and an Association Rete Semi Rurali. Between 2004 and 2024, the MASAF has supported RGV-FAO Program with 22.066.792,03€. Target activities are mainly related to *ex situ* conservation and associated operations, as explained above (Q5).
- The 20 Regions are called to promote the conservation and sustainable use of PGRFA at local level, with financial resources being provided through the European Agricultural Fund for Rural Development, set up by European Union Council Regulation (EC) No 1290/2005 of 21 June 2005 on the financing of the Common Agricultural Policy (CAP). In this context, for the 2014-2024 period, the 20 Italian Regions received around 80 million € for the implementation of Measure 10.2 (“conservation and sustainable use of PGRFA”). Related activities are mainly targeted at the recovery of autochthonous and local varieties, their characterization, documentation and conservation, as well as maintenance of regional networks of local farmers conserving those varieties on farm (QQ 6 and 8).
 - Calabria Region provided a financial resources for *ex situ* collections for an amount of 240.000 euros per year.
 - Basilicata Region funded resources for *ex situ* conservation for 50.000 euros per year.
 - Marche Region funded resources for PGRFA for 250.000 euros per year.
 - Toscana Region on average funded 350.000 euros per year for PGRFA.
 - Umbria Region on average funded 300.000 euros per year for PGRFA.

- Sicilia Region funded several projects aimed at the conservation and sustainable use of PGRFA such as:
 - Progetto Recupero e valorizzazione dei vitigni autoctoni € 2.000.000
 - Progetto Risorse Genetiche Vegetali – Sicilia € 1.000.000
 - Progetto Mandogerm € 100.000
 - Progetto Olivo € 500.000
 - Progetto Frutticoltura Etna € 500.000
 - Progetto Grani Antichi € 500.000
- The Ministry of Environment receives about 100.000 € per year for measures targeted at *in situ* conservation of CWR in Protected Areas.

Please indicate if your country has developed a strategy or other measures to enhance the availability, transparency, efficiency and effectiveness of the provision of financial resources to implement the International Treaty:

36. Has your country provided financial resources for the implementation of the International Treaty?

Yes ☒ X

No ☐

If your answer is 'yes', where possible, please provide details of such channels and the amount of the financial resources involved during the last 5 years:

- Italy is one of the major contributors to the International Treaty at global level, having so far contributed with more than 13.000.000 US\$, divided as follows:
 - Core Administrative Budget
 - Fund to support the Participation of Developing Countries
 - Fund for Agreed Purposes between the Treaty Secretariat and Contracting Parties
 - Benefit Sharing Fund with more than 10 million US\$US\$).
- ECPGR – WG activities and Grant Scheme Projects. These Projects are short term activities (12-24 months), funded during the years by a maximum of 15.000 € each (extra contribution excluded):
 - COCHEVA Bras - *Collection, Characterization and Evaluation of wild and cultivated Brassicas* (2015-2016)
 - EURISCO Training Workshop (2015, 2016, 2017)
 - ECoHisPy - *Building and promoting a European Pyrus collection - a case study* (2015-2016)
 - PRUNDOC - *Identification of a representative set of Prunus domestica accessions of European origin, well documented and characterized, to be included into the AEGIS system* (2015-2016)
 - TRAIID - *Triticum in AEGIS: Identification and Documentation* (2015-2016)
 - EU.CHERRY - *Collaborative action for updating, documenting and communicating the cherry patrimonial richness in EU* (2016-2017)
 - Barley C&E Data - *Integration of barley characterization and evaluation into EURISCO, and development of specifications for a barley crop portal, with a focus to improve the AEGIS collection* (2016-2017)
 - SMARTLEG - *Efficient management of resources for smart legumes Utilization* (2016-2017)
 - Grape On Farm - *On-farm inventory of minor grape varieties in the European Vitis Database* - (2017-2018)
 - TRISECA - *Identification and updating data of eligible AEGIS accessions in both wheat and rye species (TRITicum and SEcale in Aegis = TRISECA)* (2017-2018)
 - LINKAGES - *Assessing linkages between genebanks and direct users* (2017-2018)

- Pomefruit C&E - *Common ECPGR protocols and tools available for Characterization & Evaluation of Malus/Pyrus genetic resources*
- BETA NET - *Improving a cooperation network between actors involved in conservation and utilization of Beta genetic resources* (2018-2019)
- Prunus Alignment - *Testing, Use and Alignment of genetic data to distinguish unique and characterized accessions in Prunus* (2018-2019)
- Training in Triticum Species (TTS) – *Training on Identification of Botanical Varieties in Triticum Species* (2018-2019).
- "AEG-VIT-IS: *Enhancing quality and quantity of Vitis genetic resources in AEGIS* (2020-2021)"
- FRUITREEFDATA: *Improvement of Fruit Tree Data Inclusion in EURISCO* (2023-2025)
- SYLVESTRIS: *Increasing the efficiency of conservation of Vitis sylvestris genetic resources in Europe* (2023-2024)

Total amount: Channel:

Bilateral	X	Regional	X
Multilateral	X		

Please provide details:

37. Has your country received financial resources for the implementation of the International Treaty?

Yes

☐

No

X

If your answer is 'yes', where possible, please provide details of such channels and the amount of the financial resources involved during the last 5 years:

Total amount:

Channel:

Bilateral

☐

Regional

☐

Multilateral

☐

Please provide details:

General remarks on the implementation of the ITPGRFA

38. You may use this box to share any advice you may have arising from your country's experience

with implementation of the Treaty:

39. You may use this box to share any additional information that may be useful to provide a broader perspective of difficulties in implementation of the Treaty:

40. You may use this box to share any additional information that may be useful to provide a broader perspective of measures that could help to promote compliance:

[--- Question to be administered separately ---]About this reporting

41. Have you encountered any difficulties in completing this reporting format?

Yes X

No

If your answer is 'yes', please provide details on such difficulties:

Since the 20 Italian Regions and two Autonomous Provinces (Trento and Bolzano) play a central role in the area of PGRFA the coordination with them and the collection of information from them are quite difficult and time consuming.

If you have suggestions for improvement of this reporting format, please share them:

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