

Italy

Country profile



Key messages

- Italy has an Agrobiodiversity Index status score of 66.1 reflecting a moderate to high integration of agrobiodiversity into the food system.
- In consumption, food species and nutritional functional diversity are high, and supported by national food-based dietary guidelines and food composition tables, but stronger policies are needed to maintain and enhance food diversity in markets and diets.
- In production, agrobiodiversity could be better supported by increasing adoption of organic agriculture (currently at 16%), tree cover in agriculture (11%) and integrated plant nutrient management.
- In conservation, varietal and species diversity are well conserved in genebanks, but the diversity of wild useful plants are poorly represented in the *ex situ* collections
- There is potential for more diverse and stronger policies for integrating agrobiodiversity across the whole food system.

Pillar 1: Agrobiodiversity in consumption for healthy diets
Pillar 2: Agrobiodiversity in production for sustainable agriculture
Pillar 3: Agrobiodiversity in conservation for future use options

Score	41-60
0-20	61-80
21-40	81-100

All raw scores are scaled from 0 to 100. See Annex 2 for details.

SUB-INDICATOR (raw scores)	INDICATOR	PILLAR
Overall agrobiodiversity: 0 (0)	Commitments supporting agrobiodiversity: 0	Pillar 1 Consumption 0
Varietal/breed diversity: 0 (0)		
Species diversity: 0 (0)		
Functional diversity: 0 (0)		
Underutilized species: 0 (0)		
Overall agrobiodiversity: 100.0 (3)	Commitments supporting agrobiodiversity: 70.9	Pillar 2 Production 70.9
Varietal/breed diversity: 33.3 (1)		
Species diversity: 66.7 (2)		
Functional diversity: 66.7 (2)		
Underutilized species: 66.7 (2)		
Pollinator diversity: 66.7 (2)		
Soil biodiversity: 66.7 (2)		
Landscape complexity: 100.0 (3)	Commitments supporting agrobiodiversity: 86.7	Pillar 3 Conservation 86.7
Overall agrobiodiversity: 100.0 (3)		
Varietal/breed diversity: 100.0 (3)		
Species diversity: 66.7 (2)		
Functional diversity: 66.7 (2)		
Underutilized species: 100.0 (3)		

52.5
Commitment



PILLAR	INDICATOR	SUB-INDICATOR (raw scores)
Pillar 1 Consumption	Management practices supporting agrobiodiversity: 100.0	Published diet guidelines (Yes/No): 100.0 (1.0)
		Published food composition tables (Yes/No): 100.0 (1.0)
		Crop-livestock integration (% agricultural land with cropland and pasture): 83.1 (83.1)
Pillar 2 Production	Management practices supporting agrobiodiversity: 36.1	Diversity-based practices: 66.6
		Integrated landscape initiatives (count): 50.0 (3.0)
		Nitrogen use efficiency (kg N output per kg N input): 48.6 (0.5)
		(Inverted) Sustainable Nitrogen Management Index (Index 0 to infinity): 28.5 (56.8)
		Organic agriculture (%): 15.8 (15.8)
		Tree cover on agricultural land (%): 35.3 (10.6)
		(Avoided) pesticide use (kg per ha): 82.7 (5.9)
Conservation agriculture (%): 5.8 (5.8)		
Pillar 3 Conservation	Management practices supporting agrobiodiversity: 20.0	Indicators reported to the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture (%): 20.0 (20.0)

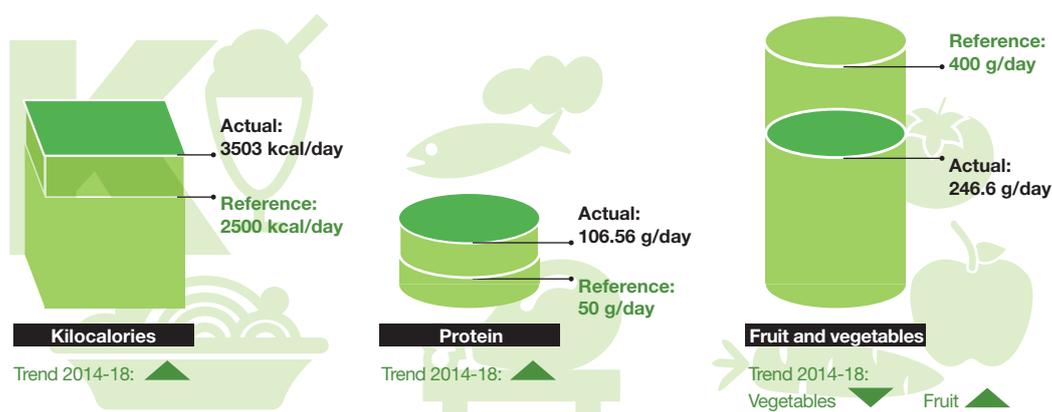
Context

Italy is a high-income country, with a mixed economy and a gross domestic product (GDP) of about 2 trillion US dollars in 2019.¹ Italy covers an area of 301,340 km² hosting a population of about 60 million people, about 70% of whom inhabit urban areas.^{2,3} Its population density is 205 people per km².⁴ In 2019, nearly 8% of Italy's population was living below the poverty line.⁵ No data were recorded regarding its multidimensional poverty index.⁶ Italy ranked 6.387 out of 10 on the national life evaluation, ranking 30 out of 153 countries in the United Nation's 2020 global happiness report, putting Italian's among the top quartile of the world's happiest people.⁷

Consumption for healthy diets

The Italian diet is typically Mediterranean, comprised of cereals, vegetables, fruit, fish, and olive oil. A traditional meal would ideally be a first course consisting of pasta or rice, a second course of meat, fish or eggs, a vegetable side dish, and a final dessert or piece of fruit. Sometimes the first and second courses are substituted by one sole dish rich in ingredients of various origins.⁸ The average Italian adult consumes above the recommended dietary calorie intake, over two times the recommended protein intake, and 62% of the recommended fruit and vegetables intake (400g/day). The average life expectancy of a healthy Italian is 83 years.⁹ In Italy, 3% of individuals were reported to be undernourished in 2019 and 8.4% are facing either moderate or severe food insecurity.^{10,11} Around 17% of women aged between 15 and 49 are anemic¹² and 5% of the population is diabetic.^{13,14} The prevalence of stunting and wasting among children under five is not reported.¹⁵

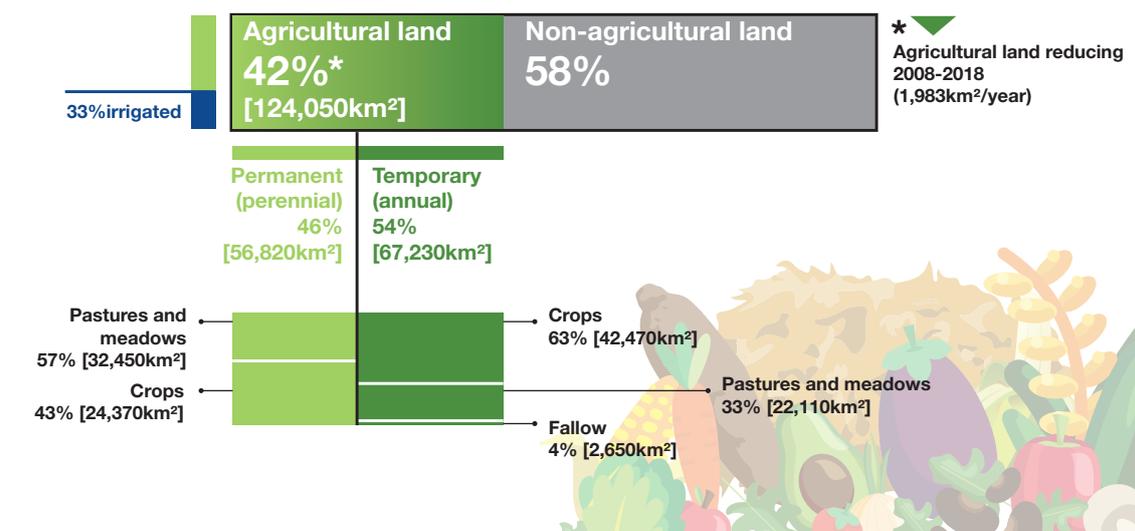
Figure 1: Kilocalorie, protein, fruit and vegetable supply



Production for sustainable agriculture

Approximately 42% (124,050 km²) of Italy's total land area is dedicated to agriculture, of which 46% is used for perennial crops or permanent pasture (Figure 2). Italy has the third highest number of people employed in agriculture in Europe after Poland and Romania, with above a million employees in the sector.¹⁶ About half of agricultural land (67,230 km²) is used for arable crops, the most important being cereals, dried legumes, industrial crops and vegetables. Permanent crops, mainly vineyards, olive trees and fruit trees, occupy a further 24,370 km² (8.3%). In 2018, the total marine capture production was 205,731 tonnes.¹⁷ As for livestock, eggs, milk and meat (pig) are the main products, with an annual production of 36.6 million tonnes.¹⁸ Italy has one of the highest mean annual soil loss rates in Europe at 74 tonnes per hectare per year.¹⁹ This can be explained by high rainfall erosivity and steep slopes.²⁰

Figure 2: Land used for agriculture



Conservation for future use options

Italy is highly diverse in terms of genetic diversity. It is part of Vavilov’s Mediterranean center of origin of cultivated plants²¹ and hosts half of the known European plant families.²² At least 29 food crops originate from southwestern Europe, including several that remain mainstays of Italian diets such as figs and olives (Figure 3). Up to 20% of its plants are native to the country.²³ About 21% of its land is dedicated to the protection of biodiversity,²⁴ however plants are under threat, with nearly 45% of plants falling under ‘critical’ conservation status.^{25,1} From 2001 to 2019, Italy lost 3,590 km² (3.8%) of tree cover, mainly due to wildfire, urbanization, shifting agriculture and forestry.²⁶ In Italy, plant diversity is threatened by human activities like infrastructural development, intensive farming, recreational activities, introduction of alien species and poor management of forestry and agriculture.²⁷ Only 9.7% of the marine area (52,463 km²) falls under marine protected areas.²⁸ At the national level, over 75% of fish stocks are overexploited or have collapsed.²⁹

Figure 3: Crops originating from southwestern Europe



Agrobiodiversity Index score

Italy has an Agrobiodiversity Index status score of 66.1.

Status: What's driving the Agrobiodiversity Index score?

For Italy, we see that scores are highest in consumption (84.4), followed by conservation (68), and production (45.9). This indicates that agrobiodiversity is relatively effectively used in consumption for healthy diets and conserved for current and future use options, while there is potential for much better use of agrobiodiversity in production for sustainable agriculture. We can take a closer look at the indicator scores to understand what underlies the differences in status of agrobiodiversity across the pillars of Italy's food system.

Consumption

Species diversity in diets: Food species diversity is high in Italy relative to other countries in the world.

Functional diversity: Italy's functional diversity score of 89 reflects a low number of Disability Adjusted Life Years attributable to dietary risk factors, indicating diets are functionally diverse. We note however, that Italian diets have become increasingly high in sugar and animal fats since the 1960s,³⁰ which may contribute to the high obesity rate. Ranked as first in Europe, child obesity reaches up to 21% in Italy while nearly 46% of people aged 18 years and above are either overweight (35.5%) or obese (10.4%).³¹

Underutilized species: Over 60% of energy in Italian diets is obtained from sources other than cereals, roots and tubers, explaining the very high score for consumption of underutilized species. We note, however, that the increasing availability of high-energy foods has contributed to progressive rise in obesity rates in Italy.³⁰ Consumption of high-energy foods should be moderated, while consumption of foods such as nuts, legumes, and leafy vegetables could be increased, to maintain food system diversity and ensure a balanced diet.

There were no data available on varietal/breed diversity in consumption.

Production

Varietal/breed diversity: A relatively high diversity of livestock breeds is maintained in production in Italy. Diversity is a measure of both the number and relative proportion of different breeds. Keeping multiple breeds in production should help farmers maintain livelihoods in times of pest and disease outbreaks or other production challenges, because different breeds have different resistance to pests and diseases. While not included in the Agrobiodiversity Index due to lack of comparable data across Mediterranean countries, it is encouraging that Italy grows an estimated 2,365 landraces, principally of fruit trees (73%), grain legumes (12%) and vegetables (9%), with highest numbers recorded in Umbria (378), Calabria (288), Sicily (251), Basilicata (212), and Campania (203).³²

Species diversity: The diversity of different crop species, and the richness (number of unique species), in Italy's production systems are moderate to high, while the richness of fish species and diversity of livestock species are low or very low and could be increased. Actions to boost fish and livestock diversity in areas of the country where these are low would help ensure farmers in all regions rely on a wide species base, helping shield them against pests and diseases and other production challenges.

Soil biodiversity: Soil biodiversity is moderate and varies from place to place. Integrated plant nutrient management (e.g. through increased use of cover crops, application of mulch, and intercropping with legumes) would help maintain and restore soil health and be beneficial to production systems.

Landscape complexity: Only 25% of Italy's cropped landscapes have more than 10% natural vegetation at a 1x1 km scale, suggesting that cropland is not well integrated into the surrounding environment. Maintaining natural vegetation in and around cropland helps maintain habitat and

connectivity for animals such as birds and insects, which help agriculture thrive. Keeping natural vegetation reduces the risks of pest and disease outbreaks, pollinator declines impacting on crop yields, and loss of crop wild relatives reducing options for future food production. Retaining at least 10% natural habitat for biodiversity at local (1x1 km) and landscape (10x10 km) scales could be achieved on farm through using practices such as live fences (trees, hedgerows), woodlots, flower strips and set aside, and off farm by safeguarding portions of natural or semi-natural forests, wetlands and grasslands around cultivated areas.

There were no data available on functional diversity, underutilized species, or pollinator and natural enemies in production.

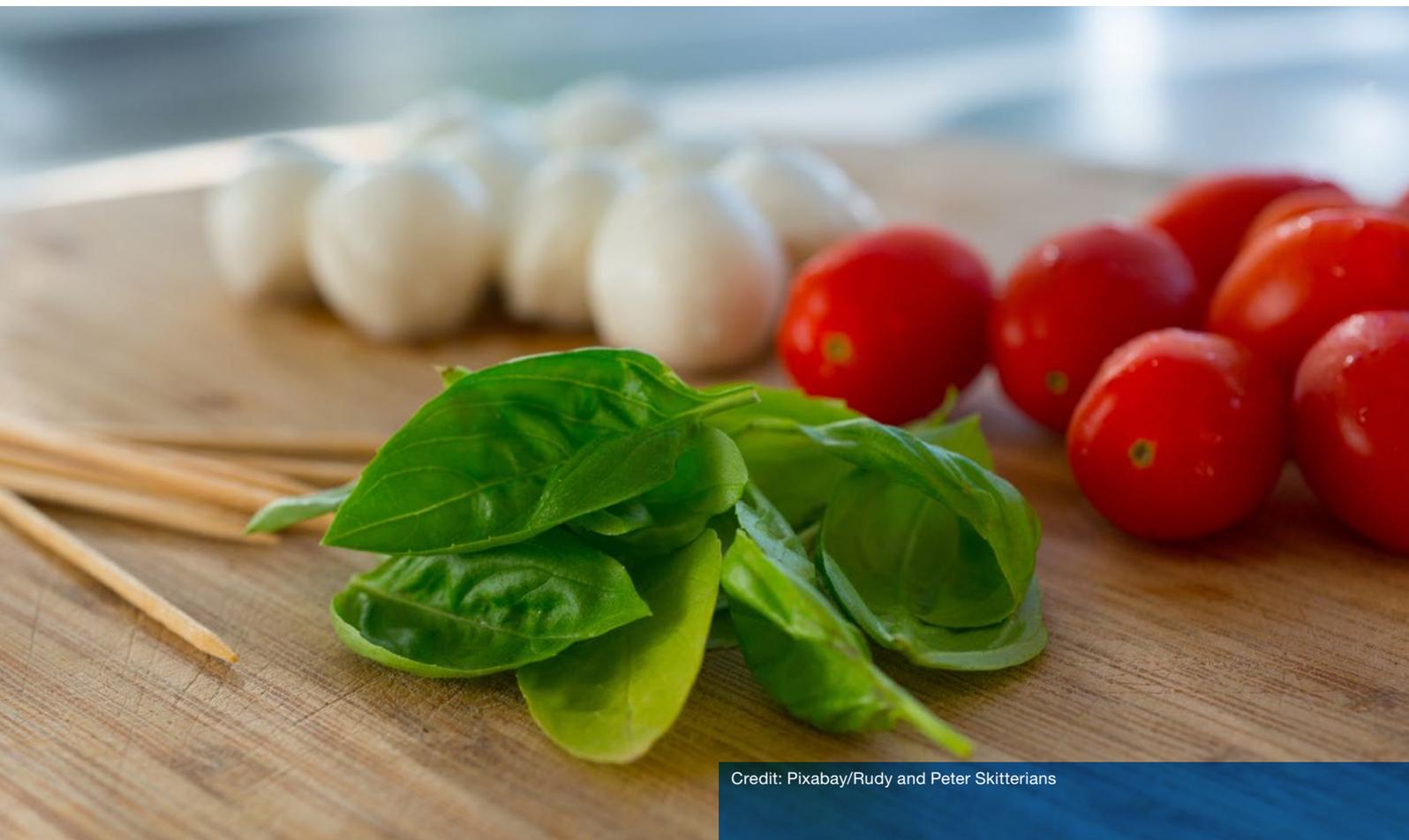
Conservation

Varietal diversity: Italy has a high score for varietal diversity in genebanks (87.9), relative to the globally best performing country (France), indicating that there is a high number of crop samples (accessions) of Italian origin conserved in genebanks.

Species diversity: The score for species diversity is also very high (74.4) reflecting that a high proportion of native plant species are conserved in genebanks and a high diversity of crop wild relative species have been identified growing in country relative to other countries in the world.

Underutilized species: Italy has a moderate score (41.6) for the diversity of underutilized species (measured as 'wild useful plants'). While 82% of known wild useful plants are conserved *in situ* (inside protected areas), their representativeness in *ex situ* repositories (genebanks and botanical gardens) is very low (1.5%).

Functional diversity: There were no data available for functional diversity in conservation.



Credit: Pixabay/Rudy and Peter Skitterians

Actions: What actions are being taken to maintain and increase agrobiodiversity?

Consumption: Actions to use agrobiodiversity in consumption are in place. Italy has published dietary guidelines and maintains food composition tables to support dietary diversity for healthy diets.

Production: Action scores are moderate (21.4) for agrobiodiversity use in production. The score for production reflects moderate adoption of diversity-based practices and low adoption of agrobiodiversity-supporting management practices.

- **Diversity-based practices:** Italy has a relatively homogeneous production system. An estimated 83% of its agricultural landscapes contain both cropland and pasture facilitating crop–livestock integration (at 10x10 km scale). It has at least four integrated landscape initiatives that actively promote agrobiodiversity.
- **Agrobiodiversity-supporting management practices:** Based on national statistics, conservation agriculture is practiced on 5.8% of agricultural land in Italy, while organic agriculture is practiced on 16% of agricultural land. Current data indicate nitrogen use efficiency countrywide could be improved and nitrogen management could be more sustainable. Overuse or improper use of chemical fertilizers has a strong negative impact on agrobiodiversity. Promotion of organic and conservation agriculture practices and integrated plant nutrient management could greatly reduce the use of fertilizers, improve their efficiency, or both, creating a more favorable environment for agrobiodiversity. Trees are integrated into only 11% of agricultural land. Increasing tree coverage would provide carbon sequestration services and help maintain tree, soil, and animal biodiversity in agricultural landscapes.

Conservation: Action scores are low for agrobiodiversity in conservation (20), reflecting a lack of reporting on 80% of indicators to the World Information and Early Warning System (WIEWS), the UN Food and Agriculture Organization's information system for countries to report on the conservation and use of plant genetic resources for food and agriculture. The indication that Italy is not adequately reporting to WIEWS may hinder its progress in implementing the international second Global Plan of Action for plant genetic resources for food and agriculture which promotes priority actions for reversing the erosion of genetic resources. This severely undermines global and national efforts to monitor genetic diversity in the food system. Italy has, however, actively supported the International Treaty on Plant Genetic Resources for Food and Agriculture through voluntary donations of over US\$10 million between 2005 and 2018.³³



Commitments: How supportive of agrobiodiversity are national policies?

Consumption: In the National Biodiversity Strategy and Action Plan, no commitments were found to leverage or support biodiversity for diets and nutrition. It is recommended that linkages between the biodiversity strategy and the national food and nutrition strategies be developed. This can on one hand further leverage the potential of biodiversity for food and nutrition, and on the other hand, mobilize consumer demand for agrobiodiversity conservation and management for sustainable production.

Production: Italy has a high score for commitments to agrobiodiversity in production (70.9). In 2008, Italy developed a national plan for agrobiodiversity “to coordinate the combination of initiatives and relations with national and international organisms involved in agricultural biodiversity”.³⁴ Many of Italy’s policies are exemplary of the types of strong commitments that are needed to create a supportive environment to mainstream agrobiodiversity in production for sustainable agriculture. Italy’s commitments include targets to better use agrobiodiversity in general and for greater landscape complexity specifically. For example, in relation to landscape complexity, Italy identified priority objectives to be achieved within ten years (2009–2019), which include “the preservation of the integrity and health of forest ecosystems, conservation of biodiversity and landscape diversity”.³⁴ Italy has strategies to enhance species diversity, functional diversity, crop wild relatives, soil biodiversity, and pollinator diversity in production, although varietal diversity is not yet explicitly incorporated into these strategies. Exemplar strategies include, in relation to functional diversity and overall agrobiodiversity, Italy’s National Program to Combat Drought and Desertification, which defines measures to combat desertification and requires “incentive measures for promoting the cultivation of species according to the function of the environment (climate, soil, topography) with maximum energy eco-efficiency and minimum chemical support; adoption of farming systems compatible with the environment; implementation of strategies to achieve truly sustainable agriculture”.³⁴

Conservation: Italy has a very high score for commitments to agrobiodiversity in conservation (86.7), including targets to conserve varietal diversity and underutilized species (measured as crop wild relatives and traditional crops) both where they naturally occur and in genebanks. Such targets include “Protecting some ancestral species of crops and livestock at risk of extinction or genetic pollution [by 2020]” and “defining and validating the knowledge and assessment methods for the genetic heritage of local varieties and breeds/livestock of limited animal population through genetic markers [by 2020]”.³⁴ There are also strategies to improve species and functional diversity in conservation. For the latter, this includes “we intend to contribute to preserving biodiversity through: preserving threatened species and communities, or those having medicinal, agricultural, forestry, etc. value”.³⁴



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Recommendations

This section suggests concrete actions that can be taken to improve the use and conservation of agrobiodiversity for more resilient and sustainable food systems (Table 1). The list of actions is by no means exhaustive or prescriptive. It is intended for review, discussion, and improvement by in-country policy specialists.

Table 1: Recommended actions to enhance agrobiodiversity in the national food system

Food system pillar in the Agrobiodiversity Index	Recommendations	Contributing to:	
		Risk and resilience	Global policy
Consumption for healthy diets	Make explicit policies and programs to promote healthy diets building on the rich food diversity available in Italy, with a specific focus on fruits, vegetables and whole grain diversity to combat obesity, overweight and anemia		SDG2 Zero Hunger and SDG12 Responsible Consumption and Production WHO Decade of nutrition – reducing overweight, obesity and anemia
Production for sustainable agriculture	Make explicit policies to integrate agricultural and natural lands, e.g. future agricultural expansion should ensure at least 10% natural vegetation is integrated into agricultural landscapes		Post-2020 CBD Goal 1 ⁱⁱ No Net Loss SDG 2 Zero Hunger
Conservation for future use options	Make explicit policies for both <i>in situ</i> and <i>ex situ</i> conservation of crop wild relatives and other useful wild plants, e.g. by 2030, ensure that crop wild relatives in Italy are conserved inside protected areas or formally protected and backed up in gene-banks or other repositories.		Post-2020 CBD Goal 3 Genetic Diversity Post-2020 CBD Goal 4 Nature’s Benefits SDG 15 Life on Land FAO second Global Plan of Action on Plant Genetic Resources for Food and Agriculture

Agrobiodiversity highlight

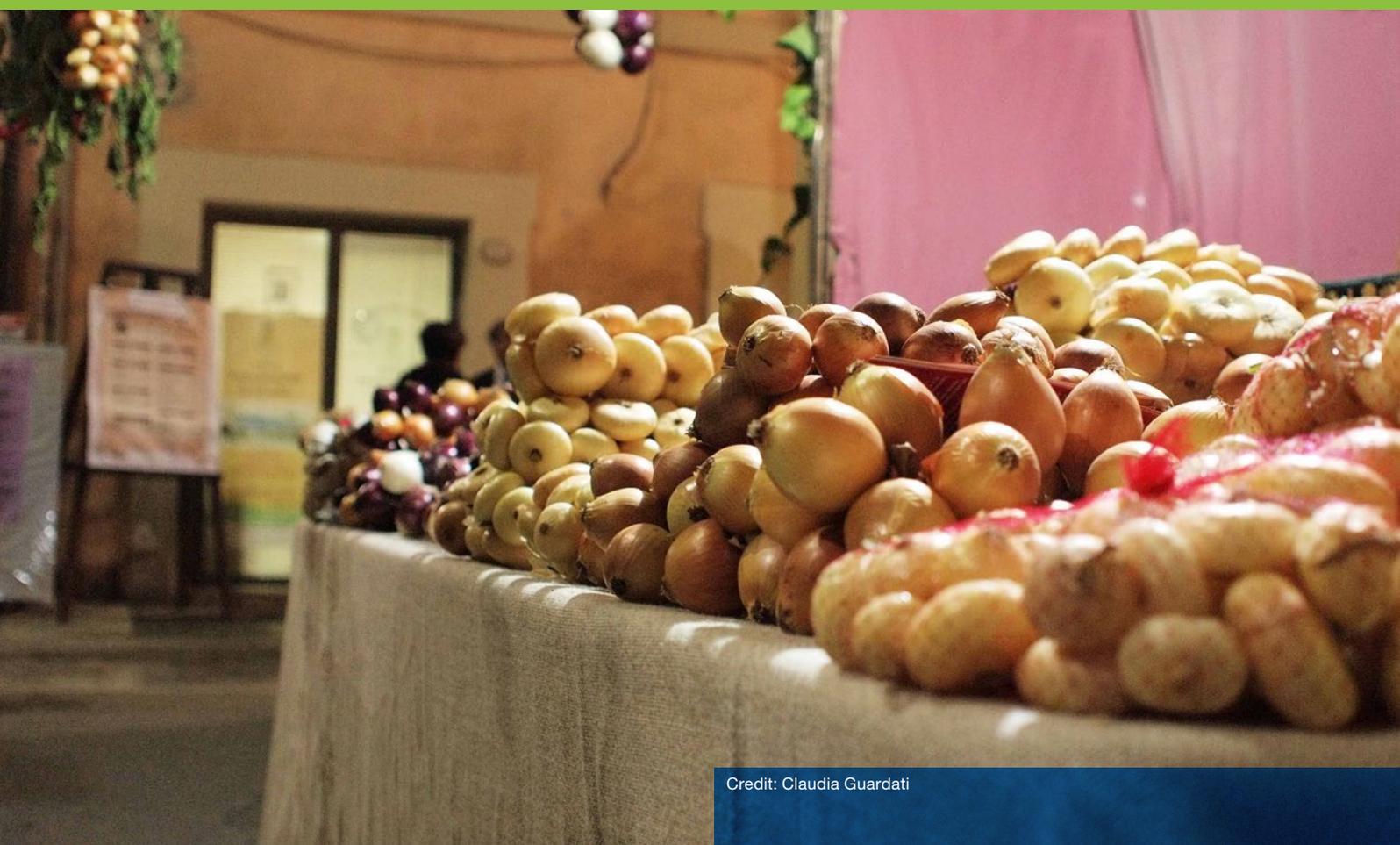
Italy's tradition of 'sagre' gastronomic festivals

Italy's history marked by provincial loyalties and cultural variety strongly influences its gastronomic traditions, leading to a rich and diverse culinary heritage. One expression of this heritage is the phenomenon of *sagre*. Originally dedicated to local saints (*sagra* is etymologically related to 'sacred'), they are now mainly secular gastronomic festivals celebrating local cuisine.

Throughout Italy every weekend, newspapers are full of ads for these local festivals, where you learn about (and taste) local dishes and seasonal products, part of the tradition of a region or town. *Sagre* contribute to agrobiodiversity by promoting local varieties, sometimes on the verge of extinction, for example cherry varieties of *ciliegia di Lari* and the local bovine breed of Calvana. Villages celebrate their own varieties of crops – for example lentil festivals (*sagra della lenticchia*) are held throughout Italy from North to South in Onano, Altamura, Foligno, Rascino and Clitunno – each vaunting the precious qualities of their lentil types and the dishes prepared from them.

Sagre also offer a way of connecting marginalized rural communities to urban economies, and at the same time transmitting traditional knowledge of local gastronomy and foods to younger generations and to people outside the area. In this way the *sagre* raise awareness about the individual foods, but also about the huge diversity available and contribute to the general knowledge of the population at large about Italian biocultural heritage.

Sources: ^{35,36}



Credit: Claudia Guardati

References

- World Bank. GDP (current US\$). (2020). Available at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>. (Accessed: 10th October 2020)
- World Bank. Land area (sq. km). (2020). Available at: <https://data.worldbank.org/indicator/AG.LND.TOTL.K2>. (Accessed: 10th October 2020)
- World Bank. Population, total. (2020). Available at: <https://data.worldbank.org/indicator/SP.POPTOTL>. (Accessed: 10th October 2020)
- World Bank. Population density (people per sq. km of land area). (2020). Available at: <https://data.worldbank.org/indicator/EN.POP.DNST>. (Accessed: 10th October 2020)
- Statista. Individual absolute poverty rate in Italy from 2008 to 2019. (2020). Available at: <https://www.statista.com/statistics/619975/individual-absolute-poverty-rate-italy/>. (Accessed: 14th September 2020)
- Alkire, S., Kanagaratnam, U. & Suppa, N. The Global Multidimensional Poverty Index (MPI) 2020. (2020).
- Helliwell, J. F. et al. Social environments for world happiness. World Happiness Report (2020).
- Durazzo, A. Nutritional composition and dietary intake of composite dishes traditionally consumed in Italy. *Journal of Food Composition and Analysis* 77, 115–124 (2019).
- World Bank. Life expectancy at birth, total (years). (2020). Available at: <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>. (Accessed: 10th October 2020)
- World Bank. Prevalence of undernourishment (% of population). (2020). Available at: <https://data.worldbank.org/indicator/SN.ITK.DEFC.ZS>. (Accessed: 10th October 2020)
- FAO, IFAD, UNICEF, WFP & WHO. The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. (2020).
- World Bank. Prevalence of anemia among women of reproductive age (% of women ages 15-49). (2020). Available at: <https://data.worldbank.org/indicator/SH.ANM.ALLW.ZS>. (Accessed: 10th October 2020)
- INS. Diabetes in Italy. Press Release, 24 July 2017. Available at: <https://www.istat.it/en/archive/202712> (Accessed 6 March 2022)
- World Bank. Diabetes prevalence (% of population ages 20 to 79). (2020). Available at: <https://data.worldbank.org/indicator/SH.STA.DIAB.ZS>. (Accessed: 10th October 2020)
- World Bank. Prevalence of stunting, height for age (% of children under 5). (2020). Available at: <https://data.worldbank.org/indicator/SH.STA.STNT.ZS>. (Accessed: 10th October 2020)
- World Bank. Prevalence of wasting, weight for height (% of children under 5). (2020). Available at: <https://data.worldbank.org/indicator/SH.STA.WAST.ZS>. (Accessed: 10th October 2020)
- World Bank. Employment in agriculture (% of total employment) (modeled ILO estimate) (2020). (2020). Available at: <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS>. (Accessed: 10th October 2020)
- FAO. FAO Yearbook. Fishery and Aquaculture Statistics 2018/FAO annuaire. Statistiques des pêches et de l'aquaculture 2018/FAO anuario. Estadísticas de pesca y acuicultura 2018. (2020).
- FAO. Annual livestock production (tonnes) (2018). (2020). Available at: <http://www.fao.org/faostat/en/#data/QV>.
- Soil threats in Europe: Status, methods, drivers and effects on ecosystem services. (2016). doi:doi:10.2788/488054 (print); doi:10.2788/828742 (online)
- Estrada Carmona, N., Harper, E. B., DeClerck, F. & Fremier, A. K. Quantifying model uncertainty to improve watershed-level ecosystem service quantification: a global sensitivity analysis of the RUSLE. *International Journal of Biodiversity Science, Ecosystem Services and Management* 13, 40–50 (2017).
- Vavilov, N. I. Five continents. (International Plant Genetics Resources Institute, Rome, 1997).
- Orsenigo, S. et al. Red list of threatened vascular plants in Italy. *Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology* (2020). doi:10.1080/11263504.2020.1739165
- Italian Ministry for the Environment Land and Sea. Italy's Fifth National Report to the CBD (2009-2013). (2013).
- World Bank. Terrestrial protected areas (% of total land area) - Italy. (2020). Available at: <https://data.worldbank.org/indicator/ER.LND.PTLD.ZS?view=map&locations=IT>. (Accessed: 14th September 2020)

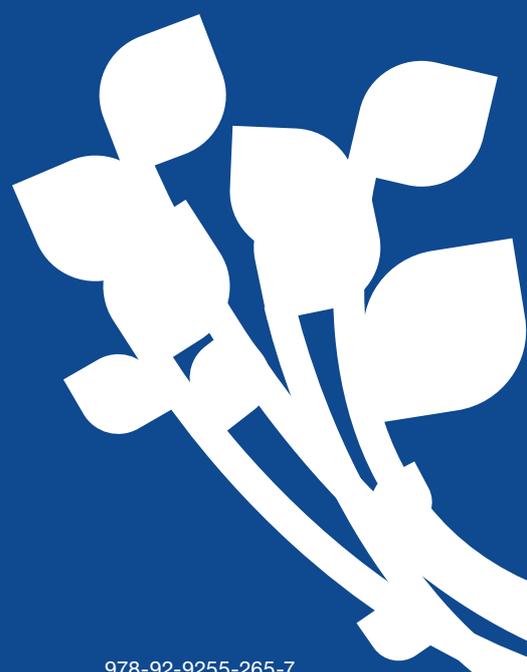
26. IUCN. What species are most threatened in Italy? (2020). Available at: <https://www.iucn.org/content/what-species-are-most-threatened-italy>. (Accessed: 14th September 2020)
27. Global Forest Watch. Tree cover loss from 2001 to 2019 (kha). (2020). Available at: <https://www.globalforestwatch.org/dashboards/global/>? (Accessed: 25th November 2020)
28. Orsenigo, S. et al. Red list of threatened vascular plants in Italy. *Plant Biosystems* (2020). doi:10.1080/11263504.2020.1739165
29. UNEP-WCMC. Protected Area Profiles from the World Database of Protected Areas. (2020). Available at: www.protectedplanet.net. (Accessed: 10th October 2020)
30. Barilla Foundation. Italy and Food - Nutritional challenges, agriculture, food loss and waste. (2019).
31. Schmidhuber, J. The EU Diet – Evolution, Evaluation and Impacts of the CAP. (2007).
32. Azzolini, E. & Ricciardi, W. Tackling the obesity challenge in Italy. *Eurohealth Systems and Policies* 25, (2019).
33. Italian Regions and Autonomous Provinces. The first Italian inventory of *in situ* maintained landraces. (2014).
34. Food and Agriculture Organization (FAO) of the United Nations. *FAO + Italy: Partnering for food security and prosperity*. (2019).
35. Ministero dell’Ambiente e della Tutela del Territorio e del Mare. *Italian National Biodiversity Strategy*. (2010).
36. Fontefrancesco, M. F. Il gusto delle sagre. *Cibo e comunità nel Piemontemeridionale*. *Narrare i gruppi* 12, 181–194 (2017).
37. Simoncini, R. Introducing territorial and historical contexts and critical thresholds in the analysis of conservation of agro-biodiversity by alternative food networks, in *Tuscany, Italy*. *Land Use Policy* 42, 355–366 (2015).

End notes

- I. The International Union for the Conservation of Nature (IUCN) ranks species according to how threatened they are. Rankings range from ‘extinct’, through ‘critically endangered’, ‘endangered’ and ‘vulnerable’, to ‘near threatened’ and ‘least concern’.
- II. The Convention on Biological Diversity is an international treaty for the sustainable use and conservation of biological diversity. In 2010 it launched a strategic plan, running from 2011 to 2020, with 20 ambitious targets known as the Aichi Targets from the city in which they were signed. The international community has developed new targets, but their signature has been delayed due to the COVID-19 crisis.



Credit: Pixabay/Samuele Schirò



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