GLOBAL CROP CONSERVATION AND USE METRICS

SESAME
(*Sesamum* L.)

CROP TRUST

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Crop Trust
Platz der Vereinten Nationen 7
53113 Bonn, Germany

General Contact
+49 (0) 228 85427 118
info@croptrust.org

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Global crop conservation and use metrics

SESAME
(*Sesamum* L.)

With support from

Federal Ministry of Agriculture, Food and Regional Identity

Description

This report provides an up-to-date overview of the global status of *ex situ* conservation of genetic resources of sesame and its wild relatives, including key metrics on:

- global statistics on crop production, trade, and availability in food supplies;
- the identity and composition of genebank collections;
- the Multilateral System (MLS) status of accessions in these collections;
- storage, regeneration, and safety duplication status;
- documentation, information systems, and research resources;
- germplasm distribution;
- varietal registrations and releases; and
- crop networks and partnerships

Introduction and background on sesame

Sesame (*Sesamum indicum* L.) is one of humanity's oldest oilseed crops, with archaeological evidence suggesting its domestication in the Indian subcontinent over 5,000 years ago, though it may have been independently domesticated in Africa as well (Sanni *et al.*, 2024; Seay *et al.*, 2024). The small seeds serve as both a direct food source and for oil extraction - sesame oil contains over 50% oil content and is recognized for its stability, nutty flavor, and high levels of antioxidants like sesamol and sesamin (Mahajan *et al.*, 2025; Teklu *et al.*, 2025). Sesame seeds are used whole in baking, as a topping for breads and confections, ground into tahini paste (a key ingredient in hummus and halva), and integrated in numerous other traditional dishes across Asian, Middle Eastern, and African cuisines (Mahajan *et al.*, 2025). Beyond culinary applications, sesame oil has been used in traditional medicine, cosmetics, and as a carrier oil in pharmaceuticals. Sesame is highly drought-tolerant and can thrive in marginal lands where other crops fail, making it particularly valuable for smallholder farmers in developing countries across Africa and Asia (Sanni *et al.*, 2024).

Based on the most recently available production statistics from FAOSTAT, reporting for the year 2023, sesame is cultivated in at least 72 countries on over 13 million hectares worldwide, producing 6.8 million tonnes of seed at a value of USD 3.4 billion (FAO, 2025a). The largest producers include Sudan, India, Myanmar, China, Nigeria, Pakistan, Brazil, and Tanzania, each producing over 250,000 tonnes per annum.

There is considerable international trade in sesame (over 2 million tonnes per annum), with Sudan, Pakistan, India, Tanzania, Brazil, Mozambique, Ethiopia, and Nigeria reporting exporting over 100,000 tonnes each year (FAO, 2025a). Among the 181 countries reporting importing sesame, the top recipients include China, Türkiye, Japan, India, Saudi Arabia, Republic of Korea, Israel, and the USA, all importing over 50,000 tonnes each year.

Sesame is a major contributor to calories in the food supplies of 43 countries and to fat in 87 countries (Table 1). Production, trade, and food supply metrics all indicate that sesame is widely utilized outside of its regions of origin, implying significant international interdependence with regard to crop genetic resources.

Table 1. Global status of sesame production, trade, availability in food supplies, and public interest. Production, trade, and food supply statistics from FAOSTAT (2015 to 2018 average). Number of countries refers to the count of countries where the crop is reported as within the top 95 percent of crops in terms of contribution to production, trade, or food supply. The evenness metric quantifies evenness of production, trade, or availability in food supplies across world regions, where 0 equals highly uneven and 1 equals completely even. The international interdependence metric quantifies degree of production, trade, or availability in food supplies outside of the primary region of diversity of the crop, where 0 equals low estimated international interdependence and 1 equals high estimated international interdependence. Wikipedia metric is public pageviews over one year (2019) of the taxon name of the crop. All values from Khoury *et al.* (2023).

Metric	Global value	Number of countries where significant contributor	Evenness of contribution across world regions	Estimated international interdependence
Harvested area (ha)	10,979,226	22.25	0.22	0.49
Total production (tonnes)	5,692,462	12.00	0.28	0.63
Gross production value (current thousand USD)	3,440,149	10.00	0.20	0.76
Export quantity (tonnes)	2,085,623	22.50	0.23	0.46
Export value (current thousand USD)	2,900,135	27.00	0.27	0.49
Import quantity (tonnes)	2,035,470	15.75	0.17	0.86
Import value (current thousand USD)	2,943,061	29.00	0.19	0.86
Contribution to calories in food supplies (kcal/capita/day)	6.50	43.50	0.47	1.00
Contribution to protein in food supplies (g/capita/day)	0.11	40.00	0.41	1.00
Contribution to fat in food supplies (g/capita/day)	0.60	87.25	0.47	1.00
Contribution to food weight in food supplies (g/capita/day)	0.32	15.75	0.45	1.00
Number of public pageviews on Wikipedia over one year	3,311			

Identity and composition of *ex situ* collections

Based on the latest data in global genetic resource databases, germplasm collections of sesame and its wild relatives (i.e., genus *Sesamum* L.) are present in at least 76 institutions worldwide, collectively maintaining 29,916 accessions (Table 2, Table 3; Supplementary Table 1). This is slightly more than the number of accessions reported for the crop (29,289) in the major germplasm collections listed in *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (FAO, 2025b). The institutions include substantial collections in Asia, Africa, the Americas, and Europe. The largest collections are in India (34.4% of total accessions), Kenya (8.3%), Japan (6.1%), and Brazil (5.1%), as well as the Russian Federation, Uzbekistan, USA, Pakistan, and Mexico; these collectively maintain over three-quarters of documented accessions worldwide.

The International Board for Plant Genetic Resources (IBPGR)/International Plant Genetic Resources Institute (IPGRI) Register of Base Collections, which included collections that had formed (or had been proposed for) agreements with the international institutions based on long-term conservation of crop genepools on global or regional bases during the 1970s through 1990s (IBPGR/IPGRI, 1993;

Thormann *et al.*, 2019), listed, for sesame:

- Kenya Agricultural Research Institute (KARI) - global collection (agreement dated 1990). This collection is now housed at the Genetic Resources Research Institute (KEN212).
- Rural Development Administration (RDA) (Republic of Korea) - global collection (agreement dated 1989). This genebank, now called the National Agrobiodiversity Centre, is not listed in current germplasm databases (Table 2, Supplementary Table 1) for the crop and the status of the sesame collection is not clear.

Sesamum L. (Pedaliaceae) contains around 18–34 species, depending on the classification used, native mainly to Africa, South Asia, and Australia, with species richness concentrated in Africa and India (WFO, 2025). A published genepool concept is available for sesame (*Sesamum indicum* L.) (USDA, 2025), which is likely not fully developed for all taxa in the genus.

The primary genepool contains the putative progenitor:
Sesamum indicum L. subsp. *malabaricum* (Burm.) Bedigian (native to India)

No species are currently assigned to the secondary genepool.

The tertiary genepool contains:
Sesamum alatum Thonn.
Sesamum calycinum Welw.
Sesamum latifolium J. B. Gillet
Sesamum radiatum Thonn. ex Hornem.

Data compilation for this report on sesame genetic resources included all taxa in *Sesamum*. Along with the crop, 19 species as well as one hybrid and accessions only determined to the genus level are present in germplasm collections (Supplementary Table 2). These include large collections of the crop, accessions determined at the genus level, and *S. radiatum*.

Landraces make up the largest proportion of collections (19.1%), followed by breeding materials (11.7%), wild relatives (4.8%), and improved varieties (3.3%) (Table 3); these percentages are rough estimates based on available data, noting that 57.1% of accessions do not have biological status data and another 3.9% are marked as “other” materials. *Sesamum* germplasm has been collected from at least 80 countries, with approximately 6.2% of accessions originating from the primary region of diversity of the crop (i.e. West and South Asia, and East Africa); these statistics are also estimates, as 14.4% of sesame landrace accessions and 2.4% of wild relative accessions do not contain information even of the country where the accession was collected. Information on botanic garden collections from BGCI PlantSearch indicate that 62 botanic gardens collectively conserve 22 *Sesamum* taxa; comparing these to genebank collections, four are present only in botanic gardens.

Table 2. Major *ex situ* collections of sesame genetic resources. Top 20 institutions listed in descending order by total number of accessions. Number of accessions and storage condition information from Genesys and FAO WIEWS (2025), with supplementary information as noted. Multilateral System (MLS) status from Plant Treaty GLIS (2025) and from Genesys and FAO WIEWS (2025).

Institution Code	Institution name	Number of accessions	Percent of total	Cumulative percent	Number of accessions in long term storage (-18-20 C)	Number of accessions included in MLS (from Plant Treaty GLIS)	Number of accessions included in MLS (from genebank collections databases)
IND001	National Bureau of Plant Genetic Resources	10,288	34.4%	34.4%	10,288	0	0
KEN212	Genetic Resources Research Institute	2,491	8.3%	42.7%	2,491	0	0
JPN183	NARO Genebank	1,824	6.1%	48.8%	137	0	0
BRA003	Embrapa Recursos Genéticos e Biotecnologia	1,532	5.1%	53.9%	Not listed	0	0
RUS001	N.I. Vavilov All-Russian Research Institute of Plant Industry	1,512	5.0%	59.0%	Not listed	0	0
UZB006	Uzbek Research Institute of Plant Industry	1,500	5.0%	64.0%	Not listed	0	0
USA016	Plant Genetic Resources Conservation Unit, Southern Regional Plant Introduction Station, University of Georgia, USDA-ARS	1,218	4.1%	68.1%	Not listed*	0	0
BRA007	Embrapa Algodão	852	2.8%	70.9%	Not listed	0	0
PAK001	Plant Genetic Resources Program	839	2.8%	73.7%	412	0	418
MEX006	UACh, Banco Nacional de Germoplasma Vegetal (BANGEV)	785	2.6%	76.4%	785	0	0
ETH085	Ethiopian Biodiversity Institute	711	2.4%	78.7%	622	0	0
EGY087	National Gene Bank	693	2.3%	81.0%	Not listed	1	1
TUR001	Plant Genetic Resources Department	636	2.1%	83.2%	636	0	0
AUS165	Australian Grains Genebank, Agriculture Victoria	611	2.0%	85.2%	607	606	606
BGR001	Institute for Plant Genetic Resources 'K.Malkov'	604	2.0%	87.2%	211	0	0
SDN002	Agricultural Plant Genetic Resources Conservation and Research Centre	499	1.7%	88.9%	499	0	0
VNM049	Plant Resources Center	460	1.5%	90.4%	2	0	0
THA300	Genebank	257	0.9%	91.3%	231	0	0
ECU023	Departamento Nacional de Recursos Fitogenéticos	193	0.6%	91.9%	193	0	0
ZMB030	SADC Plant Genetic Resources Centre	170	0.6%	92.5%	170	0	0
	Other institutions (n = 56)	2,241	7.4%	100.0%	1,292	503	416

*But known to maintain collections in long-term conditions

Table 3. Composition of *ex situ* collections of sesame genetic resources. Main *ex situ* collections data from Genesys and FAO WIEWS (2025). Primary and secondary regions information from Khoury *et al.* (2023) and subsequent research for this summary. Botanic gardens data from BGCI PlantSearch (2025).

Metric	Number	Percentage
Total number of accessions in genebank collections	29,916	
Number of institutions holding genebank collections	76	
Number of distinct taxonomic names in genebank collections	22	
Number of accessions of crop wild relatives (CWR) in genebank collections	1,433	4.8%
Number of accessions of weedy materials in genebank collections	14	0.0%
Number of accessions of landraces in genebank collections	5,712	19.1%
Number of accessions of breeding materials in genebank collections	3,508	11.7%
Number of accessions of improved varieties in genebank collections	986	3.3%
Number of accessions of other materials in genebank collections	1,171	3.9%
Number of accessions not marked with an improvement type in genebank collections	17,092	57.1%
Number of countries where germplasm has been collected for genebank collections	80	
Number of accessions in genebank collections from the primary region(s) of diversity	1,847	6.2%
Number of taxa in botanic garden collections	22	
Number of botanic gardens holding collections of crop or its wild relatives	62	

Multilateral System status of accessions in *ex situ* collections

The genus *Sesamum* is not listed in Annex I of the International Treaty on Plant Genetic Resources for Food and Agriculture (Plant Treaty) and is thus not included in its Multilateral System of Access and Benefit Sharing (MLS). This said, genebanks can voluntarily place their collections under the MLS. As of 2025, 1,110 accessions are formally included in the MLS according to the Plant Treaty's GLIS database, and 3,891 accessions have been assigned Digital Object Identifiers (DOIs) (Table 4). Per the relevant fields in the global genetic resources databases, 1,441 accessions (4.8% of world total) are listed as included in the MLS; this may be an underestimate, noting that 78.5% of accessions do not have MLS status data.

Table 4. Representation of sesame accessions in international and national institutions, number of accessions with DOIs, and representation of accessions in the Multilateral System of Access and Benefit Sharing of the International Treaty on Plant Genetic Resources for Food and Agriculture. Main *ex situ* collections data from Genesys and FAO WIEWS (2025). DOI and MLS data from Plant Treaty GLIS (2025).

Metric	Number	Percentage
Number of accessions in genebank collections in international institutions	198	0.7%
Number of accessions in genebank collections in national or other institutions	29,718	99.3%
Number of accessions in genebank collections in Annex I	0	0%
Number of accessions with DOI (Plant Treaty GLIS 2025)	3,891	
Number of accessions included in the Multilateral System (MLS) (Plant Treaty GLIS 2025)	1,110	
Number of accessions included in the Multilateral System (MLS) (genebank collections databases)	1,441	4.8%
Number of accessions included in the Multilateral System (MLS) that are in international collections (genebank collections databases)	28	0.1%
Number of accessions not included in the Multilateral System (MLS) (genebank collections databases)	4,993	16.7%
Number of accessions without information regarding inclusion in the Multilateral System (MLS) (genebank collections databases)	23,482	78.5%

Storage conditions, regeneration status, and safety duplication

As expected for an orthodox seed crop, the great majority (at least 93.3%) of *Sesamum* accessions are conserved as seed, with 66.6% of these accessions listed as conserved under long-term cold-storage conditions (Table 5). Information on storage in general is missing for 6.7% of all accessions, and information on seed storage type (i.e., long, medium, or short term) is missing for 13.1% of seed accessions.

Current regeneration status and needs cannot be directly derived from the global germplasm databases. FAO WIEWS reporting for the *Third State of the World's Plant Genetic Resources for Food and Agriculture* (FAO, 2025b) for the years 2014 to 2019 , documented 1,906 sesame accessions regenerated during this time by reporting institutions, with 1,918 accessions identified as needing regeneration and 597 of these lacking funds to conduct the regeneration.

Analysis of the location of safety duplication sites of sesame germplasm, as listed in Genesys, indicates that only 0.1% of accessions are safety duplicated in an active collection (i.e., apart from potentially being duplicated at the Svalbard Global Seed Vault [SGSV]) outside of the country of the main collection (Table 5). The actual extent of safety duplication of sesame accessions worldwide, when also considering safety duplication within the same country, may be higher than this estimate, given that some national genebanks, such as the USA, typically provide safety backup their collections in a different location within the country. Information from the SGSV database from 2025 indicates that approximately 13.5% of total accessions worldwide are duplicated in Svalbard.

Table 5. Storage conditions of sesame *ex situ* collections, regeneration status, and safety duplication status. Main *ex situ* collections data from Genesys and FAO WIEWS (2024). Regeneration status information from FAO WIEWS (2025); data from 2014 to 2019. Safety duplication out of the country data based only on Genesys (2025) data. Svalbard Global Seed Vault data from SGSV portal (2025).

Metric	Number	Percentage
Number of accessions held in seed storage in genebank collections	27,903	93.3%
Number of accessions held in short-term seed storage in genebank collections	30	0.1%
Number of accessions held in medium-term seed storage in genebank collections	5,637	20.2%
Number of accessions held in long-term seed storage in genebank collections	18,576	66.6%
Number of accessions held in seed storage of undefined type in genebank collections	3,660	13.1%
Number of accessions held in field storage in genebank collections	12	0.0%
Number of accessions held in *in vitro* storage in genebank collections	0	0.0%
Number of accessions held in cryo storage in genebank collections	3	0.0%
Number of accessions held as DNA in genebank collections	2	0.0%
Number of accessions held in other storage in genebank collections	0	0.0%
Number of accessions not marked with a storage type in genebank collections	2,001	6.7%
Number of accessions in genebank collections regenerated 2014–2019	1,906	37.7%
Number of accessions in genebank collections in need of regeneration 2014–2019	1,918	38.0%
Number of accessions in genebank collections in need of regeneration without budget for regeneration 2014–2019	597	11.8%
Number of accessions safety duplicated out of the country in genebank collections	14	0.1%
Number of accessions in genebank collections safety duplicated in Svalbard	4,038	13.5%

Documentation, information systems, and research resources

A descriptor list for sesame was published by the international agricultural research community in 2004 (IPGRI and NBPGR, 2004).

The estimated completeness of passport information for sesame accessions listed in Genesys is 5.0 on a scale of 0 (no data) to 10 (complete data), which indicates that there are significant gaps that it would be valuable to fill. At least four sesame characterization and evaluation datasets are available via Genesys, covering a total of 603 accessions. Four metrics of the current degree of digital sequence information (DSI) for sesame (from the National Center for Biotechnology Information USA database), two metrics of published literature on the crop (Google Scholar and PubMed Central), and one metric of the degree of research resources such as herbarium specimens (from the Global Biodiversity Information Facility - GBIF), are listed in Table 6.

Table 6. Documentation, information systems, and research resources for sesame. Passport data completeness index (PDCI) from Genesys (2025), based on the methods outlined in van Hintum *et al.* (2011). Global Biodiversity Information Facility data from GBIF (2025). All other metrics data from Khoury *et al.* (2023).

Metric	Number
Passport data completeness index (range 0-10) as a median value across accessions in genebank collections	5.0
Number of genes as recorded in NCBI's Entrez database as of 2022	27,496
Number of genomes as recorded in NCBI's Entrez database as of 2022	1
Number of nucleotides as recorded in NCBI's Entrez database as of 2022	265,014
Number of proteins as recorded in NCBI's Entrez database as of 2022	66,335
Number of publications listed in Google Scholar with taxon name in title published between 2009 and 2019	2,550
Number of publications listed in PubMed Central with taxon name in text as of 2022	2,718
Number of research materials as recorded in GBIF (2025)	34,313

Germplasm distributions and varietal registrations and releases

Germplasm distributions and varietal development statistics for sesame are listed in Table 7. Germplasm distribution data from FAO WIEWS and the Plant Treaty Data Store reflect different reporting scopes: FAO WIEWS primarily reports distributions from national genebanks, while the Plant Treaty Data Store includes all transfers made under the SMTA, encompassing distributions made by genebanks as well as by breeding programs and other organizational types (Khoury *et al.*, 2025). Distributions as reported in the FAO WIEWS dataset were made from institutions in 13 countries, with the largest numbers of samples distributed from institutions in India, Australia, Kenya, Nigeria, Sudan, and Türkiye, and were primarily to within-country national agricultural research centers and to other (unspecified) users (Khoury *et al.*, 2025). In the Plant Treaty dataset, the sole provider of samples was located in Canada, and the recipients were located in Iran, Pakistan, and China. The differences in numbers of samples distributed as recorded by FAO WIEWS versus the Plant Treaty Data Store is likely a reflection of the lack of inclusion of the crop in Annex 1 of the Plant Treaty (Khoury *et al*., 2023).

Table 7. Sesame germplasm distributions and varietal registrations and releases. FAO WIEWS distributions data is annual average over years 2014 to 2019. Plant Treaty Data Store distributions data is annual average over years 2015 to 2021. Evenness metric quantifies evenness of germplasm distributions across world regions, where 0 equals highly uneven and 1 equals completely even. International Union for the Protection of New Varieties of Plants (UPOV) PLUTO data is annual average over years 2014 to 2018. FAO WIEWS varietal releases data is annual average over years 2015 to 2019. All metrics data from Khoury *et al.* (2023), with Plant Treaty Data Store additions for more recent years (2019 to 2021).

Metric	Number
Average annual number of accessions distributed worldwide as recorded in FAO WIEWS	1,117.6
Average annual number of samples distributed worldwide as recorded in FAO WIEWS	1,273.1
Average annual number of samples distributed worldwide as recorded in the Plant Treaty Data Store	8.0
Number of countries receiving germplasm as recorded in the Plant Treaty Data Store	1.3
Evenness of distributions across world regions as recorded in the Plant Treaty Data Store	0.4
Average annual number of varietal registrations worldwide as recorded in UPOV's PLUTO	14.0
Average annual number of varietal releases worldwide as recorded in FAO WIEWS	6.2

Networks and partnerships

Currently active networks include:

- Communities related to sesame genetics and genomics, e.g. Wei *et al.* (2017), Avashthi et al. (2024), and Hengchun *et al.* (2024)

Conclusions

Sesame continues to be a very important oilseed crop in several world regions, and may become more important in future food systems for both human nutrition and sustainable agriculture. Its genetic resources are bolstered by the activities taking place in collections in national and subnational agricultural research organizations, especially in India, Kenya (hosting a diverse collection with global coverage), Japan, and Brazil; there are no major international collections for the crop. Available data indicates that these collections, in combination, are diverse and extensive, although they do not represent the full range of crop varieties as well as species and populations of wild relatives that could be conserved *ex situ* and made available for use. Lack of inclusion of the crop in Annex 1 of the Plant Treaty constrains international access to germplasm, with only around 4.8% of total accessions worldwide currently included in the MLS. There are considerable amounts of associated research resources, and there has been significant activity in germplasm distributions for the crop. Further efforts are required to: identify/determine taxa within current *ex situ* accessions; regenerate accessions in need; fully secure these accessions in long-term seed storage conditions and safety backup all unique accessions, including at the SGSV; and provide more complete accession-level passport information as well as generate further characterization and evaluation datasets.

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Methods and materials

Primary data sources for the metrics reported in this summary include: Genesys; World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations (FAO WIEWS); Botanic Gardens Conservation International PlantSearch database (BGCI PlantSearch); Global Information System of the International Treaty on Plant Genetic Resources for Food and Agriculture (Plant Treaty GLIS); Data Store of the International Treaty on Plant Genetic Resources for Food and Agriculture (Plant Treaty Data Store); Svalbard Global Seed Vault portal (SGSV portal); International Union for the Protection of New Varieties of Plants (UPOV) PLUTO database; FAOSTAT; National Center for Biotechnology Information's Entrez database (NCBI Entrez); Google Scholar; PubMed Central; Wikipedia; and the Global Biodiversity Information Facility (GBIF). Some of these data were acquired from literature/databases including Khoury et al. (2023) and Khoury et al. (2025). Data processing, metric calculation, and table generation were conducted in R, with code available on this GitLab repository. Extended methods are available at here.

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Supplementary information

Supplementary Table 1: Full list of *ex situ* collections of sesame genetic resources, in descending order by total number of accessions. Number of accessions and storage condition information from Genesys and FAO WIEWS (2025), with supplementary information as noted. Multilateral System (MLS) status from Plant Treaty GLIS (2025) and from Genesys and FAO WIEWS (2025).

Institution Code	Institution name	Number of accessions	Percent of total	Cumulative percent	Number of accessions in long term storage (-18-20 C)	Number of accessions included in MLS (from Plant Treaty GLIS)	Number of accessions included in MLS (from genebank collections databases)
IND001	National Bureau of Plant Genetic Resources	10,288	34.4%	34.4%	10,288	0	0
KEN212	Genetic Resources Research Institute	2,491	8.3%	42.7%	2,491	0	0
JPN183	NARO Genebank	1,824	6.1%	48.8%	137	0	0
BRA003	Embrapa Recursos Genéticos e Biotecnologia	1,532	5.1%	53.9%	Not listed	0	0
RUS001	N.I. Vavilov All-Russian Research Institute of Plant Industry	1,512	5.0%	59.0%	Not listed	0	0
UZB006	Uzbek Research Institute of Plant Industry	1,500	5.0%	64.0%	Not listed	0	0
USA016	Plant Genetic Resources Conservation Unit, Southern Regional Plant Introduction Station, University of Georgia, USDA-ARS	1,218	4.1%	68.1%	Not listed	0	0
BRA007	Embrapa Algodão	852	2.8%	70.9%	Not listed	0	0
PAK001	Plant Genetic Resources Program	839	2.8%	73.7%	412	0	418
MEX006	UACh, Banco Nacional de Germoplasma Vegetal (BANGEV)	785	2.6%	76.4%	785	0	0
ETH085	Ethiopian Biodiversity Institute	711	2.4%	78.7%	622	0	0
EGY087	National Gene Bank	693	2.3%	81.0%	Not listed	1	1
TUR001	Plant Genetic Resources Department	636	2.1%	83.2%	636	0	0
AUS165	Australian Grains Genebank, Agriculture Victoria	611	2.0%	85.2%	607	606	606
BGR001	Institute for Plant Genetic Resources 'K.Malkov'	604	2.0%	87.2%	211	0	0
SDN002	Agricultural Plant Genetic Resources Conservation and Research Centre	499	1.7%	88.9%	499	0	0
VNM049	Plant Resources Center	460	1.5%	90.4%	2	0	0
THA300	Genebank	257	0.9%	91.3%	231	0	0
ECU023	Departamento Nacional de Recursos Fitogenéticos	193	0.6%	91.9%	193	0	0
ZMB030	SADC Plant Genetic Resources Centre	170	0.6%	92.5%	170	0	0
COL017	Corporación Colombiana de Investigación Agropecuaria, AGROSAVIA	160	0.5%	93.0%	160	0	0
NER001	Institut national de la recherche agronomique du Niger	155	0.5%	93.6%	155	0	0

Institution Code	Institution name	Number of accessions	Percent of total	Cumulative percent	Number of accessions in long term storage (-18-20 C)	Number of accessions included in MLS (from Plant Treaty GLIS)	Number of accessions included in MLS (from genebank collections databases)
TCD022	Institut Tchadien de Recherche Agronomique pour le Développement	155	0.5%	94.1%	Not listed	160	0
NGA010	National Centre for Genetic Resources and Biotechnology	139	0.5%	94.5%	139	139	139
BGD003	Bangladesh Agricultural Research Institute	137	0.5%	95.0%	123	0	60
UKR012	Institute of Oil Crops	130	0.4%	95.4%	125	0	0
BEN097	Unité de Génétique, Biotechnologie et Science des Semences	113	0.4%	95.8%	Not listed	0	0
MEX208	INIFAP, Centro Nacional de Recursos Genéticos (CNRG)	97	0.3%	96.1%	97	0	0
ZMB048	National Plant Genetic Resources Centre	96	0.3%	96.5%	96	81	0
NIC014	Centro Nacional de Investigación Agropecuaria (INTA-CNIA)	89	0.3%	96.8%	Not listed	0	0
SAU015	Plant Genetic Resources Bank	86	0.3%	97.0%	Not listed	0	86
ISR002	Israel Gene Bank for Agricultural Crops, Agricultural Research Organisation, Volcani Center	79	0.3%	97.3%	Not listed	0	0
TZA016	National Plant Genetic Resources Centre	76	0.2%	97.6%	76	0	0
ERI003	National Agricultural Research Institute	70	0.2%	97.8%	70	0	47
BGD028	Bangladesh Institute of Nuclear Agriculture (BINA)	50	0.2%	98.0%	Not listed	0	0
MEX201	UACh, Centro Regional Universitario Sur (CRUS)	48	0.2%	98.1%	Not listed	0	0
UGA132	Plant Genetic Resource Centre	40	0.1%	98.3%	40	0	0
UGA528	Uganda National Genebank	40	0.1%	98.4%	Not listed	0	0
GBR004	Millennium Seed Bank - Royal Botanic Gardens Kew	36	0.1%	98.5%	Not listed	0	4
LKA036	Plant Genetic Resources Centre	36	0.1%	98.6%	Not listed	0	0
ZAF062	RSA National Plant Genetic Resources Centre	35	0.1%	98.7%	32	0	0
CAN004	Plant Gene Resources of Canada, Saskatoon Research and Development Centre	33	0.1%	98.9%	33	0	33
GHA091	Plant Genetic Resources Research Institute	33	0.1%	99.0%	Not listed	4	8
MMR015	Myanmar SeedBank	28	0.1%	99.1%	Not listed	0	0
TWN001	World Vegetable Center	27	0.1%	99.2%	23	23	27
DEU146	Genebank, Leibniz Institute of Plant Genetics and Crop Plant Research	26	0.1%	99.2%	26	0	0

Institution Code	Institution name	Number of accessions	Percent of total	Cumulative percent	Number of accessions in long term storage (-18-20 C)	Number of accessions included in MLS (from Plant Treaty GLIS)	Number of accessions included in MLS (from genebank collections databases)
HUN003	Centre for Plant Diversity	24	0.1%	99.3%	1	0	5
TUR034	Field Crop Central Research Institute	23	0.1%	99.4%	23	0	0
USA995	National Center for Genetic Resources Preservation	21	0.1%	99.5%	Not listed	0	0
NGA136	Biodiversity Education and Resource Centre	20	0.1%	99.5%	Not listed	0	0
URY003	INIA La Estanzuela	15	0.0%	99.6%	15	0	0
NPL069	National Agriculture Genetic Resources Centre-Genebank	13	0.0%	99.6%	13	0	0
MKD007	Fabia CSB Bogdanci	12	0.0%	99.7%	Not listed	0	0
MWI041	Malawi Plant Genetic Resources Centre	12	0.0%	99.7%	12	0	6
SWZ015	National Plant Genetic Resources Centre	11	0.0%	99.7%	11	0	0
MKD001	Faculty of Agriculture, University Ss. Cyril and Methodius	10	0.0%	99.8%	10	0	0
TJK027	National Center for Genetic Resources	10	0.0%	99.8%	Not listed	0	0
BFA084	Commission nationale de gestion des ressources phytogenetiques	9	0.0%	99.8%	Not listed	0	0
ZWE049	Genetic Resources and Biotechnology Institute-Department of Research and Specialist Services	8	0.0%	99.9%	Not listed	95	0
BWA015	National Plant Genetic Resources Centre	7	0.0%	99.9%	7	0	0
AZE015	Genetic Resources Institute	6	0.0%	99.9%	Not listed	0	0
CUB014	Instituto de Investigaciones Fundamentales en Agricultura Tropical	4	0.0%	99.9%	Not listed	0	0
GRC100	CIHEAM Mediterranean Agronomic Institute of Chania	4	0.0%	99.9%	4	0	0
JOR105	National Agricultural Research Center	3	0.0%	99.9%	Not listed	0	0
NAM006	National Plant Genetic Resources Centre	3	0.0%	100.0%	Not listed	0	0
GBR006	Warwick Genetic Resources Unit	2	0.0%	100.0%	Not listed	0	0
BRA008	Embrapa Arroz e Feijão	1	0.0%	100.0%	Not listed	0	0
CUB284	Centro de Investigaciones Agropecuarias	1	0.0%	100.0%	Not listed	0	0
CYP004	National (CYPARI) Genebank, Agricultural Research Institute, Ministry of Agriculture, Rural Development and Environment	1	0.0%	100.0%	Not listed	0	0
ETH013	International Livestock Research Institute	1	0.0%	100.0%	Not listed	1	1

Institution Code	Institution name	Number of accessions	Percent of total	Cumulative percent	Number of accessions in long term storage (-18-20 C)	Number of accessions included in MLS (from Plant Treaty GLIS)	Number of accessions included in MLS (from genebank collections databases)
GRC005	Greek Genebank, Institute of Plant Breeding and Genetic Resources	1	0.0%	100.0%	Not listed	0	0
MLT003	Plant Protection Directorate, Veterinary and Phytosanitary Regulation Department	1	0.0%	100.0%	Not listed	0	0
PHL024	Bureau of Plant Industry-Davao National Crop Research and Development Center	1	0.0%	100.0%	Not listed	0	0
TUN029	Banque Nationale de Gènes de Tunisie	1	0.0%	100.0%	1	0	0
USA151	National Arboretum-Germplasm Unit, USDA/ARS	1	0.0%	100.0%	Not listed	0	0
USA956	Ornamental Plant Germplasm Center, Ohio State University	1	0.0%	100.0%	Not listed	0	0

Supplementary Table 2: Full list of taxonomic names in *ex situ* genetic resource collections, in descending order by number of accessions conserved. Germplasm data from Genesys and FAO WIEWS (2025).

Taxon	Number of accessions (from genebank collections databases)
Sesamum indicum L.	28,403
Sesamum L.	1,207
Sesamum radiatum Thonn. ex Hornem.	137
Sesamum alatum Thonn.	46
Sesamum sesamoides (Endl.) Byng & Christenh.	23
Sesamum prostratum Retz.	17
Sesamum latifolium J. B. Gillett	16
Sesamum triphyllum Welw. ex Asch.	15
Sesamum angustifolium (Oliv.) Engl.	10
Sesamum capense Burm. f.	10
Sesamum angolense Welw.	8
Sesamum calycinum Welw.	6
Sesamum trilobum (Bernh.) Byng & Christenh.	6
Sesamum marlothii Engl.	4
Sesamum alatum x *indicum*	1
Sesamum eriocarpum (Decne.) Byng & Christenh.	1
Sesamum eugeniae (F. Muell.) Byng & Christenh.	1
Sesamum laciniatum x *indicum*	1
Sesamum pedalioides Welw. ex Hiern	1
Sesamum schinzianum Asch.	1
Sesamum triphyllum var. *triphyllum*	1
Sesamum zanguebarium (Lour.) Byng & Christenh.	1

THE GLOBAL CROP DIVERSITY TRUST
Platz der Vereinten Nationen 7
53113 Bonn
Germany

PUBLICATIONS CONTACT
publications@croptrust.org

GENERAL CONTACT
info@croptrust.org

CROP TRUST