

World Pear Collection

USDA GENE BANK, CORVALLIS, OREGON

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In 1980 the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), established the National Clonal Germplasm Repository (NCGR) in Corvallis, Oregon. This genebank conserves temperate, specialty fruit and nut crops by maintaining globally diverse living collections. Heirloom pear varieties, foreign introductions and *Pyrus* wild relatives are available from the Repository for research, breeding and education. These genetic resources provide solutions for growers confronted with new diseases or insects, and changing climate. Pear accessions are evaluated for useful and unique traits, tested for virus contamination, and documented in a national public germplasm database. Seed collections represent wild species populations.

The Corvallis genebank maintains 2,297 clonal pear accessions and 364 seedlots representing 36 *Pyrus* taxa from 55 countries. About 250 clones are backed up in vitro as shoot cultures at 40° F, and 330 clones are backed up as small potted greenhouse trees. Corvallis has an ideal climate for a World Pear Collection due the favorable climate and low incidence of disease.



The *Pyrus* genebank has nearly 2,300 trees including:

- 990 European Cultivars
- 190 Asian Cultivars
- 120 Hybrid Cultivars
- 170 Rootstock Selections
- 28 Perry (cider) Cultivars
- 924 Wild Relative Species Trees

Pyrus Accessions by Country of Origin – 55 Countries

Afghanistan	2	Israel	6	Serbia	18
Albania	32	Italy	51	South Africa	8
Armenia	45	Japan	78	Spain	2
Australia	21	Kazakhstan	15	Sweden	5
Azerbaijan	2	Korea, South	35	Switzerland	5
Belgium	49	Kyrgyzstan	3	Syria	4
Bulgaria	9	Macedonia	36	Taiwan	4
Canada	41	Mexico	1	Tajikistan	1
China	112	Moldova	3	Thailand	1
Czech Republic	15	Montenegro	3	Tunisia	5
Denmark	3	Morocco	22	Turkey	43
Estonia	2	Nepal	15	Turkmenistan	15
France	180	Netherlands	9	Ukraine	10
Georgia	36	New Zealand	2	United Kingdom	69
Germany	15	Pakistan	39	United States	784
Greece	2	Poland	23	Uzbekistan	16
Hungary	8	Portugal	4	Vietnam	1
India	32	Romania	30		
Iran	3	Russian Federation	61		

Most Requested Last 5 Years

Rank	Accession	Taxon	Plantname
1	PI 541262	<i>Pyrus communis</i>	Seckel
2	PI 541271	<i>Pyrus communis</i>	Taynton Squash (perry)
3	PI 617584	<i>Pyrus communis</i>	Joey's Red Flesh Pear
4	PI 541287	<i>Pyrus communis</i>	Yellow Huffcap (perry)
5	PI 541123	<i>Pyrus communis</i>	Barland (perry)
6	PI 541273	<i>Pyrus communis</i>	Thorn (perry)
7	PI 541156	<i>Pyrus communis</i>	Butt (perry)
8	PI 541317	<i>Pyrus communis</i>	Red Pear (perry)
9	PI 312507	<i>Pyrus communis</i>	Summer Blood Birne
10	PI 541256	<i>Pyrus communis</i>	Rousselet de Reims
11	PI 541150	<i>Pyrus communis</i>	Beurre Superfin
12	PI 541195	<i>Pyrus communis</i>	Gin (perry)
13	PI 541205	<i>Pyrus communis</i>	Hendre Huffcap (perry)
14	PI 337446	<i>Pyrus communis</i>	Vavilov
15	PI 541151	<i>Pyrus communis</i>	Blakeney Red (perry)
16	PI 541486	<i>Pyrus communis</i>	Winnals Longdon (perry)
17	PI 541931	<i>Pyrus pyrifolia</i>	Hosui

NPGS Accessions by Species

- *Pyrus betulifolia* (65 accessions)
- *Pyrus calleryana* (109 accessions)
- *Pyrus communis* (966 accessions)
- *Pyrus communis subsp. caucasica* (77 accessions)
- *Pyrus communis subsp. pyraster* (83 accessions)
- *Pyrus cordata* (22 accessions)
- *Pyrus cossonii* (4 accessions)
- *Pyrus dimorphophylla* (19 accessions)
- *Pyrus elaeagrifolia* (31 accessions)
- *Pyrus fauriei* (34 accessions)
- *Pyrus gharbiana* (8 accessions)
- *Pyrus glabra* (1 accession)
- *Pyrus hondoensis* (41 accessions)
- *Pyrus hybrid* (213 accessions)
- *Pyrus koehnei* (16 accessions)
- *Pyrus korshinskyi* (5 accessions)
- *Pyrus mamorensis* (14 accessions)
- *Pyrus pashia* (40 accessions)
- *Pyrus pseudopashia* (2 accessions)
- *Pyrus pyrifolia* (140 accessions)
- *Pyrus regelii* (11 accessions)
- *Pyrus sachokiana* (2 accessions)
- *Pyrus salicifolia* (35 accessions)
- *Pyrus spinosa* (57 accessions)
- *Pyrus syriaca* (14 accessions)
- *Pyrus ussuriensis* (91 accessions)
- *Pyrus x bretschnideri* (20 accessions)
- *Pyrus x canescens* (1 accession)
- *Pyrus x complexa* (2 accessions)
- *Pyrus x neoserrulata* (3 accessions)
- *Pyrus x nivalis* (19 accessions)
- *Pyrus x phaeocarpa* (2 accessions)
- *Pyrus x sinkiangensis* (7 accessions)
- *Pyrus x uyematsuana* (1 accession)
- *Pyrus xerophila* (2 accessions)

Present Collaborative Research and Evaluations

- SSR microsatellite sequences for fingerprinting clonal collections (Nahla Bassil, NCGR).
- *Pyrus* SNP-based genotyping and bioinformatics (Sara Montanari, UC Davis).
- Population diversity of pear wild relatives (Gayle Volk and Chris Richards, USDA-ARS Fort Collins).
- Development of cold-hardy, dwarfing, precocious, quince rootstocks (Todd Einhorn & Kate Evans).
- Perry (cider) potential (Dave Takush, 2 Towns Cider)
- Identity verification, bloom period, fruit maturity, disease resistance (NCGR colleagues).
- Dormant bud cryostorage for long-term backup (Maria Jenderek, USDA-ARS Fort Collins).