

Hort 251: Temperate Tree Fruits

Pears





Origin of pear



- Three centers of diversity
 - Chinese center
 - *Pyrus pyrifolia*
 - *P. ussuriensis*
 - Central Asiatic= NW India, Afghanistan, Tadjikistan, Uzbekistan, western Tian-shan
 - *P. communis*
 - Near Eastern in the Caucasus and Asia Minor
 - Origin of domestic forms of *P. communis*





2001 World production of pears (Mt)

World	17,312,837
China	8,956,500
Italy	906,213
USA	880,690
Spain	719,500
Argentina	585,249
Germany	468,231
Korea, Republic of	417,160
Japan	411,800
Turkey	370,000
Chile	340,000
South Africa	304,372
France	255,700

<http://apps.fao.org>



US pear production (tons)

<http://jan.mannlib.cornell.edu/reports/nassr/fruit/pnf-bb/ncit0102.pdf>

<u>State</u>	<u>2001</u>
US	970,810
WA	450,000
CA	267,000
OR	230,000
NY	11,000
PA	5,500
MI	4,600
CO	1,900

Scientific name- Scion cultivars



European pear
Pyrus communis (L.)



Asian, Japanese or Oriental
pear, Nashi, or Pear Apple
P. pyrifolia (Burm. F.) Nak.



Scientific name- Rootstocks

- *Pyrus communis* L.
 - seedling
 - Old Home x Farmingdale
- *Pyrus betulifolia* Bunge
- *Cydonia oblonga* Miller
 - Quince



Flowering and fruiting Pear

- Perfect flowers
- 5-7 flowers
- On spurs originating on 2 yr wood or older
- Mixed buds
- Insect pollinated
- Self-unfruitful
- Pome fruit

Flowering habit of pear



Main European pear cultivars



'Bartlett' ('Williams')



'Bosc'



'Comice'

'd' Anjou'



Main Asian pear cultivars



'Nijisseiki'



'Hosui'



'Kosui'

'Chojuro'
(not shown)

'Shinseiki'





Desirable characteristics European pears

- Tree characters
 - Reduced tree vigor
 - Cold hardiness
 - Early bearing
 - Consistent cropping
 - Productive
 - Compatibility w/ Quince
 - Extended ripening season
- Fruit characters
 - Soft, buttery flesh
 - Pyriform shape
 - Golden yellow or red skin when ripe (green and red blush-OK)
 - Free of russet or completely russeted
 - Small core
 - Good storage quality
 - Low susc. to physiological disorders



Desirable characteristics Asian pears

- Tree characters
 - Reduced tree vigor
 - Cold hardiness
 - Early bearing
 - Consistent cropping
 - Productive
 - Extended ripening season
- Fruit characters
 - Round
 - Yellow or light green
 - Flesh free of grit
 - Firm, juicy, crisp, and sweet flesh
 - Postharvest storage quality
 - Low susc. to physiological disorders



Desirable characteristics Pears

- Pest resistance
 - Fireblight
 - Pear scab
 - Black spot of Asian pear
 - Pear rust
 - Pear psylla