



Pears are just happy fruits. *Pyrus communis* L. (European pear) and *Pyrus serotina* L. (formerly *Pyrus pyrifolia* L) or Asian pear are the two main types cultivated around the world. Although the European types are those that most consumers and gardeners are familiar with, Asian pears are really making a strong emergence into garden centers and retail produce markets. Both types grow easily, produce deliciously sweet and juicy fruit that are a low caloric source of “good” carbohydrates, fiber, and pectin. Yet, they don’t require much more than rudimentary monitoring and care. When looking for plant stock for the home landscape, there are few particulars that will help in the journey to successful production. And as always – proper site selection, preparation, planting, and follow up care are extremely important.

The European pear (*Pyrus communis* L.) is not a native and is believed to have sprung from the early breeding of *Pyrus caucasia* and *Pyrus nivalis* – which are found in European and Mediterranean areas. *Pyrus communis* L. formed the beginnings from which most current fruit production stock has been hybridized either by hand or by nature. Documentation of European pear breeding and cultivation efforts starts showing up around 1000 B.C. These efforts, now spanning thousands of years, have provided improvements in fruit characteristics, modifications in tree habit, and increased resistance to disease pressures. The fruit mainly carry the distinctive “pear shape”, technically referred to as pyriform - a narrow stem area and full bulbous-like base. The skin color, technically referred to as the ground, is varietal dependent and may be a smooth yellow, green, or red or it may exhibit russeting - which can be anywhere from tan to brown with a somewhat rough feel. The interior flesh, when ripe, is sweet and juicy with a pleasantly grainy, soft, and buttery texture.

Choosing a variety should start with the characteristics that best fit your needs - fresh eating or preservation. Is experimentation with new varieties a personal goal or is your preference to use something tried and true? Whatever variety fits the needs, expect to have a mature tree that takes up a fair amount of space. Many European pears grown in northern areas are grafted onto ‘Bartlett’ rootstock and can reach a height of 30’ with a good 25’ canopy spread. Although ‘Bartlett’ has proven to be a reliably hardy rootstock for northern climates, especially the winter conditions, work continues in the development and use of hardy dwarf and semi-dwarf rootstock for zones 5 and 4. Success varies, but you may want to experiment and give them a whirl. Rootstocks to look for are: *Pyrus betulaefolia*, and Old Home x Farmingdale (Oh x F). The numbers that follow Oh x F represent varying stock characteristics - 333 is a semi-dwarfing rootstock and 51 is dwarf rootstock, there are many more, but these are

the ones seen quite often. Varieties to check out include: ‘Aurora’ – a good, large dessert pear related to ‘Bartlett’, it is bright russeted yellow with a bit of blush, does show susceptibility to fire blight; ‘Bartlett’ – first named in the 1700’s England, sometimes listed as ‘Williams’, has nice yellow ground, juicy flavor that is good for fresh eating or canning; ‘Bartlett Red Sensation’ – similar to ‘Bartlett’ with a red ground; ‘Flemish Beauty’ – cold hardy, fragrant and flavorful, can be pyriform or round pome; ‘Kieffer’ – very fire blight resistant, it is a pear with good flavor and shape bred for canning not fresh consumption; ‘Luscious’ - similar to ‘Bartlett’ in flavor and appearance, cold hardy, ripens a bit later; ‘Moonglow’ – great flavor, ripens early, tastes best after 6 – 8 weeks of storage, fire blight resistant; ‘Seckel’ – very small (1.5” across), but very sweet and juicy, excellent snack fruit, good dessert pear, has a blushing russeted ground.

European pears flower a little earlier than apples so will need to be placed and planted to minimize late frost damage - meaning southern exposure and slightly rolling terrain. They tolerate a multitude of soils conditions, but really do best in soils that are well drained with adequate moisture content and a pH between 6 and 7. Avoid areas where the tree will have consistently wet feet. Nutrition needs will vary according to the composition – so have a soil test done to give you a good base reading. If you are lucky enough to have soil with a good organic composition, often minimal fertilizer treatments are warranted. The fruit will do best when allowed to grow to maturity on the tree (earliest developing varieties are about 90 days) - but ripened fully after they are harvested. Allowing them to fully ripen on the tree will dramatically decrease the quality and shelf life as well as increase the occurrence of core break down – and trust me, you do not want to bite into that. Fruit is mature when the skin feels somewhat waxy and the color lightens – the dots (lenticels) on the surface of the fruit will change from white to brown. Also, when slight pressure is applied to the area surrounding the stem, there should be a bit of give. Any squeeze testing should be done with caution as the flesh may be firm to the touch but susceptible to bruising. To harvest pears, gently grasp the fruit (again - be careful, they will bruise) and twist in an upward direction. If the fruit does not easily come off of the branch, give it a couple of days and try again. If you insist on pulling branches from the tree at harvest, this will result in a reduction in the following year’s production as you will have quite effectively removed the buds. Harvesting in the morning will catch the fruit at its best, and at a lower temperature. Chill immediately after picking to capture that great quality - pears will do well at storage temperatures of 32 degrees Fahrenheit. Each variety has a different storage life but most will keep for a couple of months under proper temperature and humidity conditions.

*Pyrus serotina* L. (formerly *P. pyrifolia* L.) or Asian pears, originated in China and Japan - with documentation dating early attempts at breeding and cultivation anywhere from 3000 to 1000 B.C. The shape generally associated with Asian pears is a round or flat form – technically referred to as round pome form, but many varieties do have a definite pyriform. The ground (skin) of an Asian pear is often a russeted bronze, green, or yellow with flesh that is crisp (kind of like an apple in texture but not related to apples). Flowering will occur before apples, so early frost damage is a possibility. Planting and growing needs are similar to European pears. Asian pears are somewhat self-fruitful – producing marginal crops without another variety for pollination. When provided with adequate pollination, most varieties often over produce making thinning a necessity. If not thinned, branches may break and tree runting (decline in size and productivity) may occur. Thinning to one fruit per cluster should result in a good spacing of one fruit for every 4” to 6” of branch length. Fruit thinning should be timed to occur after all frost threats and when the fruits have reached about 1” in diameter. *Pyrus serotina* L. have the best flavor when allowed to mature and ripen on the tree prior to harvest. In fact, if they are harvested too early the flavor will be bland. When fully ripe, they are crisp (not hard), sweet and very juicy, often with a delightfully light fragrance. Although the flesh is firm and crisp when ripe, the fruits are quite easily bruised. Careful handling is necessary. At maturity, expect five to ten bushels of fruit per tree.

Although Asian pears are not a common home fruit in this part of the country, there are varieties available that will do very well here. Look for *Pyrus betulaefolia* as rootstock. It is strong, cold hardy, and compatible with most of the varieties. Quince rootstocks are generally not hardy for northern climates and are often not compatible with the *Pyrus serotina* L. varieties. Another point to consider is that most these are not fully self-fruitful and will need another variety for pollination. Some varieties will not cross-pollinate – so when purchasing, make sure that the varieties chosen are compatible. All quality suppliers should have that information on hand but to make it easy for you, the following varieties are compatible. ‘Chojuro’ has brownish-orange russeted ground with crisp, white fragrant flesh, and keeps well over winter; ‘Hosui’ (a Japanese variety) is very sweet – considered to be the best flavored of the Asian pears; ‘Nijiseiki’ (or 20<sup>th</sup> Century) is an older variety, very sweet, and will store for 4 – 5 months when refrigerated; ‘Olymic’ (or Korean Giant) – orange russet ground, large, crisp and juicy fruit, ripens in October, and is tolerant of fire blight; ‘Shinko’ – sweet, firm, crisp, with medium/large sized fruit, and tolerant of fire blight; ‘Shinsui’ has moderately sized fruit, and good flavor.

European and Asian pears are naturally upright in habit and will need pruning and structure training (spreaders) to develop and maintain an open structure conducive to quality fruit production. After attaining desired structure (three to four years of training), yearly pruning of spurs will help to increase light flow into the canopy and will

not adversely affect the crop as fruit is produced on two year or older spurs. In the pest and disease realm – there are many minor pests that may attack pear trees. Mites, scale, sawflies, psylla, pear slugs, curculio, and especially codling moth can be health concerns in pear production. But unless there are high population numbers or production is for a retail market – full preventative pesticide treatments are often optional. By far, the most serious problem facing pear production, whether home or commercial, is a bacterial disease called fire blight. Our wonderful wet springs are conducive to the onset of fire blight which can spread via air, water droplets, bird transmission, and through insect pollination. All pears are susceptible with varying degrees of severity. There is no absolute preventative treatment for fire blight, although using a copper or Bordeaux fungicide before bud swell does help tremendously. Minimizing hard dormant season pruning (which encourages a lot of early spring, susceptible vegetative growth) can help reduce infection incidence as can lowering levels of nitrogen fertilizer applications. If infections do occur, careful pruning (at least six inches beyond the infected areas and into healthy tissue) remains the most effective post-infection control method. Disinfect all tools with a 10% bleach solution or 70% isopropyl alcohol between pruning cuts to limit infectious spread. A bright spot is that growers are reporting a general decrease in fire blight susceptibility as trees mature into full production.

Whether you like European or Asian pears is often just a matter of exposure or taste preference. Both are easy fruit trees to grow and there is nothing finer than eating a happy pear you grew yourself.