HYBRID PEAR CULTIVARS FOR FLORIDA

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Abstract. Pear cultivars grown in the United States are generally classified into two groups, the European pear (Pyrus communis) and hybrid pears which originated as crosses between European cultivars and Oriental species (Pyrus serotina). Hybrid pears are not grown commercially in Florida but are quite common as dooryard fruit trees. Limiting factors influencing pear production in Florida include chill requirement and disease resistance. Hybrid pears are adapted to north central and north Florida. Fireblight and leaf spot are the two most important diseases limiting pear production in Florida. Cultivars ‘Hood’, ‘Tenn’, Selection 41-116 and Selection 57-49 have smooth-textured flesh and are recommended for eating as fresh fruit. ‘Baldwin’ and ‘Carnes’ are dual purpose cultivars having good dessert and canning quality while ‘Kieffer’, ‘Orient’ and ‘Pineapple’ are recommended for canning.

Pear cultivars grown in the United States are generally classified into two groups, the European pear (Pyrus communis) and hybrid pears which originated as crosses between European varieties and oriental species. Oriental pears (Pyrus serotina) have not gained acceptance in this country because of inferior fruit quality. The European pear was brought to North America by the early settlers and has spread to parts of the continent where it is adapted. Oriental pears were introduced in the early to mid 1800’s and soon after began to cross-pollinate with the European pears to produce hybrids, many of which are adapted to the southern United States (4).

Although there is no commercial industry of pears in Florida, they are quite common as dooryard trees. Pears are adapted to north central and north Florida and are not recommended for home plantings south of Orlando. Florida (1). Cultivars adapted to Florida require a certain amount of chilling (hrs below 7.2°C) during the dormant season for normal flower and leaf development. For example, ‘Baldwin’, ‘Kieffer’, and ‘Orient’ will usually receive sufficient cold in north Florida but not in central Florida. Perhaps the most limiting factor to pear production in the Southeast is fire-blight (Edwinia amylovora). Hybrid pear cultivars generally have more resistance to fire-blight than European cultivars. Resistance to leaf spot (Fabraea maculata) is also an important factor to consider in selecting cultivars for dooryard plantings. Most homeowners do not try to control either disease; thus resistance is very important. Fruit and tree characteristics of several hybrid cultivars evaluated at the Agricultural Research Center in Monticello and at the University of Florida in Gainesville are discussed in detail. Promising numbered selections from the pear breeding program at the University of Florida were also included in this study.

‘Baldwin’, origin undetermined, has medium to large size fruit (220-240 g) and is oblong in shape. Fruit are attractive having a light green skin color overlaid with a light russet. Although not as smooth textured as ‘Hood’ among the named varieties, fruit of ‘Baldwin’ are of good quality eaten fresh or processed. The average date of full bloom is mid to late March in north Florida, similar to ‘Carnes’ and ‘Orient’. Due to the high chill requirement, ‘Baldwin’ is not recommended for central or south Florida. Fruit ripens over a long period of time in August and September. ‘Baldwin’ produces medium size crops and trees have moderate resistance to both fire-blight and leaf spot.

While the origin and parentage of ‘Carnes’ is undetermined, fruit are of medium size (180 g) and round in shape. Skin color is yellowish-green with a light russet while the flesh is firm and medium coarse in texture and flavorful. Fruit can be eaten fresh if allowed to ripen in storage or canned. Full bloom occurs in mid to late March in most years at Monticello. Fruit ripen in July, slightly later than ‘Hood’. Trees are upright in growth and have moderate resistance to fire-blight. Leaf spot has been severe in some years in north Florida.

‘Hood’, parentage undetermined, is an early ripening pear and is the best fresh eating pear of the named varieties grown in Florida. Fruit are large (260 g), yellow-green in color with a juicy, smooth textured flesh. The average date of full bloom is mid March in north Florida, with ‘Pineapple’. Fruit ripen in mid-July, slightly later than ‘Hood’. Trees are upright in growth and have moderate resistance to fire-blight while leaf spot may cause light defoliation in some years.

‘Kieffer’ originated in Roxborough, Pennsylvania by Peter Kieffer and was introduced in 1876. The seed parent was an Oriental pear (3). Fruit are large (250-260 g) and roundish, tapering at both ends. Skin is thick, yellow-green in color with a dull red blush on the exposed side. Flesh is juicy, coarse and of poor quality for fresh fruit. ‘Kieffer’ is recommended for canning only. Average date of full bloom is late March and this is the last cultivar to bloom each year. ‘Kieffer’ appears to have a higher chill requirement than the other cultivars under evaluation at Monticello. Fruit begin to ripen in mid-August. Trees are vigorous and upright in growth. ‘Kieffer’ is susceptible to fire-blight but has fair resistance to leaf spot. Because of the chill requirement, ‘Kieffer’ is recommended for north Florida only.
'Orient' originated in Chico, California by Walter Van Fleet of the Plant Introduction Garden, U.S.D.A. It was introduced in 1945 through the Tennessee Agricultural Experiment Station. 'Orient' originated from a cross of Pyrus communis x Pyrus sp. from China and the direction of the cross is unknown (2). Fruit are large (270-290 g) and nearly round. Skin is thick, roughened and greenish in color while flesh is firm, juicy and medium coarse in texture. 'Orient' is recommended for canning but can be eaten fresh if allowed to ripen in storage. The average date of full bloom in Monticello is early to mid March. 2 to 3 days before 'Kieffer' and 'Pineapple'. Fruit ripens in late July or early August. Trees are vigorous and productive with a distinctive willowy appearance under a full crop load. 'Orient' appears to have good resistance to both fire-blight and leaf spot. 'Orient' is recommended for planting in north Florida.

While the origin, parentage, and introduction are unknown, the 'Pineapple' cultivar is very similar to other Pyrus serotina x Pyrus communis hybrids in fruit and tree characters (4). Fruit are medium to large (210-220 g), round and narrowing at both ends. Skin is thick, yellow in color with russet dots and attractive. Flesh is white, firm and coarse in texture. 'Pineapple' is excellent for canning but poor in dessert quality. Full bloom occurs in early March, usually with 'Hood' and 10-14 days before 'Kieffer'. Harvest dates average early August in north Florida. Not only is 'Pineapple' resistant to fire-blight, but it also appears to be moderately resistant to leaf spot.

Selection 41-116 originated in Gainesville, Florida by Ralph H. Sharpe of the University of Florida. It resulted from a cross made in the 1950's of 'Hood' by 'Tenn'. Fruit are small in size (110 g) with a light green skin color and attractive. Selection 41-116 has excellent fresh eating quality with a smooth textured flesh. The average date of full bloom in the Gainesville area is early March while fruit ripens in July. Selection 41-116 appears to have moderate resistance to both fire-blight and leaf spot.

Selection 57-49 originated in Gainesville, Florida by Ralph H. Sharpe of the University of Florida. It resulted from a cross of 'Tenn' by an un-named 'Hood' seedling. Fruit are large (240 g), bronze in color overlaid with a light red blush. Flesh is smooth in texture and has good flavor. Full bloom occurs in late March at Monticello with harvest in October. Selection 57-50 is the latest ripening selection currently under evaluation in north Florida. Trees have moderate resistance to fire-blight and leaf spot.

'Tenn' originated in Knoxville, Tennessee by Brooks D. Drain of the Tennessee Agricultural Experiment Station but the correct parentage is unknown. Fruit are small in size (120 g) and have a greenish-yellow ground color with a 30% red blush. Fruit has excellent flavor and quality with a smooth buttery texture and few grit cells. The average date of full bloom is early March in Gainesville with fruit ripening in early September. The tree is spreading in growth, resistance to fire-blight and has moderate resistance to leaf spot.

**Literature Cited**


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**WEED CONTROL WITH ORYZALIN (SURFLAN®) IN PECAN AND NECTARINE ORCHARDS**

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Abstract. Two formulations of oryzalin (Surflan®), a 75% wettable powder (75WP) and a 4.0 lb/gal aqueous suspension (4AS) at 2.0 and 4.0 lb/A in a tank mix with paraquat at 0.5 lb/A, were evaluated 4, 12, and 20 weeks after application in early April 1977 in a 3-yr-old pecan [Carya illinoensis (Wang.) K. Koch] orchard. Diuron (Karmex®) at

3.2 lb/A was also applied. A 10-yr-old pecan and a 5-yr-old nectarine [Prunus persica (L.) Batsch] orchard had treatments of oryzalin at 4.0 lb/A of both formulations + paraquat 0.5 lb/A and oryzalin at 2.0 lb/A (4AS) in a tank mix with either simazine (Princep®) or diuron at 2.0 + paraquat 0.5 lb/A. All treatments included recommended surfactant.

Neither formulation of oryzalin at either rate differed greatly in percent control of evaluated weeds. Good to excellent control of annual broadleaves and grasses, and poor control of perennials resulted from oryzalin + paraquat. However, control of perennials was increased when either simazine or diuron was mixed with oryzalin + paraquat. Diuron alone gave slightly better control of some broadleaves and perennial grasses at 4 and 12 weeks after application but not by week 20. No visible signs of tree phytotoxicity were observed in this experiment.

Weed control is a key cultural practice in deciduous fruit orchards. The most common management system is to maintain a herbicide strip under the trees and sod between rows.

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