

'Bosc': A Pear in Transition with an Uncertain Past

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'Bosc' is the second most important winter pear grown in the Pacific Northwest, and is also widely produced in Europe and South America. Today 'Bosc' and its sports account for 15 to 20% of the annual 15 to 16 million boxes of winter pears produced in the Pacific Northwest (11). In 2004 'Bosc' will again replace 'Bartlett' as the most popular pear cultivar being budded for sale (1).

'Bosc' has a cloudy and uncertain past. Downing (4) attributed its origin in Belgium in 1807 from seeds planted by Dr. Jean Baptiste Van Mons, a physician and pharmacist. Van Mons named the cultivar 'Calebasse Bosc' to honor the French naturalist M. Bosc. Decaisne (3), Hedrick (6), and Leroy (8) listed 'Beurré Bosc' and 'Calebasse Bosc' as two separate cultivars with very different descriptions. Mathieu (9) listed 'Calebasse Bosc (Bivort)' as a synonym for 'Prinzessin Marianne' and 'Calebasse Bosc (Burchardt)' as a synonym for 'Marie Louise'. Decaisne (3) and Leroy (8) listed 'Calebasse Bosc (Diel)' as a synonym of 'Poire Bosc'; however, they described the fruit as having an oblong cylindrical shape. As descriptions of 'Calebasse Bosc' and 'Beurré Bosc' were different, Leroy (8) attributed the origin of 'Beurré Bosc' to a French cultivar named to honor French horticulturist Louis Bosc (not related to M. Bosc). Mathieu (9) did not include 'Beurré Bosc' in his pear listings, but listed a 'Calebasse Bosc van Mons' that indirectly may be synonymous for 'Bosc'.

Whatever its origin, Robert Thompson obtained a cultivar named 'Beurré Bosc' and planted it in the London Horticulture Society gardens in 1820, and by the early 1830s Robert Manning and William Kendrick established 'Beurré Bosc' scion wood from both Van Mons and the London Horticultural

Society in the United States (6). Depending on its origin, 'Bosc' has been grown under a number of synonyms. These include: 'Beurré Bosc' (6), 'Beurré d'Apremont' (8), 'Beurré d'Yelle' (4), 'Bosc's Flaschenbirne' (4, 8), 'Bosc's Flaschen Birné' (9), 'Calebasse Bosc' (4, 9), 'Calebasse Bosc van Mons' (9), 'Cannelle' (8), 'Carafon de Bosc' (8), 'Kaiser Alexander' (9), 'Marianne Nouvelle' (4), and 'Paradis d'Automne' (8).

The 'Bosc' tree is hardy, upright, vigorous, and strongly top-dominant. The upright character lends itself readily to the Central Leader training system, and higher density conditions. Trees are productive, do not come into bearing rapidly, and are strongly prone to alternate bearing. It is usually necessary to cut the central leader heavily the first three years to keep the lower branches developing and to prevent the top from overgrowing the bottom. It is necessary to head permanent branches to keep them growing and prevent sagging. Young 'Bosc' trees are the most sensitive pear trees to cold injury, with damage developing when winter temperatures have dropped to -23°C (2, 7) under windy conditions. 'Bosc' is a strong terminal bearer and develops "blank wood" if not properly trained and pruned. The trees are susceptible to fire blight, which can spread rapidly within the tree. 'Bosc' is extremely sensitive to stony pit virus, and is utilized as an indicator plant for other cultivars.

The tree blooms late (with 'Comice'); however, 'Bosc' planted with either 'd'Anjou' or 'Bartlett' provides good set most years. The fruit is large with an acute-ovate-pyriform shape with a long tapering neck and long pedicel. The skin is generally yellow in color, but also may be greenish-yellow. The fruit is covered with a dark russet, which varies depending on climatic

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and cultural conditions. The fruit matures in mid-September, after 'd'Anjou' and 'Comice'. Russetted strains mature approximately one week later than the 'Standard Bosc'. 'Bosc' is prone to preharvest fruit drop. When ripe, the flesh is white to yellowish-white, very juicy, and buttery (not melting), with an aromatic flavor. 'Bosc' is the most sensitive pear to *Phialophora* sp. side rot in storage (2). The fruit can be stored for about six months in regular air storage.

'Bosc' is genetically stable, but bud sports have and do occur. These sports have usually produced more highly russetted fruit, but non-russetted sports do exist. Two of the more highly russetted sports have been patented in the United States. 'Golden Russet Bosc' sometime referred to a 'Fukui Bosc' (5) was patented in 1984. At maturity it has an over-all, orange-tinted, relatively smooth, unbroken russet. 'Bronze Beauty' also known as 'Wimmer's Bosc' (10) was patented in 1991. At maturity it has an over-all, bronze-colored, unbroken russet that is slightly roughened. 'Bronze Beauty' begins to russet approximately one month earlier than any of the other 'Bosc'. Several non-patented strains are also being grown commercially in the Pacific Northwest. These include 'Mt. Adams Bosc' and 'Wenatchi Bosc'.

Today in the United States, the original 'Bosc' (known as 'Standard Bosc') is a pear in transition. Thirty years ago, when 'Bosc' production was less than one million boxes out of a total winter pear crop that was approximately six million boxes (11) sales were relatively easy. However, extensive plantings in the late 1980s and early 1990s (1) – much of it to the russetted sports - has resulted in a dramatic increase in production. 'Bosc' accounted for nearly 35% of the trees planted in 1991, and then declined to approximately 12% of the plantings through 2002 (1). Today, with 'Bosc' production exceeding three million boxes in the "on year", and a total winter pear production near

16 million boxes, sales are much more difficult. As crops have become larger, buyers are becoming more selective and are demanding more fully russetted fruit and larger sized fruit (box size 80 to 90). Culturally, growers can apply oil and sulfur to increase the russet; however, these practices don't always work, which makes it increasingly difficult for growers of 'Standard Bosc' to remain profitable. However, growers of the russetted strains are also under pressure, as the russetted strains are much more difficult to size.

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