
‘Capital’ Ornamental Pear

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It is now more than 2 decades since the release of Pyrus calleryana 'Dome', cv. Bradford by the U.S. Department of Agriculture (3, 5). During this time it has become a very popular shade tree for landscape and street planting purposes. Widely grown throughout the Mid-Atlantic States, westward to the Mississippi and in parts of the West Coast, it is listed among the “Ten Most Recommended Trees” of several states. ‘Bradford’ has a broad globular crown and may grow to over 15 m in height and in width at maturity.

Since 1954, a test planting of 180 trees of ‘Bradford’ along the streets of a subdivision of University Park, Maryland, have been under close observation. At planting, the trees consisted of 1 year whirls 1 to 2 m tall, budded on 2 year seedings of Pyrus calleryana and spaced 15 m apart along the grass strips between curbs and sidewalks. During the late 1960s the crowns of many adjacent trees were touching each other. At that time, it was becoming increasingly evident that ‘Bradford’ would outgrow its location and become a maintenance problem, especially regarding electric power and telephone lines.

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During the early 1970s, when efforts were underway toward the selection for columnar crowned P. calleryana, a selection quite distinct from ‘Whitehouse’ was chosen as having considerable ornamental value with potential for windbreak and screen plantings as a long-lived alternate for the Lombardy poplar. This clone has been named ‘Capital’. In addition to its narrow, upright crown, ‘Capital’ is thornless, has abundant spring flowering, attractive summer foliage, bright purple-red autumn foliage and small unoffensive fruits; characteristics it shares with both ‘Bradford’ and ‘Whitehouse’. Crown shape and ultimate size are the primary differences between these three cultivars. Silhouette drawings of the three cultivars, taken from photographs (Fig. 1) illustrate these differences.

Origin

The ‘Capital’ pear was selected in 1969 from a population of 2,500 seedlings growing at or near the U.S. Plant Introduction Station, Glenn Dale, Maryland. The original tree developed as an open pollinated seedling presumably resulting from ‘Bradford’ and one of the many Pyrus clones growing at the Glenn Dale Station. It was one of 12 preliminary selections made in 1969, vegetatively propagated and grown in orchard and landscape plantings at the station for further evaluation. Two clones among the 12 continued to show outstanding merit while the other 10 were gradually discarded as unsuitable. ‘Whitehouse’ was named in 1977. The second selection from this group is now named ‘Capital’. The original tree was 9.5 m tall and 2.5 m at its greatest crown width at the time of its selection in 1969. Vegetative propagations exhibit the same characteristics as those observed in the original tree.

Plants of ‘Capital’ grafted onto P. calleryana stocks were grown in orchard plantings along with an extensive collection of commercial pear introductions from 1970 to present. Trees were grown in a variety of soil types ranging from a heavy clay loam to a sassafras sandy loam, and from clean cultivation to an orchard grass sod. Fertilization ranged from none to 0.45 kg of 10N-4.3P-8.3K granular per 2.50 cm trunk diameter at 30 cm above ground level. The commercial pear plantings have been repeatedly subjected to severe outbreaks of fireblight caused by Erwinia amylovora (Burr.) Winslow et al., but no visible symptoms were observed in ‘Capital’. Chip bud inoculations of disease infected

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2Research Horticulturist.
tissue showed 'Capital' as having a high degree of resistance.

**Description**

'Capital' develops a columnar form with a strong central leader and stout lateral branches, which quickly curve upward and assume a near vertical growth pattern roughly parallel to the central leader (Fig. 1 & 2). In this respect, 'Capital' resembles the commercial pear and could be suspected of having some hybridity with *P. communis*. Several factors, however, suggest otherwise; 'Bradford' and most *P. calleryana* seedlings blossoms considerably earlier in the spring than do *P. communis* cultivars at Glenn Dale showed complete incompatibility (2). The central leader and all major branches of 'Capital' are heavily populated with fruiting spurs. New shoot growth is finely pubescent, bark RHS Yellow-Green 146C (4) with prominent greyish-white lenticles, becoming glabrous and turning RHS Greyed Green 191A and later RHS Grey 201A at maturity. Stems on lateral branches are somewhat thicker than 'Bradford'. Most flowering occurs on the numerous spurs. Flowers are 5 petaled, off-white, blossoming before leaf emergence during most years and about the same time as 'Bradford'.

'Capital' leaves are thick, glossy, RHS Green 137A, long, sharply pointed, broad ovate, 6.5 cm long, 5 cm wide; leaf blade margins are undulate and crenulate. Petioles are somewhat thicker than those of 'Bradford'. Leaves turn RHS Red Purple 59B in early autumn changing to RHS Red 44 A&C as the season advances and remain on the trees long after those of most shade trees in the mid-Atlantic region. The small (1.2 cm diameter), round, RHS Greyed Brown 199B, fruits are sparsely set when 'Capital' is isolated from other *P. calleryana* clones. 'Capital' does, however, bear very heavy crops of fruits when located close to other *P. calleryana* clones. The fruit when present is not objectionable, but remains hard and persistent long after the leaves have fallen. Very attractive during the early winter months, the fruits finally soften and are eaten by birds, thus providing a valuable wildlife food.

**Propagation**

It is recommended that 'Capital' be budded or grafted onto *P. calleryana* understock. Plants grown on *P. calleryana* roots have considerable adaptability to a wide range of soil conditions. Although 'Bradford' and 'Whitehouse' were initially considered compatible on *P. communis* rootstock, recent evidence indicates that such trees are shorter lived and may suffer certain nutritional and physiological disorders. These same problems very likely would also exist for trees of 'Capital' grafted onto *P. communis* stock.

**Availability**

Scions will be available during the spring and mid-summer of 1982 for propagation purposes, only to cooperating nurserymen, state universities, arboreta, and botanical gardens, but none for sale. Requests should be directed to the author at the National Arboretum address. No grafted trees are available for distribution.

**Literature Cited**