

Pieris floribunda (Pursh) Benth. & Hook.

mountain andromeda

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Synonym. *Andromeda floribunda* Pursh.

Other common names. mountain pieris, fetterbush, mountain fetterbush.

Growth habit, occurrence, and uses. Mountain andromeda *Pieris floribunda* (Pursh) Benth. & Hook. is a broadleaf, evergreen, erect shrub 1 to 2 m in height and of equal or greater spread (Kruse 1987). The plant forms a rounded or flat-topped shape when mature and is covered with dense medium green foliage (Sabuco 1990). This species is indigenous to the Appalachian Mountains of the United States, extending from West Virginia southward into northern Georgia (Judd 1982). Mountain andromeda has a limited and scattered distribution along the Blue Ridge Mountains in the southern Appalachians (Spongberg 1990). It is typically found on balds at high elevations and is hardy to USDA Zone 4 (Dirr 1990; Radford and others 1968).

The species is rare in cultivation, due in part to difficulties in propagation. This handsome, evergreen shrub has several desirable landscape attributes: dense, compact habit of growth; white, upright inflorescences; a tolerance to higher pH (pH 7.5) than typical species in the Ericaceae; greater cold tolerance than other species in *Pieris* L.; and resistance to leaf damage by lacebug *C. Stephanitis takeyai* Drake and Maa.) (Kruse 1987; Sabuco 1990). The plant is best suited for landscape use in lightly shaded sites with a well-drained soil high in organic matter (Kruse 1987).

Geographic races and hybrids. There is only 1 known interspecific hybrid of mountain andromeda *Pieris* × 'Brouwer's Beauty'. The hybrid resulted spontaneously when a plant of *Pieris floribunda* was pollinated by nearby plants of Japanese andromeda *Pieris japonica* (Thunb.) D. Don ex G. Don (Jaynes and Dunbar 1976). The resultant hybrid has morphological characteristics that are intermediate between both parents (Jaynes 1975). The interspecific hybrid has an increased number of flowers that may be attributed to the sterility of the plant (Jaynes 1975). Lack of seedset apparently gives the cultivar added vigor, as well as improved flowering over mountain andromeda (Jaynes 1975).

Flowering and fruiting. Fragrant, white flowers are borne on upright panicles that open beginning in late March and last until early May. Inflorescences are held well above the leaves at the top of the shrub, where they can be seen easily (Sabuco 1990). The floral display will last from 4 to 6 weeks. After flowering and a flush of new vegetative growth, the plant develops the inflorescences

for the next year. Decorative, greenish white flower buds are produced in midsummer and stand out from the foliage during the fall and winter (Hillier Nurseries 1994). These panicles of buds serve to extend the period of landscape interest of this shrub. Flowers are pollinated by small bees (Gibson 1901). Fruits are globular, dry, 5-chambered, dehiscent, capsules borne in clusters, each 1 about 3 mm in diameter (Bailey 1977). Seeds are 3 mm long and 1.5 mm wide, are flattened with 2 inconspicuous wings, and have a dark golden-yellow color (figures 1 and 2).

Collection of fruits; seed extraction, cleaning, and storage. Capsules and seeds ripen in mid- to late autumn and can be collected at that time (Kruse 1987). Capsules are removed from the plant, lightly beaten and rubbed to open them completely (Dirr and Heuser 1987), and then shaken to loosen the seeds. Viability can be poor if seeds are not graded rigorously. Use of an air column blower is recommended to remove chaff and empty seeds (Starrett and others 1992). When dried to a moisture content of 6% and cleaned, the number of pure seeds was 7,500/g (210,000/oz) (Starrett and others 1992).

Seeds of mountain andromeda are orthodox in storage behavior. They can be stored at room temperature if used within a year but can remain viable for several years if stored in a sealed container at 4.5 °C (Blazich and Starrett 1996).

Germination tests. There are no test methods prescribed for official seed tests of mountain andromeda, but the seeds germinate readily without pretreatment (Kruse 1987). Seeds do not require light for germination, but daily photoperiods as short as 2 hour will maximize germination (Starrett and others 1992). A 30-day test of seeds from a source in the Blue Ridge Mountains of western North Carolina demonstrated that a daily photoperiod as short as 2 hour at 25 °C or an 8/16-hour thermoperiod at 25/15 °C resulted in 90% germination (Starrett and others 1992). Photoperiods of longer duration did not significantly improve germination of seeds from this source, regardless of temperature (Starrett and others 1992). The germination study of Starrett and others (1992) utilized cool-white fluorescent lamps as the light source, which provided a photosynthetic photon flux (400 to 700 nm) of 69 $\mu\text{mol}/\text{m}^2/\text{sec}$ (5.3 klux). Germination is epigeal.

Nursery practice. Typically, a germination medium is warmed to 24 °C via bottom heat (Bar 1987). Seeds are sown on the surface of a steam-pasteurized medium such as pinebark sifted through a 6-mm (0.25-in)-mesh screen and irrigated slightly. The surface of the germinating medium should never be allowed to dry completely (Bar 1987). Once seeds have germinated, seedlings have very slow initial growth. The authors have observed that seedlings will often produce 1 true leaf above the cotyledons and then fail to exhibit any further growth for several weeks. Current practice is to fertilize seedlings at the first-true-leaf stage with a half-strength solution of a 15-45-5 (N:P₂O₅:K₂O) complete fertilizer (Bar 1987). After 2 weeks, nursery workers then shift the seedlings to a full-strength fertilizer with weekly application until they transplant the seedlings into liner flats or pots (Bar 1987).

Mountain andromeda can also be propagated vegetatively by rooting stem cuttings (Dirr and Heuser 1987) and by micropropagation (Starrett and others 1993). However, stem cuttings are reportedly difficult to root (Leach 1976).

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Figure 1C *Pieris floribunda*, mountain andromeda: seeds of mountain andromeda, × ??.

Figure 2C *Pieris floribunda*, mountain andromeda: longitudinal section of a seed, × ??.