



FIR, BALSAM
(Abies balsamea)

Proposed denomination: 'Bernadine Gold'
Application number: 08-6357
Application date: 2008/05/30
Applicant: Leo Hamel, Sawyerville, Quebec
Breeder: Leo Hamel, Sawyerville, Quebec

Variety used for comparison: *Abies balsamea* species

Summary: *In spring, the new growth emerging from the buds of 'Bernadine Gold' is lighter yellow green than that of Abies balsamea. In autumn, 'Bernadine Gold' has darker green needles than Abies balsamea. Curvature of the needle of 'Bernadine Gold' is weak whereas it is absent or very weak for Abies balsamea.*

Description:

PLANT: broad conical growth habit, tall, large angle between first 5 cm of branch and main shoot, attitude of secondary branches is horizontal, moderate growth rate

SHOOT OF CURRENT YEAR: short, grey brown on sunny side

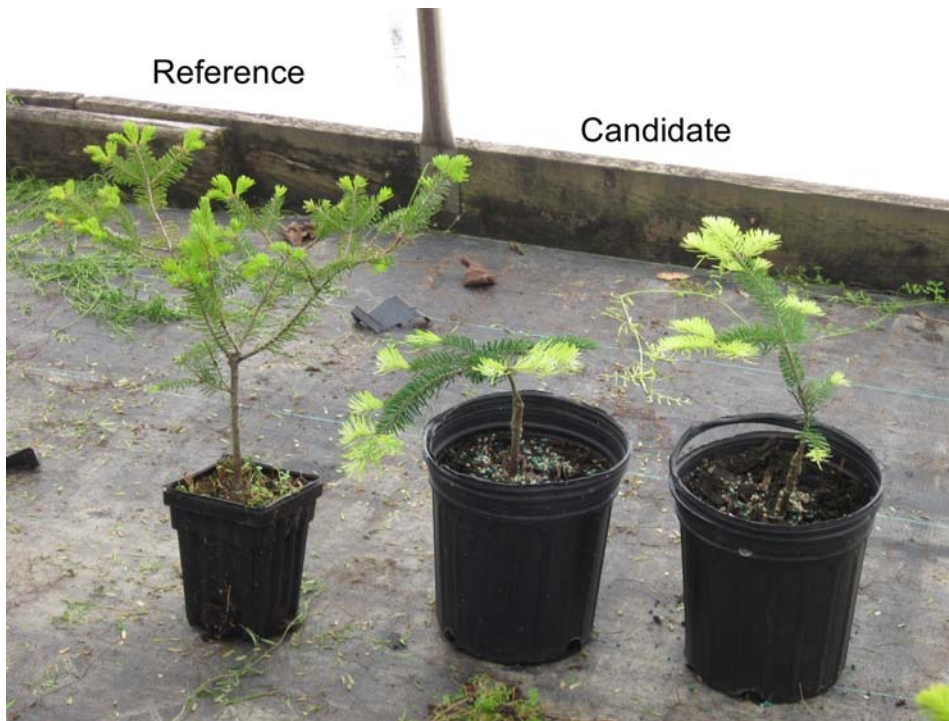
TERMINAL BUD: outer bud scales equal in length to length of bud, rounded tip

OUTER BUD SCALES: absent or very sparse pubescence, medium brown

NEEDLE: dense on shoot, arrangement on shoot is imperfectly radial, upper and lower side is yellow green when newly emerged, in autumn upper side is dark green and lower side is grey green, no variegation, weak curvature, absent or very weak waxy bloom, moderate glossiness, rounded apex with cuspidate tip

Origin and Breeding: 'Bernadine Gold' was discovered within a population of 30 cm Balsam fir trees which had been taken from a densely populated natural stand in a wooded area behind the breeder's residence. These trees were planted in 1985 and grown with the intention of selling them for use as Christmas trees. All trees were maintained as is customary in the Christmas tree industry with regards to annual shearing, fertilizer, etc. As the trees grew, one particular tree was found to have unique new growth characteristics. When the new buds of this tree opened, the new growth needles were bright yellow in comparison to the light green of the other trees. The new growth remained bright yellow until late summer when it turned pale yellow, almost white. By fall, the colour of the new growth changed to the customary green, no longer distinguishable from the other balsam fir trees. This variety was selected based on these characteristics and named 'Bernadine Gold'. 'Bernadine Gold' is propagated by cuttings which are grafted onto *Abies balsamea* seedlings. The grafting has been conducted since 2006 at Les Plantons A et P inc., in Sainte-Christine, Québec.

Tests and Trials: Trials for 'Bernadine Gold' were conducted since 2006 at Les Plantons A et P inc. in Sainte-Christine, Québec. There were at least 50 plants each of the candidate and reference varieties. The candidate variety was grafted onto root stocks of the reference variety, *Abies balsamea*, and the reference variety was grown from seed. All plants were planted in 3 litre pots and were approximately 4 years old. The pots were closely spaced within a plastic tunnel open at both ends.



Fir, Balsam: 'Bernadine Gold' (right) with reference variety *Abies balsamea* (left)