

Variation of Taxane Content in Needles of *Taxus x media* Cultivars with Different Growth Characteristics

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Needles from 17 different *Taxus x media* cultivars, belonging to 4 groups showing different growth characteristics, were analyzed using high performance liquid chromatography for their content of 10-deacetylbaccatin III, baccatin III, cephalomannine and paclitaxel (Taxol®). The 4 *Taxus x media* cultivar groups were: 1.) medium to fast growing and upright form; 2.) slow growing and upright form; 3.) fast growing and spreading form; and 4.) slow growing and spreading form. The purpose of this study was to identify yew cultivars of fast growth rate, upright growth and high taxane content in their needles. The highest content of paclitaxel was found in ‘Coleana’ of group 1 (378 µg/g of the extracted dry weight). Three cultivars in group 1, ‘Coleana’, ‘Stovekenii’ and ‘Hicksii’, make good candidates for taxane extraction because of their high paclitaxel and 10-deacetylbaccatin III content, fast biomass accumulation and upright growing form. They are also good starting materials to develop alternative methods for the production of paclitaxel and its analogous compounds through modern biotechnology approaches.

Key words: HPLC, Paclitaxel, Taxane, *Taxus x media*