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## Financial performance of using genetically improved regeneration material of Scots pine (*Pinus sylvestris* L.) in Finland

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**Abstract** The financial viability of using improved seed material of Scots pine was assessed in Finnish conditions. Based on a few dozen field trials, a range of genetic gains for height growth was incorporated into a stand simulator. Technically genetic gain was modelled into individual growth models by applying the Chapman-Richards type function and using genetic gain estimates as asymptotic scaling parameters. Stand projections, including the effect of genetic gain, were further converted into monetary terms by calculating bare land values, i.e. BLVs according to the Faustman rotation model. Following this, the financial attractiveness of using improved seed material from Scots pine was determined by comparing the BLVs between stands with and without genetic gain. The study focused on the private forest owner's point of view, reflecting the primary demand conditions for improved seed material. Comparisons between BLVs indicated that using improved seed material of Scots pine would be financially viable for private forest owners in most parts of Finland, the discount rate being 3%. The main results were robust, with pertinent changes in silvicultural costs and stumpage prices. This study demonstrates the need for financial analysis in decision-making in the context of regeneration material.

**Keywords** Genetic gain · Chapman-Richards · Motti stand simulator ·  
Soil expectation value · Faustman rotation model · Financial viability

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