

### 5.3 Management of uneven-aged mixed stands originating from regeneration under Scots pine cover

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#### **Abstract**

*This study investigates the characteristics of uneven-aged mixed stands, originating from regeneration under Scots pine cover, and how to manage these stands. Special attention is given to the composition, the quality and the growth of these stands. Various tree species appear in the spontaneous regeneration, with either pedunculate oak or red oak dominant. The quality of the untreated regenerated stands is rather poor. The growth of the remaining trees and of the new ingrowing trees is satisfactory. To realize the goal of uneven-aged, mixed and multifunctional stands, major attention should be paid to the creation of seed trees, the avoiding of clearcuts, conservation of remainders, regeneration under cover, regular selection of future trees, individual treatment of trees, permanent regeneration, and attention to aesthetic and nature values.*

Key words: Scots pine, conversion, uneven-aged, mixed stands, regeneration under cover, sustainable management

#### **Introduction**

Large parts of forests in North-East Belgium consist of first or second generation Scots pine (*Pinus sylvestris*) stands, located on rather poor sandy spodosols, formerly occupied by heathlands. Government policy is striving for the creation of more natural, mixed stands, and special attention is given to the conversion of these pine monocultures.

Today, natural regeneration of broadleaved species regularly appears in older pine stands (van Miegroet 1985; Lust 1987; de Schepper 1988). However, the possibilities of creating valuable new forest stands for future generations, starting from this natural regeneration, have not been studied in any great detail (Maddelein et al. 1990). Therefore, the objective of this study was to investigate the characteristics of spontaneous regeneration under Scots pine cover, and how to manage these stands. In order to find out whether these newly created stands will be usable in the future, special attention was paid to the composition and the quality of the regeneration, as well as to its age distribution and to the growth of the saplings and to the remaining Scots pines.