

CONTINUCOVER

An evaluation of continuous cover forestry in Ireland

PROJECT TEAM

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OBJECTIVES

- To assess the survival and growth of a number of tree species under various levels of canopy cover;
- To monitor throughfall, temperature, and rate of nutrient turnover (C and N) under these canopies;
- To establish plots to demonstrate the implementation of alternative silvicultural systems to clearcutting.

PROGRESS

An experiment was established in a pure Sitka spruce stand (planted in 1965) at Ballinagappoge in Aughrim Forest, Co Wicklow, in 2002. The main conclusion from this work is that understorey light levels in mature Sitka spruce canopies are too low to allow all but the most shade-tolerant species to survive.

A shadehouse experiment was established at UCD in 2002 to explore the impact of shade on

the morphology, physiology and photochemistry of *Picea sitchensis*, *Larix x eurolepis* and *Thuja plicata* under controlled conditions.

A demonstration was established at Mount Callan in 2002 whereby four 20 m diameter coupes were opened in two Sitka spruce stands. Part of each coupe was seeded with Sitka spruce from the Coillte Seed Centre, Ballintemple, and compared with unseeded controls. Ground surface scarifying and fencing were also examined. Eight plots have been established. To date, successful regeneration has not been obtained.

A section of a pure Sitka spruce stand (planted 1975) adjacent to the Ballinagappoge site was selected to demonstrate different approaches to thinning in a stand managed for continuous cover.

ACTIVITIES PLANNED

The growth and development of the stand within the demonstration plot at Ballinagappoge will be monitored for the occurrence of regeneration.

Mount Callan will be established as a demonstration forest for continuous cover forestry, to allow an examination of different thinning systems as part of the transformation process to continuous cover forestry. In addition, a plot established according to the principles of Association Futaie Irrégulière (AFI)¹ will be established.

OUTPUTS

Kennedy, S., Black, K., O'Reilly, C. and Ní Dhubháin, Á. 2007. The impact of shade on morphology, growth and biomass allocation in *Picea sitchensis*, *Larix x eurolepis* and *Thuja plicata*. *New Forests* 33: 139-153.

¹ AFI is a French association, set up in 1991 by a group of private forestry consultants to promote the management of irregular-structure stands.