

CONVERSION STRATEGY OF EVEN-SIZED CONIFER STANDS TOWARDS DIVERSITY

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INTRODUCTION

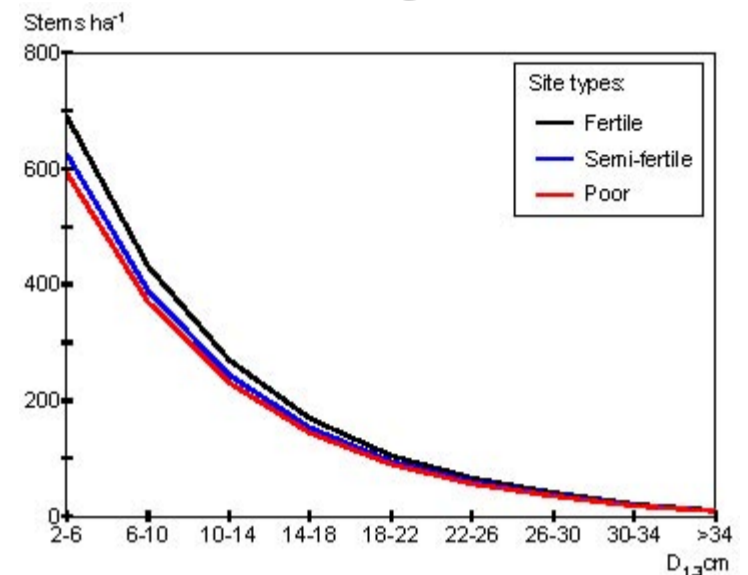
Conversion strategy of even-sized conifer stands towards diversity consists of treatments for creating uneven-sized, mixed forests. The target is a regularly uneven-sized stand structure with dbh distribution resembling a reversed J form. The treatment regimes needed depend on the structure, age, tree species composition and site type of the original stand.

METHODS

Mature or pure even-sized stands progress best with regeneration cuttings such as shelterwood (1) or seed tree (2) felling, or clear cutting with small openings, patches and strips. This will sometimes require enrichment planting or seeding and cleaning.

Seed trees are chosen mainly from among Scots pine and/or broadleaves, with 150–350 trees ha⁻¹ with the former (1), and 20–150 trees ha⁻¹ with the latter (2). Where the stand to be regenerated consists of nothing but big old rotten Norway spruce, clear cuttings have to be employed, size limited to about 2 ha for ecological reasons.

TARGET



Target stem number distribution on different site types after cutting in South Finland.

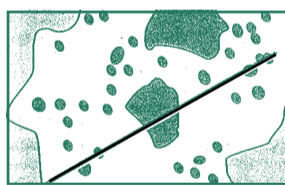
Before cutting



After cutting



From above



Small openings are a combination of clearcutting and seedtree felling.

Small openings

- > Area less than 2 ha
- > Burning logging waste late autumn
- > Light scarification
- > Natural regeneration from the adjacent stands or
- > Combination of natural regeneration and enrichment planting or seeding

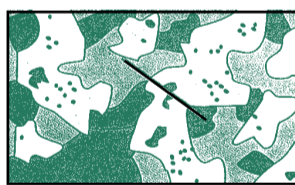
Before cutting



After cutting



From above



Strips fit the landscape, terrain and stand structure.

Patches and strips

- > Patches smaller than 0.3 ha (d < 60 m)
- > laid on tracks for harvesters
- > Strips fit the landscape and terrain width less than 25 m
- > No felling coupe is more than a quarter of the compartment the next section is felled after the previous one has reached its first stage
- > Light scarification, burning logging waste

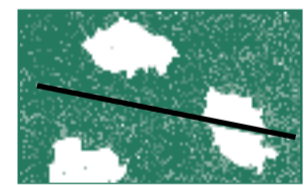
Before cutting



After cutting



From above



Patches are smaller than 0.3 ha.

Young stands

- > Sapling stands are left to develop free from clearing operations and thinnings to such a size when selection cuttings will give reasonable diversity
- > Stand structure and tree species composition are developed towards ever greater diversity
- > Applying the method of selection cuttings

References:

Lähde, E., Laiho, O., Norokorpi, Y. & Saksa, T. 1999. Diversity-oriented silviculture in the Boreal Zone of Europe. For. Ecol. Manage. 118: 223-243.