ECOLOGY AND SILVICULTURE OF WILD SERVICE TREE (SORBUS TORMINALIS (L.) CRANTZ): A LITERATURE REVIEW

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Introduction
Wild service tree (Sorbus torminalis (L.) Crantz) is widely distributed across western, central and southern Europe as well as northeast of Africa and south-west of Asia.

Crown architecture, self pruning and defects
It shows good self-pruning and does not develop vigorous branches following heavy artificial pruning or thinning.
A frequent defect of wild service trees is the presence of low forks (at heights inferior to 3 m), hindering the production of high-quality veneer logs.

Ability to grow in mixtures
Wild service tree is a light demanding and post-pioneer (early succession) species, very sensitive to the competition in the tree layer and reacting positively to late thinning.

Stand dynamics
The species shows a good potential for natural regeneration, both generative (by seeds and vegetative by stump sprouts or root suckers). The root suckers are more shade tolerant than the seed-originated seedlings and as the latter are preferentially browsed by deer and small rodents their protection by fencing may be required.

Silviculture
The silviculture recommended for wild service tree is intensive, dynamic and tree-oriented.
It involves high intensity weedling and cleaning, removing the complete elimination of tall surrounding trees.
Formative pruning is recommended for removing the forks and thick ascending branches and prevent the occurrence of the chambered sprouts form.
It is followed by high pruning, targeting the production of a branch-free bole of minimum 3 m (best 6-7 m) length.

Growth pattern
It grows quickly in height (40-60 up to 100 cm/yr) during the first years and can reach 25-30 m in height under optimum site and light conditions.
Wild service trees grow slowly in diameter but can reach 50-60 (even 70 or 80) cm.

Heavy thinnings from above are performed subsequently, favouring the final crop trees selected at the end of thicket-beginning of pole stage.
At minimum age of fifty-120 years, these free-grown trees for veneer production are expected to have large diameter of breast height (at least 60 cm dbh), strongly correlated with wide crowns, and regular annual rings of 2.5 to 4 mm wide.

Correlation between diameter at breast height and mean crown diameter of wild service trees (after Hochbichler et al., 2001 and Niełnason, 2007)

The largest wild service tree in Domark (Voskgaard Park, 30.11.2006; dhb = 1.40 m; h = 24.60 m; radius S = 7.00 cm, W = 8.00 cm, N = 11.10 m; E = 9.10 m; Courtesy to J. P. Skovgaard) (photo V.N. Niełnason)