

**Ecology and silviculture of wild service tree (*Sorbus torminalis* (L.) Crantz):
a literature review**

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Wild service tree (*Sorbus torminalis* (L.) Crantz) is widely distributed across western, central and southern Europe as well as north-west of Africa and south-west of Asia. Across this range the species occurs at elevations between 100 m and 2,200 m, especially in plain and hilly areas.

It is considered as a *submediterranean species* and requires warm climates specific to the oak-dominated forests. Wild service tree can grow on both acid and base-rich soils (pH between 3.5 and 8), being adapted to soils subjected to temporary flooding alternating with dry periods.

It grows quickly in height (40-60 cm, even 100 cm per year) in 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.

It shows good self-pruning and does not develop epicormic 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.

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.

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.

The silviculture recommended for wild service trees is *intensive, dynamic and tree-oriented*. It involves high intensity *weeding* and *cleaning-respacing*, targeting 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 *chandelier* crown form. It is followed by *high pruning*, targeting the production of a branch-free bole of minimum 3 m (best 6-7 m) length. *Heavy thinnings from above* are performed subsequently, favouring the final crop trees selected at the end of thicket-beginning of pole stage. At rotation ages of 100-120 years, these free-grown trees for veneer production are expected to have at least 60 cm d.b.h. and regular annual rings of 2.5 to 4 mm wide.

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