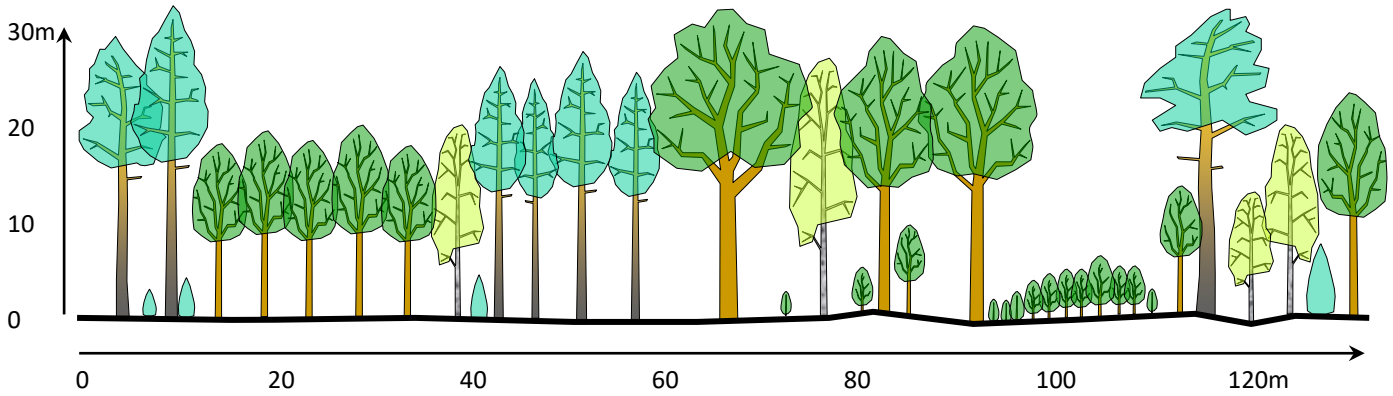
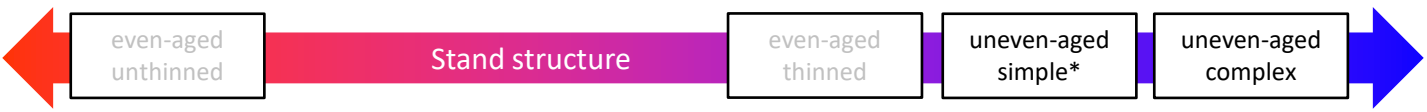
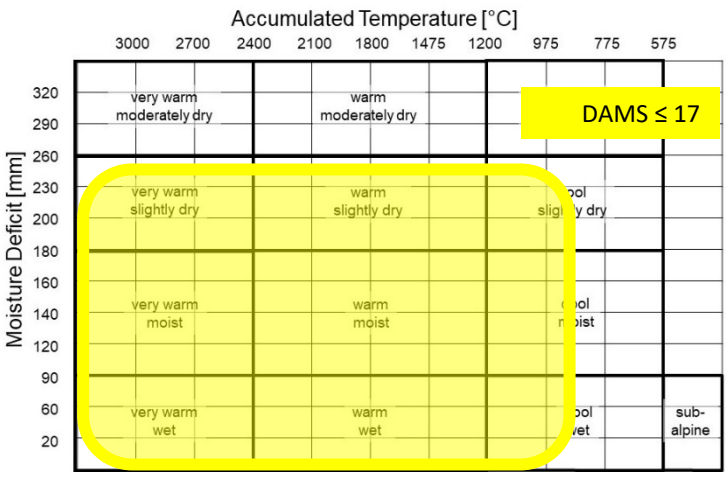
FDT 5.2.2 SOK and SP

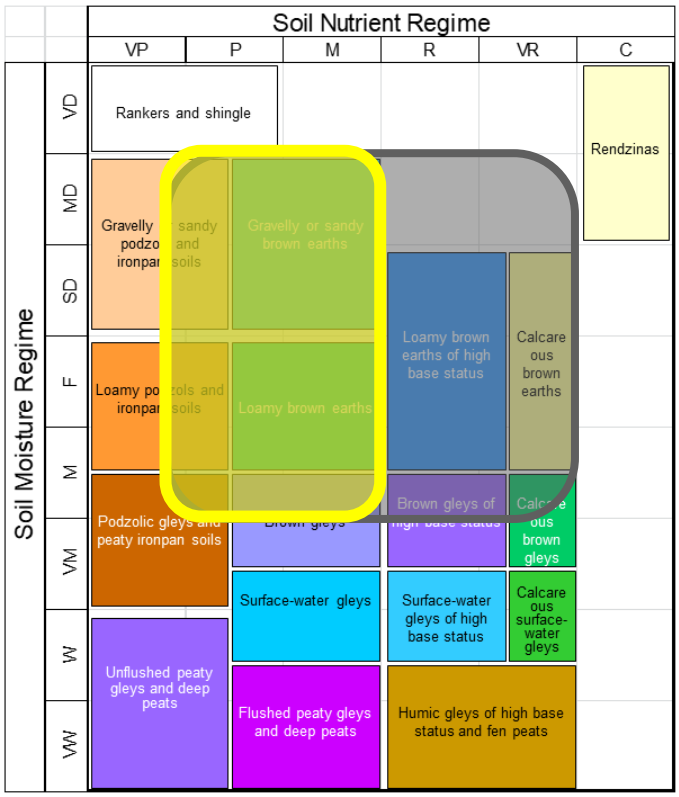


1. Structure and dynamics:
Mosaic of single-storeyed large groups or patches of SOK and SP of variable age, with individual trees or small groups of BI and other category C species as minor components.
Species distribution: SOK 50 – 70% SP: 20 – 40% minor species: 10 – 20%
SOK and SP will be managed in single cohorts on different rotations using LIMA. SP, BI and other minor species should propagate via natural regeneration, SOK may have to be planted if regeneration is insufficient.



2. Ecological suitability:
Represents the overlap between NVC types W18 and W17 or W16. This FDT belongs on nutrient poor sandy to sandy loam soils with low to intermediate water supply, where SOK performs at the lower end of the GYC range. Similar to FDT 2.1.5 but with reversed proportions of SOK and SP.





3. Management objectives:

Economic (SOK GYC < 6):	SOK – sawlogs, target DBH > 50cm in 120 – 180yrs, optional SP – sawlogs, target DBH > 50cm in 100 – 160yrs
Environmental and social:	Diverse woodland of natural appearance with habitats for light demanding species and high conservation value. Presence of deadwood and veteran trees. Attractive to visitors because of its open structure and diversity.

4. General management principles for the FDT

SOK and SP are very compatible (CS = 1) to grow in mixtures; the faster growth rate of SP being compensated by the slightly higher shade tolerance of SOK. Timber quality is variable in both species; it generally benefits from high initial stocking density and requires careful quality selection during respacing and thinning; SOK will also require growing in groups. Dominant trees of poor quality need to be eliminated by selective respacing, desirable FC trees promoted by thinning. SOK responds well to thinning interventions throughout its lifetime and the Q/D management approach with high initial stocking density may be used provided sawlog production is a viable option. The growth response of SP to thinning interventions peaks early in life and diminishes rapidly thereafter, therefore thinning needs to start earlier and its rotation may be considerably shorter than that of SOK. For both species crown thinning should be applied throughout. Thinning at later stages must aim to maintain tree stability and steady growth. LIMA / CCF methods should be used to introduce and maintain the desired horizontal and vertical stand structure.

5. Timeline

stage	H_{100} [m]	intervention
Establishment		• Planting of 3000 – 8000 trees/ha or natural regeneration. Whilst individual SP may be embedded in a surrounding matrix of SOK, SOK should be established at least in robust groups of > 25 trees at 0.3 – 1m spacing.
Young stand	< 3	• Protection against animals / plants as necessary. • Regulation of species composition and minor species as required.
Thicket stage	4 – 8	• Negative selective respacing (removal of undesirable trees), cleaning or pollarding of aggressive infill competing with promising SOK.
Pole stage	10 – 14	• SOK: Continue negative respacing if necessary, otherwise shift to positive selection and carefully promote up to 200 FC tree candidates/ha by removing 1 – 2 competitor(s). Maintain closed canopy for ongoing self-pruning. • SP: First selective crown thinning, mainly removing dominant / co-dominant trees with visible defects, coarse branching or poor shape. Up to 300 FC trees/ha may be selected, pruning may be considered.
Pole to small timber stage	16 – 18	• SOK: Thinning interventions start when FC tree candidates have reached the desired length of clean bole. Select 80 – 100 FC trees/ha, and apply crown thinning to release their crowns from competitive neighbours. • Monitor competition between SOK and SP and adjust thinning accordingly. Focus on competition status of FC trees and maintain target species composition.
Timber stage		• Monitor species composition, stand density, stability and health, and thin accordingly. Apply crown thinning as long as necessary for the benefits of FC trees. • Assess potential for natural regeneration and decide on harvesting method when SP approach target DBH – improve conditions if necessary. • Monitor occurrence and growth rate of SP regeneration, review FDT and / or supplement by planting if necessary.
Final harvesting and regeneration stage		• Time final harvesting operations in SOK with mast years if possible. • Monitor light level, ground vegetation, occurrence and growth rate of regeneration, supplement by planting if necessary, or restock. • Follow species specific guidance for SP / SOK dominated components.