

4. General management principles for the FDT

This FDT is suited to LIMA / CCF scenarios where natural regeneration is widely used and more structural diversity is desirable. Options range from selection systems using target diameter harvesting to simpler structures such as uniform shelterwoods. The presence of grey squirrels may restrict management objectives. For sawlog production careful selection of FC trees is essential. Due to the good self-pruning ability, weak apical dominance and phototropic growth behaviour of BE management by Q/D approach is advised, achieving timber quality first and ensuring FC trees can grow into large dimensions later. Management of young stands should aim to develop timber quality; thinning should start when the majority of FC trees have achieved the desired length of clean bole, usually at 16 – 18m top height and generally as crown thinning. BE is very prone to developing wolf trees; these should be removed as early as possible. Due to the high crown plasticity a clumped occurrence of FC trees is more acceptable than in other species. BE also responds very well to thinning throughout its life, meaning that late thinning interventions can still produce a considerable boost in growth.

5. Timeline

| stage | H ₁₀₀ [m] | intervention |
|---|----------------------|--|
| Establishment | | <ul style="list-style-type: none"> Natural regeneration in densities of > 10000 seedlings/ha, planting of 6000 – 10000 trees/ha, or direct seeding. Numbers can be reduced by planting 20 – 30 individual BE per cluster (0.3 – 1m spacing), with the number of clusters corresponding to the envisaged number of FC trees. |
| Young stand | < 3 | <ul style="list-style-type: none"> Protection against animals / plants as necessary. Regulation of species composition and minor species as required. |
| Thicket stage | 6 – 10 | <ul style="list-style-type: none"> Negative selective respacing – removal of wolf and other undesirable trees. Closed canopy must be maintained to ensure self-pruning and differentiation (remove no more than 5 – 10% of trees). |
| Pole stage | 10 – 14 | <ul style="list-style-type: none"> Continue negative respacing if necessary, otherwise the focus should shift to positive selection – carefully promote up to 250 FC tree candidates/ha by removing 1 – 2 competitor(s). Maintain closed canopy for ongoing self-pruning and differentiation process. |
| Pole to small timber stage | 16 – 18 | <ul style="list-style-type: none"> Thinning interventions start when the majority of FC tree candidates have reached the desired length of clean bole. Select 100 – 130 FC trees/ha, and thin to release their crowns from competitive neighbours (crown thinning). In contrast to most other XBLL a clumped occurrence of FC trees is acceptable. Also target remaining wolf trees as these may become difficult to remove later. |
| Timber stage | | <ul style="list-style-type: none"> Monitor the development of FC trees and continue thinning to keep them free from competition. Live crown length should be > 50% of tree height. Plan for final harvesting when FC trees approach target DBH. Decide on LIMA / CCF method (simple or complex) to be used and assess potential for natural regeneration – improve conditions if necessary. |
| Final harvesting and regeneration stage | | <ul style="list-style-type: none"> Carry out harvesting operations according to agreed LIMA / CCF method, time with mast years if possible. In shelterwood scenarios, reduce BA to 30m²/ha initially and then further once regeneration has established. Monitor light level, ground vegetation, occurrence and growth rate of regeneration, supplement by planting if necessary. |