

« Timber orchard » scenario: regular intensive post-planting care

« Timber orchard » scenario allows very low planting densities, on average 100-200 seedlings/ha for plants of good quality in terms of their performance and of known origin and makes it possible to care for the trees individually. Establishment costs are relatively low, but post-planting care is time consuming (and hence expensive if finance is needed).

→ *The Arborist*

« **Portrait** » : *arborists in this case have plenty of free time or devote their leisure time to the forest. They are passionate about trees and cannot stand the presence of “weeds”. They usually live on site or nearby and spend their time in the plantations on a tractor or with pruning shears. Alternatively, they rely on a person on site with a similar profile.*

Why?

- To reduce the cost of establishment or of individual tree protection against animals.
- Because the time or the means are available for regular interventions over at least 12 to 15 years.

Type of production

- At these densities, good quality logs (3 m to 4 m on average) are generally short due to the difficulty in pruning trees that produce large branches.
- With regular treatment, timber harvests are spread out over a few felling stages: 1 or 2 thinnings followed by final felling of 40 to 70 trees at 40 and 60 years for precious hardwoods (the diameter varies with the species).
- Growth has little impact on timber quality, provided that it is regular. There is a risk of green vein on wild cherry grown in windy locations

How?

- Planting densities are very low, varying between 80 and 300 seedlings/ha. Rectangular spacing is recommended in order to minimise the distance moved in caring for the trees.
- Choose a single main species or several in a mix. It is advisable to mix Rosaceae family species (service tree, wild cherry, pear and apple) with others (walnut, ash, maple, oak, etc.). The wild service tree is difficult to grow at these densities and is not recommended.
- Plant material must be of good quality, with a registered designation of origin (blue or pink label if available), stocky, sturdy and well-balanced seedlings.
- Regular annual maintenance, trimming and pruning over 10 to 15 years. Establishing the seedlings is a very meticulous process and protection is required if animals are likely to damage them.
- Individual mulching is recommended to facilitate establishment and improve the early growth of the seedlings.
- At these densities, weak or poorly formed seedlings can be replaced over several years.

Possible variants

- For the lowest densities (80-100/ha), the choice can be improved by establishing 2 or 3 seedlings at each planting location and subsequently selecting the best-formed stem after 3 to 5 years.



The expense of establishing an accompanying tree species can hardly be justified if maintenance, trimming and pruning are planned every year. However, it is possible (and sometimes desirable) to let natural regeneration become established.

« Timber orchard » scenario or very low density planting

Types of operations

All trees in the plantation are cared for individually every year until they reach 7-8 m in height, applying operations to facilitate their growth and form good quality logs:

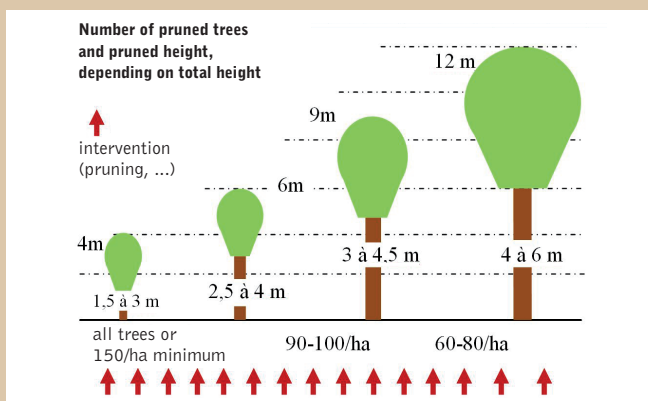
- maintenance to eliminate or reduce herbaceous competition and occasionally woody or semi-woody competition (brambles, etc.);
- removing climbing plants (clematis, honeysuckle, etc.);
- checking, then removing animal damage protection put in place at the time of planting;
- pruning to correct stem defects (forks, upright branches, etc.), thus forming a sufficiently long stem (at least 3 m) to obtain a straight log in time;
- pruning to eliminate gradually the lower branches to a height of 3 to 4 m in order to obtain defect-free timber of maximum diameter;
- in some cases, fertilisation or temporary irrigation during the first few years to facilitate the establishment and early growth of the plantation.

Subsequently, if possible, pruning of a limited number of trees continues (maximum 80/ha) up to a height of between 4 and 6 m. In many cases, trees have large branches or stem defects due to the spacing, preventing pruning above 4 m. In these cases, it is preferable to settle for 4 m without defects rather than risk diminishing the quality by trying to gain a few decimetres.



Hybrid walnut «Timber orchard», 20 years old. Big crowns and short pruned boles (3,5 to 4,5 m).

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Post planting care can be facilitated when the plantation is surrounded by a lateral shelter as edges, forest stand, ...



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Mixed plantation : poplar and walnut ; 8m x 7m ; 3rd year.

All these operations usually require at least one intervention each year for 12 to 15 years. It is therefore essential to ensure the active presence of the grower, the grower's employees or subcontractors throughout this period.

This scenario can be very appropriate for growers who are available and do not take their own time into account.

Plots should be easily accessible. In association with crops or livestock, the scenario can be combined with agroforestry.

Interruptions or delays in management are incompatible with this scenario.