Essential approaches to tree and hedgerow management

SOURCE: Camille Archambaud[1], Angéline De Almeida[1], Esther Le Toquin[1] (2025). Triple Performance. https://wiki.tripleperformance.fr/wiki/Sp%C3%A9cial:AjouterDonn%C3%A9es/Fiche_technique/Approches_essentielles_pour_la_gestion_des_arbres_et_des_haies

[1]*Ver de terre Production*

Why is sustainable tree and hedgerow management essential for long-term functionality?

By cultivating trees as fruit-bearing, forestry, hedgerow, or ornamental species, humans have influenced their development to meet a variety of needs, including protection, landscape design, and resource exploita-tion. Yet, despite the annual planting of new hedgerows, their overall decline continues due to the lack or excess of maintenance of the exis-ting and aging bocage network.

FIGURE 1. Trees intended for timber production at the Pierre Pujos farm © Ver de terre production

It is important to highlight the economic benefits associated with the sustainable management of hedgerows. Such management notably enables the production of wood energy, whereas annual pruning, in ad-dition to limiting this potential, tends to weaken the hedgerow. Similar-ly, pruning fruit trees helps to optimize their yield, while interventions on forest trees promote their growth and improve the quality of timber. Hedgerows, for their part, play a fundamental role in bocage landscapes and require regular management to preserve their functionality. Proper maintenance allows for controlling their development or densification, depending on the intended objectives, in order to maximize their effec-tiveness. The human and financial resources must also be taken into consideration.

What are the proper practices for managing hedges?

The choice of tools must be adapted to the characteristics of the trees, hedgerows, and the frequency of maintenance operations. In the case of regular wood harvesting, it is recommended to alternate the sections of hedgerow being cut and to avoid trimming the entire length in a single operation. For sustainable maintenance, it is important to avoid cutting large-diameter branches and to prioritize regular interventions on smaller-diameter branches. Cuts must be precise and clean to prevent wood splitting and the formation of open wounds, which make trees more vulnerable to pathogens. All cuts should be made using appropriate tools that are properly cleaned and sharpened. From a biodiversity conservation perspective, top pruning should be avoided, as it may weaken the hedgerow if the transition is not gradual. Furthermore, it is essential to maintain a minimum hedgerow thickness of 1.5 meters, along with a grassy strip at least 1 meter wide, in order to provide a refuge for beneficial fauna.

- Pruning and renewal are essential practices to guide growth, preserve health, and achieve specific management objectives.
- Prioritize favorable periods for intervention and incorporate ecological considerations—particularly regarding the preservation of natural habitats.

- The choice of equipment is crucial in the vegetation dynamics of the hedgerow and influences the management methods.

Pruning techniques must be adapted according to the tree's age, function, and condition

A high-forest hedgerow is composed exclusively of high-stem trees. Formative pruning is carried out annually starting from the second year after planting, continuing until the tree reaches the desired size (typically between 10 and 20 years). The aim is to guide the tree's growth to develop a balanced and robust framework capable of supporting the main branches in maturity. This involves removing forks (when the terminal leader splits into multiple axes of similar size), overly vigorous branches whose diameter far exceeds neighbouring branches at the same height, and upright branches reaching the height of the crown. Pruning the lower branches helps to lift the crown, improve light penetration to the lower strata of the hedgerow, and enhance trunk quality by reducing knot formation.

Pollarding, is a traditional technique that promotes substantial biomass and fodder production while serving as a reservoir of biodiversity. This involves cutting all branches as close as possible to the pollard head while preserving the wound callus to ensure proper wound healing. The first pollarding is performed when the trunk diameter is about 5 to 10 cm thick, and subsequent interventions occur every 4 to 5 years for species like willow (or more, depending on the species' growth rate). The stems to be cut should not exceed 15 cm in diameter. Lateral trimming of the hedgerow can begin around 6 to 8 years after planting and help control the width. An annual pass on the current year's growth helps ensures sustainable maintenance. A flail mower or a pruning bar can be used for this purpose. For older branches (over two years old), the use of a saw blade cutter or a knife cutter is recommended to achieve clean cuts.

a

b

c

FIGURE 2. Pollarding practice at the GAEC de la Bunouderie farm (a), Coppice: Hedge managed as a stool at the GAEC de la Bunouderie farm (b), and Vigorous multistrata hedge along the field edge at the Pierre Pujos farm (c). © Ver de Terre Production

Coppices are hedges made of trees managed as stools, which are trees or shrubs with multiple trunks. Re-coppicing allows for rejuvenating the stools and producing firewood. It's carried out approximately every 10 years for shrubs and every 15 years for trees. This is done a few centi-meters above the root collar, with a chainsaw, between December and March. The practice helps thicken the lower layer of the hedgerow, in-creases root development, and rejuvenates the hedge. A thinning process may also be implemented between 15 and 30 years, depending on species growth. This practice involves transitioning from a coppice to a high-stem tree by retaining the largest stem and cutting the others.

References

COULON, Frédéric. Fiche de synthèse sur les atouts et contraintes de la gestion durable des haies, Livrabe du projet Resp'haies, 2023, 6 pages.
https://epaga-aulne.bzh/wp-content/uploads/2021/08/EPAGA_BB2_2017_Guide-dentretien-du-bocage.pdf
AFAC. https://reseauhaies.fr/guide-preconisation-gestion-durable-haies/
https://draaf.bretagne.agriculture.gouv.fr/IMG/pdf/PlaquetteTechniciens_20jan_cle4ed6fb.pdf
https://www.aisne.gouv.fr/contenu/telechargement/35346/226601/file/Guide+Haies_VF_HD.pdf

Funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No GA 101086563. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.