

Silviculture of Coppice Forests in Portugal

João P. F. Carvalho ⁽¹⁾, Abel Rodrigues ⁽²⁾

(1) University Trás-os-Montes Alto Douro, Dep. Forestry, CITAB, PO Box 1013, 5000-501 Vila Real, Portugal, jpfc@utad.pt

(2) INIAV, Lisboa, Portugal.



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Coppice Area

- . National forest land: 3,154,800 ha
 - . **Coppice forests: 711,000 ha (22.5%)**

Source: National Forest Inventory (2010).

Type of Coppice & Forests Species

Type of Coppice	Forests Species
Simple coppice	Eucalyptus Castanea sativa Salix spp. Populus spp.
Coppice-with-standards	Castanea sativa* Quercus rotundifolia* Quercus pyrenaica*
High-coppice (pollarding)	Fraxinus angustifolia Populus nigra
Short-rotation coppice (SRC)	None

* Most of these forests have been converted into high-forest.

Forest Area by Species

Species	Forest area (ha)	Coppice area (ha)
<i>Quercus pyrenaica</i>	45,500	---
<i>Quercus robur</i>	14,950	1,000
<i>Quercus rotundifolia</i>	356,500	35,000
<i>Castanea sativa</i>	40,800	5,000
<i>Eucalyptus</i> spp.	840,000	670,000
TOTAL		711,000

Simple Coppice

- . *Eucalypts*: the most common coppice forests in Portugal; used for pulpwood production. *E. globulus* is the most used tree species; rotation = 10–12 years.
- . Other species: willows and poplars cover a small area.
- . Coppice was more used in the past for the production of small-sized wood, basketry, firewood, poles and occasionally sawn wood for carpentry.
- . Most of the coppices have been abandoned or converted into high forests.

Coppice-with-standards

- . Not common in Portugal.
- . Used in the past and has been converted to either coppice or high forest

High Coppice (Pollarding)

- Mostly applied to narrow-leaved ash (*Fraxinus angustifolia*) and black poplar (*Populus nigra*) with 2–4 years rotations, for the production of forage for cattle.
- Branches are cut in summer time to feed domestic animals.

Short-Rotation-Coppice

- . There are no short rotation coppiceses for energy production.
- . There is a potential usee: mostly on abandoned agricultural land. These SRC would involve:
 - Eucalypts (mostly *E. globulus*, *E. maideni*, and *E. camaldulensis*); rotation: 3-5 years, potential yield: 8 – 40 DW t/ha/yr.
 - Poplars (*Populus x euroamericana* clones); rotation: 2–3 years; potential yield: 8–20 DW t/ha/yr.

Rotation, yield and productivity of different tree species used as coppice in Portugal

Species	Rotation (years)	Mean diameter (cm)	Yield (m^3/ha or t/ha)	Productivity ($m^3/ha/yr$ or $t/ha/yr$)
<i>Quercus faginea</i>	10 - 20	5 - 8	40 t (DW)	1.5 – 4.5 t (FW)
<i>Quercus pyrenaica</i>	15 – 30	7 - 12	50 – 140 m^3	2 – 8 m^3
<i>Quercus rotundifolia</i> (syn. <i>Q. ilex</i> subsp. <i>rotundifolia</i>)	25 - 30	7 - 15	65 – 150 t (FW)	2 – 6 m^3
<i>Quercus robur</i>	15 – 30	12	60 – 140 m^3	4 – 8 m^3
<i>Castanea sativa</i>	8 - 30	10 – 18	100 – 185 m^3	4 – 10 m^3
<i>Eucalyptus globulus</i>	10 - 12	---	120 – 250 m^3	8 – 35 m^3

D.W.: dry weight; F.W.: fresh weight