



FACTS AND FIGURES

Piotr Mederski

Definitions

1) Coppice: Even-aged or uneven-aged stand consisting of trees (mainly: *Alnus glutinosa* Geartn., *Betula pendula* Roth) that regenerate wholly or mainly (at least 50%) vegetatively (sprout or root shoot). After 2 years, shoots are reduced to only 2 or 3, after 5 years one shoot might be promoted to high forest and felled at 60 years.

2) Short rotation coppice: Plantation of fast-growing trees or shrubs (mainly *Populus* spp., *Salix* spp.), with the aim to produce renewable wood biomass in several short rotation periods (5-20 years each), mainly used for energy.

3) Pollarding: cuts by which the tree trunks (*Salix* spp.) are cut at 2-3 m height from the ground in order to obtain coppice sprouts on the top of the tree.

1) drzewostany odroślowe: jednowiekowe lub wielowiekowe drzewostany (głównie olsza czarna i/lub brzoza brodawkowata) odnawiane wegetatywnie całkowicie lub częściowo (min. 50%). Po dwóch latach od odnowienia pozostawia się 2-3 pędy odroślowe (pozostałe są usuwane), po 5 latach pozostawia się tylko jeden pęd, który dorasta do wieku rębności (60 lat).

2) odroślowe plantacje drzew szybkorosnących: celem jest produkcja drzew lub krzewów (głównie *Populus* spp., *Salix* spp.) w krótkich kolejach rębności (5-20 lat); drewno wykorzystywane jest jako energetyczne.

3) ogławianie: usuwanie wierzchołkowej części pnia wierzby (*Salix* spp.) do ok. 2-3 m wysokości od ziemi w celu uzyskania krzaczastych odrośli w górnej części pnia.

Statistics

Forests cover almost one third of Poland, of which 7,094,696 ha is under the State Forest National Forest Holding management. The total area of coppice amounts to 21,477.57 ha and almost 89% belongs to the State Forest. Coppice forests grow very often on areas of low access and are considered to be water and soil-protecting forests.

A main coppice-forming species is black alder (*Alnus glutinosa* Geartn.); the other coppice-forming species are oaks (*Quercus* spp.) and silver birch (*Betula pendula* Roth). Additionally, European beech (*Fagus sylvatica* L.), lime (*Tilia* spp.) and hornbeam (*Carpinus betulus* L.) are also used as mixed species in coppice.

References

- Maciejowski K. 1953. *Olsza (Alder)*. Państwowe Wydawnictwo Rolnicze i Leśne. Warszawa, p. 27-28.
- Szymura T. 2010. *Tradycyjna gospodarka odroślowa w Europie Środkowej i jej wpływ na różnorodność biologiczną (The traditional coppice management system in Central Europe and its impact on biological diversity)*. Sylwan 154 (8): 545–551.

Typology

Simple coppice	Traditional natural forest regeneration used mainly for alder and oak; after 2 years only 2-3 sprouts are left; after 5 years, only one stem is left
Coppice with standards	Alder and oak
Pollarding	For willow only; landscape beautification
Short rotation coppice	Willow and poplar
Other types	Black alder; rotation period 60 years

DESCRIPTION

Martyna Rosińska, Mariusz Bembenek, Zbigniew Karaszewski and Piotr Mederski

Forest management in Poland is focused on a high forest system. Stands of seed origin provide timber of high quality, which corresponds with current demand from the timber sector. Forests cover almost one third of Poland, of which 7,094,696 ha is under the State Forest National Forest Holding management. Coppice forests occur in Poland very occasionally; coppice is considered a less important forest management type. The total area of coppice in Poland amounts to 21,477.57 ha and almost 89% belongs to the State Forest (Figure 1).

Coppice forests often grow on areas of low access and are considered to be water and soil-protecting forests. A main coppice-forming species in Poland is black alder (*Alnus glutinosa* Geartn., Figure 2), which is able to regenerate well vegetatively.

However, coppice trees are characterised by lower height, high tapering trunk, unilaterally

formed crown and vulnerability to rotting. Due to these factors, the final felling age for vegetative alder stands was reduced from 80 to 60 years in current forest management (Maciejowski, 1953). Despite all the silviculture treatments, alder coppices are still economically less attractive and their functions are limited to forest protection and biodiversity.

The other coppice-forming species are oaks (*Quercus spp.*) and silver birch (*Betula pendula* Roth). Additionally, European beech (*Fagus sylvatica* L.), lime (*Tilia spp.*) and hornbeam (*Carpinus betulus* L.) are also used as mixed species in coppice.

Oak is the subject of special type of coppice in the State Forest, which is formed after cutting browsed seedlings (mostly *Quercus petraea* and *Quercus robur*). The low cutting is performed 3-8 years after planting the unsuccessful, browsed crop. The damaged plantation is fenced

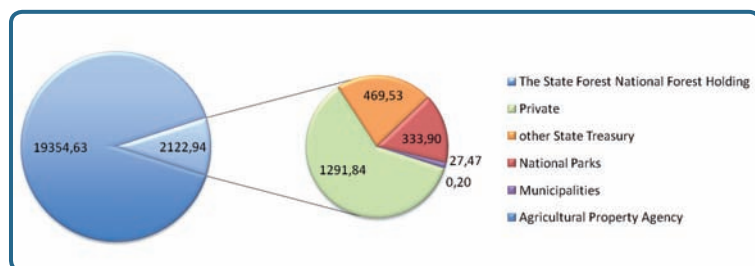


Figure 1. Coppice area (ha) in Poland by coppice owners (Bureau for Forest Management and Geodesy, 2016)

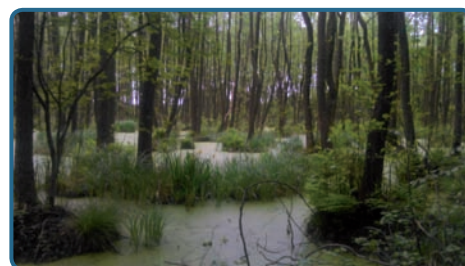


Figure 2. Black alder coppice in Pułtusk Forest District (Photo: M. Rosinska, 2015)

one year prior to the intervention. This low cut results in a rapid growth of coppice shoots, which reach about 1 m height within 1 year.

The oldest and the largest coppice area (about 3,000 ha) is located in the South of Poland, Pogórze Kaczawskie (Sudety Mountains). These *Quercus petraea* coppices were created before the Second World War. The trees were cut in a 14-year rotation period, mainly to obtain material known as mirror bark. Remaining stands create one of the rarest forest areas in Poland and are now excluded from utilisation (Szymura, 2010).

Currently, due to increased demand for renewable energy sources, short-rotation plantations of fast growing trees such as willow or poplar are being established. These plantations could be recognised as expanding coppice utilisation for energy purposes in Poland, together with a share of other (coppice) species.

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- Maciejowski K., 1953. Olsza (Alder). *Państwowe Wydawnictwo Rolnicze i Leśne*. Warszawa, pp. 27-28.
- Szymura T., 2010. *Tradycyjna gospodarka odroślowa w Europie Środkowej i jej wpływ na różnorodność biologiczną (The traditional coppice management system in Central Europe and its impact on biological diversity)*. *Sylvan* 154 (8), pp. 545–551.

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eurocoppice@fob.uni-freiburg.de
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Editors: Alicia Unrau, Gero Becker, Raffaele Spinelli, Dagnija Lazdina, Natascia Magagnotti, Valeriu-Norocel Nicolescu, Peter Buckley, Debbie Bartlett and Pieter D. Kofman

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