Private Forests Tasmania

Managing coppice regeneration in eucalypt plantations

Summary

Coppice refers to the frequently multi-stemmed shoots that develop from cut stumps. Because these shoots use part of the root system of the harvested tree, their initial growth rates can be considerably greater than those of seedlings. The predominant eucalypt plantation species in Tasmania are *Eucalyptus nitens (*Shining gum) and *E.globulus* (Blue gum). *E.nitens* has variable coppice success; however *E.globulus* does coppice well, provided they are cut in late winter or early spring and the stumps are not damaged during or following harvesting. Considerably fewer stumps will coppice if the trees are harvested in summer or autumn

Managing for coppice with species that are poor coppicers

Differing management techniques are vital to obtain the best results from a relatively poor coppicer such as *E. nitens*, this includes:

- Harvest timing. Cut the crop when the tree is actively growing so long as you allow sufficient time for shoots to grow and harden before the onset of winter. The larger the regeneration shoots by winter the better. However, if the harvesting is done too early in spring, regeneration may be too slow to provide sufficient energy for spring root growth. The best time, as far as the tree is concerned, is early summer when regeneration will be rapid and well-hardened by June.
- Felling. The higher the stump the more epicormic buds are available for regeneration. The cut should be made with a north-facing slope to facilitate drying. Avoid tearing the stump bark as this not only destroys dormant buds but allows water to collect at the bottom of the tear causing further damage. There is minimal danger of fungal attack on the stump and this can be limited further by careful cutting, or removal of any damaged trunk with a second, slanted cut, keeping the tip of the saw to the lowest side to minimise tearing the cut tissue. Application of a sealant such as acrylic paint or anti-fungal paint within 30 minutes of cutting will further decrease the risk of fungal attack.
- Removal of the harvest. Care should be taken to minimise bruising of the stumps during removal of the felled logs. Young eucalypt bark is not thick enough to prevent damage to the underlying buds if a log is dragged around a stump.
- The major attribute of *E nitens* for firewood is its tremendous early growth rate that few other species can match in the range of sites and climates in which nitens thrives. Although there are other species which are far superior coppicers, a change of species to a more reliable coppicer will often mean increasing rotation times or lower yields. If you choose to stick with E nitens for coppicing, attention to detail at harvest time will be well rewarded. (Extract from a summarised article: https://www.lifestyleblock.co.nz/lifestyle-file/running-the-farm/crops/item/630-eucalyptus-nitens-and-coppicing accessed 16-8-17).

Optimising coppicing.

Coppicing ability is greatest with trees less than ten years of age and slowly declines with older trees. Stumps should ideally have a diameter within the range of 10-20 cm. Coppice regeneration on taller stumps can be poorly attached and is frequently blown over or can be knocked over by cattle rubbing against it. This can be minimised by cutting stumps low (10-12 cm from the ground). The cut should be smooth and slanted to improve water run-off, and preferably to the north to improve drying, thus reducing the likelihood of the stump decaying. Coppicing ability gradually declines with the use of the same stump for successive coppice crops.

Coppice is widely used and very valuable as a means of regenerating high productivity eucalypt plantations, harvested on short rotations for pulpwood, firewood and biomass.
Harvesting difficult to regenerate sites in the months from July to October will maximise coppice development on them and can be a highly effective and viable means of re-establishing a eucalypt plantation.

Coppice systems

There are two common coppice systems:

1. ***Simple coppice system***
   This system is commonly used in eucalypt plantations around the world. In the simplest coppicing system, all trees are cut down in the one operation at the appropriate time of the year.

2. ***Coppice with standards (CWS) system***
   This system involves managing a low density of seedling trees as an overstory for one or more cycles of coppiced understory. This CWS system enables the production of small diameter wood for energy or pulping purposes as well as large dimension timber for solid wood products.

REFERENCE

Hamilton, L. 2000 Managing coppice in Eucalypt plantations. Agriculture notes, State of Victoria, Department of Primary Industries, Colac June 2000. ISN 1329-8062.
Orr, Simon (1991) Managing your dry forests, Private Forestry Council (Tas.).

FURTHER INFORMATION

For further information please contact Private Forests Tasmania.