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Ordering Planting Stock for Commercial Tree Establishment

The selection of planting stock is one of the most important decisions to be made when establishing commercial trees. Choosing high quality planting stock appropriate to your tree planting objectives and budget can substantially improve growth and survival of your tree crop. Consequently, maintenance and management costs are reduced and commercial returns are maximised for each dollar invested.

Introduction

There are three main questions that should be considered before you order planting stock for commercial tree establishment.

What are your commercial tree planting objectives?

- The three broad benefits you can obtain if you choose to grow commercial trees on your farm are:
- diversifying your farm income by growing trees as a crop
- increasing the productivity of your existing farm enterprise.
- improving the sustainability of your current farming system.

Are you growing commercial trees for one of these purposes, a combination of two, or all of these benefits?

Where do you want to plant your trees?

Site selection is very important because it influences:

- species suitability, and
- the benefits the trees can provide.

For example, an exposed ridge would not be a good place to establish a commercial plantation of Mountain Ash (*Eucalyptus regnans*), because it requires a sheltered, moist environment to produce sought after commercial products within an acceptable time frame.

What do you want to grow?

Do you prefer Australian natives such as eucalypts and wattles or exotic species such as pine?

When you can answer these three questions you are ready to select suitable species and order planting stock that meets your requirements.

When do I order my seedlings?

Planting stock should be ordered **7-8 months** before planting (ie. October – January), to ensure the supply of suitable, high quality stock. Due to the longer propagation cycle required to produce cuttings it is recommended that they are ordered 18 months in advance where possible. It is unlikely that you will be able to purchase suitable material by approaching your local nursery shortly before planting. By ordering well in advance, the cost can be **significantly** less than that paid later in the season because the nursery knows the stock they produce will be sold.

What should I consider when ordering planting stock?

The cost of planting stock can represent **30-70 % of total commercial tree establishment costs**. To maximise the commercial returns and other benefits from your investment it is important when ordering planting stock to consider the following key details:

Seed

The geographic origin of the seed

The geographic origin or location of the seed source is commonly referred to as the “provenance” of the seed. When identifying suitable seed provenance’s for commercial timber production it is imperative to select planting stock that has originated from a seed provenance that is well adapted to the area. Studies have shown that better adapted provenance’s can outperform poor provenance’s by up to 400%¹. Therefore it is often advantageous for the provenance to be within close proximity of the planting site (ie. similar latitude and

longitude) because it is inherently adapted to the local environment and climate.

In many locations particularly where the environment has been modified since European settlement planting stock originating from non-local provenance's may be better adapted and therefore exhibit sustained growth performance equal to or superior to local species (eg. pine on dry, sandy sites in Gippsland) on your site. If the provenance of the species you aim to establish is non-local, ask your local farm forestry adviser or nursery for advice

on how it has performed in your area (look for local examples of growth performance).

1Arnold, R. and Vercoe, T. (1996) The Best Seed for Trees. *Agroforestry News*. Vol? 6-7. DNRE

How many trees was the seed selected from?

It is best practice to collect seed from 10 or more above average quality trees (selected for traits that meet the tree-growing objective) each of which is separated by at least 100 metres from other collection trees of the same species. This method provides a wide genetic seed base, reducing the chance of planting stock suffering from the effects of inbreeding. In addition plantations originating from seed collected by this method can provide the grower with a high quality commercial seed collection option during the rotation.

For what characteristics was the seed selected?

It is preferential that planting stock established for commercial farm forestry purposes ie. sawn timber, pulpwood, firewood etc., is propagated from seed selected for that purpose. Many farm forestry failures can be attributed to poor seed selection practices. Currently most nurseries that grow farm forestry material harvest seed from trees that exhibit above average tree form characteristics ie. tall, straight form, minimal defects etc. In many areas, and for most species except blue gum (*Eucalyptus globulus*), shining gum and Radiata pine (*Pinus radiata*) this approach is satisfactory because selected or genetically improved seed for farm forestry purposes may not be available.

For some species, namely blue gum, shining gum and Radiata pine it is now possible through tree improvement programs (ie. the breeding or propagation of trees with superior characteristics), to improve specific tree characteristics to better suit specific end uses eg. salt tolerance for wood production in saline areas, wood density for pulp production. When purchasing improved planting stock it is important to know how the planting stock has been improved because improvement in one trait can be made at the expense of another that may be important in achieving your initial objectives. For example, planting stock chosen for pulpwood production will be selected for different characteristics than planting stock chosen for sawn timber production.

Can I buy or collect seed and give it to nurseries to propagate?

Many industrial and government growers use this approach because they can be sure that the seed provenance is of a quality and type that is suitable for their end use objectives.

Where possible, collect plants from the nursery immediately prior to planting and ensure they have been hardened off.

Further References

Farm Forestry Notes –

- AG0792: Planting stock specifications
- AG0793: Propagation of planting stock

Landcare Note:

- LC0107: How to collect seed from native trees and shrubs.

Oates, N. & Clark, B. (1987). Trees for the Back Paddock. Goddard & Dobson, Box Hill (Vic).

Contact Services Available from DPI

See the Victorian grower network in your region:

Private Forestry Website:

www.dpi.vic.gov.au/privateforestry

Go to 'Regional information' and 'Private Forestry Networks'

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