

Planting the site

1. Prior to planting, saturate your plants by standing each crate, foam box or cell tray in a tub of water for several minutes. A cattle trough or nearby spring, dam, or stream will do nicely. If these are not available, then a thorough soaking with a low-pressure hose will suffice.

2. For each tube, extract the plant carefully.

■ Plants in tubes: The best way to do this is to turn the tube upside down and tap the rim of the tube on a nearby solid object such as a fence post. With a little practice you will be able to remove the plant without undue stress.

- Tip 1: When holding the tube during extraction, hold it at the rim, not on the tube sides.

- Tip 2: Do not pull the plant out by its stem.

■ Plants in cells: A good way to do this is to slide a narrow blade (such as a pocket knife or old kitchen knife) down between the cell side and the plant's root mass / potting mix ("soil"). As you extract the blade, very gently grasp the plant at its base and lift in unison with the blade. The plant will simply slide up and out!

3. If the root mass of the extracted plant looks or feels tight, then tickle the roots to encourage lateral root growth after planting.

4. A hole for the plant can be created with a purpose-made tree planter (such as a Hamilton Tree Planter) or with a mattock; a 6kg mattock is not too strenuous to use, yet it has enough mass to make digging holes easy in most ground conditions. A mattock can create a rough-sided hole which encourages all important lateral root growth. A conventional tree planter can, in certain ground conditions, create a smooth sided hole with glazed sides – such holes do not promote good lateral root growth, leading to future instability of the plant and ultimately its demise.

5. Place the plant (after tickling the roots if necessary) in the hole, and back-fill. Firm down the soil and ensure no large cavities are left; but don't over-firm. The soil level after back-filling should be even with the level of the potting mix in which the plant is growing. This is important. The root mass should be thoroughly covered with soil, but soil should not cover the previously exposed stem as this can lead to stem rot.

6. If the soil moisture level is very low (i.e. you are planting into very dry ground), you may need to water in the plant. If the soil moisture level is relatively high (i.e. you are planting into relatively moist soil), then there is no need to water in the plant.

7. You do not need to feed your plants. Nurseries propagate your plants with a controlled release fertilizer in the potting mix. This means that plants have a source of nutrients which will take a few months to become depleted. Plants are normally grown and planted well within this timeframe. If for some reason, you feel a need to feed your plants, use a very mild fertilizer with low phosphorous.

■ Some authorities suggest the use of a seaweed-based liquid fertilizer at the time of planting, to reduce transplant shock.

■ Furthermore, where you are planting late in the year (i.e. heading into late spring or early summer) in a well-drained and/or sloping site, then you may consider using a water-retaining additive in the soil. If you decide to use this additive, then carefully follow the instructions on the label.

8. As a general rule of thumb, for a project which aims to recreate a natural bush effect, plants may be spaced as follows:

■ Trees - 4 paces apart

■ Shrubs - 2 – 3 paces apart

■ Groundcovers - 1 – 2 paces apart (these include sedges, grasses, etc.)

Spacing will be determined largely by the purpose of your project:

■ For example, if the project aims to trap nutrient runoff before it enters a waterway (i.e. you're on a farm and you regularly apply fertilizer in a paddock which slopes down to a water-course), then the spacing of sedges, grasses and rushes should be as close as 30cm between each plant.

■ Discuss this with the nursery when making your plant order.



The purpose of your revegetation project will also determine its species mix and its planting density.

If planting to enhance local biodiversity, your plant order should comprise:

- Many indigenous species to ensure a high degree of biodiversity, and,
- A suitable proportion of over-storey plants (trees), understorey plants (shrubs) and groundcovers (such as grasses, sedges, rushes and climbers) to create a natural bush effect.

■ Where your project is creating a native shelterbelt, then wind and sun screening function will be the primary determinant of the species selected for your order.

■ Discuss your order mix with the nursery when your order is placed.

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Revegetation planner

A step-by-step guide to planning your planting project.

One of a series of practical Landcare guides.



Why do a revegetation project?

- A revegetation project can:
- Provide a shelterbelt and shade.
 - Rehabilitate streamside land.
 - Improve water quality, by:

- reducing soil loss through erosion,
 - trapping nutrients which may follow the application of fertiliser.
- Enhance biodiversity, by:
- increasing the indigenous flora and fauna species mix,
 - providing habitat and food source for indigenous fauna,
 - creating a wildlife corridor to enable fauna to move between isolated stands of remnant bush.
- Provide a screen to obscure an unwanted view.
- Improve the amenity for landholders, neighbours and visitors.
- Sequester carbon as a means to contribute to the reduction of greenhouse gases.
- Create a wetland around a farm dam.

What are the success factors?

- Is the project part of a broader Whole Farm Plan (WFP)? Where does it fit in the WFP?
- Be clear about the project's

- purpose. Why are you doing a planting project? The listed reasons are not mutually exclusive, but they will determine the following:
- **Project site location.** This is important as aspect, soil type, proximity to running water, standing water, ephemeral watercourses and floodplain (which all influence drainage and periodic and ambient soil moisture levels), will determine species composition. A project site can be described in terms of its Ecological Vegetation Class (EVC), and a site's EVC will define the original species mix at the site prior to clearing during settlement.
 - **Plant species composition.** E.g. a shelterbelt may comprise of species which have certain form characteristics to ensure that all plants selected for the project will grow to a specified height, width and foliage density.
 - **Plant spacing and therefore planting density.** This sets the number of plants required for the project, and will help you budget the project.
 - **Physical design.** For example, if it is a structured shelterbelt comprising rows of suitable species, then this will determine the number of each species required.

The steps

1. **Plan the project.**
Plant in:
 - Autumn through early winter
 - Spring - if the site suffers water logging in winter or if it is frost-prone.

During the planning stage consider seeking funding for your project. There are local, state and federal government schemes which subsidise revegetation projects. Such programs commonly fully fund plants and treeguards and part fund stock-proof fencing.

2. **Select species carefully,** to suit each planting site. Consult your local Landcare group, Council, Water Authority, CMA or nursery.

3. **Order plants 4 – 6 months in advance,** to guarantee availability of preferred species in preferred quantities.

4. **Prepare the site.** For example:
 - Rip it – if your soil is heavy or if it has shallow topsoil over clay subsoil.
 - Fence it – if you keep stock. Your fence should be a permanent structure with access for periodical maintenance of the site.
 - Weed it – Weed control may be undertaken using one or more of the following methods:
 - boom spray with knock-down herbicide and/or a residual herbicide;
 - spot spray with a knock-down and/or residual herbicide, where a patch of ground measuring approx. 600mm square/diameter marks the spot for a plant;



- cut and paint with a knock-down herbicide, where the weed is cut off at or near the stem base and the herbicide quickly applied to the newly exposed stem tissue;
- fill and drill with a knock-down herbicide, where a hole is drilled into the stem of a woody weed (e.g. Willow) and the hole filled with herbicide;
- mechanical removal - the extent and type of weeds may necessitate the use of a machine such as an excavator, or simply hand-pulling.

Advice on the choice and use of particular chemicals can be sought from your herbicide supplier. Strict adherence to label instructions is advised, and the purchase of some chemicals requires the presentation of an Accredited Chemical Users Permit (ACUP). Consult your local Landcare group or DPI office for advice on weed control and how to obtain an ACUP.

5. **Collect your plants,** taking care to avoid wind damage if collected in a trailer or ute. Alternatively, arrange for the nursery to deliver your plants, for which there may be a small delivery fee.

- Give your nursery at least 2 weeks notice prior to collection - this gives them time to put your order together.
- Most nurseries provide forestry tubes in crates (also known as racks or trays). These usually hold 40 or 50 tubes each and may comprise one or multiple species. Each species will be labeled with the species name and a description of the plant. Make sure your nursery has labeled all species, with name and description, as you will need to know enough about each plant in order to properly locate it within the landscape. Nurseries usually ask that crates be returned after the planting has been completed so that they can be re-used. Some nurseries will charge a refundable deposit on the crate. Some nurseries also ask that tubes be returned, if in good condition; and if so, that they be washed down before returning. It is advisable to clarify the nursery's requirements when you take receipt of the plants, whether they come in tubes in crates, tubes in foam boxes, or in cell trays.

6. **Plant your seedlings** after giving them a thorough soaking (e.g. by standing the crate in a cattle trough, dam or creek).
 - Use treeguards if pests or wind are likely to be a problem :
 - bamboo stakes are light and easy to install in softer ground but are not generally re-useable;
 - hardwood stakes are stronger, can withstand nudges from wombats and are easier to install into harder ground;

- note that treeguards are not effective against browsing animals such as deer, wallabies and kangaroos. Extra-high treeguards or a commercially available foliage spray is sometimes used to defend seedlings from browsers.
- Use weedmats, if necessary, for added weed control. Where the site is prone to strong winds or flooding, then steel holding pins may be required to hold the mats in place.
 - weedmats are available in various sizes and materials. The most common, and sustainable, is a mat made of recycled fabric measuring 400mm x 400mm or a round pizza-carton styled mat using recycled paper. Whilst Jute is a common material, it is a non-sustainable alternative mat material.
 - Steel holding pins come in different lengths, with longer pins used in soft (often wet) ground and shorter pins (150mm long) in hard ground.

Decisions relating to the use, and choice, of treeguards, browsing deterrence and weedmats should be made during the planning stage of your project. When planning, do not hesitate to consult your Landcare group for advice.

7. **Monitor and maintain** – especially for weeds and pest damage (rabbits, caterpillars, etc). Replace lost or damaged plants. This step protects your investment in time and money in the project and should not be undervalued.

