

Putting down roots

A TREE PLANTER'S GUIDE

by Tanyia Maxted



Planting trees is no longer an Arbor Day ritual reserved for schools, community groups and dignitaries. **O**r something you only do in your backyard to block out nosey neighbours. **T**ree planting has become a national necessity for people who live on and care about the land.



THE wholesale clearing of Western Australia's bush for settlement and agricultural development has caused immense environmental problems, for example, salinity, soil erosion and loss of habitat for native wildlife. Tree planting is part of the solution.

Sustainable farming practices must be developed to help turn degraded country into usable, arable land. Options include commercial tree growing schemes, growing forage shrubs, establishment of windbreaks and shelterbelts (agroforestry or sharefarming), saltland reclamation and the protection of remnant vegetation.

But you can't just plant any type of tree anywhere. The site and its characteristics, tree species and purpose (be it for shade, shelter, aesthetics or to reduce salinity) are all factors to consider. Before planting, soil has to be prepared, and once in the ground trees have to be maintained - watered and kept free of invading weeds and grasses.



Widespread clearing has seen water that would have been absorbed by trees left to run its own course - eroding land and spreading weeds.

Photo - Robert Garvey (Courtesy of WACAP Treefarmers) ▲

Trees shelter stock from sun and wind. Young eucalypts, however, should be fenced off from hungry stock.

Photo - Robert Garvey ▼▼



Paperbark wetland turns to salt wasteland as water tables rise, along with salinity levels.

Photo - Robert Garvey (Courtesy of WACAP Treefarmers) ▲

A pine shelterbelt protects this lupin crop and will provide timber in years to come.

Photo - Tanyia Maxted ▼



SITE SPECIES AND PURPOSE

Whether you're planting nursery-grown trees on a suburban block in Perth, seedlings on a rehabilitated quarry site or direct seeding a 500-hectare paddock in the Wheatbelt, select the tree for the conditions and purpose and try the local species first.

If trees are to be grown in salt-affected areas, you will need salt-tolerant species such as river red gum (*Eucalyptus camaldulensis*).

Shelterbelts need low trees with dense foliage close to the ground, such as the bushy yate (*E. lehmannii*). Pine trees also make effective shelterbelts.

In small city gardens small trees like Rottneest cypress (*Callitris preissii*) or Fremantle mallee (*E. foecunda*) are ideal.

Local species are best. These trees have some important advantages and developed under the climatic conditions of the area, which is extremely important in areas of low rainfall. Trees native to the Perth area are available from some nurseries.



River red gum (*Eucalyptus camaldulensis*) in its natural habitat. This eucalypt is perhaps the most widely-planted in Australia.
Photo - Michael Morcombe ◀

This firmly-planted young seedling will play a vital role once established.
Photo - Robert Garvey (Courtesy of WACAP Treefarmers) ▼

The bushy yate (*E. lehmannii*) bursts into flower; it is valuable planted as a shelterbelt.
Photo - Michael Morcombe ▼



You can also grow your own trees from seed. Seeds from many native trees can be easily collected during summer, but first obtain a permit from the authority managing the land (e.g. local council, CALM). Seed can be purchased from commercial seed companies and CALM's Manjimup nursery.

As well as local trees, also consider planting local understorey plants, such as chenille honey-myrtle (*Melaleuca huegelii*).

Where the local species doesn't meet requirements, select trees occurring in similar soil types and growing under identical or lower rainfalls.

Choose species carefully when planting small sites. Large trees in confined spaces or under powerlines need regular pruning. This is costly and detrimental to the appearance and biological value of the tree. Small trees will give good shade and are far less costly to maintain. In areas of unrestricted space, large trees can be planted to provide height and effective landscaping.

CALM publishes leaflets which give rainfall requirements, tree heights, preferred soil types, a description of the tree and its recommended use. These are available from all CALM offices and are a useful guide for tree selection.

PLANTING STOCK

For mass planting, seedlings seven to eight months old are ideal. Their leaf and root size is in balance and under natural conditions these will establish themselves by developing a deep root system to tap the moisture.

The larger the tree in a pot, the less chance it has to develop an adequate root system. The larger foliage area of such advanced stock is out of balance with its root capabilities. This places greater moisture stress on the plant, hence it will need frequent watering to survive the summer.

Another problem of large potted stock is that the tap root will coil if left in a container too long. After planting, the tree grows and the roots thicken. A restriction develops which can result in a severe setback or even strangulation of the tree. Coiling often leads to trees blowing over in high winds.

HOW TO PLANT FOR SUCCESS

For nursery-potted stock:

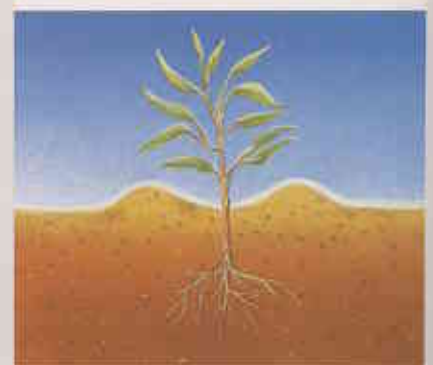
- ❖ Remove all weed and grass competition from a metre square. Dig a hole in prepared, moist ground, big enough (at least half a metre) to accommodate the teased root system.
- ❖ Place your fingers either side of the tree, invert the pot and tap the edge firmly on a solid object. The plant will slide out easily.
- ❖ Gently tease the side and basal roots until they hang loosely. If the tap root springs back into a coil, remove with a pair of secateurs.
- ❖ Position the plant in the centre of the hole 10-20 mm deeper than it was in the container. Be careful not to turn the roots upward or allow them to coil.
- ❖ Fill the loosened soil gradually back into the hole and firm with your feet (it's important not to leave any air pockets).
- ❖ Build a saucer around the plant using soil away from the tree. Water thoroughly to ensure soil and roots are in close contact.
- ❖ Mulch to conserve water. Use straw, rocks or sawdust etc.
- ❖ Fertilise, but wait at least two weeks after planting. Bury 50 to 100 g evenly, 150 mm from the tree. This will boost growth when watered in.
- ❖ Provide a barrier to keep animals (rabbits, stock, dogs) away from the trees.

Staking is not usually necessary, but old pantyhose can be used to secure the tree loosely to allow slight movement.

When hand-planting jiffy pots, completely saturate the plant beforehand.

If the peat surrounding the plant roots dries out, root penetration will be restricted.

Before planting remove the peat at the base of the jiffy pot and tease the lower roots. Then plant as for potted stock. Keep the peat rims of the pot beneath the surface soil level. If the peat is exposed to the air, it will act as a wick and dry the pot and soil.





PLANTING

Planting time will differ between areas, but it should be during June, July and August for most of the South-West. In areas of reliable winter rains, planting should begin once initial rains have penetrated the soil and more rains can be expected. This gives the plant time to establish itself before summer.

Where rainfall is unpredictable, plant in the cooler months and water regularly until established.

In low-lying wet areas (where flooding can be a problem by the end of winter) early planting is not advisable as young trees in saturated soil will die. Mound the soil above the water and plant the trees on the mounds, or wait until the water level has dropped below the soil surface (see diagram above).

MAINTENANCE

The first year is crucial for the newly-planted trees' survival. Weeds and grasses that will compete for nutrients and water need to be removed from within a metre of a newly-planted tree.

Add fertiliser two to six weeks after planting to promote faster growth and increase the tree's drought resistance. All fertilisers, in particular those with a high nitrogen content, can damage plants and must be applied carefully, at least 150 mm from the tree, evenly spread and buried.

No more than 100 g should be applied; more will not give better growth but might kill the tree.

When planting, slow-release fertilisers such as Agriform tablets and Osmocote can be used, as the chances of damage to the plant are minimal. Commercial fertilisers can be compressed and made



Chenille honey-myrtle (*Melaleuca huegelii*) of the Myrtaceae family.
Photo - Jiri Lochman ▲



Grass removed, ground prepared, the large-scale planting for timber begins.
Photo - Robert Garvey, (Courtesy of WACAP Treefarmers) ▲

into slow-release tablets at a low cost.

Potato Manure E is not damaging if applied at the rate of one handful per tree. It should be scattered around the base or placed in a hole on the downward slope, 150 mm from the trunk of the tree and at a similar depth in the soil.

CALM uses Agras No.1 or No.2 in similar quantities and speared into the soil to establish eucalypt trees.

Pine trees require only superphosphate on most soils; applied in the same way as other fertilisers. Where soils are known to be deficient in copper and zinc, a super copper zinc mixture is used.

Repeated fertiliser applications the following year will further increase health and growth.

It is difficult to specify watering needs as factors such as rainfall, soil type,

temperature, drying winds, plant size and water quality will determine how often you need to water.

During years of normal rainfall, in moisture-retaining soils where the rainfall is above 500 mm, trees can be established without watering if soil preparation and weed control have been carried out.

In poor sandy soils of the same rainfall, and all soil types of lower rainfall, watering during the first summer may be necessary, although this is impossible with large-scale planting.

Water should be applied in heavy, widely-spaced applications rather than light, frequent ones, which tend to create a surface root system. Where the water salinity level is relatively high, the accumulation of salts in the upper soil profile can be avoided by infrequent, but deeply penetrating waterings. □

LANDSCOPE

VOLUME FIVE NO 1 SPRING EDITION 1989



Perth people were devastated when a fire tore through their favourite bushland retreat. But, with Spring, new life and colour is returning.



Rottneest isn't the only unspoilt island on Perth's doorstep- what about Penguin, Garden, Seal and Carnac Islands? They are steeped in history and provide a haven for some unique wildlife.



Algae has clogged the estuaries near Mandurah, killing fish and creating an eyesore. What is the solution?



Jarrah dieback- the word strikes fear into any forester's heart- but research is fuelling the fight against the killer fungus.



Explore the waterways of the South-West by canoe.

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COVER

What's new in Kings Park this spring? Artist, Susan Tingay, couldn't resist this magnificent collection of spring orchids. From left- cowslip orchid (*Caladenia flava*), jug orchid (*Pterostylis recurva*), King spider orchid (*Caladenia huegelii*), donkey orchid (*Diuris longifolia*), rabbit orchid (*Caladenia menziesii*), and pink fairy orchid (*Caladenia latifolia*).
Back Cover: *Stimson's python* (*Morelia stimsoni*)
Photo-Jiri Lochman



Editor: Carolyn Thomson
Designers: Louise Burch/Robyn Mundy
Production: Karen Addison
Maps: Project Mapping, CALM
Advertising: Tim Langford-Smith ☎ (09) 389 8644 Fax: 389 8296
Acknowledgements: Cartoon-Louise Burch
Illustrations-Ian Dickinson, Yeon Hee Kim

Colour Separation by The Colour Set
Printed in Western Australia by Kaleidoscope
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Published by Dr S Shea, Executive Director
Department of Conservation and Land Management,
50 Hayman Road, Como, Western Australia 6152.