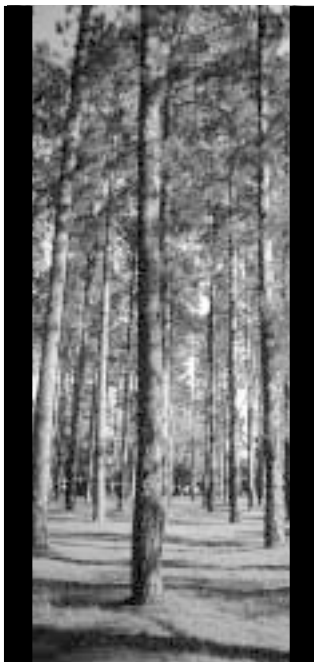




## ***Farm Forestry in the Adelaide Hills/Fleurieu Peninsula***

# FARM FORESTRY — FREQUENT QUESTIONS AND COMMON MYTHS

Martyn England, farm forestry development officer



### **Q Why are governments promoting farm forestry?**

In its National Forest Policy Statement the Commonwealth Government recognises the need to reduce Australia's reliance on timber which is either imported or taken from the diminishing supply of native forests. It has set up the Federal Farm Forestry Program to promote timber production from private plantations and farm forestry, with the ultimate aim of trebling Australia's plantation resource by 2020.

The local program in the Adelaide Hills and Fleurieu Peninsula aims to combine environmental and economic benefits through:

- retaining and enhancing primary production
- improving farm viability by diversifying income
- restoring former agricultural land to productive use
- retaining the rural landscape character
- promoting tourism
- protecting our water catchment areas
- providing for environmental protection and rehabilitation of land degradation
- complementing native vegetation and providing wildlife habitat
- creating employment in dependent industries

### **Q Will I lose control of my land?**

No. Farm Forestry is like any other land use. You retain control over your own land.

### **Q Will I be allowed to cut my trees down?**

Yes. Only naturally occurring native vegetation is protected under law so if you plant trees you have the right to fell them at any time.

However, if you plant local indigenous species to avoid any confusion in the future you should document when and how you established the trees, note your management and harvesting plans and advise the Native Vegetation Management Council, Department for Environment, Heritage and Aboriginal Affairs.

## Q What species can I plant?



The choice is yours — local native, Australian native or exotic. You should choose the best species for your personal situation. There are no restrictions or prohibited trees.

However, you should make your selection carefully as it is a long-term decision.

FFN 8/98 discusses species you should consider.

If you want to make money you must consider market realities. Suitable timber species should have many of the following characteristics:

- a straight trunk
- suitable timber qualities (mills and dries well, has an attractive appearance and is stable in use )
- an acceptable growth rate
- valuable wood or potential to increase in value
- be well suited to a wide range of sites across the region

Unfortunately, local native species are less likely to have these characteristics. Therefore radiata pine continues to be the most profitable current option in this region.

Although there is a lot of interest in growing native timbers there is currently no local industry for milling and marketing. The timber industry will not be interested in establishing local processing facilities until there is a sufficiently large and reliable supply of native timbers.

Research suggests the following species should form the core of any planting plan:

Radiata Pine	<i>Pinus radiata</i>
Spotted Gum	<i>Corymbia maculata</i>
Sydney Blue Gum	<i>Eucalyptus saligna</i>
Tasmanian Blue Gum	<i>Eucalyptus globulus</i>
Sugar Gum	<i>Eucalyptus cladocalyx</i>

Minor species, which have some potential but greater growing risks or restricted uses include:

Flooded Gum	<i>Eucalyptus grandis</i>
Black wattle	<i>Acacia mearnsii</i>
Blackwood	<i>Acacia melanoxylon</i>
Silky Oak	<i>Grevillea robusta</i>
River Oak	<i>Casuarina cunninghamiana</i>
Cypress Pine	<i>Cupressus macrocarpa</i>
Mexican Cypress	<i>Cupressus lusitanica</i>

This group is less commercially attractive because of a narrow range of end products or greater risk of failure including site limitations, susceptibility to pests or slow growth rates.

These species will not be the mainstay of industry development but you may wish to include some to develop a diversity of species and enterprises across your property.



## Q What will it cost me to get established?

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Establishment costs vary with the design of the planting, species used and prevailing site conditions. Naturally there is also the question of whether you can do work yourself or need to hire equipment or labour.

Indicative costs range from \$600–\$1100 a hectare, based on:

ripping or mounding	\$100–150
weed control	\$40 –80
planting stock	\$250–550
planting	\$125–300
follow-up weed control	\$40–80



In most instances, if you do your own planting your initial outlay will be \$500–\$800 per hectare.

## Q What will be my on-going management commitment?

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That will mostly depend on the type of planting and the products to be grown. One of the attractions of farm forestry is its flexibility compared to other agricultural enterprises. Operations are generally undertaken on a seasonal or yearly basis rather than daily or weekly. This provides flexibility in work programs for do-it-yourself operators and also makes it attractive for “hobby farmers”.

After the first year establishment phase and concentration on weed control in the second year, subsequent work may include some or all of the following:

- fertilising
- pruning
- pre-commercial thinning
- commercial harvesting at the appropriate time.

Commercial contractors can be engaged for all operations, the cost depending on the nature of the work and the size of the planting.





## Q What returns can I expect?

An indication of a range of likely returns are presented in the table below:

Development	Establishment cost \$/ha	Length returns	Total	Returns/year (Non discounted)
Eucalypt woodlot	\$740	35+ years	\$12 500–\$24 500	\$350–\$700
Radiata pine forest	\$600	35 years	\$21 000–\$38 000	\$600–\$1100
Wide-spaced eucalypt agroforest	\$520	25 years	\$7 500–\$13 500	\$300–\$600
Wide spaced pine agroforest	\$370	25 years	\$22 500–\$30 000	\$900–\$1200
Eucalypt firewood woodlot	\$880	10–12 years	\$1 500–\$6000	\$150–\$600

Notes: these figures:

- are estimates
- are not discounted to net present value
- do not include the opportunity cost of land that is planted
- are based on current log prices and not possible future trends
- are subject to individual site quality and successful establishment
- do not include added income from grazing in wide spaced plantings
- do not include an allowance for environmental benefits which may add value to your property

Compared with the average gross margin of \$120 per hectare received from grazing beef/sheep across the region, the prospects are very favourable. They will be even better if access to export markets is developed as in New Zealand, where pine log prices are 2–3 times higher than Australia and eucalypts sell on the NZ domestic market for \$200/m<sup>3</sup> compared with \$40/m<sup>3</sup> in Australia.

## Q When do I start making money?

The time from planting to harvest varies depending on several factors:

### *type of enterprise*

- firewood — 10–15 years
- wide-spaced agroforestry — 20–25 years
- traditional plantations — commence yielding at about 15 years and periodically give some income with the major return from clearfelling at 35–40 years.

### *quality of the site*

good quality growing conditions ensure rapid growth, reducing the wait!

***quality of the site preparation and establishment program***

you must get the crop off to a flying start, with good uniform growth rates and low mortality. You will achieve this by planting at the correct time and maintaining a diligent weed control program.

***sound follow-up management***

You must ensure that any necessary pruning and thinning is undertaken on time.

**Q Will I be able to sell the growing trees?**

The Government is currently considering draft legislation to give you the right to sell your standing forest to another person. This means that you would be able to sell your forest for a potential profit before the trees are of commercial age, yet still own your land.

Under the proposed legislation, the buyer of the tree crop will have the right to harvest the trees registered against your land title. You would need to negotiate rights and responsibilities as part of the sale conditions — generally in relation to issues such as access and protection of the trees.

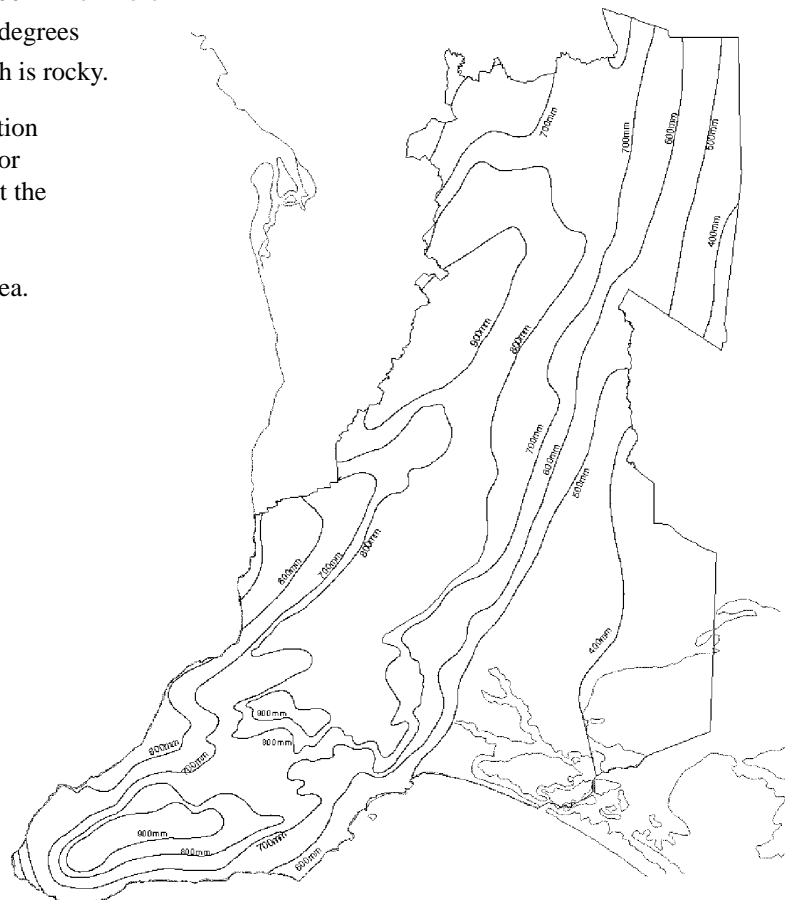


**Q Is my land suitable?**

There are opportunities to grow wood just about anywhere in the region. However, tree growing will be more productive if your land has:

- annual rainfall of 600 mm or more
- slopes less than 30 degrees
- less than 30% which is rocky.

You can get a good indication whether a site is suitable for farm forestry by looking at the mature height of remnant native tree species on a comparable site in your area.



## Q Can I graze stock?

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Yes — wide-spaced agroforests combine timber production with pastures, allowing returns from grazing for a number of years.

Woodlots, however, provide for only opportunistic grazing due to the high levels of competition for moisture and light and hence reduced pasture growth.

All plantings can be integrated with current grazing enterprises so that trees occupy strategic portions of the property and don't totally displace livestock.

## Q Do I need to get permission and what controls are there?

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The Development Act requires that you need permission for “a change of land use”. In most cases this only applies if you plan a large “industrial” plantation that will not allow grazing. The application currently costs about \$40.

Before proceeding it is wise to check the requirements of your local council as individual development plans and requirements vary.

## Q Are there any other rules?

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Farm Forestry *Codes of Practice* are being developed to include:

- harvesting techniques and appropriate time frames for erosion prone soils
- establishment techniques
- planting design and suitability
- appropriate species selection
- landscape design
- fire protection

In general, these codes will provide direction about the most environmentally and financially suited options for your site rather than being prescriptive and prohibitive controls.

The codes are being developed within land capability and land suitability principles. If you are seriously considering a forestry venture you should obtain a copy of *Environmental management guidelines for plantation forestry in SA, 1997*.

This is available from: Forestry SA, Fullarton Road, Eastwood or the Farm Forestry Development Officer, at Primary Industries and Resources South Australia, (08) 8556 4848.



## Q Where can I get advice?

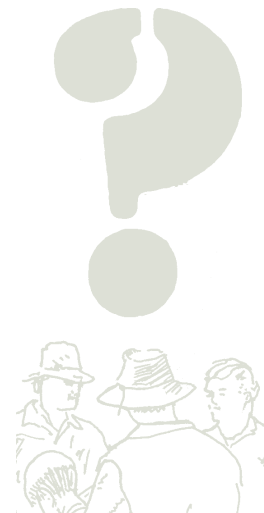
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Before seeking any advice please do some homework so you have a basic idea of what you want to do. It is easier to advise you if you have given some thought to:

- what you hope to achieve
- how you want your property to look
- in what time frame you hope for returns
- your attitude to exotic species

You can get advice from:

- Primary Industries and Resources  
SA Farm Forestry Development Officer,  
(08) 8555 5366  
State Flora, Murray Bridge  
(08) 8539 2111
- Forestry SA (Eastwood)  
(08) 8303 9950
- local consultants and revegetation contractors
- a local landowner already practicing farm forestry
- the Adelaide Hills and Fleurieu Peninsula Farm Forestry Network
- other regional grower networks throughout Australia and New Zealand
- Australian Forest Growers



These groups have a range of publications available and conduct field days, seminars and provide a range of services.

## Q Where can I buy seedlings?

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Look for a nursery that provides seedlings that are:

- hardy (able to withstand transplanting and cold snaps)
- are not pot-bound (able to quickly make new shoot and root growth)
- competitively priced

Also, check that the nursery can tell you the source of their seed or give some indication of the genetic quality of the stock.

Prices for most species normally range from 20¢–75¢ a seedling. Seedlings in small containers are considerably cheaper and easier to plant, but are more prone to being pot-bound and less resilient to transplant shock, so the conditions have to be spot on.

## Q Can I direct seed?

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You can — but there are considerable disadvantages. Although direct seeding can be cheap and effective, seedlings are preferred for most forest developments.

This is because successful, profitable forestry relies on developing a uniform evenly spaced stand that allows the trees to grow at optimal rates and simplifies stand management. Direct seeding is less reliable and will result in highly variable spacing compared with planting seedlings.

A direct-seeded area *could* be thinned where too dense and the gaps filled with seedlings the following season, but any cost savings from direct seeding would be more than lost by these thinning and refilling costs.

Further arguments against direct seeding are:

- the high cost of genetically superior seed of selected provenances
- the availability of genetically improved clonal material (physiologically-aged cuttings) which are superior to seed.

Direct seeding is most suited for establishing natural-looking, randomly-distributed local species plants in a conservation project. If you want to have a mixed timber/conservation planting you could direct seed an understorey of local species among a timber overstorey of planted seedlings.

Similarly, direct seeding may be appropriate for establishing less intensive ventures such as:

- large firewood plantings
- wide-spaced plantings on steep or rocky country
- broombush
- tagasaste plantations.

## **Q Where do I plant my trees?**

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Although it is tempting to plant trees on the agriculturally less productive stony shallow soils, they will perform much better when planted on better land. Returns from healthy faster-growing trees planted in sheltered positions with good soils and easy access should more than compensate for any agricultural losses.

Planting on the better land will give you:

- greater volumes of wood
- a shorter wait from planting to harvesting
- presents less risk of disease
- reduced establishment costs
- reduced harvesting costs.

Wide-spaced agroforests will produce better pasture on productive land.

While it is all too easy to neglect management of plantings out on the “back block” this is not the case when the trees are constantly under your gaze.

## **Q When do I plant my trees?**

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Generally you should plant seedlings in late winter to early spring.

*Radiata pine* should be planted earlier, normally between mid-June and the end of July.

*Dry ridges* should be established in mid-July to mid-August.

*Wet areas* are best planted once they have dried out sufficiently to not be waterlogged — often by mid-September to early October. Mounding allows wet sites to be planted earlier.

In general you should aim to complete most of your planting by mid-September. However, it is essential to watch the season and react appropriately — plant earlier in a dry season and later in a wet season).

See *FFN 3/98* for more detailed information on planting and the establishment process.

## **Short answers to common “furphies”!**

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There are many myths associated with pine trees and forestry in general. Some are “furphies” while others are old beliefs which have been disproved by more recent research.

### **Myth: forestry promotes sterile mono-cultures!**

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Forests do not have the same diversity as natural ecosystems, but they are certainly not “biological deserts”. Often they support a surprising level of biodiversity. For example, 60 species of birds have been recorded in multi-thinned pine plantations at Mount Crawford Forest.

### **Myth: forestry causes herbicide contamination!**

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While herbicides are essential for weed control during establishment, they are only used for two seasons in the life of a crop that may be grown for 35–45 years.

This is in contrast with other agricultural enterprises, particularly horticulture, where pesticides are used every year.

### **Myth: forestry causes soil erosion!**

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Forestry has developed codes of practice to ensure harvesting and establishment operations do not result in land degradation. Adherence to these best practices ensures that any soil loss is well within tolerable limits. Establishment techniques and harvesting operations are determined in accordance with each site’s susceptibility to erosion.

### **Myth: forestry is a fire hazard!**

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Properly managed and located farm forests — especially timberbelts and grazed wide-spaced agroforests — will actually reduce the spread of fire and offer protection from fire.

A forest fire does burn with greater intensity than a grass fire because of higher fuel loads. However, due to the reduced windspeeds in a forest the rate of fire spread is only about one quarter that of a grass fire in equivalent conditions.

Fire hazard can be reduced by pruning the lower limbs. This breaks the ground-to-crown fuel ladder and prevents most fires from “crowning”.



## Myth: pine trees acidify the soil!

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All forest has some degree of acidifying effect on the soil. However, studies have not shown that pine trees acidify soil at a greater rate than native forest! The “sterile” ground left after clearance of pine trees is due to the deep mat of organic matter that is breaking down. The mass of roots and needles will increase soil organic matter to the soil’s benefit, providing better structure and higher moisture and nutrient holding capacity.

## Myth: you can’t grow two successive plantations of pines!

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To the contrary, with good site preparation — especially retention of organic matter (needles, twigs and small branches) — subsequent plantations are generally more productive.

## Learn to love pines!

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In summary, the antipathy sometimes displayed towards pines should be seen in the context of their tremendous contribution to the state’s economy. They are of great benefit when managed responsibly.

## For further information:

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|-----------------|---|
| <i>FFN 1/98</i> | <i>Introduction to farm forestry in the Adelaide Hills and Fleurieu Peninsula</i> |
| <i>FFN 3/98</i> | <i>Farm Forestry: Establishment Guidelines</i>                                    |
| <i>FFN 4/98</i> | <i>Woodlots and Wide-Spaced Agroforests</i>                                       |
| <i>FFN 5/98</i> | <i>Timberbelts</i>  |
| <i>FFN 6/78</i> | <i>Pruning guidelines for Farm Forestry</i>                                       |
| <i>FFN 7/98</i> | <i>Firewood Growing in the Adelaide Hills and Fleurieu Peninsula</i>              |
| <i>FFN 8/98</i> | <i>Farm Forestry Species for the Adelaide Hills and Fleurieu Peninsula</i>        |
| <i>FFN 9/98</i> | <i>Protecting your forest plantation from fire</i>                                |

### Enquire as to more recent publications

*Farm Forestry, Harvesting and Marketing— Guidelines for pine plantations in the Adelaide Hills and Fleurieu Peninsula, David Hanna Forestry SA 1998*

*Farmtree\$ for the Mount Lofty Ranges: A Regional Agroforestry Handbook* by Peter Bulman, Primary Industries and Resources SA 1995.

*FS Land Capability in the Mt Lofty Ranges*

All available from PIRSA offices, State Tree Centre, State Flora outlets, Mount Lofty Ranges Catchment Resource Centre (Mount Barker) and community landcare resource centres.

*Environmental management guidelines for plantation forestry in SA, 1997*

*Mt Lofty Ranges Farm Forestry Industry Plan 1997*

### Primary Industries and Resources SA

Farm Forestry Development Officer: Martyn England (08) 8556 4848

### State Flora

Leader, Economic Revegetation Group: Peter Bulman (08) 8539 2117

### Forestry SA

Forestry Development Officer Eastwood Office: John Pratt (08) 8303 9900

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