Agriculture Notes

Growing cut Christmas trees

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This Agriculture Note describes growing cut Christmas trees in Victoria.

For most Australian families, decorating "the tree" is all part of the Christmas tradition. But where do they find their perfect real Christmas tree. Some will scour the countryside to find a tree to cut, while others will look to buy a tree from a local retailer.

In the past, Australians wanting to buy a cut Christmas tree have generally found it difficult. The number and quality of trees available has been both variable and unreliable. Even today, finding a Christmas tree is not easy. Many Christmas trees on the market have thin scraggy foliage and poor shape. For these reasons, the plastic fold up Christmas tree has become a popular alternative to a real live Christmas tree. To address the demand for real Christmas trees and the issue of quality and supply, the purpose grown Christmas tree industry is now becoming established in Australia.

In many parts of the world, Christmas tree farming is a well-developed industry. In the USA, trees are grown specifically for the Christmas season and are sold from suburban Christmas tree lots and “choose and cut” farms. The industry began shortly after World War 2 and is flourishing with over 15000 growers producing in excess of 33 million trees annually.

Australian flora allows little opportunity for the substitution of a native tree for that of a traditional fir or pine Christmas tree. Few native trees have the natural shape and density of foliage that is expected of a Christmas tree. In Australia, the most commonly used tree species for a Christmas tree is the plantation species *Pinus radiata*. *P. radiata* has been widely planted as a shelter tree on farms and also in government programs aimed at establishing a softwood plantation resource. The Christmas tree industry in Australia has largely developed from the selection and harvest of young plantation grown *P. radiata* trees that were generally unsuitable to be grown on for plantation timber, but were of suitable shape and density for Christmas trees. Removing these trees as thinnings assisted in the management of the plantation and has provided large numbers of Christmas trees.

The major problem that faces fledgling Australian Christmas tree growers is the lack of reliable information available. The USDA for decades, have had dedicated extension foresters providing information to their Christmas tree growers, unfortunately, very little of this USA information can be directly transferred to Australia. This is because, apart from our growing seasons being reversed (Christmas in summer) which affects the timing of pruning and shearing operations in relation to harvest, the main species that we can grow (*P. radiata*) is no longer commonly grown for Christmas trees in the USA.

Much is known about the establishment and growth *of P. radiata* for softwood plantations under Australian conditions, but the knowledge of shearing and shaping of these trees to meet the demands of the Christmas tree market is not widely known. The people with this knowledge are the established growers who have invested a great deal of their own personal resources into developing their business and they are reluctant to divulge the techniques that they have developed to produce a high quality product.

Some Christmas tree growers are prepared to provide information at a cost, and considering the mistakes that can be made and the costs incurred through the learning process, this investment may be well worthwhile.

Where will they grow?

P. radiata will grow on a wide variety of sites, but grow best where soils are well drained and where rainfall is in excess of 700 mm per annum or where supplementary watering can be provided.

Sites which have high humidity or moist still air may be subject to the needle blight *Dothistroma* which is disastrous for Christmas trees as it results in the death and shedding of needles.

How to establish them

The importance of site preparation in any tree-planting project can not be overstated. Good site preparation will result in better growth and survival of any seedling. Ripping to at least 450 mm allows the roots easy access to the surrounding soil. If there is any likelihood of occasional water logging then mounding should also be considered. Of most importance is weed control. There are several chemicals registered for use on *P. radiata* and these are the most efficient way of keeping weeds at bay. These chemicals do however require the user to be a holder of a current Chemical Users Permit.

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The Agriculture Note AG1070: *Radiata Pine: Planning and establishment* provides further guidance on establishment.

What spacing is best?

There is no blanket recommendation for spacing. Species characteristics and the size to which they will be grown determine spacing within rows. Pines generally have broad crowns and a spacing of 1.5 to 1.8 metres is needed if trees are to be grown to a height of 1.8 to 2.4 metres. Spacing between rows is dependent on species characteristics and equipment to be used to manage the trees. Row widths should be 600 to 900 mm greater than the equipment travelling down the row. For example, if the grass around the trees is to be controlled by slashing, then the distance between the rows needs to allow for the appropriate equipment be it tractor mounted or hand operated.

Plan ahead for harvest time

Consideration needs to be given to how the trees are to be removed from the site. A closely planted block of trees may mean that trees will need to be dragged some distance for loading at harvest. Giving some thought to access tracks through the plot prior to planting will reduce the amount of harvest labour required.

Spacing will determine the number of trees that can be grown on a given area of land.

Use the best available genetics

Some nurseries are actively selecting *P. radiata* on the basis of its suitability for Christmas trees. Seedlings rather than cuttings generally provide bushier growth. The ideal tree has a branching habit with about 250 to 300 mm between whorls. This results in the desired bushy shape, and is almost the opposite requirement for seedlings produced for plantation timber.

Planting and protection

Christmas tree seedlings are usually provided bare rooted and arrive bundled up to prevent moisture loss. The seedlings need to be planted soon after arrival to minimise losses. Planting is usually carried out during winter using a planting shovel designed for the purpose and planting rates of 100 to 125 trees per hour are possible. The work can be tough on the back.

Rabbits, hares and cockatoos have the potential to cause a great deal of damage to a young tree resulting in retarded growth, bad shape and perhaps even death. For these reasons, eradication of, or protection from pests is a must.

Shaping your trees for market

Even for seedlings selected for their growth habit, Christmas trees will still require pruning and shaping or “shearing”. This is achieved through the removal of leading shoots and branch tips, which promotes a greater degree of branching. Shearing should begin early in the tree's life and depending on the size of the tree, this operation can be achieved at 50 - 100 trees per hour. Equipment used for shearing Christmas trees includes shearing knives (machete type blades), secateurs and hand operated or petrol driven hedge clippers.

How long do I wait for a return?

Rotation length will depend on an individual site and its level of management, however, most trees should be ready for harvest the fourth Christmas after planting. This means that a site will be tied up for five years.

In commercial *P. radiata* operations, second and even third rotations have now been planted on the one site. There appears to be little disadvantage incurred from doing this, and so it is not expected that Christmas tree sites will need a great deal of rest before being replanted.

Harvesting

The time taken to harvest the trees is often not considered and this aspect is extremely important given the short period over which trees must be sold. Cutting and loading trees is time consuming and the employment of additional labour at harvest time will need to be considered. The US experience estimates that it could take up to 87 hours to harvest, haul and load each 1000 trees.

Marketing - the key!

As with most, if not all ventures where a product is produced, marketing is the key to success. For a product with a sales window of opportunity of at most 3 weeks, it is important to be able to identify markets well before the product is ready for sale and to be able to access those markets at the crucial time.

One of the major pitfalls of this type of enterprise is that for the first four years of operation there is no income and only expenses. For this reason, a development budget that takes into account cash flows should be developed that will enable you to get a good picture of your particular financial situation.

In summary

As with all new enterprises, inexperience can prove costly.

The best way to avoid some of this expense is to start in a small way which allows you to get a feel for the work and time involved in the enterprise. This will also allow you to establish manageable markets that can be expanded as you increase the scale of your operation.

Further reading

Hill, L. (1989). Christmas trees: growing and selling trees, wreaths & greens. Available from DPI Information Centre.

The previous version of this note was published in January 2003.