

Management Guidelines for Remnant Vegetation Harvested for Cutflowers

Agonis parviceps and
Agonis sp.

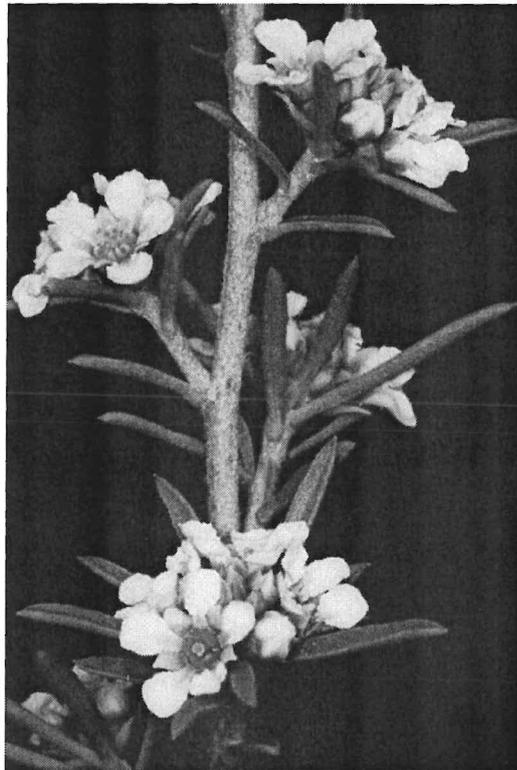


Photo by Chris Robinson

Written by Russell Smith and Liesl Rohl
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DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

BACKGROUND INFORMATION

These guidelines have been produced for use by landowners who wish to sustainably manage their remnant vegetation for cutflower production. The guidelines will also assist government authorities to advise on proposals to manage remnant vegetation for cutflower production on private land.

It is noted that some techniques that may be used to improve production of flowers, foliage or seeds from remnant vegetation may have the potential to adversely affect the nature conservation values of that vegetation, and to contribute to soil and water degradation. Land managers are thus advised to carefully assess management practices and their potential impacts before undertaking bush management for flower production.

Eight of the most heavily harvested species, or species of particular concern, were chosen for the preparation of these guidelines:

Agonis sp., ("coarse tea-tree")
Agonis parviceps, ("fine tea-tree")
Banksia baxteri
B. coccinea
B. hookeriana
Dryandra formosa
Meeboldina scariosa formally *Leptocarpus scariosus*
Verticordia eriocephala.

The recommendations within these guidelines are based on information received from land owners (who are currently managing these species on their properties), and from survey, monitoring and research results conducted in other managed stands.

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These guidelines were written by Russell Smith, CALM Bunbury, and Liesl Rohl, Flora Industry Botanist, CALM Como.

Guidelines for the Sustainable Management of Remnant Vegetation Harvested for "Ti-tree" Cut-flowers

Introduction

Flowering stems of the Western Australian native plants "fine ti-tree" (*Agonis parviceps*) and "coarse ti-tree" (*Agonis sp.*) were among the five most important native cut-flowers in the State in 1993. The main use for ti-tree is as dried filler material for flower arrangements that include focal species such as *Banksia*, *Dryandra* and *Protea*. Although ti-tree is mainly used as a filler, flower quality and density, as well as foliage quality are important factors. Long (50 cm) stems with dense foliage and abundant flowers are most desired by the market.

The main area of production for ti-tree is along the south coast of Western Australia between Pemberton and Albany. Coarse ti-tree mainly occurs in wet heathlands and fine ti-tree occurs both in wet heathlands and as an understorey in jarrah forest. Much of the production of both species comes from remnant vegetation on farms and it is likely that private property production, both from remnant vegetation, and plantations, will become increasingly important in the future.

The purpose of these guidelines is to advise on the best methods to sustainably manage ti-tree and the remnant vegetation from which it is harvested so as to protect conservation values. They are based largely on the advice of producers experienced in ti-tree production from farm bushland, and on research carried out by Agriculture W.A.

Biology

Both fine ti-tree and coarse ti-tree are shrubs that resprout from a rootstock after fire or cutting back. They normally grow to about 2 metres tall but if protected from fire may grow to about 3 metres. Plants grown from seed start to flower after two years but are normally not big enough for harvesting till they are four or five years old. Long, commercially desirable stems, are produced in abundance two to three years after slashing or fire. Six to seven years after slashing most stems are short and unsaleable.

Peak flowering of coarse ti-tree is from March to June and for fine ti-tree occurs from early September to December. Fine ti-tree and coarse ti-tree interbreed to form hybrid forms and both species may cross with "rosa ti-tree" (*Agonis linearifolia*) which is found along creeklines.

Fire

Fire is used by some producers as a means of stimulating the production of commercially valuable stems, particularly following slashing. The desirable time to burn is either in autumn after the first rains or in late winter or early spring. However, frequent fire, especially in small areas of bushland may degrade the conservation values of the remnant by encouraging weeds and cause local extinction of fire-sensitive native species.

Burning causes the germination of legumes such as *Acacia* species that are important for fixing nitrogen, it also may increase the number of native species if a remnant has not been burnt for a long time. Burning is not favoured by some ti-tree producers because some of the *Acacia* species are prickly and interfere with picking. Also, a vine (*Cassytha sp.*) may appear in abundance after fire and render ti-tree stems commercially valueless if it twines around them. However, if a remnant is not burnt for a very long time some native species that need fire to germinate may disappear from the bushland.

Recommendation

- Bushland being managed for the production of cut-flowers from ti-tree may be burned at no less than 10 year intervals to encourage the germination of nitrogen-fixing species and to "rejuvenate" the ti-tree.

Slashing

After 6 or 7 years ti-tree becomes "woody" and the stems are shorter and commercially unattractive. The usual method of rejuvenating stands is to slash them, using a tractor-mounted slasher set at about 30 cm above the ground. This is normally done from mid autumn to early winter. If the slashing is done in April there is time for it to dry to allow burning of the slash in late April or early May. Tractor tyres may cause some compaction of the soil and damage to other species. Slashing may also kill non-resprouting species and as with fire it should not be carried out too frequently, that is, before seeder species have had sufficient time to replenish their seed bank. Care should be taken to avoid the introduction of diseases on machinery.

Recommendations

- Slashing should be carried out in spring and should be done alternately with burning, i.e. slash after 6 years then burn after another 6 years.
- Tractor -powered slashing should not be carried out more frequently than once in 10 years.
- To reduce the risk of soil erosion tractor-powered slashing should not be carried out on steep (> 20%) slopes.

Fertilizer

Although most areas of bushland currently being managed for ti-tree are fertilized with superphosphate or super-potash at the same rate as the adjacent pasture this is probably detrimental for the conservation values of the bushland. Ti-tree may respond well to fertilizer but some other species in the bushland, particularly members of the Proteaceae, may be harmed. Apart from often causing 'tipping', that is the production of further shoot growth above the flowers which need to be clipped off after harvest, high levels of fertilizer will encourage invasion of exotic weeds into remnant vegetation. Fertilizer should not be applied close to water courses because much of it may be washed downstream and contribute to over-enrichment of estuaries and harbours.

Recommendations

- Fertilizer applied to remnant vegetation being managed for ti-tree should be at a rate of no more than 50 kg N and have phosphate no higher than 3%.
- Fertilizer should not be applied more frequently than once each 10 years.
- Fertilizer should not be applied with 50 metres of a waterway.

Fencing

Areas of bushland being managed for ti-tree production should be fenced off to protect new shoot growth. Sheep in particular are likely to graze on ti-tree and other plants in autumn. A four-wire electric fence is a low-cost and effective method of fencing off bushland.

Recommendation

- Bushland remnants being managed for ti-tree production should be fenced to exclude stock and they should not be grazed.

Harvesting

Harvesting is carried out by either snapping or clipping off flowering branches about 45 - 50 cm long and forming them into bunches. Depending on the number of good quality stems and the age of the plant about 20% - 60% of the current season's growth is taken. The first good "pick" of stems occurs 3 years after slashing or burning, picking before this time may place stress on the plants' reserves. Care should be taken not to introduce "dieback" during harvesting. Although ti-tree is resistant to this disease other species occurring with it may be vulnerable. If secateurs are used they should be sterilized between stands to reduce the risk of disease introduction. Wiping the secateurs with a cloth soaked in methylated spirits is a quick way of disinfecting them.

Recommendation

- The first harvest from ti-tree should be no less than 3 years after slashing or burning.

References

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