

# APPROACH GRAFTING GREVILLEAS

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## INTRODUCTION

The technique of grafting Australian plants has been used with success where otherwise there have been losses due to:

- disease
- failure of more traditional propagating methods
- a lack of suitable propagating material
- failure due to climatic or soil conditions.

This paper outlines one specific grafting technique—the approach graft—whereby *Grevillea* is grafted onto *Grevillea* to produce a weeping standard.

## METHOD

The distinguishing feature of approach grafting is that two independent self sustaining plants are grafted together. After a union has occurred, the top of the stock plant is removed above the graft and the base of the scion plant is removed below the graft. Sometimes it is necessary to sever these parts gradually rather than at the one time.

Approach grafting provides a means of establishing a successful union between certain plants which, otherwise, may be difficult to graft together. It is usually performed with one or both of the plants to be grafted growing in a container. Rootstock plants in containers may be placed adjacent to an established plant which is to furnish the scion part of the new grafted plant.

This type of grafting can be done at any time of the year, but healing of the union is more rapid if it is performed at a season when growth is active. As with other methods of grafting, the surfaces should be securely fastened together and covered to prevent drying of the tissues, the spliced approach method is outlined below.

**Step 1.** A single stemmed healthy, vigorous *G. robusta*, approximately 1.8 metres in height is used as the rootstock. The prostrate grevillea, *G. 'Poorinda Royal Mantle'* is used as the scion.

Both scion and stock should be in an active growth phase, i.e. early summer. To perform the technique the scion plant, with roots intact, is placed on shelves in the propagating unit at a height of 1.5m (see Figure 1).

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**Step 2.** With the scion material in place the rootstock is positioned so that it is directly adjacent (Figure 2). Along with the sections of stems where the graft is to occur, leaves, petioles, etc. are removed with a sanitised scalpel (Figure 3).

**Step 3.** The cambiums of both the stock and scion are exposed for an approximate length of 30 to 50 mm, the cuts being made by using a clean, sharp, sanitised scalpel blade (Figure 4).

**Step 4.** The cambiums of both stock and scion are united and tied with grafting tape (Figure 5) then placed in the shade house for some six weeks to allow a strong healthy union to form. The atmosphere is kept moist with adequate but not excessive watering of both stock and scion.

**Step 5.** After six weeks the graft is carefully inspected to ascertain if union has occurred; if so, the grafting tape is removed and the scion is severed from its own roots with sharp secateurs making a good clean cut directly below the union (Figure 6).

## RESULTS

Once the new “head” begins to show vigorous growth, the top of the rootstock is removed with a clean cut directly above the union (Figure 7). As the new “head” slowly enlarges it is tip-pruned in order to encourage branching and create a full “head”. Any lower leaves or branches are removed from the rootstock (Figure 7) resulting in a healthy, weeping standard grevillea (Figure 8).

## DISCUSSION

The rationale for our using the spliced approach graft is as follows:

1. As a practical propagating exercise for the Corporation’s 12 horticultural apprentices.
2. To propagate a supply of “novelty” weeping grevilleas for a landscape beautification project.
3. To assess the method under the prevailing climatic regime.
4. To obtain a “special” form of plant material for use in the landscape.

Many *Grevillea* spp. under cultivation have proved themselves as reliable garden subjects whereas others have proved difficult. The latter are mainly species from the drier, inland habitats which often prove difficult to propagate in southeastern Australia.

Grafting is always a possibility for grevilleas as reliable stocks, such as *G. robusta*, appear to be compatible with most species as evidenced by projects undertaken at the National Botanic Gardens (Canberra) where *G. robusta* has been used as a successful stock plant for the production of weeping *Grevillea* standards. Prostrate species such as *G. × gaudichaudii* have been grafted onto 2 to 3m *G. robusta* seedlings.

By this method a plant with a weeping habit was produced for use in the Hobart public landscape. Variable results are obtained by the use of this technique—some weeping trees will grow as spreading shrubs if bottom-worked, but will show the true weeping habit and form an attractive tree if top-worked onto a clear stem, as in the method outlined.

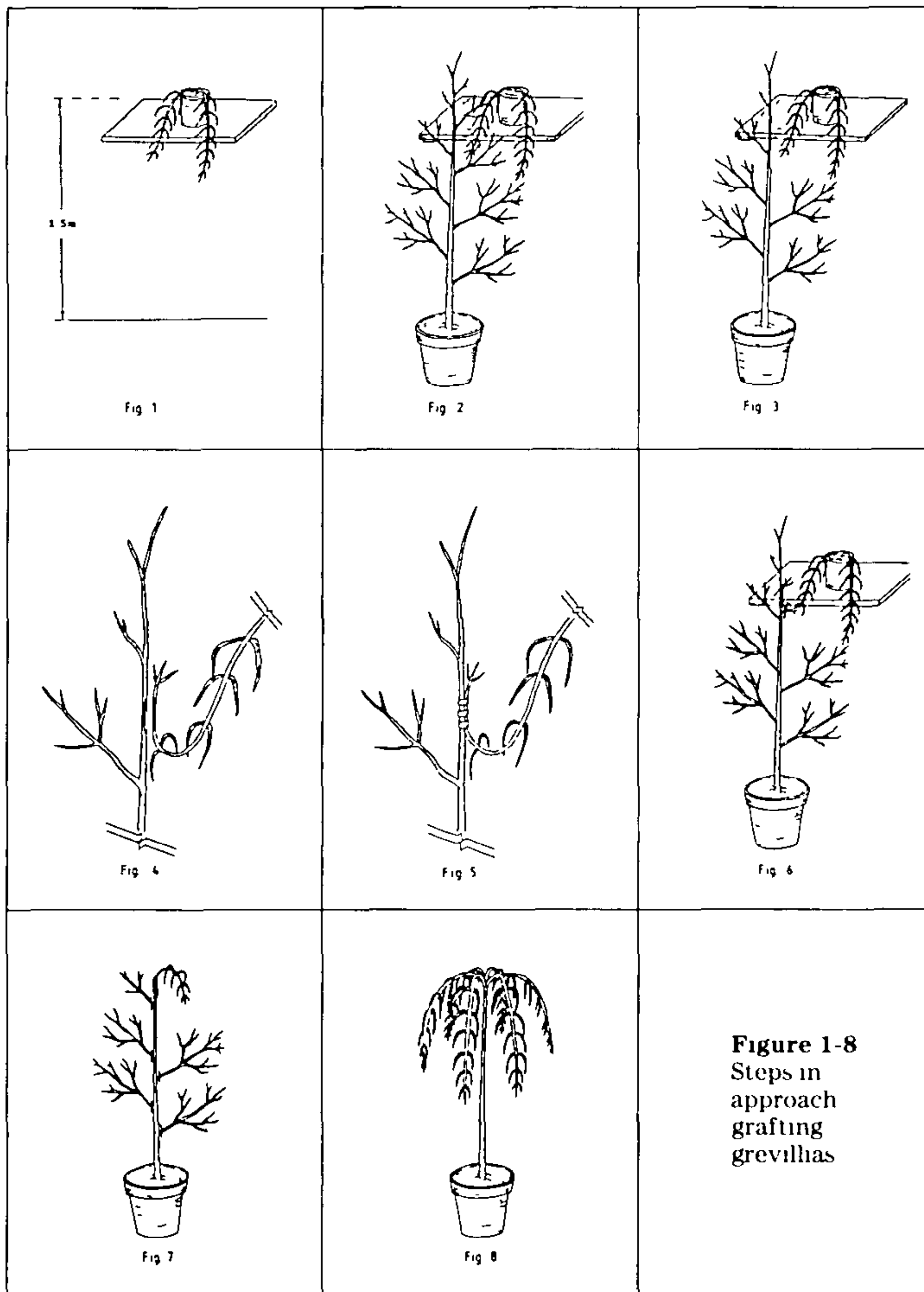
This type of graft can also be used in the production of novelty trees. This is difficult to define, but essentially they are trees/shrubs that constitute an unusual scion/rootstock combination, providing either more than one cultivar on a plant (“family trees”) or a plant providing an unusual visual effect.

The success rate in terms of union was 95% of the total number of grafts attempted. This was not unexpected considering the growth conditions of stock and scion and the summer climatic conditions prevailing in Hobart at the time—December/January.

## CONCLUSIONS

As with other propagating methods there are limitations to methods of grafting, these include:

1. Methods that may require additional facilities to provide a controlled environment during the after care period, e.g. subjects propagated by bench grafting.
2. The need for reliable and skilled personnel who require training and consequently higher remuneration.
3. The additional costs involved in growing or purchasing rootstocks.
4. Problems resulting in delayed incompatibility between rootstock and scion.
5. Rootstocks that exhibit excess suckering resulting in a deterioration in the quality of scion growth over the years. This can often be prevented by:
  - 1) correct removal of suckers during the propagation stage,
  - 2) grafting lower on the rootstock,
  - 3) using an alternative rootstock, or
  - 4) removal of suckers soon after planting in the permanent site.
6. Possible changes in the normal habit growth; this can be desirable in many cases but in specialty items, such as dwarf conifers, the eventual height can be greater than originally anticipated with plants raised from cuttings.



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