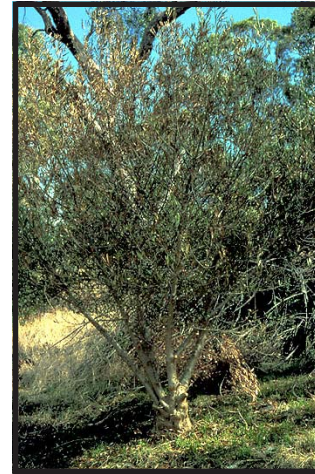


Drill and fill treatment of feral olive trees

The **Drill and Fill** technique has been used successfully on a range of large woody weeds that have a base of 4cm in diameter or larger, but is best known for killing feral olives. The plant usually drops its leaves within six weeks and dies within a few months. It will be necessary to monitor the plant and if it resprouts, the process will need to be repeated. The soil beneath large woody weeds usually contains huge numbers of seeds from the parent plant. These seeds will germinate and if left untreated, will become a worse problem than the original plant. It is essential that follow-up control of seedlings is undertaken in subsequent years.



Base of olive drilled and filled (above) and four weeks after treatment (right)

There are a number of ecological advantages in using the drill and fill technique over cut and swab. Primarily, habitat structure remains in place. It is possible that birds and other animals utilise the structure provided by these weeds for shelter. The drill and fill technique allows nesting birds to continue raising their young as the weed dies. Cut and swab would result in an abandoned nest.

Retaining the structure will give native animals time to relocate to new areas that provide suitable shelter. There is also less damage caused to surrounding bushland as there is little cut material, which would otherwise need to be removed from or burnt on the site.

Methodology

Outline: Holes are drilled into the target tree and then filled with a suitable herbicide mixture. The tree's sap becomes contaminated with the herbicide and is distributed throughout the entire plant. The plant's foliage is vital to aid the distribution of the herbicide, so do not prune off any branches unless they prevent you from gaining access to the lignotuber. A noticeable change in the tree should be visible after about three weeks. Expect defoliation after several months and cracking and blackening of the bark after about six months.

The keys to success are:

- Knowing where to drill the holes;
- Knowing how big, how deep and how many holes to drill;
- Ensuring each hole is properly and adequately filled with the herbicide solution.

Drill and fill cont.

Herbicide dilution rate: Bush For Life only uses Glyphosate at 360g/litre. This is diluted to 1:5 as it appears to be more readily taken up by the plant.

Where to drill the holes: Wherever possible, the treatment must be focused entirely on the lignotuber. On quite small trees (with lignotuber the size of a medium lemon), drill one or two holes that can hold 1-2ml of solution, taking care not to drill right through to the other side. On very large trees it is common to have several rings of holes around the perimeter of the lignotuber.

Start from the top of the lignotuber, with holes 25mm to 50mm apart. In the top ring, the holes should be between vertical and 20 degrees tilt. Drill another ring of holes 50mm below the first ring, then another 50mm below that. The number of rings is determined by the size of the lignotuber. As the rings extend down and outward, the holes may tilt as much as 45 degrees, but keep them as vertical as possible. It is also beneficial to drill and fill in the middle of lower forks in the stem. If the lignotuber is not easily located near the soil surface, it will be necessary to drill holes steeply into the cambium layer (where sap flows under the bark) filling each one as you go. This is slightly less effective than drilling and filling the lignotuber.

How big, how deep, how many: Use a drill bit of approximately 10mm diameter. Dowelling bits give you the best results. Holes can be as deep as 1.5 - 4cm. This is one occasion where more is better, so if you are concerned that there aren't enough holes, drill some more!

Filling the holes: Take care to ensure the holes are filled with liquid and not froth. Use a good herbicide dispenser, such as an appropriately labelled plastic laboratory wash bottle.

Cut & Swab Technique

The **Cut and Swab** technique is often used when a weed is too large or the soil too dry for hand pulling. This method is best carried out by two people. One cuts the stem close to the ground, the second quickly applies a suitable herbicide mixture to the exposed stump.

The herbicide needs to be applied immediately, as some weeds begin sealing wounds within seconds therefore reducing the absorption and effectiveness of herbicide. Larger weeds should then be cut into smaller lengths approximately 30 – 50cm long and scattered around the area being worked.



Cut and Swab herbicide applicator and its use in the field

This prevents the creation of compost heaps in bushland, slows the activity down and helps prevent over clearing of weeds. On public reserves it is less obvious that work has occurred and prevents complaints about untidiness and perceived fire hazards.

*** If you would like more information call Trees For Life on 8406 0500.**