



Poisoning Wilding Radiata Pine - using metsulfuron

Background

Traditionally, drilling and poisoning of wilding pine trees has predominantly been undertaken using herbicides such as glyphosate (Round-up), however a modified method using the herbicide metsulfuron has been trialled and found to be as effective, significantly faster and of a similar chemical cost to more traditional methods but requires far fewer holes per tree. This method is also faster per tree than felling, especially with larger trees. The following information is intended to assist individuals, communities and agencies to achieve a cost effective and time efficient way of killing wilding radiata pine trees.

Required equipment

A petrol powered borer, electric drill (battery type) or a hand borer (brace and bit) can all be used, however both the electric drill and hand borer have limitations when large numbers of trees are to be poisoned.



Drill bits between 15mm and 25mm are suitable but need to be a minimum of 150mm+ useable length, to penetrate through to the growth layer of larger trees (for large numbers of trees a longer bit requires less bending for the operator)

Chemical applicator equipment needs to be able to measure 10ml doses. Suitable equipment maybe a drench gun type set up, a 'squirty' type bottle, etc or for smaller numbers of trees a large syringe may be suitable. All application equipment should be clearly labelled and stored securely.

Chemical

Metsulfuron is the active ingredient in a number of brands of herbicides, the most common of these is Escort (600g/kg), Meturon (600g/kg) and Matrix (600g/kg). Herbicides with lower levels of metsulfuron (such as Answer 200g/kg) tend to be unsuitable due to their lower concentration of active ingredient.

To be effective (with a very small number of holes), metsulfuron is mixed to a high concentration of 200g of metsulfuron (600g/kg e.g. Meturon, Matrix or Escort etc) per litre of water.

As metsulfuron is in a granulated form, the high concentration in this situation can leave an amount of 'crud' in the bottom of the mixing container. Dependant on the type of application equipment chosen, this 'crud' can be removed by either pouring the mixed poison 'off the top', running the solution through a cloth or mixing and letting settle then remixing.



It is recommended to mix only enough for the day as the herbicides effectiveness may start to diminish 24hrs or so after mixing.

Method

For Pine trees between 0.2m and 0.5m in diameter drill 2 holes at even spacing around the tree.



For Pine trees between 0.5m and 1.0m in diameter drill 4 holes at even spacing around the tree.

For Pine trees between 1.0m and 1.5m in diameter drill 6 holes at even spacing around the tree.

Trees in more open areas with greater than average foliage (needle) cover can be more difficult to kill and in these circumstances it is advised to add a further two holes.

Multi-stemmed trees - it is advised to treated each stem as a separate tree and poison accordingly.

Pointers for drilling - Holes should be drilled on a downward angle and aimed into, and along, the growth layer (which is the layer directly inward of the bark through which the tree transfers water, food and nutrients up and down). This layer is denoted by soft pale wood below the bark.



The holes should not extend deeply into the centre of the tree as this takes the poison away from the growth layer.

Immediately after drilling around the tree, pump a minimum of 10ml of the herbicide mix into each hole (it is not necessary to plug the holes in anyway).

Trees should start to show signs of yellowing in 6 weeks, (this is dependant on a number of factors including season, tree size, etc), but may take 6 months or more to loose all needles and appear dead. The best time to poison pine trees is during the spring and early summer

as the tree is actively growing and the sap moving. Trials have shown trees are harder to kill if poisoned in winter.

Some safety pointers

The herbicide in this method is mixed to a high concentration and as such protective equipment similar to that required for mixing should be used by the applicator at all times. This includes chemical resistant gloves, chemical resistant footwear, and cotton overalls.

While poisoned pines tend to loose foliage, then small branches, the larger branches and the main stem (log) do fall as a normal dying tree would. Therefore it is not recommended that trees are poisoned near buildings, roads, power wires, wharfs, tracks or other high use areas e.g. beaches, camp sites etc.

Further information

For further information contact Sounds Area Office, phone 03 520 3002, or Marlborough District Council, phone 03 520 7400.