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GOOD PRACTICE FOR
WILDING CONIFER CONTROL



NATIONAL WILDING CONIFER
CONTROL PROGRAMME



CUT STUMP WITH HERBICIDE APPLICATION – ‘CUT STUMP’

VERSION 1: NOVEMBER 2021

Cut stump is a control method that involves cutting a tree down and applying herbicide to the cut stump to prevent regrowth. It is suitable for the control of trees which are accessible from the ground and where the risk of damage to surrounding vegetation is minimal or not a concern.

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ABOUT THIS DOCUMENT

Overall disclaimer:	<p>The information in this publication represents the collective view of the National Wilding Conifer Control Programme (the 'National Programme'). We have made every effort to ensure the information is accurate. However, the National Programme does not accept any responsibility or liability for error of fact, omission, interpretation or opinion, nor for the consequences of any decisions based on this information.</p> <p>Good practice use by any reader is done so at their own risk, and the National Programme rejects all liability for any risk or loss as a result of applying this good practice information.</p> <p>This guide is not designed to provide exhaustive compliance information and is not a substitute for professional advice. It remains the full responsibility of the user to obtain the specific guidance, authorisations, consents and permits as required to meet regulatory requirements and complete the work.</p>
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VERSION CONTROL

Date	Details	Version no.
November 2021	Draft finalised and published	Version 1

This document should be read in conjunction with:

WorkSafe - *Working safely with chemicals and fuels on farms*

WorkSafe - *HSNO codes of practice for hazardous substances*

NZ Standard for Management of Agrichemicals NZS 8409:2021

Approved Code of Practice for Safety and Health in Forest Operations

Health and Safety at Work (Hazardous Substances) Regulations 2017

1. CUT STUMP MATERIALS

1.1 EQUIPMENT RECOMMENDATIONS

Below are recommendations for equipment for set-up and delivery.

EQUIPMENT TYPE	RECOMMENDATIONS	IMPORTANT CONSIDERATIONS
Cutting	Loppers, secateurs, handsaw, scrub cutters or chainsaw.	Follow WorkSafe's Approved Code of Practice for Safety and Health in Forest Operations and any associated best practice guidelines.
Herbicide Application	<ul style="list-style-type: none"> • A bottle fitted with an applicator brush; or • A handheld sprayer; or • A backpack applicator 	All application equipment must comply with the Health and Safety at Work (Hazardous Substances) Regulations 2017.
Personal Protective Equipment	<p>If using loppers or secateurs:</p> <ul style="list-style-type: none"> • Boots with ankle support that are appropriate for the terrain • Safety glasses • Gloves <p>If using a handsaw:</p> <ul style="list-style-type: none"> • Long pants or knee length gators • Boots with ankle support that are appropriate for the terrain • Safety glasses • Gloves <p>If using scrub cutters:</p> <ul style="list-style-type: none"> • Chaps or chainsaw protective pants • Chainsaw resistant boots with steel-capped toes • Face visor/safety glasses • Radio communication 	<p>Follow guidance on the Safety Material Data Sheet.</p> <p>It is the Programme's view that if the SDS "recommends" or "advises" that a particular type of PPE be used when applying chemical, then this must be used.</p> <p>Follow WorkSafe's Approved Code of Practice for Safety and Health in Forest Operations</p> <p>All chainsaw and scrub cutter operators must be in constant radio contact with another person.</p>

	<p>If using a chainsaw:</p> <ul style="list-style-type: none"> • Chaps or chainsaw protective pants • Chainsaw resistant boots with steel-capped toes • Face visor/safety glasses • Hearing protection • Safety helmet • Radio communication <p>When handling, mixing, or applying herbicide, or when cleaning associated equipment:</p> <ul style="list-style-type: none"> • Safety glasses • Chemical resistant gloves (refer to SDS sheet) • Waterproof boots • Cotton overalls fastened up to the neck and wrist (if spraying herbicide) • Mask or respirator (if recommended by the SDS) 	
<p>Other</p>	<ul style="list-style-type: none"> • A fire extinguisher - chainsaw operators only • A First Aid kit with saline eye wash must be available for operators. Chainsaw operators must carry first aid kits which includes two large wound dressings as per the ACOP. 	<p>Wherever the fire risk is above 'Low' on the Fire Danger Class System, fire extinguishers must be carried.</p>



2. HERBICIDE CHOICE AND USAGE

2.1 TRAINING

General instruction, supervision and training requirements are provided in the Health and Safety at Work (General Risk and Workplace Management) Regulations. The Hazardous Substances Regulations go further to state what a business needs to do to ensure that every worker who uses, handles, manufactures or stores a hazardous substance has the knowledge and practical experience to do so safely.

Employers have a duty to train employees (or make sure someone who is trained supervises them) so they can do their work safely. The Site Lead (or equivalent role as named in the relevant Site Specific Safety Plan) for a drill and fill operation must make sure that everyone using chemicals is appropriately trained.

Note, a GROWSAFE standard certification is needed for any worker using metsulfuron methyl, picloram, or triclopyr BEE.

2.2 RECOMMENDED HERBICIDE

Note: Before application refer to and follow the directions of the products Safety Material Data Sheet.

	Picloram gel (43 g/L or stronger)	Glyphosate gel (240 g/L or stronger)	Metsulfuron gel (10 g/L or stronger)	20% basal bark mixture
Situation of Use	All species. Follow label recommendations for application use			
Recommended Mixing	Apply directly from bottle.	Apply directly from bottle.	Apply directly from bottle.	<ul style="list-style-type: none"> 200 mL of 600 g/L triclopyr butoxyethyl ester (triclopyr BEE) herbicide 800 mL of vegetable oil. Or a pre-mixed product such as X-Tree Basal Wet and Dry.

3. CUT STUMP METHOD

3.1 BEST TIME OF YEAR TO CUT STUMP

Cut Stump can be used throughout the year.

3.2 METHOD

CUTTING

- Cut the stump using a handsaw, loppers or scrub cutters for a small sapling, and a chainsaw for larger trees.
- Cut the stump as close to the ground as possible (ideally no higher than 10cm, although this may not be possible in steep terrain). Try not to have more than one green whorl below the cut stump.
- Try to achieve a clean cut. Cut the stumps so they are approximately level to facilitate uniform coverage of the herbicide mixture.
- All branches must be removed from the stump.

HERBICIDE APPLICATION

- The preferred option is that all cut stumps are followed up with herbicide application. However, see “Cutting without chemical application” below.
- Remove any sawdust before applying herbicide.
- Apply herbicide immediately after cutting (i.e. within a couple of minutes).
- The preferred application method is using a herbicide gel product with a brush top that directly applies the herbicide to the cut stump. A pressurised backpack sprayer at very low pressure or a spray bottle can alternatively be used to apply the herbicide mixture.
- Apply herbicide to the cambium layer just inside the bark and the remaining outer bark to the ground line, including the root collar.
- For stems smaller than 8 cm in diameter, treat the entire stump surface. For larger stems, apply herbicide to the outer 20% of the stump. The cambium area next to the bark is the most vital area to cover with herbicide.
- If regrowth occurs, follow up treatment should include any living parts of a treated stump, exposed roots and re-sprouted stems. The areas to be retreated need to be freshly cut before applying herbicide.



CUTTING WITHOUT HERBICIDE APPLICATION

If you cannot use herbicide, it is acceptable to use a small axe/hatchet after cutting the stump to remove all branches and needles below the cut. This is not the preferred method of control and should only be used when chemical cannot be applied or is unavailable.