

5. SPRAY MANAGEMENT

5.1 Permitted Chemicals

The only agrichemicals which are permitted to be used for spraying on the Selwyn Road Maintenance Contract is as follows (*Condition 1*);

- Glyphosates
- Metasulfuron
- Diquat
- Haloxyfop
- Terbutylazine
- Triclopyr

As guide the following chemicals are used on the contract:

Glyphosate – Round Up

- Bridges
- Culverts
- Town Spray
- Road Edge markers

Triclopyr – Garzon

- Gravel Pits
- Gorse
- Broom

Metsulfuron – Associate 600

- Winter Gorse
- Winter Broom

5.2 Spray Drift Controls

Reasonable steps to minimise spray drift may include:

- Directing the spray towards only the spray target,
- Maintaining proximity to the spray target, to ensure maximum coverage ie spray boom height.
- Using lower pressure
- Adding a drift reduction agent
- Using buffer zones or shelter belts
- Ensuring weather is suitable (especially wind speed and direction).

5.3 Wind Controls

Wind speed and direction must be taken into account before spraying. Variables to consider:

- How fast is the wind blowing?
- Is the wind blowing towards or away from sensitive areas?

The below table is a guide to identify optimal spray conditions in relation to wind speed.

Table 4: Grow safe Wind Speed Guide

Wind Speed Guide			
Approx. airspeed at nozzle height	Description	Visible signs	Spraying
Less than 2 km/h	Calm	Smoke rises vertically	Use only medium or coarse spray quality
2 - 3 km/h	Light air	Direction shown by smoke drift	Avoid fine spray on warm, sunny days
3 - 6 km/h	Light breeze	Leaves rustle, wind felt on face	Ideal spraying conditions
6 - 10 km/h	Gentle breeze	Leaves and twigs in constant motion	Good spraying
10 - 15 km/h	Moderate breeze	Small branches move, raises dust or loose paper	Increased risk of spray drift, avoid fine sprays
15-20 km/h	Fresh breeze	Small trees sway	Extreme caution with any sprays
>20 km/h	Strong breeze	Large branches sway	Unsuitable for spraying

5.4 Mixing Controls

Measuring and mixing agrichemicals accurately is a key requirement of safe and effective agrichemical use. Here is the way to mix correctly:

- Ensure you use the correct PPE.
- Check the spray equipment is clean. If using a different agrichemical to the one last used, check the equipment has been decontaminated.
- Check you have the correct agrichemical.
- Read the label for the recommended application rate and any product specific information about mixing.
- Calculate the amount of spray mixture required for the task then calculate how much spray concentrate is needed for the tank.
- Add about half the required water to the spray tank. Ensure the water is clean.
- Accurately measure the concentrate (place measuring jug on a level surface) and add it to the spray tank. Ensure caps and lids are replaced on containers as soon as possible.
- Triple-rinse your measuring containers. Do not tip the rinsate out on the ground or down a drain. Triple rinse the agrichemical container if you empty it, adding the rinsate the spray tank.
- Top up the spray tank with clean water to the required level.
- Return agrichemical containers to the store before starting spraying.

5.5 Washout Controls

When spraying is complete ensure that the sprayer is thoroughly rinsed, water shall be used to dilute the residual chemical in the tank to a non-hazardous concentration.

Spray washout mixture onto:

- the target crop/areas, ensure to avoid exceeding any maximum residue levels set for the crop being sprayed, or
- waste ground, only if:
 - o the effective application rate is less than the recommended application rate on the product's label
 - o runoff does not occur
 - o no spray mixture enters any surface water or has the potential to discharge to surface water.

5.6 Erosion Control

When spraying in areas of high erosion risk and potential erosion, over spraying is to be avoided to prevent the further erosion of the area. Erosion prone areas and areas listed on the site of ecological significance list are to be recorded and inspected approximately 1 month after spraying (*Condition 19*).

The inspection is to consider if denuding is occurring. If identified mitigation works are to occur to prevent further scour and erosion.

Mitigation/remediation measures include but are not limited to:

- Grass seeding
- Planting vegetation
- Utilising biodegradable fabrics (hessian matting, coconut matting, Hemp cloth)
- Mechanical stabilising

Further monitoring shall be conducted to ensure the mitigation methods utilised have been successful.

Records of Erosion prone sites and the implemented mitigation measures are to be recorded on a spreadsheet and made readily available to environment canterbury upon request (A map of high erosion risk zones within the Selwyn District can be found in *Appendix E*).

5.7 Spill Management

Should a spill occur the following process is to be employed:

- Refer to the spill response procedure (*Appendix A*)
- Seek help if required;
- Wear appropriate PPE;
- Block off the supply/discharge point
- Spill to land: contain the spilt chemical by placing a bund around it, using absorption pads (grey for universal, white for hydrocarbons), absorbent socks, enviro peat, sand or similar;
- Spill to water: deploy absorbent booms to contain the spill;
- Get a sucker truck in to remove any potential spill in the kerb and channel or stormwater;
- Clean up and dispose of the soakage spoil to an approved facility;
- Notify the Contract Manager and Environmental Advisor in accordance with *Condition 22*

Additional requirements for spill management are set out in the spill response plan found in *Appendix C*

5.8 Signage

At all times when spraying is in process vehicles associated with spraying shall display road works signs in the front and at the rear (*Condition 33*).

When spraying occurs in areas containing edible plants signage must be erected at least one day prior to the spraying and remain in place during and three days after the completion of spraying (*Condition 32*).