



Weed Control Equipment Use Procedure

Environment

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Weed Control Equipment Use Procedure

Environment



Authorisation

Version	Reason for Issue	Prepared	Checked	Authorised	Date
1.0	Migrated to ECMS, supersedes 950-HSE-EN-PRO-0028 v 1	T. Sprenkels	T. Sprenkels	M. Goggin	30/03/2020
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Weed Control Equipment Use Procedure

Environment

Table of Contents

1	Purpose	4
2	Scope	4
3	Definitions	4
4	Responsibilities	4
5	Procedure	5
5.1	Hazards.....	5
5.2	Backpack Components.....	5
5.3	Use of the Backpack Sprayer.....	5
5.3.1	Planning to spray	5
5.3.2	Charging	6
5.3.3	Preparation of backpack herbicide solution	6
5.3.4	Backpack spraying	7
5.3.5	Cleaning and maintenance	8
5.4	Use of Vehicle-mounted Tank Sprayer.....	9
5.4.1	Sprayer components	9
5.4.2	Planning to spray	10
5.4.3	Tank sprayer set-up	10
5.4.4	Preparation of tank herbicide solution	10
5.4.5	Vehicle spraying	11
5.4.6	Cleaning and maintenance	12
5.5	Documenting Weed-spraying Activities	13
5.6	Herbicide Ratios.....	13
6	References	13
6.1	Internal Document References	13
6.2	External references	13

List of Tables

Table 1: Definitions table	4
Table 2: Responsibilities table	4
Table 3: Backpack sprayer charging steps.....	6
Table 4: Preparation of backpack herbicide solutions steps	6
Table 5: Backpack sprayer nozzle options	7
Table 6: Spraying steps.....	8
Table 7: Tank sprayer set-up steps	10
Table 8: Preparation of tank herbicide solutions steps	10
Table 9: Vehicle spraying steps	11
Table 10: Herbicide ratios	13

Weed Control Equipment Use Procedure

Environment



List of Figures

Figure 1: Backpack sprayer components	5
Figure 2: Vehicle-mounted tank sprayer	9
Figure 3: Vehicle-mounted tank sprayer components.....	9



Weed Control Equipment Use Procedure

Environment

1 Purpose

The purpose of this document is to detail the requirements and procedure for safe operation of the Garden Pro, Rapid Spray backpack sprayer and vehicle mounted Rapid Spray 450L tank spray unit to control weeds.

2 Scope

This document applies to all Atlas controlled sites and their activities, employees, contractors and visitors undertaking operation of this equipment.

3 Definitions

Table 1: Definitions table

Term	Definition
Atlas	Atlas Iron Pty Ltd
Herbicide	Chemical used for the control of weeds
Product	Herbicide of choice for weed control
Shall/Ensure	Mandatory
Should/Ideally	Not mandatory but highly desirable
Weed	A plant which has, or has the potential to have, a detrimental effect on economic, social or conservation values.

4 Responsibilities

Table 2: Responsibilities table

Role	Responsibility
Environmental Advisor	<ul style="list-style-type: none">• Ensure this procedure is adhered to.• Provide advice on use of this equipment.• Identify weeds for spraying.• Ensure equipment is checked regularly and in good working condition.• Report any issues and ensure repairs are completed.
All employees, contractors and visitors	<ul style="list-style-type: none">• Adhere to this procedure.• Adhere to the advice issued from the Environmental Advisor (or nominated representative).• Report any issues with the equipment.

Weed Control Equipment Use Procedure

Environment

5 Procedure

5.1 Hazards

Chemical use

- Refer to the latest MSDS for the herbicide you are using for the specific hazards and First Aid measures required.
- Under the Health (Pesticides) Regulations 2011 anyone who charges a fee or offers a service for gain or reward for managing weeds needs to be licenced with at least the Lawn & gardening endorsement.

Manual handling

- The backpack weighs 18kg when full.
- Only fill to your carrying capabilities, rest when required.
- Adjust straps for correct fit.

5.2 Backpack Components



Figure 1: Backpack sprayer components

5.3 Use of the Backpack Sprayer

5.3.1 Planning to spray



- Solution should not be sprayed when there is less than 6 hours of daylight after spraying
- Solution should not be sprayed when rain is expected within 24 hours minimum but ideally 72 hours.
- Spraying shall not be conducted in windy conditions.
- Other personnel who may be working in the area shall be informed of the spraying activity and not exposed to the spray.

Weed Control Equipment Use Procedure

Environment


5.3.2 Charging

Table 3: Backpack sprayer charging steps

Step	Picture
1. The backpack shall be charged in a dry, well ventilated area indoors, over 50cm from the ground.	-
2. Plug the charger into the charging port on the side of the backpack.	-
3. To check that the charger is working look for the green light on the battery box	
4. The sprayer has a colour scale which indicates level of charge in the battery.	-
5. The battery is 12V so at maximum charge the needle will be positioned to the extreme right of the yellow bar.	
6. The backpack should be fully charged before taking it out into the field to ensure maximum usage time.	-
7. An alarm will buzz to alert the operator when charge drops below 5%.	-

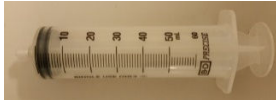


5.3.3 Preparation of backpack herbicide solution

Table 4: Preparation of backpack herbicide solutions steps

Step	Picture
1. Before you start decanting herbicide: <ol style="list-style-type: none"> Put the backpack on and adjust straps prior to filling the tank. Ensure all decanting is conducted in a bund/tub to minimise risk of spills. Ensure you are wearing gloves and safety glasses or goggles. 	-
2. Avoid contact with skin, if contact occurs, wash herbicide off with water.	-
3. Remove the lid of the spray tank.	-
4. Decant small amount of herbicide from the drum into small container.	

Weed Control Equipment Use Procedure


Environment

Step	Picture
5. Use the plastic medical syringe marked Danger Poison provided to measure out the appropriate amount of herbicide from the small container.	
6. Herbicide should be added at concentrations as per the recommended directions for the product used. Recommendations for product use are usually found behind the label on the drum of herbicide. See Section 5.6 for ratios recommended for common weeds on Atlas sites.	
7. The tank holds 16L. There is a level indicator on the side of the tank.	-
8. Pour/squirt herbicide through the strainer to ensure no debris gets into the tank that can clog up the sprayer nozzle. Add water slowly to avoid excessive foaming.	

5.3.4 Backpack spraying

Select the nozzle appropriate for the task and environmental conditions using Table 5.




Table 5: Backpack sprayer nozzle options

Nozzle	Picture	Description
Cone		Conical spray shape. Sprays evenly with direction of the pressure. Smaller droplet size (mist). Suitable for individual plants and small areas.
Four hole adjustable		4 spray streams. Larger droplet size and will use solution faster than the finer mist nozzles. Suitable for larger individual plants and larger areas.
Dual		2 mist spray streams. Spray evenly with direction of the pressure. Smaller droplet size (mist). Suitable for large areas of plants, not recommended for use on individual plants.
Fan spray		Single fan mist spray. Spray evenly with direction of the pressure while moving forward in parallel manner. Smaller droplet size (mist). Can be used for large individual plants but most suited to larger areas of plants.

Weed Control Equipment Use Procedure

Environment

Table 6: Spraying steps

Step	Picture
1. Fit nozzle. If you wish to use multiple nozzles, take the ones you require into the field.	-
2. Turn the power on. Ensure the trigger is not engaged before turning the power on.	-
3. Turn the flow regulator on the side of the tank to change the pressure. Turn the flow regulator clockwise to increase pressure and anticlockwise to decrease the pressure.	
4. Hold the handle down to spray.	
5. For continuous spray hold down the handle or it can be 'locked' by sliding back the red button. The sprayer has overload protection. When the regulator is closed or the nozzle is blocked the pump will release the pressure automatically.	

5.3.5 Cleaning and maintenance

- After every operation, the sprayer shall be cleaned to avoid corrosion of the pump and blocking of the nozzle caused by chemical residue.
- Clean the surface of the sprayer with a wet cloth.
- Half fill the sprayer with clean water and shake.
- Turn on the power and spray the cleaning water to rinse out the nozzle.
- **Caution: Never immerse the sprayer in water for filling or cleaning.**
- The sprayer shall be stored in a dry place indoors. Do not keep stored upside down as it may damage the battery.

Weed Control Equipment Use Procedure

Environment

5.4 Use of Vehicle-mounted Tank Sprayer

5.4.1 Sprayer components



Figure 2: Vehicle-mounted tank sprayer

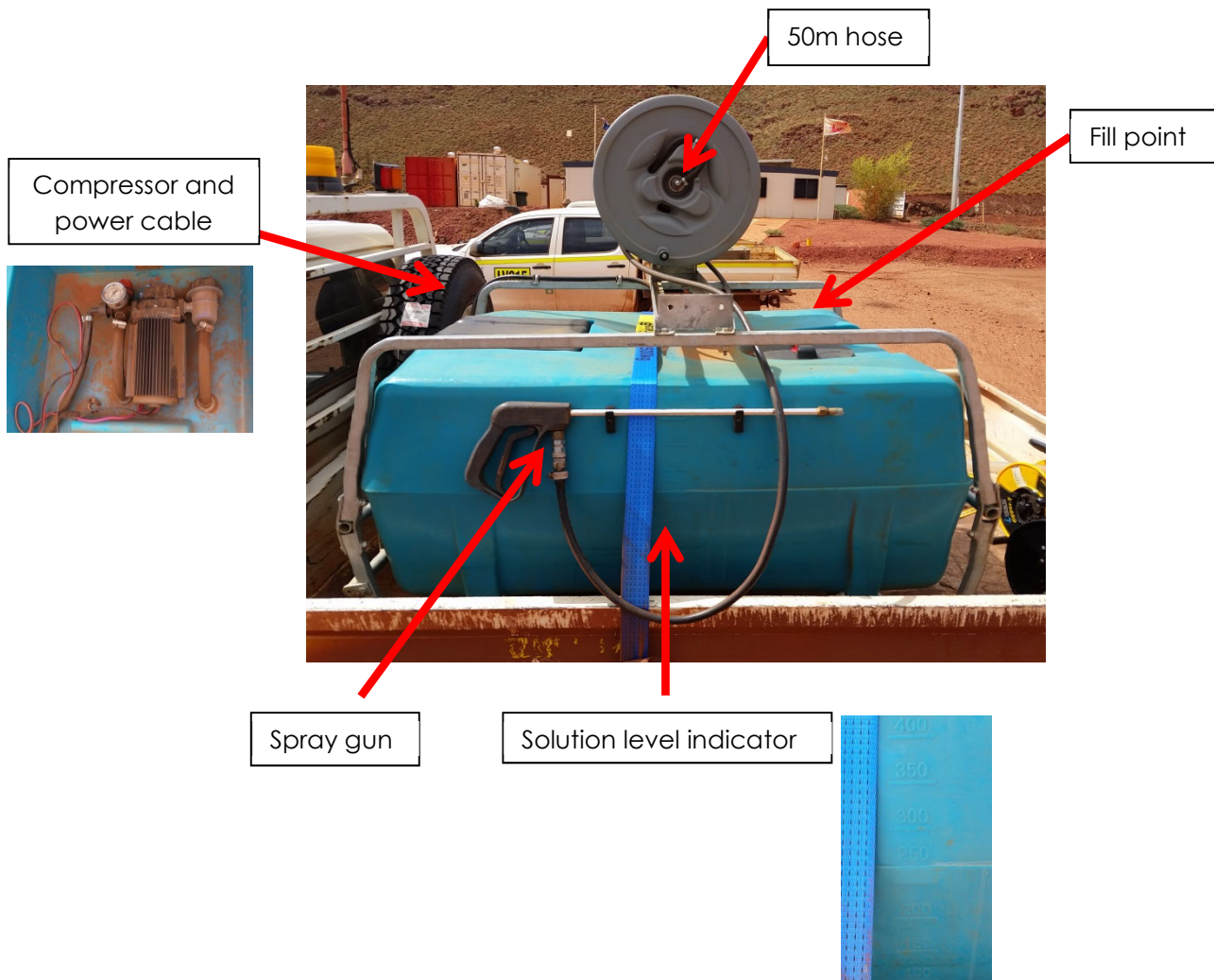


Figure 3: Vehicle-mounted tank sprayer components



Weed Control Equipment Use Procedure



Environment

5.4.2 Planning to spray

- Solution should not be sprayed when there is less than 6 hours of daylight after spraying
- Solution should not be sprayed when rain is expected within 24 hours minimum but ideally 72 hours.
- Spraying shall not be conducted in windy conditions.
- Other personnel working in the area shall be informed of the spraying activity and not exposed to the spray.

5.4.3 Tank sprayer set-up

Table 7: Tank sprayer set-up steps

Step	Picture
1. Ensure you have access to a 4 wheel drive utility vehicle with enough space on the tray to safely accommodate the spray tank.	-
2. The tank shall be lifted onto the tray of a ute by two people minimum. The tank and frame weigh 56kgs when empty so assess the load prior to lifting. Ensure the tailgates are lowered and all trip hazards are removed from around the ute.	-
3. Place the unit so that the compressor and power cable box is positioned to the cab end of the tray.	-
4. Put the tailgates up prior to securing the unit to the tray.	-
5. Use a ratchet strap to secure the unit to the tray of the ute.	-
6. There are two options for powering the compressor: <ol style="list-style-type: none"> Some utes have a 12v power socket fitted to the tray. If this option is available, it should be used. Alternatively, the cigarette lighter 12v power socket in the cab can be used. 	<p>a. 12V tray socket</p>  <p>b. 12V cab socket</p> 



5.4.4 Preparation of tank herbicide solution

Table 8: Preparation of tank herbicide solutions steps

Step	Picture
1. Always wear safety glasses and gloves when preparing the solution.	-

Weed Control Equipment Use Procedure

Environment

Step	Picture
<p>2. The tank capacity is 500L. Consider the area you need to spray when calculating the ratio of herbicide to water for your solution.</p> <p>500L would cover a large area so it may be more appropriate to fill to $\leq 250L$ at a time (see Section 5.6 for ratios).</p>	-
<p>3. Add herbicide to the tank before water to ensure the solution is adequately mixed.</p> <p>Most herbicide will be in 20L containers. Decant into a smaller container the amount of herbicide you wish to use. Avoid contact with skin, if contact occurs, wash herbicide off with water.</p>	
<p>4. Use a safety step beside the ute to allow adequate access for pouring herbicide into tank. Add required amount of water using hose.</p>	
<p>5. Ensure the lid is fastened prior to driving.</p>	-

5.4.5 Vehicle spraying





Table 9: Vehicle spraying steps

Step	Picture
<p>1. For the sprayer to function the vehicle needs to be running or the key in the 'on' position.</p> <p>If you do not run the vehicle this will drain the vehicle battery so the vehicle will need to be started periodically to keep the battery charged.</p> <p>If the vehicle is running but no one is at the wheel the vehicle must be parked on flat, stable ground and chocked with the front wheels turned away from any drop off or road. If possible the vehicle should be parked close to and facing a windrow.</p>	-
<p>2. Ensure the trigger is not engaged before turning the power on.</p>	-

Weed Control Equipment Use Procedure

Environment



Step	Picture
3. Turn the switch on.	
4. Engage the trigger on the spray gun to spray	
5. For continuous spraying the trigger can be locked on but pulling the red lever out. Do not leave the trigger locked on if you are not holding it.	
6. If the additional hose is required, wind out as required. It is 50m long.	
7. To wind the hose back up you will need to access the tray of the ute. To complete this task a documented 'Take 5' shall be conducted. Use a safety step and three points of contact to gain access to the tray. Ensure all trip hazards are removed from the tray.	
8. Wind the hose using the handle. Ensure the hose is stowed prior to driving on public roads, driving extended distances or removing the tank from the ute.	

5.4.6 Cleaning and maintenance

- After every operation, the sprayer shall be cleaned thoroughly to avoid corrosion of the pump and blocking of the sprinkler caused by chemical residue.
- Clean the surface of the sprayer tank with a wet cloth.



Weed Control Equipment Use Procedure

Environment

- Use a hose to spray down the inside of the tank then use the spray gun to flush this fresh water through the hose and nozzle.
- Turn on the power and spray the cleaning water to rinse out the nozzle.

5.5 Documenting Weed-spraying Activities

- Ensure that all spraying activities are recorded in the site Weed Monitoring register.
- Include the appropriate site and record action taken, location and weed species.
- Record the ratio used to assist with future weed control. If an area of weeds is not successfully eradicated with the initial ratio, recording this information will demonstrate that subsequent doses of herbicide should be increased.

5.6 Herbicide Ratios

Table 10: Herbicide ratios

Weed species	Herbicide	Water
Woody stem (e.g. Kapok, Indigofera)	3.75 L	250 L
Grasses (e.g. Buffel)	2.5 L	250 L
Vine/climbers (e.g. Pie melon)	3.0 L	250 L

6 References

6.1 Internal Document References

Document Number	Document Title
950-EN-PRO-0015	Weed Hygiene Procedure

6.2 External references

External Reference (Legislation, Guidelines, Standards and Codes of Practice)
Health (Pesticides) Regulations 2011
Electric Sprayer Manual (SX-MD18E)