

ChemCert®

Users Guide to Weed Control in Public Places





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Introduction

The ChemCert Council Guide to Weed Control in Public Places has been designed to address many of the key issues councils face when managing weeds in public places including the Work Health and Safety (WHS) concerns of their workers and environmental considerations.

This guide will help you to effectively manage herbicide resistance, meet your waste reduction targets, and adhere to your environmentally sustainable policies. By using this guide your spraying activities will be more efficient and safe for your workers and members of the community.

In a ChemCert Course, your workers will learn the critical components of weed control from rotating herbicide mode of action groups to assessing the toxicity of pesticides via the product label and the Safety Data Sheet (SDS).

Other key issues that your workers will learn:

- Re-entry intervals in public places
- Notification and safety directions for workers
- Environmental protection statements and restraints
- Resistance management strategies and non-chemical control options that can be incorporated into an integrated weed management approach
- How to meet waste reduction targets via equipment calibration and observance of weather forecasts
- How to select the correct nozzles and equipment set up to control and reduce spraydrift
- The disposal of drums and pesticides through the DrumMuster and ChemClear waste management programs.

We hope that you find this guide a vital asset in managing weeds in public places within your area and we thank you for your

Alan Brown Head Trainer / Assessor



Alan was appointed as the Head Trainer for ChemCert Training Group in 2011 and is serious about ensuring your ChemCert trainer is qualified and knowledgeable to provide you with the latest up to date

information.

Regarded as a leader within the agricultural industry, Alan possesses a wealth of knowledge about chemicals through his experience as a farmer, member of council and various chemical boards and committees. His experience has led him to acquire knowledge about the development of State and Federal chemical use policy.

Alan's key area of expertise is risk management, gained through his roles as a farmer and Group Captain of the Rural Fire Service. Alan works with his community to reduce the likelihood of risks and hazards by focusing on risk reduction. Risk alan@ChemCert.com.au

Jonathan Pearson Course Developer / Trainer / Assessor



Jonathan was appointed as Course Developer for ChemCert Training Group in 2009 and has developed the industry standard ChemCert AQF III course widely delivered throughout Australia

Jonathan has extensive knowledge in spray application techniques gained through his experience as a sheep, beef and deer farmer and Spray Nozzle technician at Silvan Australia.

Jonathan and all ChemCert trainers aim to help spray applicators limit the amount of pesticides which drift off target, affecting the environment and potentially creating residue issues, through a proactive approach to spraying and a heightened awareness of meteorology.

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A Requirement to Control Noxious Weeds

The Noxious Weeds Act 1993 forces land occupiers (including councils) to control noxious weeds declared for their area. Noxious weed control delivers community benefits, protects biodiversity and reduces the potential spread to neighbouring properties. Neighbourly relations can turn hostile when one party doesn't control invasive weeds and the weeds spread onto the adjacent property of their neighbour.



Lantana, A WONS, Weed of National Significance

Land occupiers have a responsibility to control declared noxious weeds of class 1,2 and 3, with councils also having a dual role involving both land they occupy as well as contributing to the development of regional weed management and natural resource plans and strategies.

32 Weeds of National Significance
africanboxthorn, alligatorweed, asparagus-weeds, athelpine, bellyachebush, bitoubush, blackberry, bridal creeper, brooms, cabomba, catsclaw creeper, Chilean needlegrass, fireweed, gambagrass, gorse, hymenachne, lantana, madeira vine, mesquite, mimosa, opuntoidcacti, Parkinsonia, parthenium, pondapple, pricklyacacia, rubbervine, sagittaria "salvinia" serrated tussock "silverleaf nightshade" waterhyacinth "willows"

Notification Public Authorities

Public authorities including state government departments, local and county councils require notification plans that describe how they will provide the public with notice about their pesticide use in outdoor public places such as parks and ovals, and near sensitive sites such as schools and hospitals.

Signage during spraying varies amongst councils but is often as simple as:



Re-Entry

Many pesticide labels that pose some risk to human health have as a default a statement saying to not re-enter the sprayed area without appropriate PPE until the spray has dried on the target weed, e.g.

DO NOT allow entry into treated crops until spray deposits have dried. If prior entry is required, limit duration of entry and wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

Personal Protection Equipment (PPE)

Mixing of chemical concentrates represents the most hazardous time when using pesticides and so mixing should be carried out wearing rubber boots, a chemical apron, elbow-length gloves and a face-shield or safety goggles as a default, but again follow the label safety directions for the actual PPE required for each specific chemical. Remember that a respirator will be specified when using powder formulations because of the inhalation hazard.

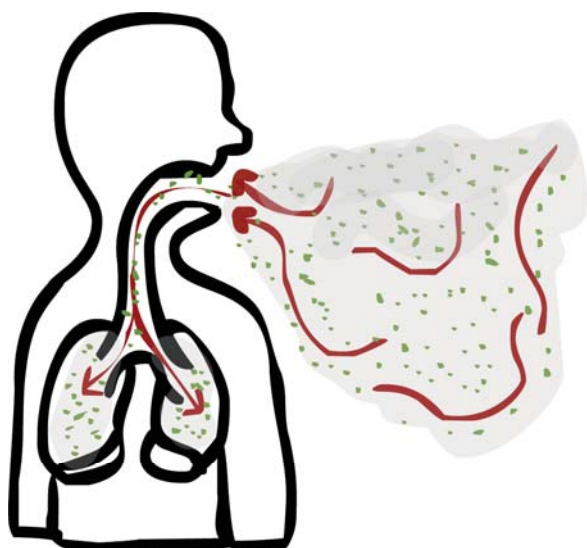
Mixing and application PPE for most glyphosate formulations, being of low toxicity, are limited to statements such as;

SAFETY DIRECTIONS (Roundup label)

Product will irritate the eyes and skin. Avoid contact with eyes and skin. When preparing the product for use, wear elbow-length PVC gloves and face shield or goggles.

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash contaminated clothing, gloves and face shield or goggles.

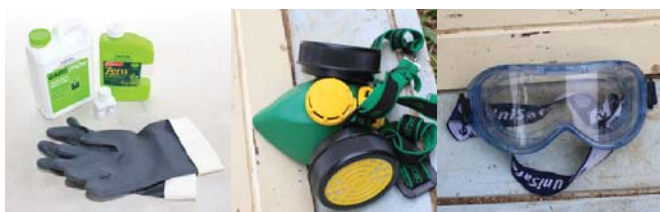
When using controlled droplet applicator, wear protective waterproof clothing and impervious footwear.



Powder Inhalation into the respiratory system

Each pesticide user should have their own set of PPE for personal hygiene reasons, with all the necessary protection equipment to cover the label safety directions specified for each chemical used, for both mixing and application.

Charged charcoal filters for air conditioned tractor cabs should be checked regularly, with many having a red indicator gauge to alert you of expiry.



Some basic equipment used during mixing and application. Overalls, Nitrile gloves, cartridge respirator and goggles.



Having a thick beard will break the air tight seal between the face and respirator making the use of the respirator useless.

Safe and Lawful Storage of Pesticides

Your chemical storage facility should be:

- Located away from other buildings in a flood free location
- Secure and lockable with its own water supply, and preferably with an eye wash station
- Well ventilated and insulated from heat extremes
- Bunded to contain spills of 25% of the total packaged volume, including 100% of the largest package



Example of a basic chemical storage shed.



Bunded floor through grate with ground level cross airflow and also absorbent material.

Remember to also check as to whether any stored chemicals are Dangerous Goods (DG's), identified by a colour diamond on the label if they are a DG (explosive, corrosive, flammable, toxic etc.). The class number is found in the diamond, and together with the packing group gives you the storage thresholds (placards) for DG's



Examples of DG Diamonds with class numbers seen down the bottom of the diamond.

Decanting (transferring from one container to another)

Decanting should be kept to a minimum because of the difficulty of maintaining identification of decanted contents in new containers, unless used immediately. An example of immediate use is when measuring out an amount and pouring it directly into a spray tank.

- ⊘ Don't transfer pesticides from one container to another unless both containers are properly labelled.



A pesticide should be decanted only into another container designed for the pesticide. Some pesticides can react with the container if the wrong type of container is used.

- ⊘ Never decant a pesticide into a food or beverage container.

This act is not only extremely dangerous but is also highly illegal in Australia



Spray Drift

There are air induction (drift reducing nozzles) that can be fitted to a standard knapsack spray wand with a screw on cap, ie. the AIXR11004 red nozzle.



Above: An AIXR nozzle & knapsack sprayer.

This will give you coarse to very coarse droplets when spraying and will greatly reduce the potential for spray drift off your target weed, especially important around sensitive ornamentals in gardens and saves the need for a shield over the nozzle.

Use of this nozzle will also ensure you are label compliant when using phenoxy herbicides (2, 4-D etc.)

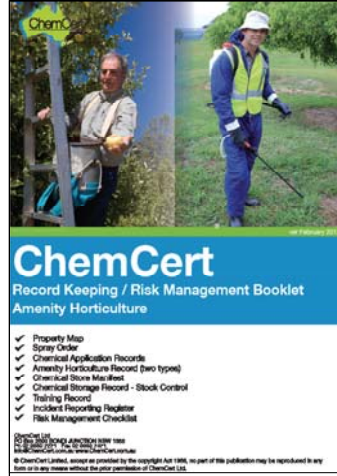


CF Valve

Also install a constant flow valve (around \$15) and maintain constant pressure and consistent flow to the nozzle, even with changing pressure from manual cranking.

Record keeping

All attendees at a ChemCert course receive a complimentary record keeping/risk management booklet



The ChemCert Record keeping/risk Management Booklet. An essential tool for best management practice.

This contains templates of: A property map, spray order, chemical application record, store manifest, training record, incident/accident register and risk management checklist, (as well as some best practice record templates).

These records are to be kept either under federal legislation (under the product label restraints section), state control of use legislation, or Work health and Safety obligations as part of your duty of care to the health, safety and welfare of council workers.

Safety Data Sheets for Hazardous Chemicals

Under national harmonised work health and safety legislation, Dangerous Goods and Hazardous Substances will be labelled/ classified under the banner of Hazardous Chemicals, and the word material will drop off from MSDS leaving SDS or Safety Data Sheet, (5 year transition period from the 1/01/2012, bringing Australia in line with the Globally Harmonised System of chemical classification and labelling).

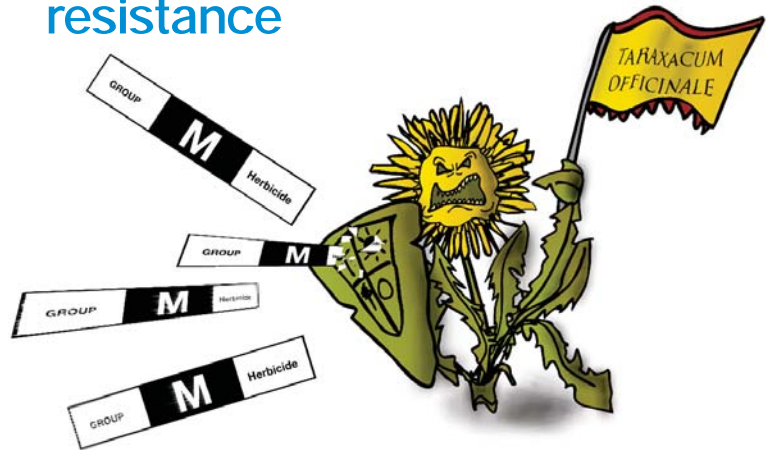
The requirement to have safety data sheets for all hazardous chemicals used/stored in the workplace remains and they must be current, i.e. no greater than 5 years old.

- ⚠ Always check section 2 of a chemicals SDS to determine whether a chemical is classified as hazardous or not, surprisingly there are some formulations of glyphosate that are classified as hazardous, especially the more concentrated formulations with 70% active concentration, represent an eye and skin irritation hazard



Safety Data Sheets of all chemicals used should be kept updated and in the workplace

Managing Glyphosate resistance



Spraying continuously with group M herbicides is obviously not a sustainable strategy in the long term given the increasing numbers of weeds that are showing resistance to this group, the glycines, which includes 100's of different brands with glyphosate as the active constituent.

The double knock strategy with paraquat following a full glyphosate application works well in broadacre applications but for public utilities and parks with re-entry issues most councils limit their chemical use to S5 poisons. In this case one could look to follow glyphosate with Amitrole in order to clean up any glyphosate resistant weeds, Amitrole being a group Q herbicide. In warm and humid seasons, herbicides with glufosinate as an active (Basta) could also be an option, being a group N mode of action, as well as being an S5 poison.

The poster on page 9 highlights the use of non-chemical options such as mowing, mulching and tillage, as well as appropriate biosecurity or hygiene measures to prevent the movement of weed seeds from one area to another.

Sustainable glyphosate use on roadsides, railways, public utilities and parks

Glyphosate resistant annual rygrass has been found on Australian roadsides and railway lines.

Tip the scales in your favour to minimise the risk of glyphosate resistance in weeds

Factors that decrease risk:

- ✓ **Strategic** use of **alternative** knockdown herbicide Mode-of-action (MOA) groups
- ✓ **Non-herbicide** practices aimed at weed seed set prevention, such as mowing, mulching, tillage, burning or grazing
- ✓ Use of a double knock* – **full glyphosate rate** followed by **tillage** or a **full label rate** of paraquat (Group L) based products
- ✓ Use of **alternate** herbicide modes of action including **residual** herbicides
- ✓ Preventing weed control **escapes** from setting seed
- ✓ Maintaining **low** weed numbers
- ✓ Property and equipment hygiene to **prevent introduction** or **movement** of resistant weed seed
 - ✓ Planting or managing other species to **compete** with weeds

Factors that increase risk:

- ✗ **Continual reliance** on glyphosate as the main form of weed control
- ✗ Lack of **non herbicide** weed control methods eg mowing, mulching, tillage, burning or grazing
- ✗ Lack of use of **alternative** herbicide modes of action including residual herbicides
- ✗ Allowing weed control **escapes** to **set seed**
- ✗ **High** weed numbers
- ✗ **Poor** equipment **hygiene** which leads to movement of seed from resistant weeds
- ✗ **Lack of competition** with weeds

All Group M herbicides are glyphosate herbicides.

If you suspect you have a resistance problem – get plants or seed tested to see which herbicides still work. The best strategy is to ensure that no further seed set is allowed to occur, and drive down the weed seed bank using a number of diverse weed management tactics.

This guide is based on an original concept for minimising glyphosate resistance in annual ryegrass by Paul Neve, AHRI, University of WA. Optimal management techniques for other weed species may differ.

This guide has been produced by the Australian Glyphosate Sustainability Working Group (AGSWG), a collaborative initiative aimed at promoting the sustainable use of glyphosate in Australian agriculture.

Organisations involved in the AGSWG include: Monsanto, Syngenta Crop Protection, Nufarm, Dow AgroSciences, Australian Herbicide Resistance Initiative (University of WA), University of Adelaide, Charles Sturt University, Queensland DEEDI, Department of Agriculture and Food, WA, Industry & Investment NSW, CRT/Town & Country, Crop Life Herbicide Resistance Management Review Group, Horticulture Australia Ltd, Cotton Research and

Development Corporation, Independent Consultants Australia Network, The Grains Research and Development Corporation (GRDC) and Conservation Agricultural Alliance of Australia & New Zealand (CAAANZ).

For more information visit the website:
www.glyphosateresistance.org.au

*The double knock technique is defined as using a full cut cultivation OR the full label rate of a paraquat-based product (Herbicide Group L) following the glyphosate (Herbicide Group M) knockdown application.

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www.glyphosateresistance.org.au

 AUSTRALIAN
Glyphosate Sustainability
Working Group

Free Page
(will have what you will learn on a ChemCert course I believe)

ChemCert® Accreditation

Local Courses - Local Issues

Pesticides and Hazardous Chemicals

Do It Right - Protect Your Health & Safety



- ✓ Determining weather conditions suitable for spraying, including Delta T, stability and thermal drift
- ✓ Knowledge to limit spray drift including latest innovations in application and nozzle selection criteria
- ✓ New techniques to improve spraying results, reduce chemical costs and limit spray drift
- ✓ Integrated Pest Management (IPM) solutions
- ✓ Managing chemical residues, WHP's, ESI's and MRL's
- ✓ Meets MLA, Cattlecare, Freshcare, Woolworth's QA & LHPA requirements

- ✓ Easy to use risk assessments and hazard control forms
- ✓ Self audit & compliance checklists for use back at work
- ✓ Hands on practical training and industry updates
- ✓ National Accreditation for 5 years to legally use pesticides and restricted chemicals unsupervised

**MEETS WORKPLACE HEALTH & SAFETY
HAZARDOUS CHEMICAL REQUIREMENTS**



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