

For further information

- DPI Chemical Information Service: 03 9210 9379
- DPI Chemical Standards website: www.nre.vic.gov.au/chemicalstandards
- APVMA website: www.apvma.gov.au
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- Chemical resellers and agronomists.

Disclaimer

The advice provided in this publication is intended as a source of information only. Always read the label before using any of the products mentioned. The State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication. The Department of Primary Industries acknowledges the contribution made by private enterprise. Acceptance of the contribution however, does not endorse or imply endorsement by the Department of any product or service offered by the contributor.

Reference

NRA Fact Sheet 2 (2000). Registering Agricultural and Veterinary Chemicals.

Footnotes

- 1 a) there are additional restrictions on use in certain specified geographic areas called Chemical Control Areas (CCAs).
b) an APVMA Permit is required to legalize other use patterns, e.g. above maximum label rate etc.

Spray drift within natural vegetation, legislation and reality

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Agricultural chemical use in Victoria is subject to a number of legislative controls at a State, federal and local government level.

Victorian control of use legislation comes under the *Agricultural and Veterinary Chemicals (Control of Use) Act 1992* (the Act) and accompanying *Regulations*. The Act is administered by the Chemical Standards Branch of the Department of Primary Industries. The Act places controls over the standards and use of agricultural and veterinary chemicals and fertilizers and lists offences for certain uses. Offences include:

- Use at a higher rate than specified on the label
- Use more frequently than stipulated on the label
- Use contrary to a specific label restriction
- Application of a chemical using defective spraying equipment
- Use of a chemical which causes off-target damage

Any person conducting ground based spraying for fee or reward, other than the holder of a Pest Control Operator licence, must obtain a *Commercial Operator Licence* from the Department of Primary Industries (DPI). A person cannot operate an aerial spraying business or employ pilots to conduct aerial spraying unless that person holds an *Aircraft Operator Licence*. Any pilot engaged by such an aerial spraying business must hold a *Pilot (Chemical Rating) Licence*.

A person using a specified restricted use chemical must hold an *Agricultural Chemical User Permit (ACUP)*. The chemicals specified are the Schedule 7 poisons; ester formulations of 2,4-D, MCPA or triclopyr; atrazine and metham sodium. These chemicals have been specified because of problems in the past associated with their use. Recognized training such as the Farm Chemical User Course must be completed before applying for the permit. Restricted use chemicals must be used strictly in accordance with label directions unless a permit has been issued to allow off-label use. Recording details of use is a requirement for both ACUP holders and licensed contractors.

Chemical Control Areas (CCA) restrict the use of certain herbicides by particular methods in certain areas at specified times of the year. These have been declared primarily to protect sensitive crops from

damage by herbicide drift. Most of the restrictions on use relate to application by aircraft or mister, however the application of MCPA ester or 2,4-D ester is prohibited altogether in CCAs.

Recent amendments to the legislation have tightened up requirements regarding the provision of *false or misleading information*. This could be in the form of information given to a customer by a reseller, to a client by a consultant or to a contractor by a landowner. The provision of detailed and accurate maps to contractors to manage the risk of off-target movement to sensitive areas is an important component of this amendment. When a person provides information on the use of a chemical product that is not specifically stated on the label, this is *off-label information* or advice. A person who provides such information becomes responsible for any adverse consequences that may result. An offence may be committed where information is provided, which, when relied upon by another person, causes that person to – breach another part of the Act, contaminate stock or produce or injuriously affect plants or animals to which the product is applied.

Chemical users must also comply with *specific use restriction statements* that appear on product labels e.g. 'DO NOT use within 50 metres of a waterway'; 'DO NOT apply by back-mounted knapsack equipment'.

Controls relating to *damage due to off target spray drift* have been in place since the implementation of the Act. These controls make it an offence to cause damage to plants, stock or agricultural land outside the target area. The Department has conducted a considerable number of investigations relating to spray drift damage and substantial penalties have been imposed. The maximum penalty for a corporation is \$40 000 and for an individual, \$20 000. New controls have been introduced to cover situations where the *contamination* of non-target plants or animals occurs. It is now an offence to conduct spraying which leads to contamination of stock or agricultural produce, including stock food, derived from plants outside the target area.

A number of *other agencies* conduct a role in regulating chemical use. In *Victoria*, the Environment Protection Authority regulates pollution of land, air and water under the Environment Protection Act. The Department of Human Services

is responsible for complaints relating to human health under the Health Act (in practice, this is administered by local government Environmental Health Officers who are authorized under the Health Act). The storage, transport and handling of chemicals are covered by the Dangerous Goods Act and Regulations and the Hazardous Substances Regulations. As well as the Occupational Health and Safety Act, this legislation is administered by the Victorian Workcover Authority. *Federally*, the Australian Pesticides and Veterinary Medicines Authority (APVMA) assesses, registers and reviews agricultural chemicals. The APVMA's controls apply up to the point of sale at which stage State controls apply. Other federal agencies with a chemical regulatory role are Environment Australia; the National Occupational Health and Safety Commission; the Therapeutic Goods Administration and Food Standards Australia and New Zealand.

Despite legislated controls, substantial participation in chemical training (45 000 people have completed the Farm Chemical Users Course in Victoria) and a steady improvement in application practices, off-target movement of chemicals may still occur. This can result in damage to areas close to where it is applied or to some distance away. Off-target movement generally results from drift of spray particles or vapour, inaccurate placement or movement in water.

It is worth noting that most reports of spray drift received by DPI relate to damage to crops and garden plants rather than natural vegetation. Whether or not this is due to economic interest, I cannot say. I must also point out that the reports received by DPI are just that, they are those instances where an affected party or an observer has felt strongly enough about damage to report it to an authority. Reports that I have received thus do not accurately reflect the actual number of occasions where damage to natural vegetation has occurred. Although I am aware of instances where natural vegetation has been damaged by off-target movement of herbicides in other parts of Victoria, I will confine my discussion to incidents in the Gippsland region that I have investigated, or with which I have been closely involved. I will broaden the subject beyond spray drift to include off-target movement of herbicides, as damage to vegetation has also resulted from inappropriate chemical disposal. Over the past ten years, my involvement is as follows:

- Five instances of damage resulting from application by aircraft of chemicals moving off-target and either killing or partially defoliating eucalypts and wattles. Metsulfuron methyl was involved in four of these cases and 2,4-D amine in the other. Four of the cases involved trees on private property and the other

involved eucalypts on a roadside.

- Three instances of damage to natural vegetation were recorded from ground based spray application, two from drift to roadside vegetation and one from weed control on a rail line drifting on to remnant native grassland. In two of the instances, the chemical used was glyphosate and the other, triclopyr/picloram.
- One case of damage resulted from the movement in water from the point of application of a granular formulation of hexazinone, diuron and bromacil. Eucalypts and understorey species were affected as well as pasture on an adjacent property.
- Three cases of damage to roadside vegetation were recorded resulting from inappropriate disposal. One of spray unit rinsings being discharged in to a drain, one of the disposal of excess spray mix to a roadside verge and an incident involving spray mix being discharged from a stationary helicopter.

What should we be doing to move towards better practice and avoid future damage?

- *Training* – Employers have responsibility under the Occupational Health and Safety Act to provide training to employees to enable them to perform their work safely, however any herbicide user should be encouraged to attend a recognized training course. My belief is that the high rate of participation in training over the past decade has been the single greatest factor in raising awareness of and improving application practices.
- *Weed identification* – Attend a training course and keep reference material available for weed identification. The excellent brochures provided by many Councils relating to environmental weeds are a great help in this regard.
- *Adopt an integrated approach to weed control* – Is slashing, burning or cultivation more appropriate than spraying? Are biological control agents available to assist in control?
- *Supervision* – Do employees clearly understand how the task can be performed with minimal risk to themselves and the environment? Has the supervisor highlighted the consequences of off-target movement? Is a clear overview being kept of the spraying operation?
- *Use appropriate chemicals and adjuvants* – Use products that are registered for the purpose and that are less likely to damage off-target vegetation. Product registration can be verified by the Chemical Information Service (phone 03 92109379) or on the APVMA's database PUBCRIS (www.apvma.gov.au).
- *Use appropriate equipment* – Is it safe to use aerial application in a

sensitive situation? Is wick-wiping more appropriate than boom spraying? Is the equipment calibrated and in good working order?

- *Weather* – Use chemicals only when wind direction, speed, air stability, temperature, humidity and impending rainfall have been taken account of.
- *Buffers* – Allow for an appropriate buffer distance between the point of application and sensitive plants.
- *Label directions* – Read and follow label directions.
- *Disposal* – Follow EPA guidelines for disposal of excess spray mix, equipment rinseate, containers and chemicals.
- *Code of practice* – The 'Code of practice for farm chemical spray application', available on the DPI website www.nre.vic.gov.au, provides guidance on the standard of chemical application which is expected in Victoria.
- *Legislation* – Understand and observe legislated requirements.

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References

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- Primary Industries Standing Committee Report (2002). Spray Drift Management – Principles, Strategies and Supporting Information.
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