Government of South Australia
Biosecurity SA

Chemical Trespass Report

Ten Year Summary: 2004-14

1 July 2004 – 30 June 2014

Rural Chemicals Operations

Prepared January 2015

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1. Executive Summary

PIRSA administers the *Agricultural and Veterinary Products (Control of Use) Act, 2002.* This is the primary legislation controlling the use of agricultural and veterinary chemicals in SA and has been in operation since 2004.

PIRSA is the lead agency to receive and investigate complaints and concerns about use of agricultural and veterinary chemicals in SA. Members of the public are able to make complaints about suspected chemical trespass to PIRSA.

PIRSA began collecting information about chemical trespass incidents in 2002 and holds detailed records from 2004 onwards in its computerised database. This report is a summary of these records.

The number of chemical trespass complaints made annually to PIRSA in the decade from 2004 to 2014 has varied from 33 to 76 (average 47). The main period for chemical trespass reports is August to February with a trough in December. This period coincides with later pesticide applications in winter field crops and the beginning of active growth - with consequent spraying - in grapevines and other deciduous horticultural crops. The reason for the trough in December is unknown but there might just be a lower level of reporting at this time because of other end-of-year pressures.

The highest numbers of chemical trespass complaints have come from peri-urban councils, where there are a high proportion of small properties and mixed land uses, and councils that include significant grape-growing regions. 69 percent of complaints came from regional councils, 26 percent from just three peri-urban councils (Adelaide Hills, Onkaparinga, Playford) and 5 percent from metropolitan councils.

Rural living and viticulture were the most commonly affected land uses and together represented just over half of the chemical trespass complaints.

For a quarter of the chemical trespass complaints, the source of the chemical use was not recorded. These reports predominantly involved suspected damage to grapevines by a Group I herbicide. Field crops and Viticulture were the land uses that generated the most chemical trespass complaints from 2004-14, where the source of the chemical use was identified.

As a land use, Viticulture consistently reported a high number of complaints and was also consistently complained about. The complaints made by Viticulture usually relate to trade risks from suspected trespass of Group I herbicides into vineyards. The complaints about Viticulture usually come from residents living near vineyards who perceive or report health impacts from pesticide application (usually fungicides) in the vineyards.

Most chemical trespass complaints came from owners of smaller properties. Chemical user property size was spread more evenly over a wide range, up to over 500 ha in size.

Observation of spraying was the main indicator of chemical trespass, followed by plant damage and detection of a smell or odour.

Ground-based application was the predominant application method.

Nearly half of the complainants reported a distance of less than 50m to the chemical use. Better planning regulations, that provide a buffer between different land uses, could potentially reduce the incidence of chemical trespass complaints significantly.

Reported crop damage, usually grapevine damage, was the main adverse effect stated by complainants, followed by perceived and reported health effects. Since about 2011 there has been a focus on education to farmers about spray drift management when using Group I herbicides to control summer weeds. Chemical trespass data since that time suggests that this education is having a positive impact. For 2012/13 and 2013/14 there were no complaints of suspected damage to grapevines resulting from summer weed control with Group I herbicides by dryland farmers.

In its assessment of the complaints, PIRSA considered that over half of the received reports were low risk. The largest classification was “Low risk – health”, closely followed by “Risk – trade”. The reports of suspected herbicide damage to grapevines are generally considered to be a trade risk because, in addition to potential yield losses, there is the possibility of rejection of grapes by wineries and/or chemical residues in the grapes.

Weather during use, i.e. unsuitable weather for spraying, was considered to be most common cause of chemical trespass incidents, followed by product nature. Product nature is often listed as the suspected cause for the cases involving apparent Group I herbicide damage to grapevines because other circumstances of the application are not known.

Nearly half of the chemical trespass reports involved application of a herbicide, and the chemical was unknown or not recorded in 23 percent of cases. Fungicide applications were predominantly viticultural and horticultural applications but also some field crop applications, including aerial application.

The most commonly implicated herbicides were various Group I herbicides (particularly 2,4-D), glyphosate, metsulfuron-methyl, paraquat, oxyfluorfen and trifluralin. Oxyfluorfen was not used on its own but was always mixed with another herbicide, usually glyphosate. Sulphur and copper were the most commonly implicated fungicides.

For 40 percent of investigations, education (of the chemical user and, sometimes, the complainant) was considered to be the most appropriate response. 18 percent of reports were considered to not involve chemical trespass and 10 percent of incidents were considered to require a warning for the chemical user.

Education letters were sent for 42 percent of reports and no further action was taken for a quarter of the reports that were either trivial or were not trespass. Regional education is conducted where the source of the chemical use cannot be specifically identified, e.g. Group I herbicide use. In 9 percent of cases, PIRSA issued a warning letter to the chemical user where there was non-compliance with the *Agricultural and Veterinary Products (Control of Use) Act, 2002.*

2. Introduction

History of Chemical Trespass Management in SA
In the years leading up to 2001/02, an informal system was in place in government to manage chemical trespass incidents. Incidents were reported to various government agencies including Primary Industries and Regions South Australia (PIRSA), the Environment Protection Agency (EPA), the Department of Health (DH) and Local Government (Councils). Each agency independently followed up on incidents and cooperation between agencies occurred without formal guidelines.

To provide efficient and productive government service to respond to chemical trespass incidents, it was agreed that incidents would be reported to one government agency.

PIRSA (through Biosecurity SA) was deemed the most appropriate government department to deal with chemical trespass incidents due to its primary role in reducing the causes of unacceptably risky use of chemicals. It is now the gateway for complaints and other observations concerning chemical trespass incidents, coordinating responses and providing education to minimise future incidents.

It is necessary that other agencies (EPA, DH, Local Government & SafeWork SA) will, for particular adverse outcomes, have responsibility to use their legislated powers to deal with the effects of chemical trespass incidents, and are to be advised of all incidents that come under their jurisdiction.

Chemical Trespass Management Program
The aim of PIRSA's Chemical Trespass Management System is to provide an efficient and productive government service in responding to, and minimising, chemical trespass incidents. This aim is achieved by effectively managing the chemical trespass incidents that are reported to PIRSA, and undertaking targeted education to minimise the occurrence of chemical trespass.

In September 2001, PIRSA appointed a Chemical Trespass Coordinator to manage reported chemical trespass incidents and coordinate the trespass management system. The role of the coordinator is to:

- Receive all reports of incidents.
- Maintain an up to date database on all incidents.
- Coordinate appropriate responses to incidents including education and investigation.
- Develop and promote educational resources to minimise the risk of future incidents.
- Keep other government departments informed of relevant chemical trespass incidents.

Since 2001, four different people have filled the role of Chemical Trespass Coordinator and other Rural Chemicals Operations staff have assisted the position as required.

Following the appointment of the Chemical Trespass Coordinator in 2001, detailed records on chemical trespass incidents began to be collected in 2002 with the Primary Industries Information Management System (PIIMS) database holding detailed records from 2004. This report summarises the chemical trespass information that has been recorded in PIIMS since 2004.

Control of Use Legislation

PIRSA administers legislation as a means of managing risks in relation to use of agricultural and veterinary chemical products. The *Agricultural and Veterinary Products (Control of Use) Act 2002* aims to encourage responsible chemical use in the community by providing a clear framework for chemical users based on knowledge, skill and responsibility. It sets out what constitutes responsible use and gives powers to control persons who choose not to exercise that responsibility. The "General Duty" section of the Act is applicable to chemical trespass.

The corresponding *Agricultural and Veterinary Products (Control of Use) Regulations 2004* define label directions that must be followed, restrictions on certain chemicals and standards for fertilisers. The Act and Regulations were brought into operation on 29 August 2004.

After extensive industry consultation in 2012, amendments to the Regulations were enacted on 1 September 2013. These amendments aimed to mitigate the risk of chemical trespass of Group I herbicides, requiring users of Group I herbicides to have a "prescribed qualification" (achievement of the competency unit AHCCCHM303A –Prepare and Apply Chemicals) and to keep detailed records of the chemical use.
Links to the Act and fact sheets on the Act are available from the PIRSA website at –
www.pir.sa.gov.au/biosecurity/rural_chemicals

Staff

In 2004/05, the Chemical Trespass Management Program contracted seven Rural Solutions SA staff as Regional Chemical Trespass Officers (RCTOs) to assist the Chemical Trespass Coordinator when requested. These RCTOs were based at Port Lincoln, Clare (2), Nuriootpa, Murray Bridge, Naracoorte and Mount Gambier. The RCTOs were also are responsible for running education campaigns within their regions. An Investigation Procedures course and other training for Rural Chemicals staff and RCTO were provided during 2004/05.

The Rural Solutions SA employee at Port Lincoln contracted as RCTO changed employment in 2005/06 and a replacement RCTO was not appointed. By 2007/08, the Murray Bridge RCTO position was also vacant and there was only one RCTO at Clare which, in turn, became vacant in 2008/09. The Chemical Trespass Management Program chose to cover the regional vacancies with its Adelaide-based staff. Training and continuing support for RCTOs required significant resources and was difficult to justify for the small number of investigations that they were requested to perform.

In 2010/11, the Rural Chemicals Program was restructured and incorporated into Biosecurity SA, a division of PIRSA. The Chemical Trespass Management Program became a function of the Rural Chemicals Operations (RCO) group. RCO is supported by the Strategy and Policy group and the Compliance group of Biosecurity SA and has utilised the contract services of Rural Solutions SA as required. The Memorandum of Understanding to use Rural Solutions SA staff as RCTOs ceased in 2010/11.

3. Managing Chemical Trespass Incidents

What is a "Chemical Trespass Incident"?
The term "**chemical trespass incident**" is used to describe events where agricultural or veterinary chemicals are used or disposed of in a manner that results in the chemical contaminating land, water, animals or plants outside the target area, or causing harm to human health or the environment within or outside of the target area. These incidents usually occur when chemicals are used or disposed of in an unacceptably risky manner.

Who can report a Chemical Trespass Incident?
Anyone can report Chemical Trespass Incidents to the Chemical Trespass Coordinator. In the majority of cases, incidents are reported over the phone directly by the affected or concerned person (complainant). Other government agencies such as the EPA and Local Government (Councils) also regularly refer calls to the Chemical Trespass Coordinator. Industry bodies such as regional Grape Grower associations also encourage concerned members to report suspected herbicide damage to the Chemical Trespass Coordinator.

Reporting a Chemical Trespass Incident
In March 2002 PIRSA developed the fact sheet "Guidelines for Reporting Chemical Trespass Incidents" to notify relevant State and Local Government public contact points of the need to refer notifications of chemical trespass incidents to PIRSA. This fact sheet was updated in 2012/13.

The fact sheet defines chemical trespass incidents and explains the information about the chemical trespass incident that needs to be reported to the Chemical Trespass Coordinator (eg Date, Location, Name and Contact Details of chemical user if known, how the chemical was applied, weather conditions and the effect of the incident).

Evaluation of Chemical Trespass Reports
Chemical Trespass reports are evaluated through a set of risk-based procedures based on risk to trade, the environment and/or health. Reports that might be considered trivial from a risk perspective are recorded as "chemical trespass incidents" in PIIMS but might be handled through education. Reports that are considered to be not trivial are also classified as trespass incidents and require investigation. This enables further details to be collected to more accurately establish the cause and effect of the reported incident.

Investigation of Chemical Trespass Incidents
RCO, now based at Glenside, is responsible for investigating Chemical Trespass incidents throughout SA. This has necessitated greater adoption of "desktop" investigations, with collection of information by telephone, email and internet resources such as Google Earth. Field investigations are conducted for incidents that are assessed as "higher-risk" or where it is convenient to make a site visit. Investigations may be conducted on both the complainant's

property and the chemical user's property where the chemical user is known or suspected. The purpose of the investigation is to:

- Confirm whether chemical trespass was the cause of the incident (this may include the collection of samples for analysis)
- Identify the chemical use practices responsible for the incident and any potential breaches of the General Duty or other provisions in the *Agricultural and Veterinary Products (Control of Use) Act 2002*
- Provide on-the-spot education/suggestions to improve chemical use practices where appropriate
- Report the results for input into the PIIMS database

Where a number of incidents are reported from one region and may have a related cause, investigations may take place on a regional basis rather than on the properties of individual complainants.

Investigations are not conducted to provide a damage assessment report to affected parties for insurance purposes. Complainants are advised to contact private consultants to conduct damage assessments from chemical trespass incidents for use in insurance or litigation claims.

Responses to Chemical Trespass Incidents
When investigation of a Chemical Trespass Incident is completed, RCO responds to the investigation findings with one of the following responses:

- Providing an Education letter to the chemical user
- Providing a Warning letter to the chemical user
- Conducting a legal investigation
- Conducting Regional Education to chemical users
- Providing an information letter explaining the investigation findings to the parties involved when the investigation determined the incident was not a chemical trespass incident

Not all incidents that are reported and investigated are confirmed as chemical trespass incidents and it is not always possible to identify the chemical user responsible.

Further Information
Further information, including fact sheets on chemical trespass, is available from the PIRSA website at www.pir.sa.gov.au/biosecurity/rural_chemicals

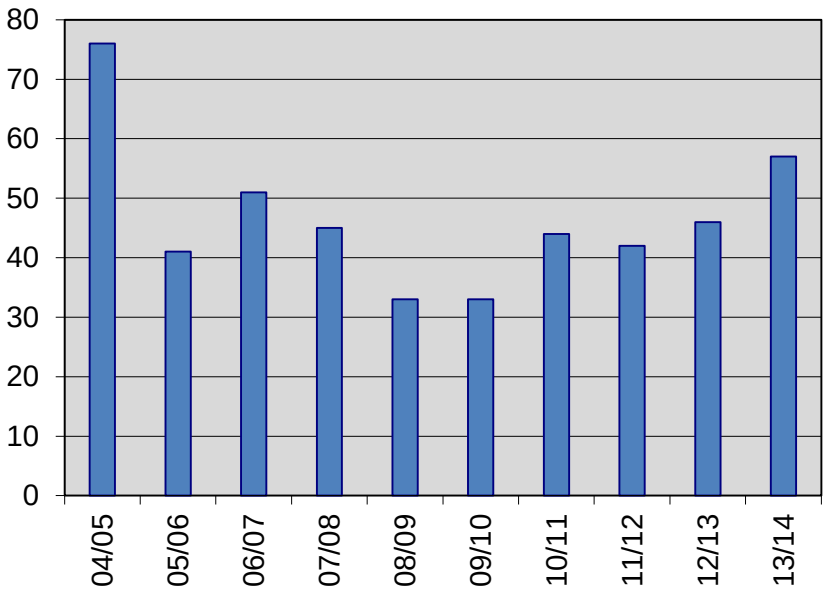
4. Statistical Information – Chemical Trespass Incidents

This section provides statistical information on chemical trespass incidents reported to RCO in the decade between 1 July 2004 and 30 June 2014. There have been changes during that period in how data were interpreted and recorded but, nevertheless, the report provides interesting information about the chemical use issues that prompted complainants to make a report to PIRSA.

Number of Trespass Incidents: Fig 1.

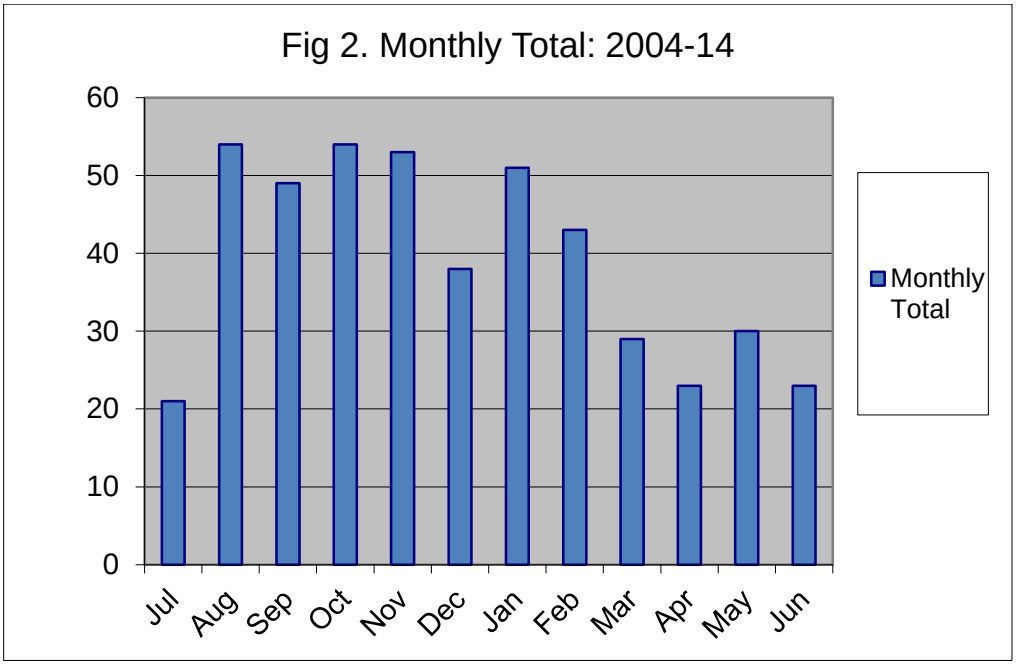
The number of chemical trespass complaints made annually to PIRSA in the decade from 2004 to 2014 has varied from 33 to 76 (average 47). There has been some variation in the data-recording over this period concerning the inclusion of trivial complaints that did not require investigation. The current policy is to record any complaint that requires some action or response from PIRSA - other than simply noting the report - as an incident. The highest number of reports (76) occurred in 2004/05. In that year there were 13 records of herbicide damage to grapevines in the Riverland and another 13 in the Clare Valley. It is probable that at least some of these reports for each region were related, and caused by a regional drift event of a Group I herbicide. In subsequent years, multiple reports of damage that appeared to be caused by the same incident were combined within that incident, which might tend to reduce the number of individual reports.

Fig 1. Annual Trespass Reports: 2004 to 2014



Timing of Trespass Incidents: Fig 2.

The main period for chemical trespass reports is August to February with a trough in December. This period coincides with later pesticide applications in winter field crops and the beginning of active growth - with consequent spraying - in grapevines and other deciduous horticultural crops. The reason for the trough in December is unknown but there might just be a lower level of reporting at this time because of other end-of-year pressures.



Trespass Incidents by Council Area

The highest numbers of chemical trespass complaints have come from peri-urban councils, where there are a high proportion of small properties and mixed land uses, and councils that include significant grape-growing regions. 69 percent of complaints came from regional councils, 26 percent from just three peri-urban councils (Adelaide Hills, Onkaparinga, Playford) and 5 percent from metropolitan councils.

Fig. 3 shows the distribution of chemical trespass complaints from regional councils and Fig. 4 shows the complaints from metropolitan and peri-urban councils.

The following councils each recorded more than 20 chemical trespass complaints for 2004-14:

- **Adelaide Hills: 56** (peri-urban with horticulture/viticulture production zones)
- **Clare and Gilbert Valley: 43** (Clare Valley wine region)
- **Onkaparinga: 40** (peri-urban with McLaren Vale wine region)
- **Loxton-Waikerie: 37** (Riverland wine region)
- **Barossa: 28** (Barossa wine region)
- **Playford: 24** (peri-urban with Northern Adelaide Plains horticultural region)
- **Alexandrina: 22** (includes Langhorne Creek wine region and mixed land uses)

Eleven regional councils did **not** record a complaint during 2004-14. These councils were predominantly on Upper Eyre Peninsula and in the northern agricultural areas, plus Kingston in the South-East. Seven metropolitan councils did **not** record a complaint during 2004-14.

Fig 3. Trespass incidents by regional council area
(number within each council area indicates number of complaints)

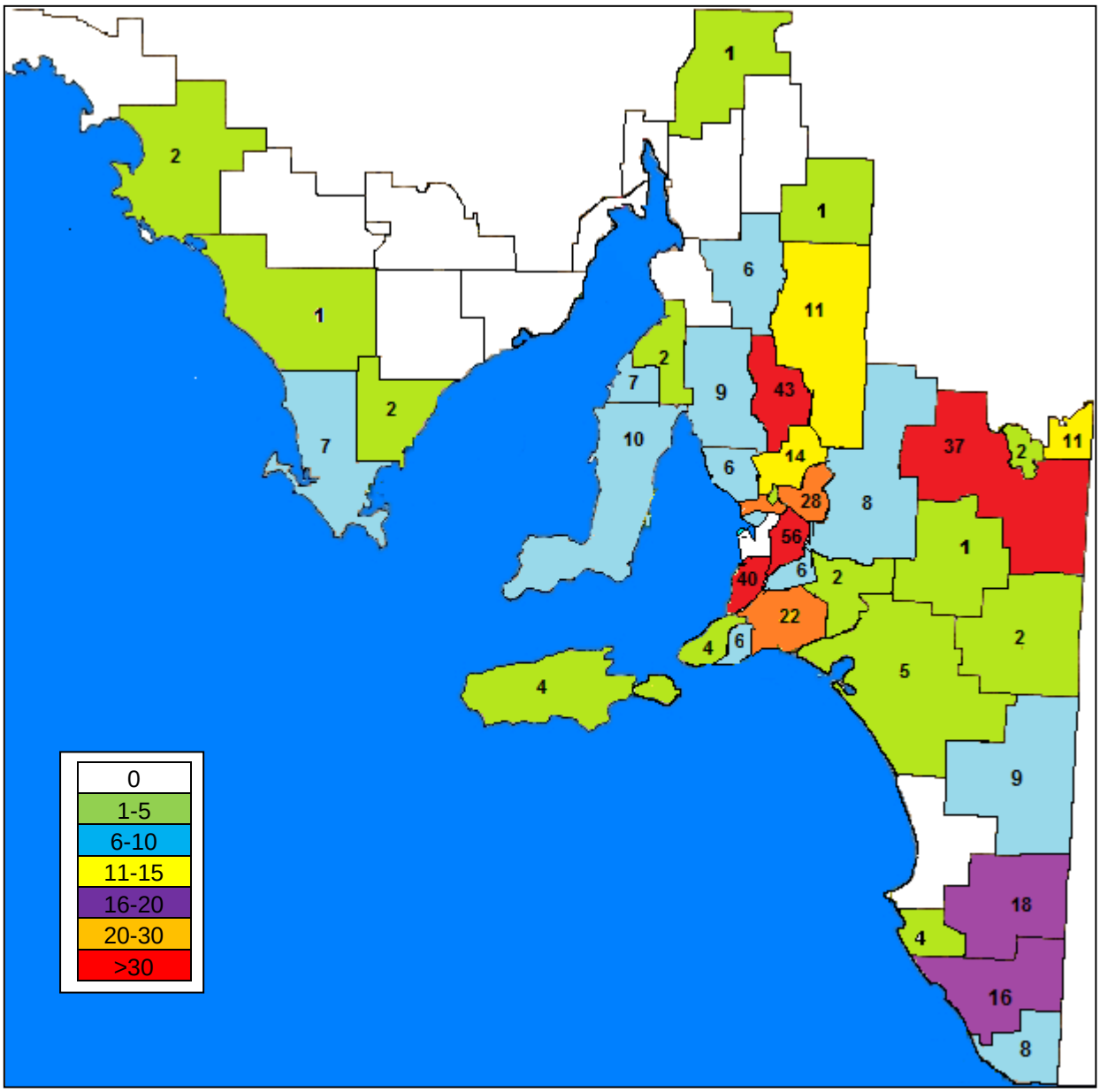
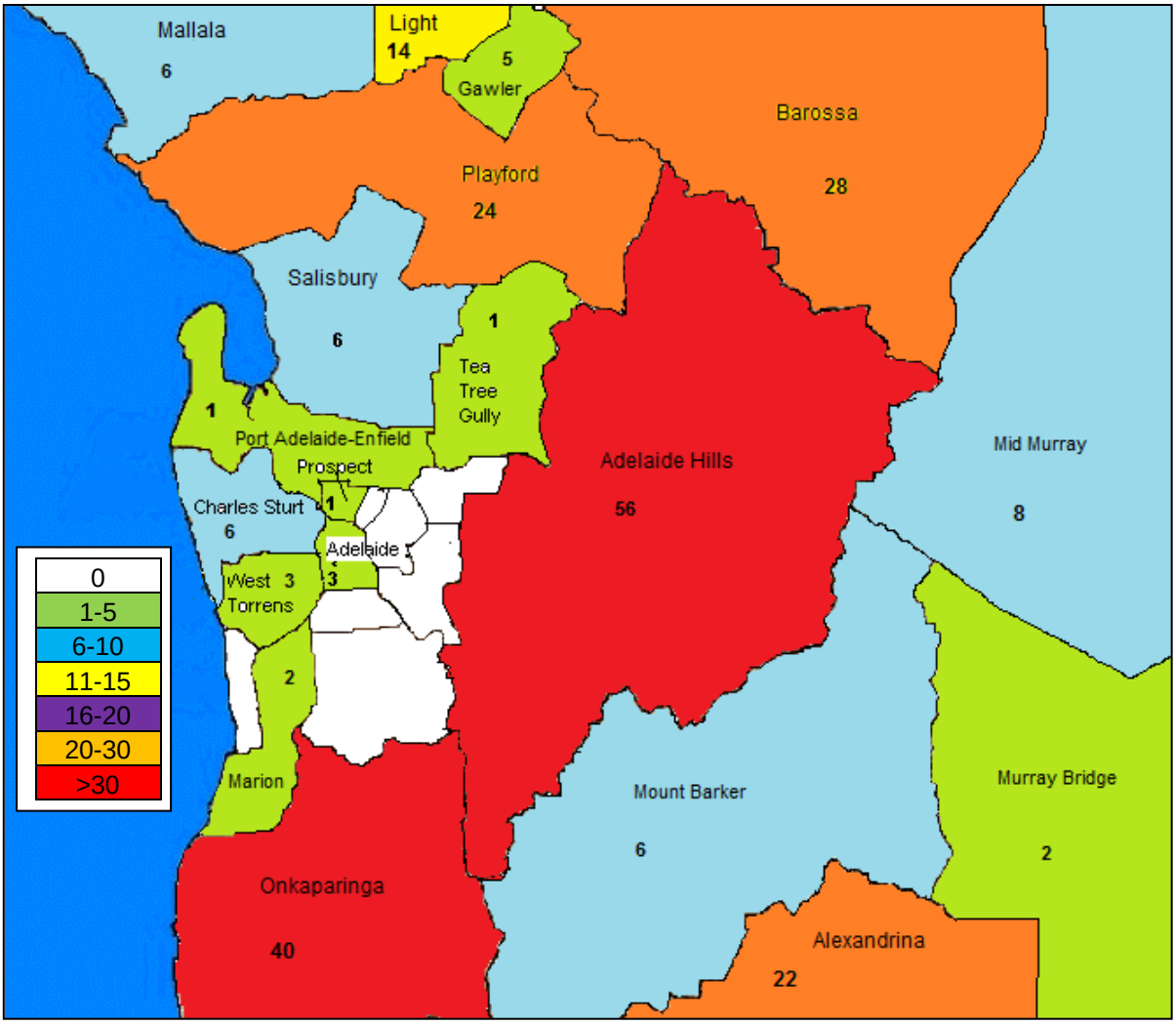


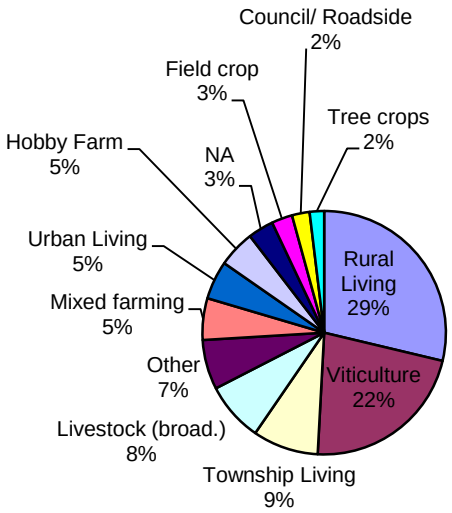
Fig 4. Trespass incidents by metropolitan and peri-urban council area
(number within each council area indicates number of incidents)



Trespass Incidents by Affected Land Use: Fig 5

Rural living and viticulture constituted the affected land uses in just over half of the chemical trespass complaints. For the 3 percent of complaints where affected land use was not applicable, the complainant was generally in a public place, e.g. road, roadside, park.

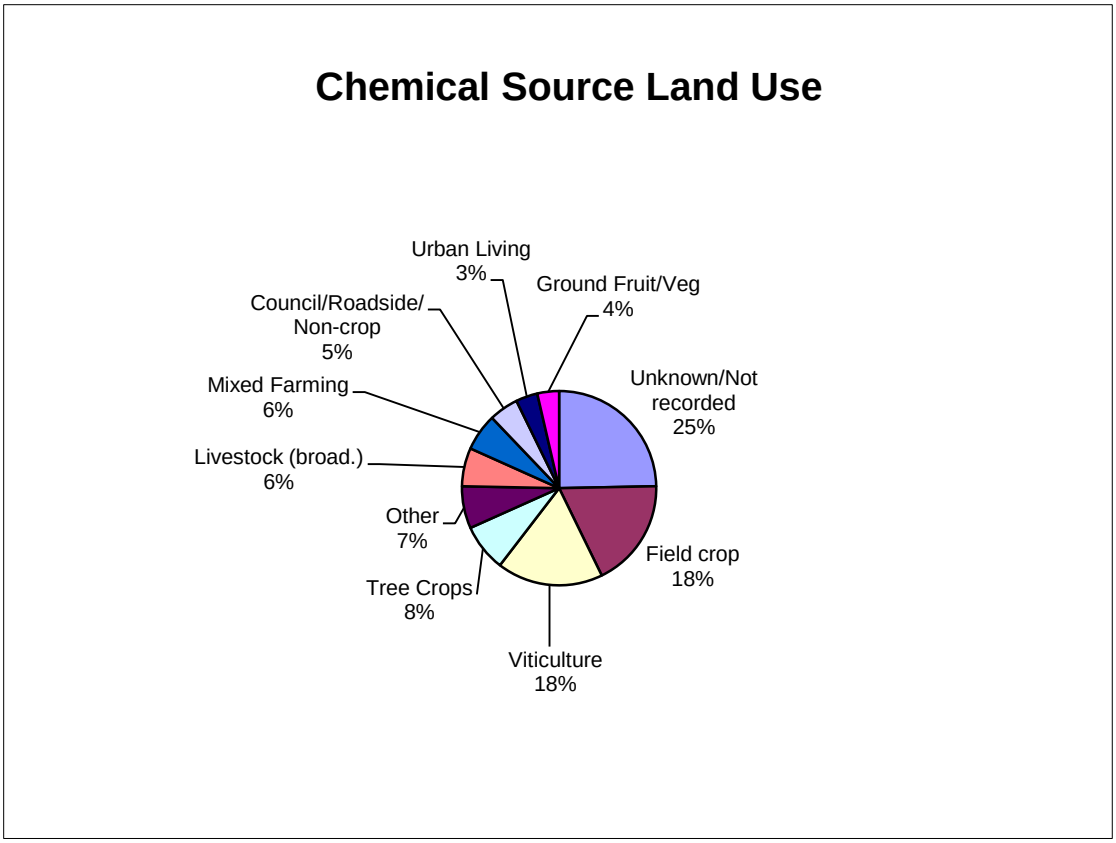
Fig 5. Affected Land Use



Trespass Incidents by Chemical Source Land Use: Fig 6

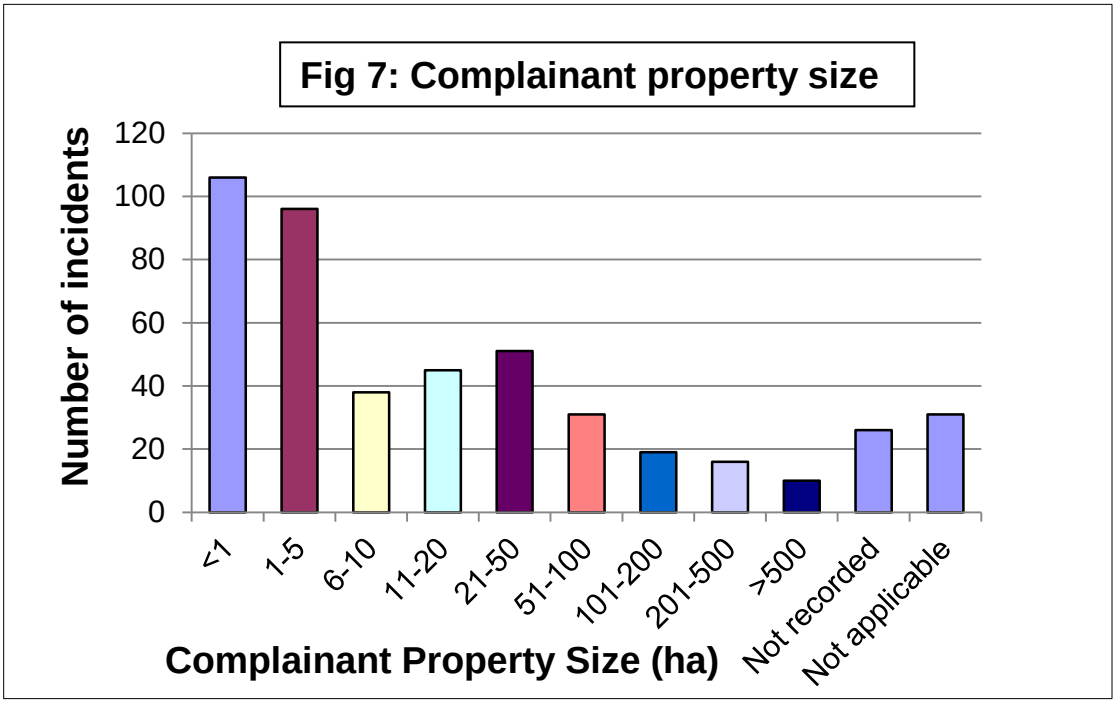
For a quarter of the chemical trespass complaints, the source of the chemical use was not recorded. These reports predominantly involved suspected damage to grapevines by a Group I herbicide. No specific herbicide user could be identified for many of these incidents but the source was thought to be use of Group I herbicides for late-season control of broadleaf weeds in cereal crops and spring/summer/early autumn spraying of broadleaf weeds in pastures, stubbles and fallows.

Field crops and viticulture were equal second as the land uses that generated the most chemical trespass complaints from 2004-14. Perceived or reported health effects from spraying in vineyards were common complaints throughout the decade. Complaints about spraying in field crops were also common throughout the decade but were highest in 2012/13 and 2013/14. In these two years there were several complaints about late-season spraying in cereal crops near vineyards and spraying field crops near residential areas of country towns.

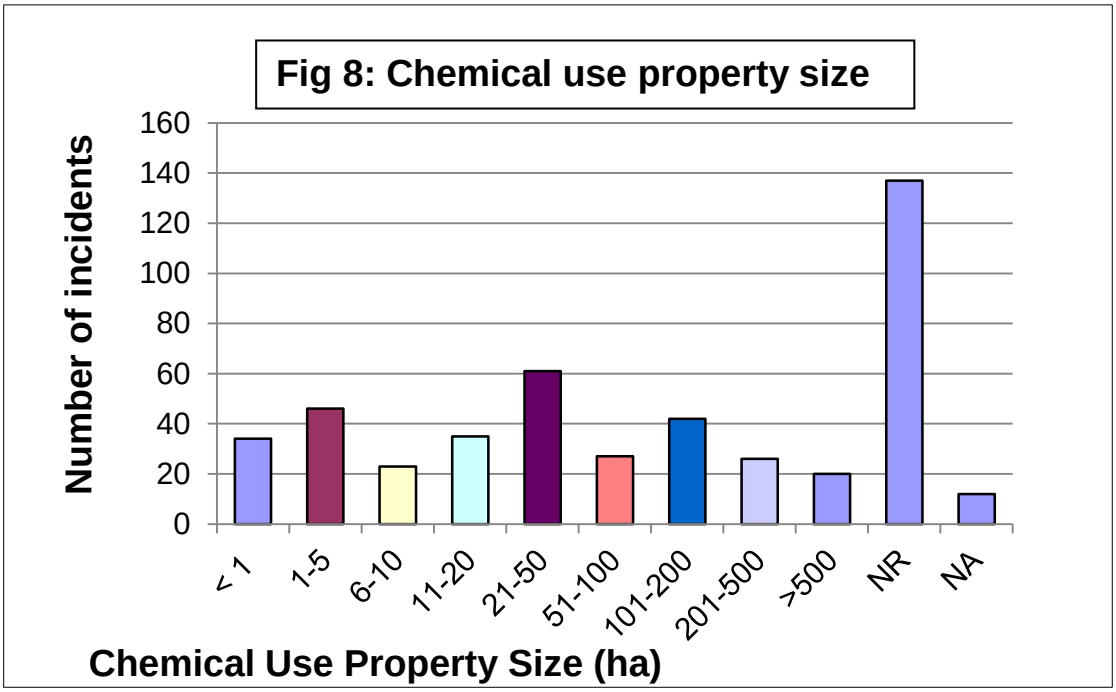


Property Sizes of Complainants and Chemical Users

Most chemical trespass complaints came from owners of smaller properties. 23 percent of complainants had properties less than 1 ha and 20 percent had properties between 1 and 5 ha.

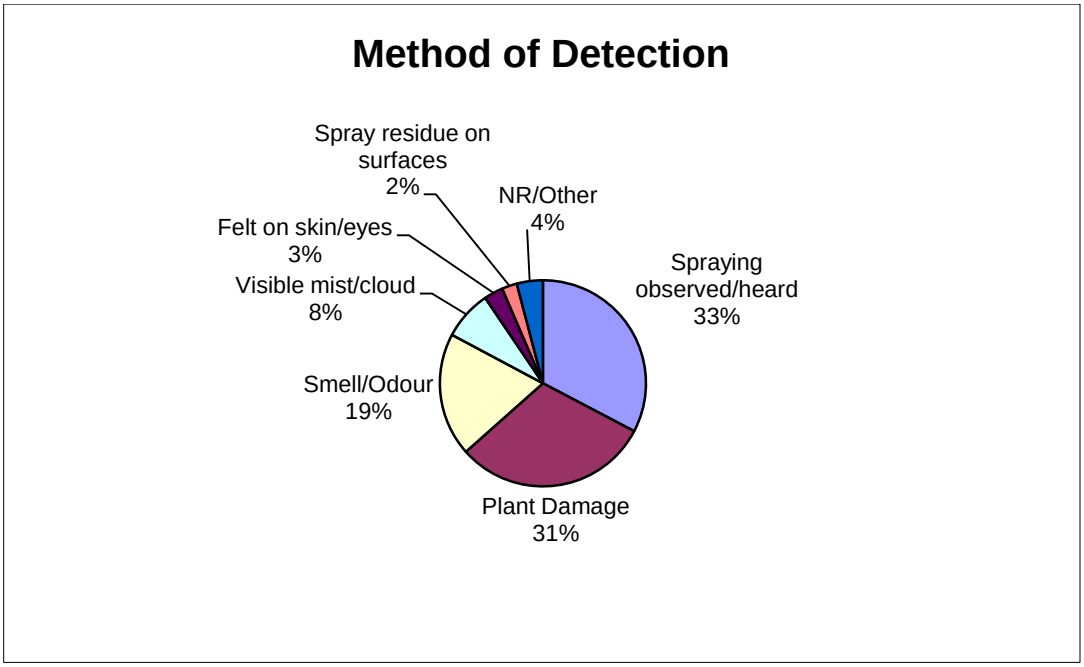


Chemical user property size was spread more evenly over a wide range, up to over 500 ha in size. Where the chemical source cannot be identified, as in many of the reports of herbicide damage to grapevines, obviously the property size cannot be recorded.



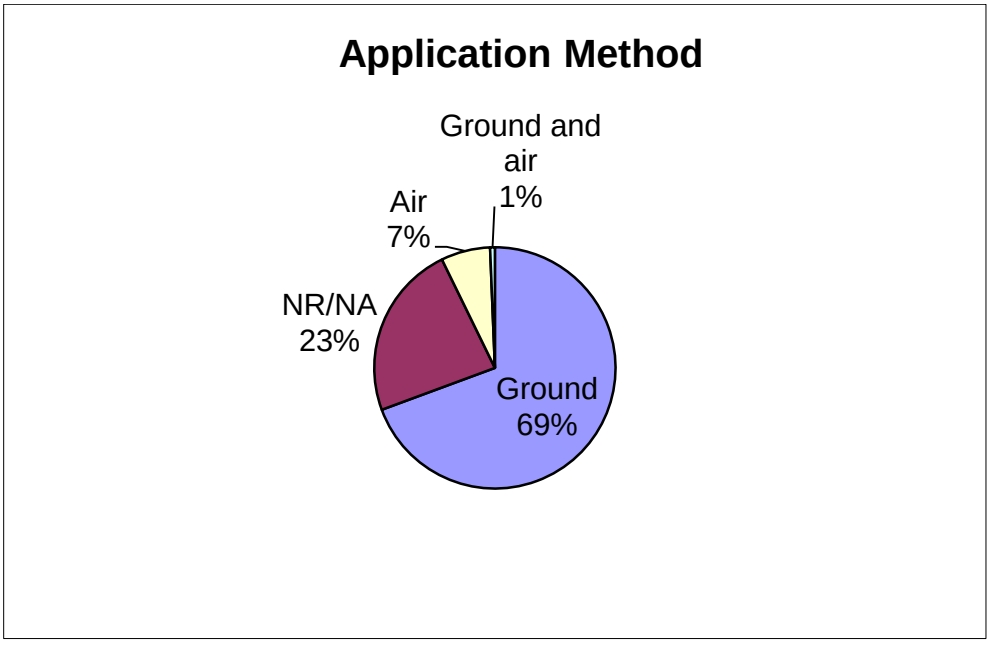
Reported Method of Detection: Fig 9

Complainants are asked how they first became aware of the alleged chemical trespass. Observation of spraying was the main indicator of chemical trespass, followed by plant damage and detection of a smell or odour.



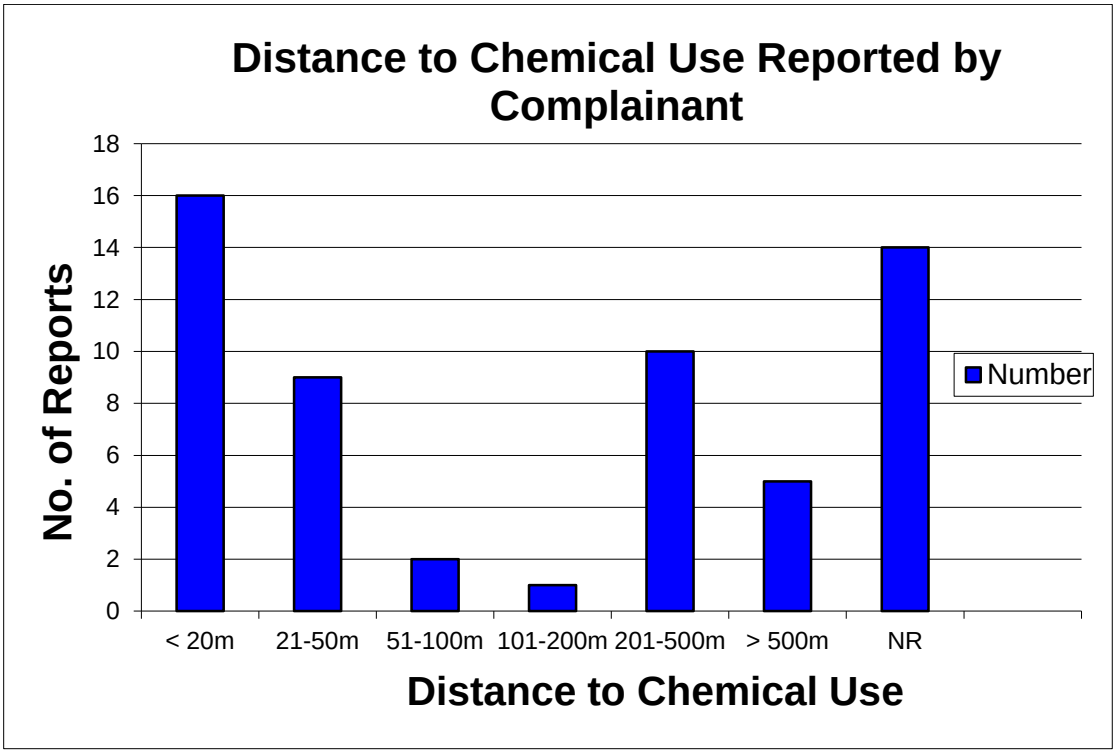
Reported Application Method: Fig 10

Ground-based application was the predominant application method. Furthermore, virtually all of the reports where the application method is not recorded are probably ground-based application.



Distance to Chemical Use Reported by Complainant: Fig 11

Complainants are asked the distance to the source of chemical use. Usually this is only an estimate but, in most cases, can now be checked on Google Earth images. 31 percent of complainants reported a distance of less than 20m to the chemical use, and 17 percent reported a distance of 21-50m. Where the chemical source cannot be identified, as in many of the reports of herbicide damage to grapevines, obviously the distance to the source is not known.



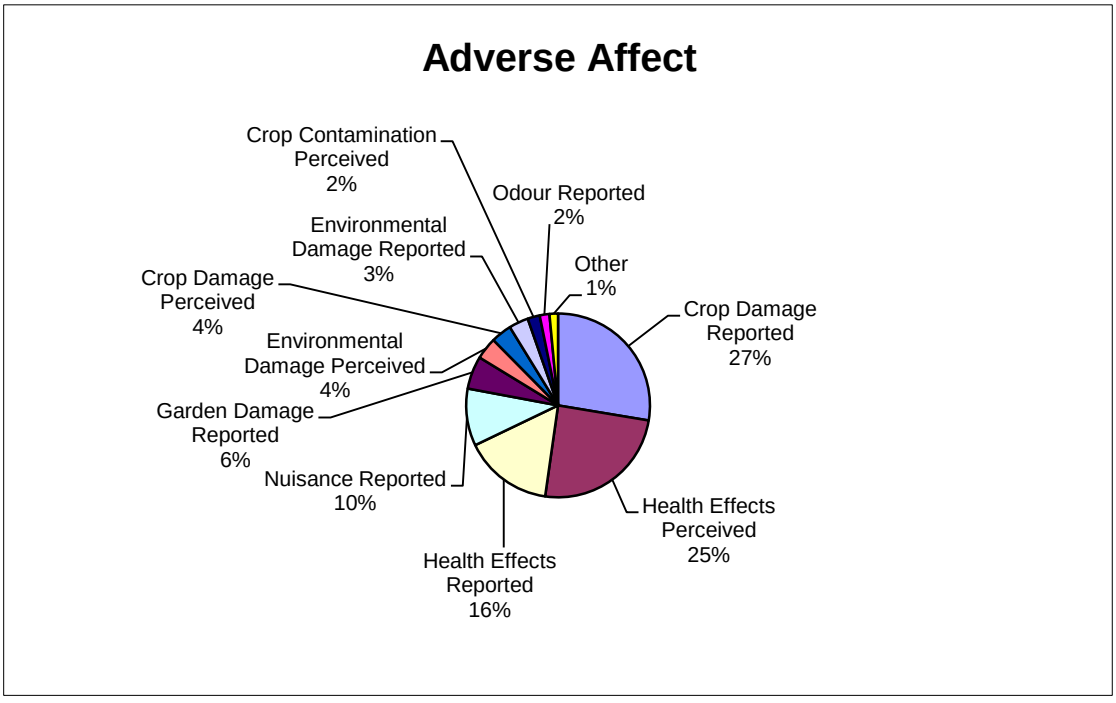
Reported Adverse Effects from Alleged Trespass Incidents: Fig 12

Complainants reporting chemical trespass incidents are asked about their main concern regarding the alleged event. Their responses are then categorised by the Chemical Trespass Coordinator. Reported crop damage, usually grapevine damage, was the main adverse effect, followed by perceived and reported health effects. The reported health effects include:

- Irritation of respiratory system and breathing difficulties
- Irritation of eyes
- Irritation of skin
- Headache
- Nausea
- “Tingly” lips/mouth and chemical taste
- Obnoxious smell

Often these symptoms were temporary and subsided after exposure ceased. Occasionally, the complainant visited a doctor and overnight admission to hospital is known to have occurred in one case involving inhalation of a soil fumigant.

The category of “Odour Reported” was added in 2013-14 because of the emerging development of some complainants to report an odour only, particularly of Group I herbicides, with no other alleged adverse effect.

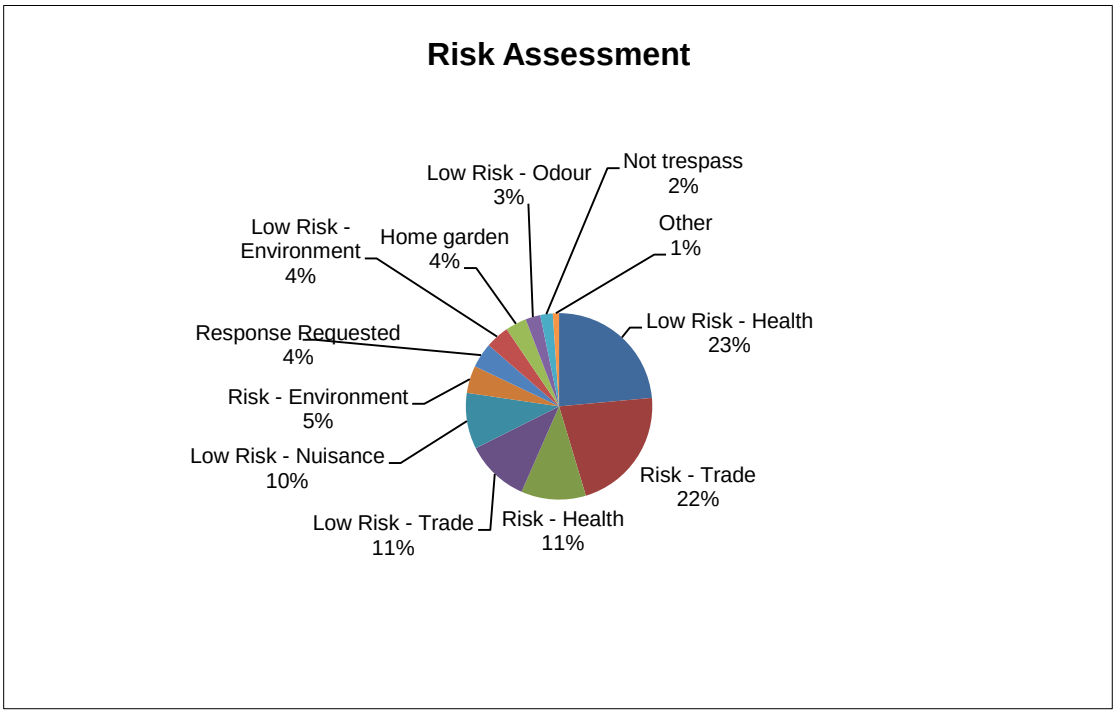


Risk Assessment of Reported Trespass Incidents: Figure 13

Chemical trespass incidents reported to RCO are classified according to a subjective risk assessment. Initially, this assessment is based on information provided by the complainant but occasionally may be amended if conflicting information is obtained from other sources.

The largest classification was “Low risk – health”, closely followed by “Risk – trade”. The reports of suspected herbicide damage to grapevines are generally considered to be a trade risk because, in addition to potential yield losses, there is the possibility of rejection of grapes by wineries and/or chemical residues in the grapes.

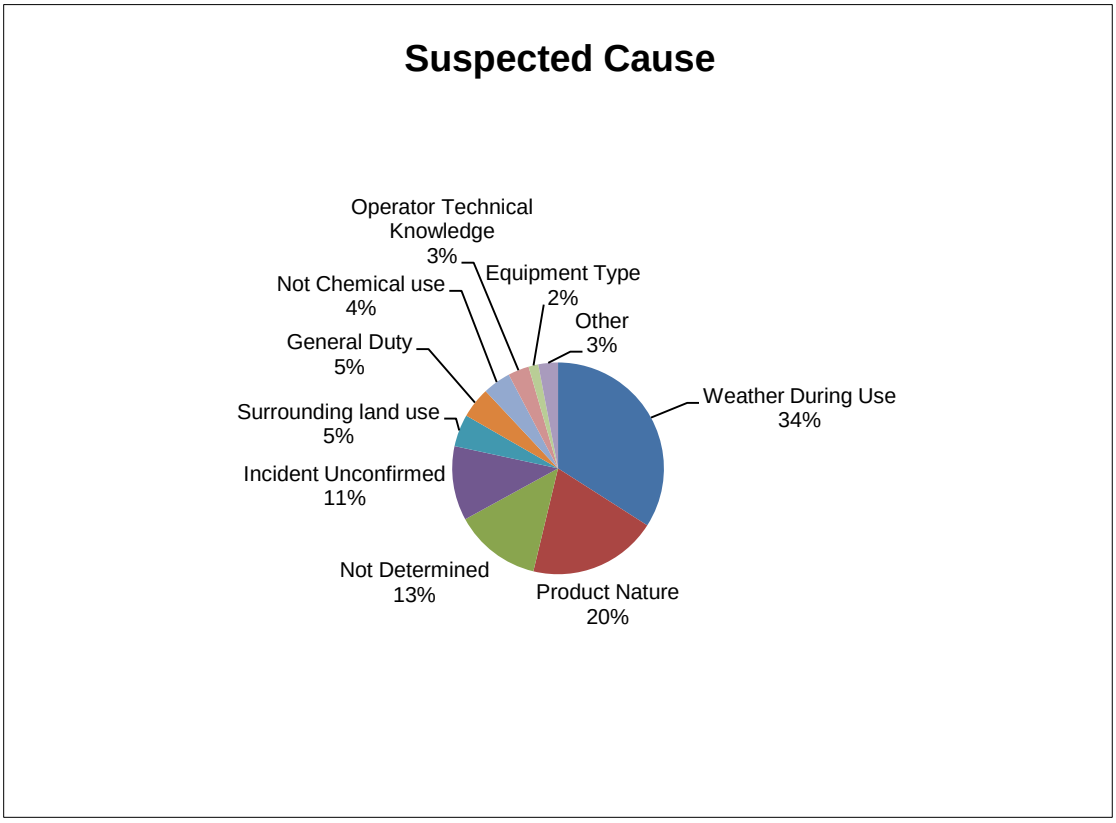
Over half of the reports were considered to be low risk. The category of “Low risk – odour” was added in 2013-14 because of the emerging development of some complainants to report an odour only, with no other alleged adverse effect.



Suspected Cause of Reported Trespass Incidents: Figure 14

Based on the evidence collected in a report and investigation, the Chemical Trespass Coordinator makes an assessment of the **main** cause of the trespass event. More than one cause is often implicated.

Weather during use, i.e. unsuitable weather for spraying (usually unsuitable wind speed and/or direction), was considered to be most common cause of chemical trespass incidents, followed by product nature. Product nature is often listed as the suspected cause for the cases involving apparent Group I herbicide damage to grapevines because other circumstances of the application are not known.



Contaminants

Nearly half of the chemical trespass reports involved application of a herbicide, and the chemical was unknown or not recorded in 23 percent of cases. The fungicide applications were predominantly viticultural and horticultural applications but also some field crop applications, including aerial application.

Fig 15. Contaminant Type

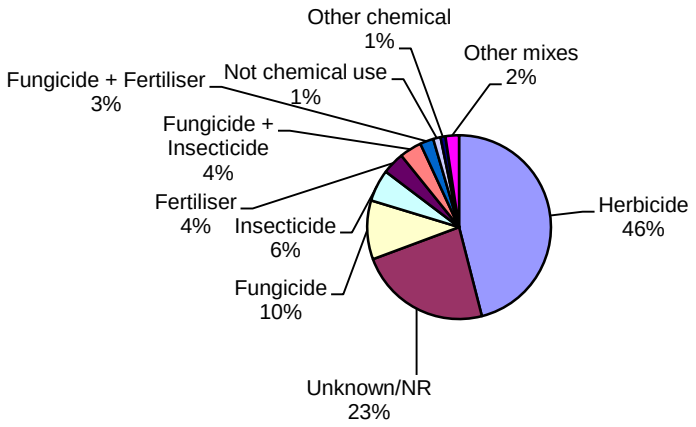


Fig 16 indicates the most commonly implicated herbicides. Oxyfluorfen was generally used in a tank mixture with glyphosate, never on its own.

Fig 16. Herbicide Contaminants

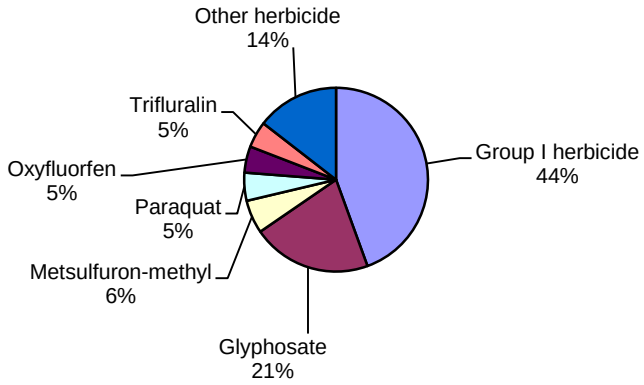
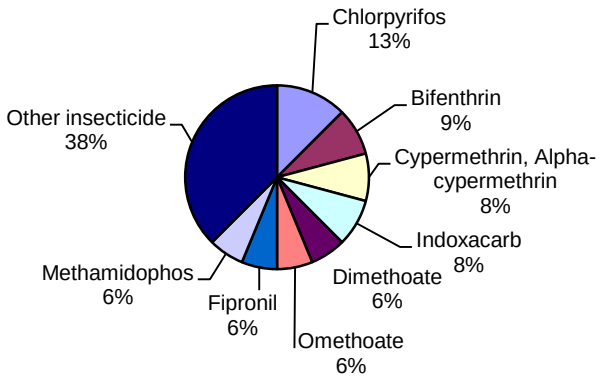


Fig 17 indicates the most commonly implicated insecticides.

Fig 17. Insecticide Contaminants

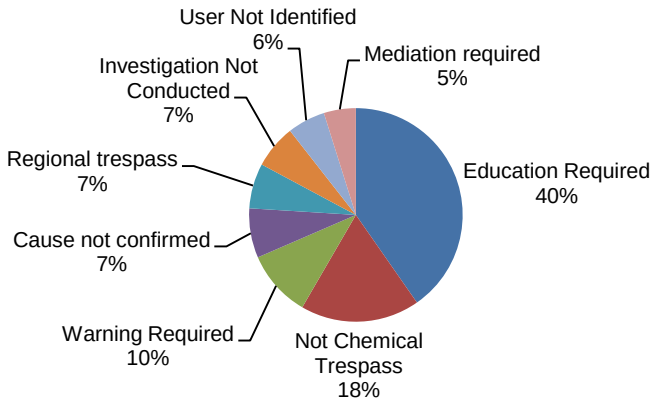


Sulphur (27 percent) and copper (20 percent) were the most commonly implicated fungicides.

Investigation Assessment and Outcome

For 40 percent of investigations, education (of the chemical user and, sometimes, the complainant) was considered to be the most appropriate response. Based on the evidence obtained in the investigation, 18 percent of reports were considered to not involve chemical trespass and 10 percent of incidents were considered to require a warning for the chemical user.

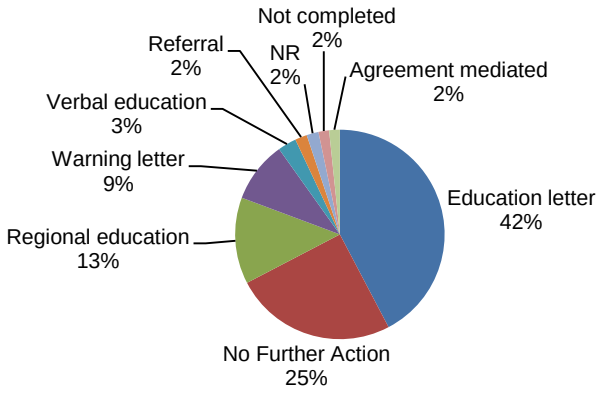
Fig 18. Investigation Assessment



Education letters were sent for 42 percent of reports and no further action was taken for a quarter of the reports that were either trivial or were not trespass.

Regional education is conducted where the source of the chemical use cannot be specifically identified, e.g. Group I herbicide use. In 9 percent of cases, PIRSA issued a warning letter to the chemical user where there was non-compliance with the *Agricultural and Veterinary Products (Control of Use) Act, 2002.*

Fig 19. Investigation Outcome



5. Annual Summaries

2004/05
This was the first year of operation of the *Agricultural and Veterinary Products (Control of Use) Act, 2002* which is the legislative basis for the Chemical Trespass Management Program. During that financial year PIRSA consolidated the chemical trespass management system and targeted resources into the identified problem areas of Group I herbicide damage to grapevines and chemical use conflicts at the rural/urban interface.

Thirteen chemical trespass complaints were received from both the Loxton Waikerie Council area and the Clare and Gilbert Valley Council area in 2004/05 and were predominantly about herbicide damage to grapevines. It was thought that many of these instances of grapevine damage were caused by vapour drift of volatile Group I herbicides (e.g. 2,4-D ester) sprayed by dry-land farmers for summer weed control.

PIRSA ran a targeted education campaign in the Riverland region in 2004/05 about Group I herbicide damage to grapevines because significant damage had also occurred in that region in 2003/04. PIRSA planned to initiate a similar regional educational program for the Clare Valley in 2005/06 and to research the role of volatile Group I herbicides in trespass cases.

Adelaide Hills Council and Onkaparinga Council had 12 and 9 complaints, respectively, in 2004/05. The rural/urban interface is a significant proportion of the area of these two councils.

2005/06
There was a significant reduction in the total number of complaints received by PIRSA, particularly those relating to group I herbicide damage to grapevines. Only one complaint was received from the Loxton Waikerie Council area and one from the Clare and Gilbert Valley Council area, significantly less than the 13 from each Council in the previous year. This may have been due to increased awareness by chemical users, or less spraying due to the dry season, or a combination of the two.

In 2005/06 PIRSA produced a fact sheet “2,4-D products – label changes and reducing drift” and organised a mail-out to Riverland and Clare Valley landholders and contractors to remind them about the risks of 2,4-D herbicide damage to sensitive crops.

2006/07
The Adelaide Hills, Onkaparinga and Barossa Council areas had the highest number of complaints in 2006/07 with 13, 9 and 4 complaints respectively. The rural/urban interface is a significant proportion of the area of these three councils.

In October 2006 the Australian Pesticides and Veterinary Medicines Authority (APVMA) introduced a prohibition on the use of high volatile ester (HVE) formulations of 2,4-D between 1 September and 30 April each year. It was hoped that this would further reduce the number of chemical trespass complaints relating to Group I herbicide damage to sensitive crops such as grapevines.

2007/08
There were seven reports of Group I herbicide damage to grapevines in the Limestone Coast region in 2007/08 (Naracoorte-Lucindale Council area). The source of the chemical use was not identified but was thought to be use of a Group I herbicide to control summer-growing weeds in stubbles, pastures or fallows.

2008/09
There was widespread Group I herbicide damage to grape vines in the Clare Valley in 2008/09. Thirteen complaints were recorded but there was more damage that was not reported. PIRSA conducted an extensive investigation and identified possible reasons for the damage, but could not pinpoint the source of the chemical use.

Adverse health effects from chemical trespass continued to be a concern to the public, with 11 reports of perceived health effects and 9 reports of actual health effects.

2009/10
Rural Living was the land use predominantly affected by chemical trespass in 2009/10. In the cases where the alleged chemical user's land use was known, spraying of viticulture and field crops were the main source of chemical trespass. Adverse health effects from chemical trespass continued to be a concern to the public with perceived health effects the most commonly reported adverse effect of chemical trespass in 2009/10.

2010/11
As in 2009/10, Rural Living was the land use predominantly affected by chemical trespass and, in the cases where the alleged chemical user's land use was known, spraying of viticulture and field crops were the main source of chemical trespass. The highest number of complaints came from the Adelaide Hills Council area. Reported health effects, perceived health effects and reported crop damage were the main adverse effects.

2011/12
Most complaints came from Rural Living land use, follow by Viticulture and Township Living. PIRSA received additional reports of suspected herbicide damage to grapevines (Viticulture) in 2011/12 that were noted but not included in the trespass statistics. Suspected off-target damage to grapevines from Group I herbicides was the main trespass issue for 2011/12.

Adverse health effects from chemical trespass continued to be a concern to the public with perceived health effects being the most commonly reported adverse effect, and actual health effects being fourth.

A relatively high proportion of the reports received during 2011/12 were determined to be trivial.

2012/13
Most complaints came from Rural Living land use, followed by Viticulture and Township living. Field cropping was the land use that generated the most complaints, followed by Viticulture.

Adverse health effects from chemical trespass continued to be a concern to the public with perceived health effects being the most commonly quoted adverse effect in 2012/13, and reported health effects being second. One of the incidents for which there was reported health effects involved a hospital visit for the complainant and family members. For many incidents, however, the reported health effects were minor and temporary symptoms and often the complainants did not visit a doctor.

2013/14
Most complaints came from Viticulture land use, with Rural Living second. However, the data was skewed by one Riverland viticulturist who reported to RCO virtually every time he detected the odour of a Group I herbicide, regardless of the likelihood of any plant damage from spray drift.

Field cropping was the land use that generated the most complaints, followed by Viticulture.

Reported crop damage was the main adverse effect. Perceived or reported health effects from chemical trespass were quoted much less commonly as an adverse effect in 2013/14.

APVMA withdrew registration of all 2,4-D HVE formulations in August 2013. Existing stocks could be used in the permitted period from 1 May to 31 August 2014, but no use thereafter. Partly because of the seasonal restriction on use of these products that had been in place since 2006, HVE formulations of 2,4-D had all but disappeared from the marketplace in most parts of Australia. In SA, the only remaining significant use of 2,4-D HVE was on Upper Eyre Peninsula.