

**Report On Agrichemical Spray
Drift Incidents Reported To
Public Health Services, 2001**

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by

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**Report On Agrichemical Spray
Drift Incidents Reported To
Public Health Services, 2001**

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SUMMARY

The aim of this project is to effectively monitor the incidence of spray drift incidents with potential, reported or alleged health effects. This is achieved through a surveillance system, which collects information on spray drift complaints and incidents reported to Public Health Service staff, and any subsequent investigations. This report summarises the information recorded on *Driftnet* during 2001, and compares it to data from previous years.

RECOMMENDATIONS

That this report is distributed to all Public Health Services, the Spraydrift Working Party, the Ministry for the Environment, ERMA, and the Parliamentary Commissioner for the Environment, for their information.

1 INTRODUCTION

This report details agricultural spray drift incidents reported to Public Health Services (PHSs) during January to December 2001. When PHSs receive reports of agricultural spray drift incidents they are recorded locally on *Driftnet* software. *Driftnet* records information on complaints, associated illness and investigations. Each year in January/February, data recorded by PHSs for the previous year are forwarded to ESR where they are collated nationally and a report produced. This is the third report on *Driftnet*, which covers data collected for the 2001 calendar year.

2 RESULTS AND DISCUSSION

During 2001, 25 complaints were recorded on *Driftnet* (Table 1), compared with 13 for the year 2000. An additional seven cases were entered into DriftNet from exposures that took place in 2000, and one from 1999, but these are not included in the 2001 statistics. There was a two-fold increase in the reporting of such incidents this year, which may be explained by increased awareness of the system, through publications like the New Zealand Public Health Report. Because of the low number of incidents, the discussion that follows is qualitative rather than a quantitative analysis.

Eight health districts reported data from spray drift complaints and incidents, which is one more than the previous year's seven. Nine complaints were from Christchurch, four from Tauranga Health District, three each from Manukau and Dunedin, two each from Hamilton and Auckland City, and one each from Rodney and Franklin District TLAs. There were no complaints from Northland in 2001, which contrasts with 2000, when Northland had the most complaints. Of the 25 complaints, there were ten exposures of individuals resulting in symptoms of illness. However, in none of these cases were any symptoms confirmed with a doctor's diagnosis.

Sixteen of the 25 complaints reported required some form of follow-up action. Of these, five were promptly resolved by the PHS staff without the need for a "*Driftnet* incident investigation". This required contacting the interested parties and determining the level of risk and the appropriate course of action. Two cases were referred to District or Regional Councils, and the results of eight complaints were not recorded. In one case in Dunedin, a pamphlet was sent to households on the street informing them of the risk and appropriate action.

Herbicides were involved in seven of the 25 complaints, insecticides in six and fungicides in one. Ten complaints did not include identification of the agrichemical involved.

Ten spray drift-related exposures with self-reported symptoms (Table 5) were reported from eight separate incidents. None of the symptoms were found by a physician to be caused by the agrichemical involved (Table 6). These numbers, however, refer to the spraydrift incidents that have been reported and investigated by PHS staff and entered into *Driftnet*. Tables 4-6 do not include results from the investigations on the two "referred" spray drift cases (as listed in Table 2) as this information is not currently recorded by *Driftnet*.

Eleven complaints were related to incidents that occurred at private residences, eight were reported to be in public areas, two from schools, and one from the workplace. There were three cases where the location of the incident was not reported. (Table 7).

The method of pesticide application for 23 of the 25 spray drift complaints was reported. Ground application (vehicle and pedestrian) was involved in 14 of the complaints, while helicopter application was involved in seven and aircraft in two complaints. Two complaints had no method of application recorded (Table 8).

In the course of this project, the existing DriftNet software has been upgraded to be compatible with most PHS computer systems. In addition, we have been exploring the

feasibility of using a central website for surveillance of chemical injuries notifications from hospitals, and possibly incorporating an analogous national Driftnet model for spray drift complaints. This would also allow a standard reporting system to be used by different Regional Councils and other agencies that deal with spray drift complaints.

DriftNet currently collects far more detail than is necessary for national level surveillance of these events. While this level of detail is necessary for local authorities to track and follow their own investigations, it is not feasible to analyse all of the variables being sent on a national scale, especially if the system moves to the internet. To facilitate the collection and analysis of national data on spraydrift incidents, we propose that a shortened national data set be developed, which is a subset of the full DriftNet data. Such a shortened national set is more likely to be utilised by Regional Councils. A linkage of this data set with the Chemical Injuries Surveillance System would need to be explored. A proposed national minimum data set for Spraydrift surveillance, from a public health perspective, is outlined below:

Personal details

- age
- gender

Geographical details

- TLA of exposure

Time of exposure

- date of incident

Exposure information

- was the person exposed? Yes/no
- symptoms? Yes/no
- symptoms or illness confirmed by a physician as agrichemical related? Yes/no
- Was there damage to crops or property from the drift? Yes/no

Chemical information

- Name of agrichemical product (drop down list)

Spray information

- Method of spraying (list of 6 options)

Local investigation information

- Was there a local investigation? Yes/no
- Issue resolved or ongoing?
- Was the case referred to another agency (which one)?
- Person reporting/investigating the incident (free text)
- Agency/location (PHU drop down list, regional council drop down list, NPC, other)

These fields can be automatically transferred to ESR by email from the existing DriftNet program. In our view, the extensive detailed data fields currently included in DriftNet are useful for localities conducting local investigations, and maintaining records of incidents. This function should be retained at the local level.

**Table 1 : Number of Spray Drift Complaints by Month
January 1, 2001 – December 31, 2001**

Health District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Canterbury	3	1						2		1			7
Central Auckland		2		1									3
North West Auckland								1	1				2
Otago											1	2	3
South Auckland										1		1	2
South Canterbury		3											3
Tauranga			1			1		2					4
Waikato								1					1
ALL	3	6	1	1		1		6	1	2	1	3	25

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**Table 2 : Responses to Complaints
January 1, 2001 – December 31, 2001**

Health District	Response			Unknown	Total
	No Action	PHS Investigation	Outside Referral		
Canterbury		1	1	6	8
Central Auckland		2	1		3
North West Auckland	1				1
Otago	2	1			3
South Auckland	2	1			3
South Canterbury		1		1	2
Tauranga	2	1			3
Waikato	2				2
ALL					25

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**Table 3 : Number of Spray Drift Exposures by Month
January 1, 2001 – December 31, 2001**

Health District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Otago												2	2
South Canterbury		1											1
Tauranga			1					1					2
Waikato								1					1
ALL		1	1					2				2	6

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**Table 4 : Number of Spraydrift Illnesses by Month
January 1, 2001 – December 31, 2001**

Health District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
Canterbury	3	1											4
Central Auckland		1											1
Otago												1	1
South Canterbury		2											2
Tauranga								2					2
ALL	3	4						2				1	10

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**Table 5 : Number of SprayDrift Complaints by Type of Affected Location
January 1, 2001 – December 31, 2001**

Health District	Location						Total cases reported*
	Private res	public area	school	workplace	other	not recorded	
Canterbury		4	1			2	7
Central Auckland	2						2
North West Auckland			1				1
Otago	2	1					3
South Auckland	4						4
South Canterbury	2	1					3
Tauranga	1	2					1
Waikato				1	1		2
ALL	11	8	2	1	1	2	25

***illnesses are self-reported. No illnesses were confirmed by the diagnosis of a doctor.**

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**Table 6 : Method of Pesticide Application Associated with SprayDrift Complaint
January 1, 2001 – December 31, 2001**

Health District	Method of Application						Total
	Helicopter	Fixed Wing Aircraft	Vehicle	Pedestrian	Other	Not Recorded	
Canterbury		1	3	2		1	7
Central Auckland			3	1			4
North West Auckland			1				1
Otago	2	1					3
South Auckland			1	1		1	3
South Canterbury	1			1			2
Tauranga	1		2	1			4
Waikato	2						2
ALL	7	2	9	5		2	25

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Table 7 : Agrichemicals involved in Spray Drift Complaints Reported through DriftNet, 2001

Auckland (incl. South, Central, and Northwest)	Canterbury	South Canterbury	Otago	Tauranga	Waikato
<ul style="list-style-type: none"> • Unknown (3) • Lindane • Mancozeb, sulphur • Copper sulphate • Herbicides (?) 	<ul style="list-style-type: none"> • Unknown (6) • permethrin 	Reglone & Thiram (2) Unknown	<ul style="list-style-type: none"> • Glean (2) • phosphate 	<ul style="list-style-type: none"> • Averte/ copper • Hi-cane (2) 	2,4-D (2)

* number of cases given in parentheses

**Figure 1 : Map of SprayDrift Complaints by Health District
January 1, 2001 – December 31, 2001**

Spraydrift Complaints 2001

