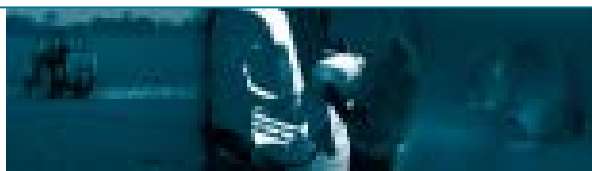




Pesticide Incidents

Report



Field Operations Directorate Investigations

1 April 2003 - 31 March 2004





Introduction

1 This report provides information on incidents and complaints involving pesticides investigated by the Field Operations Directorate (FOD) of the Health and Safety Executive (HSE) between 1 April 2003 and 31 March 2004.

2 The report comprises:

- statistical information on complaints and enforcement;
- a report on alleged ill-health incidents reviewed by HSE's Pesticide Incidents Appraisal Panel (PIAP);
- environmental and other complaints not alleging ill health; and
- case studies.

3 FOD's activity on pesticides is not limited to the investigation of incidents and complaints and formal enforcement. Inspectors also provide advice and guidance to employers, the self-employed and employees during site visits and inspections and to members of the public.

4 When investigating pesticide incidents and complaints, inspectors are concerned not only with the health of people at work and members of the public who may be affected by work activities, but also with the effects of pesticides on the environment. The investigation of incidents often requires expertise from the range of disciplines within HSE. Inspectors, specialist inspectors, qualified medical and occupational health professionals and scientists from the Health and Safety Laboratory may all be involved. Inspectors also liaise locally with other bodies which have enforcement responsibilities for pesticide activities, including other government departments such as the Environment Agency (EA), the Department for Environment, Food and Rural Affairs (DEFRA), agencies of DEFRA including the Pesticides Safety Directorate (PSD) and the local authorities (LAs) in Great Britain, to ensure a consistent and co-ordinated approach.

5 This report does not include investigations for which these other bodies are the enforcing authority. Similarly, products such as veterinary medicines (including sheep treatments), which are subject to the Medicines Act 1968, are outside the remit of the report.

6 The report and details of individual incidents will be presented to the Advisory Committee on Pesticides (ACP) to inform the pesticides approvals process.



Statistical summary

7 During 2003/04, FOD inspectors investigated 204 reported pesticide incidents (complaints). Sixty-two complaints involved allegations of ill health, with the remaining 142 complaints involving other issues to do with pesticide use. The total of 204 incidents is a decrease of 11 from the previous year's figure of 215 (2002/03) but is eight (4%) higher than the average for the previous ten years.

8 Figure 1 shows how the numbers of incidents and complaints compare with previous years.

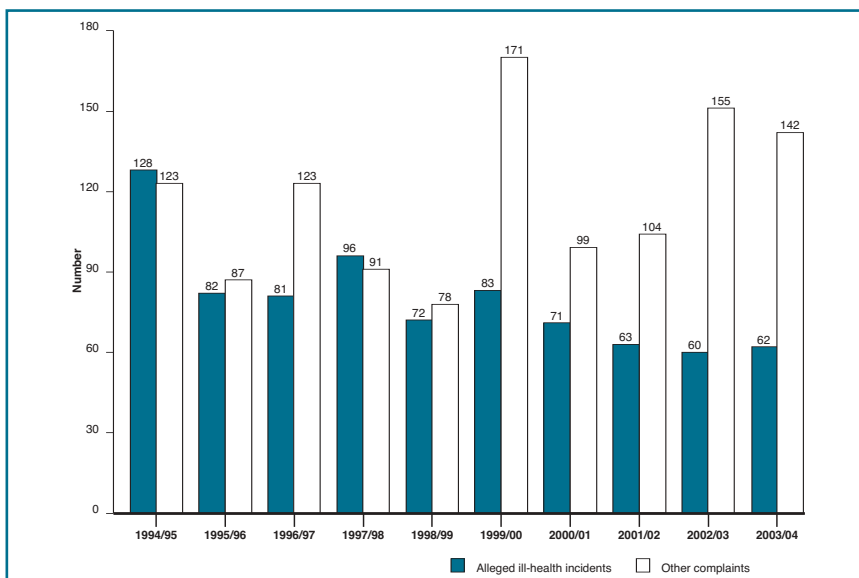


Figure 1 FOD Inspectorate alleged ill-health incidents and other complaints 1994/95-2003/04

9 The number of complaints alleging ill health was two more than in 2002/03 and 20 lower than the average of the previous ten years. Further analysis of these complaints is in paragraphs 15-45.

10 The number of other complaints was 13 (9%) less than in 2002/03 but 28 (24.5%) higher than the average of the previous ten years. Further analysis of these complaints is in paragraphs 46-51.

11 Eight Informations (charges) were laid before the Courts during the year, all of which led to convictions. The average fine imposed by the Courts was £1824, which compares with an average of £1250 for 2002/03.



12 Inspectors issued 66 enforcement notices (citing 78 contraventions) under the Food and Environment Protection Act 1985 (as amended) (FEPA) and the Control of Pesticides Regulations 1986 (as amended) (COPR) during the year compared with 81 in 2002/03.

13 These enforcement figures are provisional and may be revised before publication in the supplementary safety and enforcement tables to HSE's *Health and safety statistics highlights 2003/04*.

14 Inspectors also enforce matters relating to the use of pesticides under health and safety legislation, principally the Health and Safety at Work etc. Act 1974 (HSW Act) and the Control of Substances Hazardous to Health Regulations 2002 (COSHH). This report does not include information on any related enforcement under health and safety legislation.



Alleged ill-health incidents

The Pesticide Incidents Appraisal Panel

15 HSE's Pesticide Incidents Appraisal Panel (PIAP) considers all incidents reported to FOD where there is any allegation that the use of a pesticide has caused ill health. PIAP is notified of these incidents only on completion of the inspector's investigation.

16 PIAP also considers a small number of other incidents each year, which fall within the jurisdiction of other parts of HSE or of a different enforcing authority, such as a local authority.

17 The data in this report is presented in line with that of previous reports since 1995/96. However, the role of PIAP remains under review within HSE as part of a wider discussion, both within government and by its Advisory Committee on Pesticides (ACP), on pesticide monitoring and surveillance schemes.

18 The PIAP membership for 2003/04 is listed in Appendix 1.

19 The main purpose of PIAP, however, remains 'to provide an overview of alleged ill health attributed to pesticide exposure (as reported to and investigated by HSE) so that new issues and trends can be identified, and to inform the pesticides approval process'.

20 To fulfil this purpose, PIAP considers individual incident and case reports, not to establish the cause, but to consider the strength of the association between exposure and ill health. During the year the panel has, therefore, continued to assess reports based on 'balance of probability' from available information and not, as before 2002, making an assessment 'beyond reasonable doubt'.

21 This shift in the approach to case assessment should lower the threshold for recording cases as being potentially relevant or important. It should also help identify any new associations. While the change might cause some distortion to the comparative year-on-year results presented in the annual report series, it will provide a 'categorisation' of cases more appropriate to PIAP's defined purpose.



22 Appendix 2 outlines the current case/incident classification scheme, which remains largely unchanged from previous years, and Appendix 3 is a flow chart showing how PIAP reviews cases to reach its decision.

Summary information on alleged ill-health incidents for 2003/04

23 Table 1 shows the outcome for the 65 incidents forwarded to PIAP in 2003/04 (this figure includes three incidents forwarded by local authorities) broken down according to the panel’s assessment (using the classification scheme in Appendix 2) and the employment status of the people involved.

24 On consideration and in the absence of any evidence of exposure, the panel concluded that three of the reports should not be classified as ill-health incidents. As a result, throughout this report, reference is made to 62 incidents of alleged ill health in 2003/04.

	Total		Employees/ self-employed		Members of public/ others	
	Incidents	(People)	Incidents	(People)	Incidents	(People)
Confirmed	1	(3)	0	(0)	1	(3)
Likely	14	(19)	0	(0)	14	(19)
Open assessment (i)	2	(2)	0	(0)	2	(2)
Open assessment (ii)	1	(2)	0	(0)	1	(2)
Unrelated	9	(10)	1	(1)	8	(9)
Insufficient information	22	(44)	2	(11)	20	(33)
Pending	13	(15)	3	(3)	10	(12)
Not an incident	3	(12)	0	(0)	3	(12)
Total	65	(107)	6	(15)	59	(92)

Table 1 Number of alleged ill-health incidents and people affected analysed by PIAP decision and employment status 2003/04

25 In this and subsequent analyses, incidents in which more than one individual was alleged to have been made ill and for which the individuals received a different assessment by the panel, have been classified according to the most serious individual assessment. The ranking of severity is taken as being ‘confirmed’, ‘likely’, ‘open assessment’, and ‘insufficient information’.



26 The panel assessed one of this year's reported incidents as having a 'confirmed' link to pesticide exposure. This incident involved a gang of eleven rail trackside workers who were oversprayed by herbicide being applied to an adjacent field. Medical reports were obtained for three individuals which 'confirmed' the clinical picture. Although the other workers reported symptoms, these were not confirmed and the panel classified these as 'likely'. This exemplifies the difference between the assessment of the individuals and the assessment of the overall incident. For the purposes of PIAP the classification of the incident is of primary importance.

27 In addition to this 'confirmed' incident, 14 incidents (21%) were assessed as having a 'likely' link to pesticide exposure (these figures may change as some of the 13 incidents for which a decision is still pending may in due course be categorised as 'confirmed' or 'likely'). None of these 'likely' incidents were considered directly related to work activity, all involving either members of the public or those incidentally exposed while at work.

28 All 22 incidents identified as 'pending' in last year's report have now been considered by the panel. The decisions reached have been included in the trend information presented in the remainder of this section. Thirteen incidents from the current year (2003/04) remain pending, while further medical or exposure information is sought.



Overall trends

29 Figure 2 shows the number of incidents forwarded to PIAP in each of the last ten years, analysed according to whether the panel classified the link between pesticide usage and the alleged ill health as 'confirmed' or 'likely', or came to some other decision.

30 At 62 (following the decision to declassify three cases - see paragraph 24) the total number of alleged ill-health incidents in 2003/04 is similar to the previous two years. Although it had appeared, at the last report, that the number of incidents was continuing to fall steadily since 1999/2000 when 84 alleged ill-health incidents had been reported, the current figures do not follow this trend.

31 The proportion of the total (excluding 'pending') incidents assessed as 'confirmed' or 'likely', has ranged between 20% and 25% since 1995/96 except in 2000/01 when it was 10%. In 2002/03 the figure, taking into account the 'pending' cases, is 13%, while for the current year, although the decision on 13 cases is still 'pending', the figure is 31% (15 of 49). There is, therefore, a suggestion that the proportion of incidents assessed as 'confirmed' or 'likely' is increasing, a finding which had been predicted from the change in approach to the assessment of incidents outlined in paragraphs 20 and 21. The proportion does, however, remain considerably lower than in the early 1990s, when nearly half of the cases considered by the panel were assessed as 'confirmed' or 'likely'.

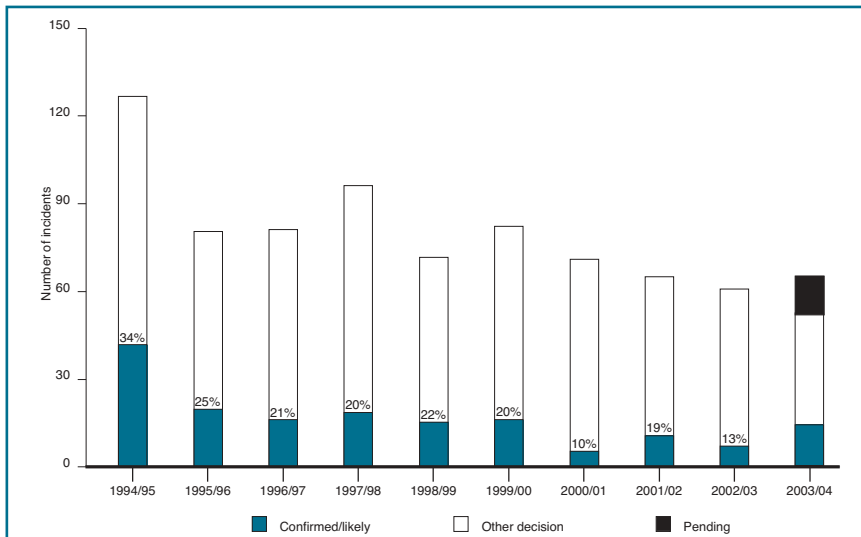


Figure 2 Trends in PIAP decisions



32 The number of people involved in reported incidents considered by the panel in each of the last ten years, either people using pesticides as part of a work activity or members of the public, is shown in Figure 3 (excluding a small number of cases where employment status was not recorded).

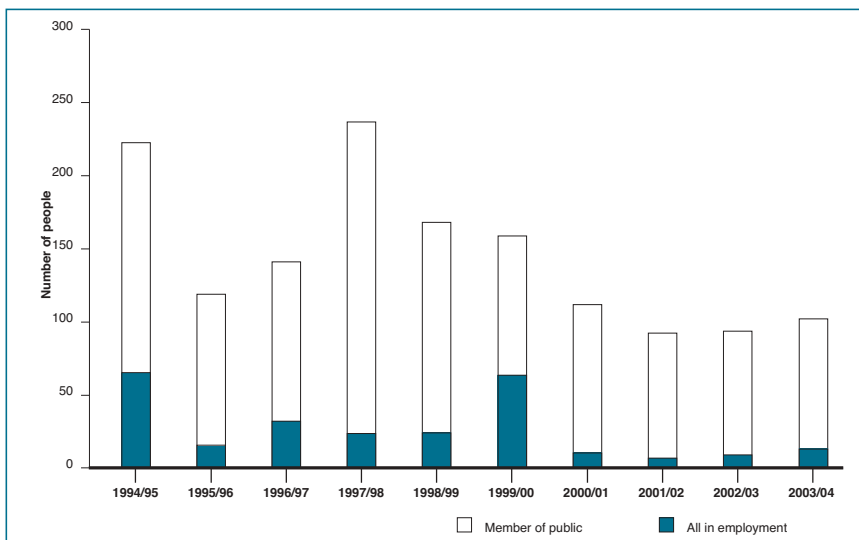


Figure 3 Trends in employment status: all alleged ill-health incidents

33 Figure 3 shows that the majority of people involved in reported incidents each year continue to be members of the public. The proportion in employment has fluctuated over the past ten years although for the past four years it has remained less than 15%. The total number of people involved in alleged ill-health incidents has also fluctuated greatly from one year to the next. Much of this fluctuation reflects the occurrence of single incidents involving large numbers of people. By contrast, the number of incidents reported each year has not been so variable, as Figure 2 shows.

Recent ill-health data

34 Since 1994/95, the panel has recorded the type and severity of the ill health experienced by people involved in incidents with a 'confirmed' or 'likely' assessment. Last year this was extended to include cases receiving an open assessment. Symptoms are recorded as 'acute' and/or 'chronic', 'local' and/or 'systemic' and their severity as 'mild' (requiring no or self-treatment), 'moderate' (presenting to a GP or hospital Accident and Emergency Department) or 'severe' (in-patient treatment).



35 There were no cases investigated by FOD inspectors during the current year where complaints of chronic ill health were recorded.

36 Table 2 summarises the information on severity of symptoms for the current year 2003/04. It incorporates the assessments of all incidents (18) and associated individuals (26) with a 'confirmed', 'likely', or 'open' assessment.

	Mild		Moderate		Severe	
	Incidents	(People)	Incidents	(People)	Incidents	(People)
Confirmed	0	(0)	1	(3)	0	(0)
Likely	11	(12)	3	(7)	0	(0)
Open assessment (i)	1	(1)	1	(1)	0	(0)
Open assessment (ii)	1	(2)	0	(0)	0	(0)
Total	13	(15)	5	(11)	0	(0)

Table 2 Severity of ill health

37 As in most previous years, the majority of people were assessed as having 'mild' symptoms (13 classified as local, two as systemic) while the remainder (11) were assessed as having 'moderate local' symptoms. No one was considered by the panel to have suffered from 'moderate systemic' or 'severe' symptoms.

38 Mild local symptoms are most commonly a self-limiting skin rash or an irritation of the skin, eyes or respiratory tract, while mild systemic symptoms include transient headaches and nausea. Seven of the individuals with moderate symptoms were from the 'confirmed' incident (see paragraph 26) who attended the local hospital Accident and Emergency Department complaining of respiratory and eye irritation while the four others attended their general practitioner, two with a persistent shortness of breath and two with persisting skin rash.

Recent and historical data on pesticides

39 For each of the pesticides reported to be involved in an incident, the database records the trade names and the names of the active ingredients where these have been identified. In addition to an assessment of cases against the known toxicology of active ingredients the panel has, since April 2001, included a consideration of the hazards associated with co-formulants.

40 For many incidents, however, information relating to product identification is not available and this contributes to the high



proportion of cases categorised as 'insufficient information'. During 2003/04, products could not be identified for ten of the 62 reported incidents (16%).

41 The full interpretation of the overall PIAP database is not only limited by the lack of product information, but also by the fact that the relative importance of particular categories of pesticide may simply reflect the fact that their usage is more widespread rather than indicating that they are more hazardous. Also, mention of an active ingredient in the report of an incident need not imply that it contributed to any ill-health effect: many pesticides include more than one active ingredient, as well as non-active components, and it may be that one of these was responsible.

42 Accepting these limitations, the most common pesticide function associated with incidents reported to PIAP is herbicide, followed by fungicide and insecticide. In 2003/04, of the 99 identified products involved in the reported incidents there were 49 herbicides, 27 fungicides, ten insecticides, and 13 other groupings.

43 The most commonly recorded active ingredient during 2003/04 was phenoxyacetic acid (14 out of 84 identified – 17%) with dinitroaniline (14) and conazole (ten) the only other actives with ten or more reports. Over the past ten years, however, organophosphate and pyrethroid remain the most commonly recorded actives together accounting for approximately 15% of all reports. In the current year the figures were organophosphate, six and pyrethroid, four.

44 For those incidents 'confirmed'/'likely' during 2003/04, herbicide is the most common product function (14 out of 23 identified). The most commonly recorded active ingredient was phenoxypropionic acid (seven out of 21) with no other active having more than two reports. As with the incidents overall, pyrethroid and organophosphate remain the most commonly reported during the past ten-year period, but in the current year there were only two reported instances where alleged ill health was considered to be related to pyrethroid and no cases of organophosphate toxicity. There have been no 'confirmed'/'likely' cases identified by the panel as being associated with organophosphate use during the past two years.

45 The panel is now beginning to look at reported cases both across years and at specific actives to identify patterns and trends. New formula creosote is the first of these to be identified and reported cases are being compared to previously reported cases involving the original creosote formulations. The panel's findings and conclusions will appear in the next incident report.



Environmental and other non-health complaints 2003/04

46 During the year there were 142 environmental and other complaints, ie complaints in which there were no allegations of ill health relating to exposure. This is a decrease of 13 (9%) over 2002/03 and compares with an average of 114 and a range of 78 to 171 in the previous ten years (1993/94-2002/03). See Figure 1 and paragraphs 7 to 10 for statistical analysis of the figures.

47 Figures 5 to 7 summarise the number of complaints in 2003/04, classified according to the industry sector in which the pesticides were used, the work activity involved and the method of application.

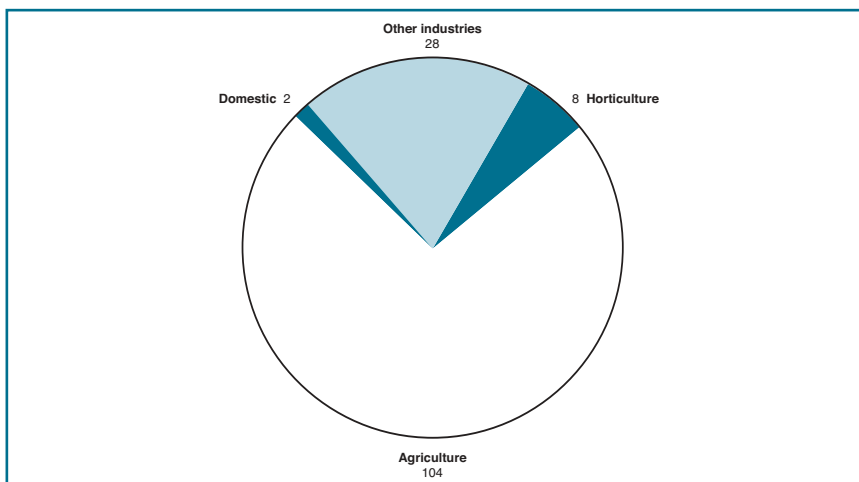


Figure 5 Number of environmental and other non-health complaints 2003/04: classified by sector

48 Of the 142 complaints, 73% originated from within the agricultural sector. 'Other industries', including the amenity sector, pest control and wood treatment accounted for a further 20% of complaints, 1% domestic, and horticulture for the remaining 6%.

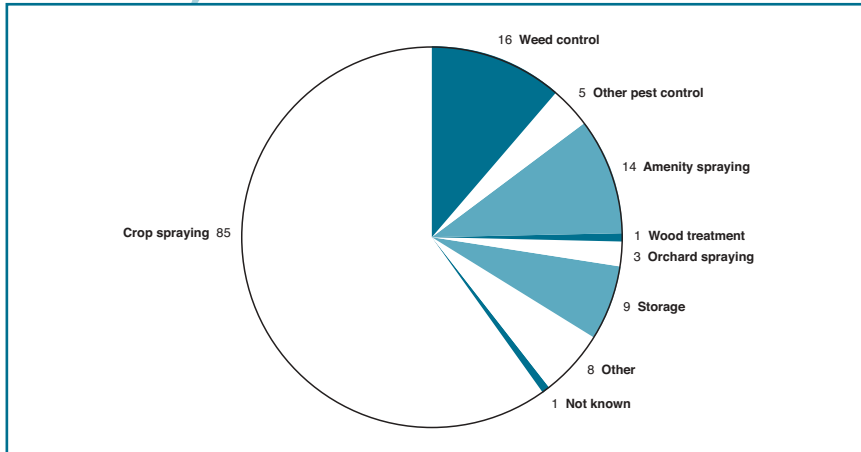


Figure 6 Number of environmental and other non-health complaints 2003/04: classified by activity

49 Crop spraying accounted for 59% of all environmental and other non-health complaints investigated during 2003/04. Other significant activities included weed control (11%), amenity spraying (10%), storage (6%) and orchard spraying (2%). The remaining 12% occurred within a group of miscellaneous activities, including other pest control, wood treatment and 'other'.

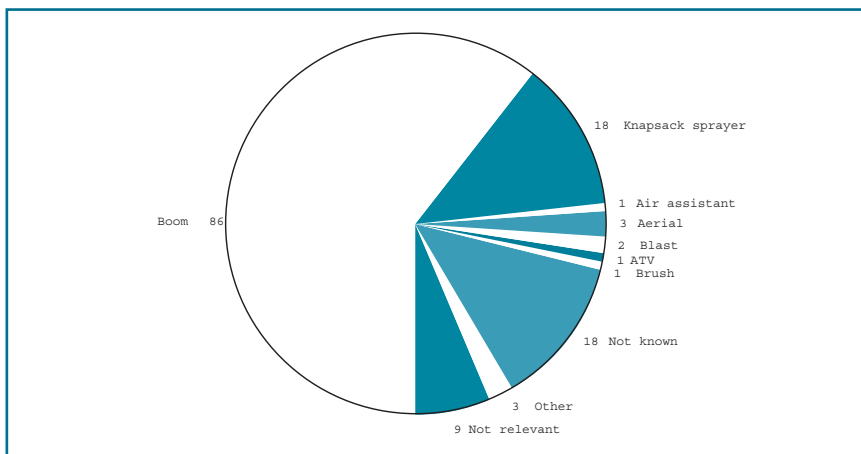


Figure 7 Number of environmental and other non-health complaints 2003/04: classified by application method



50 Conventional crop boom sprayers were involved in approximately 60% of all environmental and other non-health complaints. Knapsack spraying accounted for 13%, and 1% of incidents involved an air-assisted sprayer. A further 2% involved aerial application, 3% were blast, brush, ATV and another 2% for 'other' identified methods of application. In 19% of complaints the application method was either not recorded or not relevant, eg where the concern related to storage, security, record keeping etc.

51 Of the 142 complaints, 122 were reported by members of the public, consistent with experience in previous years, and 16 were made by employees. The remaining four were made by others - including farmers and public bodies.



Case studies

As in previous years case studies are included in the report to illustrate key issues and areas of concern that commonly give rise to complaints to FOD and/or result in enforcement action. Once again the case studies cover recurring themes such as drift from crop spraying, prior notification of the intention to spray and pesticide storage. One case this year deals with pesticide spillage and another with pest control.

Spray drift

The majority of complaints investigated by HSE inspectors continue to arise from members of the public who are concerned about spray drift. The complaints usually arise when crops or land are sprayed when the wind is in the wrong direction and/or the wind speed is too high (see Case 1). Notification of the intention to spray also remains an issue (see Case 2), particularly in relation to the spraying of sulphuric acid on potato haulms.

Case 1

A farmer alleged that his neighbour had sprayed an adjoining field in weather conditions unsuitable for spraying. This led to drift of herbicide from the target area onto the complainant's grazing land and sheep. Damage to neighbouring grassland was consistent with drift of herbicide spray from the field being sprayed and evidence on wind conditions obtained from the Met Office report also supported this conclusion. The operator did not have the appropriate Certificates of Competence for the spraying equipment but in his case it was not a legal requirement because he was born before 1 January 1965 (see explanation below).

Investigation of the incident also discovered a failure to maintain adequate spray records and a pesticides store that was neither bunded nor marked with a danger warning sign.

The active partner in the farming business was prosecuted under COPR for failing to confine the application of the pesticide to the area of land intended to be treated. He pleaded guilty and was fined £500 plus a contribution of £250 towards the prosecution costs despite pointing to the lack of lasting damage to grassland. In future he intends to use contractors to do all his spraying.

Under Schedule 3 of COPR, 'Conditions relating to consent to the use of pesticides', users of pesticides have a duty to confine the application of a pesticide to the land, crop,



structure, material or other area they intend to treat, to minimise risks to people, wildlife and the environment. This requires operators to take account of weather conditions and, in particular, wind speed. The DEFRA Code of Practice for the safe use of pesticides on farms and holdings (the Green Code) gives practical measures for preventing spray drift, including advice on wind speed and direction. The Code advises that a steady Force 2 (3.2-6.5 km/h) slight breeze blowing away from any sensitive areas or neighbour's land provides the best conditions for spraying. It goes on to say that operators should not spray if conditions are unsuitable or unpredictable.

While the Code gives guidance on the estimation of wind speed from the movement of trees, clouds and other environmental indicators, it recommends the use of simple wind-speed meters. Accurate wind-speed measurement is a straightforward, practical control measure, which, if carried out before applying pesticides, has a direct effect on limiting application to non-target crops and on the exposure of bystanders and members of the public.

Users of pesticides must be adequately instructed and trained. Additionally people using a pesticide approved for agricultural use must hold a recognised Certificate of Competence issued by the National Proficiency Tests Council (NPTC) or the Scottish Skills Testing Service (SSTS) if they:

- ***were born after 31 December 1964; or***
- ***are providing a commercial service.***

Prior notification of the intention to spray

This case deals with the aerial application of pesticides by fixed wing aircraft or helicopter, which has declined in recent years but is still used in some areas for the control of bracken.

Case 2

A contractor, a limited company, was prosecuted under COPR for failing to notify the relevant authorities and members of the public of his intention to aerial spray bracken with the herbicide Asulox.

A neighbour made a complaint alleging his water supply had been contaminated. Investigation of the incident and subsequent



interview with the complainant revealed that a helicopter had been spraying bracken with herbicide without any prior notifications on land deemed unsuitable for terrestrial application methods. The contractor had breached conditions of consent by failing to notify: the Countryside Council; the Environment Agency; the Chief Environmental Health Officer; neighbouring property owners and residents; and had failed to warn land users by signage of the intention to aerial spray.

The contractor pleaded guilty to five offences under COPR and was fined £5000 and ordered to pay £1518 towards the cost of the prosecution. The company had ignored previous advice and warnings from HSE and had continued to disregard its legal responsibilities to notify aerial spraying operations. The case shows that companies who persist in ignoring their legal duty to notify spraying operations can expect to be prosecuted and to be treated severely by the Courts.

The consultation and notification allows a two-way flow of information to ensure that the operation can be carried out in safety and without causing alarm to the public.

The consent of the Environment Agency or the Scottish Environment Agency is required before pesticide is applied by aerial application to or near to water.

Spillage

Spillages of pesticides particularly in granular or pellet form pose a serious risk to both companion animals and wildlife and often a threat to the water environment as well as members of the public. Spillages should be dealt with immediately and not be allowed to get into any yard or field drain, ditch or other watercourse.

Case 3

A family dog became ill and died shortly after walking on a farm track along which Temik (aldicarb) had been spilt from a tractor-mounted applicator. The inspectors who investigated the incident did not find any defects on the applicator itself but discovered that the clamping arrangement of the lid on the feed hopper was poorly designed and constructed and may have allowed the lid to become loose and shed pesticide as the tractor jolted along the rough farm track.

The active partner in the farming business was prosecuted under COPR for failing to clear up a spillage that led to a dog being fatally poisoned. The partner pleaded guilty and was fined £3000 plus a



contribution of £970 towards the prosecution costs. The farmer has modified the applicator to allow sealed containers to be used to prevent spillage both in transit and in use.

Again under COPR Schedule 3, any person who uses a pesticide must take all reasonable precautions to protect the health of human beings, creatures and plants, safeguard the environment and avoid pollution of water.

All application equipment should be designed and constructed to prevent leakage or spillage of pesticides of any form. This rule must also apply to any modification of equipment after purchase. Closed or sealed systems should be used whenever possible. Equipment must be checked and any defects made good before each use. All covers and lids on hoppers must be securely closed after filling.

Spillages must not be allowed to stay on the ground but should be dealt with immediately by following pre-arranged emergency procedures.

Pest control

Operators who use pesticides must act responsibly not only to protect their own health but also the health of other people who may be affected by their acts or omissions.

Case 4

A pest control operator had visited a household to carry out a treatment to control the activities of moles in the garden. He used aluminium phosphide pellets, which he applied within 3 m of the property. He did not wear suitable personal protective equipment during the application. On completion he left the remaining contents of the canister with the client. He gave her no information about the product. He did not tell her that it could release a highly toxic gas in contact with water and he did not tell her how to store it safely. The operator had acted contrary to his employer's policy and instructions.

The employee was prosecuted under COPR for using a pesticide without complying with all the conditions of approval and also under Section 7 of the HSW Act for not taking all reasonable precautions to protect the health of the householder. He pleaded guilty, was fined £5000 and ordered to pay £2040 towards the cost of the prosecution.



Regulation 4(5) of COPR states that no person shall use a pesticide unless the conditions of the approval related to use and the conditions of the consent (as set out in Schedule 3 to the Regulations) have been complied with.

This product should not have been given to the householder, as it will release potentially lethal phosphine gas on contact with water, including moisture in the atmosphere. The operator should not have left surplus product for the householder to use as it is only approved for use by trained professionals.

Surplus pesticide should either be returned to safe storage or disposed of safely.

Storage of pesticides

Inadequate accommodation and arrangements for storing pesticides continue to give rise to complaints and to attract attention during the routine inspection of users' premises. Inspectors issued over 40 enforcement notices to improve storage facilities on users' premises. However inspectors are increasingly inclined to prosecute without further advice or warning when serious shortcomings are found as the following cases illustrate.

Case 5

During an unannounced visit to a farm an inspector discovered some empty pesticide containers in a trailer on the back of a truck in the farmyard. Full and part-used containers were also left unattended and unsecured in the yard where children were playing.

The two active partners in the farming business were prosecuted under COPR for failing to ensure that agricultural pesticides were properly stored on the farm. Each partner pleaded guilty and was fined £1800. The partners were ordered to contribute a total of £1275 towards the prosecution costs.

Case 6

During a farm inspection an inspector noticed a pesticide store door was wide open and a very large number of pesticide containers were out of the store under a water tank some distance away.

The active partner was prosecuted under COPR for these failings. He pleaded guilty and was fined £1745 and ordered to pay prosecution costs of £1375.



Case 7

A case was taken against a company and one of its directors following the investigation of an incident in which an employee drank some pesticide.

The pesticide had been decanted into a milk bottle and left in a shed by another employee for a third colleague to take home to use. The shed was used as a restroom by the group instead of the main canteen. It appears after unloading a vehicle the employee felt thirsty, entered the shed where their belongings were kept, picked up the milk bottle and drank from it. He did not see the word 'weedkiller' written on the side of the bottle and thought it contained orange juice. He was found feeling sick in the toilet and taken to the first-aid room. The shed was also used to store other pesticides and was usually left open. The floor was not bunded to contain any leakage or spillage.

The company pleaded guilty to offences under COPR and was fined £3000 and ordered to make a contribution of £2100 towards the prosecution costs.

The director also pleaded guilty and was fined £750 plus prosecution costs of £528. He was a trained agronomist and had failed to pass information to the company regarding the safe storage and use of pesticides.

Pesticide stores should be fire-resistant structures. They should be dry and frost-free and be kept secure against unauthorised access. Stores should be bunded to retain leakages or spillages. The bund capacity should be 110% of the volume of the products likely to be stored at any time of the year – though in environmentally sensitive areas the bund should be capable of retaining 185% of the volume of the products in store. The store should be kept closed and locked at all times unless a responsible person is in attendance.

All pesticides should be kept within the store unless in immediate use. Special arrangements should be made to receive deliveries of new stock so that pesticides are not left unattended outside the store or the security of the store compromised. All pesticides should be stored in their original containers and not decanted into bottles or similar receptacles.

Detailed advice on the sizing, siting, construction, bunding, marking and management of both fixed (permanent) and mobile pesticides stores can be found in the free HSE Agricultural Information Sheet AIS16 Guidance on storing pesticides for farmers and other professional users.



Appendix 1: Members of PIAP 2003/04

During 2003/04 members of the panel were:

Dr R Rawbone (Chairman)	HSE Corporate Science and Analytical Services Directorate
Dr A Scott	HSE Employment Medical Advisory Service
Mr G Walker	HSE Field Operations Directorate
Dr J Battershill	Department of Health
Miss F Northall	National Poisons Information Service
Miss G Cullen	National Poisons Information Service
Dr A Robertson	Institute of Occupational Medicine
Dr R Ferner	West Midlands Centre for Adverse Drug Reaction Reporting
Dr T C Aw	University of Kent
Dr S Bradberry	National Poisons Information Service

The secretary was from HSE's Corporate Science and Analytical Services Directorate.

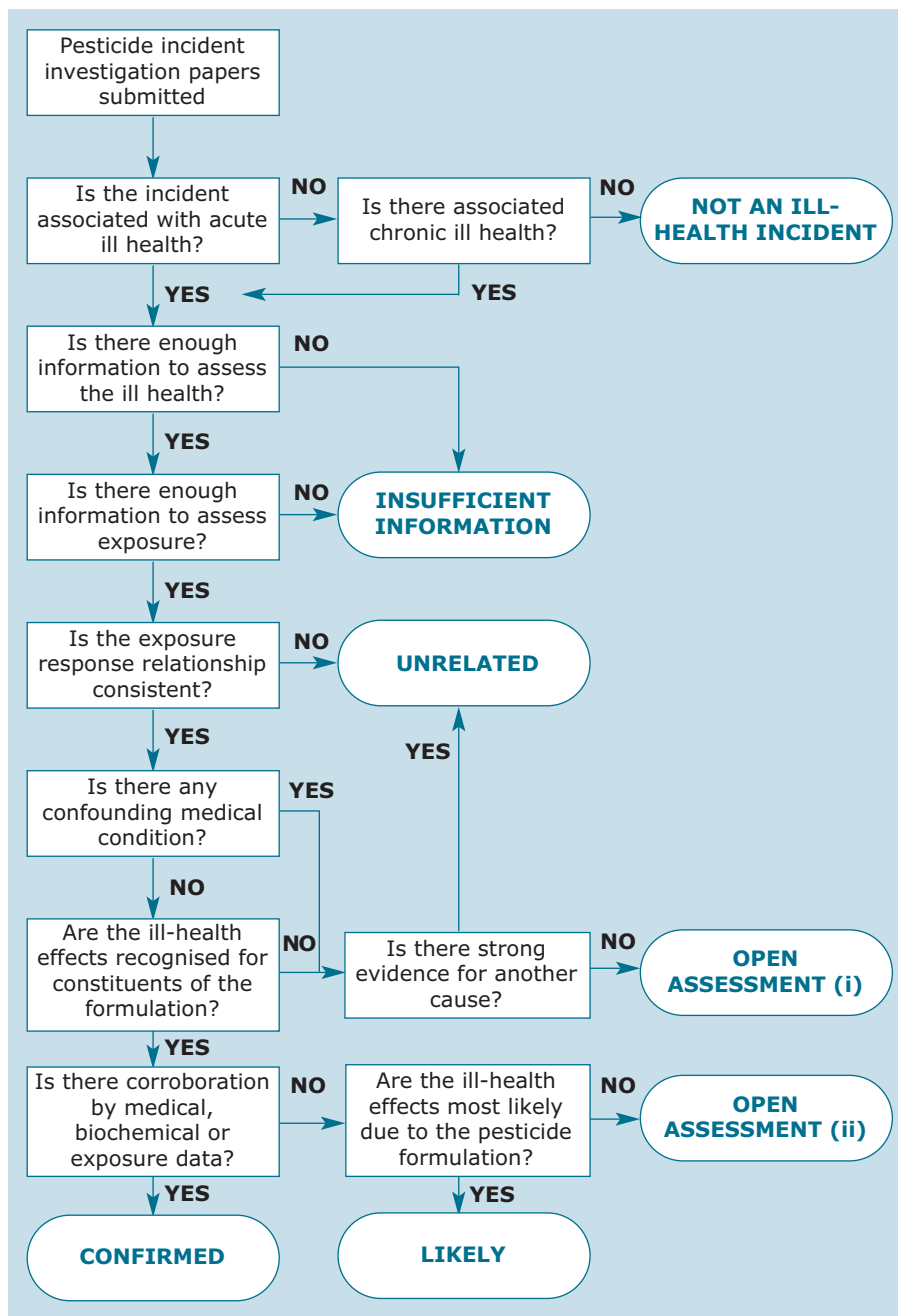


Appendix 2: Pesticide Incidents Appraisal Panel classification scheme

Confirmed	<p>There are clinical symptoms and signs typical of exposure to the cited pesticide formulation combined with either:</p> <ul style="list-style-type: none"> ■ corroborating medical and (where appropriate) biochemical evidence; or ■ evidence of overexposure.
Likely	<p>The balance of evidence based on reported exposure circumstances, clinical symptoms and signs or biochemical evidence (where appropriate) is consistent with ill health due to exposure to the cited pesticide formulation.</p>
Open assessment	<p>(i) The reported ill health is not consistent with the known potential ill-health effects of the cited pesticide formulation given the reported exposure circumstances but the implied association cannot be entirely discounted in the light of current knowledge; or</p> <p>(ii) the evidence is consistent with pesticide exposure being the cause of the reported ill health but alternative explanations, eg pre-existing disease are also present.</p>
Unrelated	<p>There is strong evidence, eg evidence about exposure or from medical reports, that the reported ill health is not pesticide-related.</p>
Insufficient information	<p>The available data are insufficient, incomplete or conflicting and the panel is unable to classify a case for one or more of these reasons.</p>



Appendix 3: Flow chart for PIAP assessments





Further reading

1 *LERAP: Horizontal boom sprayers - A step-by-step guide to reducing aquatic buffer zones in the arable sector* PB5621 Pesticides Safety Directorate 2001, available from DEFRA Publications, ADMAIL 6000, London SW1A 2XX Tel: 08459 335577

2 *LERAP: Broadcast air-assisted sprayers* PB6533 Pesticides Safety Directorate 2002, available from DEFRA Publications, ADMAIL 6000, London SW1A 2XX Tel: 08459 335577

3 *The Control of Pesticides Regulations* 1986 SI 1986/1510 ISBN 0 11 067510 X The Stationery Office 1986, available from The Publications Centre Tel: 0870 600 5522

4 *The Control of Pesticides (Amendment) Regulations* 1997 SI 1997/188 ISBN 0 11 063695 3 The Stationery Office 1997, available from The Publications Centre Tel: 0870 600 5522

5 *Code of Practice for the safe use of pesticides on farms and holdings* (the Green Code) PB3528 DEFRA and HSC, available from DEFRA Publications, ADMAIL 6000, London SW1A 2XX Tel: 08459 335577 (currently being revised)

6 *The safe use of pesticides for non-agricultural purposes. Control of Substances Hazardous to Health Regulations 1994. Approved Code of Practice* L9 (Second edition) (The HSC Blue Code) HSE Books 1995 ISBN 0 7176 0542 6

7 The National Association of Agricultural Contractors (NAAC) and the Crop Protection Association's *Code of Practice for the use of approved pesticides in amenity and industrial areas* (the industry Orange Code) ISBN 1 871140 12 9, available from NAAC, Samuelson House, Paxton Road, Orton Centre, Peterborough PE2 5LT Tel: 01733 362920 (currently being revised)

8 *Code of best practice - Safe use of sulphuric acid as an agricultural desiccant* available from the National Association of Agricultural Contractors (NAAC), Samuelson House, Paxton Road, Orton Centre, Peterborough PE2 5LT Tel: 01733 362920

9 *Guidance on storing pesticides for farmers and other professional users* Agriculture Information Sheet AIS16 HSE Books 1996 (free)



10 *Reporting incidents of exposure to pesticides and veterinary medicines: What to do if you think people, animals or the environment have been harmed by exposure to pesticides or veterinary medicines* Leaflet INDG141(rev1) HSE Books 1999 (single copy free)

Information on approved pesticide products is available online at www.pesticides.gov.uk (agricultural pesticides) and www.hse.gov.uk (non-agricultural pesticides). The sites are continually updated so that the most up-to-date information is freely available.

The Green Code is currently being revised following a period of consultation. The revised Code will provide practical advice on the safe use of pesticides for all professional users in agriculture, horticulture, amenity situations and forestry. It will combine and update the relevant advice contained in the *Code of Practice for the safe use of pesticides on farms and holdings* (the Green Code), the *Code of Practice for the use of approved pesticides in amenity and industrial areas* (the industry Orange Code) and *The safe use of pesticides for non-agricultural purposes* (the HSC Blue Code).



Further information

Enquiries concerning this report should be addressed to:

**Health and Safety Executive
Agriculture and Wood Sector
The Pearson Building
55 Upper Parliament Street
Nottingham NG1 6AU**

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