



Pesticide Incidents

Report



Field Operations Directorate Investigations

1 April 2004 - 31 March 2005





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 2004 and 31 March 2005.
- 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. HSE staff also provide advice and guidance to members of the public and to employers, the self-employed and employees during site visits and inspections.
- 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 that 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 2004/05, FOD inspectors investigated 150 reported pesticide incidents (complaints). 55 complaints involved allegations of ill health, with the remaining 95 complaints involving other issues to do with pesticide use. The total of 150 incidents is a decrease of 54 from the previous year's figure of 204 (2003/04) and 24% lower than the average for the previous ten years.

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

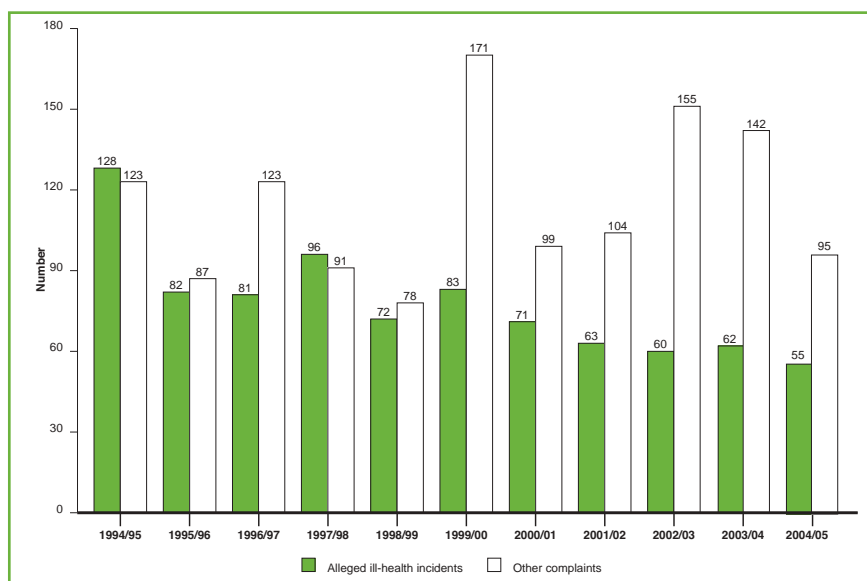


Figure 1 FOD Inspectorate alleged ill-health incidents and other complaints 1994/95-2004/05

9 The number of complaints alleging ill health is seven less than in 2003/04 and 18 lower than the average of the previous ten years. Further analysis of these complaints is in paragraphs 15-54.

10 The number of other complaints was 47 (33%) less than in 2003/04 and 22 (19%) lower than the average of the previous ten years. Further analysis of these complaints is in paragraphs 55-60.

11 Twelve Informations (charges) were laid before the Courts during the year, all of which led to convictions. The average fine imposed by the Courts was £1650, which compares with an average of £1824 for 2003/04.



12 Inspectors issued 41 enforcement notices (citing 43 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 66 in 2003/04.

13 These enforcement figures are provisional and may be revised before publication in HSE's Health and Safety Offences and Penalties Report for 2004/05.

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 (HSWA) and the Control of Substances Hazardous to Health Regulations 2002 (COSHH). This report does not include information on any related enforcement under this 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.

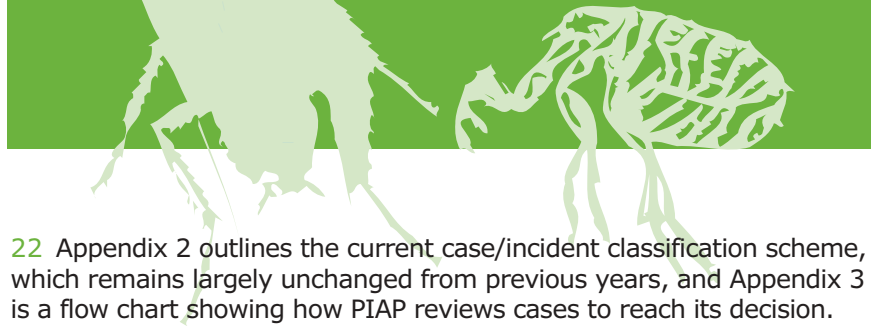
17 The data in this report is presented in line with that of previous reports since 1995/96. However, the role of PIAP remains under continuing review within HSE as part of a wider discussion, both within government and by its Advisory Committee on Pesticides (ACP), on pesticide monitoring and surveillance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

18 The PIAP membership for 2004/05 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.

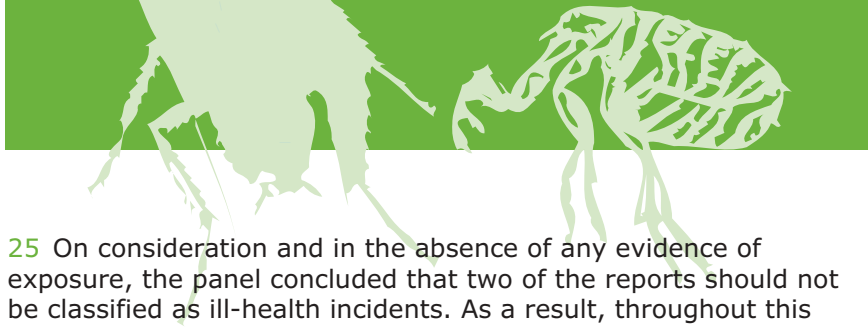
23 During 2004/05 the panel received information from the Pesticides Safety Directorate relating to over 100 reports of potential human ill-health incidents reported to approval holders (www.pesticides.gov.uk/approvals.asp?id1346). These incidents related to the year 2002. Whilst the panel recognised this as important information it considered, at the same time, that on its own assessment criteria, most cases would be recorded as 'insufficient information'.

Summary information on alleged ill-health incidents for 2004/05

24 Table 1 shows the outcome for the 55 incidents forwarded to PIAP in 2004/05 (there were no incidents forwarded by local authorities in this year) broken down according to the panel's assessment (using the classification scheme in Appendix 2) and the employment status of the people involved.

	Total		Employees/ self-employed		Members of public/ others	
	Incidents	<i>(People)</i>	Incidents	<i>(People)</i>	Incidents	<i>(People)</i>
Confirmed	0	<i>(0)</i>	0	<i>(0)</i>	0	<i>(0)</i>
Likely	5	<i>(8)</i>	0	<i>(0)</i>	5	<i>(8)</i>
Open assessment (i)	0	<i>(0)</i>	0	<i>(0)</i>	0	<i>(0)</i>
Open assessment (ii)	3	<i>(3)</i>	0	<i>(0)</i>	3	<i>(3)</i>
Unrelated	5	<i>(5)</i>	0	<i>(0)</i>	5	<i>(5)</i>
Insufficient information	25	<i>(32)</i>	1	<i>(1)</i>	24	<i>(31)</i>
Pending	15	<i>(17)</i>	1	<i>(1)</i>	14	<i>(16)</i>
Not an incident	2	<i>(5)</i>	1	<i>(1)</i>	1	<i>(4)</i>
Total	55	<i>(70)</i>	3	<i>(3)</i>	52	<i>(67)</i>

Table 1 Number of alleged ill-health incidents and people affected analysed by PIAP decision and employment status 2004/05



25 On consideration and in the absence of any evidence of exposure, the panel concluded that two of the reports should not be classified as ill-health incidents. As a result, throughout this report, reference is made to 53 incidents of alleged ill health in 2004/05.

26 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'.

27 The panel was unable to confirm any of this year's reported incidents although five incidents (9%), involving eight people, were assessed as having a 'likely' link to pesticide exposure. 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. Some of the incidents for which a decision is still pending may in due course be categorised as 'confirmed' or 'likely'.

28 All 13 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. Fifteen incidents from the current year (2004/05) 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.

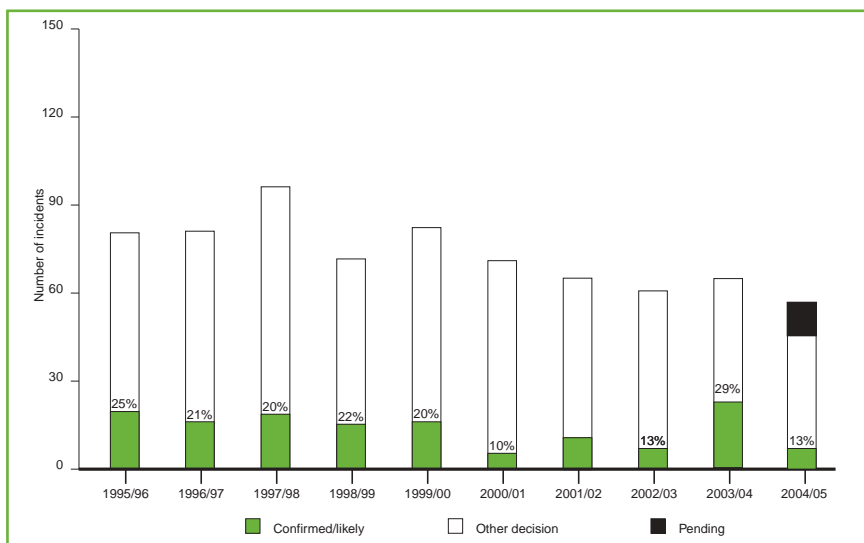
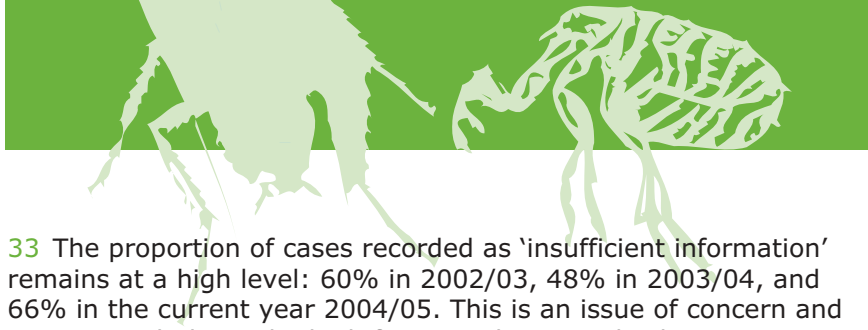


Figure 2 Trends in PIAP decisions

30 At 53 (following the decision to declassify two cases – see paragraph 25) the total number of alleged ill-health incidents in 2004/05 was the lowest figure yet recorded. Although there was a slight increase over the number of cases reported in 2003/04 the previously noted trend of a falling number of cases reported annually since 1999/2000 would appear to continue.

31 The proportion of the total (excluding 'pending') incidents assessed as 'confirmed' or 'likely', has been in the order of 20% to 25% since 1995/96 except in 2000/01 when it was 10%. In 2002/03 the figure was 13%, while for 2003/04, taking into account the pending cases, the final figure was 29% (18 of 62). In the current year, although decisions on 15 cases are still 'pending', the figure has fallen back to 13% (5 of 38).

32 The suggestion that the proportion of incidents assessed as 'confirmed' or 'likely' might be increasing, a finding which had been predicted from the change in approach to the assessment of incidents outlined in paragraphs 20 and 21, is not therefore confirmed. The proportion continues to remain considerably lower than in the early 1990s, when nearly half of the cases considered by the panel were assessed as 'confirmed' or 'likely'.



33 The proportion of cases recorded as 'insufficient information' remains at a high level: 60% in 2002/03, 48% in 2003/04, and 66% in the current year 2004/05. This is an issue of concern and reasons underlying the high figure and potential solutions to improve it are being discussed. During the current year, in order to inform these discussions, the panel has begun to characterise whether the 'insufficient information' before it relates to the ill health or the exposure (or both).

34 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).

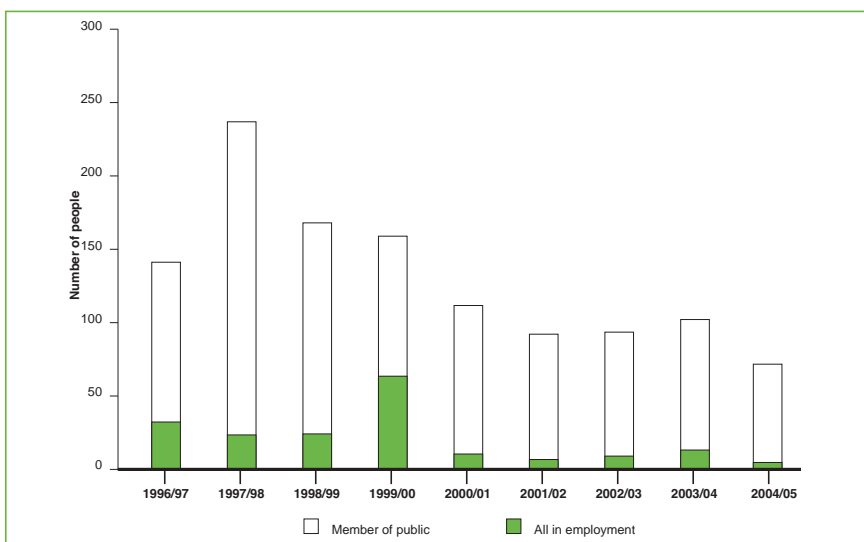


Figure 3 Trends in employment status: all alleged ill-health incidents

35 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 five 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

36 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. In 2002/03 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).

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

38 Table 2 summarises the information on severity of symptoms for the current year 2004/05. It incorporates the assessments of all incidents (8) and associated individuals (11) with a 'confirmed', 'likely', or 'open' assessment.

	Mild		Moderate		Severe	
	Incidents	<i>(People)</i>	Incidents	<i>(People)</i>	Incidents	<i>(People)</i>
Confirmed	0	<i>(0)</i>	0	<i>(0)</i>	0	<i>(0)</i>
Likely	4	<i>(7)</i>	1	<i>(1)</i>	0	<i>(0)</i>
Open assessment (i)	0	<i>(0)</i>	0	<i>(0)</i>	0	<i>(0)</i>
Open assessment (ii)	3	<i>(3)</i>	0	<i>(0)</i>	0	<i>(0)</i>
Total	7	<i>(10)</i>	1	<i>(1)</i>	0	<i>(0)</i>

Table 2 Severity of ill health

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

40 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.

41 During 2004/05 the panel has instituted a review of those incidents assessed as 'confirmed' or 'likely' where irritancy has been the lead health effect. The objective of this work is to gain an insight into the pattern of irritant responses reported and the circumstances and patterns of exposure.



Recent and historical data on pesticides

42 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.

43 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 2004/05, products could not be identified for 13 of the 53 reported incidents (24%).

44 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.

45 Accepting these limitations, the most common pesticide function associated with incidents reported to PIAP is herbicide, followed by fungicide and insecticide. In 2004/05, of the 77 identified products involved in the reported incidents there were 39 herbicides, 19 fungicides, seven insecticides, and 12 other groupings.

46 The most commonly recorded active ingredient during 2004/05 was glyphosate (11 out of 76 identified – 14%) with no other actives having 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, one and pyrethroid, one.

47 For those five incidents 'confirmed'/'likely' during 2004/05, two involved herbicides and two insecticides. There was no single active ingredient with more than one report. 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 was only one reported instance where alleged ill health was considered to be related to organophosphate and no cases of pyrethroid toxicity. This is the first 'confirmed'/'likely' case identified by the panel as being associated with an organophosphate toxicity in three years.



48 The panel is now beginning to look at reported cases both across years and involving specific actives to identify patterns and trends.

49 During 2004/05 PIAP have reviewed cases of alleged ill health associated with the use of creosote replacements, as a number of cases had been reported following a change in formulation. The original creosote formulation had been restricted in its usage under the EU Marketing and Use Directive during 2003 with a possible risk of carcinogenicity.

50 A review of ten years of PIAP records defined nine reports of ill health associated with use of the original creosote formulation where the panel decision was either 'confirmed' or 'likely'. One of the cases was associated with partial immersion but all other exposures related, either directly or indirectly, to an appropriate use of the product.

51 In all cases associated with appropriate use the ill health reports were of varying degrees of local irritation which, in some cases, was associated with headache. Where there had been immersion local symptoms were accompanied by gastro-intestinal disturbance.

52 Since introduction of the new formulation two cases of associated ill health had been reported which the panel considered 'confirmed' or 'likely', but the panel had also been made aware of an additional six cases submitted to the regulator by an approval holder. All exposures were related, either directly or indirectly, to an appropriate use of the product and in each case the symptoms reported were local to the exposure and indicative of an irritant response.

53 The panel noted that although the active ingredient of the new creosote formulation (dichlofluanid) was classified as a skin sensitiser, its concentration in the formulation was below that which warranted any classification of the product. The panel considered that the symptoms of irritancy were consistent with the presence of hydrocarbons in the formulation (although there was no detailed information on their exact nature) and that this was the more likely cause of the ill health.

54 The panel was not able to reach any conclusion on the apparent 'high level of reports' relating to the new formulation. Without more detailed information this could be due, for example, either to an underreporting with the original established formulation or to a heightened reporting associated with the new product. There were no sales data available to the panel.



Environmental and other non-health complaints 2004/05

55 During the year there were 95 environmental and other complaints, ie complaints in which there were no allegations of ill health relating to exposure. This is a decrease of 47 (33%) over 2003/04 and compares with an average of 117 and a range of 78 to 171 in the previous ten years (1994/95-2003/04). See Figure 1 and paragraphs 7 to 10 for statistical analysis of the figures.

56 Figures 5 to 7 summarise the number of complaints in 2004/05, classified according to the industry sector in which the pesticides were used, the work activity involved and the method of application.

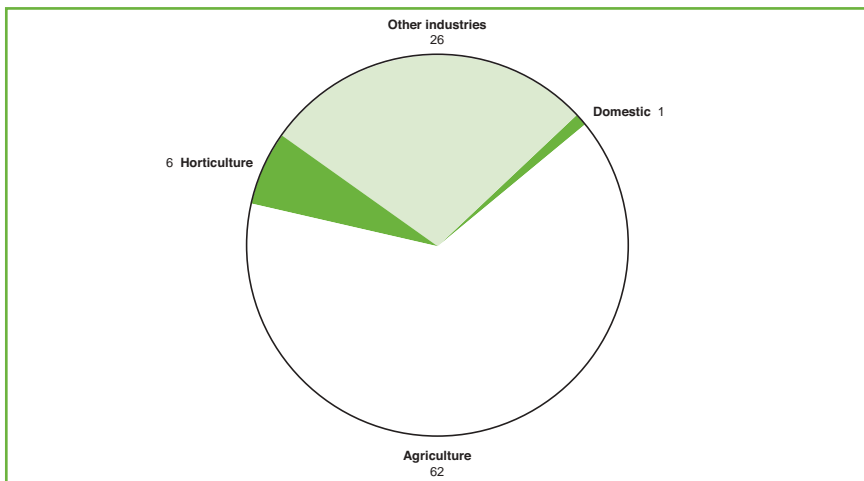


Figure 5 *Number of environmental and other non-health complaints 2004/05: classified by sector*

57 Of the 95 complaints, 66% originated from within the agricultural sector. 'Other industries', including the amenity sector, pest control and wood treatment accounted for a further 27% of complaints, 1% domestic, and horticulture for the remaining 6%.

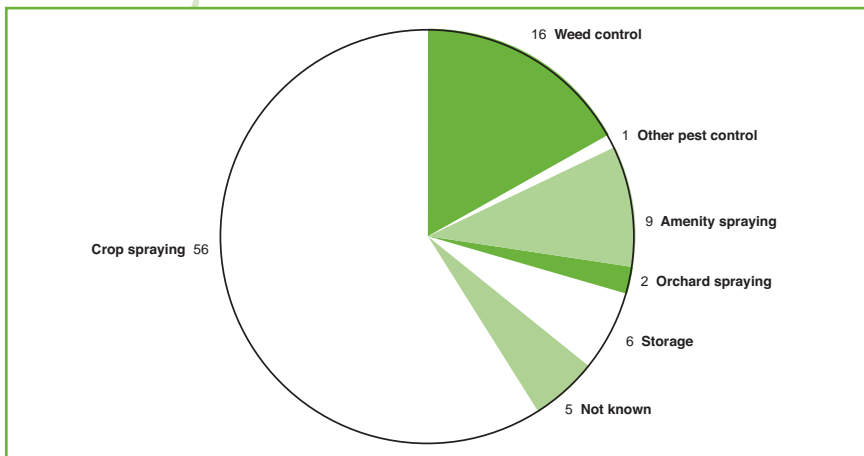


Figure 6 Number of environmental and other non-health complaints 2004/05: classified by activity

58 Crop spraying accounted for 60% of all environmental and other non-health complaints investigated during 2004/05. Other significant activities included weed control (17%), amenity spraying (9%), storage (6%) and orchard spraying (2%). The remaining 6% occurred within a group of miscellaneous activities, including 'other pest control', and 'not known'.

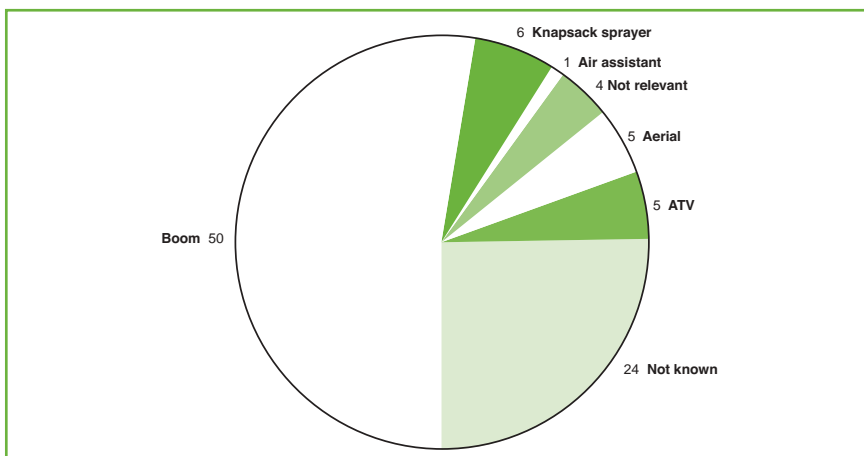


Figure 7 Number of environmental and other non-health complaints 2004/05: classified by application method



59 Conventional crop boom sprayers were involved in approximately 54% of all environmental and other non-health complaints. Knapsack spraying accounted for 6%, and 1% of incidents involved an air-assisted sprayer. A further 5% involved aerial application, another (5%) ATV and the remaining 29% of complaints the application method was either not recorded or not relevant, eg where the concern related to storage, security, record keeping etc.

60 Of the 95 complaints, 86 were reported by members of the public, consistent with experience in previous years, and nine were made by employees.



Case studies

As in previous years case studies are included in the report to illustrate key issues or areas of concern that commonly give rise to complaints to FOD and/or result in enforcement action. The first case in this year's report illustrates how a favour can so easily turn into a tragic loss of life and lead to the prosecution of an unwitting individual.

Supply of pesticides

A joint investigation by the police and HSE inspectors into the reported death of a member of the public highlighted the danger of keeping pesticides in unlabelled bottles, especially in domestic premises. As the case was taken by the CPS, it does not appear in the HSE statistics.

Case 1

A groundsman took a small quantity of a paraquat-based weedkiller from his employer's pesticide store with the intention of giving it to a distant friend for personal use in his garden. The weedkiller was poured from its original container into a drinks bottle and passed along a chain of people until it reached the intended recipient who placed it in the fridge in his kitchen. A member of the household mistakenly drank from the bottle and later died as a result. The groundsman was an authorised pesticide user and had a key to access the store.

The groundsman pleaded 'guilty' to two charges, one of theft and the other under COPR, and was fined £250 for each offence.

Under Schedule 2 of COPR 'Conditions relating to consent to the sale, supply and storage of pesticides', no person shall supply to the end user an approved pesticide other than in the container which has been supplied for that purpose by the holder of the approval of that pesticide and labelled in a manner consistent with the approval'.

Under these regulations, supply includes the transfer of possession from one person to another whether or not by way of trade or gain.

The case illustrates how a seemingly harmless but ill-conceived act can so easily turn into a tragic accident. Pesticides should never be decanted into drinks bottles or similar receptacles but should always be kept in their original containers. The original labelling should be maintained in a legible condition. Pesticides should never be kept in domestic fridges or cupboards where they can be mistaken for drinks.



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 30 enforcement notices (70% of the pesticides notices served in 2004/05) to improve storage facilities on farms and other agricultural premises. Poor storage facilities may also lead to prosecution.

Case 2

Two partners in a farming business were prosecuted under COPR for inadequate storage of pesticides. During a farm visit an inspector noticed that pesticide containers had been left out in the open over a period of time. The pesticide store was unlocked and several containers were strewn on the ground outside the store. The store itself was not bunded.

Both partners pleaded guilty and were fined £1800 and each ordered to pay costs of £617.

Case 3

During a farm visit an inspector found an unlocked pesticide store with inadequate bunding. Pesticides were also discovered stored next to ammonium nitrate and petrol. Improvement notices were served on both partners that required:

- a) segregation of pesticides from other hazardous substances; and
- b) adequate bunding to be installed.

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.

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.

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.

Under Schedule 3 of COPR, 'Conditions relating to consent to the use of pesticides', users of pesticides are required to:

- (a) take all reasonable precautions to protect the health of human beings, creatures and plants, safeguard the environment and in particular avoid the pollution of water;***
- (b) confine the pesticide application to the land, crop, structure, material or other area intended to be treated; and***
- (c) be competent to perform their duties.***

In addition a person 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 he/she:

- was born after 31 December 1964; or**
- is providing a commercial service.**

All users of pesticides are encouraged to keep their knowledge and skills up to date and to join the National Register of Sprayer Operators (NRoSO) scheme which promotes continuous professional development.



Calibration and maintenance of sprayers is also important and users are advised to have their equipment checked under the National Sprayer Testing Scheme (NSTS).

Both these schemes are promoted by the Crop Protection Association under the current Voluntary Initiative (VI) (www.voluntaryinitiative.org.uk).

The DEFRA Code of Practice for the Safe Use of Pesticides on Farms and Holdings (the Green Code) gives practical advice on how to comply with the law and, in particular, stresses the importance of careful and thorough planning and preparation. Users should always consider, in the first place, if it is necessary to use a pesticide at all.

A revised version of the Green Code is expected to be published in January 2006.



Appendix 1: Members of PIAP 2004/05

During 2004/05 members of the panel were:

Dr R Rawbone (Chairman)	HSE Corporate Medical Unit
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 (London)
Miss G Cullen	National Poisons Information Service (London)
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 (Birmingham)

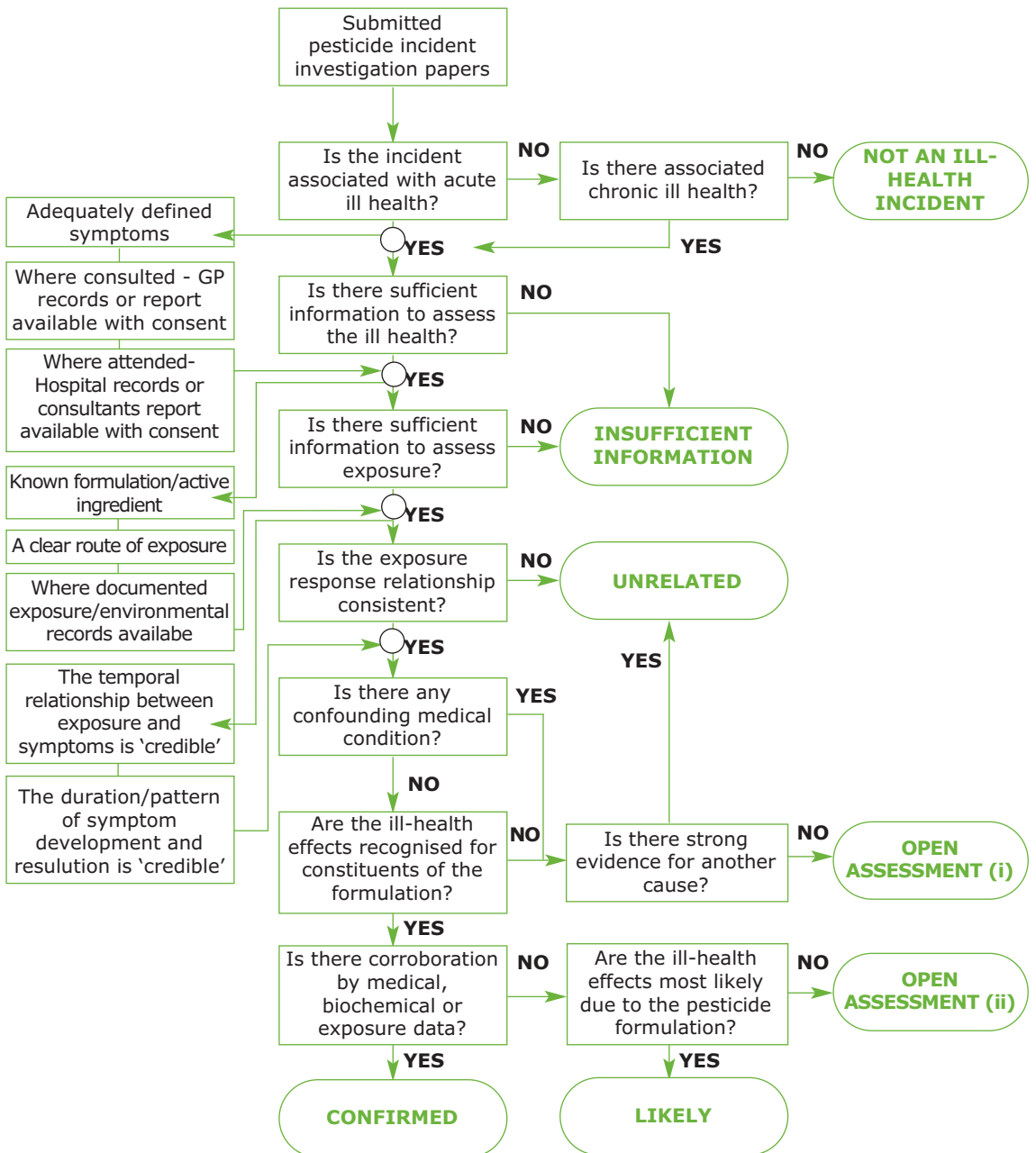
The secretary was from HSE's Corporate Science Medical Unit.



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 is 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 Food Sector
The Pearson Building
55 Upper Parliament Street
Nottingham NG1 6AU**

For details of HSE offices click here: <http://www.hse.gov.uk/contact/maps/index.htm>

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: www.hse.gov.uk.)

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

© *Crown copyright* This publication may be freely reproduced, except for advertising, endorsement or commercial purposes. First published 10/05. Please acknowledge the source as HSE.

Published by the Health and Safety Executive 10/05

