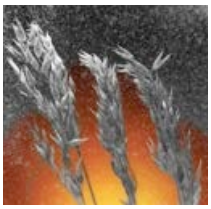
Advisory Committee on Pesticides

Annual Report 2013

Department for Environment, Food and Rural Affairs
Health and Safety Executive







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Foreword

This annual report provides an outline of the work of the committee over 2013.

Once again we have provided advice on a number of emergency authorisations and one of the case studies in this report illustrates both our role in the consideration of emergency authorisations and the wide range of emergency situations that can develop. The other case studies outline our involvement in development of new approaches to risk assessment and risk mitigation within the EU system.

After the unfortunate cancellation of our open meeting in 2012, we were delighted to meet with a wide range of stakeholders at our open meeting held in November 2013, where discussions focussed on comparative assessment to further support evidence based decision making. Such valuable discussions underline the important role such open meetings can play in the development of advice.

In the continued absence of a Chair during 2013, meetings were chaired by the deputy Chair Dr Andy Povey, and when he was unavailable Richard Davis kindly volunteered to Chair meetings. The ACP are grateful to both for their sterling work in taking on this additional responsibility.

The Committee also records their grateful thanks to Dr Andy Povey and to Dr Bill Parker who retired from the ACP this year at the end of a period of membership that saw them both working beyond the standard membership remit and taking on unexpected additional responsibilities.

ACP
September 2014

The ACP – Who is it, and what does it do?

What is our job?

The Advisory Committee on Pesticides (ACP) is an independent scientific advisory committee. We provide advice to Ministers, particularly on questions relating to the authorisation of pesticides in the UK, and also on other related matters to do with the control of pests more broadly. Our full terms of reference are at Annex 1.

ACP General Meeting

Who are we?

The current membership is listed at Annex 2. You will see that many of us are academics working in specialist areas of study that are relevant to assessing the risks and benefits of pest control – including pesticides. However we also include in our number people appointed specifically to consider the issues from the more general public perspective, and people with practical experience of farming and commercial and amenity horticulture.

All of us have been appointed following open public recruitment. We each applied for the posts in response to advertising (published every year), were interviewed in competition with others and eventually were invited to serve on the committee by Ministers. We

are appointed as independent individuals and are not appointed as representatives of any interests.

During 2010 the government undertook a review of all non-departmental public bodies, including the ACP. They concluded that the ACP should be reconstituted as an expert committee and the primary legislation required to achieve this change was completed during 2011. Defra held a public consultation during 2012 and secondary legislation will be required to complete this work.

As much academic research these days is sponsored by outside bodies, including commercial companies, in line with the Nolan principles on public life (Annex 7), we have declared any aspects of our work that might be perceived to present a conflict of interest with our role on the Committee at Annex 3. If we do have a potential conflict of interest with any item on the agenda for our meetings we declare this and depending on the precise nature of the interest we then have published arrangements we follow to deal with these (See the ACP code of practice on our website at http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/A/ACP_code_of_practice_rev3.pdf). These arrangements are important in ensuring that we can give truly independent advice to Ministers.

What are pesticides?

Throughout this report the term 'pesticides' includes insecticides, nematicides (round worm killers), fungicides, herbicides (weedkillers), plant growth regulators, molluscicides (slug and snail killers) etc. It includes both chemicals and microbiological agents used to protect plants in crops, gardens and other areas such as sports and amenity areas, and those used to control unwanted plants in areas such as roads pavements and railways. A full legal definition is given in the relevant legislation.

Regulation of pesticides

As you will see we play an important part in the regulatory system for pesticides in the UK. The regulatory system considers:

- Formulations of the products;
- Potential toxicity to humans;

- Likely and worst case exposure levels both via direct exposure to the chemical and indirect exposure on the food we eat;
- Fate and behaviour in the environment;
- Ecotoxicity;
- Efficacy;
- Adequacy of proposed labelling.

If you want to read a little more about this system please see Annex 4. We have included some short case histories in this annual report to illustrate the range of work we do.

What have we done during 2013?

This year we have provided advice on the approval or authorisation of 12 pesticides and a wide range of other topics These are listed at Annex 5. All of our work at the Advisory Committee meetings is recorded on our website – agendas, minutes and, for those who want to get a bit more explanation, the detailed record of our discussions.

Open Meetings

We have held open meetings of the ACP since 2000.

Our first open meeting was held in response to the findings of the BSE enquiry that resulted in a policy of increased openness within the scientific advisory system.

Due to the commercially confidential nature of many of our regular meeting discussions, we concluded that it is not practical to open our routine meetings to the public because, during consideration of individual product approvals, we inevitably need to consider a number of aspects accepted as commercially confidential under the legislation controlling approval of pesticides. We have carefully considered whether we are able to arrange our agendas to separate such discussion from other aspects of our regular meetings. Unfortunately we concluded that it is not possible for us to arrange our meetings in a manner that would make attendance practical for members of the public, as it has not been possible to predict when it is necessary for us to consider commercially confidential material. As the nature of our work develops under the new European legislation we will be keeping this position under review.

We have always valued and encouraged the questions, thoughts and comments from the many participants at our open meetings and these have helped to inform our work programme and, together with legislative changes, provide us with a valuable challenge process, encouraging reviews of our methods of assessment.

We are always pleased to note the wide range of stakeholders who are involved in our open meetings and offer a warm invitation to others to attend and experience these stimulating and interesting events.

We were delighted to welcome over 100 people to our 2013 open meeting, at which we discussed the topic of 'comparative assessment and substitution', which is a new and complex form of assessment due to be introduced in 2014.

This new form of assessment is designed to move the availability and use of plant protection products in the EU towards the safest options. Although this is a simple idea, there are a number of aspects to plant protection product authorisations that will make this aspect of the new EU legislation potentially complex and time consuming.

The first step is for the European Commission to publish a list of active substances identified as candidates for substitution. Then each time an application for a product containing one or more of these substances is evaluated, a comparative assessment is required to identify whether there is a significantly safer alternative (either other plant protection products or non-chemical alternatives). The alternatives must also be sufficiently effective and must not present significant economic or practical disadvantages. If there is such an alternative, Member States are required to consider restricting or not authorising the use of the product containing the candidate for substitution. However they need to check that there will still be adequate variety of methods of control to minimise the risk of resistance developing and also to take account of any consequences on minor uses.

This sounds quite complicated – and when it is considered that each use of a plant protection product is supported by around 60 separate risk assessments covering risks to both people and the environment, and each product is likely to have a number of different authorised uses, it is clear this could represent a very considerable workload.

We felt that the development of a practical way to implement these requirements in the UK would benefit from the ideas of the wide range of stakeholders that attend our open meeting, hence the decision to select comparative assessment and substitution as the topic for workshop discussions at the meeting.
As is always the case the workshops allowed a really useful discussion of some of the difficult issues to be explored and the sharing of expertise resulted in some useful suggestions for CRD to consider in the development of the UK arrangements for comparative assessment and substitution.

Details of our next open meeting will be publicised on our website.

Other bodies

We were assisted in our considerations by several subgroups, the Environmental Panel, the Medical and Toxicology Panel and the Working Party on Pesticide Usage Surveys.

Information about our subgroups can be found at Annex 6.

This Report

To illustrate the work we do, we have selected some 'case studies' drawn from the topics we have considered during this year.
These have been selected as examples of the range of work we undertake as a committee and the different approaches we adopt in doing this work.

During the early part of this year we continued to provide advice on neonicotinoids and bees. We reported on this work in our 2012 annual report to provide the complete story for readers.
Since that report was published the restrictions on the use of the neonicotinoids throughout the EU came into effect on 1 December 2013, and we understand that work has continued to develop an updated risk assessment process for bees. We have held no further substantive discussions on this issue during the year.

Case study 1

Advice on a new EU model: The new agricultural operator exposure model

One aspect of our work is to provide advice on proposals for changes in risk assessment. We considered a good example during this year – a new agricultural operator exposure model.

The current UK predictive operator exposure model (POEM) has been in use since 1986. That model was based on simulated field studies representing typical agricultural practices of that time. There are a number of models in use in the EU adopting slightly different approaches to predicting exposures. The use of such different models makes harmonisation of plant protection product authorisations across the EU rather difficult, adding to regulatory burdens as applicants need to use Member State specific models.

A group of experts from EU Member States worked together to develop a revised model proposed for use across the EU to create a harmonised approach to predicting operator exposure. They

reviewed the operator exposure studies that have already been considered individually to support regulatory decisions during the EU review programme. Studies that followed the standard OECD guidelines and that also met strict quality criteria were used to create a new database.

This new database can be analysed to determine predicted exposures and to identify key variable factors. In line with the European Food Safety Authority (EFSA) Panel on Plant Protection Products and their Residues (PPR) advice, the 75th percentile of the relevant data was to be used to assess repeat exposures and the 95th percentile for single exposures.

We were asked to consider this new model and to provide advice to inform UK comments on the EU proposal. Our recommendations are detailed below:

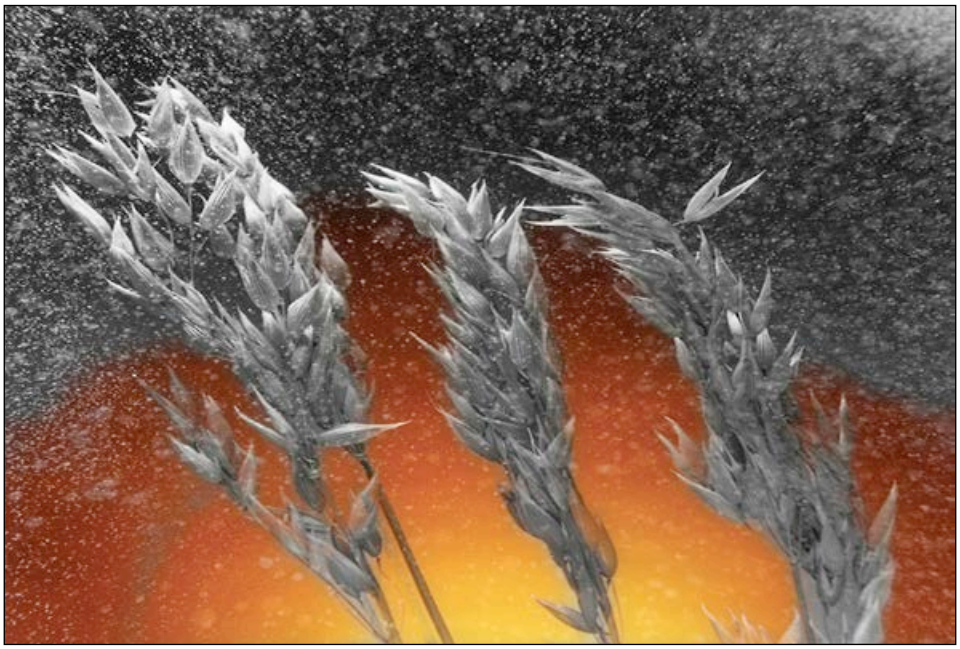
Conclusions

- We consider it important that models are updated by good quality data, and were pleased to note the formal systematic quality check and reassurance provided by statisticians on the approach taken.
- We were reassured that the notably lower exposures predicted by this new model were more realistic estimates of operator exposure. The reasons for the differences in results from the new model and from POEM were clear and were related to improved methods used in gathering the data based on real exposures, improvements in the application equipment now in use and better trained operators following the introduction of mandatory training requirements.
- We suggested that a possible additional validation step might be to compare this database with another dataset – such as that used by the USA, but overall we considered this new model a good step forward in estimating operator exposure.

Case study 2

Authorising use of low drift nozzles with horizontal boom sprayers

Harmonisation of plant protection product authorisations as far as possible is a key goal of the current EU legislation governing the authorisation of plant protection products, Regulation 1107/2009.



Different Member States make use of a wide range of approaches in order to reduce risks identified in the evaluation of plant protection products to ensure that they can be used safely. Some of the measures used in other Member States may be suitable for use in the UK as well, and this year we were asked to consider the introduction of a requirement to use low drift technology as a means of reducing the risk to the aquatic environment.

In the UK a key method of reducing risks to the aquatic environment is to require an unsprayed 'buffer zone' to be left adjacent to watercourses. These were set at a maximum of 5m for ground sprayers to ensure that they were practical for UK farmers and growers to use. More recently options to vary this have been introduced, including options to reduce the size of the buffer

zone following a Local Environment Risk Assessment for Pesticides (LERAP), or to allow specific authorisations requiring larger buffer zones of up to 20m to bring the UK practice into line with other Member States.

Some other Member States also require the use of low drift nozzles to reduce the size of the buffer zone required to manage the risk to the aquatic environment where a buffer zone alone would be very large. We considered a short paper this year that outlined how such a possibility might be introduced in the UK, making use of work done in other Member States. It was proposed that where a very large buffer zone would be required to manage the risk, consideration could be given to requiring a 3 star nozzle that would reduce drift and reduce the size of the buffer zone required to 10, 15 or 20m. These buffer zones could not be further reduced (e.g. by an additional LERAP).

Conclusions

- We agreed that these proposals had the potential to further improve harmonisation of availability of plant protection products across the EU without undermining the high standards of environmental protection we require in the UK.

Case study 3

Emergency authorisations

There are many reasons why an emergency situation arises, some of which are illustrated by the emergency authorisations we considered this year.

Of the emergency authorisations that we considered, three of these reflected situations that arose as a result of EU decision. Two of these provide examples of emergency authorisations being required whilst applications for EU approval of the active substances are prepared and considered. The remaining is the emergency authorisation of a different method of application to allow for control of a non-indigenous statutorily notifiable pest.

Use of Asulam to control bracken

The EU decision
This need for an emergency authorisation arose following the non-approval of the herbicide asulam after the EU review.

The use considered under the EU review programme was a use on spinach, and the herbicide was not approved. Additional data were required to complete the consumer risk assessment for

spinach, there was a need for further clarification of the technical specification of the substance and a risk to birds had been identified.

As a result of the EU conclusion, UK authorisations for products containing asulam have been withdrawn. The approval holder has indicated that they plan to make another application for approval that will address these data gaps.

The need to control the pest
Bracken is an invasive weed species that needs to be controlled to prevent it damaging sensitive habitats and land that would otherwise be productive. It is thought to cover at least 1.5 million hectares of land in the UK, and is thought to be expanding due to a combination of climate change (with warmer, wetter weather favouring its growth) and a reduction in the numbers of livestock grazing on unenclosed land as a result of changes to the Common Agricultural Policy.

In addition to threatening sensitive wildlife habitats, bracken can have impacts on animal and human health. It provides a habitat favoured by sheep ticks. In addition to the damage caused by sucking the blood of the host, ticks are known to transmit a range of serious diseases. The bracken plant itself contains a number of substances that are known to be carcinogenic, and ingesting the plant or inhaling its spores may cause a number of harmful effects.

Effective management of bracken is thus very important. A range of control techniques are used, including pulling up plants by hand and cutting with machinery. However some areas infested with bracken are relatively inaccessible and in these areas control using the herbicide asulam often applied by helicopter has been the primary method of control.

Asulam is reasonably specific in controlling bracken, making it particularly useful in treating sensitive habitats, and aerial application allows treatment of steep or difficult terrain in remote areas. These properties make aerial application of asulam particularly suitable to reduce the growth of bracken to protect the more sensitive plant species in these areas that are often designated sites of special scientific interest or areas of outstanding natural beauty.

Emergency consideration
We were asked to consider a 120 day emergency authorisation for bracken control for the 2013 season, and given the on-going need for bracken control in sensitive habitats where there is no realistic alternative we were advised that this was likely to be an annual request until the resubmission application for the consideration of asulam has been successfully completed.

Having confirmed that this proposal met the requirements for consideration as an emergency, we considered specific risk assessments to support the proposed use. The key areas to be considered were non-dietary human exposures and environmental risks for both ground-based and helicopter application.

We were content that subject to the restrictions proposed, the predicted exposures of operators, bystanders and workers would be acceptable.

We noted uncertainty about the risk to reproduction in mammals and birds in the standard risk assessment because it was difficult to use the available residues data from spinach to estimate residues in seeds and insects eaten by these animals. Asulam would be applied in July to September when reproduction would be tailing off, so we suggested that the possible risk to nesting birds be drawn to the users' attention on the label. Similarly although asulam was fairly specific in its activity against bracken, there was a potential risk to any non-target plants sensitive to its effects. We agreed that product labelling should highlight the risks noting that if there were rare plant species or non-target ferns on the site, advice should be sought from the relevant Nature Conservancy authority before treatment. This would ensure that the potential benefits to the sensitive environment outweighed the potential risk to particular plant species present at the site to be treated.

The risk assessment for the aquatic environment indicated a buffer zone of some 175m for aerial application using conventional nozzles would be required. We consider that it is very important that measures required to manage identified risks should be practical to use. We thought that such a large buffer zone was unlikely to be practical in the areas expected to be treated. However information was available from the applicant indicating that the use of low drift nozzles such as 'raindrop' nozzles could be used with a buffer zone of 50m resulting in an acceptable risk to the aquatic environment. We agreed that this was likely to be

a more practical option and advised that this be included in the emergency authorisation.

We agreed there was unlikely to be a risk to exposed livestock as the standard environmental risk assessments for large herbivores were all acceptable. Asulam is rapidly and completely excreted meaning residues in animal products were unlikely to occur.

Overall we advised that the emergency authorisation could be granted subject to the changes in labelling and other restrictions we had identified to ensure it was used safely.

Use of Chloropicrin as a pre-planting soil sterilant

The EU decision
Chloropicrin was not approved under regulation 1107/2009 because concerns had been identified about the risks to operators and to the environment that could not be addressed by the data available. As a result of these conclusions UK authorisations were withdrawn. Once again the applicants plan to re-apply to address these concerns, so repeated emergency authorisations are likely to be required until this process has been completed.

The need to control the pest
Although not used extensively in the UK, chloropicrin has been an important tool where soil sterilisation is required prior to planting fruit crops and some ornamentals to control soil borne fungal

diseases, particularly Verticillium wilt disease and specific replant disease. Alternative chemical treatments are not sufficiently effective and non-chemical control requires the identification of land that has not been used to grow susceptible crops (of which there is very little available) or to use alternative soil-less growing media, significantly increasing costs for those crops where this is a possibility (such as strawberries).

Emergency consideration
The applicants had proposed to address some of the concerns identified in the EU review by changing both the dose applied and the length of time the treatment process was allowed for this (and future) authorisations.

We considered the risks to both humans and the environment by reviewing the data available to us to support these changes from both the EU evaluation and a a USA assessment of a potential metabolite, and by considering information on any incidents that had arisen during the previously authorised use of chloropicrin.

In this case we agreed to base our human risk assessments on human sensory response to chloropicrin as we agreed that this was sufficiently protective of the acute toxic effects. In addition, based on the available data we advised that a larger exclusion zone of 50m be required for anyone without appropriate personal protective equipment (including respiratory protection) until the measured levels of chloropicrin had dropped below the reference dose (0.067mg/m^3). Chloropicrin is applied only by specialised contractors who use full personal protective equipment (including respiratory protective equipment) and in addition we advised that applicators should limit the time of their exposure.

Turning to risks to the environment we advised that sensible mitigation measures should be put in place to avoid exposures where possible. We suggested that the period of emergency use be used to gather data to support the application for approval.

Use of Diquat to control aquatic weeds and prevent flooding

The EU decision
Although diquat was approved for some uses following an EU review, this did not extend to use as an aquatic herbicide.

Emergency consideration
We had previously considered applications for emergency authorisations for diquat to control aquatic weeds to reduce the risk of flooding in the fens. We had advised that there was a need for further data to enable us to consider the possible risk to fish from this use of the herbicide.

We heard that Ministers had granted a further emergency authorisation for the use of diquat in controlling aquatic weeds to reduce the risk from flooding in specific area of the Fens. In reaching this decision Ministers had taken account of our earlier advice regarding the risk to fish. We heard that the applicant is monitoring this use carefully and had recorded that the impact on dissolved oxygen levels is small at present. This was one of our areas of concern as low levels of dissolved oxygen result in water that is unsuitable for fish to survive, so we asked for a summary of the impacts of this treatment to be made available at the end of the year to help inform future decisions.

We also understand that work is now being done to consider alternative methods of aquatic weed control, and that this was also an important aspect of the Ministers' considerations because an important principle of emergency authorisations is that they provide temporary control measures whilst a more permanent solution is developed.

Use of Dipel to control Oak Processionary Moth

In this case we considered an emergency authorisation of a different method of application to allow for control of a non-indigenous statutorily notifiable pest.

The need to control the pest
Oak processionary moth is a notifiable forest pest under the Plant Health (Forestry) Order 2005 (Amendment 2008/644). It poses a severe risk to oak trees in the UK as the caterpillars are capable of defoliating oak trees resulting in them becoming very susceptible to attack by a range of other pests and diseases that together will cause death of the trees. It is an unusual plant pest in that it is also hazardous to human health. The older caterpillars carry a large number of barbed hairs that contain a defensive toxin that readily detach from the caterpillars and are dispersed on air currents. In contact with human skin these cause an unpleasant and persistent rash. In contact with eyes and the respiratory tract they cause acute irritation and asthma-like symptoms.

There are a number of authorised insecticides that can be used from the ground to control this pest, including the biological pesticide *Bacillus thuringiensis* var. *Kurstaki*. However there was an outbreak of the pest in an area of forest near Pangbourne in Berkshire that highlighted the need for an emergency authorisation for aerial application as access to the caterpillars was not practical from the ground.

Emergency consideration
Timing of the application of the biological pesticide was very important to match the susceptible life stages of the caterpillar, so to expedite decision-making within the ACP we exchanged views on this application by email.

The change from ground-based application of the product to aerial application meant we needed to consider only those aspects of the risk assessment that would be changed by this use. The key areas that we considered were the potential for spray drift to result in residents and bystanders being exposed to the spray, the potential for contamination of surface waters and the potential impact on other non-target wildlife. All other aspects had been considered before the original authorisation for ground use had been issued.

We identified a theoretical possibility that the product, being a biological pesticide might result in sensitisation for some people who might be exposed to the spray drift. However this more theoretical risk needed to be weighed against the known risk from the irritant hairs of the caterpillars if appropriate control was not achieved.

In the environment *Bacillus thuringiensis* var. *kurstaki* is active against Lepidoptera (moths and butterflies) so we could not rule out the possibility that these groups may be affected by the treatment, and the main method of managing that risk would be by re-colonisation of the area from other nearby habitats. This would only be acceptable where small areas were to be treated. Buffer zones would also be needed to protect surface waters.

We suggested that detailed aspects of the application take account of the need to reduce spray drift as far as possible, whilst ensuring the appropriate efficacy of the treatment. Given the possibility that exposure might result in sensitisation, we also suggested an 'exclusion zone' to keep members of the public out of the area where there may be spray drift. We asked that appropriate notification of those living nearby should include information about what was being done and why the trees were being treated, when the application would take place and providing advice to stay out of the area being treated.

We were pleased to note that the applicant provided clear information to the public, including coverage by local and national news media.

Annex 1
Terms of Reference

Our Terms of Reference are set out in law

Under section 16(7) of the Food and Environment Protection Act 1985*, ministers have established the Advisory Committee on Pesticides to give them advice, either when requested to do so or otherwise, on any matters relating to the control of pests in furthering the general purposes of Part III of the Act.

The general purposes of Part III of the Food and Environment Protection Act are that the provisions of that part of the Act shall have effect:

(i) with a view to the continuous development of means:
  (a) to protect the health of human beings, creatures and plants;
  (b) to safeguard the environment; and
  (c) to secure safe, efficient and humane methods of controlling pests; and
(i) with a view to making information about pesticides available to the public.

Under section 16(9) ministers are required to consult the Advisory Committee:

(i) as to regulations which they contemplate making;
(ii) as to approvals of pesticides which they contemplate giving, revoking or suspending; and
(iii) as to conditions to which they contemplate making approvals subject.

* Under the Control of Pesticides (Advisory Committee) Order (Northern Ireland) 1987, the Committee was established as the Committee on Pesticides for Northern Ireland.

Annex 2

Members of the ACP in 2013

Chair

Vacant

Deputy Chairman

Dr Andrew Povey is Reader in Molecular Epidemiology at the University of Manchester. He was appointed to the Committee in 2008.

Members

Dr Gary Bending is a Reader is Environmental Science in the School of Life Sciences at the University of Warwick. He specialises in understanding processes which control the fate of pesticides in the environment. This is his first year on the committee.

Dr John Cocker is a biochemist and Head of Biological Monitoring at the Health and Safety Laboratory, Buxton, Derbyshire. This is his fifth year on the Committee.

Mr Richard Davis is a retired Director of HSE's Chemicals Regulation Directorate, and a graduate in plant pathology. This is his second year on the Committee

Ms Jennifer Dean is a barrister, and is the ACP lay member for consumer affairs. This is her fourth year on the Committee.

Dr Martin Hare is Principal Lecturer at Harper Adams University College and Chair of its Research Degree Standards Committee. He is an active researcher in pesticide efficacy, and this is his second year on the Committee.

Dr Caroline Harris is Principal Scientist and Co-Director of the Centre for Chemical Regulation and Food Safety, Exponent International Ltd, Harrogate, North Yorkshire. This is her fifth year on the Committee.

Professor Tom Hutchinson is an expert in the ecotoxicology of amphibians, birds, fish, invertebrates and aquatic plants. He is Associate Professor in Ecotoxicology at the University of Plymouth. This is his first year on the Committee.

Mr Philip Jackson is a self-employed health and safety consultant, and is the ACP lay member for environmental issues. This is his fourth year on the Committee.

Professor Edward Lock is Industrial Professor of Toxicology at Liverpool John Moores University. This is his second year on the Committee.
Dr Chris Morris is a Senior Lecturer at the Medical Toxicology Centre at Newcastle University. He is also a member of the Dementia and Neurodegenerative Diseases Group and the Complex Genetics and Pharmacogenetics Research Group at the University. This is his second year on the Committee.
Professor Keith Palmer is Professor of Occupational Medicine with the University of Southampton. His areas of special interest include the causes, clinical management and prevention of illnesses associated with work. This is his second year on the Committee.
Dr William Parker is Director of the Horticulture Sector of the Agriculture and Horticulture Development Board. This is his sixth year as a member of the ACP.
Professor Richard Shore is a vertebrate ecotoxicologist and Head of Site at the Centre for Ecology & Hydrology (CEH) at Lancaster. He is a senior researcher investigating the environmental impacts of contaminants, and has an Honorary Chair at Lancaster University. This is his second year on the Committee.
Professor Andy Smith is Director of the Medical Research Council's (MRC) Toxicology Unit Integrative Toxicology Training Partnership based at the University of Leicester and Honorary Professor in Cancer Studies and Molecular Medicine. This is his second year on the Committee.
Dr Stephen Waring is Consultant in Acute Medicine and Toxicology, York Hospitals NHS Trust, and Honorary Senior Lecturer in Clinical Pharmacology, Hull/York Medical School. This is his fifth year on the Committee.
Dr Simon Wilkinson is a lecturer at the Medical Toxicology Centre, University of Newcastle Upon Tyne. He researches into routes of exposure to harmful chemicals, especially dermal absorption and metabolism. This is his second year on the Committee.

Fees and reimbursement

Members are not salaried staff but do receive a fee for attendance at ACP meetings. Members are not paid if they do not attend meetings, although they receive a preparation fee if they comment in writing.

Chair's fees
Attendance fee £180
Preparation fee £45

Deputy Chair's fees and members' fees
Attendance fee £142
Preparation fee £36
The Chair and Members also receive reimbursement of reasonable actual travel and subsistence when attending meetings.

The ACP is assisted in the committee by the following officials:

Departmental assessors
Departmental assessors are officials who receive and endorse the advice/recommendations supplied by the ACP to ministers on behalf of their department. Where appropriate they are responsible for seeking the views of their minister on the advice from the ACP.

Departmental assessors as at 31 December 2013

Mr David Williams	Department for Environment, Food and Rural Affairs (Defra)
Mr Robin Foster	Health and Safety Executive (HSE)
Dr Jackie Hughes	Science and Advice for Scottish Agriculture (SASA)
Dr Paul Holley	Department of Health
Mr Paul Tossell	Food Standards Agency
Mr Martin Williams	Welsh Assembly Government
Dr Stephen Jess	Agri-Food and Biosciences Institute Northern Ireland (AFBINI)

Departmental advisers
Departmental advisers are officials with specialist expertise who can advise the ACP.

Departmental advisers as at 31 December 2012

Mr Arwyn Davies	Defra
Mr Mark Wilson	Defra
Mr Dave Bench	HSE
Miss Sarah Shore	HSE
Dr Steve Fairhurst	HSE
Mr Rob Mason	HSE
Dr Chris Snaith	HSE
Ms Margaret Wade	HSE
Mr Barry Maycock	Food Standards Agency
Dr Paul Whitehouse	Environment Agency
Dr Alastair Burn	Natural England

Annex 3

Independent members' declarations of interest in the pesticides industry 2013

Name	Nature of interest	Name of companies	Current/former interest
Chair			
Deputy Chairman			
Dr Andrew Povey	Member of US EPA FIFRA Scientific Advisory Panel	Health & Safety Executive	2008
	Grant from European Chemical Industry Council (consideration of DNA adducts and genotoxicity)		2008-09
	Pesticide exposure in Sheep dippers	Defra/Dept of Health	2009
	Pesticide exposure in farmers		2009
Members			
Dr Gary Bending	BBSRC and NERC CASE Studentships and Unilever	Syngenta	2009-current
	Unilever Research Grant (fate of chemicals in freshwater)	Unilever	2009-2013
	Invited speaker to talk on chemical fate in the environment	ECETOC	2012
Dr John Cocker	None		
Mr Richard Davis	None		
Ms Jennifer Dean	None		
Mr Derek Finnegan	None		

Name	Nature of interest	Name of companies	Current/former interest
Dr Martin Hare	Supervisor of PhD student, project with industry funding	Syngenta	Current
	Trainer: BASIS (Registration) Ltd short courses for employees from pesticide manufacturers e.g.	BASF Syngenta Bayer CropScience Dow AgroSciences Nufarm UK and a number of pesticide distributors	since Sept 2010
	Member of BASIS (Registration) Ltd Education and Training Committee (Landex representative)		Current
	Member of project team working on Defra project WT1546 Quick Scoping Review on the impact of amenity pesticides on the water environment		Current
Dr Caroline Harris	Employer is a scientific consultancy which undertakes work for a range of chemical companies in support of product approvals	Bayer CropScience Ltd, Aceto, Certis, Chemtura Europe Ltd, Dow Agrosciences, Syngenta, Fine Agrochemicals, Du Pont	Current
	Project manager for government funded project (Parkinson's disease)	Defra	Current
	Small shareholding	Exponent Inc.	Current
Prof Tom Hutchinson	Personal appointment As Science Leader for UK - Japan Research Collaboration on Endocrine Disrupters in the Aquatic Environment.	Defra	Current
Mr Philip Jackson	None		
Prof Ted Lock	Retired Syngenta 2003 Research grant	Syngenta, start up	2006/7
	High throughput Genomics-based test for Assessing genotoxic and Carcinogenic properties of Chemical compounds in vitro	EU grant	2006/12
Dr Chris Morris	None		
Prof Keith Palmer	None		
Dr William Parker	Member and Chairman of IRAG-UK (UK Insecticide Resistance Action Group)		Current

Name	Nature of interest	Name of companies	Current/former interest
	Small shareholdings in non-agricultural companies		Current
	Director of Horticulture for the Horticultural Development Company (HDC), a division of the Agriculture and Horticulture Development Board (AHDB)	HDC manages applied research and technology transfer projects funded by a statutory levy on commercial horticultural businesses. A significant part of this work relates to crop protection issues so HDC staff are in regular contact with the agrochemical industry and biochemical manufacturers. HDC does not do contract Work on behalf of these organisations	Current
Prof Richard Shore	Project Leader of the Centre for Ecology & Hydrology's multi-funded Predatory Bird Monitoring Scheme (PBMS)	Centre for Ecology & Hydrology Natural England Defra RSPB, Scottish Natural Heritage, Scottish Environment Protection Agency Campaign for Responsible Rodenticide Use	Current
	Project Leader for NERC Funded research and Knowledge Exchange activities	Natural Environment	Current Research Council
	Project leader for small contract research projects	Natural England	Current
	Member of expert advisory Panel on field monitoring to Assess potential pesticides Bioaccumulation	FMC Corporation	Current
	Invited speaker to talk on Monitoring of rodenticides in wildlife	Syngenta	2013
Prof Andy Smith	None		
Dr Stephen Waring	None		
Dr Simon Wilkinson	None		

Annex 4

The regulatory system

Most people agree that it is very important to control the pests, diseases and weeds that threaten our food supplies. There are a number of techniques to do this which are used by both professional farmers and growers and by home gardeners. These include techniques such as crop rotation, digging or ploughing, weeding and the introduction of predatory insects or mites, nematodes and parasitoids as part of integrated pest management (IPM) approaches.

Pesticides are included in these techniques for both professional farmers and growers and home gardeners. Pesticides are substances, preparations or organisms used to control specific pests, pathogens or diseases or weeds. They include a wide range of different substances, both naturally occurring and synthesised and a range of bacteria, fungi or viruses that can be used in biological control.

Because these are products that are specifically designed to have an effect on a living thing, pesticides, like medicines, are subject to an extensive regulatory system and must demonstrate that they can be used without unacceptable risks before they are allowed to be sold.

This is a short explanation of the regulatory system currently in place for pesticides, specifically designed for the general reader. More detailed technical information (suitable for those seeking to make an application for approval of a pesticide for example) is available on the HSE website [http://www.pesticides.gov.uk/guidance/industries/pesticides].

There is a large volume of work to do in assessing pesticides to ensure they meet the requirements of the regulatory system. Much of this work is now shared between the member states of the EU, with one Member State, known as the Rapporteur taking the lead responsibility for assessing the active substances used as pesticides in the EU. An active substance can only be used in a pesticide product anywhere in the EU if it meets the regulatory requirements and has been approved by the Member States.

The active substance in a pesticide product is the part of the product that provides the pest control. Most products also include a range of other substances that help to make the product suitable to apply to protect the crops, for example the bait that will attract slugs to eat slug pellets. These other substances are called co-formulants. Each member state remains responsible for authorising all pesticide products to be used within their Member State. This is so that each Member State can make a specific assessment of each product taking account of differences in conditions that occur across Europe that will affect how a pesticide can be used.

A number of government departments in the UK have a specific interest in the authorisation of pesticides. The Department for Environment, Food and Rural Affairs (Defra) takes the lead, with important involvement from the Department of Health, the Food Standards Agency, the Health and Safety Executive (HSE), and the devolved authorities in Scotland, Wales and Northern Ireland.

The Health and Safety Executive (HSE) prepares a scientific evaluation of applications for pesticide product authorisation in the UK on behalf of all of the departments. They also prepare evaluations of active substances where the UK has been asked to be the Rapporteur Member State for the EU.

The ACP provides expert advice both to HSE and to the responsible ministers and departments on all major issues relating to pesticides in the UK.

The scientific evaluation of a pesticide

This is a complex process involving the detailed consideration of a huge database of scientific studies for each active substance and pesticide product.

For the purposes of this document it is perhaps most straightforward to outline the data that are considered and the way in which information is used to complete the risk assessment needed to meet the regulatory requirements for a new active substance. Such applications must be accompanied by data for a pesticide product as well. Details of data requirements and evaluation times are given on the HSE website for different types of applications for approval [http://www.pesticides.gov.uk/guidance/industries/pesticides/user-areas/applicant-advice].

The main components of the data package that typically would be required for a new pesticide fall into the following seven areas.

1 Physico-chemical properties
The applicant is required to specify the chemical composition of the product, its active substance, and any significant impurities that it may contain. Information must also be supplied on the physicochemical properties of the active substance, for example how soluble it is in water or other solvents, what is its vapour pressure etc and on methods by which it can be detected and measured, for example in foodstuffs and water.

2 Potential toxicity in humans
Data on potential toxicity are required for the active substance, the product as a whole, and also any important metabolites of the active substance to which humans might be exposed. An important objective of the toxicological assessment is to establish 'no observed adverse effect levels' (NOAELs) for any ill-effects that might occur. A NOAEL is the highest dose in an investigation that does not cause ill-effects. Specific data on effects in humans is not usually available, particularly for new active substances. However data are considered on a range of mammalian species in studies that consider effects that might occur over an entire lifetime and over several generations.

On the basis of these data, a decision is made as to whether the product requires labelling as a hazard (eg irritant, harmful, toxic) in accordance with standard international requirements.

Reference doses are also defined for use in the risk assessments. These reference doses are carefully derived from the NOAELs of studies relevant to the type of exposure expected, and always include an assessment factor to take account of the fact the studies are in animals and not in humans. Internationally these are usually set to provide a margin of at least 100 on the key NOAEL, assuming that average humans are at least 10 times more sensitive than animals and that particularly sensitive humans are up to 10 times more sensitive still. Data available from medicines where there are comparable data available on both humans and other mammals suggests that this is more than adequate to take account of these uncertainties as differences in sensitivity are more usually less than 10 in reality. The size of the assessment factor can be increased if considered necessary due to either greater than usual uncertainty in the data package or specific critical irreversible effects seen in the studies.

The reference doses set are:

Acceptable daily intake (ADI)
This is the amount of a chemical which can be consumed every day for a lifetime in the practical certainty, on the basis of all known facts, that no harm will result. It is expressed in milligrams of the chemical per kilogram bodyweight of the consumer.

Acute reference dose (ARfD)
The definition of the ARfD is similar to that of the ADI, but it relates to the amount of a chemical that can be taken in at one meal or on one day.

Acceptable operator exposure level (AOEL)
This is intended to define a level of daily exposure that would not cause adverse effects in operators who work with a pesticide regularly over a period of days, weeks or months.

3 Dietary intake
One of the ways humans might be exposed to a pesticide is through its presence as a residue in food. An obvious route of exposure is residues in food from the treated crop, but residues may also occur in other foods by indirect routes. For example, they might arise in the meat, milk or eggs of animals that have been fed on a treated crop, or from crops grown subsequently to a treated crop if the pesticide is particularly long-lasting in the environment.

Furthermore, the particular product that is being evaluated may not be the only source of the pesticide in the diet. The same chemical may also be a constituent of other products that are already on the market in the UK or in other countries from which we import food.

In assessing the risks from residues of a pesticide in foods, therefore, it is necessary to identify and take account of all foodstuffs in which significant residues might occur, including those resulting from the use of other products that contain the same active substance.

To check whether the proposed use of a pesticide might cause unacceptable long-term dietary exposures, an estimate is made of the maximum intake that an individual would be expected to incur over a prolonged period. This is based on the distribution of measured residues of the pesticide in foods derived (directly or

indirectly) from treated crops, and data on the national patterns of consumption for different foods from official surveys, as now commissioned by the Food Standards Agency. These surveys provide specific data on both special diets and variations in diet with age.

The long-term dietary exposure to a pesticide, calculated in this way, is compared with the acceptable daily intake (ADI). If the ADI is exceeded, the proposed use of the pesticide will not be acceptable. The effect of any over-estimation of potential dietary intakes is to err on the side of safety.

Separate calculations are carried out for dietary exposures in infants and children, and other consumer groups, to check that the exposure will be acceptable. Also, if the pesticide has toxic effects that could arise from a single dose, an estimate is made of the maximum dietary exposure that could occur in a single day or from a large portion of that food and this is compared with the acute reference dose (ARfD). If the ARfD is exceeded, again the proposed use will be unacceptable.

Finally, if the use of a pesticide produces significant concentrations of toxic metabolites in food (ie substances formed by its chemical degradation in plants or animals), the acceptability of exposure to each of these metabolites is also assessed.

4 Exposures to operators, other workers, bystanders and residents

The other circumstance in which human exposure to pesticides commonly occurs is in the course of their application or through contact with crops or other materials that have been treated with them. For example, an operator might be exposed when mixing or applying a pesticide; a passer-by or neighbour might be exposed inadvertently to droplets that drift when a pesticide is being sprayed; and a worker harvesting a crop that has been treated might handle foliage that is coated with residues of a pesticide.

Estimating the profile of exposure in operators, other workers and other non-dietary exposures is complex and must take into account many factors. These include:

- the physical form of the pesticide (eg liquid or granules);
- the way in which it is used (eg sprayed with a vehicle-mounted boom sprayer or painted with a brush);

- the circumstances in which exposure occurs (eg during mixing and application or through contact with a treated surface);
- the use of any personal protective equipment such as gloves or a face mask;
- the extent to which the pesticide penetrates the skin;
- patterns of use (including frequency and duration).

The highest exposures in this group are experienced by operators (people actually applying the pesticide). Sometimes, acceptable operator exposure (ie exposure at or below the AOEL) can only be achieved through the use of personal protective equipment such as gloves, coveralls and face-masks. This may be satisfactory for professional operators but amateurs cannot always be expected to have the knowledge that is required to select and use the appropriate forms of protective equipment. Therefore, amateur uses of pesticides are not generally authorised where exposures would be acceptable only with the use of specialised personal protective equipment.

It is important to note, however, that exposure can be controlled by means other than protective clothing; for example, use of suitable packaging for products can reduce the exposure of users.

Authorisations are not allowed if estimated exposure of bystanders, neighbours or workers handling the treated crop is above the AOEL (and of course it is always assumed these people do not use protective equipment).

5 Environmental fate and behaviour

In order to assess the potential impact of a pesticide on the environment, it is necessary to establish what happens to it once it has been applied – where it gets to; how fast it is degraded and by what mechanisms; and whether any of its degradation products might occur at levels sufficient to pose a risk. In particular, information is needed about the concentrations of the pesticide and any relevant breakdown products that will occur in soil, water and air, and the persistence of such pollution.

Predicted environmental concentrations (PECs) are derived, and are used to assess:

- exposure of non-target species in soil and water;
- possible contamination of groundwater;
- the potential for effects on, or residues in, following crops.

The distribution and breakdown of pesticides in the environment depends on many factors including the physical and chemical properties of the pesticide, the climatic conditions following use and the pattern of usage.

The rate of breakdown of a pesticide is usually summarised by a half-life value, which represents the time it takes for half of the pesticide to degrade. The ease with which a pesticide can be washed out of the soil is usually termed its mobility and a general impression of this can be gained from a Koc value (organic carbon sorption coefficient), which gives a measure of how well the pesticide adsorbs (sticks) to soil.

The mobility and degradation of a specific pesticide can vary in different soils and can also be influenced by rainfall and temperature.

The application rate, frequency of application and overall pattern of usage can all affect the concentrations of the pesticide present in the environment, and must be taken into account.

6 Ecotoxicology

The other major determinant of a pesticide's environmental impact is its toxicity to wildlife.

The environmental risk assessment focuses upon possible effects of the pesticide on a range of non-target organisms including: birds, wild mammals, fish, aquatic invertebrates and plants, insects (including bees) and other non-target arthropods, earthworms and soil micro-organisms and non-target plant species.

Acceptable exposure is determined in line with the relevant EU guidance. For many species this involves comparison of the dose causing no effects in experiments with the relevant predicted environmental concentration to form a toxicity exposure ratio.

If the risk assessment suggests the exposure will cause an unacceptable risk, a range of possible measures can be considered to reduce the exposure. One example of such a 'risk mitigation measure' is a no-spray buffer zone around water courses to reduce the amount of spray that might drift onto surface water. If practical risk mitigation measures cannot be devised, the product will not be authorised.

7 Efficacy and risk to following crops

Consideration of product efficacy is an integral part of the risk assessment process. Authorisation of a pesticide is only recommended if there are discernible benefits from the application of that pesticide. Data must be available to demonstrate the efficacy of the pesticide against target organisms when it is used in accordance with the label instructions. Data are also required to demonstrate that the dose recommended is the minimum necessary to achieve the desired effect.

In addition, the application of pesticides (especially herbicides) to a crop may pose a risk to the crop itself or to immediately adjacent or following crops. Studies are required to examine this.

Like resistance to medicines, resistance to pesticides is also a widespread problem that limits the effectiveness of many pesticides and reduces the options for controlling a range of target organisms. The risk of resistance development is considered for each pesticide. Where there is evidence or information to suggest that the development of resistance is likely, a management strategy designed to minimise the likelihood of resistance or cross resistance developing in target species is required.

How are authorisations kept up to date?

All pesticides are subject to review at any time if data come to light that suggest that the risk assessments need significant revision, and there is a regular review programme in the EU to ensure that all data are kept up to date and that information is generated to meet new requirements that apply as scientific knowledge and understanding increases.

Changes to data requirements occur as scientific knowledge and understanding develops. These are usually updated at the routine review rather than each new data requirement being applied straight away across all currently authorised products. This helps to ensure the work load is more evenly spread, both in the laboratories generating the data, and in the regulatory processes.

The role of the ACP

A draft evaluation is prepared by HSE. They then pass this to other government departments and to the ACP for specific advice on the evaluation and whether a product can be considered for authorisation in the UK.

The ACP consider these evaluations in great detail, and may suggest further studies to clarify aspects of the evaluation. Only when the ACP are content the product can be used without unacceptable risks do they advise ministers an authorisation can be granted.

Ministers take note of the ACP's advice, and only once all government departments are in agreement that authorisation is acceptable can an authorisation be issued for the agreed use in the UK.

Much of our more recent work has involved advising on partial evaluations consisting of new data to support renewal of authorisations or UK specific aspects of evaluations following agreement within the EU.

Impact of EU legislation

The Sustainable Use Directive (2009/128/EC) sets out a number of ways in which aspects of pesticide use may be managed in future. The Plant Protection Products Regulation (EC 1107/2009) has introduced some new aspects to pesticide regulation in the UK. Examples of these include additional restrictions relating to 'hazardous' substances, requirements to consider the substitution of more hazardous products with less hazardous ones, and a more collaborative approach to pesticide regulation by introducing the idea of 'zonal' approvals involving groups of Member States. The greater involvement of the other EU Member States in product authorisation via the zonal approach has had a significant impact on the work of the ACP, and we have considered the authorisation of products containing active substances new to the UK via what is known as 'mutual recognition'. In mutual recognition much of the risk assessment is completed by a zonal rapporteur Member State on behalf of the other Member States in the same zone, with only those aspects that are specific to the UK being prepared by CRD. In addition to reviewing this work by CRD, we have also advised on some risk management measures new to the UK that will assist greater harmonisation across the EU central zone.

New EU regulations on biocidal products came into force in the UK during 2013. The new biocides regulation (EU 528/2012) introduces similar changes to the regulation of biocides (including substances such as rodenticides, wood preservatives and antifouling paints that fall within our terms of reference) as have been introduced

for plant protection products. We anticipate that there will be a similar move towards greater harmonisation of authorisations of these products across the EU as a result of this new legislation.

Annex 5

The items we have considered during 2013

Applications for approval or authorisation:

- Asulam: Emergency authorisation for use on bracken
- Chloropicrin: Emergency authorisation for use on various crops
- Quinoclamine: Authorisation of Mogeton by mutual recognition
- Bacillus thuringiensis var kurstaki: Emergency authorisation for aerial application to control Oak Processionary Moth
- Acetamiprid: Evaluation for use as a public hygiene insecticide
- Thiram: Use as a seed treatment on a variety of crops
- Diquat: Emergency authorisation for the use of diquat for aquatic weed control.
- Dimethachlor: Authorisation of Teridox by mutual recognition
- Chlorpropham: use on stored potatoes
- Oxamyl and ethoprophos: Re-registration of Vydate 10G (containing oxamyl) and Mocap 15G (containing ethoprophos)
- *Bacillus thuringiensis ssp. kurstaki* EG2348: Authorisation of Lepinox Plus by mutual recognition

Other issues discussed:

- Pesticides and Bees:
  - ACP written evidence to the Environmental Audit Committee inquiry into insects and insecticides
  - Fera Bumble Bee Study final report
  - Environmental Audit Committee Pollinators and Pesticides Report
  - EFSA conclusion on Fera bumble bee field study
  - EC Implementing Regulation No 485/2013 on Neonicotinoids
- Annual reports from National Poisons Information Service (NPIS), Pesticide Incidents Appraisal Panel (PIAP) and Human Health Incidents
- Public consultation on regulatory measures to support EU chemicals legislation (including biocides legislation)
- Consideration of published literature
- Bystander Risk Assessment Working Group Report – Ministerial acknowledgement
- Stakeholder Engagement – UK Environmental Measures for Rodenticides

- Battery Operated Ready to Use (RTU) Containers for the Home / Garden Market
- UK National Action Plan for the Sustainable Use of Pesticides
- Assessing the risk to bystanders of developing skin sensitization to pesticides
- New Agricultural Operator Exposure Model
- Comparative Assessment in the UK under Regulation 1107/2009
- EU Regulation No 283/2013 on data requirements for active substances and EU Regulation No 284/2013 on data requirements for products
- Recycling of amateur pesticide bottles - consultation
- Authorising use of low-drift nozzles and fixed buffer zones as conditions of authorisation to protect surface water
- RADAR (e-newsletter on pesticide R&D projects) issue 11 – June 2013
- 2012 Pesticides Forum Report
- Visibility of ACP website
- Developments on the stewardship regime for SGARs
- Report from the MedTox Panel Meeting

Annex 6

The subgroups assisting the ACP

Environmental Panel

The Environmental Panel is responsible for providing advice to the ACP on issues related to the environmental fate and behaviour and ecotoxicological effects of pesticides.

Terms of reference

To advise the ACP on the environmental fate and behaviour of pesticides, effects on non-target organisms (other than man) from the use of pesticides and also on related problems put to it by the ACP or departments. To draw the attention of the ACP, or the regulatory departments as appropriate, to any matter concerning environmental impact of pesticides which, in the opinion of the Panel, requires further investigation.

Membership (as at 31 December 2013)

Chairman

Prof Richard Shore	Centre for Ecology and Hydrology, ACP

Members

Mr Philip Jackson	Health and safety consultant, ACP
Ms Jennifer Dean	Barrister, ACP
Mr Phil Grice	Natural England
Dr Kevin Brown	Environmental consultant
Prof Anthony Hardy	University of York
Dr Nick Sotherton	Game & Wildlife Conservation Trust
Dr David Arnold	Cambridge Environmental Solutions
Dr Alastair Burn	Natural England
Dr Gary Bending	University of Warwick, ACP
Prof Tom Hutchinson	University of Plymouth, ACP
Prof Colin Brown	University of York

Observers

Dr Jackie Hughes	SASA
Dr Alastair Burn	Natural England
Chris Moore	Environment Agency

Mr Grant Stark	HSE
Mr Mark Clook	HSE
Mr Adrian Dixon	HSE
Mr Chris Walton	HSE
Mr John Chadwick	HSE
Mr Dave Bench	HSE

Technical Secretary

Dr Jo O'Leary Quinn	HSE

Main issues considered during the year:

The environmental panel did not meet during 2013

Medical and Toxicological Panel

The Medical and Toxicological Panel advises the ACP and departments on toxicological and medical problems put to it, and draws attention to the ACP and/or departments of any matter concerning the impact of pesticides on human health, including exposure of operators which, in the opinion of the Panel, needs further investigation. It also advises the departments on the development and application of toxicological test methods.

Membership (as at 31 December 2013)

Chairman

Dr Andy Povey,	University of Manchester, ACP

Members

Dr Susan Barlow	Independent consultant
Dr John Cocker	Health and Safety Laboratory, ACP
Ms Jennifer Dean	Barrister, Lay Member ACP
Dr Caroline Harris	Exponent, ACP
Mr Philip Jackson	Heath & safety consultant, Lay Member ACP
Prof Ted Lock	John Moore's University, ACP
Dr Timothy Marrs	Independent consultant
Dr Chris Morris	Newcastle University, ACP
Prof Colin Ockleford	Lancaster University, ACP
Prof Keith Palmer	University of Southampton, ACP
Prof Andy Smith	University of Leicester, ACP
Dr Stephen Waring	Consultant in Acute Medicine & Toxicology, ACP
Dr Simon Wilkinson	University of Newcastle, ACP

Departmental representatives

Mr Martin Williams	Welsh Assembly Government
Mr David Thomas	Welsh Assembly Government
Mr Barry Maycock	Food Standards Agency
Dr Jackie Hughes	Science and Advice for Scottish Agriculture
Dr Mike Taylor	Science and Advice for Scottish Agriculture
Mr Dave Bench	HSE

Representative organisations

Dr Richard Billington	Crop Protection Association
Dr Phil Botham	Syngenta
Dr Rick Hartley	National Association of Agricultural Contractors
Dr Gai Murphy	British Pest Control Association

Secretariat

Mr Scott Samuels	HSE
Mr Mike Costigan	HSE
Dr Ian Dewhurst	HSE
Mr Paul Hamey	HSE

Main issues considered during the year:

- Pesticide exposure monitoring using NPIS resources 2012-13
- Monitoring of the medical and scientific literature for epidemiological studies on pesticides published between January 2012 and December 2012
- EFSA Literature review on epidemiological studies linking exposure to pesticides and health effects

Working Party on Pesticide Usage Surveys

Membership (as at 31 December 2013)

Chairman

Mr Grant Stark	HSE

Members

Mr David Garthwaite	Food and Environment Research Agency
Dr Jackie Hughes	Science and Advice for Scottish Agriculture
Dr Stephen Jess	Agri-Food and Biosciences Institute, Northern Ireland
Mr Mike Lole	ADAS
Dr Peter Gladders	ADAS

Dr Sarah Cook	ADAS
Ms Liz Turner	Crop Protection Association
Dr Peter Marsden	Drinking Water Inspectorate

Technical Secretary

Miss Tracey Ware	HSE

The Working Party continued to oversee delivery of the 2012/13 programme of surveys. Members were responsible for collecting and analysing pesticide usage survey data and preparing and publishing reports detailing findings on a range of crops.

Annex 7

The seven principles of public life (Nolan principles)

Selflessness
Members should take decisions solely in terms of the public interest. They should not do so in order to gain financial or other material benefits for themselves, their family or their friends.

Integrity
Members should not place themselves under any financial or other obligation to outside individuals or organisations that might influence them in the performance of their official duties.

Objectivity
In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, Members should make choices on merit.

Accountability
Members are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

Openness
Members should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.

Honesty
Members have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interests.

Leadership
Members should promote and support these principles by leadership and example.

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