



# The PIPAH Study Newsletter

## January 2015



Hello and welcome to our second newsletter! In this newsletter, we will update you with progress on the PIPAH study during 2014. We will provide you with more information collected in the general questionnaire you completed when you first joined the study, and summarise some of the results from the pesticide use questionnaire that we tested. We will also let you know what we are planning to do in 2015.

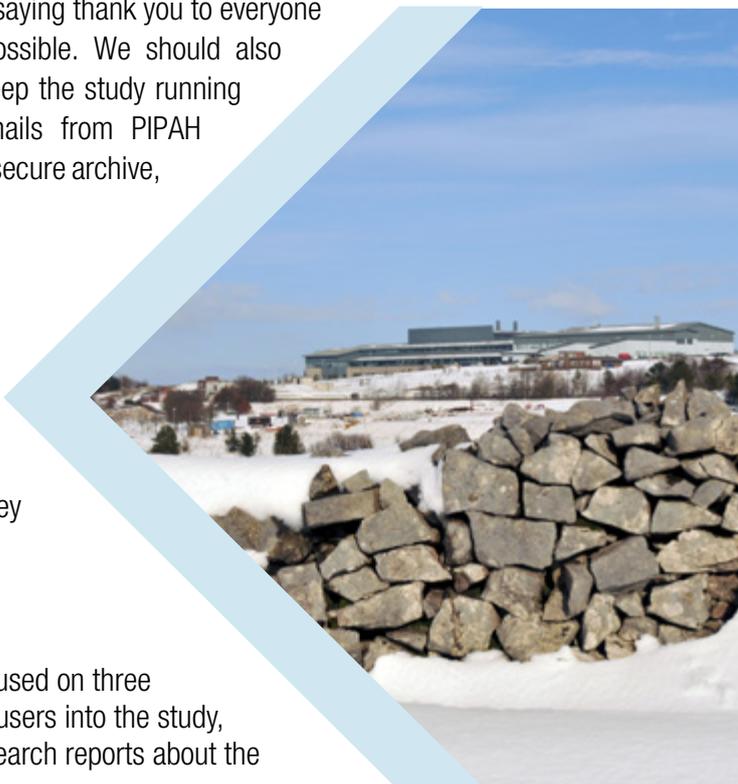
We could not write a newsletter about the PIPAH study without saying thank you to everyone taking part. Your contributions make this research study possible. We should also acknowledge the support of the members of our team who keep the study running smoothly, including responding to telephone calls and emails from PIPAH participants, sorting and storing the paper questionnaires in our secure archive, and managing the electronic database.

### Why are we interested in pesticides?

The PIPAH study is trying to better understand the health problems that may occur with regular pesticide use, and how to keep people who use these safe and healthy at work. The use of pesticides is very important to our lives in many ways, and we are really keen to make sure that when they are used, they are used safely, and do not harm your health.

### Our second year.....

This has been a busy year for the study team. Our activities focused on three different strands of work: enrolling more professional pesticide users into the study, testing a questionnaire on pesticide use, and preparing two research reports about the study. We will go into more details about these activities later.



HSL Building



We have set up a new webpage for the PIPAH study on the Health and Safety Laboratory website

<http://www.hsl.gov.uk/resources/major-projects/pipah>

The webpage gives you access to all of the information about the study and to any publications from the study. You will find a brief overview, as well as our contact details, a copy of the participant information leaflet, general questionnaire and the study newsletters. As the study grows, the webpage will become a valuable resource for anyone interested in learning more about the PIPAH study.

## Further Recruitment

Maintaining and even increasing the size of the study ensures the validity of any findings. In March 2014, we invited members of the Pesticide Users' Health Study (PUHS) to take part in the PIPAH study. The PUHS is a study that the Health and Safety Executive established in the late 1990s to monitor the health of pesticide users in Britain. Members of the PUHS hold City & Guilds certificates in the safe use of pesticides, and are involved in similar types of work as members of NRoSO and NAsOR. We invited over 7500 members of the PUHS to take part in the PIPAH study, and around 1700 people agreed to be included.

In addition to this, the ongoing recruitment of new members of NRoSO and NAsOR began. City & Guilds has been very supportive of the PIPAH study. On behalf of the PIPAH study team, they have been sending the study invitation pack to new members of NRoSO and NAsOR. We would like to continue working with City & Guilds to invite new members of NRoSO to take part in the study. City & Guilds are no longer managing NAsOR; in January, members of NAsOR were transferred to the new BASIS Amenity Training Register.

## Testing a new pesticide use questionnaire

Knowledge of which pesticides our study members use is vitally important if we want to investigate whether there are any links between an individual's pesticide use and their health. For a number of reasons, collecting this information is probably the trickiest part of the study. You will be fully aware that many professional pesticide users work with a large number of different pesticides during the course of the year. Even though it is important to capture this information, it is also important that we do not ask too much of people, like you, who are generously giving their time to the study. With this in mind, in spring 2014 we invited around 400 PIPAH study members to complete a newly designed pesticide use questionnaire. We are very grateful to everyone who completed this questionnaire, and for the valuable feedback that they provided.

It was not possible to implement all of the suggestions made, but we made a number of revisions to the questionnaire based on the comments we received.

We have previously discussed the question of how best to capture the information on pesticide use with PIPAH study members and other stakeholders. Stakeholders who work closely with the industry suggested we use the electronic records that many members keep routinely. So when testing the questionnaire we asked if anyone would be able to share these electronic records with us. Unfortunately, the electronic records we received showed that it would be very difficult to extract the information we need from them. Taking this into consideration, we decided that for the time being the best way to capture the information on pesticide use is by using the questionnaire.

For any new questionnaire, there are always concerns that people may find it difficult to complete or that it just takes too long. A number of people mentioned that there were too many pesticides to list. The most pesticides reported by a single user was 70. However, this was an extreme example, and half of the individuals reported using less than 14 pesticides in the year. For a small number of people the questionnaire took more than 2 hours to complete, but we were pleased that the majority completed the questionnaire in less than 1 hour. We were encouraged by the responses to questions about how user-friendly the new pesticide use questionnaire was. Most people found the questions 'very easy', 'fairly easy' or 'neither easy nor difficult' to understand, and that the questionnaire was 'very easy', 'fairly easy' or 'neither easy nor difficult' to complete.



<sup>1</sup> National Register of Sprayer Operators (<https://www.nroso.org.uk/>)

<sup>2</sup> National Amenity Sprayer Operators Register (<https://www.nasor.org.uk/>)

In response to the comments we received, we have revised this year's pesticide use questionnaire. Some changes were minor, for example changes to wording to clarify a question. Perhaps the most important change is that we have included a drop down list of pesticides in the online version of the questionnaire. This will save time for anyone completing it online.

In spring, we also invited all study members not included in testing the pesticide use questionnaire to complete a postcard questionnaire. This asked about their areas of pesticide use, for example whether they worked in cereals, horticulture, or amenities. The questions on the postcard were previously included in the general questionnaire that everyone completed when they first joined the study, and they were also included in the pilot pesticide use questionnaire. The postcard was designed to give us an overall view of your areas of work with pesticides and, by inviting you to complete it every year, it will show us whether your areas of work change over time.

### **Analysing data and report writing**

We have now completed the two main phases of enrolling new participants into the study. The first phase was in 2013, when we invited all members of NROSO and NAsOR to participate. The second phase in spring 2014, involved inviting members of the Pesticide Users' Health Study (PUHS) to join the PIPAH study. So this is a good point to begin writing about the study and to publish early findings. There are currently two reports planned. The first report will cover the establishment of the PIPAH study, and will include the background to the study and details of the study design. The second report will provide headline statistics from the data collected in the general questionnaire, which everyone completed when they first joined the study. In due course, we will publish the reports as Research Reports on the Health and Safety Executive's website (<http://www.hse.gov.uk/>) and these will be freely available.



### **Cereals 2014**

Anne-Helen Harding and Gillian Frost, two members of the PIPAH study team, were at Cereals 2014 at Chrishall Grange in Cambridgeshire. It was a good opportunity to meet some of you and answer any questions you had about the study. We plan to be at Cereals 2015 in Boothby Graffoe, Lincolnshire, based in the NROSO tent. We will be very pleased to answer any questions about the PIPAH study or discuss the study in more detail with any of you attending the show.



## What's next?

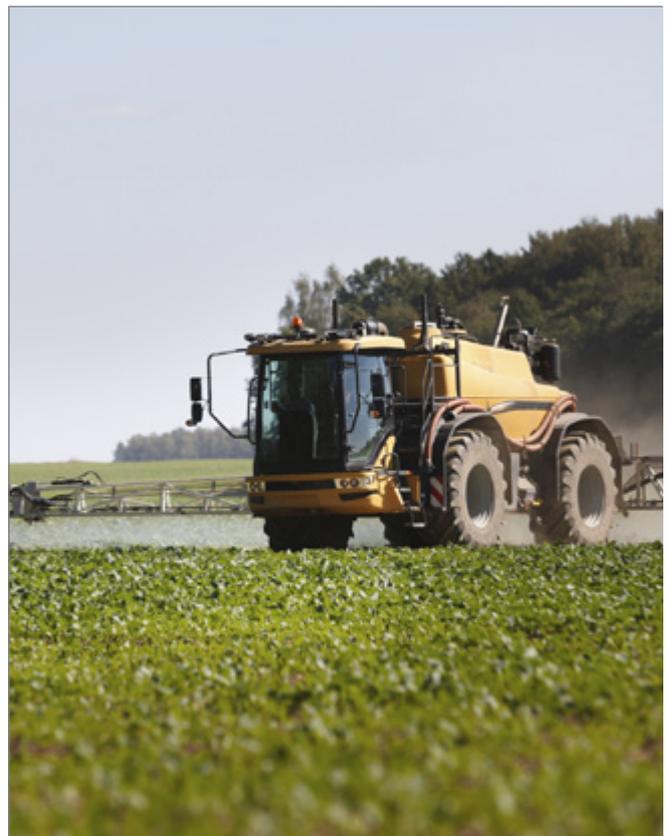
We anticipate focusing much of our effort during 2015 on analysing the data we have collected so far. We collected a wealth of data in the general questionnaire you completed, covering lifestyle, social circumstances, health and past pesticide use. To date we have only looked at the headline figures, which give an overview of the PIPAH study's participants. We now plan to carry out more detailed analysis of the data; in particular, we will begin investigating health outcomes and whether there are any associations with occupation or pesticide use, taking into account diet, lifestyle and other factors which may affect health.

In the second part of our analysis plan we will analyse the pesticide use questionnaires. We are planning to contact a small number of study participants, and invite them to discuss the pesticide use questionnaire in a telephone interview with one of our researchers. This will give us further insight into the pesticide use questionnaire and help us to check that the questions are collecting the information we need.



## International connections

David Fox, the newest member of our study team, will be presenting early results from the PIPAH study at the International Occupational Hygiene Association (IOHA) Conference being held in London in April 2015. IOHA represents occupational hygienists from across the world, and the London conference is an ideal opportunity to promote the PIPAH study.



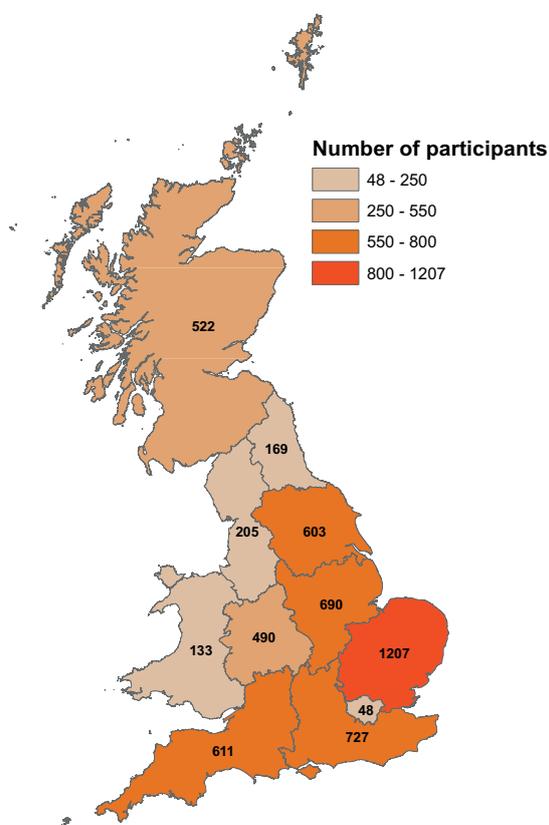
The PIPAH study includes men and women working in many different sectors, but the majority are involved in the agricultural sector. As a result, the PIPAH study is a member of AGRICOH, which is an international consortium of agricultural cohort studies (<http://agricoh.iarc.fr/>). We were unable to attend the AGRICOH annual meeting that was held in Chicago in 2014, but we are planning to attend the 2015 annual meeting in France. As the PIPAH study develops, we will be in a position to contribute more to studies undertaken by members of AGRICOH.

## Results from the study so far....

In our first newsletter last year, we focused on those sections of the general questionnaire that describe what could be called our participants' general characteristics. In this newsletter, we direct our attention on the past use of pesticides, which you reported in the general questionnaire. First we will begin by revisiting some of the information provided in the first newsletter.

## PIPAH study members

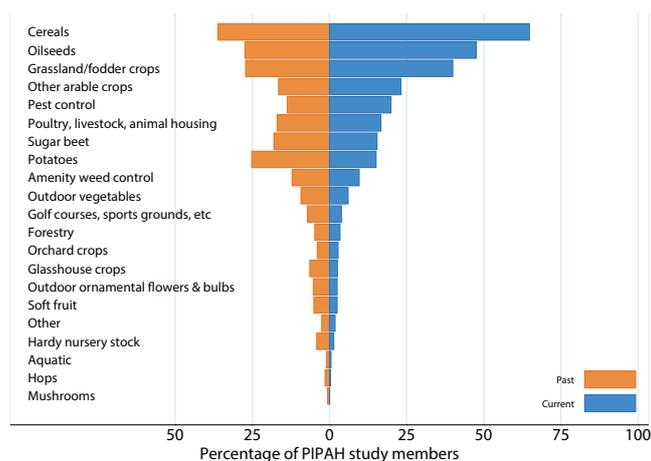
The data we present here is based on the information provided by the people joining the study in 2013 and in 2014. We now have a total of 5731 people who completed the general questionnaire, compared with 3522 in January 2014. The map of Great Britain shows which regions they live in. The average age of study members on joining the study is 54 years, and the minimum age is 17 years. The large majority (98%) of members are male.



Number of PIPAH study members, by region (for those providing a valid postcode)

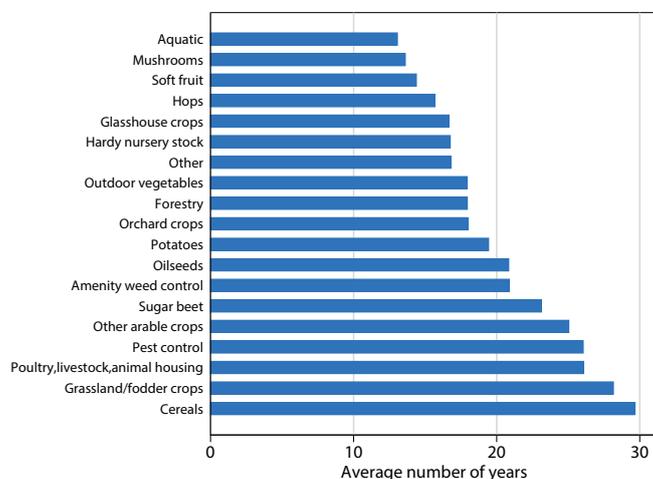
## Main areas of pesticide work

The responses to the questions on your main areas of pesticide work, both current and past, are summarised in the chart. The top five areas of current work are cereals, oilseeds, grassland/fodder crops, 'other arable crops' and pest control. The fourth and fifth most frequently reported areas of work in the past were potatoes and sugar beet, rather than 'other arable crops' and pest control.



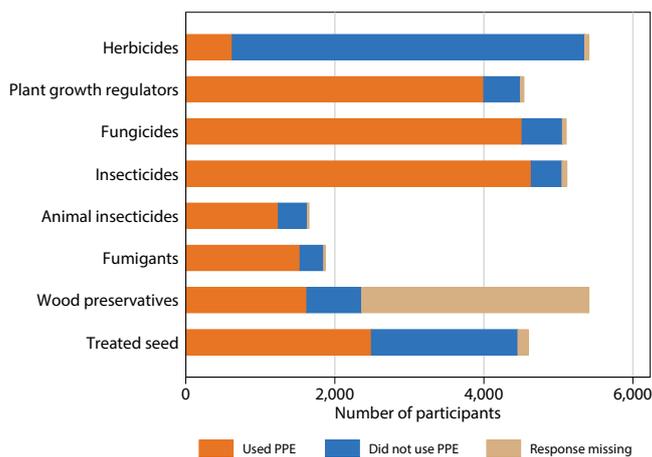
## Main areas of pesticide work: current and past

An important measure of pesticide use is the length of time an individual has spent working in a particular area. 'Cereals' is the area of pesticide work most commonly reported, and it is also the area in which members have on average worked the longest, nearly 30 years. 'Oilseeds' is ranked second in terms of the number of people reporting that they work in this area, but the average time worked in oilseeds is only 21 years.



Main areas of pesticide work: length of time worked in each area

Along with other measures to control exposure to pesticides at work, for some pesticides it is recommended that Personal Protective Equipment (PPE) is also used. In the accompanying chart we show the number of participants who reported applying each of seven types of pesticide or had worked with treated seed, and whether they usually used PPE. The chart shows clear differences in the use of PPE. Most striking is that most people did not use PPE when applying herbicides. Whereas, with the exception of wood preservatives, most people did use PPE when applying the remaining types of pesticide. When looking at this chart, it is important to bear in mind that some participants were reporting on pesticide use over many years. During that time the recommendations and regulations regarding the use of PPE have changed substantially.



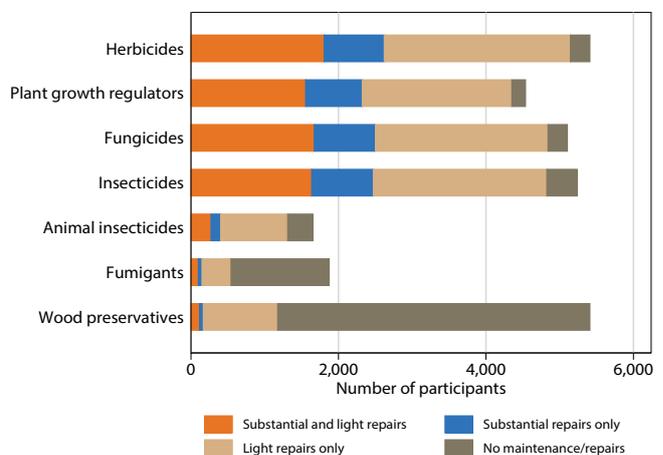
### Use of Personal Protective Equipment (PPE) when applying pesticides

In addition to providing information on the use of personal protective equipment, participants reported on how they had applied these pesticides.

- For those who applied herbicides, plant growth regulators, fungicides or insecticides, by far the most common means of application was a boom sprayer (more than 80%) and the next commonest was a knapsack sprayer (more than 20%).
- When applying herbicides, granule spreaders (26%), 'other' hand held sprayers (13%) and weed wipers (12%) were also frequently reported.

- Of the people who reported applying herbicides, plant growth regulators, fungicides or insecticides, less than 10% reported using any of the other possible application methods such as broadcast air-assisted sprayer, hand held mist applicator/fogger or aerial (aircraft) application.
- Nearly 60% of participants who applied fumigants used gas canisters, 17% used non-hand held foggers and 14% used hand held foggers. Less than 10% reported using other methods for applying fumigants.
- Brushing or spreading was the most commonly reported method of applying wood preservatives (21%), and less than 10% reported using the other methods.
- Pour on products was the most commonly reported method of applying poultry, livestock or animal housing pesticides (82%), and most of the other methods were used by at least 10% of participants who applied these pesticides.

The majority of participants reported that they had used herbicides, plant growth regulators, fungicides, insecticides, or wood preservatives. Substantially fewer people reported that they had used animal insecticides or fumigants (roughly 30%). Apart from mixing and applying pesticides, maintaining and repairing their pesticide mixing or application equipment can be part of a pesticide user's role. With the exception of equipment used for fumigants and wood preservatives, the large majority of participants who responded to the questions on maintaining or repairing their equipment, reported that they carried out some maintenance on their equipment.



### Level of repair or maintenance of application or mixing equipment undertaken by participants themselves



Once again, we would like to thank you for taking part in the PIPAH study and hope you continue to remain members of it. We certainly can't do without you and look forward to sending you another update. In the meantime, please don't hesitate to contact us either by email [PIPAH@hsl.gsi.gov.uk](mailto:PIPAH@hsl.gsi.gov.uk) or by freephone 0800 093 4809 if you have any queries or want to discuss any aspect of the PIPAH study with us.

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