



# The PIPAH Study Newsletter

## January 2017



**It has been four years since the first of you joined the PIPAH study, and we have now reached an important milestone. During these years and with your help we have developed, tested, and finalised the Pesticide Use Questionnaire which we have sent to you with this Newsletter. We cannot overstate the importance of this questionnaire. Without understanding which areas you work in, which pesticides you use and how you use them, we cannot investigate possible associations between pesticide use and health. Your active participation over the years has made this possible and we would like to thank you for all your contributions to the PIPAH study.**

### **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.

### **Our fourth year.....**

During 2016, we have focussed on exposure and in particular potential exposure to pesticides in the course of your work. We have concentrated on finalising the questionnaire we have developed to assess which pesticides you used and how you used them in the previous year. This questionnaire is critical to the aims of the study, which are to investigate potential links between use of pesticides and health. We have also spent time on developing a Crop-Job Exposure Matrix, which will help to improve the value of the exposure data you have provided and the quality of the research.



HSL Building

### **Moving on....**

Over the years we have had study members writing to let us know that they have retired. Or they have informed us that they have a new job and no longer use professional pesticide products. The information provided by retirees and others who have stopped using pesticides is just as valuable as the information we collect from those who are still actively using pesticides. This is because during any analysis investigating links between pesticide use and health, we will compare study members with different patterns of pesticide use. For example, we may want to compare the health of study members who have used a particular pesticide to the health of those who have not used it. Those who have retired or changed jobs may have used the pesticide in the past or may have never used it. This is all important information. So if members are happy to continue participating in the PIPAH study after they have stopped actively working with professional pesticides, they are welcome to do so. Participation in the study is voluntary and members can leave the study at any time if they would like to do so.

## PIPAH website

This may be a good time to remind you that the PIPAH study has a website. You will find a brief description of the study as well as information on the data we collect for the study. And there are links to important study documents and past newsletters.

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



## Cereals 2016

As in previous years, the PIPAH team attended the annual Cereals Show in June 2016 at Chrishall Grange, Nr Duxford, Cambridgeshire. Sharing a stand with NRoSO offers us great opportunities to meet up with PIPAH study members working across the agricultural and horticultural sectors. During this year's show we asked many of you about the practicalities of being part of the PIPAH study. We were particularly interested in hearing about your experiences of completing the pesticide use questionnaires (both the full and the postcard versions). You told us that the best time of year to complete the study questionnaires is in January, as this is one of the quietest periods in the agricultural year. Based on this feedback, we now plan to post the annual survey packs to you in early to mid-January.



## Members of the PIPAH Team talking to study members at Cereals 2016

In addition to talking to PIPAH study members, Cereals also provides good opportunities to publicise the study to other individuals and organisations, both within and outside the agricultural and horticultural communities. This year we used large posters to summarise some of the data from the first questionnaire you completed on joining the study and which we included in last year's newsletter. We spoke to many NRoSO members who are active pesticide sprayers but were not yet members of the PIPAH study. Nearly 50 of these sprayers expressed interest in becoming a study member after hearing about the longer term aims of the study, and about what it involves for members. We have sent each of them an invitation to join the study. In this way the PIPAH study membership will keep growing. We already have over 5700 members!

We plan to continue attending the Cereals show in forthcoming years. It is the best place to meet up with us in person, ask us about what is coming up in the study and to give us your feedback. To find us, just look for the NRoSO stand at the show!



## AGRICOH

The PIPAH study is a member of the AGRicultural COHorts (AGRICOH) consortium (<http://agricoh.iarc.fr>). This is an international group of research studies whose members work mainly in the agricultural sector. The aim of the consortium is to investigate the associations between agricultural exposures, including pesticides, and health by combining data from many different studies. Combining the studies will give their analyses more statistical power to investigate possible associations between exposures and health.

The AGRICOH consortium has also been working on their assessment of pesticide exposure. They have developed Crop Exposure Matrices for three of their studies, in much the same way as we are doing for the PIPAH study. They have published their work and it is accessible at <http://oem.bmj.com/content/early/2016/03/23/oemed-2015-103319>.

So far the PIPAH study has not taken part in any of AGRICOH's projects; we have been busy setting up the study and putting systems in place. However, being part of the AGRICOH consortium will offer opportunities for research collaborations and add value to the study in the future.

## Behind the scenes....

### Developing the questionnaires

In January 2016 we sent out two versions of the annual Pesticide Use Questionnaire. We sent a much shortened, postcard version of this questionnaire to the majority of you. We sent around 400 of our members a longer, more detailed Pesticide Use Questionnaire that we have been testing for the last three years. 48% of you returned completed questionnaires, and the team have spent time over the spring and summer months entering your data into the PIPAH database.

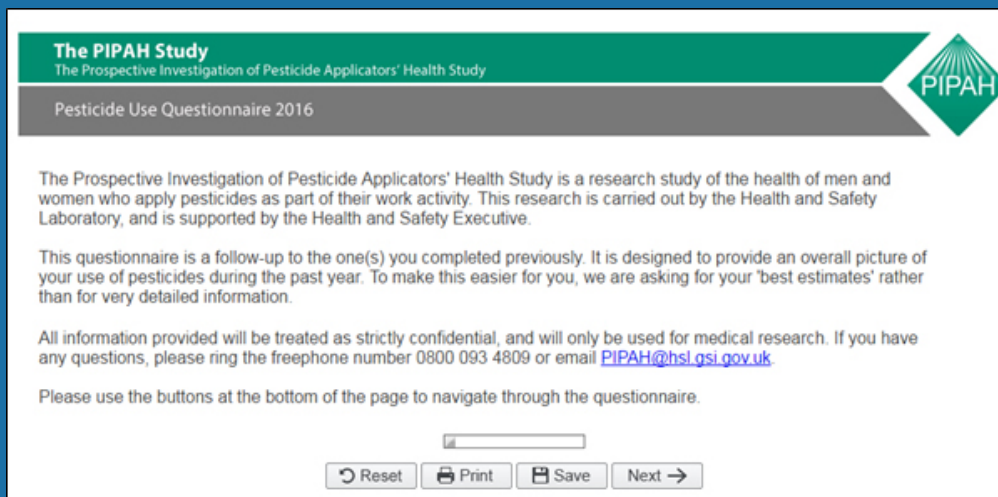
Those of you who received the detailed Pesticide Use Questionnaire also had the option of completing the questionnaire online, and 30% of you took up this option. Over the years, the PIPAH Team have been working to develop a web based questionnaire which is as easy to complete as the paper version. Completing questionnaires online offers a number of benefits, which include:

- Drop-down lists to select, for example, pesticide product names or types of personal protective equipment that should make completing the questionnaire quicker
- More accurate data - it is possible to make mistakes when entering the completed paper questionnaires into the database. Completing the questionnaire online reduces the chances of us making mistakes when reading hand written responses
- Reduced costs - the project saves money in lower postage costs and saves time and money by not having to manually enter responses into the database

In preparation for the January 2017 mailing of the longer version of the Pesticide Use Questionnaire, the team have made substantial improvements to the online version. These improvements include changes to the design of certain questions to make them easier to answer and changes that make the questionnaire faster to use. To make sure that the latest online version is as easy to use as possible, we asked several current pesticide users to test the website and give us feedback. We used the feedback from these users to make a series of changes that we hope has further improved the look and feel of the online version of the questionnaire.

## Online version of the Pesticide Use Questionnaire

This year we are asking all study members to complete the full version of the Pesticide Use Questionnaire. You will still have the option of completing the paper version, but the PIPAH Team would strongly encourage you to have a go at completing the questionnaire online!



The screenshot shows the online version of the Pesticide Use Questionnaire 2016. At the top, there is a green header with the text "The PIPAH Study" and "The Prospective Investigation of Pesticide Applicators' Health Study". Below this is a grey header with "Pesticide Use Questionnaire 2016" and the PIPAH logo. The main content area contains the following text:

The Prospective Investigation of Pesticide Applicators' Health Study is a research study of the health of men and women who apply pesticides as part of their work activity. This research is carried out by the Health and Safety Laboratory, and is supported by the Health and Safety Executive.

This questionnaire is a follow-up to the one(s) you completed previously. It is designed to provide an overall picture of your use of pesticides during the past year. To make this easier for you, we are asking for your 'best estimates' rather than for very detailed information.

All information provided will be treated as strictly confidential, and will only be used for medical research. If you have any questions, please ring the freephone number 0800 093 4809 or email [PIPAH@hsl.gsi.gov.uk](mailto:PIPAH@hsl.gsi.gov.uk).

Please use the buttons at the bottom of the page to navigate through the questionnaire.

At the bottom of the page, there are four buttons: "Reset", "Print", "Save", and "Next →".

## Assessing pesticide exposure

Colleagues in the Health and Safety Executive's Chemicals Regulation Division (CRD) and Fera are important stakeholders in the PIPAH study. We hold regular meetings with them to discuss progress with the study and plan future research activities. Most recently we have been working on the best way of using your questionnaire data to assess levels of pesticide exposure. The main tool for doing this will be a Crop-Job Exposure Matrix. This matrix will be developed using the information you have provided in the various questionnaires you have completed together with information obtained externally, for example the data collected on pesticide usage in Fera's Pesticide Usage Survey (<https://secure.fera.defra.gov.uk/pusstats/surveys/>). The last section in this Newsletter explains in more detail how we will do this.

## What's next?

We will be working on developing, validating and refining the Crop-Job Exposure Matrix, using data from the PIPAH study and external sources. You can find out more about the Crop-Job Exposure Matrix in the last section in this Newsletter. The matrix will play a major role in any future analysis that investigates potential links between pesticide use and health.

Next year, in January 2018, we will send you our annual newsletter as usual. But instead of asking you to complete the full Pesticide Use Questionnaire as we have done this year, we plan to send you the follow-up General Questionnaire which will ask you to update some of the information you provided us in the very first questionnaire you completed. A blank copy of the General Questionnaire you completed on joining is available on the PIPAH study website. You may recall that it asked questions, among other things, about self-reported ill health, diet and other lifestyle factors as well as questions on your main areas of pesticide use. Some of the questions were only relevant when you first joined the study, so in next year's questionnaire we will replace them with new questions on health. You may be wondering why we ask for updates, but it is important that we learn if things which could influence your health have changed since you joined the study.

## How can we assess your exposure to pesticides?

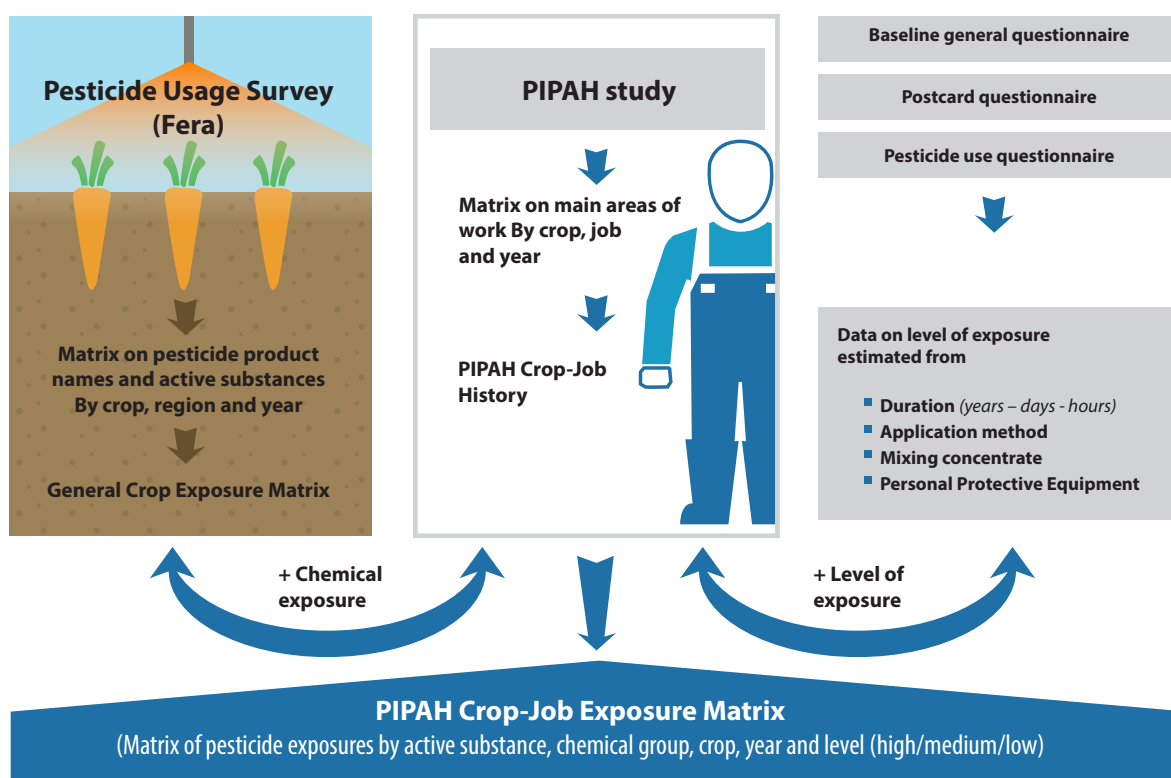
The information we collect in the PIPAH study falls into three categories: information on pesticide use, information about your health, and information on other factors which could affect your health. This information is gathered from the questionnaires you complete. At the same time we are also planning to gather information on specific health outcomes from administrative health data, including accessing the hospital episode statistics and cancer and death registration data following a strict process through NHS Digital (<https://digital.nhs.uk/article/220/Our-purpose>) for those of you who consented to this.

The information you provided on health and that obtained from administrative health data sources is usually in the format that can readily be used in an analysis. But to get the pesticide use data into a form which can be used for analysis is far more complicated. There are two parts to preparing the data. The first is to use the information you have provided to develop a Crop-Job History for every member of the study. This will summarise each member's areas of work over time.

The second is to develop a Crop-Job Exposure Matrix, which is a means for assessing occupational exposures. The matrix will cover the time from when you first used pesticides before you joined the study up to the present day. The infographic shows how we plan to pull different data sources together for the development of the Crop-Job Exposure Matrix.

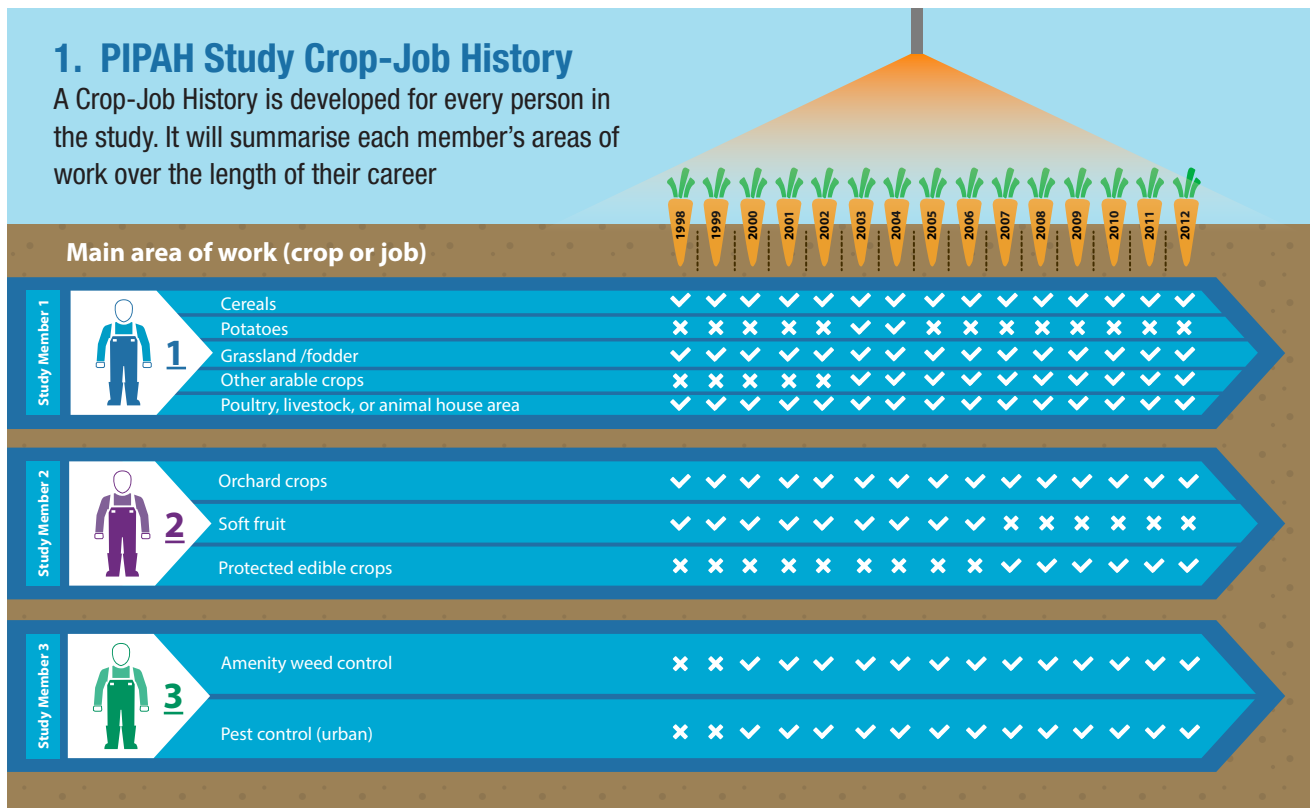
You may be thinking that this will give us a very rough estimate of potential exposure. In some ways you will be right. However, when we come to analyse the data, we will categorise people's exposures into groups and make comparisons between the groups. For example, we may want to class people as having high, medium or low exposure to a specific pesticide, and then compare the health of the three groups. Grouping the data in this way will ensure that individuals cannot be identified in any reports. Provided our estimates allow us to identify the right group for each person, the method will deliver valid results.

### Developing the PIPAH Study Crop-Job Exposure Matrix: information sources



## 1. PIPAH Study Crop-Job History

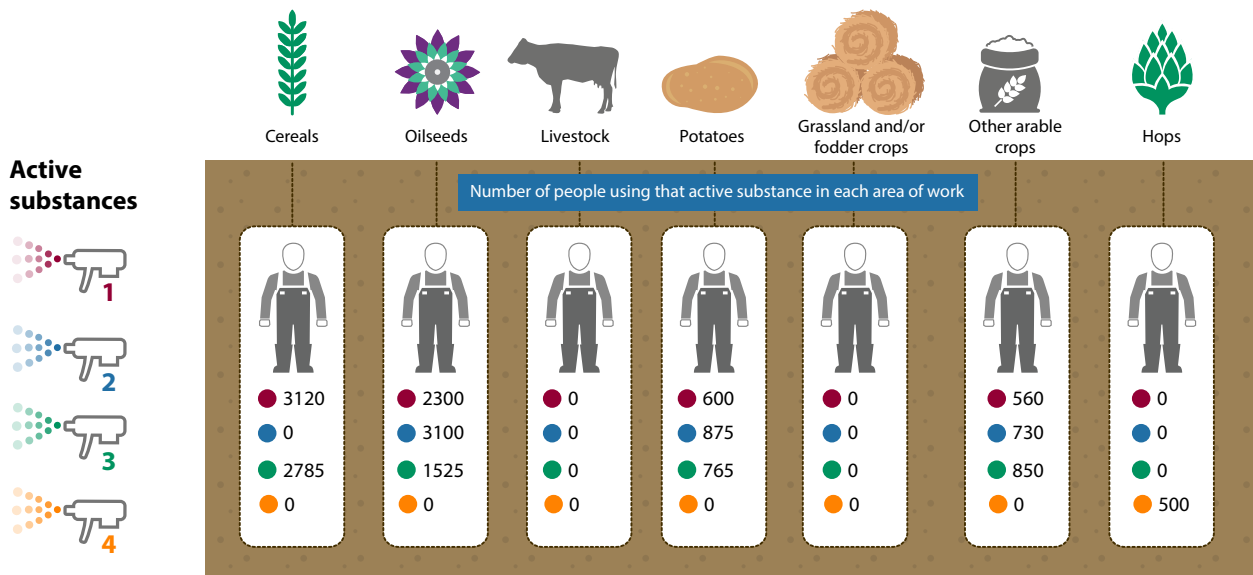
A Crop-Job History is developed for every person in the study. It will summarise each member's areas of work over the length of their career



## 2. PIPAH Study Crop-Job Exposure Matrix

A Crop-Job Exposure Matrix is a means for estimating occupational exposures. In the PIPAH study, the matrix will consist of a classification of crop or job by year and active substance

**Year: 2012** There will be a separate table for each year





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 we 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, want to discuss any aspect of the PIPAH study with us, or if you would like to update your current contact information.

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**Visit our webpage** <http://www.hsl.gov.uk/resources/major-projects/pipah>

