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ORAL EVIDENCE

TAKEN BEFORE THE

ENVIRONMENTAL AUDIT COMMITTEE

INSECTS AND INSECTICIDES

WEDNESDAY 6 FEBRUARY 2013

HERMAN FONTIER

GEORGINA DOWNS

CHRIS BEAN and PETER RILEY

Evidence heard in Public Questions 481 - 582

USE OF THE TRANSCRIPT

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Oral Evidence

Taken before the Environmental Audit Committee

on Wednesday 6 February 2013

Members present:

Joan Walley (Chair)
Neil Carmichael
Martin Caton
Chris Evans
Zac Goldsmith
Mark Lazarowicz
Caroline Lucas
Caroline Nokes
Dr Matthew Offord
Mr Mark Spencer
Simon Wright

Examination of Witness

Witness: **Herman Fontier**, Head of Pesticides, European Food Safety Authority, gave evidence.

Q481 Chair: Mr Fontier, it gives us great pleasure to be able to welcome you before our Committee this afternoon, and we are very grateful to you for coming especially, I understand. I think it is particularly appropriate, given the stage of our inquiry and the recent work that you have done. What we would like to do is begin by asking you if you could perhaps share with us the role and the remit of EFSA—the European Food Safety Authority—and if you could tell us a little bit more about the way in which the pesticide approval system works and the background to the current assessments that you have had just done.

Herman Fontier: Okay; thank you. The European Food Safety Authority was established following a number of food crises in the 1990s. There was the BSE, the dioxin crisis in Belgium, and at that point it was decided that there was a need to change the system; that there was a need in fact to split the risk assessment from the risk management. This is reflected in the preamble to the Food Law. The Food Law is the regulation establishing the European Food Safety Authority. In the preamble we can read, "In order for there to be confidence in the scientific basis for the Food Law, risk assessments should be undertaken in an independent, objective and transparent manner on the basis of available scientific information and data". That is exactly what we are doing in the EFSA: independent risk assessments on scientific information in an objective and transparent manner.

The European Food Safety Authority is more than just food safety, and particularly in the area of pesticides, the remit of EFSA goes far beyond food safety. For reasons of efficiency, it has been decided that in fact EFSA would be responsible for the full risk assessment of pesticides, including other aspects than consumer health. That is operator, bystanders, workers' exposure and health and, also very important, the whole environmental risk assessment is done within EFSA, although obviously this has not much to do with food safety. Is that sufficient?

Q482 Chair: Yes. I think we are interested to know whether or not you can initiate assessments of this kind or whether you have to wait to be asked to do it, and how it works that you came be to do this particular assessment.

Herman Fontier: This is also regulated. You can in fact ask us to perform a risk assessment. It can be at the request of the European Commission. It can be because there are legal provisions allocating this task to EFSA. We can also perform a task on our own initiative, and, finally, the members of the European Parliament and also member states can task EFSA. As regards the pesticides, most of the work we are doing—and by that I mean evaluations of pesticide active substances—results from legal obligations laid down in several regulations.

Our role has been clearly defined by the legislation. In this particular case of the three neonicotinoids, the situation was different because we have been mandated explicitly by the European Commission to undertake this work. Last year, the Commission sent us a mandate and has requested us to come up with a conclusion on clothianidin, imidacloprid and thiamethoxam. The Commission has also clarified or imposed upon us certain information to be used. That is, we had to use all the information as submitted by the applicants for the EU approval of these active substances; all the information submitted by the applicants in the context of applications for authorisations at national level for plant protection products containing these active substances.

We have been tasked to use the scientific opinion prepared by EFSA last year, a scientific opinion that is a preparatory document that will lead further to the development of a guidance document with a risk assessment methodology for pesticides impact on bees. We have been asked to use a scientific opinion that is only preparatory to a guidance document, and I am emphasising this because this is explaining a lot of the uncertainties we have highlighted in our conclusions. Further, we have been asked to take into account new scientific literature, which is already incorporated in the scientific opinion on the science behind the risk assessment document.

Q483 Chair: You said you have been asked to take into account new certification.

Herman Fontier: New scientific studies, published literature, and, further, all monitoring data that was made available by the member states. We had to consider all uses authorised in the EU and that is for seed treatment formulations and for granules. This was the mandate, as we have received it from the European Commission.

Q484 Chair: Thank you. One final question from me: why did you not look at honey bees earlier?

Herman Fontier: We have not been involved in the process for clothianidin and thiamethoxam for the very simple reason that the process had started before EFSA was established and there was no legal basis for us to step into the process. For imidacloprid, on the other hand, which was considered later in the review programme by the European Commission, we have been involved, and in 2008, we delivered a conclusion on imidacloprid.

Q485 Chair: Can I just clarify, then: does that mean that your predecessors or whoever was involved prior to you being involved, if there had been an assessment done of a certain product of one kind or another, that you would not revisit that? You would just take as read the basis on which that authorisation had been given?

Herman Fontier: Yes. In principle, we could have started revising all evaluations done in the past, but the resources are not there to do that, and, as I say, our programme is extremely challenging. We have to deal with all the new active substances, but at a certain point we also stepped in the process of the evaluation in view of the review of existing active

substances, and there were 1,000 existing active substances when the EU legislation was put in place. That was adopted in 1991 and applicable in 1993. This was a huge programme, and at a certain point we got involved in the programme. All our resources were absorbed by that work, and there was no way for us to start doing other things spontaneously.

Q486 Zac Goldsmith: Colleagues are going to be asking you specifically about the 16 January risk assessment, so I am going to leave that for one second. I just want to ask you more about the composition of EFSA. Can you tell us what kind of skills and areas of expertise are brought together when assessing pesticides?

Herman Fontier: In general, or specifically for the—

Zac Goldsmith: In general, when it comes to assessing the risk of pesticides.

Herman Fontier: Yes. The process we have been following—and, again, this was the result of the mandate we received from the Commission—was quite different for the neonicotinoids compared to the normal procedure leading to the conclusion following an EFSA peer review. The normal procedure is that the dossier is submitted by the applicant to a rapporteur member state. The rapporteur member state has to evaluate the dossier and lay down its evaluation in what is called a draft assessment report that is then sent to EFSA. EFSA, as the next steps, has to organise a commenting. That means we are sending the draft assessment report to all the member states, inviting them to comment generally within 60 days. In parallel, the draft assessment report is made publicly available, and also the public at large has a possibility to send in comments.

These are then considered by the rapporteur member state and by EFSA, and generally a number of issues that have been highlighted during the commenting are selected for further consultation in a series of expert meetings organised by EFSA involving experts from the member states. We ask the member states to nominate experts for participation in these meetings.

Q487 Zac Goldsmith: All member states?

Herman Fontier: All member states can participate, but typically we would see something like 12 member states designating.

Q488 Zac Goldsmith: Did the UK Government recommend any experts?

Herman Fontier: In most cases, they do.

Zac Goldsmith: But in the case of the risk assessment that you released in January—

Herman Fontier: No.

Q489 Zac Goldsmith: We did. I probably ought to know this, but just to be clear the preliminary risk assessment goes out to member states. Member states then have a right to comment on it and raise issues before you reach your own conclusions. At that point, before you reached your own conclusions, did the UK Government make any representations? Were there any issues that it raised?

Herman Fontier: I have to admit I do not know by heart what member states, out of the 27 we have, have submitted comments in the commenting round. I was explaining the general way it works, and, as I said a moment ago, there is a difference here in the case of the neonicotinoids and the difference is that there was no rapporteur member state involved. Normally, the procedure is the dossier is submitted by the applicant to a rapporteur member state. In that particular case, the Commission has tasked us to collect the information directly from the applicants, from the member states, and we have collected the information and drafted a draft conclusion. As there was no draft assessment report, in an annex to our draft conclusion we submitted what we call study evaluation notes; for each study, a quite detailed

note with our evaluation of the study. Then this whole package was sent out for commenting to the member states.

Q490 Zac Goldsmith: You are still collecting responses from member states now?

Herman Fontier: No. We have been collecting the comments. We have organised, in almost one week, an expert meeting to discuss the three neonicotinoids. Then we have made available to the member states another draft of the conclusion, sent it to them for final written comments to be made on our draft conclusion, and then we had finalised by the end of December these conclusions, after the sanitisation process—elimination of confidential information—have been published.

Q491 Zac Goldsmith: When you talk about EFSA, who makes those decisions? Whose job is it to look at all the evidence that is submitted and take a view? What kind of background do they have?

Herman Fontier: We have a big unit. The pesticides unit is almost 50 persons, and we have experts in that area. We have four experts in the area of ecotoxicology, and these persons have been in charge of evaluating the studies and of drafting the conclusion.

Q492 Zac Goldsmith: To what extent are your experts reliant on research that has been paid for by the industries in question and how much are you able to generate yourself?

Herman Fontier: For sure we cannot generate studies ourselves. We certainly do not have the resources for that, but we have been mandated by the Commission to take into account the studies as generated by industry, and so we have done. We have also been tasked to look into independent scientific literature, and so we have done. We have taken into account, I think, all relevant information that is available.

Q493 Zac Goldsmith: Could I ask you what happens now? You released your findings halfway through last month. Is that the end? Are member states now supposed to come back to you responding to what you have done, or is it now entirely to the discretion of other decision-makers as to where to take this? Is your job done now on this issue?

Herman Fontier: Our job is done, at least for this, because we are now working on another similar conclusion for an active substance called fipronil having similar effects on bees. We have delivered our risk assessment, our conclusion, and we have tried to make it clear what the risk is and what the uncertainties are associated to our risk assessment. Now, it is up to the risk managers—that is, the European Commission together with the member states—to take a decision, and we are not involved in that decision-making process, nor do we advise the decision-makers what they should do.

Q494 Zac Goldsmith: I know colleagues are going to come to this in a second, but even where you highlight that there are gaps in the research and, by implication, you are asking questions and providing answers, there is no obligation on anyone to come back with those answers?

Herman Fontier: There is no such obligation.

Q495 Zac Goldsmith: Theoretically, this could just disappear into the ether and be ignored by member states? There is no body that is going to be taking the information you provided and following through with it?

Herman Fontier: The member states together with the European Commission have to come to a decision. This is done through the so-called comitology procedure. That is, the Commission should try to find, in the Standing Committee where all member states are

represented, a qualified majority for a certain proposal. Now the Commission is consulting with the member states. It is making proposals. It is seeking a proposal that, at the end of the day, might achieve getting a qualified majority. This can include that within a certain time limit data gaps must be addressed by the applicants. That is a possibility that has been used many times by the European Commission.

Q496 Caroline Lucas: If there is not a qualified majority, if there were a simple majority, would that still be enough to move in a certain direction? I seem to remember from my days in Brussels there were examples when you fell short of a qualified majority, there was a simple majority but because it was not qualified the status quo ante remained, if you see what I mean. You got the sense that there was a will there to do a certain action, but it did not happen because it did not quite get that QMV.

Herman Fontier: A qualified majority is needed. The Commission needs a qualified majority in order to adopt the decision it has proposed, but, of course, if there is no qualified majority, then it goes to a higher level. It goes to the Appeal Committee. In former days, it would go to the Council of Ministers, but, with the change in the comitology, it now goes to the Appeal Committee. We are not involved in that process, as an EFSA.

Q497 Caroline Lucas: When Zac was talking about member states being able to comment and so forth, are they commenting on the methodology, or are they commenting on the assessment that you are making as well?

Herman Fontier: They are commenting on the assessment because, to a large extent, the methodology is laid down in the legislation.

Q498 Caroline Lucas: Is it already a political decision they are taking at that point? People sometimes make distinctions between risk assessment and risk management. Risk management is clearly a much more political issue, where you are measuring trade-offs and so forth. Would you agree that the risk assessment is quite a political process as well in that case?

Herman Fontier: There is indeed a separation between risk assessment and risk management, and it is acknowledged at the level of risk management that other elements than just EFSA's scientific advice is taken into account. This is also laid down by the preamble to the Food Law, where it is acknowledged that—

Q499 Caroline Lucas: Yes, but on the risk assessment side of it; I think on management it is clear. On the risk assessment, to what extent do you think that is open to political pressure? It does not sound like it is quite the neutral process that it might sound as if it would be.

Herman Fontier: We have our expert meeting with the representatives of the member states. This is a scientific meeting, so it is focused on the science. It would become immediately clear if a member state representative would try to insert in the discussion other elements that are not science-based. That would become immediately clear, and, at the end of the day, it is important to understand we are not bound by the outcome of the expert discussion. We listen carefully to them. It is useful to have a discussion with the experts of the member state, but, at the end of the day, the conclusion is not merely a conclusion of the expert discussion. It is the conclusion of EFSA as an independent scientific organisation, and in many cases member states do not agree with us for whatever reason. They wish to see highlighted in the meeting minutes that they have disagreed with our approach, and that is fair. We note it in the minutes, but we are responsible for the content of our conclusion.

Q500 Caroline Lucas: Those minutes are public, aren't they?
Herman Fontier: Yes.

Q501 Mr Spencer: How easy is it to go back and re-look if new evidence comes to light? Do you have the power to revisit any recommendations, or does someone have to engage you to do that?
Herman Fontier: To revisit our own recommendation?
Mr Spencer: Yes; for example, your recommendations around dust levels and there being an acute risk to honey bees through dust. If there was a technological advancement where the dust is reduced or if there is further scientific evidence to the contrary, do you have the ability to go back and revisit that?
Herman Fontier: In principle, we could do that, but, again, the workload is such that we would simply not be in a position to start revisiting conclusions we have delivered earlier. However, if it becomes clear that there was new evidence—and this would apply more to adverse effects, in fact, being highlighted in a new scientific publication—at such a point there is no doubt that the Commission would ask us to revisit a conclusion we have delivered earlier.
Chair: I think we will return to the precautionary principle.

Q502 Zac Goldsmith: On the point that has just been made, the minutes are public. Are the submissions by member states also public? All the feedback that you have had from member states: is that all publicly available?
Herman Fontier: Yes, it is. Obviously, we make our conclusions publicly available and the background documents to the conclusion as well. That is quite a lot of documents. It is many hundreds and hundreds of pages.

Q503 Zac Goldsmith: I realise I am hogging this, but I have one other question before I get to the precautionary principle, and that is: what measures are taken by EFSA to ensure that your experts are also independent? In other words, what measures are there to prevent the potentially corrosive effect of the revolving door between business and regulators?
Herman Fontier: We have an independence policy in EFSA that, in the first instance, mandatorily applies to all external experts involved in EFSA's activities, but EFSA has decided that also the staff members must make an annual declaration of interest.

Q504 Zac Goldsmith: I am going to finish with one question that is on the precautionary principle, which is at the heart of your risk assessment. The position taken is based on the application of the precautionary principle, and I am just interested to know: is there a standard threshold of risk that you apply? Is there a specific formula that you apply that would enable us to understand how you apply the precautionary principle generally speaking, not just in relation to this?
Herman Fontier: I do not think we apply the precautionary principle. My understanding is that it is up to the risk managers to apply the precautionary principle and to weigh several elements; but of course, there are criteria we do use saying when a substance can be considered as being safe: yes or no. These criteria are laid down, to a certain extent, in the legislation.

Q505 Zac Goldsmith: I just want to question that, because in the risk assessment that you have released there was some quite specific advice given on where neonicotinoids should

and should not be used. Presumably, that is based on your application of the precautionary principle.

Herman Fontier: I would not say so. To come back to the uniform principles laying down the methodology for the evaluation of pesticides, that is a legal text, and also the criteria for authorisation. The one clear criterion for the bees is the hazard quotient. If the hazard quotient is more, which is putting in relation the dose rate and the toxicity to bees, it is a very simple approach in fact. The hazard quotient: when it is above 50—that is the criterion laid down in the legislation—then an authorisation cannot be granted. The problem we have been facing is linked to the fact that we are developing a new risk assessment methodology for bees.

As I explained, we have adopted this scientific opinion, which is the first step leading towards the adoption of a guidance document. When we were performing our evaluation, we did not have the guidance document. We had the scientific opinion, which is not a guidance document. In the guidance document, you need to lay down the criteria. The criteria so far have not been laid down other than the hazard quotient I have just mentioned, and the criteria have to be laid down in dialogue with the risk managers because, "What is safe?" is not just a scientific question. It is a question that has to be answered in dialogue between the risk assessors and the risk managers. If you put the safety level extremely high, then probably you do not have any products left in the market. It has to be decided by the risk managers what is the safety level. There is the criterion. This has not been done, and from there the fact that on many occasions we have written in our conclusion, "No criteria. We can't for sure finalise the risk assessment. There is a high level of uncertainty." This is explaining also a lot of the Xs in the table at the end of the conclusions.

Zac Goldsmith: I am going to have to stop there, I think.

Q506 Simon Wright: I would like to ask a few questions about your risk assessment of 16 January, which says that using neonicotinoids only for crops not attractive to honey bees would be acceptable. I would like your views. With such an assessment, it would seem perhaps that the only response that the UK Government could take would be to ban their use for oilseed rape and other flowering crops grown in the UK. Does your assessment leave any room for a different policy response?

Herman Fontier: There is nothing binding about our conclusion. It is a conclusion addressed to the risk managers. The decision has to be taken by the European Commission, together with the member states. What member states can do will depend on the decision that will be taken at the end of the day by the European Commission, together with the member states. There is no direct consequence resulting from our conclusion as regards the authorisations in the member states. This consequence will be there once the decision has been taken by the European Commission. The Commission might decide that only uses on crops not attractive to bees can be authorised. The Commission might take another view.

Q507 Simon Wright: What might that other view be?

Herman Fontier: You should ask the Commission. I don't know.

Q508 Simon Wright: Is your assessment that using neonicotinoids only for crops not attractive to honey bees would be acceptable because you do not know the extent of the potential harmful effects to bee populations, or is it because you have strong evidence of harmful effects?

Herman Fontier: In some cases, it is because there is evidence. In other cases, it is because we were not able to finalise the risk assessment; in most cases, because we did not have sufficient data to do so; so we could not conclude that it is safe.

Q509 Simon Wright: Your risk assessment reflects the more stringent tests of the effects of pesticides on bees and how field trials are interpreted. Have those higher standards yet been approved by the European Commission?

Herman Fontier: No. Again, that is linked to the use we have been making of the scientific opinion on the science behind the risk assessment methodology for bees, and, again, where we have used the scientific opinion, it is because we have been requested by the European Commission in the mandate to do so.

Q510 Simon Wright: When would you expect new standards for approving new pesticides to take effect?

Herman Fontier: The guidance document we are developing should be finalised by the end of May of this year. The next step then is for the European Commission to take note of the guidance document in the Standing Committee and to decide on a date as of when the guidance document has to be implemented to be applied in the risk assessment process. There are other elements. There are the data requirements that have been laid down back in the 1990s by the European Commission in a series of directives. These data requirements have been revised, because a text to be published has been voted in the Standing Committee in July last year and should be published, I hope, in the next few months. These new data requirements will impose more studies with regard to bees, and that was necessary because we have now also a new regulation in place, the regulation 1107/2009—adopted in 2009, obviously, but only applicable since June 2011—with criteria added to the criteria compared to the previous legislation. In particular, criteria for the approval after evaluation for bees have been highlighted very clearly in that new regulation.

Q511 Simon Wright: One last area of questioning: I do not know whether you have seen the evidence provided to our Committee last week by Bayer, but they complained about knowledge gaps being created by EFSA changing the risk criteria and that the new standards were extremely onerous. Did EFSA take into account how long it might take for the pesticides companies to be able to do the research necessary to fill in any new knowledge gaps?

Herman Fontier: I would not say that we have created a knowledge gap. For sure in our scientific opinion and in our guidance document the result is that we will ask for more studies. Why do we do that? Because there is evidence that there are effects—sub-lethal effects, effects on bee colony development and effects on bee behaviour—and there are effects that, with the current methodology, cannot be assessed in a reliable way. In order to be able to make a reliable assessment of these important effects on bees, I think we had no other choice but to adress this in our risk assessment methodology, resulting thus also in the submission of further new studies in order to demonstrate whether these effects occur: yes or no. I am aware this is a burden on the companies, but I think it is also the result of us taking into account new scientific insights.

Q512 Caroline Lucas: I just wanted to go back to the risk assessment and the risk management, particularly around the assessment that, as Simon has said, is quite strong in terms of the language in which it is worded; in other words, "Only uses on crops not attractive to honey bees: we consider that acceptable". If a member state chooses in its risk management procedure to override that, to ignore it and to do something else, are you party to the discussions and debate that goes on for them to come up to that conclusion? I am wondering what happens to something that looks like it is coming from a fairly scientifically rigorous process and then it arrives in a member state who might then be thinking about the strength of

the farming lobby or all sorts of other issues that it has to take into account when it makes its decision. Do you still have any voice at that time?

Herman Fontier: No. We can listen, but we can't really speak up.

Q513 Caroline Lucas: Do you think EFSA should have that power?

Herman Fontier: No. We have been created as an EFSA because there was a need identified to separate clearly the risk assessment from the risk managing process. We are just doing our risk assessment, and we would not wish the risk managers to interfere with our activities. Similarly, I do not think we should interfere with the activities of the risk managers. It is their job to sort it out now and it all depends on how the measures at the end of the day are adopted by the Commission; what level of stringency, if I can say that. The Commission can just say, "Well, member states must pay particular attention to this and this," and member states can ignore it at the end of the day, or the Commission can say, "Member states shall not authorise neonicotinoids on crops that are attractive to bees." That is an option, but we have no say in that.

Q514 Caroline Lucas: I suppose all I am getting at here is that the process that has gone into your coming to the conclusion of saying, "Only uses on crops not attractive to honey bees should be possible," an awful lot of scientific rigour has gone into getting yourself to that process. You have had some of the member states' experts in that process as well, and you are not just saying, "Well, you might keep an extra eye on it," or, "It might be dangerous; you might want to look at it." That is a fairly categorical statement, and I am just wondering about the process, that if then a member state decides to do something completely different, you just say, "Fine, so be it." There is nothing more you can do?

Herman Fontier: There is nothing more we can do. At the end of the day, it is a recommendation from our side. It is up to the risk managers to implement this recommendation in one or other way in a legal text, which can be more or less mandatory for the member states. I can just repeat: it can be, "Member states, you shall or shall not do this and that," or, "Member states, you must pay particular attention. You must ensure that there are risk mitigation measures put in place in order to avoid that there will be an unacceptable impact on bees." All these are possibilities.

Q515 Mr Spencer: You clearly came to the conclusion that you did not want to go down that route of, "You shall not use these chemicals." I just wondered, is that because you are uncomfortable with the gaps in the knowledge?

Herman Fontier: We do not say, "You shall not use it." It is not our role to say that. We just come to the conclusion that it has not been demonstrated that use on attractive crops is safe, but if member states can convince the European Commission that they are in a position to impose efficient risk mitigation measures to the area with that risk, the Commission may choose not to use wording "shall" or "shall not".

Q516 Mr Spencer: In your assessments, did you look at the possible implications then of what might happen if they were removed from the toolbox and we decided not to use neonicotinoids? Did the risk assessment take into account what other chemicals might be used?

Herman Fontier: No, we did not do that.

Mr Spencer: That does not take any part in that assessment?

Herman Fontier: No.

Q517 Mr Spencer: Do you look at the impact on European agriculture at all? Is that taken into account, the impact on yields across Europe?

Herman Fontier: Not at all. Again, I think this was very explicitly the intention of the legislator when creating the European Food Safety Authority when separating the risk assessment from the risk management. To come back to the crises that occurred in the late 1990s, what went wrong was a proper risk assessment could not be performed because there was this interference all the time from risk management considerations, leading to a lack of transparency, a lack of clarity on the scientific issues at stake. Therefore, we just look into the science, but it is acknowledged that socio-economic aspects can be taken into account indeed by the risk managers and they should put things in the balance.

Q518 Mr Spencer: Obviously, if there is a containment of use of neonicotinoids within the European Union and the EU looks to procure those products from outside the EU, are we in a circumstance where those chemicals can still be used in other parts of the world but we just import that product?

Herman Fontier: We could import. I am now speaking in general. It is always possible for a substance that has been banned in the EU, and many of them have, that import tolerances are set. That means that for food commodities imported from third countries where the substance is still in use, it is possible to apply for the setting of an import tolerance, which of course can only be set and accepted in the legislation where it has been demonstrated that it does not involve any risk for the consumer.

Q519 Mr Spencer: Given that neonicotinoids, by their very nature, are designed to kill insects, in your professional opinion is it possible to design an insecticide that does not have an impact on bees, given that they are insects?

Herman Fontier: I think that neonicotinoids are very toxic to bees; not all of them. In the European Union, five neonicotinoids are approved: the three we have now revised, but two further neonicotinoids are approved as well. It is acetamiprid and thiacloprid. In the first instance, we had been mandated by the Commission to look into these as well, but then, because the task was just too much for us, the Commission said, "Forget for the time being about acetamiprid and thiacloprid." Why? Because they are much less toxic to bees. It is a factor of 1,000. It is a huge difference.

Q520 Mr Spencer: It may be possible for member states to continue using those chemicals that you have not assessed but just take out that one neonicotinoid at this stage? I am asking you to look in your crystal ball.

Herman Fontier: For the time being, I do not know what will happen with the three neonicotinoids that we have assessed, and, of course, it is an ongoing process. Active substances are approved for a period of 10 years, and every 10 years they are all assessed again. When we have adopted our guidance document, in the next 10 years all the active substances that are approved will be evaluated against the guidance document. But, yes, there is time needed to do so.

Q521 Zac Goldsmith: When you talk about the risk managers, just to be clear, are you principally talking about individual governments, or are you talking about a European level of risk management?

Herman Fontier: I am talking about both the European Commission and the member states, because the decision-making is in the Standing Committee, where all member states are represented but where the Commission has the initiative.

Q522 Caroline Nokes: Last week, Bayer told the Committee that your imidacloprid risk assessment at EFSA had not taken into account all of the available research, including studies that had been referenced in earlier draft reports. Their feeling was that EFSA had not given sufficient weight to real-world higher-tier field trials, which showed that imidacloprid was safe. How would you respond to that criticism?

Herman Fontier: I am aware of this allegation made by Bayer; that leaves me a little puzzled, because we have indeed requested applicants to submit all the available data and they have done so, I thought. They had submitted a data package, which we have evaluated from the first to the last study. If you look into our conclusion—the imidacloprid one, if we talk about Bayer—then you will see that we talk about higher-tier studies, semi-field studies and field studies and that we try to use these studies, which is not always easy, because there are issues with representativeness of the study conditions for the actual uses as authorised in the EU. But we have used them, and where we could come to more a favourable conclusion then we have come to that conclusion.

Just to give an example, the impact of nectar and pollen contaminated with neonicotinoids in rapeseed, we have, in the case of thiamethoxam, relatively good studies that have evaluated, in that particular case, the acute toxicity to bees. The outcome of thiamethoxam is different to clothianidin and imidacloprid. That is because we have duly taken into account these studies. There is still an "X", but for others there is not. We have taken into account field and semi-field studies, higher-tier studies, and if we have missed studies, then Bayer should tell us, but I am not aware of that.

Q523 Caroline Nokes: The recent risk assessment, and I have the table in front of me, seems to identify risks far more readily for potential acute effects than for long-term or chronic effects on honey bees, and there still seems to be a number of knowledge gaps for some types of crops. How confident are you that all neonicotinoids that you assessed do in fact present unacceptable risks when used on crops that are attractive to bees?

Herman Fontier: I do not think we say they have unacceptable effects. We have considered the different routes of exposure—the acute, the chronic, the bee brood—where possible. Then in each case we have tried to give the necessary information to the risk manager. Could we do a risk assessment? In some cases, not at all. Dust, chronic, long-term exposure—it was difficult. Therefore, we have all these Xs in the tables. In a lot of cases, we identified a risk, but very often that was at the first-tier risk assessment. Does that mean that the risk is for sure unacceptable? No. It means that for first-tier risk assessment the outcome is negative, but it does not mean that if higher-tier studies in future are submitted that it may appear that the risk is acceptable. We just do not know, because they are not there, but if we have been able to do a first-tier assessment and the outcome is there is a risk using that methodology, then we put an "R" in the table.

Q524 Mark Lazarowicz: If we could look more generally at the system of reviewing pesticides in the UK—you have regulatory bodies at member states level and you have EFSA and the European Commission—do you think that this system of a number of bodies leads to increased rigour in the assessment process, or are there ways that the system could be usefully improved?

Herman Fontier: I think it is useful to have different players in the process. There is also a question of volume. I will explain. Every year, we deliver something like 60 conclusions on pesticide active substances. Behind each conclusion, there is a dossier submitted with between 400 and 1,000 studies. One study can contain several thousands of pages. Considering this volume, I think it is obvious that, even if the pesticides unit is relatively big with its 50 staff members, we would not be able to handle such a volume if we

would have to do the evaluation from the start; therefore, this contribution, as you could call it, where member states or member states' competent authorities do a first evaluation giving the opportunity then to all the others—and also to the applicant, by the way—to comment on the evaluation, build further on this commenting and consider them further in expert meetings. I think we have quite a balanced and sophisticated approach to take on board all the expertise at large within the EU but still ensuring at the end of the day that the conclusion by EFSA is an independent one.

Q525 Mark Lazarowicz: When you do receive a draft assessment report seeking approval for a new pesticide, do you rely entirely upon the research which is provided to you, or can you yourself carry out checks or commission further research as a matter of course?

Herman Fontier: Carry out research, no. We cannot do that.

Q526 Mark Lazarowicz: Is that because you are restricted by legislation on that issue, or is it just a question of resources?

Herman Fontier: It is not at all foreseen in the legislation that we would do that. The applicant has a duty to generate the dossier and, of course, the quality assurance elements in the system—the dossier, the studies that are relevant for human and animal health and environment—must be performed according to the Good Laboratory Practices, which is a quality system. On top of that, the new regulation 1107/2009 says that a literature search must be performed in order to retrieve from the published literature, published in the last 10 years, all relevant information for the purpose of the assessment, and we have developed guidance on how to do that.

Q527 Mark Lazarowicz: Can you, as the agency, ask further questions when you get all the assessments sent to you? Can you at that stage question the research that has been provided to you?

Herman Fontier: Yes, we can. There are several points in the procedure where a stop of the clock is possible. It is possible at the level of the rapporteur member state. The rapporteur member state can ask for additional information, but so can we during our peer review process. We can identify the need for the submission of additional data, which generally are clarifications on the studies as submitted by the applicant, and we do that routinely. We do that for almost all of the active substances.

Q528 Mark Lazarowicz: Are there cases when you do not feel that you are provided with satisfactory information, and, if that is the case, do you then eventually, in your assessment, report to the Commission that you do not feel sufficient surety of data that has been provided or something of that nature?

Herman Fontier: I do not think we have ever delivered a conclusion without a list of data gaps. A dossier seems never to be complete. There are always data gaps. These data gaps can be very small things that are not really necessary for the decision, but we also identify—and that is trickier—issues that could not be finalised, and these are important issues. We make it clear to the risk managers we are not at all satisfied with the way this issue has been addressed in the dossier, that there is an important gap and we could not conclude. We also identify the so-called critical areas of concern where we highlight those risk assessments that, to our opinion, do not lead to a favourable outcome.

Q529 Mark Lazarowicz: On this specific case, to give you an example of the case of imidacloprid in 2008, EFSA had identified some failings in a draft assessment report

submitted by Bayer, and the German regulatory authorities and EFSA picked up the failure. I think it was issues about the calculations or the accumulation of soil. Is that correct?

Herman Fontier: We deliver 60 conclusions per year, and you will understand that I do not remember for all of these conclusions what happened exactly.

Q530 Mark Lazarowicz: Perhaps you can answer more in generality, then. Do you think that the Commission has the adequate structure itself to consider your assessments, or are they themselves under a similar kind of pressure as yourselves, leaving aside any issues of political decisions that are made as well at a later stage?

Herman Fontier: You put me in a somewhat difficult position. I would prefer not to make any comments on the Commission and the risk management process; the quality of it in general.

Chair: What about a hypothetic comment?

Q531 Mark Lazarowicz: I can see why you do not want to comment on that, given the position of your agency. Let me ask you this question. If the Commission does reach a conclusion, at that stage do you have any ability to input into that conclusion or to respond to a conclusion if you feel it is missing any of the points on the assessment, or is it something you could not do?

Herman Fontier: We are participating in the Standing Committee. Of course we are not participating in the vote of the Standing Committee, but we are there and we scrutinise very carefully the proposed decision making. If we feel that the Commission has missed a point, we will not hesitate to draw the Commission's attention to that, and very often the point is then picked up by the European Commission, but if the Commission decides to ignore our comment, they can do so, and there is nothing we can do about that.

Q532 Mark Lazarowicz: Finally, we were told last week by Bayer in their evidence that fewer companies invested in new insecticides because they could not be sure of the standards the new products will be required to meet. Is that a fair comment, in your view? Is there a case for not revising standards frequently, or is that something you disagree with?

Herman Fontier: I think I would tend to disagree.

Q533 Mark Lazarowicz: You would tend to disagree about the fact that companies are still investing, or that there is no problem with companies not being certain of new standards?

Herman Fontier: If I look at the decision-making for the new active substances, then I can only conclude that almost all of them do make it into the positive list and that is since the EU system has been put in place and has been operational since 1993. Hardly any of the new active substances have not been approved. I think that demonstrates that the companies know very well what is expected of them and they are able to anticipate and to put together the dossier that is meeting the expectations of the regulators. It was totally different for all the existing active substances which have been reviewed between 1993 and 2008, many of which failed to meet requirements.

Q534 Caroline Lucas: Just coming back to that example—and I appreciate you will not remember the details, but just to use it as a case study—as I understand it this was the DAR from Germany looking at imidacloprid, and the original German DAR said that a plateau had been reached when it came to accumulation in the soil. EFSA said the experts considered that a plateau was not reached, and then you go on to say, when you kind of forward it on, "The risk assessments to soil-dwelling organisms cannot be finalised, because

the assessment of soil accumulation is not itself finalised". You are flagging some real concerns there. It goes to the EC Standing Committee on the Food Chain and Animal Health and they kind of miss that, it seems, and they conclude, "The review has concluded that under proposed and supported conditions of use there are no unacceptable effects on the environment". Just using that as a case study, does that seem as if the system is working properly?

Herman Fontier: Yes, that is a difficult one because, again, the risk managers are entitled to take into account other elements than just the scientific elements.

Q535 Caroline Lucas: What sort of elements might they take into account?

Herman Fontier: As I say, socio-economic elements. They listen also to the member states; what is the position of the member states. The Commission is seeking to find a qualified majority at the end of the day.

Q536 Caroline Lucas: But would you not expect the EC Standing Committee on the Food Chain and Animal Health to be an authority that would put the food chain and animal health as its priority rather than worrying about the socio-economic impacts of a conclusion that might be uncomfortable for the member states but nonetheless essential as far as the science might suggest?

Herman Fontier: Maybe I am not the right person to answer that type of question, which I think should be directed to the risk managers.

Q537 Caroline Lucas: Let us talk about the system a moment. Could I not put it to you that something does not appear to be working quite as effectively as it might if you have the experts from EFSA flagging a concern that is then completely ignored by the Standing Committee? You have explained that it is their right to do that, and under the present system it certainly is, but do you still think that that is a good system, or do you think that there could be amendments made to that system that would make it more rigorous?

Herman Fontier: I am sitting here as an EFSA representative. You have to understand that. I am not here as a private person having my personal ideas on it. As EFSA we have not made up any position on this. I cannot come up with an EFSA position on this question. I cannot say what I think. I am an EFSA representative, and we have—

Q538 Caroline Lucas: We wanted to hear evidence from you because you are an expert when it comes to European policy making, and that is what we need to have fed into our Committee. Of course you are speaking as EFSA, but presumably you are also speaking as somebody who knows how the system works and would have a very upfront first-hand experience of where things perhaps just do not match up as well as they might. It would helpful to have some indication of whether you think that is something that could be looked at further or whether you think it works very well.

Herman Fontier: I think it is always useful to look at the system and to reflect further and to learn indeed from examples from the past and to see whether there is any improvement possible and, if such a reflection would be initiated, of course we would be willing to contribute to it with our views on it. Probably, the system is not the best possible. There is always a way to improve.

Q539 Chair: I think the concern is that evidence that EFSA had that was presented in the report that was being reviewed was not given any weight or taken into account when the further decision was made, which did not mean presumably to say that what you were saying was not important; it just was not taken into account, or it was not acted upon. So, what is the

point of the EFSA in those circumstances? Hopefully, the current assessment will bring about a different set of circumstances.

Herman Fontier: Yes. It is not the only example you could find, I must say. There are many examples where we have highlighted risks, and while this has been taken on board by the Commission—

Q540 Chair: But do you think that some of the risks that you identify are buried and just not even taken into account?

Herman Fontier: Generally, they are taken into account in one way or the other. It can be at several levels. It can be as confirmatory data and the Commission says, "You have to provide within two years confirmatory data in order to fill the data gap," or it can be that member states must pay particular attention to a certain issue. We should not forget that our evaluation is performed for representative uses. That may be important to highlight. The neonicotinoids was the exception, because we were requested to do so, but normally an approval is based on an evaluation of a number of one or two representative uses, and if the Commission, together with the member states, are of the opinion that the issue we have highlighted is maybe not of any relevance to other uses, that could be applied for—

Chair: Time is pressing on, and I think there we must leave it. I have no doubt that your current assessment is going to be influential in one way or another, so, once again, can I thank you for coming before the Environmental Audit Select Committee this afternoon. Thank you very much indeed.

Examination of Witness

Witness: **Georgina Downs**, UK Pesticides Campaign, gave evidence.

Chair: I would like to give you a very warm welcome, Georgina, on your return to the Select Committee. I can only apologise to you that when we had our last session previously, time did run out because of Divisions that we had over the House of Commons at the time. We are very grateful to you for coming back. We have three sessions this afternoon, and what we would like to do is take up where we left off, obviously looking at the concerns about human health from insecticides. I would like to turn straight away to Dr Offord.

Q541 Dr Offord: Thank you. Good afternoon, Georgina. The question I wanted to ask was: which pesticides do you consider particularly a hazard to human health?

Georgina Downs: All chemical pesticides are deliberately designed to be toxic—that is their purpose—and therefore all chemical pesticides have inherent hazards for human health. In fact, the authors of the 2004 *Pesticides Literature Review* that I referred to in the previous oral evidence session on 28 November—I referred to it because it found consistent evidence linking pesticide exposure to brain, kidney, prostate and pancreatic cancer, as well as leukaemia, non-Hodgkin's lymphoma, neurological damage, Parkinson's disease, among other serious illnesses and diseases, well, the authors of that literature review concluded that they did not support the idea that some pesticides are safer than others, as they found that there are different health effects for different classes of pesticides, and therefore their overall message to people was to avoid exposure to all pesticides whenever and wherever possible. The campaign I run would agree with that, based on the evidence that exists.

I would also just add to that, as Members may have seen at paragraph 2.5 of the written evidence, I pointed out previous statements from the European Commission regarding

the known adverse health impacts for just three of the pesticide groups: organophosphates, carbamates and pyrethroids and pyrethrins, which comes sort of as one. But I would also stress again the fact that, as I did in the previous session, the reality of crop spraying in the countryside is that innumerable mixtures of pesticides are being applied to crops, obviously not just insecticides, but fungicides, herbicides and other agricultural chemicals. That is on a regular basis, year after year. I also pointed out previously that 80% of pesticide use in the UK is related to agricultural use.

Q542 Dr Offord: You have me at a slight disadvantage, as I was only appointed to the Committee after you gave evidence.

I would like to follow up with just two questions. One is: what concerns do you have about insecticides, and which ones in particular?

Georgina Downs: That answer to that last question probably covers that, because, from the point of view of the campaign that I run, residents living next to farmland are exposed to a whole raft of different pesticides throughout every single year. You have insecticides, you have fungicides, you have herbicides and they are all mixed together, and the mixtures have not been covered in any way, shape or form adequately in the approval system. So you have a whole cocktail of pesticides being—

Q543 Dr Offord: If we focus particularly on neonicotinoids, do you believe there is any concern to human health through neonicotinoids use?

Georgina Downs: I did again say a little bit about it in the last session, but you wouldn't know. The campaign I run has not specifically focused on neonicotinoids. It focuses in the round in general in relation to pesticide use and exposure for residents. I did not say too much about neonicotinoids in the written evidence, but I am aware that others have. The Soil Association raised some studies and some information to do with the World Health Organisation classifying imidacloprid and thiacloprid—apologies if the pronunciations were wrong—as class 2 under the World Health Organisation's classification. There is also some emerging science that has demonstrated neonicotinoids may also have neuro-developmental effects and some are considered likely carcinogens by the US Environmental Protection Agency. Aside from that, I have not looked into neonicotinoids specifically, but again I would make the point that it is the whole cocktail of pesticide soup in the countryside that is being applied and neonicotinoids are just one of the many that are approved for use. I think there are over 2,000 products the CRD told me that are approved for use currently in the UK in agriculture.

Q544 Martin Caton: In your written submission to us, you draw our attention to the fact that the Advisory Committee on Pesticides has two working groups looking at the health impacts of the use of pesticides. Do you have any sense of whether these will bring the sort of changes to the risk assessment process that you would like to see?

Georgina Downs: Just as a little bit of brief background to these reports for Committee members' information, I pointed out in the written evidence that as a direct result of the legal case I took against the Government regarding the residents' issue and the arguments and evidence that were presented in that legal case, a review of the policy and approach began back in March 2009. It seems extraordinary it is now 2013, but it began, and it was meant to be short-life working groups as well, I have to point out, over six months. It is now four years later. But the review of the policy and approach began in March 2009, directly following a Court of Appeal judgment at that time that ruled that the Government needed to get on with its policy review. So, as part of that policy review, there have been the two working groups co-ordinated by the ACP to review the current UK exposure and risk

assessment approach, as well as the existing UK monitoring system regarding adverse impacts. As a result of that, the ACP is actually now in the process of advising Ministers for a number of key changes to the exposure and risk assessment approach, as well as changes to the UK's monitoring system.

What I would say about that is, although that is finally a sign of admittance from the Government's advisers of some of the inadequacies of the current approach that I have been highlighting for over 11 years now, it still does not address the extent of the very serious flaws of the policy and approach in this area. The two advisory groups have not in any way recommended all the changes that are necessary. To give just one example in relation to residents' exposure in particular, the changes recommended by the ACP and the Committee on Toxicity—which is one of the other advisory groups that has combined on the BRAWG report—they still exclude many of the exposure factors and exposure routes that are relevant to include in the exposure and risk assessment for residents.

Most importantly, and I emphasise this and I can't stress this enough, the ACP still has not recommended the introduction of any measures to be introduced into the statutory conditions of use for the necessary protection of the health of residents and other people exposed in the countryside. To give an example of what some of those measures would be, most importantly, the prohibition of the use of pesticides in the locality of residents' homes as well as the locality of schools, playgrounds and hospitals.

Could I just add one other point about the BRAWG report, because it is quite important: in the advice that has currently gone to Ministers now there is an important recognition in the report that some individuals may become sensitised to pesticides or indeed other substances, and that risk factors for sensitisation are not well understood—this is BRAWG saying this—either for pesticides or for other substances. The BRAWG report also notes concern that sensitisation could have longer-term consequences, in that an individual can become sensitised as a result of exposure to a substance that can then induce a specific immunological reaction, such that the individual then reacts to much lower concentrations on further exposure.

As a direct result of this, the BRAWG report considers it is important to identify the extent to which current or new formulations may change the ability of chemicals to act as sensitisers. The reason I highlight this, the reason why this is an important admittance in the BRAWG report, is because of the continued assertions over many, many years from the Government's advisers, such as the ACP, that chemical sensitivity does not exist and that pesticides will not result in pesticide, or indeed other chemical, sensitivity in humans. I have highlighted for many years that the campaign I run has continued to receive reports from people who not only have suffered acute and/or chronic health impacts as a result of exposure to pesticides, but a number of reports where people have developed chemical sensitivity as well.

Q545 Chris Evans: Ms Downs, your submission on the 2005 report of the Royal Commission for Environmental Pollution said, "It is now beyond dispute that pesticides can cause a wide range of both acute, and chronic, adverse effects on human health, including on the health of residents exposed to them. This includes irreversible and permanent chronic effects, illnesses and diseases." The Royal Commission report said, "We have tried to review the evidence afresh and reconsider the hypothesis." They report that health may be linked to pesticide exposure: "We are not persuaded that the evidence from individual cases is so weak as to rule out the possibility." Why do you think they were wrong?

Georgina Downs: First of all, I would point out that the RCEP report was eight years ago and has been seriously superseded since then, so I am only going to make very brief comments about it. It is important to start with the clarification regarding causality. The

RCEP clearly acknowledged that acute effects can be and are being caused by pesticides, as can be seen in, for example, paragraph 2.9 of the RCEP report that stated, and I quote—it is only a short statement, so I will say it—"The evidence from the residents and bystanders visited identified a series of well-defined acute symptoms immediately following pesticide spraying. These include upper and lower respiratory tract irritation, eye irritation, skin rashes, headaches and in susceptible subjects, asthma attacks." So that was their quote. They clearly accepted causality in relation to acute effects.

In relation to chronic effects, there were very serious concerns raised by the Royal Commission about all the chronic health conditions that were being reported by residents; for example, cases of various cancers, Parkinson's and other neurological conditions that are being reported in rural areas. The RCEP had serious concerns in relation to the connection with pesticide exposure. However, I reiterate again that the Royal Commission's report has been seriously superseded since by a considerable number of subsequent developments and this of course includes, for example, the important statements issued by the European Commission in July 2006 confirming the chronic long-term health impacts of pesticides, including for those living in the locality of pesticide-sprayed fields. Those important statements were made at the time that the Commission was publishing the proposals for the new European legislation on pesticides, which Members will be aware has since come in.

Therefore, the chronic health impacts of pesticides are really no longer in any doubt, and can include irreversible and permanent chronic effects, illnesses and diseases. Obviously, I already previously referred to the critical evidence that exists for both acute and chronic adverse impacts on human health from pesticides in response to the first question in the oral evidence session on 28 November, which Dr Matthew Offord would not know, but hopefully you have seen the transcript to see that, so I will not repeat all that again. But yes, obviously, I point to that.

Q546 Chris Evans: Neither have I; I only came on at the same time as Dr Matthew Offord. You have two brand-new Members here.

So you basically say you can disregard the Royal Commission report then completely?

Georgina Downs: It is just completely superseded since then. There is so much that has happened and taken place. There was all the evidence that went forward in the legal case, and obviously now there is the European Commission firm statements. The new legislation, particularly the sustainable use directive, has as one of the main objectives to reduce the adverse impacts on human health and the environment from the use of pesticides. They would not put out new legislation to try to reduce the adverse impacts on human health and the environment if there were not adverse impacts occurring in the first place, so the acknowledgement is clearly there; perhaps not in relation to the UK Government, but it is clearly recognised elsewhere.

Q547 Chris Evans: Can I just focus on the Royal Commission report? ACP, when it responded, said that it cautioned about being too ready to acknowledge the potential for human health risks, because that might bring forward more people reporting such ill-health. How did your campaign respond to that?

Georgina Downs: First of all, I point out again that the ACP's 2006 response to the RCEP report, just like the RCEP report itself, has again been seriously superseded since by the considerable number of subsequent developments, and obviously I have just referred to a few of them in the previous question. But also, the 2006 ACP response again was prior to all the evidence presented in the legal case I took against the Government regarding the residents' issue, that, as I pointed out earlier, has led to the review of the policy and approach

regarding the exposure for residents and the two working groups—BRAWG and PAHES—that are co-ordinated by the ACP.

I think a good example to highlight the marked differences between that 2006 ACP response and the current two reports by the ACP's BRAWG and PAHES groups is that there is no suggestion or assertion of caution about bringing forward more people reporting such ill-effects; in fact, quite the opposite, as the PAHES group was specifically to consider changes to the current monitoring system, to improve the surveillance and monitoring in the UK, so that such systems are able to deal with both the acute and chronic effects.

At the moment, I raised in the previous evidence session that the current monitoring system can only really deal with acute effects, so changes are being recommended in relation to having systems for both the acute and chronic effects of pesticides being reported by residents and others, and this includes how to deal with the current severe under-reporting that is recognised to be a problem within the current monitoring systems and thus improving such systems in the UK, so that there is a better way of collecting such data.

Therefore, I reiterate again there is quite a stark contrast to the previous 2006 ACP response. I would also say that people coming forward to report health problems and people being aware to come forward to report health problems is very important, and it certainly should not be deemed a negative, which is what the ACP's previous response deemed it to be. It is very important to know the full extent of the numbers reporting health problems and for the clusters that are being reported in rural areas for people living near sprayed fields to be able to be investigated; otherwise, if you don't have reports coming forward, how are you going to be able to investigate them? So it is really important.

Finally in relation to this question, I want just at this juncture to respond to something that was asked at the previous evidence session last week. I want to be absolutely clear that the reports of adverse-health impacts that the campaign I run has received from residents all over the UK over the last 11 years are predominantly of various different cancers, especially breast cancer among rural women, leukaemia, Parkinson's, MS, motor neurone disease and various other physical health conditions. These are all medically diagnosed confirmed conditions, and therefore it would obviously be wholly inappropriate for anyone to try to suggest that such conditions are psychosomatic or imagined or all in the mind or whatever suggestions there have been in the past, these are the types of conditions being reported by residents that are living in the locality of sprayed fields. A number of these conditions are those that the European Commission, as I have said, previously acknowledged in its statements in 2006 can be caused as a result of exposure to pesticides, especially exposure over the long term, such as is the case for residents. So, I would just add to that that considering—

Q548 Chris Evans: I have a serious concern. How many of those cases are linked to pesticides? I remember years ago when there was a council tip at the top of a valley where I lived at the time, and this tip had some sort of substance that was causing a smell for the residents. There were 15 reports. There was nothing up there, yet everybody then started blaming all their medical ill-health on this tip, yet there was no actual direct correlation between the tip and somebody suffering from certain cancers or suffering from some sort of bronchial disease or anything. There was no direct link. So when you say things like, "These pesticides are linked to certain cancers or neurone disease, Alzheimer's"—what sort of medical evidence do you have for that?

Georgina Downs: No, no. First of all, I went through all of that in the response to the first question in the last oral evidence session.

Chris Evans: I was not here for that, sorry.

Georgina Downs: Oh, I didn't realise you were not here. But I have never suggested that pesticides are the only cause of various conditions that they are known to cause. I have always said they are one of the causes, and in fact, in the written evidence, I made that statement quite clearly and emphasised it in bold and probably underlined it as well, because it is known to be one of the causes—there are a number of different causes—but when you have so many different people reporting the same sorts of clusters of different health problems in rural areas, where the only real overriding link between them all is that they live next to sprayed fields that are sprayed on a regular basis throughout every year, and knowing that the Commission and others clearly acknowledge that pesticides can cause such chronic effects, then it is absolutely right that those suffering such effects have a right to know if pesticides are the cause of their health problems, and also those that haven't yet been damaged, have a right to be able to try and protect their health and the health of their family from harm. If they don't have the information on what is being used in their locality, then they are not going to be able to take measures to try to do something to either protect themselves or to challenge the system.

Q549 Chris Evans: This all sounds like the example I said with the tip up where I used to live. There is no—

Georgina Downs: But there are various different environmental pollutants; there are very different environmental things that can cause health problems, but that is one and pesticides is another, and hence why I have again emphasised the fact that I am not saying every single case is necessarily going to be associated with pesticides. But irrespective as to whether some are not, if people are already suffering health problems, they are vulnerable, and they are vulnerable to further exposures to any environmental contaminant. If someone is suffering a very serious case of cancer or another condition, they have the right to be protected from exposure to further toxic exposure, irrespective as to whether it was the cause of their health problems or not, which in many cases people do have confirmation from their doctor of—

Q550 Chris Evans: Did you mention motor neurone disease and the development around pesticides?

Georgina Downs: Yes. There have been a number of studies. I can send that in after the session.

Chris Evans: It would be interesting to see that, because I met recently with the Motor Neurone Disease Association, and there was no mention of that at all.

Georgina Downs: I can send that.

Chris Evans: I would be interested to see that.

Georgina Downs: Also, as I pointed out in the previous evidence session—but you will not know—the principal aim of pesticide policy and legislation under the European legislation is supposed to be based on the risk of harm and not that harm has to have already occurred. Therefore, the Government, under the European legislation, should not be exposing people to any risks. I noted that that was clearly acknowledged by Committee members in the previous evidence session last week in relation to bees, but it should be stressed that under the European legislation the duty on member states to protect human health is even higher than that of bees, because for human health the article 4 duty is for no harm, which is absolute, with no qualification, whereas for bees, as Members know, it falls under the protection afforded to the environment, which is for no unacceptable harm.

I just want to be absolutely clear that I am not in any way suggesting that any harm to bees is acceptable, because to me it isn't. I am merely pointing out that there is supposed to be an even higher protection standard afforded to human health, and I urge the Committee to be

as concerned and very concerned about human health in the same way as it is for bees, because there is a gross failure of the UK policy and regulatory system in general, whether it be in relation to protecting humans, bees, or indeed other species.

Q551 Chris Evans: I will ask one more question; I have gone over my time. Does the current risk assessment framework take sufficient account of the effect of the combination of chemicals on human health?

Georgina Downs: No is the short answer. The current UK exposure and risk assessment approach regarding human health is based on exposure to just one individual pesticide at any time. As I pointed out in the written evidence, agricultural pesticides are rarely used individually but are commonly sprayed in mixtures. Quite often a mixture will consist of four or five or even more different products mixed together, and each product formulation in itself can contain a number of different active ingredients: solvents, surfactants and other co-formulants that can have adverse effects in their own right, even before considering the adverse effects that there might be in the mixture. As was also pointed out in the written evidence, various studies have shown that mixtures of pesticides or other chemicals can have synergistic effects on human health.

I go back to stressing the point that this type of spraying regime and this mixture, this type of ongoing exposure, is the reality of crop spraying in the countryside, and yet this reality is simply not reflected in any of the risk assessments under the Government's existing approach, whether it be for humans, whether it be for bees or indeed other species. Any species can be exposed to innumerable mixtures repeatedly throughout every year, because it is the reality of crop spraying. We live next to it; we know the reality of it.

Q552 Chris Evans: The major question that comes out of that is you have obviously said about the various combinations. Surely, there are thousands more—infinite amounts of combinations. How can those be fitted into some sort of risk assessment? How can thousands of combinations or infinite combinations of chemicals that are in pesticides be fitted into a risk assessment?

Georgina Downs: I would say with great difficulty. Considering that, as I referred to earlier, there are approximately 2,000 products currently authorised for use in the UK in relation to agriculture. I think it is most likely nigh-on impossible to do it. As I said in the previous oral evidence session on 28 November, in the absence of having any assessment in the UK of the risk to those exposed to innumerable mixtures of pesticides, repeatedly throughout every year and for years, means that pesticides should never have been approved for use in the first place for spraying in the locality of residents' home, schools, children's playgrounds among other areas. I would say that the Government's existing policy has put members of the public, particularly residents living in the locality of pesticide-sprayed fields, in a guinea pig-style experiment, and for which many of us residents have had to suffer the serious and devastating consequences of. It is absolutely clear that if a proper and full assessment was undertaken to assess the exposure and risk for humans to mixtures of different pesticides, then the result would be that pesticides would simply not be allowed to be approved for use at all in this country.

If I could just add to that, I realise this is going to be a particularly firm statement to make, but I think it is the appropriate place for me to make it, having campaigned for the last 11 years and having been the only person to take a legal case to date in this country against the Government's policy and seen all that happened within that legal case: I think it is really important to stress to Committee members that this is no longer really an issue of science. It has not really been an issue of science for years. This is an issue of massive legal and political

implications for the Government, along with considerable financial implications for the industry if there are any changes to the policy and approval system for pesticides in the UK.

The Government's continued line that there is no evidence of harm to human health from pesticides, as well as no risk of harm, is really untenable and inexcusable. The evidence is there. It has been there for a considerable time. The Government has just been determined to date not to act on it. I still remain hopeful, even after 11 years, that that may change, but the Government's response to this issue to date has been of the utmost complacency, is irresponsible and is not evidence-based policy making.

I think we have obviously seen the parallel in relation to the bees situation. I have always maintained from the outset—and I stand by the statement—that this is one of the biggest public health scandals of our time, because the Government has fundamentally failed, without having any risk assessment for residents, to protect people in the countryside before approving these pesticides, has knowingly allowed people to continue to suffer from adverse health effects and has not taken any action to date to prevent the exposures, risks and adverse impacts from occurring.

Q553 Chris Evans: Just one final question: why do you think Government has not taken any action at all?

Georgina Downs: I think that is covered in what I have said, from the massive political and legal implications in relation to—

Chris Evans: What are the political and legal implications?

Georgina Downs: First of all, they would have to say, "Sorry, chaps, we have had this wrong for the last 50, 60 years, we have not had a risk assessment for residents, we have approved pesticides for years and allowed loads of people to be exposed to the risk of both acute and chronic health impacts." That is huge. That is absolutely huge. When I won in the High Court in the original judgment in 2008, there were a number of law sites that had articles on websites—you know they go up temporarily, and then they come down—that were saying this would set a precedent for opening up the floodgates for people to take compensation claims. We have seen this with lots of issues. We have seen it with asbestos; we have seen it with all sorts of other things in the past where there are issues of potential compensation; but also there is a really important point here in that the companies would, without a doubt, I am sure—and maybe they already have in relation to bees; I don't know what has gone on behind the scenes—but companies, certainly in Europe, have taken legal action against the Commission when they have not renewed a pesticide on annex 1, and the threat of legal action from the industry over the Government is always there if a pesticide is to be suddenly ceased and cancelled. The Government, to my knowledge, has not really done that in relation to human health, but there would be that issue of the companies because, particularly in the Court of Appeal, the Government's witness statements that were put forward after the High Court judgment were extremely concerned about the financial impacts on the industry and the fact that it would cost so much in lost business and productivity if there were any changes to the approval systems. So there are a lot of factors here, and I have put that quite clearly in the written evidence.

Chair: We have that. I have just one very final question from Neil Carmichael, and then I think we should be bringing this part to a close.

Q554 Neil Carmichael: You obviously do not approve of pesticides. In part you answered it when Chris was asking you this, but the question I would like to ask is how can you isolate the role of pesticides in rural areas when you have already admitted that there are other possible causes of ill-health.

Georgina Downs: Quite easily—if you have people that live next to farmland, don't live next to or in the vicinity of any other environmental contaminants, and you have people who are living in such a close proximity and they are being exposed to this ongoing cycle of exposure, that has not, I stress, been assessed at all in relation to that type of scenario to date in the UK. That is extraordinary. The European legislation requires that pesticides can only be approved for use if it has been established that there will be no harm to human health. It has not done that.

This is meant to be based on the risk of harm, not that harm has to have already occurred. Therefore, even if there was just one or two studies or suggestions in relation to a link with pesticides, which it is much further than that, there is confirmation that pesticides can cause a number of acute and chronic health effects, but even if it was just based on the suggestion—"Could they be causing…?" "Could they be…?"—action should be taken, because it is meant to be based on the risk of harm, and they have never done a risk assessment in the UK to assess the risk to people. They have allowed people to be exposed in this type of experiment that they have—as I have called it earlier, the guinea pig-type experiment—and action should have been taken a very long time ago.

I have been raising these issues for 11 years; they have always been solid arguments, and so far the policy has not changed. Obviously, we don't know what will come out of the advice that has gone to Ministers now, but—does that answer the question? I wasn't quite sure. I have forgotten what the question was now, sorry.

Chair: I think the point really behind it was about how you would have disclosure or notification of what has been used, but thank you very much indeed. Thank you. I think that brings this part of the session to a close. Thank you very much for coming back. We do appreciate it. We know that it has not been easy to find the relevant slot, but many thanks indeed.

Georgina Downs: Yes, thank you.

Examination of Witnesses

Witnesses: **Chris Bean**, Agronomist, Agrii, and **Peter Riley**, Agronomist, Prime Agriculture, gave evidence.

Q555 Chair: Mr Chris Bean and Mr Riley, you have sat very patiently through the previous two sessions that we have just had. We very much wanted to have agronomists before our inquiry, and I just want to thank you very much for your patience and for appearing before us this afternoon. We do, as you can see, have Members who have other commitments elsewhere in the House, but I do want to get across just how important your evidence is this afternoon. I would like to begin just perhaps by you sharing with us what the role of an agronomist is. In a way, you are concerned with is the farmers and the benefits to the farmers, and not least obviously farmers' incomes, but also the environmental stewardship aspects of all of this, and how, when giving advice, you balance the two different sets of priorities. Mr Riley.

Peter Riley: In my case, we specify crop protection fertilisers and varieties to farmers, and we charge them a fee for our advice for so doing. They would then go and purchase these materials from typically agricultural co-operatives. So our income is 95% from farmer fees, and we have no interest in the materials that are used on the farm in terms of their value.

Q556 Chair: But presumably you would have an incentive, incentivising the fees that you get from farmers in terms of the insecticides that are recommended?

Peter Riley: What we are trying to achieve with farmers is to maximise their arable contribution but also to have a sustainable and integrated farm management system for their farms, so that they have a sustainable farm for a long period of time.

Q557 Chair: So on what basis do you give advice about environmental stewardship?

Peter Riley: We take advice from the manufacturers' environmental impact information sheets. We also take the general sort of advice from independent research bodies, and we are obliged under our BETA classification under BASIS to take account of the environmental advice around that. In our case, we are keen to suggest that farmers use modern techniques. For example, in the last year, all the sprayers that have been purchased on farms that I deal with have had GPS and boom-levelling and also use very low drift nozzles, so that we are able to put the materials where we want them to go. We encourage people to enter into the environmental schemes that are operated by Government, so, in my own personal case, just under 80% of the land I deal with are involved in the entry-level scheme, and just short of 80% are included in the high-level scheme.

Q558 Chair: Picking up on what you just said about encouraging farmers to use modern techniques, is that advice linked to extra commissions that you would be getting for selling certain products or taking up certain techniques? Is that incentivisation embodied in how you give the advice?

Peter Riley: Absolutely not. We charge entirely for our advice, and we have absolutely no interest in the materials or machinery that are sold on to farmers whatsoever.

Q559 Chair: So your revenues are not bolstered by the advice that you give? Thank you. Mr Bean, did you wish just to add to that?

Chris Bean: Yes, I should explain that I work for a company that is slightly different to the one that Peter works for. I work for a company called Agrii. We are deemed as being a distribution business, and in that case we do work on behalf of manufacturers, breeders and so on; fertiliser manufacturers. We do sell to earn our living, but we classify ourselves as being a leading provider of agronomy services. So we do give very similar advice to that that Peter gives. I work with 299 other agronomists in the company. Different people work in different ways, but some of them—in fact, quite a large majority of them these days—will charge a fee for their advice, very much as Peter and his colleagues do, and then it is up to the farmer to buy his inputs where he deems relevant to do so. The hope is that he will buy them from our company, but it does not have to be.

Q560 Chair: If I could just go back before I move on to Dr Offord, in a previous evidence session that we had, we had Professor Goulson as a witness before us. He said, "I had a meeting earlier this year with a company called Agrii, who are agrochemical middlemen, and they employ 300 agronomists, who spend all their time going round farms advising farmers on what pesticides to use and which seeds to plant and so on. They openly admitted that 90% of their profit comes from the mark-up on the agrochemicals that they then sell to the farmers, having recommended them". It just seems to be slightly at odds with the response that you gave us, because there is the implication there, as he put it, that UK farmers are primarily receiving their advice from people who have huge financial motivation to encourage them to use more pesticides. I would like to give you the opportunity to perhaps respond to that.

Chris Bean: Yes, he was talking about us, because he came and had a meeting with some of my colleagues last summer, because we were interested in digging further into the bee debate.

Chair: Sorry, I should have directed that to you, Mr Bean; I do apologise.

Chris Bean: That is all right. Yes, as a company, we do earn a living from selling agrochemicals, but at the end of the day it is down to the farmer and the adviser to decide what is right for the crops that they are dealing with. In terms of wilful misuse of chemicals or overuse of chemicals, it doesn't happen. There are plenty of regulations in place to ensure that that sort of thing cannot take place. Not least of all, there is the ethical good nature of the people involved, and as Peter said, one of the things that we all have to do, and one of the strictures that is placed upon us by the farmer customers that we deal with, is that we have to achieve an end product to a quality specification and to a financial specification that that customer is happy with, and therefore that sets very natural boundaries in the first instance.

Q561 Chair: But you just said that you would leave it to the farmer to decide what is right. So you think that the farmer has necessary information to be able—

Chris Bean: No, it is a joint decision between the farmer and his agronomist, but although there are 300 of us in the business that I work for, there are plenty of other people out there always looking to take that business, and therefore market forces do govern an awful lot of how people react and work together.

Q562 Mr Spencer: I was just going to ask how competitive the marketplace was and how easy it is for a farmer, if they are not satisfied with the margin they are receiving on their gross margin on their crop, to walk to another company where the gross margin might be bigger?

Chris Bean: Very easy. As a business—and you can look on our website; there are all sorts of wonderful market-led sort of facts and figures on there—we would probably give advice on about 25% of the arable cropped area in the UK, which means that 75% isn't going through our business. There is plenty of room for farmers to manoeuvre around if they wish to do so.

Q563 Dr Offord: I was just looking through a biography of the pair of you, and one of the questions that strikes me from that is what do you advise farmers particularly about pesticides and the differences? What I am trying to tease from you is that obviously farms, soil, geography and all kinds of things are very different, so how do you tailor your advice?

Chris Bean: Sorry, Peter; you can jump in as you see fit. The first point is that there are different relationships between different agronomists and different farmers. Some farmers are looking for far broader-spectrum advice; some are looking for a relatively narrow spectrum of advice. An agronomist generally is equipped, depending on the individual, to deal with virtually anything, or else to act as a signpost to somebody who can deliver the advice but he doesn't feel comfortable to do so. As a business, we would set out to offer not only advice on pesticides, controlling weeds, pests, diseases, growth regulation in crops, and we are also talking about the interaction with nutrients, fertilisers, whether they are major fertilisers or micronutrients. We are working with varieties, so at the beginning of each season, depending on the farmer, we will be planning out what varieties to grow for the forthcoming year and starting to develop ideas around the issues that that choice of variety might present.

Also, as the question has been asked and we didn't get the chance to mention our input, we do either through the agronomists directly or through colleagues within the business—and one of them is sitting behind me this afternoon—give a substantial amount of environmental advice, whether that is in terms of entering ELS schemes, HLS schemes or once the farmer has decided off his own back or in line with another advisor to go through one of those schemes, how to manage them to the best possible effect for the outcome of the

scheme in order to deliver exactly what that scheme wants to deliver. Tailoring advice is very much a discussion between the agronomist and the farmer. It is a very unwise person with a farmer who goes along and tells the farmer what he wants. It very much has to be a decision-making process, perhaps led by the agronomist, but the final decision is always upon the farmer as to exactly how he wants that business relationship to proceed.

Q564 Dr Offord: You certainly implied that the relationship with customers, the farmers, it is a two-way process and they give you information back. What discussions have you had with farmers, and what have farmers told you about the use of the neonicotinoids?

Peter Riley: I was asked last week by one of my major farming clients about the concerns that one of the directors had about these particular materials and there are other farmers that have felt the same. We, as partners of an agricultural consultancy, feel the same way when we see the evidence that is coming out from EFSA and the like in recent months. We are all scientists and we understand the value of pollinators within the ecosystems that we work in, and indeed in my case I spend quite a lot of my time in crops that are treated with crop protection, so I have to have some faith in the regulatory authorities in this country. But yes, I would say the professional arable business man is likely to be quite concerned about some of the developments that are coming and will be questioning their agronomist quite heavily in the coming months.

Chris Bean: If I could jump in on that, I came up from a meeting in Kent where I have been speaking to a group of 70 farmers this morning in terms of the profitability or the profitable growing of oilseed rape, and obviously with the sort of comments that are coming out of the Commission and EFSA and the like there is a high degree of concern, not only in terms of the negative impact that what they had been doing might have been causing but also looking ahead to what the negative impact could be upon their businesses and how they respond.

Q565 Dr Offord: Just a couple of supplementaries to that—particularly thinking of Georgina and the previous person who gave evidence—have farmers ever spoken to you about any health problems that they have experienced possibly through a causal link of using pesticides or other chemicals?

Chris Bean: Not that I am aware of. I have been in the business now since 1976 and have dealt with a lot of farmers across a wide area. I am not aware of any direct or indirect link of the illness on a farm that has arisen as a result of farming operations, other than perhaps being run over by a tractor or something like that.

Dr Offord: Yes, okay.

Peter Riley: I would say the same, with the exception of older materials where people didn't like the smell as such, which are all not used these days.

Chair: Sorry, just before you move on I think Mr Spencer wanted to come in on that point.

Dr Offord: Yes, please, yes.

Mr Spencer: Chairman, could I just draw your attention to my declaration of interest in the Register of Interests?

Chair: You may, indeed.

Q566 Mr Spencer: I don't have anything to do with these companies. I just wonder if you can just give us a quick flavour as to the change in terms of regulation of the pesticides industry in terms of its application and how that has changed over the last 15 to 20 years; whether it has got more regulated or less regulated as an agricultural industry.

Peter Riley: As an adviser I can say that it has got a great deal more regulated, and I feel very comfortable about that, again, because I am in these fields treated with crop protection. When I first started work, there were some fairly ordinary practices by farmers and the material, and I am quite confident in the regulatory authority that those excesses have now gone. Farmers are a great deal more professional generally these days than when certainly I entered the industry and are very careful to use these products. It is in their interest to use products correctly. They are not cheap; they are very often quite expensive. To get the best efficiency out of them and to use as little as they need to do to get their outcomes must be in their interest.

Chair: Okay; back to you, Dr Offord.

Q567 Dr Offord: Okay; thank you. Based on the evidence that you provide farmers, do you feel that there is a body of evidence from the scientific community that enables you to give good advice? Is there enough evidence out there?

Chris Bean: In general or on specific issues?

Dr Offord: Specific issues, pesticides mainly; neonicotinoids, if you can comment specifically upon that.

Chris Bean: Yes, I think on the vast majority of products then there is a great deal of data sat there behind them to an extent. Although both of us have scientific training, for the specialist scientific input we are quite dependent upon the regulators. But the track record from them appears, over the last 15 to 20 years, to have been very adequate. The advice given is good. As Peter has said, the amount of regulation that has come into the industry—while we are very comfortable with it—has increased greatly. The sort of things that might have been acceptable 30 years ago would no way be deemed acceptable today.

As Peter said, down to very sometimes basic things like ways of mixing pesticides in sprayers, the type of safety equipment that people are required to use and do use on a regular basis, the introduction of things like maximum residue levels in foodstuffs, the withdrawal intervals between application and harvest—there are so many things around how a farmer and an adviser uses a can of chemical that it is a very scientific process these days. On top of that—and perhaps because of that—then ourselves and all of our colleagues within the industry are required to be qualified and required to be annually updated to a specified level, both in terms of the pesticides we use and also in terms of the nutrients that we use as well. As Peter said, there are also requirements out there for training on environmental matters. Everything is there to govern what we do very, very closely.

Dr Offord: Okay.

Chair: Did you want to come in, Mr Riley?

Peter Riley: Yes. I would say that there has been a continuing increase in cultural methods within farming, for example, in our case there is a gene within a wheat plant that protects it against a midge that appears in the summer. We would specify that the farmer grow one of those particular varieties in a situation where they have a high risk and, therefore, they avoid using a pesticide. In terms of using pesticides, then we are dependent on subscribing to as many independent research development companies that we can, and I am bound to say there is not so many of those around since, it would appear, the Government withdrew from near market research a few years ago.

Q568 Dr Offord: You just mentioned a point and I did not catch all of it. I wanted to ask you: is there any pest-management control techniques that you advise your clients to use that do not involve pesticides? You mentioned something just then.

Peter Riley: Loads; delay drilling, so that you avoid a particular hatch from a particular pest, or populations so that you reduce the level of disease in a particular crop.

There are loads of cultivations to consolidate soil so that you don't get a particular bug; there are absolutely loads, and that would be best practice, without a doubt.

Q569 Dr Offord: Okay. I have one more question within this kind of topic: what do you see as the balance between using treated seeds and prophylactic spraying as and when required?

Peter Riley: I am not sure, with the balance—

Dr Offord: What is best in what conditions?

Peter Riley: As advisers I guess we have been led, in the past, towards seed treatments on account of the much lower levels of active ingredient used. In the case of neonicotinoids, it has made a huge difference, particularly in something like oilseed rape, which means that we get a much more consistent establishment of crop. Generally, the industry now uses something like probably a third of the seed that we were using 10 years ago, as such, and before these materials came in we would be using post-emergence broad spectrum insecticides across the crop, which we don't have to use to such an extent now. Yes, seed dressings in general are something that we see as a benefit to farmers.

Chris Bean: Yes, very much so, and I think, as Peter said, it is issues around reductions in seed rates; there are fewer failures of crops these days than there were in the past. Take something like oilseed rape as an example; the brassica flea beetle can annihilate the crop almost before it has come through the ground, and we have not had an issue like that since the days of the neonicotinoids being approved. But also it is about other pest management as well, because if these things do suffer some sort of reduction in availability, then we also have—I declare an interest here; I sit on a group called the Insecticide Resistance Action Group, which is a group of individual scientists and advisers who meet on a relatively regular basis just looking at the problems around pest resistance. Peter has issues in crops of sugar beet with turnip yellows virus. There are issues in oilseed rape as well. It is a shared problem; it is a virus that is spread by aphids, and we have virtually no insecticides that will control the aphids, other than the seed treatments, so that would be a big gap in the armoury.

Q570 Dr Offord: Can I go on to the final section? There have been some calls for a moratorium on the use of neonicotinoids. If that happened, the Government decided that that should happen, what other pesticides would you recommend?

Peter Riley: In my case I specify all the winter oilseed rape crops to be treated with neonicotinoid seed dressings, 100% of the sugar beet crops in the spring also and approximately 30% to 40% of the winter wheat crops. I think you were referring to an overall moratorium. It would have a—

Dr Offord: Yes.

Q571 Chair: I think it is just really rising out of the EFSA, who we had previously, if there is a recommendation subsequently on the basis of that assessment from the European Union. It is that hypothetical situation.

Chris Bean: This would be crops that were attracted to bees rather than winter wheat.

Chair: Yes.

Chris Bean: Yes; okay.

Peter Riley: I think it would have a very significant effect. We occasionally get involved in growing crops of kale, which are very similar to oilseed rape, in the spring that, in the past, have not benefited from these treatments. We have had tremendous difficulty getting them to establish. I don't really know quite what would happen within that, but I suspect, with the hectarage of rape seed that exists in the country, we might have tremendous difficulty in

having reliable establishment of rape seed crops. We definitely have to be using post-emergence insecticides and a great deal more.

Chair: Sorry, have to be using—

Peter Riley: Post-emergence insecticides; that is, insecticides after the crop has started to grow. We would probably have to increase the level of seed rates quite significantly but the reliability of establishment and the number of crop failures, I believe, would increase quite dramatically.

Q572 Dr Offord: Can I just follow up on that; I just want to establish, so we have it on the record, what crops are you saying would become uneconomical?

Peter Riley: I am not necessarily suggesting that it would become uneconomical, but it would have a profound effect on the average margin that a farmer would have. I simply don't know exactly what the full ramifications were, but I could imagine it could be quite difficult for farmers certainly.

Chris Bean: It is the sort of question that you can't give an exact answer to because things will differ from year to year. As I said earlier, and Peter mentioned again, establishment because of the damage from brassica flea beetle—it can be extremely severe, but it doesn't necessarily have to be a whole field, and it is not necessarily every field on the farm, but some fields would be badly affected. For those that were badly affected prior to the development of the seed treatments it was a case of re-drilling or giving up on the oilseed rape and putting some winter wheat in or something instead. That is a significant drain on a farmer's resources.

Even if you manage to establish a crop, then aphids carrying virus vectors can be a severe problem. Certainly, trials that we have done, trials that the manufacturers of the seed treatments have done have suggested anything from a 10% to 25% yield loss as a result of virus damage to the crop and in sugar beet, which suffers from the same virus, and, therefore, if you have no seed treatment, you potentially increase the problem for the two crops, either on the farm or within the same area. In sugar beet, I would imagine it is far more damaging than that.

Peter Riley: It would be, and we also would be very concerned about turnip yellow virus in oilseed rape, which is probably being kept to a lower level very strongly by the neonicotinoids. The control measures we have with insecticides outside of that class it is not strong at all.

Dr Offord: I am happy to leave it there; thank you. Thank you very much.

Q573 Neil Carmichael: Can I just ask one question: what would the impact of GM crops have on the need for insecticides and pesticides?

Chris Bean: On insecticides, and particularly these sorts of insecticides, I guess it would depend on whether or not they can develop a gene that breeds resistance to the pest that you are looking to control.

Q574 Neil Carmichael: That would be the long-term intention, would it not?

Chris Bean: It would be the long-term intention, I guess, if the gene was available to give that desired effect. There is work going on, I know, for insect resistance, so that is one thing. Aphid resistance and then coming down the scale to something like brassica flea beetle is a totally different factor.

Q575 Neil Carmichael: What is this time scale? Do you have any idea on the time scale of aphid resistance?

Chris Bean: I don't think, for the sort of problems that we are talking about controlling this afternoon, that there is anything on the horizon, certainly in my working lifetime. I am not even sure that GM crops are on the horizon in my working lifetime. It is a long-term issue, I think.

Q576 Chair: Okay. If I could just bring it back to insecticides, if I may. Just carrying on from Dr Offord's question just now, in the event of a moratorium what would be the financial and employment consequences, do you think, for farmers? Do you think that we are prepared for what that could mean?

Peter Riley: No, oilseed rape is one of the most profitable break crops that we have within the arable rotation in our part of the world. The broad-acre combinable crops outside that are nowhere near as profitable. It would be difficult to totally come up to a figure, but it would be substantial in some years and, perhaps, less in other years, but it would be substantial. It would affect maybe how they organise their cropping and their rotation if they do not have the reliability of establishment and reliability of control of turnip yellows in the autumn.

Chair: Okay; and, finally, if I could turn to Mr Caton.

Q577 Martin Caton: Just on that last point, obviously we have very strong suspicions now, because of the systemic nature of neonicotinoids, they are having an impact that you could not predict and nobody else could. When you start making a financial assessment you have to balance it against the value for, apart from the environmental, the financial value of our pollinators and certainly we have taken some evidence that that is considerably more than the value of what neonicotinoids offer to the crops, but that is a completely different tow what I am going to ask you about.

The European Commission, as I am sure you are aware, is currently trying to negotiate a new package for the CAP for 2014-2020 to include ecological focus areas within Pillar 1. Have you had the opportunity to look at what they are proposing, and do you think there might be the possibility of greater financial incentives to introduce more pollinator-friendly measures?

Peter Riley: I would say that is happening on farms at the moment. Most of the clients I work with, certainly, have a very strong awareness of their conservation and environmental responsibilities they have and take quite a lot of advice from the likes of FWAG and conservation agencies to draw up corridors of wildlife as such. For me, as I say, at least 80% of the crops I deal with have a buffer around the outside that we are trying to manage sympathetically to wildlife. The industry is just believing that to be good practice to prevent drift on to non-target issues. I think that is being dealt with to a certain extent, and probably some businesses are doing it more than others maybe, but that has been a continued trend over recent years, I would suggest.

Chris Bean: I have just answered that, if the Commission came up with a system for paying farmers to produce margins around the edges of their crops that provided a habitat for pollinators, that would be music to our ears, because we have been talking to Defra and their predecessors for 25 years, I should think, asking them what the value of great swathes of grass from one end of the country to the other is when, for a little bit more attention to detail and a little bit more cash incentive, farmers could be putting something in that is far more beneficial in terms of not only honey bees but bumble bees and a whole range of other pollinating species. I would be wholly in favour if that is the route they are going to go down.

Q578 Martin Caton: Right, that obviously is a possible route that the European Commission will go down. What about our own Government? You have said you have been

talking to Defra; do you think our own Government should be taking its own initiative on encouraging that sort of good practice?

Chris Bean: Between myself and various colleagues over the years, it is something that we have been trying to encourage, but it is not an easy thing to do. It takes a bit more work and probably requires a little bit more money to fund the process.

Q579 Chair: We have overstayed our session, but, just on that point in terms of discussions that you are having with Defra, ongoing ones and the reform of the CAP, what are the hurdles that have to be overcome for that vision that you have or having that incentive for pollinators? What is the timeline for where changes could be brought about? How are you linking in with the discussions that are going on at the moment, beyond GDP, looking at the importance of natural capital?

Chris Bean: Looking at natural—

Chair: The discussions that are going on, we understand, inside Government looking at, if you like, new ways of assessing GDP so, for example, that you start to add value to natural capital: I would assume that what you were just suggesting there would be very much a proposal that would link in with incentivising farmers with cash incentives to provide some of that pollination that is obviously important to food production?

Chris Bean: Some of that happens anyway in the field of corner mixtures that are available through the ELS scheme, but to be doing that on a wider scale we think would be of value.

Q580 Chair: But you seem to be suggesting that you were not getting anywhere with Defra, or there is more that Defra could do, so what more could they do?

Chris Bean: We have been talking for years and making noises as a business and as the previous business that we were before we were Agrii. Things are moving—

Chair: Okay, what would you—

Chris Bean: Without saying too much, I had a very positive meeting with senior people within Natural England, but you still have to persuade those who hold the purse strings to release them accordingly.

Q581 Chair: Sure, but from the point of view of this Committee and any recommendations that we may wish to make, it would be very helpful for us to know what specific recommendations might be very helpful on this precise issue in relation both to Natural England and also to Defra, because if you thought that there were things that could help with promoting natural pollination, that would help enormously. I am sure you could—

Chris Bean: Peter might want to jump in as well, and I will just say my piece because I have been on my soapbox for long enough. I think one of the potential risks of a moratorium or a longer-term removal of these types of materials might be a decline in the rape acreage, and we have to remember that the rape crop does provide a valuable food source for bees in the first instance. If we could arrive at a position whereby there were more pollinator species within the grass margins or whatever that we put around our fields, then I think it might address a lot of the problems that we have with pollinating insects.

To my mind, one of the big issues for bees of whatever type and other pollinators is a lack of habitat, and habitat and food source—at the end of the day, they are two very vital factors for all of us, whether it's bees or humans. We need to eat and we need somewhere to live. I think a more sympathetic, more holistic approach to environmental issues of that sort would be beneficial to everybody and everything.

Q582 Chair: Okay, and if we were talking with Natural England right now, what might they be telling us is ongoing in terms of ways in which they are taking this idea forward?

Chris Bean: I think from discussions with them, they are knocking on the door and lobbying, but, as somebody said earlier, then cutbacks within Defra and funding budgets and what have you will have an effect, and they will have to decide where they put their resources and where they put the cash out of the EU.

Chair: Okay; do you wish to add to that, Mr Riley?

Peter Riley: I am an agronomist, so I will wait until the powers that be to decide these things and work with my clients to attempt to continue to have an environmentally sustainable farm and an economically sustainable farm.

Chair: Right; okay. Unless my colleagues have any more questions, can I, once again, thank you very much for your patience and for appearing before us this afternoon? Thank you very much indeed.