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If this issue or area of work is of a particular interest to you and you would like to become actively involved in future consultations, please send your email address to the above contact to be added to the consultation panel.

Public consultation of the Scientific Panel on Plant Protection Products and their Residues (PPR) regarding the development of a new guidance document on emissions from protected crop systems (e.g. greenhouses and cultivations grown under cover) for assessments under Council Directive 91/414/EEC

Background

Council Directive 91/414/EEC¹ establishes the agreed criteria for assessing the safety of active substances (active ingredients) as well as the safety and effectiveness of the products in which they may be used. By doing so, it regulates the placing of plant protection products (PPPs) on the market in the European Community.

Under Council Directive 91/414/EEC there are methods for assessing the risks PPPs pose to environmental 'compartments', like water, soil and air. These methods are based on work with open field crops, where the routes and risks of potential pollution are well established.

However, for greenhouses and other protected crop systems² the routes and risks of pollution are not well understood, and there are no specific methods for assessing them. Yet several active ingredients have been listed in Annex I of Directive 91/414/EEC with specific reference to use in greenhouses – actives which are apparently not registered for open field use. This appears to have happened on the back of the assumption that greenhouses are 'closed systems', therefore PPPs are contained and pose no significant risk to the wider environment.

This 'assumption' situation is no longer regarded as satisfactory, and as a result the European Food Safety Authority's (EFSA) Panel on Plant Protection Products and their residues (PPR Panel) has been tasked with developing

1. an inventory of protected crop systems

¹ The EC Thematic Strategy for Pesticides, currently being argued about in Europe, includes proposals for replacing Council Directive 91/414/EEC with a 'Regulation concerning the placing of plant protection products on the market'. The outcomes of this consultation would be part of this replacement regulation.

² In the context of this consultation it is proposed that 'protected crop systems' includes everything from a greenhouse to a plastic shade or shelter. The consultation supporting document at http://www.efsa.europa.eu/cs/BlobServer/DocumentSet/Examples_of_protected_crop_systems,0.pdf?ssbinary=ruehjkasjkj explains more, but also adds to the confusion. The definition of 'protected crop system' will be discussed later.

2. an inventory of emission routes (i.e. potential PPP pollution pathways, via water, air, and waste materials) to relevant environmental compartments (i.e. surface water and sediment, groundwater, soil, sewage treatment plants, air), and
3. a new guidance document (GD) for estimating the importance of emission routes and the circumstances under which they are relevant (and *vice versa* – the circumstances under which they can be ignored).

This work is due to be delivered by the PPR Panel in April 2010.

This current consultation is a consultation on the draft Project Plan for this work to develop an inventory of protected crop systems and emission routes, and the new guidance document (view the draft plan here http://www.efsa.europa.eu/cs/BlobServer/DocumentSet/Draft_Project_Plan_GD_Protected_crops,0.pdf?ssbinary=true).

What questions is the consultation asking?

This work is about answering the question ‘what is the risk of a PPP, applied in a protected crop system, moving out into, and impacting on, the wider environment?’

It is anticipated that the Guidance Document (due to be delivered in 2010) will allow a future working group to develop emission and exposure scenarios for protected crop systems, which will lead to the final outcome of specific requirements for PPP use within protected crop systems.

In a nutshell, this work aims to enable the emission risks for a particular PPP in a protected crop system to be identified. If the identified risks are then lower than the risks for that PPP in an open field system, they can be ignored. If they are higher, then there will either be

- a separate requirement for use in a protected crop system (if the risk is manageable), or
- use of particular PPP won't be permitted.

The separate requirements would fall to the company notifying and registering the products for sale. It would have to be stated that the product was for Greenhouse use only, and this use would be on the basis of the new assessment process devised as part of this work.

The PPR Panel is tasked with identifying the parameters for this work. To do so they will need to

1. define what a protected crop system is – what distinguishes a protected crop from an open field crop?
2. identify what the potential emission routes are
3. identify the importance of the various emission routes, and the circumstances under which they are relevant.

Much of the debate within the PPR Panel has apparently focussed on what is and what isn't a protected crop system. The outcome of this has generic statement saying that the ‘priority’ systems to be considered are ‘any permanent and temporary sheltering constructions made of glass (greenhouses) or plastic’.

This includes the following ‘constructions’

- greenhouse
- glasshouse
- low tunnel
- plastic shelter

- shading net or shading house
- walk-in tunnel

The work will also consider 'lower priority' constructions including

- buildings for growing chicory and mushroom (and presumably rhubarb)
- plastic covers for soil fumigation
- protective netting for fruit crops
- handling and storage facilities and containers in which gassing, fumigation etc takes place

For the purposes of this work, crop mulching and row covering in open field crops (typically vegetables) with fleece is not considered to be protected cropping. Organic and 'conservation agriculture practices' are also not to be considered.

More details on these constructions can be found in the supporting document at http://www.efsa.europa.eu/cs/BlobServer/DocumentSet/Examples_of_protected_crop_systems,0.pdf?ssbinary=truehjkasjki.

The debate over what is and what isn't a protected crop system is in some ways misleading, but it is one way of broadly categorizing different systems.

The crux of the issue for the PPR Panel will be defining the 'edge' of different growing systems, e.g. the glass wall of a glasshouse. To identify and define an emission, you firstly need to know the physical edges of what the emission is being emitted from.

For permanent structures like glasshouses and greenhouses the edges are relatively obvious – the edge could be the greenhouse wall (maybe plus 1m). However, with temporary structures, such as a polytunnel, the physical edge of the structure is only present for part of the year.

In such cases, the edge of the protected crop system maybe regarded as the aerial part of the crop – so as soon as the PPP application hits the soil it would be regarded as an emission. If this were the case, rather than have a sliding scale of protected crop structures, from glasshouses to plastic shelters, it may be better to define the a protected crop structure by whether or not it is permanent? The implication being, if it is temporary, the crop system and the PPP applications within that system would be dealt with as though it was an open field cropping system.

The supporting document above also, in an effort to understand the various potential routes of emission, broadly categorizes cultivations systems (soil with recycling, soilless³ with recycling, soil without recycling, soilless without recycling) and PPP application types (drip irrigation with/without recycling, fogging or fumigation, injection, spraying, soil application).

There is an argument that any soil within a permanent protected cropping structure should be regarded as a simple production substrate, and not be considered an emission 'receptor', as it would in an open field situation.

Issues for the protected crops industry to consider

This is a consultation on the draft Project Plan for this work – so it is an opportunity to feed into and influence the process right from the start.

³ Where soilless is taken to mean hydroponics, which includes 'aggregate' substrate systems (e.g. a rockwool slab) and 'water culture' techniques (e.g. Nutrient Film Technique).

The NFU would welcome comments from those involved in the protected crops industry on any aspects of the issues outlined above, or the Project Plan itself.

More specifically we would like your thoughts and comments on the following

1. Do you agree with the PPR panel's definition of what is and what isn't a protected cropping system?
2. What potential PPP emission routes (i.e. potential PPP pollution pathways, via water, air, and waste materials) can you think of with respect to the protected crop systems you use

Thinking of the main 'environmental compartments' – water, soil and air, examples or emission routes could potentially include

- leaching to groundwater
 - contamination of surface water (that then ends where? down a drain?)
 - waste water (including used hydroponic water)
 - condensed water (e.g. on the walls of structures)
 - any drift (whether direct or through openings) that contaminates surface water
 - any drift that contaminates air (although it is then difficult to define what receptor organisms are impacted upon in 'the air')
 - any drift that contaminates soil
 - any contamination of water that subsequently leads to contamination of soil
 - any contaminated waste (including substrates) that leads to contamination of soil, water or air
3. What technology or systems do you already have in place to mitigate potential emissions? e.g. collecting, treating or filtering waste water; only applying PPPs under certain conditions
 4. Can you think of any circumstances under which the risks of emissions are increased? e.g. recycling of substrates or water? flooding?
 5. Do you agree that within this work a clear differentiation needs to be made between permanent and temporary protected cropping structures?⁴ And that for the purposes of assessing the safety of PPPs, temporary protected crop structures should be regarded the same as open field crops? Can you envisage any problems this might cause?
 6. Do you consider that soil within permanent protected cropping structures should be regarded as an inert growing substrate, which therefore does not require protection from PPP emissions?

Please send your thoughts and comments to [Chris Hartfield](mailto:Chris.Hartfield@nfu.org.uk) by 10 December 2008. Alternatively you can respond directly to this open consultation using the electronic form at http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902135564.htm, but be warned - the form looks pretty onerous.

⁴ In the NFU response to this consultation we will be making it clear that polytunnels are regarded as temporary structures. This definition has important implications for the growers using polytunnels in terms of planning.