

To the attention of:

Brussels, 27 November 2002

Mrs Eva Hellsten,
Head of the Chemicals Unit,
Environment DG,
European Commission, Office BU-5, 02/01,
B-1049 Brussels, Belgium

Concerning: Response to the EU communication: "Towards a thematic strategy on the sustainable use of pesticides" (July 01, 2002)

Dear Mrs Hellsten,

Having 25 years of experience in pesticide residue analysis, I'd like to react to the disproportionate concern about synthetic pesticides that are highlighted in the above-referenced document.

According to the objectives of the thematic strategy, we need to minimize the hazards and risks to health and environment and improve the controls from its use, encourage the use of low input or pesticide-free cultivation. No doubt remains after having read this: these products must be dangerous to our health.

We often forget that our food contains a vast number of chemicals. A cup of coffee has been shown to contain some 1000 different chemicals. Some chemicals are involved in the plant's natural biochemistry and are harmless, whilst others are by-products from the plant's metabolism and are toxic. In the attached papers, Prof Ames and co-workers (University of California) describe the finding that in high dose tests a high proportion of both natural and synthetic chemicals are carcinogens, mutagens, teratogens and clastogens. Some chemicals are made by plants directly as a response to attack by moulds and fungi. These can be considered as *natural* crop protection products. In these publications, Professor Ames claims that 99.99% (by weight) of the crop protection products in the American diet are chemicals that plants produce to defend themselves. They estimate that Americans eat about 1.5g of natural crop protection products per person per day, which is about 10,000 times more than they eat of synthetic crop protection products.

In the same study, they also observe that one consequence of crop plant domestication is the reduced level of secondary toxic compounds in the crops: cultivated plant foods commonly contain on average fewer natural toxins than do their wild counterpart. Most chemicals that are naturally present in plants and food have not been studied in the same detail as synthetic products and their safety should thus not be prematurely assumed.

Synthetic pesticides, aside from pharmaceuticals, are the most thoroughly tested chemicals. There is a well-structured and comprehensive system in place for the risk characterization of the compound itself including pesticides residues in food and includes large safety factors on both the hazard and exposure side. The dietary risk assessment procedure used for synthetic (manufactured?) pesticides is well summarized in the attached paper from Renwick. If some natural constituents in plants were to be regulated as crop protection chemicals, some food would not be allowed to be sold, as containing too high levels of the chemical (e.g. shrimps that can contain up to 170 ppm of Arsenic and up to 400 ppm copper).

The publication from Renwick also clarifies the concept of Maximum Residue Level (MRL), which is often misinterpreted. For agricultural pesticides, the MRL is a legally enforceable limit, derived from field trials conducted under Good Agricultural Practices. It is not linked to the toxicology of the compound, but the results from field trials would only be used to establish an MRL if the estimated intake of residues did not exceed the Acceptable Daily Intake (ADI). Therefore, residue levels at or below the MRL do not represent a health hazard. The MRL exceedances indicate that the pesticide has not been used according to Good Agricultural Practices; they may or may not represent a health hazard and have to be analyzed on a case-by-case basis.

I have attached the dietary intake calculation for glyphosate - a compound I have been working with. The results show that even with worst-case assumptions, the dietary intake is well below the ADI. In the case of glyphosate, MRL exceedances will thus not represent a health hazard. The analysis also shows that the introduction of glyphosate tolerant sugarbeet, soybeans and maize will only increase the dietary intake of glyphosate by a maximum of 0.02% of the ADI.

Therefore, I'd like to emphasize that the measures taken to minimize the hazards and risks from the use of synthetic pesticides will have to be adapted to the use and properties of the compound; the same risk reduction measures will not yield the same expected results for every compound.

The underlying message of the document - that synthetic pesticides are necessarily a threat to health- is scientifically incorrect and misleading. The encouragement of low pesticide input and organic farming strengthens the public's perception that natural chemicals are harmless, which definitely gives them a false impression of safety.

Although I welcome the measures to further reduce the risk from pesticide use, I'd appreciate a less emotional and more scientific approach to the subject.

These are my personal views, and I hope that you will find my comments helpful.

Kind regards,

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