

Does European pesticide policy protect our health? Discussion group B

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1

Pesticides and health problems: epidemiological link (1)

- Establishing a causal link is difficult (many interacting influences resulting in diseases, mixture of chemicals as causal factor, controls contaminated as well)
- However significant associations have been shown for exposure to several or to specific pesticides and congenital diseases (various congenital malformations, intrauterine growth retardation, neurodevelopmental impairments); solid tumors including brain, prostate, kidney and pancreatic cancers; non-hodgkin's lymphoma, leukemia, acute leukemia, effects on the nervous system, adverse reproductive effects (including time to pregnancy, fertility, fetal death); alteration of the immunity...
- But, epidemiological research has had very little influence on the authorisation of pesticides.

2

Pesticides and health problems: epidemiological link (2)

The Ontario College of Family Physicians, after completion of a systematic review of pesticides human health effects, urge for exposure reduction.

'this [Systematic] Review [of Pesticide Human Health Effects] does not help to indicate which pesticides are particularly harmful. Exposure to all commonly used pesticides - phenoxyherbicides, organophosphates, carbamates, triazines and pyrethrins have shown positive associations with adverse health effects. The literature does not support the concept that some pesticides are safer than other; it simply points to different health effects with different latency periods for the different classes.' and that '... our message to patients should focus on reduction of exposure to all pesticides rather than targeting specific pesticides or classes.'

(Sanborn et al 2004, ch.11)

3

The European Environment and Health Action Plan

Leaves pesticides environment and health risk reduction initiatives to the pesticides authorisation Directives (PPP + biocides) and to the future Thematic Strategy on the Sustainable Use of Pesticides

- according the EP Resolution Feb 05, the EU E&H Action Plan:
- is at best a research action plan
 - fails to consider:
 - * risks for foetuses, infants and children
 - * the precautionary principle
 - * immediate exposure reduction actions

4

The PPP authorisation Directive 91/414/EEC; health risk assessment is not properly evaluated

Risk assessment is the basis for inclusion on a positive list of each active substances accepted at EU level, but **risk assessment is not properly evaluated** as evaluation of both toxicity and exposure are inadequate.

In the existing Directive:

- no specific test required for identification of EDCs properties
- no systematic testing to identify immunotoxic or neurotoxic properties (except for OP or OP like neurotoxicants)
- no sufficiently specific developmental neurotoxicity / immunotoxicity / endocrine / reproductive toxicity tests required
- no consideration for possible combined effects
- formulated product only subject to very few tests; « inert » ingredients not tested
- no systematic review of the scientific literature required
- no exclusion criteria for active substances based on intrinsic properties
- lack of use data to evaluate exposure
- no consideration for aggregate exposure

5

The pesticide authorisation Directive (91/414/EEC): PAN E demands (1)

exclusion criteria for active substances based on intrinsic properties, as a precautionary measure

- Ban of pesticides which are suspected CMR
- or sensitizers, or neurotoxic
- or suspected endocrine disruptors, or giving rise to similar level of concern
- or persistent, or bioaccumulative
- or on priority lists of other EU legislations and/or international Conventions ratified by the EU

Better evaluation of risk assessment

- need to include additional tests (specific tests for EDCs, systematic tests for immunotoxicity and neurotoxicity, more specific tests for developmental neurotoxicity / immunotoxicity / endocrine disruption / reproductive toxicity)
- need for systematic review of the scientific literature
- need to consider possible combined effects, inert ingredients and formulated products (eco)toxicities
- need to better evaluate exposure, including aggregate exposure

6

The pesticide authorisation Directive (91/414/EEC): PAN E demands (2)

Substitution towards least toxic products and alternative pest control systems

clearer definition of IPM/ICM

« Proper use » concept to include IPM/ICM as a minimum

Reinforcement of provisions for public participation / access to information and definition of « commercial interest »

Improved controls on implementation

Reservations about zonal registration of products

7

Conclusions (1)

- 1) Good quality epidemiological studies show significant links between exposure to several pesticides or to specific pesticides and various diseases or disorders. Consequences later in life of fetal exposure are insufficiently considered.
- 2) The pesticide authorisation directives is based on improper risk assessment :
 - (i) lack specific tests for EDCs, systematic tests for immunotoxicity and neurotoxicity
 - (ii) Poor incorporation of new toxicology findings linking cancer, neurodevelopmental, endocrine, immune or additional reproductive impairments arising later in life to exposure during key windows of fetal and neonatal life
 - (iii) No consideration of combination effects
 - (IV) use of inaccurate exposure data for risk assessment

8

Conclusions (2)

- 3) Limitations of risk assessment have to be recognised. Precautionary measures have to be adopted such as exclusion criteria for pesticides based on intrinsic properties and pesticide dependency / use reduction in Europe

'Estimates should be made of the very large gap between the current toxicity testing guidelines and those required to adequately assess all risks from all important and relevant impacts on humans, wildlife and eco-systems; from all relevant exposure opportunities; across all relevant time windows; with all relevant dose regimes; supported by all necessary monitoring and modelling of likely exposures; and with sufficient statistical power to detect all unacceptable impacts. The large costs of filling that information gap should then be estimated and widely publicised. Society could then agree on the more cost effective precautionary and proxy measures that are needed to compensate for the absence of adequate information in order to strike a better balance between economic activity and the hazards arising from it.'

(Reprosafe conference, 2-3 October 2003 "Reproductive toxicology and chemicals: a matter of timing" p.12, hosted by the EEA and organised by Reprosafe, a research programme supported by the Swedish EPA)

9

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10

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11

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12