

Unclassified

ENV/JM/MONO(2006)13

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

19-Jul-2006

English - Or. English

**ENVIRONMENT DIRECTORATE
JOINT MEETING OF THE CHEMICALS COMMITTEE AND
THE WORKING PARTY ON CHEMICALS, PESTICIDES AND BIOTECHNOLOGY**

**OECD SERIES ON PESTICIDES
Number 29**

**Report of the OECD Pesticide Risk Reduction Steering Group Seminar on Risk Reduction through Good
Pesticide Labelling**

**14-15 February, 2006
Paris, France**

JT03212122

**Document complet disponible sur OLIS dans son format d'origine
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Pesticide Risk Reduction Steering Group
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through Good Pesticide Labelling**

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11 April 2006

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Published separately

OECD Guidance for Country Data Review Reports on Plant Protection Products and their Active Substances-Monograph Guidance (1998, revised 2001, 2005)

OECD Guidance for Industry Data Submissions on Plant Protection Products and their Active Substances-Dossier Guidance (1998, revised 2001, 2005)

Report of the Pesticide Aquatic Risk Indicators Expert Group (2000)

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INTRODUCTION

1. This report presents the results of an OECD seminar on ways to achieve pesticide risk reduction through better labelling of chemical pesticides. The seminar focused particularly on how to get the right message across to users, and reviewed the findings of studies on the effectiveness of labels in meeting this objective. While pesticide product labelling for agricultural use was the primary focus, examples from pesticide products for amateur (home and garden) use and other consumer products (often categorised as biocides) were examined, as the principles behind effective communication of risks to users in “plain language” would equally apply to pesticide product labels for all uses.

2. *The Second Risk Reduction Survey* carried out by the OECD Pesticide Programme between late 2004 and early 2005 found that several countries had recently conducted or planned to carry out reviews or reforms of their labelling requirements. Some countries also identified labelling as an area needing improvement, while others indicated that little information was available on the effectiveness of pesticide labels. This seminar was organised to address some of these issues.

3. The seminar reviewed both regulatory labelling requirements and voluntary labelling aimed at risk reduction associated with the use of pesticide products. Participants considered types of information presented on labels (e.g. hazard classification, dosage, application methods, safety in handling, storage, and disposal instructions) as well as findings of earlier studies on how they are understood. Specific problems of countries with several official languages were also examined. The seminar also considered experiences with pesticide labelling in non-OECD countries.

4. The seminar was held at the OECD headquarters in Paris on 1 March 2005. It was chaired by Dr. Wolfgang Zornbach of the German Federal Ministry of Consumer Protection, Food and Agriculture.

5. This was the fourth in a series of seminars organised by the OECD Pesticide Risk Reduction Steering Group, a sub-group of the OECD Working Group on Pesticides. These seminars focus on key issues in pesticide risk reduction of concern to OECD governments. The seminars are intended to provide an opportunity for OECD governments to discuss the issues together with non-governmental stakeholders and to develop recommendations for further OECD activities.

6. The first seminar in the series addressed compliance by pesticide users, distributors and retailers with the legal requirements and voluntary codes governing pesticide use. The second seminar was on minor uses, small-scale pesticide use most frequently involving pest control in a minor crop or for a small pest problem in a major crop. The third seminar reviewed schemes for the collection, recycling and disposal of used containers of chemical pesticides. The reports from these seminars are available on the OECD public web site:

<http://www.oecd.org/env/pesticides>, under “Risk Reduction”.

PARTICIPANTS

7. Twenty-six people attended the seminar on risk reduction through good pesticide labelling, including representatives of:

- the pesticide regulatory authorities of Canada, Denmark, Germany, Japan, Switzerland, the UK, the US and the European Commission;

- the pesticide manufacturers in Belgium and CropLife International (the international association of pesticide manufacturers);
- United Nations Food and Agricultural Organisation (FAO),
- International Federation of Agricultural Producers; and
- Intergovernmental Forum on Chemical Safety (IFCS).

8. A participant list is attached as **Annex 1**.

PURPOSE AND STRUCTURE OF THE SEMINAR

9. The purpose of the seminar was to:

- Identify key issues related to pesticide risk reduction through good product labelling;
- Review existing labelling schemes and both good and bad practices;
- Identify and review any studies or evaluations that may exist (by member countries, industry, farmer associations, consumer interest associations, NGOs, etc.) on the effectiveness of pesticide product labelling, risk communication through labelling, user learning through labelling, etc.; and
- Identify options available to OECD countries and key stakeholders in OECD and non-OECD countries regarding steps that can be taken to address these issues.

10. The seminar was divided into two parts; a session devoted to presentations by governments and stakeholders, followed by a roundtable discussion among all participants.

11. The presentations from the seminar are attached in **Annex 2**.

GOVERNMENT EXPERIENCE WITH LABELLING OF PESTICIDES

12. Government representatives of Canada, Japan, the UK and the US presented their experiences with pesticide labelling and its effectiveness, where such information was available. In addition, a representative of FAO gave a presentation on the importance of communications for development and labelling tools to promote safe and efficient use of pesticides in developing countries. Brief summaries of the approaches to the main issues in these countries on labelling and their effectiveness discussed at the seminar are provided below.

Canada

13. The Pest Management Regulatory Agency (PMRA), which regulates a wide range of pesticide products (including those for agriculture, public health and households) in Canada, carries out Label Improvement Initiatives with the aim to improve both the content (“what” we say) and the form (“how” we say it). Industry is an active player in these efforts, which often start at their initiative.

14. Labels in clear language and mindful of different users (e.g. home and garden, commercial, industrial and agricultural) can contribute to risk reduction. Label instructions are also a risk mitigation tool: when condition of use is clearly understood, likelihood of compliance is higher.

15. A total of 6500 products have been reviewed and authorised by PMRA. At the end of the evaluation/review a panel reviews labels for last minute improvements. The label review panel also strives for standardisation of labels for consistency and clarity. In addition to staff responsible for registration review, the panel also includes those responsible for enforcement.

16. The label review initiatives try to improve *the content* of labels. In addition to standard regulatory requirements for labels to include information on precautions, first aid, storage and disposal, PMRA has introduced new requirements for product labels to disclose information on formulants and on endangered species as appropriate. Also, the bilingual (French and English) requirement poses a challenge of containing a lot of information twice in limited label space.

17. In terms of *the form* of label -- or “how” and “where” to say it --, the location of label information is important. One bad example has been identified in an ant trap. It is small in size and the label is at the bottom of the product which the user is to “peel and stick”, thus hiding the label. Other aspects to pay attention include font size, symbols vs. words, and list vs. narrative. For example, in some cases the use of bullet points instead of sentences is recommended.

18. PMRA engaged the services of a “plain language” consultant to improve “how” labels convey key messages to users. Some of the “plain language advice” includes:

- speak directly to the reader and use familiar language, focusing on action required;
- avoid using passive tenses;
- try to focus on one idea per sentence and break up long sentences;
- avoid technical terms and include a definition if you must use them or use a more commonly understood form of a difficult term;
- do not leave out words that will help the reader to understand the meaning; and
- consider using point-form lists and short paragraphs to organise the information more clearly.

19. The findings are similar to a UK study on label effectiveness (see below.)

20. Pictograms are not yet officially used in Canada on labels of pesticide products, but the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS) is expected to be adopted in the future.

Japan

21. Japan’s Agricultural Chemicals Law specifies the types of information that are required on product labels. This includes registration number; names, physical and chemical properties of the product (both of individual active and inert ingredients); net volume; target crops and pests; application methods; precautions on toxicity to humans and livestock together with first aid information; storage instruction; expiration date of quality guarantee; name and address of manufacturing factory, etc. The Law further requires users of agricultural chemicals to use them in accordance with the use instruction contained in the label (e.g. target crops, pre-harvest intervals, dosage).

22. While the Agricultural Chemicals Law is implemented by the Ministry of Agriculture, Forestry and Fisheries, the label content is inspected by the Agricultural Chemicals Inspection Station, and a manual for labelling of containers of agricultural chemicals was prepared by the Japan Crop Protection Association.

23. In Japan, domestically developed pictograms have long been used on labels of agricultural chemicals. (See the Japanese slide presentation.)

24. Labels are often hard to see and read due to the limited size of the label on packaging and containers, which are often small reflecting a smaller average plot size of Japanese farms and paddy fields (also in developing countries the typical plot size is 0.8 ha), and font size. Therefore, it is common practice for manufacturers to provide additional information on leaflets and/or web-sites to supplement the information on the label. Another common solution is the “scroll book” (also known as “crack and peel”) type of labels, which is partially attached to the container (and prone to tearing and loss).

25. The seminar participants noted that a sample herbicide bottle from Japan had a label with attractive graphic designs, which could be too attractive for children and possibly convey a wrong signal (undermining the intended message of the label that the product is toxic).

United Kingdom

26. The Pesticide Safety Directorate (PSD), the UK’s pesticides regulatory authority, commissioned a study on the effectiveness of labelling of pesticides in order to learn about consumer understanding of labels (*the Effectiveness of Labelling Pesticides*, HSE Contract Research report 390/2001). This study carried a survey of 64 UK product labels of both professional and amateur (home and garden) pesticides and biocides. It provided an independent scientific perspective on labelling and identified ways to improve understanding.

27. A key finding of the study is that the inclusion of signal words, hazard and consequence components to the warning message improves compliance but they are seldom included. Most warning labels express safety information as instructions. For example, risk expression as a personal instruction is better than a sentence in passive tense, e.g. “You must not use near animals” is more effective than “Do not use near animals”.

28. The study also found that amateurs and professionals use and understand labels differently. While products for professionals should include supplemental directives to increase compliance, for amateur user safety information should not be presented in additional leaflets.

29. The study addressed linguistic phrases only and did not look into how pictograms are understood. The recommendations of the study have not yet been implemented systematically in the UK, but PSD plans to review the Labelling Handbook, a comprehensive reference detailing the regulatory requirements and guidance for the labelling of professional and amateur pesticide products.

USA

30. Since 1997, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) includes specific requirements for label language and format, governing what must and cannot appear on the label, thus making a label a legal document. The FIFRA has been in effect since 1947 and is implemented by the US EPA. In the US, pesticide labels often contain “lawyers” language, rather than language best suited for effective communication. This is due to the fact that the label, along with the product, is the property of the registrant. Sometimes difficult negotiations over the label are needed between the registrant and US EPA, resulting in awkward label language.

31. A new federal requirement now ensures compliance with the Endangered Species Act, utilising a web-based Endangered Species Bulletin with GIS mapping which specifies the areas where certain products are not allowed to be used. Also recently introduced is a system of electronic receipt and review of labels. However, whether it promotes labelling consistency is yet to be determined.

32. EPA efforts to improve labels include the Label Review Manual which serves as guidance for staff carrying out label reviews and also for training, and is aimed at improving the quality and consistency of labels. It is also used as a reference for state officials and registrants. States governments carry out their own evaluations and reviews of labels. In addition, a Label Review Team was created to promote consistency across three registration divisions for pesticides, existing chemicals, and re-registration.

33. One study from food labelling showed that 30 percent of consumers read labels, 30 percent do if taught to do so, and 30 percent never read them. In order to make household product labels easier to read, understand and use, US EPA launched the Consumer Labelling Initiative (CLI) with partners including state agencies and industry. Consumer research studies were carried out including 135 in-depth interviews with product users, to learn how to provide clear information on labels. The main findings included:

- first aid information was read only when there was an accidental exposure, and “first aid information” is preferred over “statement of practical treatment”;
- the distinction between “caution” and “warning” is not clearly understood;
- consumers with children or pets were more likely to read precautionary labels before purchase;
- consumers did not read disposal directions but did store products out of children’s reach;
- consumers do not understand the term “inert ingredients” and prefer less technical words on labels; and
- the font used on labels is too small.

Developing Countries - FAO Experience

Communications strategy

34. The Food and Agriculture Organization of the United Nations (FAO) works in developing countries in order to promote rural development and sustainable agriculture. In these efforts, FAO has been utilising “communication for development” methods and tools which include: participatory communication approaches and multimedia tools, low-cost media (posters, leaflets), interpersonal communication techniques, video, and rural radio. These communications tools are needed to overcome illiteracy and physical isolation in rural communities.

35. FAO has studied how farmers and rural populations understand and accept agrochemical pictograms. This was carried out through training programmes in Latin America (Bolivia, Brazil, Chile, Nicaragua) via extension agents. The study evaluated farmers’ reactions to pictograms in terms of levels of understanding, ease of comprehension, existing knowledge and behaviour, and established users preferences and their motivations. (For examples of farmer understanding of pictograms, see slides for this presentation in Annex 2, and on www.oecd.org/env/pesticides, “Don’t Miss - Risk Reduction”, “Good Labelling”.)

36. In developing countries, FAO recommends incorporating communication strategies into agriculture and rural development policies. To support pesticide labelling programmes, communication methods should be developed, tested and systematised. Further, FAO recommends building of national capacities in developing countries to implement communications for development programmes to support extension services in order to promote safe use of pesticides effectively.

OTHER STAKEHOLDER PERSPECTIVES

37. To complement the presentations from the perspectives of governments, representatives of industry and farmers/growers contributed their views to the seminar.

Industry

38. CropLife International, a pesticide industry association, carried out an informal survey of member companies to collect industry recommendations on areas of label improvements. According to the survey findings, companies feel that labels are constrained by limited space, too much information, and multi-language requirements. Also, companies feel that too many label changes result from evolving regulations too frequently. Harmonised labels within the EU are not yet achieved.

39. There have been two recent studies on label effectiveness, one by the European Commission, and another in the UK (2001, discussed under the UK section above). The EC evaluation of labelling schemes (*EU Commission Study on Comprehensibility of Labels based on Directive 88/379/EEC on Dangerous Preparation, 1999*) found that major revision of labelling requirements were not needed but there were areas for improvements. It also found that St. Andrews Cross, oxidizing and corrosive symbols were poorly understood, and recommended simplification and better use of visual effects.

40. CropLife recommendations for good practices in labelling include:

- clear identification of product function next to product name;
- use of colour coding to attract users' attention to main safety measures, but avoid fancy design and logos;
- greater use of pictograms instead of text for main hazards and safety measures (use of GHS);
- minimum label size (EU requirement) and hazard symbols;
- adequate quality of label materials, including ink (to resist sun, water, wear and tear);
- harmonised label structure and design across products;
- labels drafted according to results of risk assessments and risk management;
- label safety communication related to highly unlikely situation should be eliminated; and
- use of safety data sheet for hazard communication, and label for management measures.

Users/Farmers

41. The National Farmers Union of England and Wales conducted an informal survey of 80 to 90 UK farmers on pesticide labelling. The main message based of 20 responses indicates that there is a need for improved clarity in the current pesticide labelling practices.

42. Current experience shows that there is a lack of consistency in terms of how and where information is provided on product labels both between manufacturers and sometimes for different products within a manufacturer's range. The need for certain important information to be provided first is identified as vital to users in agriculture and horticulture sectors.

43. As the requirements of the EU Water Framework Directive in particular are finalised and transposed into national regulations, there will be a clear need for advice on differential risks of a limited range of uses for some products depending on the goals set for different geographical locations. There is a clear need for targeted advice to be delivered in specific parts of countries where problems are identified, which presents a clear challenge for the current regulatory processes in many EU member states. There may also be a need for a clear and consistent format for information on labels across the EU, given the European nature of legislation relating to availability of products (91/414/EEC and 98/8/EC), their use (EU Thematic Strategy on the Sustainable Use of Pesticides) and the levels of pesticides acceptable in food products as a result of their use (Maximum Residue Levels legislation).

44. One of the recommendations by the farmers for meeting these needs is to group together products or particular uses of certain products in terms of the risks that they may pose to different aspects of the local environment (e.g. water, terrestrial biodiversity, soil function), with additional information on risks being available through other media (advice lines, email, websites). Labelling could be critical for such uses in providing direction to the additional information. It may also be possible to deliver information on risks in certain areas or water catchments through 'traffic light' approaches. The delivery of information can be something that is referred to on the label in terms of the source of additional information on current risk.

ROUNDTABLE DISCUSSION

45. After the presentations reviewing existing labelling schemes and portraying perspectives of various stakeholders, the floor was opened to all seminar participants for a roundtable discussion. They reviewed the highest risks from poor pesticide labelling and the main areas for label improvements. The participants identified several barriers to implementing earlier recommendations for label improvements, and how they could be overcome. Finally they made recommendations on what different stakeholders could do further to promote better pesticide labelling in OECD countries and developing countries.

Where are the highest risks from bad labelling?

46. When labels are poorly designed (e.g. too much information on labels, misleading information, bad presentation), they risk not being read at all or only partially read by users and key information will not reach them. The seminar presentations illustrated examples of lack of clarity and consistency in labels, in terms of both content and format, potentially leading to confusion by users.

47. When labels fail to convey key information to users, this could lead to incorrect dose rates and/or number of applications, which can in turn impact resistance and decrease effectiveness of the product. Unread or misunderstood labels could also lead to inappropriate disposal of left-over products and used containers and packaging.

48. The ultimate risks from improper or illegal uses of pesticide products not consistent with label instructions are environmental contamination and excess residues, and safety of users (workers, spray equipment operators) and others (e.g. children, from improper storage).

What are the main areas for label improvements?

49. Based on the presentations, the seminar participants summarised the main areas where pesticide labelling should be improved. First, they identified three phases when product users refer to labels:

- 1) When deciding to buy or choosing a product -- users determine the purpose, what the product is for, and labels do not play much of a role as this basic information is provided by the seller or by extension services; it is the “core label” part that is referred to, and eye-catching design should be avoided;
- 2) When using it -farmers and other users want more “use instruction” type of information, including dosage, etc.; and
- 3) After using it – users refer to information on disposal of packaging, containers.

50. *Content – “what we say”*: The participants concluded that often there is too much information on labels, including statutory phrases that are not actually useful. They agreed that there is a trend of an increasing amount of information on labels, often resulting from the inclusion of more details and precision in use instructions based on risk assessments. This trend is compromising label readability. Additional points brought forward by the seminar include:

- safety and use instruction should go together,
- use rate information is useful for farmers and for environmental protection, and
- a statement that reduced rate can be used as appropriate.

51. *Form and presentation - “how we say it”*: The seminar concluded that labels should follow a consistent structure that reflects priority, e.g. first aid information more prominent than generic information, especially for amateur users. Also, the group agreed that national or regional harmonisation in label structure could facilitate users in finding information on labels.

52. For pictograms and graphics, the group agreed that it is important to avoid misleading impressions and information, for example, designs and pictures that are too attractive. Precautionary pictograms indicating risk management action by farmers and other users, as well as those on hazard are useful. As for label structure, harmonisation of pictograms, at least at the national level and possibly regionally, will be useful. The introduction of GHS would address this. The group also agreed, however, that there should not be “pictogram overload” on one label.

53. Supplementary information, e.g. reasons behind pictograms, could be provided through booklets, web-sites and/or extension services in addition to what is on the labels. Farmers’ and other users’ behaviour could change when they understand the reasons and rationale behind what is on the label. Also, label information available on web-sites and leaflets could help when labels become damaged and illegible.

54. Good practice or general principles in designing labels already exist. Examples include the manuals in the US (EPA), the UK (PSD) and Japan, and the guideline on labelling by FAO (currently being developed) and by CropLife (to be updated).

What are the obstacles for turning label effectiveness study results into practice? What could be done about it?

55. The seminar reviewed the findings and recommendations of earlier studies on label effectiveness from the UK (“*The Effectiveness of Labelling of Pesticides*”, 2001), US (Consumer Labelling Initiative), FAO (farmers’ understanding of pictograms in Latin America), and Canada (advice from the communication consultant). However, the seminar discussions highlighted that their recommendations and “plain language” advice have not systematically been implemented. The participants identified the following as obstacles for turning these study results into practice:

- Too many legal requirements (package size restriction, pictogram size, etc.) which are not consistent with effective labelling and risk communication; and
- Divergence between marketing experts' recommendations on better communication, and regulatory concern for safety information -- there is still room for improvements in wording, "plain language", and colour choices, etc.

56. The participants made the following practical suggestions regarding the implementation of these study results:

- Instead of finding faults in existing labels, try to design positive and exemplary labels;
- Label approval before marketing (required in some countries) should include testing with an average user;
- Label review panel/team could include a communication specialist;
- Use re-registration as an opportune time to modify and improve labels, through consultation with users; and
- Existing label effectiveness studies need to be publicised more.

RECOMMENDED NEXT STEPS

57. The group considered what different stakeholder groups could do to implement label improvements to promote pesticide risk reduction. In this regard, the following areas were identified as possible next steps that could be taken by governments, industry, and the OECD.

Governments

- *Review of selected labels* on a national scale for quality and consistency. For example, systematic monitoring of labels is being done in Belgium by the registration authority.
- Label approval before marketing of pesticides (as required in some countries) should include *testing with an average user* in order to check the effectiveness of a give label. Also, *user surveys* or questionnaires of labelling could help understand user understanding.
- Consider *including a communication specialist* to participate in the label approval process (as part of a label review panel/team).
- Continue efforts to *improve awareness of users*, for professionals (growers and applicators) through training, education and possibly certification.

Industry

- Carry out a *comparison of label structures* of the same product in different countries.

Governments and Industry

- *Improve access to labels* for users as well as extension advisors for all registered labels for easy reference. Regulatory authorities could help by posting them all on the web (as already done in some countries, e.g. Canada). Regulatory agencies may not have non-regulatory parts

of labels, but they should have access to be able to answer queries. Industry could ensure that regulators are provided with non-regulatory parts of labels also.

- Inform users and *better communicate label changes* for products available for a long time through quality assurance programmes, outreach activities and extension services (otherwise farmers won't read labels on familiar products). Industry could play a role, as well as (regional) compliance offices.

OECD

- *Facilitate exchange of information on label-effectiveness studies* (past, ongoing, future) to avoid duplication and to pool resources, possibly by establishing a forum or network.
- *Publicise existing label effectiveness studies* by making them available on the OECD website.

58. The seminar participants agreed that good product labelling is an effective tool for pesticide risk reduction, contributing to improved occupational health and environmental practices. The results of this seminar on labelling should feed into the OECD Workshop on Compliance Issues to take place in Canada in June 2006.

ANNEX 1

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ANNEX 2

Seminar Presentations

Government Experiences

- **United Kingdom:** Consumer understanding of labels,
Paul Adamson, Pesticide Safety Directorate
- **Japan:** Labelling experience in Japan,
Katsuya Sato, Ministry of Agriculture, Forestry and Fisheries
- **Canada:** Experience with “plain language” consultants,
Richard Aucoin, Pest Management Regulatory Agency
- **USA:** Consumer Labelling Initiative,
Anne Lindsay, Environment Protection Agency
- **FAO:** Communication for development and pesticide labelling programmes,
Riccardo del Castello, Communications Officer, FAO

Other Stakeholder Perspectives

- **Industry:** Jean-Pierre Busnardo, Dupont, Belgium
- **Users/Farmers:** Niel Kift, International Federation of Agricultural Producers
(National Farmers Union of England and Wales)

Large graphic files originally contained in some of the above presentations have been removed. The original PowerPoint presentations complete with photos and graphics are available on:

www.oecd.org/env/pesticides, “Don’t Miss --Risk reduction”, “Good Labelling”.

UK
Consumer Understanding of Labels

Paul Adamson, Pesticide Safety Directorate



Consumer understanding of labels:
The effectiveness of labelling of
pesticides

Paul Adamson
Pesticide Safety Directorate
UK Pesticides Regulatory
Authority

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No. 1

A PSD Perspective

- In the UK, PSD offers guidance on labelling professional pesticide products in the Labelling Handbook
- Also a Working Group on labelling seeks to keep labelling guidance up to date (last revision May 2003)
- Research funded as part of an on-going commitment to improve the clarity and accessibility of product labelling
- Provided an independent scientific perspective on labelling and identified ways of improving understanding

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 2

Overview of the research

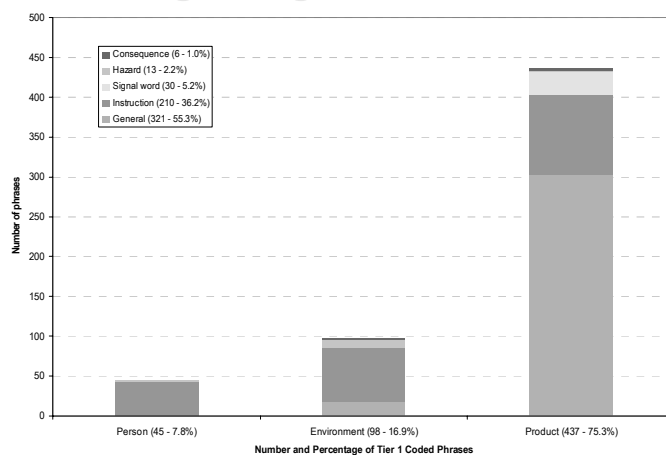
- A survey of 64 UK product labels covering professional and amateur products in 3 categories (Agricultural, Non-Agricultural and Biocides)
- Systematic analysis of how risk expressions are used in labels, what users understand by them and how different types of phrase construction influence compliance
- Investigation of how changes in label design (e.g. the location of phrases) influenced compliance
- Prediction of design characteristics of effective and ineffective labels in terms of compliance with safety information

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 3

Labelling of Agricultural Pesticides



Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 4

Implications of the Data

- Current pesticide warning labels express safety information predominantly as instructions. Signal words, hazard and consequence information are seldom included.
- Previous research has shown that when safety information is expressed fully, with signal words, hazard, instruction and consequence components to the warning message, perceived hazard increases (Wogalter et al, 1987).
- Current labels are therefore only presenting safety information in one of several possible forms, and other opportunities for clarification and differentiation are being missed.

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 5

Expression of Risk Information

- A number of studies have shown that the way information is presented can affect understanding and compliance
- Groups of amateur and professional users were used to explore the preferred way to express risk on labels and how this affected compliance.
- Work identified that for different label phrases some types of risk expression may be more effective than others
- For example, for agricultural pesticides, explicit consequence and personal instruction type expressions were best at ensuring compliance in a user in relation to personal risks such as:
"If this product comes into contact with skin it will cause a severe skin reaction such as irritation, sensitisation or burning"

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 6

Examples of Risk Expression

■ Definition:

This product is/maybe dangerous to animals so do not use it near them or it will/may cause them harm

■ Instruction statements:

Control:	Do not use near animals or animal environments (Passive, no personal pronoun, high probability, low explicitness)
Active:	Animals and animal environments must not come into contact with this product
Personal pronoun:	You must not use near animals or animal environments
Low probability:	It is advisable not to use near animals or animal environments
High explicitness:	Do not mix, store, use or dispose near animals or animal environments

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 7

Implications of the work

- Presenting safety information in its fullest form (signal word, hazard, instruction, and consequence statements) improves compliance
- The format of safety information can have a significant difference on understanding and compliance – there is scope to improve understanding
- Safety information should be expressed as a personal instruction by default
- Probabalistic statements were poorly understood/complied with

Tuesday 1 March 2005

4th RRSg Seminar on Risk Reduction through Good Pesticide Labelling

Slide No: 8

Implications of the work

- **Safety information should be located in the directions for use.**
- **Supplemental directives should be used to increase compliance of professionals.**
- **Safety information should not be presented in additional leaflets to amateur users.**

JAPAN
Labelling Experience in Japan

Katsuya Sato, Ministry of Agriculture, Forestry and Fisheries

***Agricultural Chemicals
Labeling System in Japan***

Katsuya SATO
Agricultural Chemicals Office
Plant Products Safety Division
Food Safety and Consumer Affairs Bureau
MAFF JAPAN

**Description of Labels of
Agricultural Chemicals (ACs) in Japan**

Agricultural Chemicals Regulation Law

- **Article 7** (Information should be described on label)
 - **Article 9** (Dealers are not allowed to sell those ACs that do not have the label defined in the Article 7 on their containers or packages)
 - **Article 11** (Users are not allowed to use the ACs that do not have the label defined in the Article 7)
 - **Article 12** (Restriction on ACs use)
-

Description of Labels of Agricultural Chemicals (ACs) in Japan

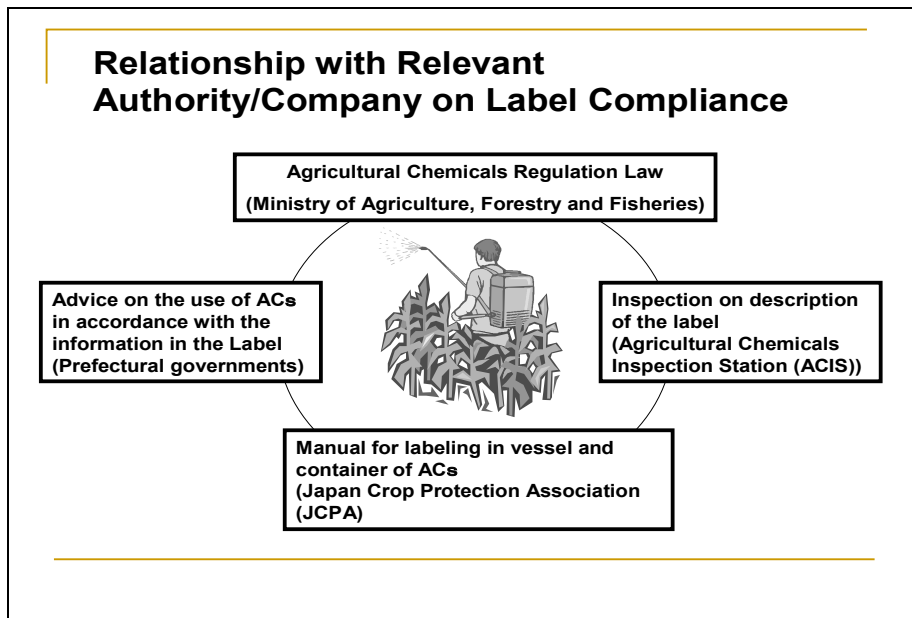
Mandatory Standards for Users of Agricultural chemicals

In order to ensure the safe and appropriate use of ACs, the mandatory standards for uses of Agricultural Chemicals are established in the Law.

For example, when users apply ACs to food crops, they shall use those ACs in accordance with the description in the label of the registered ACs (e.g. the target crops, PHI, and the number of application etc.)

Information on Labels of Agricultural Chemicals(ACs) in Japan

- Registration number
- Kind, names, physical and chemical properties of ACs, together with the types of individual active and inert ingredients
- Net volume
- Applicable crops/pests and methods
- Precautions on toxicity to humans and livestock, together with procedures for medical treatment (i.e. detoxication)
- Precautions on toxicity to aquatic organisms
- Precautions on flammable, explosive or harmful to the skin
- Precautions for the use or storage
- Names and addresses of manufacturing factory
- Year/month of quality guarantee limits



Pictogram on Prohibited Action

These are displayed with these precautions



Not drink
(display on label, where
the bottle is similar to
drink one.)



カブレ — skin fit
Not use, if the user is
sensitive to skin fit



Not use in green
house



Not use around
water area for high
risk to aquatic
organisms



Not use around
mulberry trees
for high toxicity
to silkworm



Not use around hive
for high toxicity to
honey bee



This pictogram is
used for other ban
on ACs application.

Measures for The ACs Risk Reduction

- 1) **Enhancement of regulation on the prohibition illegal use of ACs (e.g. application to non-approved crops)**
- 2) **Facilitation of proper use by the enhancement of penalty on ACs use**
- 3) **The campaign for safe use of ACs with prefectural governments, ACs manufacturers and distributors, etc.**
 - It is annually conducted by MAFF as one of the measures for the ACs risk reduction. (Compliance with ACs labels etc.)

Problem on Label Description in Japan

- **Limited Space of the label on containers**

- **Font size of character in the label**

The space for describing items regulated by the law in the label is limited by vessel and package of ACs products.

Therefore, there is a case that the font size is smaller by the size of the vessel and package, or the label is held on the vessel like a scroll book.



**It is difficult to see
the information of the label !**



CANADA
Experience with “plain language” consultants

Richard Aucoin, PMRA

OECD
RISK REDUCTION SEMINAR
ON LABELLING
MARCH, 2005

RICHARD AUCOIN, PH.D.
ACTING CHIEF REGISTRAR
PEST MANAGEMENT REGULATORY AGENCY



INTRODUCTION

- ⌘ CURRENT PMRA LABEL IMPROVEMENT INITIATIVES

- ⌘ IMPROVING THE CONTENT (WHAT WE SAY)

- ⌘ IMPROVING THE FORM (HOW WE SAY IT)

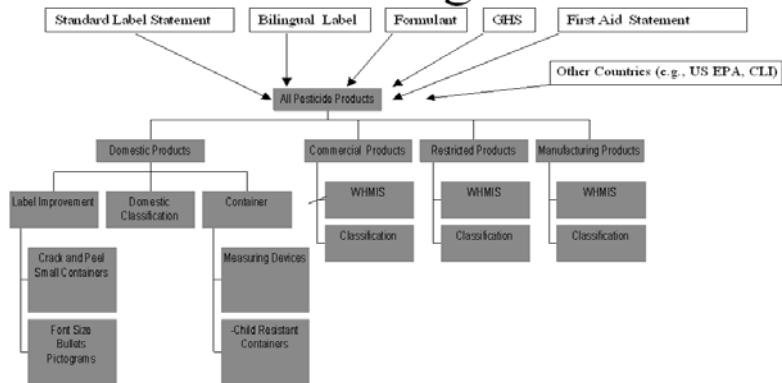


OBJECTIVES

- ⌘ MEET REGULATORY REQUIREMENTS
- ⌘ RISK REDUCTION
- ⌘ RISK MITIGATION



PMRA Labelling Initiatives



November 24, 2004



EXAMPLE OF A PRODUCT LABEL

19-SEP-2003

Dithane M-45 8% Dust E/Corrected label/08-04-03

page 1

PMRA Approved-MJP

(Container)



Dithane* M-45 8% Dust Potato Seedpiece Fungicide

GROUP	M	FUNGICIDE
-------	---	-----------

Contains Mancozeb

AGRICULTURAL

READ THE LABEL AND BOOKLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN

GUARANTEE: Mancozeb 8%
(Manganese equivalent.....1.6%)
(Zinc equivalent.....0.2%)
(Ethylenebisdithiocarbamate equivalent .6.2%)

REGISTRATION NO. 10186 PEST CONTROL PRODUCTS ACT

MAY CAUSE IRRITATION OF NOSE, THROAT, EYES AND SKIN

NET CONTENTS: 3.5 kg

Dow AgroSciences Canada Inc.
Suite 201, 1144 - 29 Avenue N.E.
Calgary, Alberta
T2E 7F1
1-800-667-3852

*Trademark of Dow AgroSciences LLC



EXAMPLE OF A PRODUCT LABEL

Dithane M-45 8% Dust E/Corrected label/08-04-03

page 2

PRECAUTIONS**KEEP OUT OF REACH OF CHILDREN**

May cause irritation of nose, throat, eyes and skin. Do not breathe dust or spray mist.

FIRST AID**Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.**

If in eyes: Flush with large amounts of water for at least 15 minutes. Consult a physician or contact a poison control centre **IMMEDIATELY** if irritation persists.

If on skin: **IMMEDIATELY** wash with plenty of soap and water. Get medical attention or contact a poison control centre **IMMEDIATELY** if irritation develops.

If swallowed: Do not induce vomiting unless instructed to do so by qualified medical personnel. If conscious, give individual two glasses of water to drink and consult a physician or contact a poison control centre **IMMEDIATELY**. Do not give anything by mouth to an unconscious person.

If inhaled: Remove individual to fresh air. Consult a physician or contact a poison control centre **IMMEDIATELY** if effects occur.

TOXICOLOGICAL INFORMATION

No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient.

For further information consult the Material Safety Data Sheet.

AGRICULTURAL CHEMICAL

Do not ship or store with food, feeds, drugs or clothing.

ENVIRONMENTAL HAZARDS

Do not contaminate any body of water by direct application, cleaning of equipment or disposal of wastes.

STORAGE

Keep away from fire and sparks. Store in a cool place. Do not allow to become wet or overheated in storage. This may generate flammable vapors. Keep container closed when not in use.

DISPOSAL

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.



1. CONTENT - WHAT WE WANT (NEED) TO SAY

⌘ REGULATORY REQUIREMENTS

- "ROUTINE" REQUIREMENTS E.G., GUARANTEE, PRECAUTIONS, FIRST AID, STORAGE, DISPOSAL, ETC.
- DISCLOSURE OF FORMULANTS OF CONCERN (AND ALLERGENS)
- GHS
- BILINGUAL LABELS
- ENDANGERED SPECIES
- RESISTANCE MANAGEMENT



2. FORM – HOW AND WHERE TO SAY IT

- ⌘ LOCATION OF INFORMATION (ORDER, SPACE)
- ⌘ STANDARDIZED STATEMENTS
- ⌘ FONT SIZE
- ⌘ SYMBOLS VS WORDS
- ⌘ LIST VS NARRATIVE
- ⌘ CONSISTENCY AND CLARITY
- ⌘ PLAIN LANGUAGE CONSULTANT
- ⌘ COMPLIANCE AND ENFORCEMENT IMPLICATIONS



“PLAIN LANGUAGE ADVICE”

1. Speak directly to the reader - use familiar language; focus on the action required.



2. Avoid using passive sentences.

Examples:

- a) Instead of - ‘This control product is to be used’
Try - ‘You must use this control product’ OR ‘Use this control product’
- b) Instead of - ‘A minimum interval of X days is required’
Try - ‘Wait at least X days’ OR ‘You must wait at least X days’



c)

- Original: For effective flea and tick control, treatment of the pet should be combined with sanitation of any area used by the pet. Vacuum floors, carpets and furniture (discard vacuum bag after use) and wash the pet's bedding, living quarters and surrounding areas. If pest problems persist, an insecticidal premise treatment may be required.
- Revision: For effective flea and tick control, you must clean the area used by the pet at the same time as you use this product. Vacuum floors, carpets and furniture (throw out vacuum bag after use). Wash the pet's bedding, living quarters and surrounding areas. If pest problems persist, you may need to have the whole house treated for pests.



3. Try to focus on one idea per sentence. Break up long sentences.

Example:

- ⌘ Original: CARCASS DISPOSAL: To reduce exposure of pets and non-target wildlife, poisoned carcasses must be securely wrapped and placed in closed containers and disposed in the garbage. Otherwise, securely wrap carcass and bury to a depth that will make it inaccessible to scavengers.
- ⌘ Revision: CARCASS DISPOSAL: To protect pets and non-target wildlife, carefully dispose of animals killed by this bait. Wrap poisoned carcasses securely. Dispose of them by: placing in a closed container in the garbage OR burying deep enough to prevent scavengers from reaching them.



4. Avoid technical terms wherever possible. If you must use a technical term, include a definition if possible. Another approach is to use a more commonly understood form of a difficult term (e.g. estuaries instead of estuarine).

Example:

- a) Instead of - '(active name) is persistent and will carryover'
Try - '(active name) is persistent (remains in the soil) and will last (carryover) for at least one year.'
- b) Instead of - 'Make the container unsuitable for further use'
Try - 'Break up the container so that it cannot be used again'



- c) Instead of - 'This is a recyclable container and is to be disposed of at a container collection site.'
Try - 'Recycle this container at a municipal recycling collection site.'

- d) Instead of - 'For knockdown and residual control of pests'
Try - 'For immediate and long-lasting control of pests'



5. Don't leave out words that will help the reader to understand the meaning.

Example:

Instead of - 'Supervise application on children.'
Try - 'An adult should supervise application of this product on children'



6. Consider using point form lists and short paragraphs to organize the information more clearly. (Limited space on the label may make it difficult to follow this suggestion.)



PACKAGING AND LABELLING

- ⌘ Child-resistant containers
- ⌘ Measuring devices – instructions
- ⌘ Form of labels – e.g. crack and peel



USA
Consumer Labelling Initiative

Anne Lindsay, US EPA

**OECD Pesticide Risk
Reduction Steering Group**

**Seminar on Risk Reduction through
Good Pesticide Labeling**

March 1, 2005

The Label is the Law

- The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and its implementing regulations include specific requirements for label language and format and, therefore, govern what must (and what cannot) appear on the label.
- According to FIFRA, "it is unlawful to use any registered pesticide in a manner inconsistent with its labeling."

EPA Efforts to Improve Labels

- Label Review Manual
- Pesticide Registration (PR) Notice 2000-5 – Guidance for Mandatory and Advisory Labeling Statements
- Label Review Team
- Consumer Labeling Initiative

Label Review Manual

- EPA's Label Review Manual (LRM) serves as guidance for OPP employees who are responsible for performing label reviews.
- The goal is to improve the quality and consistency of labels.
- The manual may be useful for state label reviewers, registrants and other individuals interested in producing readable, unambiguous pesticide labels.
- To order a copy of the LRM, call the National Technical Information Service (NTIS) at 1-800-553-6847. The LRM is also located on the Internet at: www.epa.gov/oppfead1/labeling/lrm.
- The first edition was announced in the Federal Register on February 1, 1995. The Agency revised the manual twice based on comments from label reviewers and the regulated community, and to and reflect current changes in Agency policy.

Guidance for Mandatory and Advisory Labeling Statements

Pesticide Registration Notice 2000-5 provides guidance to registrants for improving the clarity of labeling statements to avoid confusing directions and precautions.

Label Review Team

The Label Review Team's Mission is to:

- Ensure the timely development and consistent application of labeling policy
- Develop innovative strategies for improving and maintaining the label review process and systems
- Communicate labeling policy and related decisions within and outside EPA
- Address and resolve short and long-term labeling issues
- Coordinate/monitor all labeling activities within OPP
- Provide labeling information, guidance, and training for OPP personnel.

Consumer Labeling Initiative

A voluntary, cooperative partnership effort among EPA, industry, and other federal and state agencies and private groups to:

- foster pollution prevention
- empower consumer choice
- improve consumer understanding of safe use, and environmental information on household product labels easier to find, read, understand, and use

CLI Objectives

- Make household product labels easier to find, read, understand, and use.
- Conduct consumer research to learn how to provide clear information on labels.
- Help consumers make well informed choices among products and to use and dispose of products safely.
- Encourage consumers to "Read the Label First!"

CLI Research Process

- CLI Quantitative Consumer Research - 135 in-depth one-on-one interviews with users of products in major cities
- A literature review of relevant publications and reports of studies available in the public domain
- A review of extensive stakeholder comments solicited through the Federal Register notice

Research Findings

- Consumers read labels depending on the type of product and their familiarity with the product.
- First aid information was read only when there was an accidental exposure
- Consumers with children or pets were more likely to read precautionary labeling before purchase
- Consumers did not read disposal directions but did store out of children's reach

Research Findings

- Want less technical words on labels
- Type too small
- Prefer term "first aid information" over "statement of practical treatment"
- Do not understand the term "inert ingredients"
- Not a clear distinction between "caution" and "warning"

Access to CLI Research

- To access the CLI research phase I and phase II reports, visit:
<http://www.epa.gov/opptintr/labeling/index.htm>

Read the Label First! Outreach

- On March 6, 2000, at the Philadelphia Flower Show, EPA and its CLI partners -- industry, stakeholder groups, and other federal, state and local government agencies -- formally launched a joint nationwide campaign encouraging consumers to "Read the Label *First!*."

Read the Label First! Outreach

Read the Label First! Campaign Materials:

- Brochures (protect kids, gardens, pets, household)
- Posters
- Fact sheets
- Promotional items (magnets, rulers, jar openers chip clip)
- Exhibit booth

**DEVELOPING COUNTRIES
Communication for Development**

Riccardo del Castello, FAO

**Applying Communication For Development
Methods And Tools to Promote Safe and
Efficient Use of Pesticides in Developing
Countries**

**Riccardo del Castello
Extension, Education and Communication Service
Food and Agriculture Organization of the United Nations**

Communication for Development

Communication as a social process:

“...the sharing of knowledge aimed at reaching a consensus for action that takes into account the interests, needs and capacities of all concerned...”

(FAO Expert Consultation, 1987)

Objective: Enhance Information and Knowledge sharing among development actors.

Communication for development rests on the premise that successful rural development calls for the conscious and active participation of the intended beneficiaries, especially women and the “poorest of the poor” at every stage of the development process.

Communication for Development

People are the drivers of their own development

- Communication for planners
- People's participation and community mobilization
- Communication for changing life-styles
- Communication for improved training

Training in Agriculture

Worldwide agrochemicals lead to about 4 million poisonings each year, with at least 15000 deaths (mostly in developing countries). Millions of people are exposed to toxic chemicals via food, drinking water or air.

WHO, Global Health Situation and Projections (1992)

Rural Dilemma

Communication in development projects

1950-1970

- Top-down technology transfer
- Local populations: clients, labour, servants
- Lack of user participation in planning and implementation

1970-1980

- Need to engage local populations in order to bring about long lasting effects
- Participatory approaches

1990

- Shift from institutional concerns to grassroots/local participation

The FAO Experience

Communication for Development Methods and Tools

- Participatory communication approaches and multimedia tools
 - Low-cost media (posters, leaflets)
 - Interpersonal communication techniques
 - Participatory video
 - Rural Radio
 - Information and Communication Technologies
-

The FAO Experience

Understanding and Accepting Agrochemical Pictograms

Objectives

- Evaluate farmers' reactions to pictograms in terms of: levels of understanding, ease of comprehension, existing knowledge and behaviour
- Assess acceptability of pictograms by key work activity, warning and advice
- Establish users preferences and their motivations

The FAO Experience

**“Comunicacion para el Desarrollo en America Latina”
(Bolivia, Brasil, Chile, Nicaragua)**

Communication for Development in Practice

- 153 audiovisual trainers
- 322 extension agents

- 52 training packages
- 138 didactical videos

The Way Forward

Introducing communication strategies into agriculture and rural development policies

Develop, test and systematize communication methods and tools in support of pesticide labelling programmes

Build national capacities to implement communication for development programmes to support extension services

Share experiences in Communication for Development and establish partnerships, platforms, learning communities and networks at the global, regional and national level


**Applying Communication For Development
Methods And Tools to Promote Safe and
Efficient Use of Pesticides in Developing
Countries**

Thank you

<http://www.fao.org/sd/>

INDUSTRY
An Industry Perspective


Jean-Pierre Busnardo, Dupont Crop Protection



Representing the Plant Science Industry

**OECD Pesticide Risk Reduction Seminar
on Good Pesticide Labeling
– An Industry Perspective –**

**Jean – Pierre Busnardo
DuPont Crop Protection
OECD Headquarters, Paris, 1 March 2005**



Good Pesticides Labelling – An Industry Perspective

The Crop Protection labelling experience (areas for improvement)

- In highly regulated countries the label is an enforceable document; content and changes need to be approved → complex system and logistics.
- Labels often too complicated.
- Managing space and languages is a challenge for label shops
- Too much information:
 - Not easy to spot most relevant information.
 - Tendency to overlabel, especially amateur products
 - Cases of limited space, small characters, difficulty to read, especially small packages and bilingual countries
- Too many changes resulting from evolving regulation, too frequent (example: in the EU: DSD, DPD, 91/414, GHS)
- EU : sometimes irrelevant hazard information
- EU : lack of harmonization across countries

2



Good Pesticides Labelling – An Industry Perspective

Existing labelling schemes

Basically two main schemes:

- Label content is regulated and enforced by law (vast majority of countries); (some) changes require notification and/or approval. Regulators/company shared responsibility. Local labelling regulation (e.g. US and EU) or FAO labelling guidelines.
- Self-labelling: content and design are the company's sole responsibility (fewer and fewer countries?)

3



Good Pesticides Labelling – An Industry Perspective

Evaluation of labelling schemes

"EU Commission (DG III) study on Comprehensibility of Labels based on Directive 88/379/EEC on Dangerous Preparations"
(March 1999)

Major results: No need for major revision of labelling requirements but areas for improvement:

- St Andrews Cross, oxidizing and corrosive symbols/icons poorly understood – to be re-considered
- R&S phrases system too complex
- Labels often overloaded
- No clear separation of hazard information
- Simplification to be considered
- Better use of visual effects to be considered

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Good Pesticides Labelling – An Industry Perspective

Evaluation of labelling schemes

*"The effectiveness of labelling of pesticides",
contract research report 390/2001"*

Conducted by the Department of Psychology of
the University of Plymouth for the UK Health and
Safety Executive (2001)

Main results: safety information:

- Is more effectively complied with when expressed as personal instructions than probable hazards
- Should be located in the directions for use
- Should not be presented to amateur users on additional leaflets

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Good Pesticides Labelling – An Industry Perspective

Good practices

- Clear identification of product function, next to product name (herbicide, fungicide, insecticide, etc.). Bring crops of intended use to label front.
- Use of pictograms, best way to attract user's attention to main safety measures. Best placed on label front.
- Use of colored bands, which can easily be associated with a degree of danger; convenient tools/codes during user training
- Minimum size of label and hazard symbols
- Instructions (do, do not) more effective than warnings (dangerous to) (see HSE report).
- Value in harmonized risk prevention sentences across products (EU 91/414 Annex V, US "best management practices")
- Adequate quality for label substrate and inks to avoid deterioration by time, water, light, temperature, etc.
- Minimize use of lithographic logos to preserve space and avoid attracting attention away from relevant information
- Use bar codes to preserve product integrity

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Good Pesticides Labelling – An Industry Perspective

Ideas for further consideration and GHS implementation (visual aspect of labels)

Make greater use of visual techniques to attract user's attention to most relevant information:

- Greater use of pictograms instead of text for main hazards and safety measures (GHS will allow this better than current EU and US labelling regulation)
- Greater use of color coding and other visual attraction techniques
- Harmonize label structure and design where not already implemented (so user knows what to read first and where to find it on any product label)?

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Good Pesticides Labelling – An Industry Perspective

Ideas for further consideration and GHS implementation (content)

On labels, restrict safety communication to situations that are relevant to the user's awareness:

- Draft label according to results of risk assessments/risk management
- Retain only communication effectively needed to protect user and environment
- Eliminate from label safety communication related to highly unlikely situations. For example and where appropriate: inhalation toxicity when the undiluted product and the spray mixture cannot be inhaled; health effects resulting from chronic exposure, etc.
- Use Safety Data Sheet for hazard communication and label for management measures?

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USERS/FARMERS
Perspective of National Farmers in England and Wales


Neil Kift, IFAP

**OECD Seminar on Pesticide Risk
Reduction through Good labelling**

Neil Kift

**International Federation of Agricultural
Producers**
(National Farmers Union of England and Wales)

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NFU

Reducing risk using labelling


Describe your experience with pesticide labels

Different manufacturers have different layouts and symbols.

Need to have

1. **Standard format, with the following important information**
 - **Active ingredient (rather than product name)**
 - **Dosages and timings per crop**
 - **Harvest Interval (not always easy to find)**
 - **Buffer zone requirements (LERAPs/ other restrictions)**
 - **Compatibility with other products (mixing order for classes of chemicals, use of colour coding)**
2. **Need to be clear about uses that are and are not permitted and the crops on which products can be used. Several recent UK examples.**

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Reducing risk using labelling

Present results of any reviews or evaluations of labelling schemes (e.g. changes in effectiveness of getting messages across)

- A PSD working group on possible redesign has been active in the UK as recently as 2003.
- No feedback on outcomes of working group meetings

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Reducing risk using labelling

Identify good practices and innovative approaches

- Labels that are easily accessible and consistent in their approach
- Need regulator to have copies of product labels that are available to compare against approval documentation, to answer enquiries
- Some means of allowing changes in/restrictions of use in areas with specific pollution or contamination issues to be obtained (possibly elsewhere electronically).

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Reducing risk using labelling


Identify challenges and solutions to the implementation of effective labelling systems for pesticide risk reduction

Challenges

- How to deal with variable problems in different catchments/areas within national/zonal approvals
- Delivery of guidance to appropriate use in different conditions/areas.

Solutions

- Look at current practices on advice for fertiliser applications
- Product groupings in terms of risk, based on known properties
- Background information not on label but available through other mechanisms (e.g. advisers, email)

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Reducing risk using labelling


Opportunities for further development and options for all stakeholders to take further action on these issues?

Medium term

Possible need for label formatting with introduction of zonal product registration

Long term

- Delivery of guidance on local recommendations or restrictions on use using catchment management or voluntary measures programmes
- Traffic light systems indicating risks in different environmental compartments?

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