

## **Summary of the Minutes of the meeting of the Commission on Agrochemicals and the Environment (VI.4) in Berlin, 8-10 August 1999**

Twenty-one members of the Commission on Agrochemicals and the Environment (VI.4), including national representatives and observers, met for three days during the General Assembly in Berlin. Chairman and secretary of the Commission are Dr Racke and Mr Hamilton respectively.

Commissions will officially disappear after 2001. The current system of titular, associate and national memberships will continue for the 2000-2001 biennium. The five observers from UK, USA, Costa Rica, Switzerland and Chile attending a meeting for the first time were recommended as new associate members. The Chairman noted that the Commission was losing experienced members to the pressure of increasing day-to-day work load.

When the new project system is fully operating, project leaders should arrange to meet at the same time and place for project discussions as a matter of economy. We may need to have a "project task force" to coordinate the work of the Commission once commissions formally disappear from IUPAC as planned for the year 2002.

Meetings for the next 3 years will be in Taichung (2000), Brisbane (2001) and Basel (2002).

A 1-1½ day workshop will be arranged in Brisbane at the time of the General Assembly. The subject matter will be "Principles of dietary and environmental risk assessment for pesticides and veterinary drugs", with possibly a segment on transgenic crops (Hamilton).

Mr Hamilton brought a preliminary proposal for the 11<sup>th</sup> IUPAC International Congress of Pesticide Chemistry to be held in Australia in 2006.

The International Workshop on Pesticides 2000 sponsored by IUPAC, Taiwan Agricultural Chemicals and Toxic Substances Research Institute, the Council of Agriculture and Agrochemical Association Taiwan, with the theme *Harmonization of pesticide management – regulation, monitoring and evaluation*, will take place in Taichung (Taiwan) from Tuesday 3<sup>rd</sup> Oct – Friday 6<sup>th</sup> Oct 2000. The main topics are pesticide regulation, residue analysis and monitoring and risk assessment and management. A project proposal was submitted to the Division seeking IUPAC funding support. The proposal includes participation by Dr Benson (IOCD, International Organization for Chemical Sciences in Development).

The first circular for the Workshop was issued in August; the second will be available in March 2000 (contact Ms Wong, email SSWong@tactri.gov.tw).

The Commission meeting for 2000 is scheduled for 7-9 October at Taichung, following the Workshop.

The 10<sup>th</sup> IUPAC International Congress on the Chemistry of Crop Protection (formerly the Congress of Pesticide Chemistry) is scheduled for Basel from 4-9 August 2002. The theme is *innovative solutions for healthy crops*. A web site at <http://www.cp.novartis.com/iupac2002> has been established.

Project 640/29/91: Significance of the long range transport of pesticides in the atmosphere (Unsworth) is completed and publication is at the proof checking stage.

Project 640/20/87: Relevance of impurities in technical grade pesticides (Ambrus) is completed, recommendations were agreed in 1998 and the manuscript is in the final stage of editing.

Project 640/31/91: Disposal and degradation of pesticide waste (Felsot), draft 3, was discussed and eighteen recommendations were prepared. Sections were completed for disposal of unused stocks, recycling of containers and wastewater, and techniques for wastewater remediation. A fourth draft will be circulated to the whole commission for final review during the fall of 1999.

Project 640/40/97: Mass spectrometric techniques for multi-residue monitoring of pesticides in food and animal feedstuffs (Reynolds) in final draft form was planned for the end of 1999.

Project 640/41/97 (DCE-9): Regulatory limits for pesticide residues in water (Hamilton) was submitted as a project in the new format. The aim of the project is to look at methods for setting permissible limits of pesticide residues in waters and to recommend suitable methodologies and data requirements. The team discussed subject headings and raised relevant issues and agreed to seek further documentation and information. Individual members were assigned particular subjects to follow up.

Project 640/42/97: Interception and retention factors for pesticides applied to plant foliage (Linders) was available as a draft paper. Publication is anticipated by early 2000. The objective is to develop new estimation rules for an appropriate environmental exposure analysis, which needs values for approximate foliar interception values (fraction contacting the foliage) and retention values (fraction of spray retained by the foliage). Eight recommendations were prepared.

Project 640/43/97: Pesticide soil sorption parameters  $K_d$  and  $K_{oc}$ : theory, measurement, use, limitations and reliability (Wauchope) is in its final stages. Draft recommendations were approved at the meeting. Publication in 2000 is anticipated in Pest Management Science .

Project A/98: Trends in research in agrochemicals: Do we have the critical mass of public science needed to both advance the science of crop protection and protect the public interest? (Wauchope). A summary of the discussion at the 9th IUPAC International Congress of Pesticide Chemistry was published (Chemistry International, 21, 1999, 23-24). Interested authors are invited to correspond with the project leader.

Project B/98 (DCE-18) - Bioavailability of xenobiotics in the soil environment (Katayama) was available as a summary for discussion. A project proposal in the new format was prepared. The objective is to clarify the scientific basis for bioavailability and to recommend rules for estimating the ecotoxicity or efficacy of xenobiotic compounds based on the residue and metabolite profiles in soil.

Project C/98 (DCE-3): Pesticide residues in food - acute dietary exposure (Hamilton) is topical and for best effect should be published soon. The aim is to have a draft paper in good shape by the next Commission meeting in Taiwan. A project proposal was prepared (project DCE-3). Acute intake assessments are needed because chronic assessments do not cover the large consumption of a food on a single day or the variability of residues in individual units of fruit and vegetables. Team members prepared 8 preliminary recommendations and were assigned to subject areas to prepare sections for the report.

Project D/98 - Harmonised practical approach for the validation of multi-residue methods for pesticide residue analysis (Ambrus) will be prepared as a project proposal. A project "Environmental analytical chemistry for regulatory chemists and laboratory managers" has been approved and will result in a joint IOCD/IUPAC workshop in 1999. The topics addressed should be discussed at the Budapest meeting of 4-6 Nov. 1999 (International Workshop on Principles and Practices of Method Validation, AOAC-FAO-IAEA-IUPAC).

Project E/98 - Impact of large scale breeding of transgenic crops on the use of agrochemicals and the environment (Kuiper) will be prepared as a new project proposal. A final report is to be developed by the end of 2001, possibly in conjunction with a workshop.

Project F/98 – Role of agrochemicals in successful IPM programs – global case studies (Tanaka) was being prepared as a new project proposal. The objective is to recognise the contribution of agrochemicals in modern agriculture based on IPM (integrated pest management). The application of agrochemicals to protect crops is an established part of conventional agricultures and has provided increased yields and economic benefits over many years. In modern agriculture, IPM and sustainable agriculture are key elements. But we know that agrochemicals have played and will continue to play an important role in past and future sustainable agriculture.

Project 660/26/97 Endocrine disrupters in the environment is a Soil & Water project but will receive contributions from Agrochemicals and the Environment on agrochemical aspects of metabolism and transformation of endocrine disruptors and distribution of endocrine disruptors in the environment. The project leader will distribute the revised draft to all participants. The project is planned for completion by the end of 1999.

The Division of Chemistry and the Environment will consist of the president and secretary and 5 others, the chairmen of the 5 commissions in the current biennium. We should expect ideas for future projects to be initiated by the Commissions or the “project coordinating work groups” or whatever becomes the official nomenclature.

It is current practice for the whole Commission to review the recommendations from each project before publication. It is not clear who will have this role once the commissions disappear. The recommendations could hardly be IUPAC recommendations if they are sent for external review because the expertise will no longer reside in IUPAC.

At the Cambridge meeting in 1998 Dr Miyamoto (Division Chairman) presented ideas for future projects and reports, some of which had arisen from requests by international bodies for information. The 1999 Meeting responded to the proposals.

- Disposal techniques for obsolete pesticides [IFCS] is dealt with in project 31/91 (*Disposal and degradation of pesticide waste*), which is nearing completion.
- Environmental behaviour/physical chemical properties of chemicals for priority setting of POPs and OPs [IFCS/UNEP] is a candidate for a large joint project.
- Dose response assessment of pesticides (animals/man, infants/adults) [FQPA] is outside of the Commission's scope.
- Procedures for aggregate exposures [FQPA] fall within an ILSI (International Life Sciences Institute) project. Ms Harris will follow up the status of the project.
- Cumulative toxicity of pesticides with a common mode of action [FQPA] is also included in an ILSI project.
- Research on transgenic plants for better quality and increased production of food and feed is a very broad topic but the Commission has a proposed project to deal with the pesticide aspects of transgenic plants: E/98 Impact of large scale breeding of transgenic crops on the use of agrochemicals and the environment.
- Environmental risk assessment of chemicals was the subject of project 35/93, Principles of environmental risk assessment for agrochemicals, which was abandoned in 1997 because the scope was too wide and no progress was achieved.

- Peer reviews of CICADs (Concise International Chemical Assessment Documents) and EHCs (Environmental Health Criteria) [IPCS] are sometimes required, but the Meeting was unaware of recent cases that had been submitted for review and was unsure of the mechanism for receiving such material. It was noted that such an activity may not fit within the new project based management system.
- Endocrine disruptors (SCOPE, Scientific Committee on Problems of the Environment in collaboration with IUTOX and IUPHAC) is a topical subject. Members of the Commission contribute in partnership with the Soil and Water Commission on the project on endocrine disruptors.
- Sustainable chemistry [OECD] – design of environmentally benign chemicals and processes was discussed as a potential project.

Members brought to the attention of the Commission three potential projects.

- ◆ Harmonisation is needed for national ranking systems used for deciding on potential environmental impact. The systems rely on such properties as the leaching index and threshold toxicity concentrations for soil and water and times to reach these levels for non-target organisms (Stephenson).
- ◆ Criteria for environmentally friendly pesticides relates to reduced risk pesticides (Racke).
- ◆ Team members expressed an interest in the safety evaluation and registration of the inert components of pesticide formulations (Felsot).

The project on bound residues was completed with a final report published.

Skidmore, M.W., Paulson, G.D., Kuiper, H.A., Ohlin, B. and Reynolds, S. 1998. Bound xenobiotic residues in food commodities of plant and animal origin. *Pure & Appl. Chem.* 70, 1423-1447. Commission Report 40.

Extended summaries of reports, previously published in *Pure and Applied Science*, have been published in *Pesticide Science*.

The Commission web site is running, with full copies available of recent papers from *Pure and Applied Science* and *Chemistry International* available. An active *Glossary of terms* has been established.

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