SEVENTH JOINT CIPAC/FAO/WHO OPEN MEETING

(54th CIPAC meeting and 9th JMPS meeting)

Grand Hotel Union Ljubljana, Slovenia

7 June 2010

Summary record of the meeting

Agenda

1. Opening and welcome

Dr Ralf Hänel, Chairman of the Collaborative International Pesticides Analytical Council (CIPAC) and Chairman of the 7th Joint CIPAC/FAO/WHO Open Meeting, welcomed all participants and extended special thanks to Dr Ana Gregorcic and her team for organizing the meeting.

Ms Yong Zhen Yang, representing the Food and Agriculture Organization of the United Nations (FAO), and Dr Morteza Zaim, representing the World Health Organization (WHO) were introduced to the meeting. The special guests from Slovenia present at the opening of the meeting were the State Secretary of the Ministry of Agriculture, Forestry and Food, Ms Tanja Strniša and the Director of the Agriculture Institute of Slovenia, Andrej Simončič.

Ms Tanja Strniša welcomed the Chairman and all participants to Ljubljana on the occasion of hosting the meeting. Developing international methods and standards is an important process in providing for harmonized definitions, unified requirements and procedures that can be used also for regulatory purposes. European Union legislation on registration and assessment of plant protection products rely on CIPAC methods and FAO/WHO specifications for pesticides. Slovenia has had an expert in the FAO Panel of Experts for pesticide specifications since 1994 and is pleased that its representative from the Agricultural Institute is actively involved in the development and use of analytical methods for pesticides.

The meeting provided an opportunity to follow closely the joint work of CIPAC and FAO/WHO on pesticide specifications. Topics on new CIPAC analytical and physical test methods, and review and publication of CIPAC handbooks may be of interest in providing knowledge about the details of technical cooperation with other international organizations and institutions such as the European Food Safety Authority and with official quality control laboratories. In addition, updated information on activities for developing FAO/WHO specifications on pesticides is greatly appreciated.

In Slovenia, the issue of pesticides, especially plant protection products, is important, and sharing knowledge and new approaches in this field is of interest. Meetings such as this are useful in enabling exchange of information and assuring direct connection and international cooperation among countries.

She congratulated the Agricultural Institute of Slovenia for organizing this international event, and thanked CIPAC for providing an opportunity to hold a joint meeting in Slovenia for the first time.

Dr Andrej Simončič, Director of the Agricultural Institute of Slovenia, welcomed all participants on behalf of the Agricultural Institute of Slovenia, which was honoured to host the meeting in Ljubljana.

Developing and unifying methods to control chemicals are of crucial importance. The results of work being carried out by JMPS and CIPAC should help – or help to solve – many of the recent problems. International collaboration is crucial, which is why the Institute looks forward to being a part of such collaboration.

He wished participants a successful meeting, with fruitful discussion and good results and conclusions, and a pleasant and enjoyable stay in Ljubljana and Slovenia.

Ms Yang welcomed the guests and delegates and thanked Dr Ana Gregorcic for organizing the meeting. She was pleased to see so many participants from all over the world, although it was not the first time that the meeting had been held in Europe. The global attendance

confirmed the importance of the FAO/WHO specifications and the relevance of pesticide quality.

Based on current estimates by FAO, close to 1 billion people worldwide continue to go hungry. The target of halving hunger by 2015 is challenged.

Ensuring stable and increasing agricultural output, as an important input of agriculture production, pesticides play an important role in preventing the damages of crops from pests. Pesticide quality is highly relevant for overcoming hunger and development of the agricultural sector.

The FAO/WHO specifications are an important contribution to improving the availability of food and enhancing food safety by helping to prevent crops from the damage caused by pests and controlling pesticide residues. In this context, the work of JMPS is of increasing importance.

FAO is highly supportive of the work of JMPS and relevant activities in improving the establishment and application of international standards for pesticide quality and will continue to provide the support necessary for this work. FAO will continue working closely with WHO, CIPAC and other related organizations; and take further actions to improve the development and implementation of FAO/WHO specifications and adopt procedures for determining equivalence at national, regional and international levels, thereby fulfilling the goal of ensuring food security and improving consumer protection, and also facilitating trade and agricultural development.

Dr Zaim welcomed Mme Secretary, Dr Simončič, Ms Yang, Dr Hänel, and participants to the meeting on behalf of WHO.

He thanked the Agricultural Institute of Slovenia and the Ministry of Agriculture, Forestry and Food for their agreement to host the meeting in Ljubljana and for facilitating the meeting. He also extended his sincere thanks to Ms Ana Gregorcic, Head of the Agrochemical Laboratory, for her excellent preparations and warm hospitality.

WHO is celebrating the 50th Anniversary of the WHO Pesticide Evaluation Scheme (WHOPES), the focal point for public health pesticide management in WHO. Established in 1960 with the approval of the World Health Assembly, the Scheme has evolved during the past 50 years to better respond to the needs of Member States and other stakeholders on public health pesticide management and on testing and evaluation of public health pesticides. Publication of WHO specifications is even older than WHOPES and dates back to 1953 when the first WHO specifications for insecticides and spraying and dusting equipment were published.

Renewed interest by the international community and Member States in control of malaria vectors and the emergence of vector-borne diseases as a consequence of ecological changes and natural disasters in recent years have significantly increased the use of pesticides for vector control and personal protection. This in turn has further increased the role and responsibilities sought from WHOPES in supporting national programmes and other stakeholders in the selection and safe and judicious use of public health pesticides and their life-cycle management.

During the past 10 years, WHOPES has evaluated more than 40 pesticides for public health use and has reviewed more than 70 submissions for development of WHO specifications and quality standards for public health pesticides.

The limited capacity of countries where vector-borne disease are endemic to carry out safety and efficacy assessments of public health pesticides, on the one hand, and investments made by the pesticide industry in saving time and costs by using WHOPES recommendations and quality standards to facilitate registration and use of these products in such countries on the other, has made WHOPES a global leader in setting standards and evaluating public health pesticides.

Slovenia, the host country, submitted a draft resolution to the World Health Assembly on management of obsolete pesticides and chemicals, which was adopted with strong support by the Assembly in May 2010. Substandard pesticides are one of the main issues leading to accumulation of obsolete pesticides, and therefore the relevance of the work of CIPAC and FAO and WHO to this very important issue.

Supporting Member States in life-cycle management of pesticides, including their quality control, are key priorities for WHOPES. WHO has organized a meeting with major partners and stakeholders, to be held in Geneva on 24–25 June 2010, with the theme of Vision for Future, to develop a strategy to address the immense challenges related to sound management of pesticides in this changing and highly demanding environment.

Dr Zaim wished participants a productive meeting and a pleasant stay in Ljubljana.

Dr Hänel, Chairman of CIPAC, noted that the number of participants reflected the importance of pesticide quality to the meeting and declared the meeting officially open.

2. Arrangements for chairmanship and appointment of rapporteurs

Dr Ralf Hänel, CIPAC, welcomed participants to the meeting, noting that the Chairmanship of the open meeting rotates between the three organizations (FAO, WHO and CIPAC). This year it was the turn of CIPAC to facilitate the meeting, with himself as Chair.

Three rapporteurs were proposed: Mr Steve Funk (FAO), Mr Tony Tyler (WHO) and Dr Jim Garvey (CIPAC). They were duly appointed and thanked for their support.

3. Adoption of the agenda

Agenda items 10.2 (Proposal from Industry on wash resistance index definition for LN-formulations and its determination) and 10.3 (Short presentation on importance of choice of detergent agent for the CIPAC LN-method) were moved to the Wednesday meeting and replaced by the report from the SEG. There were no other changes. There being no objections, the agenda was adopted.

Dr Hänel noted that Jean Henriet, a founding member of CIPAC, had passed away. A minute of silence was held in respect.

4. Summary record of the previous meeting

Sixth Joint CIPAC/FAO/WHO Open Meeting; 53rd CIPAC Meeting; and 8th JMPS Open Meeting, held in El Salvador

The summary record of the previous open meeting, held at the Hotel Decameron Salinitas in El Salvador on 8 June 2009, was published in August 2009 and is available on the FAO and

WHO web sites. The minutes of the last CIPAC/FAO/WHO open meeting (2009) were accepted without change.

5. Summary of actions taken after the 53rd CIPAC and 7th JMPS meetings

5.1 CIPAC

Dr Hänel, Chairman of CIPAC, announced that CIPAC had published guidelines on relevant impurities and also facilitated publication of a new handbook on CIPAC methods. Further information is presented under agenda item 9.

5.2 FAO

Ms Yong Zhen Yang, FAO Plant Production and Protection Division, informed the meeting of the activities**,** meetings and events held by FAO since the previous JMPS meeting in El Salvador. These activities and publications, which have led to improvements in pesticide management, in particular in developing countries, include as follows:

A. Meetings and workshops

A.1 Workshops

- October 2009, Regional workshop on pesticide quality control (specifications), Panama (FAO)
- August 2009, Regional workshop on global MRL harmonization initiative in Central America, Costa Rica (FAO)
- October 2009, Workshop on risk assessment of pesticide residues in food and feed, Hainan, China (FAO)
- April 2010, Workshop on development of FAO/WHO specifications, Chengdu, China (FAO & WHO)

A.2 Meetings

- September 2009, FAO/WHO Joint Meeting on Pesticide Residues (JMPR), Geneva, Switzerland
- October 2009, FAO/WHO Joint Meeting on Pesticide Management, Rome, Italy
- April 2010, 42nd Codex Committee on Pesticide Residues (CCPR), Xian, China

B. Documents and publications

B.1 Documents

- Regular reference made in 2009 JMPR reports and evaluations to FAO/WHO specifications.
- Second version of FAO manual on the submission and evaluation of data on pesticide residues for the estimation of maximum residue levels in food and feed
- Publication of the Russian version of the “International Code of Conduct on the Distribution and Use of Pesticides”

B.2 Latest guidelines published July 2009 – May 2010

- Guidelines on developing a reporting system for health and environmental incidents resulting from exposure to pesticides (August 2009)
- Guidelines on pesticide advertising (March 2010)
- Guidelines for the registration of pesticides (April 2010)
- Guidance on pest and pesticide management policy development (June 2010)

- Environnemental management tool kit for obsolete pesticides (EMTK) – Volume 2 (2009)

5.3 WHO

Dr Zaim informed the meeting that WHOPES had attended several major meetings and events since the previous JMPS meeting held in El Salvador as follows:

1. Second Meeting of the Regional Scientific and Technical Advisory Committee (STAC) of the EMR/GEF Supported Project, Cairo, Egypt, 1–3 July 2009. The five-year project is entitled "Demonstration of sustainable alternatives to DDT and strengthening of vector control capabilities in Middle East and North Africa". The participating countries are Djibouti, Egypt, Jordan, Islamic Republic of Iran, Morocco, Sudan, Syrian Arab Republic and Yemen.

2. International Public Health Pesticides Workshop – An Examination of the Barriers and Possible Solutions for Bringing New Public Health Pesticide Products to Market in Developing Countries, Geneva, 29 September to 1 October 2009, organized by the Stockholm Convention Secretariat.

3. Third FAO/WHO Joint Meeting on Pesticide Management (JMPM), held in FAO/HQ, Rome, October 2009.

4. Workshop on LLIN Procurement and supply management, jointly organized by the Roll Back Malaria and the Global Fund to Fight Aids, Tuberculosis and Malaria, 13–15 October 2009, Geneva, Switzerland.

5. Pan African Malaria Vector Control Conference, Zanzibar, United Republic of Tanzania, 25–29 October 2009.

6. First IVM stakeholders' meeting, WHO/HQ, Geneva, Switzerland, 11–13 November 2009.

7. Consultation on national public health pesticide management policy in the WHO South-East Asia Region, Faridabad, India, 9–10 April 2010.

8. FAO/WHO Workshop on development of pesticide specifications, Chengdu, China, 13–15 April 2010.

Since the previous JMPS meeting, WHOPES has tested and evaluated three long-lasting insecticidal mosquito nets for malaria prevention and control. Currently, there are 10 public health pesticide products under testing and evaluation: 8 long-lasting insecticidal mosquito nets, 1 larvicide and 1 insecticide products for indoor residual spraying.

Dr Zaim also informed the meeting of the publication of three guidelines for efficacy testing and evaluation of public health pesticides and three generic risk assessment models. These are guidelines for laboratory and field testing and evaluation of: (i) mosquito insect repellents for human skin; (ii) insecticides for indoor and outdoor, ground-applied space spray applications; and (iii) household insecticide products (mosquito coils, vaporizer mats, liquid vaporizers and aerosols) and generic risk assessment models for (i) indoor residual spraying of insecticides, (ii) indoor and outdoor space spray application of insecticides for public health, and (iii) mosquito larviciding. He also informed the meeting of publication of the *FAO/WHO Guidelines for registration of pesticides* as well as the fourth edition of the *Global use of insecticides for vector-borne disease control*.

Since the previous JMPS meeting, and through the grants provided to WHO by the Bill and Melinda Gates Foundation, for reducing health risks through sound management of pesticides, WHOPES has supported nine countries in carrying out situation analysis and needs assessment for management of public health pesticides. WHOPES has assisted eight countries in assessing capacity of the national quality control laboratory(ies), as well as conducting eight workshops on development of pesticide specifications, including principles of equivalence determination.

Several WHO evaluation reports and specifications have been published since the previous JMPS meeting, as reported separately under agenda item 12.

6. Technical liaison with other organizations

Dr Hänel, noting that CIPAC, FAO and WHO work with many regional and international organizations, had the pleasure of calling upon some of these organizations to present reports of their work on the management and quality control of pesticides.

6.1 AgroCare

Mr Roman Macaya, representing AgroCare, informed the meeting that in International Pesticide Trade, although the pesticide market is mature, recent trends in the growth of land dedicated to agricultural use have triggered accelerated demand for agrochemicals. Brazil is driving growth with its focus on increasing soybean and sugar cane production

In International Standards, the FAO/WHO procedures and guidelines are followed by many countries in order to register generics by equivalence. The information submitted for registrations by “equivalence” must satisfy the conditions requested by the FAO/WHO manual. The demonstration of equivalence requires more information.

In order to register generics by the Andean Norm, the following information is required, and this is generated on the specific material: physical and chemical properties; acute toxicity (“six-pack”) for the formulated product; impurity profile of TC (5-batch analysis); efficacy trials for formulated product; environmental risk assessment; and environmental management plan. All other information is bibliographical.

A map of the registration system showed the Latin American countries pesticide market and their expenditure. The total cost of pesticides purchased in 2008 was reportedly US$ 12.1 billion. Most pesticides are registered under the equivalence system.

Registration systems tend to have one of two problems when it comes to registering generics by equivalence: (i) lack of clarity regarding which data are not covered by any applicable data protection provisions (old non-confidential data is confused with “new” data, thus blocking their use in the registration); and (ii) unavailability of “reference profiles” to use in the determination of equivalence (a problem in many developing countries due to lack of appropriate transition phases in the implementation of a new registration system based on equivalence).

Recent proposals to re-evaluate pesticides based on hazard criteria, independent of risk, are unscientific. Under hazard-based evaluations, the world’s farmers would lose even more useful and needed active ingredients.

International maximum residue limits (MRLs) were standardized by CODEX to facilitate international trade in agricultural products by eliminating non-tariff trade barriers. However, CODEX is being seriously undermined by arbitrary lowering of MRLs without any scientific

rationale. He concluded that the world is losing standards to be used in pesticide management, and moving away from science-based regulations.

Mr Macaya also introduced relevant activities in international regulation of pesticide quality conducted by AgroCare during the past 12 months. AgroCare is affiliated with the European Crop Care Association, Latin American Association of the National Agrochemical Industry, China Crop Protection Industry Association and the Pesticide Manufacturers and Formulators Association of India. These associations have members from more than 850 companies.

A number of initiatives have been carried out to implement best practices in pesticide management. These are:

- Organized workshop on Environmental Risk Assessment from the use of pesticides with international experts (San Jose, Costa Rica, February 2010)
- Participation in the 3rd International Workshop on Crop Protection Chemistry in Latin America (*Environment, Safety and Regulation)(*Rio de Janeiro, Brazil, November 2009)
- Participation in the 11th China International Agrochemical & Crop Protection Exhibition (CAC) (Shanghai, China, March 2010)
- Participation in the Second Annual China Crop Protection Summit (Shanghai, China, March 2010)
- Participation in the Third FAO/WHO Joint Meeting on Pesticide Management (Rome, Italy, October 2009)
- Participation in CODEX meeting (Beijing, China, 2009)
- Participation in the Latin American workshop on pesticide Residues in Food and the Environment (Santa Fe, Argentina, 2009)
- Entered discussions with EU Commission regarding the publication of the new Regulation 1107 (Brussels, Belgium, September 2009)
- Established 10 Working Groups in China on different active ingredients to address waste treatment, product toxicity, food residues, resistance, etc
- Worked with Chinese Government to ban glyphosate 10% formulation, and organize related manufacturers to develop waste treatment solutions to the mother liquid
- Participated in the development of the New Pesticide Policy in China
- Working with the Bureau of Indian Standards (BIS), where PMFAI has a seat, to formulate Indian standards for new pesticides and update those of older molecules
- Active discussion with Indian authorities regarding data protection clauses

6.2 AOAC International

Dr Adrian W. Burns, AOAC/CIPAC Correspondent and General Referee-CIPAC Studies, presented an update on AOAC International and the Official Methods Program.

The historical timeline of AOAC International spans 125 years; development over time was shown. Membership includes more than 3000 members worldwide; a third of whom are from outside the USA. Over 82 countries, ministries, academia, and other governments are represented. Membership is from government, industry, academia, independent laboratories, non-profit organizations or trade associations, publishers and others. Regional meetings are held regularly.

AOAC International is a proactive, independent, third party, not-for-profit organization and is recognized as providing proven “science-based solutions” for analytical problems. Official AOAC International methods from the *Official methods of analysis* (OMA) offer credibility and defensibility worldwide as well as the ability to restore regulatory and consumer confidence in various products. The OMA is defined as “official” by the US Code of Federal Regulations,

with some methods specifically required for enforcement of some State and local laws and many Federal food standards.

AOAC International has national and international "brand recognition" and is globally recognized for reaching consensus among stakeholders for analytical method performance criteria in a variety of disciplines [chemistry (formulations and residue), microbiology], including fit-for-purpose and performance-tested methods (test kits). Methods and validation reports are available worldwide.

AOAC collaborations include CIPAC, WHO, FAO, the International Organization for Standardization (ISO), Codex and the European Committee for Standardization (CEN).

AOAC collaborative study and validation programmes:

- *Official Methods*^{SM} program
    - Determines reproducibility of method using a minimum of eight laboratories
    - Validation Design Experts
    - Official Methods Board
    - Method Centric Committees
    - Statisticians/Safety Advisors
    - General Referee/Safety Advisors

- AOAC RI *Performance Tested Methods*^{SM} program

A number of examples of the AOAC Official Methods Program were given. Dr Burns discussed AOAC methods of analysis, formulations, residues and new microbiological methods. Validation programmes, with a minimum of eight laboratories, but the design of validation for collaborative studies requires 10–15 laboratories.

Committee changes and new structures were outlined. OMB completed the reorganization with a "centric committee" concept that is community oriented. Standing committees are being eliminated – only two will remain: statistics and safety. Additionally, Committee A and Microbiology will exist until current studies are completed.

Methods and final action decisions are taken. System for new methods – proposed, then collaborative study set up with study director and statistics, etc. New system advantages – to better engage AOACI membership, by speeding up study completion process people will be more focused on the topic. Members can serve on more than one committee. Disadvantages of the new system include increased paperwork, downtime between committee formation and dissolution, and maintaining rosters for potential committee members. Committee A – Pesticides and Disinfectant Formulations – has become a Standing Committee due to the unique quality of pesticide formulations focus.

6.3 ASTM International

ASTM International was not represented at the meeting.

6.4 CropLife International and European Crop Protection Association (ECPA)

Dr John Dawson, representing CropLife International and ECPA, noted that CropLife has the largest share of the so-called generic or off-patent market. In addition to main member companies, CropLife represents plant science industry in 91 countries and has around 1000 members (large and small companies) through their affiliation with CropLife's regional and

national organizations. Thus CropLife speaks for the entire spectrum of the industry, and not just the research and development-based (multinational) industry.

He informed the meeting that the Specifications Expert Group (SEG) is comprised of member company representatives with expertise in analytical, phys-chem, regulatory and formulation sciences, but also ad hoc members from other expert areas, such as toxicology and ecotoxicology. SEG is a technical resource for CropLife and ECPA.

Current members of SEG are: J-P Bascou, Bayer, France; M Bouzekri, Sumitomo, CropLife Japan, France; H Berga, Nufarm, Netherlands; T Cosgrove, Dupont, USA; J Dawson, Dow AgroSciences, Chairman, UK; R Förster, BASF, Germany; A Fowles, Dow AgroSciences, France; B Johnen, CropLife International Brussels; R Kober, BASF, Germany; W Mayer, Makhteshim Agan, Israel; R McKenna, Dupont, USA; J Nys, Janssen Pharmaceutica, Belgium; M Rodler, Syngenta, Switzerland; A McIntyre, Syngenta, Switzerland; B Roose, Monsanto, Belgium; R Rowe, ECPA, Brussels and J Zindel, Bayer, Germany.

The mission of SEG is to provide a forum comprised of experts in matters of product quality and specifications for discussion and resolution of technical issues of importance to the crop protection industry. SEG has three meetings per year, one of which coincides with the CIPAC meeting.

Key activities of SEG include:

- Industry interface with FAO/WHO and specifications process
    - Discussion and feedback relating to improvements and amendments to FAO/WHO manual on development and use of FAO and WHO specifications for pesticides
    - input to new training manual on FAO/WHO specification process
    - workshop support to formulation and specification training

- Engage in and support the work of CIPAC
    - Co-ordinate our efforts with other expert groups (e.g. DAPF, DAPA, ESPAC, phys-chem Industry forum, etc.)

- Provide Industry Technical Monographs (TM):
    - TM1, Use of tolerances in the determination of active ingredient content in specifications for plant protection products
    - TM2, Catalogue of pesticide formulation types and international coding system
    - TM17, Guidelines for specifying the shelf-life of plant protection products
    - TM19, Minor changes of formulants contained in formulations

- Provide comment and review on new and/or revised OECD Methods on phys-chem properties

- Support to ECPA Regulatory Teams
    - Formulation changes – management at zonal level
    - Co-formulant classification issues (NPE, NMP, etc)
    - Review of EU text – and guidelines, phys-chem, actives and formulations, equivalency etc
    - Specification Training to new EU Member countries

Further information is available on the CropLife International web site http://www.croplife.org/ and the ECPA web site http://www.ecpa.be/.

6.5 European Food Safety Authority (EFSA)

Mr László Bura, representing EFSA, noted that its three main goals are to improve food safety, to rebuild consumer confidence in EU food safety, and to maintain confidence of trading partners in the EU food supply. EFSA is making a significant contribution to these goals. The European System of Food Safety Regulation 178/2002 has three stages of risk analysis: risk assessment, risk communication and risk management.

EFSA's tasks are to provide scientific advice, opinions, information, and technical support for Community legislation and policies; collect and analyse data to allow characterisation and monitoring of risks; promote and coordinate development of uniform risk assessment methodologies; and communicate risks related to all aspects of EFSA's mandate. EFSA cannot be responsible for food safety legislation; take charge of food safety/quality controls, labelling or other such issues; and act as a substitute for national authorities.

EFSA scientific committee and panels:

- 10 scientific panels
- Independent scientists selected based on their proven excellence
- Open meetings as appropriate
- Mandatory commitment of independence
- Declaration of interest (annual and per meeting)

Scientific panels and units:

- Pesticide risk assessment and peer review (PRAPeR)
- Food additives, flavourings, processing aids, materials in contact with food (AFC) which will soon be split in two: food additives and nutrient sources added to food; and food contact materials, enzymes, flavourings and processing aids
- Animal health and welfare (AHAW)
- Biological hazards (BIOHAZ)
- Contaminants in the food chain (CONTAM)
- Additives and products in animal feed (FEEDAP)
- Genetically modified organisms (GMO)
- Dietetic products, nutrition and allergies (NDA)
- Plant health (PLH)
- Plant protection products and their residues (PPR)

Scientific work processes authorizations/vertical legislation
Regulated substances (e.g. food contact materials, additives, flavourings, GMOs also novel food)

- EFSA is legally obliged to issue scientific risk assessments during "authorization" procedures, which may lead to the permission for the substance/product to be placed on the market;
- Each panel has got its own legal framework in addition to Regulation 178/2002.

Communications
Purpose – Provide appropriate, consistent, accurate and timely communications on food safety issues to all interested parties, stakeholders and the public at large, based on the Authority's risk assessments and scientific expertise.

Policy affairs
EFSA communicates and exchanges information with OIE, WHO, FAO, CODEX, Food Standards Australia New Zealand, USDA, FDA, Japanese Food Safety Commission, and Chinese FDA.

Future challenges and perspectives:

- New areas of work:
  - Nanotechnology
  - Animal cloning
  - Health claims
- Scientific cooperation with Member States
- International relations strategy
- Expand and consolidate EFSA organization

6.6 American Federation of Agrochemical Societies

The American Federation of Agrochemical Societies (FASA) was represented by Ms Luna, who informed the meeting that the federation legally started work on 15 January 2008. FASA is incorporated in the USA as a non-profit corporation (IRS Code 501 (c) (6)). US Internal Revenue Service approval was granted on 18 February 2008.

FASA comprises 35 members (companies and associations) from the USA and 18 countries in Latin America. Its vision is to protect the environment, promote fair registration laws, and to promote environmentally friendly products and equal opportunity.

Objectives:

1. Government. To promote FAIR registration laws in Latin American countries and the Caribbean.
2. Marketing. To improve market availability of environmentally friendly products to small, medium and large growers at a competitive price in order to lower costs of production.
3. Equal opportunity. To allow small and medium companies to be competitive in the agricultural markets in Latin America.
4. Education. To promote educational programmes for safe use of pesticides in Latin America.
5. Regulations. To support and promote regulations in Latin American countries for:
   - botanical products
   - biological/microbial products
   - bio-rational products
   - plant growth regulator products

MEMBERSHIP
Countries with FASA members and associations include USA, Mexico, Dom. Rep, Jamaica, Trinidad, Panama, Costa Rica, Nicaragua, Honduras, Guatemala, El Salvador, Venezuela, Colombia, Ecuador, Bolivia, Peru, Chile, Argentina and Brazil There are 7 regional associations and 19 countries as members with a total membership of 35 members.

ACHIEVEMENTS and ACTIVITIES 2008–2010
Educational Seminars to Public and Government Officials in Nicaragua, Guatemala, Honduras, El Salvador; Central American “Ronda Aduanera” for Registration of Pesticides
Central American Customs Union has registration of & made regulations for

- Synthetic Pesticides
- Pesticide for Domestic/Commercial Uses
- Fertilizer and Soil Amendments
- Botanical Pesticides
- Biological/Microbial
- Bio-Rational Pesticides
- Plant Growth Regulators

Registration Proposal was delivered for Pesticides, Botanical, Biological and Bio-Rational to the Belize Government Registration Department. FASA Regulation Proposals have been drafted.

International Fairs were held in El Salvador, a Registration EPA Training Work Shop in Honduras, attendance of the 2009 Meeting of CIPAC-FAO-WHO in El Salvador and a Meeting Coordinating the Group of Pesticides of Caribbean (CGPC) in Guyana. FASA is an Associate Member of Coordinating Group of Pesticides Control Boards (CGPC). A Pesticide Handling Training School was held in San Andres Itzapa-Guatemala. FASA is an Associate Member of Chemical Producers and Distributors Association (CPDA)

Other Achievements and Activities included a visit to US Government Agencies in Washington, FASA meeting the President of Honduras in Tegucigalpa, Honduras, C.A and a FASA meeting with Group of Pesticide Companies from the Andean Countries in Miami, Florida, USA. The Board of Directors was presented.

6.7 International Union of Pure and Applied Chemistry

The International Union of Pure and Applied Chemistry was not represented at the meeting.

6.8 Other organizations

There were no other organizations present that wished to give a report.

7. National reports of CIPAC activities and reports from official quality control laboratories

The following country reports, including any collaborative studies in which they participated, were presented: Argentina, Austria, Belgium, Brazil, Czech Republic, Denmark, El Salvador, France, Germany, Greece, Hungary, Ireland, Japan, Latvia, Netherlands, Panama, Peoples Republic of China, Romania, Slovakia, Slovenia, South Africa, Spain, Switzerland, Thailand #1- Report on Pesticide Formulations Registration and Department responsible, Thailand #2, Ukraine, and the UK. Annex 1 contains a summary of the reports.

Comments: Dr Zaim commented that a 6% non-compliance level is still the average, but that in some countries figures this year are higher than those from the previous seven-year average.

National reports that were also provided electronically are available on the CIPAC web site (http://www.cipac.org/datepla.htm).

8. Proposed amendments to the Manual on development and use of FAO and WHO specifications for pesticides

Presentation by Denis Hamilton

Revision of pesticide specifications manual 2010 – *Manual on development and use of FAO and WHO specifications for pesticides*.

The task is to revise the 2006 edition and introduce changes adopted by JMPS 2006-2009. There are changes in CIPAC MT methods. The manual is in a good format and so amending it has been easier. Editing is challenging due to the complex cross referencing in the manual.

Also edits are required to correct any inconsistencies. The proposal was to update the manual every five years, and amendments are coming through from each meeting. A number of examples were presented and discussed.

Sources of information for the amended manual: (i) agenda items of open and closed meetings for 2006-2009 and (ii) comments from industry, CIPAC and JMPS members. JMPS procedures have apparently evolved, CIPAC methods have changed and reference documents and web sites have changed. Edits were made because errors and inconsistencies were noticed.

Style. The revision has retained the style, the structure and most of the numbering from the previous version.

Annual amendments to the manual are proposed. At the open meeting in 2007 it was decided to publish amendments to the manual as addenda to the meeting report and to update the manual every five years. This edition has relied on the minutes of the annual meetings for the substantial changes so a consultation was not considered necessary.

The amendments can either be editorial or substantial. The substantial changes should follow the procedure decided in 2007.

Is it editorial or is it substantial? Three examples of borderline cases illustrate the current dividing line.

- Insolubles - Suggestion: delete the paragraph on Insolubles (4.4.3). Insolubles could be controlled by relevant tests such as sieve tests, etc. It is more than an editorial decision to remove this section. It is a decision for JMPS.
- Wet sieve test (4.5.31) – Suggestion: MT 59.3 and MT 167 would no longer be supported. Mark MT 185 as the preferred method. Decision for CIPAC.
- Adhesion to seeds (4.5.37) – Suggestion: MT 194 is now a full method and should supersede MT 83. The CIPAC 2009 Report states: MT 194 accepted as full CIPAC method, replacing MT 83 and MT 147. CIPAC has made this decision, so we can amend the manual accordingly.

New and expanded sections

- Section 3.2 Minimum data requirements for extension of an existing specification to an additional manufacturer or a new manufacturing route.
- Section 3.3 Extension of LN specifications.
- Section 3.4.5 References
- Section 8.21 Long lasting insecticidal nets or netting (LN).

Status of CIPAC MT methods

The status of a number of MT methods will be decided by CIPAC in 2010. The manual will be modified to reflect the CIPAC decisions.

JMPS matters

During the revision of the JMPS manual, a number of matters were raised that were more than editorial or obvious developments. The JMPS closed meeting has considered these matters and made the following decisions:

4.5.51 Flowability - Proposal - Delete flowability requirements for powders: DP, SP, WS, SS from 4.5.51. Currently flowability is not required in the spec guidelines for DP, SP, WS, SS. Currently no compounds have flowability specs for a powder. Decision –
Delete flowability requirements for powders: DP, SP, WS, SS from 4.5.51 Flowability

MT 172 Flowability is measured after heat test (54 °C, 14 days) under pressure. Flowability was moved to the set of tests required after accelerated storage. It should be returned to listing as a separate clause.

MT 46.3 (accelerated storage) allows other temperatures as well as 54 °C.

Insolubles – Suggestion - Section 4.4.3. Insolubles, Page 42 Delete entire paragraph
Reason - Insolubles should be controlled by application relevant phys./chem. Tests (sieve tests, etc.). TC studies require the solubility data of an a.i. in certain solvents (and not the insolubility). Decision - Retain, until full implications are studied.

pH range – Section 4.5.61, Acidity and/or alkalinity or pH range. page 55 Suggestion – Acidity / Alkalinity is not required if the pH is in the range of 4 to 10. Decision – Retain the current requirements. Acidity/alkalinity relates to buffer capacity, which is different from pH.

Stability at elevated temperature and safety assessment proposal – ….. In those cases where the degradation found is in the range 5% to 10%, the shelf-life can continue to be two years. In case of degradation ≥10% or if the safety assessment of the break down product(s) is not possible then the shelf-life must be reduced based on the shelf-life data from intermediate storage stability measurement points (12, 18 months). Decision – No change. This would be introducing an interpretation for the regulatory assessment of risk. It would be beyond the role of the specifications.

Suspensibility for FS. Proposal – Delete 7.32.4.5 Suspensibility (MT 184) (Note 9) A minimum of .....% of the ..... [ISO common name] content found under 7.32.2.2 shall be in suspension after 30 min in CIPAC Standard Water D at 30 ± 2 °C (Note 10). SEG comment: Given the method of application of FS liquid suspension seed treatment formulations the requirement for suspensibility is not relevant. Decision Perhaps FS is diluted for some seed treatment techniques and equipment. Retain the clause, but make it “if required.”

Viscosity Pages 143, 146, 151, 154, 159, 163, 167, 173; Viscosity requirement for SC, FS, CS, OD, SE, ZC, ZW, ZE Proposal – delete the viscosity requirement from these formulation specifications.

Other quality relevant properties such as re-homogenisation, suspension stability, wet sieve, etc, control the flow properties. Decision – Delete viscosity requirements as suggested.

Glossary of terms

Reference profile page 248 Proposal – Add. The reference profile of impurities relates to the technical grade active ingredient supported by a complete toxicological and ecotoxicological profile. Response – JMPS has discussed this point during agenda items on equivalence determination. What is "complete" and what is "incomplete" are not always so clear, differences requiring toxicological expertise. Decision – retain the current text.

Relevant impurity. Proposal – Add: By-products that are listed as persistent organic pollutants in the Stockholm Convention are also considered relevant impurities. The establishment of appropriate limits follows the rationale laid down in the Convention.
Decision – It is not appropriate to include such an example in a definition. Explain the “relevant impurity” situation of POP compounds in Section 1.3.4.

Emulsion Stability. Water A. Proposal - Retain only Water D for the emulsion stability test MT 36.3. Decision - Retain Water A as well as Water D for MT 36.3. Water A is sometimes the more stringent test.

Timetable to final version

Amendments relating to JMPS and CIPAC decisions will be made when final reports of the 2010 meetings are issued. The final version of the 2010 manual should be published as an electronic document by approximately November 2010.

Questions – None asked

9. Status, review and publication of CIPAC methods

9.1 Review MT methods (Handbook F)

JAPAC, ESPAC and others were thanked for their comments. MT methods would be discussed in the CIPAC meeting.

9.2 Handbook N

Handbook N will shortly be published – the current status was outlined.

Further information is available on the web site (www.cipac.org).

10. Proposed new/extended CIPAC analytical and physical test methods

10.1 Proposal for a washing method for LN-formulations

Dr Olivier Pigeon presented the current situation on the development of a washing method for LN formulations. The wash behaviour of LNs determined by analysing active ingredient content in unwashed and washed samples is an important physico-chemical characteristic of LNs and permits the provision of information on the retention/release characteristics of LNs. The retention/release index is one of the clauses to be included in WHO specifications for LNs.

The Eleventh WHOPES Working Group Meeting held on December 2007 in Geneva recommended that a precise understanding of the retention/release of insecticide from LNs through successive washes is necessary and underlined the need to standardize the WHO washing procedure by replacing the Marseille soap with a standardized detergent.

The 2009 CIPAC/FAO/WHO Meeting held on June 2009 in El Salvador recommended that CIPAC develop a standardized washing method based on the WHO method. This method should be applicable in a normal analytical quality control laboratory and should be applicable for both types of LN (coated and incorporated into filaments). All the parameters of the method (including the detergent) have to be standardized. The method should also use instruments and chemicals that are easily and globally available. The method should be easy and safe and should provide unambiguous, robust and reproducible results. The new detergent should also be calibrated with the Marseille soap at 2 g/L to enable the comparison with results actually generated in WHOPES Phase I trials with the WHO method using Marseille soap.

Preliminary studies on the draft CIPAC wash method were performed by CRA-W, Gembloux, Belgium where the IEC-A* reference detergent at 2, 3 and 5 g/L was compared with the Marseille soap at 2 g/L. The study was performed on two LNs treated with alpha-cypermethrin (coated and incorporated) and two LNs treated with deltamethrin (coated). Dr Olivier Pigeon said that these results will be presented and discussed at the CIPAC technical meeting together with the study results from Sumitomo (Yumiko Kozuki and Tsunehisa Fujita) relating to the proposal on a detergent for LN washing method. The presentation from Bruno Patrian at the CIPAC Symposium (From pesticide quality control to textile chemistry: experiences with the draft CIPAC wash method) will also be considered for discussion at the CIPAC technical meeting.

10.2 Determination of Wash resistance of LN

On behalf of industry, Dr Martin Rodler presented a proposal of how to further proceed in order to establish a CIPAC method for determining the wash resistance of LN. First, he suggested replacign the term “release/retention index“ with “wash resistance“ if the general property is referred to. The term “wash resistance index“ should be used for the resulting value when applying the new CIPAC method that is currently in development. He proposed definitions for both terms. Furthermore, he used the results of the experimental work done by Olivier Pigeon in 2009 (CIPAC-DAPF / RE 22018 / 2009) to propose a few modifications to the current draft CIPAC method (MT XXX RETENTION OR RELEASE INDEX OF LN; date: 28 January 2010). The objectives of these modifications were:

- to allow more flexibility of the equipment to be used;
- to increase clarity how to perform the test, and
- to take into consideration the difference between coated and incorporated nets (heating / replenishing step).

Finally, he stated that the companies of CropLife International are happy to participate in a collaborative CIPAC trial to test the suitability of this modified method.

11. Subjects arising from the JMPS closed meeting

The following points on significant issues, advanced from previous meetings and also on new matters, were raised in discussions held in the JMPS closed meeting. These are presented by Dr Markus Muller, Chairman of JMPS, to the JMPS open meeting.

- **Changes in procedures for submission of data package for equivalence determination**
  In the past, some requests for extension of specification for certain active ingredients (equivalence) had been accepted by the Joint Secretariat before publication of the reference specification. This caused considerable uncertainty for the second manufacturer and undue delays in solving critical issues in equivalence determination and publication of reference and equivalence specifications. Therefore requests for equivalence will only be accepted after the reference specification is completed and published.

- **New format for the document “programme of work” published on the FAO and WHO sites**
  The annual "Programme of Work for Development of FAO and WHO Specifications", which is published by WHO and FAO on their respective web sites, includes the compound name, the company and information on whether the submission is from an original proposer, a subsequent proposer or an extension of a specification for a formulation. In order to enhance transparency on the

progress of work, an additional column is added stating whether the data submission is either still pending from earlier years, is published or withdrawn (see Annex 2 for programme of work).

- **Making policy decisions from the closed meetings available in consolidated form**
  Discussions and conclusion on pending issues in the closed meeting lead to "policy decisions" that may be either technical or procedural in nature. A consolidated working document, which is updated every year after the closed closed meeting, regarding these issues will be published along with the specifications manual on the WHO and FAO web sites. This will facilitate the accessibility of these decisions before they are integrated into the manual, as a major revision of the specifications manual will take place every five years.

- **Publication of specification evaluation reports in a timely manner**.
  JMPS makes every effort to have specifications and evaluation reports which were recommended for adoption by WHO and FAO in the closed meeting published by end of November of the ongoing year. Timely provision of information by industry is crucial; otherwise evaluation report will be published identifying data gaps

- **Identification of manufacturing sites of pesticide technical materials**
  JMPS is aware that toll manufacturing is increasingly used by many companies for increased flexibility in supply chain management. The question of equivalence determination for possible sources of the technical materials was discussed. The Meeting concluded that equivalence determination is needed for all sites producing to the same manufacturing limits. However, the need for disclosure of the production sites under direct as well as indirect control of the data proposer in evaluation reports was discussed and rejected by JMPS. Manufacturing sites will not be named in the reports.

- **Reference of FAO specifications to older CIPAC handbooks**
  Several FAO specifications under the old procedure refer to CIPAC handbooks that are out of print: 1B and 1C. The necessity of keeping these handbooks available for quality control laboratories in industry and government authorities was confirmed, and a message to CIPAC was formulated: "How can the methods still valid in 1B and 1C be made available to QC laboratories?" Dr Müller, in his capacity as a member of the board of management of CIPAC and having the CIPAC lead for LN, confirmed that the issue will be discussed in the designated body of CIPAC and that several options are being considered. He advised that CIPAC will shortly deliver a solution to the issue.

- **Extension of MT46.3 method to LNs**
  CIPAC MT46.3 (accelerated storage test) is suitable for solid and liquid formulations, but does not provide a method for LN. This gap leads to inconsistencies how different manufacturers expose their long lasting nets to higher temperature: some use original packaging, some expose LN in the oven unprotected etc. Also here a message to CIPAC was formulated: to consider a method extension of MT 46.3 for LN.

- **Multi-active ingredient (MAI) formulations**
  Dr Steer said that the JMPS has discussed how to deal with specifications for formulations with more than one active ingredient. Problems include safeners and synergists, which are never used alone.

He noted that the FAO/WHO manual (rev. 2006) states:

“Formulation specifications normally refer only to a single active ingredient. Where two or more active ingredients are co-formulated, the specification for each active ingredient is expected to apply. Manufacturers should therefore ensure that the limits provided in proposed specifications are mutually compatible. In exceptional cases (for example, if special controls are required where active ingredients are co-formulated), a specification may be accepted for a co-formulated product but the manufacturer must explain the basis for the requirement.”

After discussions in JMPS and open meeting in 2008 and 2009, the following procedure is proposed for MAI formulations (that is, for formulations with more than one active ingredient, also safeners and synergists):

Formulation specifications normally refer only to a single active ingredient. For MAI formulations:

1. the specified minimum purity and the maximum content of all relevant impurities for every active ingredient is expected to apply.
2. the analytical methods referred to in the specifications may no longer apply without modification. The manufacturer must submit adequate information.
3. For the physical properties:
    a. where limits are recommended under “Requirements" in Section 4.5 of this manual, these limits are expected to apply.
    b. where no limits are recommended, in general the less stringent value of the “single” specifications should apply.
    c. for pH, the specification for each active ingredient is expected to apply.

The sentence “*Manufacturers should therefore ensure that the limits provided in proposed specifications are mutually compatible*” will be deleted, because sometimes it may have been the reason why manufacturers propose “general limits” in their specifications.

Some examples are given in the table below.

Specification for Active 1	**Specification for Active 2**	**Specification for MAI**
70% suspensibility	95% suspensibility	60% suspensibility
70% suspensibility	no specification	60% suspensibility
Pourability 1%	Pourability 3%	Pourability 3%
Pourability 1%	no specification	Pourability 1%
pH 3 … 6	pH 4 … 8	pH 4 … 6
pH 3 … 6	no specification	pH 3 … 6

12. Review and publication of FAO and WHO specifications for pesticides

12.1 Status of FAO specifications

Ms Yang presented the status of FAO specifications as tables, shown in Annex 3. The first table covered the years 2002–2007, the second table 2008 and the third table 2009. The specifications and the delays were discussed, and it was pointed out that these delays are not good. A good number of specifications have been published but some are awaiting publication pending further information from the company.

12.2 & 12.3 Status of WHO specifications and status of joint FAO/WHO specifications

Dr Zaim reported that since the previous JMPS meeting, five WHO specifications, including four specifications for LNs and two FAO/WHO joint specifications, have been published. He also noted that eight specifications have been reviewed in previous JMPS closed meetings and are still pending publication: one belongs to 2004, three to 2008 and four to 2009 (see Annex 4). He raised concern over delays in providing data/information by industry and emphasized the significant cost implications for FAO and WHO. He informed industry that JMPS wishes to finalize evaluation reports by November of the same year of the JMPS review, and requested industry to provide pending data/information by September of the same year.

He also informed the meeting of withdrawal of WHO specifications for iodofenphos, methoxychlor and trichlorfon all developed under the old procedure, and recommended as obsolete specifications by JMPS 2010. These are in addition to WHO specifications for Deet that was withdrawn as an obsolete specification in 2009.

12.4 Withdrawal of WHO specifications

DEET (2009)
Iodofenphos, Methoxychlor, Trichlorfon (2010)

13. FAO/WHO priority list and programme for development of FAO and WHO specifications for pesticides

Ms Yang presented the priority list for JMPS 2011 (see Annex 2) in three different categories: (1) original proposer; (2) subsequent proposer(s); (3) specification for formulation. Three of the 14 proposals are for new specifications. Companies must be aware of the deadlines for submissions.

14. Any other matters

14.1 Retirement of Denis Hamilton and presentation of the FAO medal

Dr Zaim announced the retirement of Mr Denis Hamilton from JMPS, with whom he has had the pleasure of knowing and working with since 1999 when he was invited to the WHO Expert Committee Meeting on pesticide specifications held at WHO headquarters in December 1999. This meeting had proposed the establishment of a joint programme with FAO on development of pesticide specifications.

Mr Hamilton was appointed as a member of the WHO Panel of Experts on Vector Biology and Control in February 1998. This is the statutory body of WHO whose Panel Members are appointed by the Director-General and provide WHO with expert advice on strategies, actions and on their technical area of expertise. Since 1998, Mr Hamilton has served as one of the prominent and key members of this Panel.

Mr Hamilton is known in WHO not just only for his support to the work of JMPS, but also his contribution to the work of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR). He has served as the FAO Panel Member since 1986 (that is, for 24 years).

The contribution of Mr Hamilton to the field of pesticides and international community is not limited to JMPS and JMPR. His contribution through the IUPAC Advisory Committee on Crop Protection Chemistry, as well as serving on editorial boards of two prominent scientific journals (Pest Management Science and Outlooks on Pest Management) are well recognized and appreciated.

On behalf of the WHO Panel members of the JMPS, it has been a great honour and pleasure working with Mr Hamilton. Dr Zaim wished him all the best and success.

Ms Yang expressed profound gratitude to Mr Denis Hamilton for his efforts and contribution to the work of FAO in developing and implementing specifications during the past 20 years. Mr Hamilton well known not only for his long and successful career in this area, but also for his broad knowledge and experience in pesticides chemistry, in particular in pesticide residue and specifications.

Mr Hamilton started his work with JMPR in 1986 in Rome, and with FAO specification at the 1988 CIPAC meeting in Geneva. In those early years he was the FAO panel member and the FAO rapporteur.

In the mid-1990s, Mr Hamilton participated in and contributed to the work of developing the “new” procedure for evaluating data to establish specifications. He was also a member of the consultation in Geneva in 1999 aiming to align the procedures for FAO and WHO specifications, ultimately leading to the FAO and WHO Joint Meeting on pesticide specifications. Mr Hamilton has participated in every JMPS until now. He dedicated his wisdom, experiences, and energy as the chairman for the JMPS for three years (from 2007 to 2009). He is also an honourable mentor and instructor for the new experts of the JMPS and JMPR.

Finally, on behalf of FAO, Ms Yang presented the FAO medal, in recognition of Mr Hamilton's contribution to food production and prevention of world hunger.

Denis Hamilton replied: “I thank you and give my thanks to FAO and WHO. My only contribution was that I like to do chemistry and am privileged to have worked with the people in these organizations. My father said you should work with people who are enthusiastic and motivated and then the outcomes are very good. I am very pleased to have had the opportunity to have worked with you.”

There were no other matters for discussion.

15. Date and venue of next meeting

The CIPAC/FAO/WHO Annual Meeting in 2011 will be held in Beijing, China. The meeting will be co-organized with ICAMA (Institute for the control of Agrochemical, Ministry of Agriculture, China).

Professor Chen TieChun from ICAMA welcomed participants to Beijing in China and invited everyone to the next meeting. A presentation was shown of the meeting venue, including a brief introduction of ICAMA and pictures of famous scenic spots and historical sites in Beijing.

Provisional dates for meetings of JMPS and CIPAC are 8–16 June 2011. Details are available on the CPIAC web site (http://www.cipac.org/datepla.htm).

Closing of the 7th Joint CIPAC/FAO/WHO Open Meeting

Dr Hänel, Chairperson, declared the meeting closed. He thanked the participants for their attendance and the rapporteurs for their work.

Annexes

ANNEX 1.
SUMMARY TABLE OF NATIONAL REPORTS OF OFFICIAL QUALITY CONTROL LABORATORIES

Region	Reporting laboratory	No. of samples tested	Non-compliance	
			No.	%
Africa	South Africa	121	5	4
Americas	Argentina	1007	15	1
	El Salvador	709	17	2
	Panama	164	14	9
Europe	Austria	47	4	9
	Belgium	86	5	6
	Czech Republic	42	12	29
	Denmark	56	1	2
	France	34	22	65
	Germany	196	68	35
	Greece	368	14	4
	Hungary	931	18	2
	Ireland	163	8	5
	Latvia	21	5	24
	Netherlands	11	0	0
	Romania	266	10	4
	Slovakia	98	5	5
	Slovenia	8	0	0
	Spain	169	34	20
	Switzerland	38	1	3
	UK	51	13	25
	Ukraine	130	26	20
Asia	China	252	26	10
	Japan	12	0	0
	Thailand	5239	226	4
Total		**10219**	**549**	**5**

ANNEX 2.
PROGRAMME FOR DEVELOPMENT OF FAO AND WHO SPECIFICATIONS FOR PESTICIDES

(1) Original proposer; (2) Subsequent proposer(s); (3) Specification for formulation

Year	Products	Proposer(s)
2011	**FAO:**	
	Cyazofamid TC, SC	(1) ISK
	Dimethoate EC	(3) Task Force (Cheminova; BASF; Isagro)
	Dinotefuran TC, SC	(1) Mitsui
	Hexazinone TC	(2) Nutrichem
	Picloram	(2) Nutrichem
	WHO:	
	Alpha-cypermethrin (incorporated into filaments) LN	(2) Disease Control Technologies; (2) VKA Polymers
	Bacillus thuringiensis israelensis GR	(3) Valent BioSciences
	Deltamethrin (incorporated into filaments) LN	(3) Bayer
	Lambda-cyhalothrin CS	(3) Tagros
	Pirimiphos-methyl CS	(3) Syngenta
	FAO and WHO:	
	Alpha-cypermethrin TC	(2) Bharat Rasayan Ltd
	Chlorfenapyr TC, SC	(1) BASF
	Lambda-cyhalothrin TC	(2) Bharat Rasayan Ltd
	Permethrin (40:60 *cis:trans*) TC	(2) Tagros

ANNEX 3.
STATUS OF PUBLICATION OF FAO SPECIFICATIONS

Product	**Manufacturer**	Status
Copper, cupric hydroxide and oxychloride Bordeaux mixture, and cupric oxide	European Union Copper Task Force (2005)	To be finalized for publication
Propanil	Riceco (2006)	Can not be preceded
Fosetyl-Al TC, WG, WP	Bayer (2006)	Pending information from company
Propaquizafop TC, EC	Makhteshim (2006)	Evaluation only to be published, pending information from company
Fenoxaprop-P-ethyl	Bayer （2007）	Published in 2010
Thiacloprid TC, SC, SE, OD,WG	Bayer CropScience （2007）	Published in 2010
Carbosulfan	FMC (2008)	To be finalized for publication
1-methylcyclopropene	Rohm and Haas France SAS (2008)	Published in 2010
Cyprodinil, WG, EC, TC	Syngenta (2008)	Published in 2009
Fipronil TC, TK, EC, FS, SC, UL and WG	(1) BASF/BCS (2008) (2) Gharda Chemicals	Published in 2009
Fluazinam	ISK Biosciences Europe (2008)	To be finalized for publication
Haloxyfop-P-Methyl TC, EC	DAS (2008)	Pending information from the company
Imidacloprid GR	Cheminova (2008)	Published in 2009
Indoxacarb TC, TK, WG, SC, EC	DuPont (2008)	Published in 2009
Mefenpyr-diethyl TC, WG, EW, EC, OD	BCS (2008)	Pending response from the company
Pendimethalin TC,TK,EC	Finchimica (2008)	Pending for reference profile
Azoxystrobin TC, SC, WG	Makhteshim (2009)	Published in 2009
Clothianidin TC, SC, GR,SG	Sumitomo (2009)	Published in 2010
Clothianidin TC, FS, WS	BCS (2009)	Pending information from the company
Tribasic Copper Sulfate	Cerexagri (2009)	Pending information from the company
Fosetyl-Al TC, WG, WP	Helm AG (2009)	Pending information (RP) from the company
Thiophanate-methyl	Helm AG (2009)	Reconsidered at 2010 JMPS
Triadimenol	BCS (2009)	Reconsidered at 2010 JMPS
Triadimefon	BCS (2009)	Reconsidered at 2010 JMPS

ANNEX 4.
STATUS OF PUBLICATION OF WHO AND FAO/WHO SPECIFICATIONS

1. Specifications published

FAO/WHO	ALPHA-CYPERMETHRIN	GHARDA	October 2009
FAO/WHO	FENITROTHION	SUMITOMO	January 2010
WHO	PERMETHRIN 25:75	TAGROS	April 2010
WHO	DELTAMETHRIN LN	VESTERGAARD	December 2009
WHO	DELTAMETHRIN LN	TANA NETTING	December 2009
WHO	ALPHA-CYPERMETHRIN LN	BASF	October 2009
WHO	ALPHA-CYPERMETHRIN LN	CLARKE	October 2009

2. Specifications pending

2004	BIFENTHRIN	FMC	FAO/WHO
2008	TEMEPHOS	GHARDA	WHO
2008	PERMETHRIN 40:60	GHARDA	FAO/WHO
2008	DELTAMETHRIN LN	INTELLIGENT INSECT CONTROL	WHO
2009	DELTAMETHRIN +PBO LN	VESTERGAARD	WHO
2009	ALPHA-CYPERMETHRIN	MEGHMANI	FAO/WHO
2009	DIAZINON	MAKHTESHIM	FAO/WHO
2009	PBO	ENDURA	FAO/WHO