

# Kobe Gazette

# 4

## August 9th (Wed), 2006

### Evolution for Crop Protection, Public Health and Environmental Safety

(Sponsoring Organizations)

The International Union of Pure and Applied Chemistry (IUPAC) & Pesticide Science Society of Japan

#### "What Can We Do to Eradicate Poverty and Hunger in the World?"

#### Dr. S. Pandey Presents His Thoughts in His Plenary Lecture

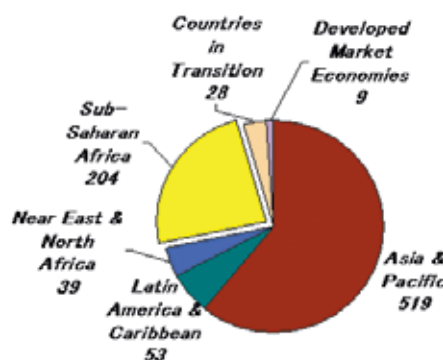


Yesterday's Plenary Lecture was delivered by Dr. S. Pandey, representing the Food and Agriculture Organization (FAO), where he has been the Director of the Plant Production and Protection Division since 2005. He began his talk with statistics on the present status of hunger and poverty in the world.

The proportion of people in developing countries living with an average daily food intake of less than 2,200 kcal fell from 57% in the early 1960s to just 10% by the end of 2000. With undernourishment, food shortage, hunger and poverty all so closely interwoven, Dr. Pandey emphasized placing integrated production systems in the hubs of agricultural biodiversity (see figure below). At FAO's 1996 World Food Summit (WFS), and again at the 2002 Millennium Summit, the International Development Community established the following ambitious agenda for reducing hunger and poverty:

1. Follow the twin-track approach
2. Focus on the hotspots
3. Focus on the long term while responding to immediate needs
4. Enhance productivity of smallholder agriculture
5. Seek complementarities between trade and domestic policy
6. Increase effectiveness of Official Development Assistance
7. Ensure complementarities of public resources, domestic and international
8. Create an environment conducive to private investment
9. Prioritize agricultural research and development

#### 852 million undernourished people in the world, 2000-2002



In his statement entitled "The Chance for Peace", on April 16, 1953, President Dwight D. Eisenhower said "Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed, those who are cold and are not clothed." Ten years later in 1963, President John F. Kennedy, in his address to the first World Food Congress, said "We have the means, we have the capacity to end hunger from the face of the earth in our lifetime. We need only the will."

#### All Day, Every Topic

|   |             |
|---|-------------|
| <b>Plenary Lecture-3</b>                        |             |
| Main Hall                                       | 08:45-09:45 |
| Y. Z. Yang (see page 2)                         |             |
| <b>Pesticide Design</b>                         |             |
| Selected Poster Workshop-9                      |             |
| Room 502  | 10:00-12:15 |
| <b>Insecticide</b>                              |             |
| Selected Poster Workshop-6                      |             |
| Main Hall                                       | 10:00-12:15 |
| <b>Herbicide (S-8)</b>                          |             |
| Main Hall                                       | 15:00-18:00 |
| <b>Vector Control (SW-2)</b>                    |             |
| Room 501  | 10:00-12:15 |
| Luncheon 13 (Sumitomo)                          |             |
| Room 501  | 12:30-13:30 |
| Session-6                                       |             |
| Room 501  | 15:00-18:00 |
| <b>Genomics, New Technology (S-17)</b>          |             |
| Room 401  | 15:00-18:00 |
| <b>Biopesticides, Transgenic Crops</b>          |             |
| Selected Poster Workshop-8                      |             |
| Room 403  | 10:00-12:15 |
| <b>Metabolism &amp; Toxicology</b>              |             |
| Selected Poster Workshop-10                     |             |
| Room 502  | 15:00-17:15 |
| <b>Analysis</b>                                 |             |
| Luncheon 11 (Covance)                           |             |
| Room 401  | 12:30-13:30 |
| Luncheon 14 (Agilent)                           |             |
| Room 502  | 12:30-13:30 |
| <b>Regulatory, Risk, Food</b>                   |             |
| Special Workshop-1 & Luncheon 10 (Dow AS/IUPAC) |             |
| Room 301  | 10:00-12:15 |
| Session-14                                      |             |
| Room 301  | 15:00-18:00 |
| Selected Poster Workshop-7                      |             |
| Room 401  | 10:00-12:15 |
| <b>Environment</b>                              |             |
| Luncheon 12 (Wildlife Int.)                     |             |
| Room 403  | 12:30-13:30 |
| <b>Communication</b>                            |             |
| Open Seminar (in Japanese)                      |             |
| Kairaku   | 13:00-16:00 |
| <b>Congress Dinner</b>                          |             |
| Kairaku & Waraku                                | 18:30-21:00 |



**Don't miss your chance to vote for the best poster!**  
Cast your vote at Information Desk 2 by 6:00 PM today!!

#### - Official Information -

##### 1. Program Change

Selected Poster Workshop 6-2: D.B. Sattelle's presentation has been withdrawn (P.35 Congress Guide-book)

Luncheon Seminar 11 (Covance) : New Chairman is A. Hill. (P.37)

##### 2. Open Seminar for the General Public

\*\*This seminar will be conducted entirely in Japanese\*\*  
先着 80 名まで参加できます。直接、ポートピアホテル地下 1 階格差の間までお越しください。受付開始 12:30 (41 頁)

##### 3. Congress Dinner

Tickets (JPY10,000) are available at General Information Desk. (P.90)

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## Who's Who in the Congress

### Prof. Yong Zhen Yang Plenary Lecturer -3

Professor Yang is the Deputy Director-General for the Institute for the Control of Agrochemicals of the Ministry of Agriculture (ICAMA), China, and Director of National Pesticide Quality and Residue Supervision Centre, China.

She graduated from Huazhong Agricultural University with a Bachelor of Agriculture in 1981, and went on to study pesticide application technology at the Horticultural Research Station, Queensland DPI of Australia, as a visiting scholar in 1986-1987. She has engaged in the evaluation of pesticide registration and technical research relevant

to pesticide residue and pesticide regulations/standards for 25 years.

Prof. Yang has extensive experience in international negotiation and inter-governmental coordination on pesticide affairs. She has participated as an invited speaker, special expert or resource person in numerous international conferences organized by FAO, UNEP, WHO, OECD etc. She has published more than 20 scientific papers and book chapters on pesticide management and technology.

She is a member of the China Expert Consultative Committee of Green Food, the Vice Director of the Pesticide Subcommittee of China Society of Plant Protection, a Member of the China National Pesticide Registration Evaluation Committee, and a Member of the China National Toxic Chemical Review Committee. Prof. Yang is also the doctoral tutor of China Agricultural University, and Visiting Professor of Tsinghua University and Huazhong Agricultural University.

Her current responsibilities are overseeing pesticide registration, management and administration in China. Her main focuses include the review of pesticide registration petitions, monitoring of the pesticide residue, supervising pesticide product quality and establishing pesticide management regulations, testing guidelines and standards. Prof. Yang lists her hobbies as reading, singing and table tennis.



## Yesterday's Highlights

### Top Industry Research Managers Together on One Stage Research Director Forum Held Yesterday

In this session, the Research Directors of the major Agri-businesses gave individual presentations outlining company strategy and their research and development successes. Contributors to the session were; P. Eckes (BASF), A. Klausener (Bayer), D. Kittle (Dow), P. Confalone (Dupont), T. Haga (Ishihara), T. Umemura (Sumitomo), G. Ramos (Syngenta). The session was a new introduction at an IUPAC Congress and was well received by the audience. Common themes in the presentations included an emphasis on the need to develop an innovative culture and the importance of recruiting and retaining highly motivated people. Although it was clear that each company had access to similar tools and information they were being applied differently resulting in a diversity of approach. In the discussion, moderated by N.K.Umetsu and Ken Racke, there was range of questions and comments raised from the audience; these included clarification of individual research strategies and a positive message for careers in the industry - **Philip Lee and Mike Skidmore**



#### Selected Poster Workshop -1 (Weed Control Chemistry)

Six speakers, including two MSc students, presented their synthetic works on chemicals with inhibitory or regulatory activity against plants. The chemicals were pinoxaden, 3-(substituted oxy)pyrazole-4-carboxamide derivatives, (dehydro)dioxopiperazines, selenium-containing compounds, inhibitors of IAA-amino acid conjugates, and imino-analogues of strigolactones. The audience, who filled approximately half of the 240 seats, showed their appreciation for the talks with unerring comments, challenging questions and applause - **Yukihiro Sugimoto**



Dr. A. Plant (UK)

#### Selected Poster Workshop -4 (Residue Analysis) Fast Procedures for Pesticide Multi-residue

Two posters were added to the program and resulted in a total of six presentations. In reflecting the enforcement of the Positive List in Japan as of May 29, 2006, analytical chemists from local government institutions (4 out of 6) presented on their recent progresses in multi-residue analyses. The other two were from manufacturers of instruments and pesticides - **Shin Kurogochi**



Dr. Y. Akiyama (Japan)

**Design Considerations for Radiolabelled Plant Metabolism Studies**  
You are cordially invited to attend this Luncheon Seminar (#15) sponsored by Charles River Laboratories. This informative presentation will commence at 12.30, 10 August 2006 in Room 401 of the International Conference Centre.

CHARLES RIVER  
LABORATORIES

Wildlife International, Ltd.

Addressing ecotoxicology issues  
to meet 21st century needs

9th August, 12:30. ICCK Room 403



## Yesterday's Highlights

Luncheon Seminar 6  
(PTRL West)  
Chemical Alternatives to Methyl Bromide

PTRL West is a CRO based in the San Francisco Bay Area since 1987. The seminar topic addressed the search for suitable soil fumigants to replace methyl bromide. Dr. Ruzo discussed the environmental fate and metabolism of products currently in the registration process as well as other promising candidates - **Fred Baker**.

Luncheon Seminar 1  
(Risk Assessment of Pesticides - Risk of Eating)

The Luncheon Seminar by Dr. K. Umetsu, President of Pesticide Science Society of Japan, and entitled "Risk Assessment of Pesticides - Risk of Eating" attracted an audience of around 240 people to Room 301. His presentation was concerned with efforts focused on convincing, both scientifically and emotionally, the public about issues concerning the safety of pesticide and pesticide residue on food. The risk of eating food with pesticide residue was discussed in depth - **Keiji Tanaka**



Dr. N. K. Umetsu (Japan)

Evening Seminar 9  
(IUPAC)

### Genetically modified (GM) crop cultivation and the impact on the environment

This well-attended seminar provided an overview of the current situation of the production, regulation, and perception of GM crops around the world, particularly in Northern America (Prof. Stephenson), Europe (Dr. Unsworth), and Japan (Dr. Tanaka). In addition, it highlighted some results of the IUPAC-funded project on the environmental consequences of the changed usage of pesticides on GM crops (Prof. Stephenson and Dr. Kleter). Generally,

Session 9  
(Mode of Action and Resistance Mechanism – Plant Disease Control)



Dr. B. A. Fraaije (UK)

Session 9 reflected well both aspects of fungicide research: Considerable progress in the development of new fungicides, as well as the threats caused by fungicide resistance. The current resistance status has been reviewed for the two most important fungicide classes, the DMIs (mostly azoles) and the QoIs (mostly strobilurins). For another fungicide class, the dicarboximides, the resistance mechanism has been revealed in more detail almost thirty years after the arrival of field problems. Studies on the biochemical mode of action of fluopicolide and metrafenone showed that both inhibit new target sites however more research is needed to identify the exact target protein. Further, with complex II inhibitors one of the oldest fungicidal modes of action a breakthrough has been achieved by a new generation of compounds offering a significantly enlarged spectrum of control. In the same way, complex III inhibitors are no longer confined to the QoI site of the target in complex III. Another binding at the same target protein, the Qi site, is inhibited by new chemistry. The indirect control of plant pathogens with resistance inducers has a huge potential as demonstrated by probenazole in rice but applications in other crops are still rare - **K.H. Kuck, H. Ishii and B. Fraaije**

pesticide usage appears to be decreased on GM crops in terms of quantities applied to these crops. Estimates of the environmental impact also indicate a decreased impact of these pesticides in GM crops. After the presentations, discussions followed between the audience and a panel of the above mentioned experts and Dr. Racke (IUPAC). The participants provided useful

Session 15  
(Environmental Fate & Ecological Effect)

This session presented developments in environmental fate and effects research that showed the need to go beyond the standard study designs to provide data for higher tier risk assessments. The presentations covered effects on aquatic organisms, birds, mammals, bees, and illustrated the importance of persistence in soil, effect of sorption on degradation and mobility and the use of terrestrial field dissipation studies in regulatory evaluations. Speakers represented the US, Europe, and Japan with particular emphasis on ecological concerns in each region, such as aquatic organisms in Japan, and on regulatory guidance. The increasing interest in harmonized guidelines was shown by the OECD effort on endocrine disruption and NAFTA guidance for field dissipation studies.

Several talks illustrated a common theme where stakeholder group or public concerns lead to questions to regulatory authorities that were required to resolve the issue. The scientific community provided analysis and testing protocols that addressed stakeholder concerns within the context of existing legislation and regulatory programs. Attendance was excellent and discussions following the talks were stimulating and provided further questions for session 14 which will follow on Wednesday - **Aldos Barefoot**



Dr. C. Wolf (Germany)

recommendations regarding the choice of the appropriate environmental indicators. They also noted that other environmental hazards besides changes in pesticide usage are worthwhile being considered. It was recommended to put both benefits and risks of the technology into perspective - **Gijs A. Kleter**

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Stands H2 and I17

## Summary of Session 19 (Program on August 7)

(This report was left out of August 8's newsletter.  
We apologize for this oversight.)

Session 19 focused on emerging issues in global food quality including risk assessment methods, use of the results for risk management decisions and to communicate with the public. Dr. Caldas presented the new JMPR methods for estimating consumer exposures and examples of the impact of better data. Dr. He presented methods used by China to estimate exposure and to establish MRLs. Dr. Tayapath summarized the extensive work of the ASEAN countries that has resulted in many harmonized MRLs. All of the speakers highlighted the reliance on CODEX and the need for rapid decisions by CODEX. Dr. Takei explained the new "Positive List" system used by the Japanese government for pesticides, feed additives and veterinary medicines and Dr. Klester provided a comprehensive look at the rigorous approaches used to confirm the safety of new GM foods as well as identifying some of the unique challenges in safety testing. The session concluded with a panel discussion that highlighted the need for globally harmonized MRLs, better data as well as better risk assessment methods. A critical need for sharing data and work was noted - **Barbara Petersen, (Exponent, Inc.)**.

(See right photo)

## Weather Forecast (Kobe City)

9th (Wed)

Max temp. 33 °C, Min. temp. 28 °C



Overcast, occasional sunshine

| Time:           | 0-6 | 6-12 | 12-18 | 18-24 |
|-----------------|-----|------|-------|-------|
| Chance of Rain: | 20% | 10%  | 10%   | 0%    |

10th (Thu)

11th (Fri)

| Weather         | 10th (Thu) | 11th (Fri) |
|-----------------|------------|------------|
| Max. temp.      | 32 °C      | 32 °C      |
| Min. temp.      | 26 °C      | 26 °C      |
| Chance of Rain: | 30%        | 40%        |

## <Chemist's Corner>

### Interesting Vector Control Agents

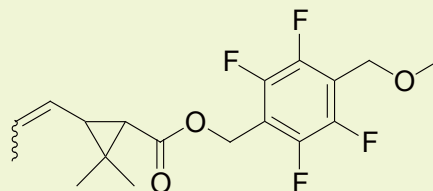
The following vector control agents are just two of many being introduced during the Congress:

#### 1) Sumitomo Chemical

Session: S6-1, SW-2

Poster: I-1-i-30C, I-1-v-01B, I-1-v-02C

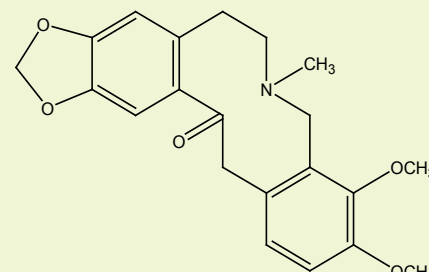
#### Metofluthrin



#### 2) Dainihon Jochugiku

Poster: I-1-i-10A

#### Allocryptopine



#### Session 1

(Drug Design Based on Agrogenomics)

The use of modern tools (Functional Genomics, Transcriptomics, Proteomics, Metabolomics, Bioinformatics, HTS-Systems, Protein Structure Analysis etc) for drug discovery is very well established in all major companies. Everybody agreed that the knowledge of the mode of action of new leads is essential to speed up their effective optimization, and that the modern tools facilitate the moa-elucidation. This point was nicely demonstrated by Dr. Klausener in the case of flubendiamide. Based on agrogenomics, most companies identify and validate novel targets and use them in high throughput screenings, but the hope to be successful just by screening very big chemical libraries in many target based essays did not realize. Therefore all speakers prefer an integrated approach of target based and classical screening using smaller libraries with higher quality - the right balance has to be found. - **Ulrich Schirmer**.



Dr. R. C. Ackerson (Belgium)



Dr. T. Yamamoto (Japan)

#### Session 2 (Biopesticides & Transgenic Crops)

A rapid growth in cultivating transgenic crops containing insect-resistant and herbicide-tolerant genes has caused certain changes in the practice of agriculture. In Session 2 there were six speakers, five from the US and one from Japan, to cover this new trend of the industry. After Dr. Yamamoto (Pioneer HiBred International) gave an overview on the subject matter, three internationally recognized experts in *Bacillus thuringiensis* (Bt) presented related topics. Dr. Warrior (Valent BioSciences) reviewed sprayable biopesticides, Dr. Adang (University of Georgia), talked about his advanced work on *Bt* mode of action, and Dr. Koziel (Athenix Corporation), presented a rapid, efficient way of discovering bacterial genes that are useful in transgenic crops. The fifth speaker, Dr. Singh (BASF Plant Science), discussed non transgenic and transgenic approaches of developing imidazolinone herbicide tolerant crops. Lastly, but not least, Dr. Inui (Kobe University), introduced a unique approach of utilizing a transgenic plant containing an animal receptor gene for sensitive detection of environmental contaminants. This session, although it was only a small part of this congress, provided the audience with latest information about this emerging technology - **Takashi Yamamoto**

SCC is Europe's largest independent regulatory consulting company dealing with plant protection products, biocides and chemicals.

*Come visit us!*

We'll be at the Matsu Meeting Room  
Hotel Portopia Kobe!

