

ACS NATIONAL MEETING, FALL 2002

John Johnston, Ann Lemley, Nancy Ragsdale and Jeanette Van Emon give a few highlights (from pesticide chemists' perspective) of the fall 2002 American Chemical Society (ACS) National Meeting

The 224th National Meeting of the American Chemical Society was held August 18–22, 2002 in Boston, Massachusetts. With 17,440 attendees and 6,949 abstracts, this meeting offered a vast amount of information. These highlights are confined to some of the sessions in the Division of Agrochemicals and the Division of Environmental chemistry.

Awards

The International Award for Research in Agrochemicals presented by the Agrochemicals (AGRO) Division and sponsored by DuPont Crop Protection was given to Dr. Marinus Los for his discovery of the imidazolinone herbicides while conducting research in organic chemistry at American Cyanamid.



Dr. Los gave a presentation in which he reminisced about his research examining growth regulators. He commented on how much the world of agricultural chemistry has changed over the course of his career. He pointed out that in order for creativity to flourish, basic research is necessary and serves as an investment for the future. Following his presentation a series of papers were given on herbicide-related topics. These included natural product herbicides as sources for finding molecular target sites, herbicide safety relative to common targets in weeds and mammals, new herbicides beyond the imidazolinones and the importance of molecular biology tools in their discovery, and concluding this symposium, the risks and benefits of pesticides in relation to world food production.

For more information on the work of Dr. Los see http://membership.acs.org/alagro/2002_Fall_Intl_Award.html



Dr. Irvin E. Liener received the Sterling B. Hendricks Memorial Lectureship Award, presented by the Agricultural Research Service, USDA, and co-sponsored by the Division of Agrochemicals and the Division of Agricultural & Food Chemistry. Dr. Liener is an internationally recognized authority in agricultural and food chemistry, food safety, biochemistry and nutrition. His landmark research in soybean nutrition has had a major impact on the use of soybeans around the world. Prompted by an interest in the nutritional properties of soybeans, Dr. Liener initiated a series of studies to examine why heat treatment exerts such a beneficial effect on the nutritional value of soybean and other legumes. This research conducted at the University of Minnesota led to the isolation of heat-labile proteins that would come to be referred to as lectins, proteins that have a unique capacity to bind specific sugars and glycoproteins and interfere with the absorption of nutrients across the intestinal wall. Dr. Liener is a Professor Emeritus in the Biochemistry Department, University of Minnesota and was formerly the editor of the *Journal of Agricultural and Food Chemistry*.

For more information on the work of Dr. Liener see http://membership.acs.org/alagro/2002_Sterling_B_Hendricks.html

Animal drugs

A symposium entitled *Residue and Metabolism of Animal Drugs* included presentations by international industry and government scientists that covered a wide range of species, drugs, and experimental techniques topics. The first session included topics that highlighted differences in registration requirements between Europe and the US, development of

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contraceptive agents for the control of pest wildlife such as Canada geese and white-tailed deer, and FDA research aimed at streamlining regulatory requirements for approval of aquaculture and cattle drugs. The second session opened with an overview of the animal health generic drug industry, discussing the legal foundation for marketing generic drugs based on demonstration of bioequivalence. Other papers included a presentation on the need for absorption, distribution, metabolism and excretion data for animal drugs which are often legally prescribed for off-label use, a paper indicating that different forms of spinosads are similarly metabolized in lactating goats, a presentation discussing the advantages of using accelerated solvent extraction linked with LC/MS to recover and quantify animal drug metabolites in tissue matrices and a paper that described how *in-vitro* acid hydrolysis and enzymatic techniques can be used to estimate the percentage of bound residues that are bio-available to livestock.

Bioanalytical methods

A symposium entitled *Biotechnology and Bioanalytical Methods: The Next Generation* highlighted the latest developments in bioanalytical methods including emerging techniques, and new applications. Presentations described some of the latest advancements in immunochemistry and biosensors for environmental monitoring and human exposure assessment. An array of papers showcased topics such as: recombinant antibodies, field-portable immunoaffinity/HPLC systems for herbicides and other environ-

mental agents; the potential of immunoaffinity for selective extraction of analytes such as algae toxins from complex matrices; ELISA and immunoaffinity column development for the β -adrenergic agonist ractopamine; synthesis and characterization of molecularly imprinted polymers; immunochemical methods applied to the analysis of growth factors and veterinary drugs; development of a lateral flow immunosensing device for avermectin A2a; and a multi-screening immunoassay for the detection of nut proteins in chocolate to detect allergens. The symposium provided a retrospect as well as a glimpse of future analytical immunochemical methods.

Deactivation and disposal

The Division of Environmental Chemistry sponsored a symposium on "Deactivation (Neutralization or Detoxification) and Safe Disposal of Germicides and Pesticides" A wide variety of deactivation methods and contaminant targets were covered. Introductory remarks surveyed the methodology that included abiotic, microbial, enzymatic, and photochemical approaches to oxidation and reduction as well as phytoremediation and cavitation. Several speakers looked at combinations of methods to mineralize contaminants and/or ensure detoxification. There were strong theoretical-based scientific approaches as well as practical applications. The contaminants studied included widely used pesticides and biocides used in hospitals such as triclosan.

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