150. THE ENVIRONMENTAL PROTECTION AGENCY'S WORKER PROTECTION POLICIES AND REGULATIONS. Kevin Keaney, US EPA, OPP, Washington, D.C. 20460

Kevin Keaney will discuss the policies and regulations of two major field programs that his office implements to protect the health and safety of workers in American agriculture. These programs are governed by regulations published in the Code of Federal Regulations (40 CFR, Parts 156, 170, and 171). The newer of these field programs, the worker protection standard, is designed to protect approximately 3.5 million migrant, seasonal and permanent agricultural workers from agricultural pesticides. The older field program, the pesticide applicator certification and training program, sets national standards for states, territories and tribes so that they can develop programs to ensure that applicators of the most toxic pesticides are knowledgeable about these pesticides' risks and uses. This national program annually trains and certifies millions of pesticide applicators.

151. OSHA PROGRAMS ON WORKER SAFETY, L. W. Michael and Frank R. Ciofalo, Division of Occupational Safety and Health, Department of Industrial Relations, Suite 1110, 45 Fremont Street, San Francisco, California 94105.

Both OSHA and EPA have regulatory responsibility for the safe handling of pesticides. The Occupational Safety and Health Act of 1970 provides for an array of worker protection programs. These include the federal OSHA programs, the state OSHA programs and the state, county and municipal programs that function as extensions of these agencies. For example, the California EPA exercises jurisdiction in the application of pesticides. The majority of the applications are within agribusiness. Cal/OSHA has prime responsibility in non-agricultural workplaces. Enforcement gets the majority of public attention in joint actions in farm labor, sweat shops and high visibility incidents like explosions. The promulgation of regulation is also a widely varying and sometimes litigious venue. California has an independent Occupational Safety and Health Standards Board with responsibility for adopting regulations far in advance of federal standards.

152. PESTICIDE SAFETY AND THE NATIONAL AG SAFETY DATABASE (NASD). R.W. Niemeier, NIOSH, Cincinnati, OH., 45226 and P. Jones, University of Florida, Gainesville, FL., 32611

To promote the national exchange of health, safety and injury prevention materials and support the development of a coherent national program, the National Ag Safety Database (NASD) was developed. It is intended to be a central repository of instructional and reference resources related to agricultural safety and health educational programming. The NASD contains over 2,000 publications, including some in Spanish, from 28 states. The collection also covers: national standards pertinent to agriculture; abstracts and ordering information for over 1000 videos; a resource directory for over 1900 people and organizations; a NIOSH bibliographic database of over 500 scientific publications; slide presentations, posters, sample news releases and Public Service Announcement scripts. The database is available on CD-ROM and on the Internet (http://www.cdc.gov/niosh/homepage.html). About 15% of the database addresses safe pesticide handling and use. Pesticide related topics include environment, labeling, laws, worker and child safety, poisonings, and personal protective equipment.

153. THE CONCEPT OF STEWARDSHIP IN THE AGROCHEMICALS INDUSTRY - THE ZENECA EXAMPLE. B. G. Johnen, Stewardship Department, Zeneca Agrochemicals, Fernhurst, Haslemere, Surrey GU27 3JE, UK

Stewardship in Zeneca Agrochemicals is defined as 'the responsible and ethical management of activities, concerning products and processes, from innovation to ultimate use and beyond'. It therefore extends to all stages of the life-cycle of a product, ie R&D, Manufacture/Formulation, Distribution, Marketing, Use and Disposal. As defined, the concept of stewardship covers the traditional area of safety and health of Zeneca employees and environmental impact of Zeneca's operations (ie SHE) as well as product stewardship, usually associated with activities outside a company's direct control. This holistic approach to the management of product and process related activities befits the nature and use of crop protection products particularly well. For example, choice of appropriate formulation and packaging, including robust and lasting labels are as critical to the safe and effective use of the products as education and training at distributor, retailer, adviser and farmer level, which are usually associated with stewardship in crop protection.

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154. RAISING SAFETY STANDARDS IN CROP PROTECTION: CASE STUDIES OF COLLABORATIVE SAFE USE PROGRAMMES. W. Ellis and G. Ytzen, Asia-Pacific Crop Protection Association, Bangkok, 10900 Thailand and APCPA, c/o Dow Elanco, Wanchai, Hong Kong.

Opinion on practical policy options for improving standards of safety in use of crop protection chemicals (CPC's) has in the past been sharply divided. The crop protection industry generally advocates a training and education approach to safe use, whereas some members of the international donor community advocate increasingly restrictive legislation, and participative IPM programmes aimed at dissuading farmers from using CPC's altogether. Recently, however, a number of developments point towards a more constructive and inclusive attitude towards public-private sector collaboration.

This paper examines some attempts to overcome such polarization in collaborative projects between the public and private sectors. Ongoing case studies are presented to illustrate how such projects can help to foster mutual understanding between key stakeholders, and help to improve the effectiveness of our efforts to raise farmer awareness and improve field practice. Ultimately, only through the involvement and active commitment of all sectors (governments, crop protection industry, international donor community, academia and NGO's) can workable crop protection policy options be developed. Finally, pooling of resources will be essential if these policies are to be effectively implemented to benefit farmers and ensure food securing in developing countries.

155. PESTICIDE TRACKING AND MANAGEMENT - STATE OF THE ART RESOURCES FOR OFFICE AND FIELD USE. Clay Horan, SEA-TAC, Huntsville, AL 35815

Tracking pesticide use is an important part of pesticide management and safe handling. It is the basis for establishing worker exposure levels and demonstrating compliance. Through better tracking, record-keeping and therefore improved management, we can address exposure related problems. Two new resources are emerging to meet this need. Originally developed for the agricultural industry, this technology has applicability throughout the industry.

The Pesticide Application Record-keeping and Tracking System (PARTS) is a state-of-the-art windows based chemical management software providing a quick and easy interface for chemical tracking. The Data Entry System is a true pen-technology, deigned around what workers have been using for decades - - pen and paper. DES allows simple use of pen and paper for field data collection and information access on pesticide handling.

156. SAFETY CONSIDERATIONS FOR INERT INGREDIENTS IN AGRICHEMICAL FORMULATIONS. J. S. Catanach, Exxon Chemical Company, Houston, Texas 77079

Expanded risk assessment practices as well as public interest and right-to-know drive need for development of information on inert ingredients in pesticide formulations. These data are used by inert ingredient suppliers, pesticide manufacturers, and regulatory agencies to identify and effectively manage these products' hazards and risks. Data are also used as a foundation for communication to customers and the public to ensure they are knowledgeable about these materials and how to handle them safely.