

Forthcoming CAST Issue Paper:

INTERPRETING AGRICULTURAL CHEMICAL RESIDUES MEASURED IN FOOD OR MILK

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Need

Agricultural pesticides (herbicides, insecticides, etc.) go through an extensive risk assessment and approval process that includes an evaluation of hazards and exposure. Hazards are identified using large doses in comprehensive toxicology studies. The exposure assessment relies on determining residue levels and consumption of the food(s) that would have residues. Pesticides are given intake limits or ADIs (acceptable daily intake). These assessments result in large margins of safety compared to the hazard(s) identified from toxicology studies. As analytical techniques get better, the ability to detect extremely low residue levels increase, even when approaching ppb levels. Consumers, some educators, nutritionists, dietitians, and others do not know how to interpret these data, as this type of assessment is usually done by toxicologists. Some anti-ag activists have even suggested that consumers measure chemical residues in their own urine or milk, as these fluids are readily accessible; however, they assume that these body fluids are pristine and that a positive detection is reason for alarm.

In conjunction with its National Exposure Report, the Centers for Disease Control and Prevention notes, "Just because we can detect levels of an environmental chemical in a person's blood or urine does not necessarily mean that the chemical will cause effects or disease. Advances in analytical chemistry enable us to measure low levels of environmental chemicals in people, but separate studies of varying levels of exposure determine whether specific levels cause health effects." This report is an opportunity to provide more information on how to interpret these data.

Goals and Objectives

This issue paper will examine the most current scientific information regarding the following:

- How residue limits and ADIs are determined
- How farmers are trained and follow labels when applying pesticides
- History of analytical methods and how, with no changes in residues, more foods are identified as testing positive for residues
- Surveillance programs that monitor residues for violative residues to make sure that residues are as expected
- Basic concepts of absorption and metabolism of pesticides when ingested

Methodology

A CAST Issue Paper is written by a volunteer task force composed of a multidisciplinary team of scientists and subject matter experts who were identified as part of the proposal development process. Once written, qualified scientists edit and peer review the paper to ensure balance and scientific credibility. A one-page executive summary (the Ag quickCAST) is written and released simultaneously with the paper. The task force chair shares key findings of the paper and related recommendations at an appropriate venue selected for the release of the publication. CAST Issue Papers are often released in Washington, D.C., or at selected scientific or industry-related events and meetings. CAST staff coordinate press releases and invitations to key stakeholders to attend and participate in its release. In addition to the continued dissemination of the paper, CAST staff track, collect, and share media impressions and other relevant data.

Intended Audiences and Impact Strategy

The intended audience and impacted stakeholders for this paper include policymakers, consumers, retail grocery chains, nutrition educators, companies, and the general public. CAST efforts to reach these audiences involve the dissemination of printed materials and the use of web and social media promotions. This includes preparing and distributing news releases using media services such as Meltwater Press (1,500 journalists), Constant Contact (CAST lists of more than 7,500 contacts—1,053 of which are media), and PRWeb (2,900 media outlets). CAST also highlights and shares the availability of this information through its weekly e-newsletter, *Friday Notes* (1,125 contacts), and direct mailings to impacted stakeholders and organizations. These papers and related resources are maintained on the CAST website and available for download at no cost.

Cost of Producing a CAST Issue Paper—\$30,000

- CAST production expenses of task force personnel research, setup, and management
- Editorial work, including creation of companion Ag quickCAST document
- Web and social media promotion, including preparing and distributing news release using Meltwater Press, Constant Contact, and PRWeb
- Preparation for, hosting of, and travel costs of rollout events (often in Washington, D.C.)
- Impact tracking and reports
- Support materials and supplies
- Online narrated PowerPoint presentation and website posting and monitoring
- Professional layout and graphics preparation
- Printing by a commercial printer
- Mailing costs to send printed copies to selected categories of stakeholders

For additional information regarding this forthcoming CAST Issue Paper, please contact:
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