

Public and Private Sector Policy Implications of Research on the Economics of Herbicide Resistance Management

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First Floor Auditorium, Economic Research Service
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Speaker Bios

Bill Chism, Ph.D. is a senior biologist in the U.S. Environmental Protection Agency's (EPA) Office of Pesticide Programs (OPP) and the lead for the OPP Resistance Management Workgroup. He was reared on a vegetable farm in California, has a Ph.D. in weed science, and has worked for the Cooperative Extension Service and pesticide manufacturers. In his current position at EPA, Chism provides technical input for pesticide risk assessments and for assessments of the benefits of pesticide use.

Harold D. Coble, Ph.D., is an agronomist and weed scientist with the USDA Office of Pest Management Policy (OPMP). In this position, he serves as the weed science liaison with EPA working on herbicide tolerance reassessments, registration and registration review, pest resistance management, and serves as the integrated pest management (IPM) Coordinator for OPMP. He also serves as chairman of the Federal IPM Coordinating Committee. Coble was a weed science professor at North Carolina State University for 30 years before joining USDA. His research interests included weed biology and ecology, economic threshold development, and management of weed resistance to herbicides. Coble is a native of North Carolina and earned BS and MS degrees from NC State and his Ph.D. from the University of Illinois.

Vince M. Davis is an assistant professor of Cropping Systems Weed Science and Extension Specialist in the Department of Agronomy at the University of Wisconsin-Madison. He was reared on a diversified farm in Knox County Illinois. Davis earned a M.S. and Ph.D. in weed science from Purdue University. While at Purdue, he conducted numerous research experiments investigating the distribution, biology and management of glyphosate-resistant horseweed in no-till crop production. His current research focuses on weed biology and ecology in soybean and corn cropping systems, crop-weed interactions, including the influence on climate change, and the management of difficult-to-control and herbicide-resistant weeds including integrated tactics like tillage and cover crops.

David Ervin, Ph.D. is a professor of Environmental Management and Economics and Senior Fellow in the Institute for Sustainable Solutions at Portland State University. He has conducted research on managing the environmental impacts of agriculture for more than three decades. Since 2000, a major focus of his research has been on genetically engineered crops. He chaired the 2008-10 National Research Council Committee "Impact of Biotechnology on Farm Sustainability in the United States," and served on the steering committees for the National Academy of Sciences National Summit on Strategies to Manage Herbicide Resistant Weeds and for the Herbicide Resistance Solutions Workshop.

George Frisvold, Ph.D. is a professor of agricultural and resource economics at the University of Arizona. He received his B.S. and Ph.D. degrees from the University of California, Berkeley. His research interests include domestic and international environmental policy, as well as the causes and consequences of technological change in agriculture. He has been a visiting scholar at India's National Institute of Rural Development, a lecturer at the Johns Hopkins University, and chief of the Resource and Environmental Policy Branch of USDA's Economic Research Service. In 1995-1996, Frisvold served as a senior economist for the President's Council of Economic Advisers with responsibility for agricultural, natural resource and international trade issues. He currently serves on the editorial board of *AgBioForum* and has contributed to recent Weed Science Society of America, USDA-APHIS, and National Research Council publications/projects related to management of herbicide resistant weeds

Les Glasgow is a Senior Technical Product Lead for herbicides and responsible for herbicide resistance management strategies for Syngenta. He received his B.S. in agricultural science and Ph.D. in weed science from Leeds University, United Kingdom. Glasgow began his career with Lilly Research (Elanco) in 1976 as a herbicide research specialist and subsequently worked as a European field research Coordinator and as head of agricultural chemical registration. In 1983, he joined Stauffer Chemical Company as manager of their UK Field Research Station. In 1985 he moved to Mountain View, Calif. as manager of Laboratory Bioevaluations Section, with responsibility for screening and early stage evaluation of new molecules. Following the acquisition of Stauffer by ICI, he became manager of the Weed Science Section and then manager of Experimental Biology with Zeneca Ag Products. He served as herbicide regional and technical support manager, and then Weed Control R&D Team before being named to his present post in 2005. He has had a lead role in the discovery, characterization and development of herbicides, such as fluridone, isoxaben, prosulfocarb and mesotrione. He currently chairs the North American Herbicide Resistance Action Committee (HRAC), is a member of the Global HRAC, an international body founded by the agrochemical industry to supporting a cooperative approach to the management of herbicide resistance.

Terrance Hurley, who received his Ph.D. in economics from Iowa State University, is a professor in Applied Economics and Associate Director of the International Science & Technology Practice & Policy at the University of Minnesota, and co-editor of Applied Economic Perspectives and Policy. His primary research focus is on the profitability, risk and regulation of emerging agricultural technologies. Technologies of particular interest are genetically engineered (GE) plant-incorporated-protectant (PIP) crops like Bt corn and herbicide tolerant (HT) crops like Roundup Ready® soybean. He was one of the first agricultural economists to quantify the tradeoffs between the risk of insect resistance to Bt toxin and the long-term productivity of Bt corn, which resulted in the 2001 Outstanding Journal of Agricultural and Resource Economics Article award. He has worked closely with the EPA on insect resistance management requirements for Bt crops including service on two FIFRA Scientific Advisory Panels. More recently, his work on weed resistance and HT crops resulted in an invitation to serve on the National Academy of Sciences National Research Council's organizing committee for a National Summit on Strategies to Manage Herbicide-Resistant Weeds.

Mike Livingston, a senior economist with the USDA's Economic Research Service (ERS), received his B.S. and Ph.D. degrees from North Carolina State University. He has been an Assistant Professor, Texas Tech University; Post-Doctoral Research Associate, North Carolina State University; and economist with USDA's Animal and Plant Health Inspection Service. His research identifies reasons markets can fail to produce optimal outcomes (externalities) and describes the economic and environmental tradeoffs of policies that can alleviate some of the consequences of externalities. Recently, he has examined the causes and consequences of glyphosate resistance and the tradeoffs of alternative approaches for promoting the adoption of weed best management practices that can delay resistance.

Paul Mitchell is an associate professor in Agricultural and Applied Economics at the University of Wisconsin-Madison and Co-Director of the Nutrient and Pest Management program in University of Wisconsin Extension. Much of his work focuses broadly on the economics of pest and weed management for both conventional and biotech crops, including resistance management and integrated pest management. Recent example publications include "Area-wide Suppression of European Corn Borer with Bt Maize Reaps Savings to Non-Bt Maize Growers" in *Science* in 2010 and "Seeds of Change: Corn Seed Mixtures for Resistance Management and IPM" in the *Journal of Economic Entomology* in 2011. More recently, he has begun work on developing practical agricultural sustainability programs with the grower-led National Initiative for Sustainable Agriculture (nisa.cals.wisc.edu), with examples in soybeans, cranberry and processing sweet corn and green beans. His Extension also includes outreach on crop insurance and federal agricultural policy for commodity support, risk management, and conservation programs. He also teaches Farming Systems Management to undergraduates and the Economics of Managing Agricultural Production Systems to graduate students.

John Soteres is the Scientific Affairs Global Weed Resistance Management Lead at Monsanto Company, and the current chair of the Global Herbicide Resistance Action Committee (HRAC) an international body founded by the agrochemical industry to support a cooperative approach to the management of herbicide resistance. Within Monsanto, Soteres' responsibilities include the development and implementation of strategies and stewardship programs for managing herbicide resistance globally. He is also responsible for external collaborations to further the science relative to the causes of resistance and clarification of best practices to manage resistance. Soteres received his B.S. in biology from the University of Alabama, a M.S. in soil microbiology/weed science from Auburn University and a Ph.D. in weed science from Oklahoma State University. He joined Monsanto in 1981, starting his career as a field Product Development Representative and progressing through a variety of technical management roles.

Norm Widman was reared on a crop, dairy and swine farm in Ohio. He is a graduate of Ohio State University with a B.S. in Agronomy and Military Science and has worked for USDA's Natural Resources Conservation Service (NRCS) since 1971. He was District Conservationist at three locations in Ohio, Area Agronomist in Northwest Ohio, Ohio State Agronomist, Ohio State Resource Conservationist, East Region Agronomist (Greensboro, NC), and National Agronomist (Washington, D.C.). He also served 28 years with the Ohio Army National Guard, retiring as a Lt. Colonel.

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