

Dr. Mike Brewer is Associate Professor of Entomology and IPM Coordinator at Michigan State University. He provides leadership for statewide IPM extension activities, focusing on increasing implementation of IPM tactics in plant production systems. His research interests are in effects of habitat manipulation on pests and beneficial organisms.

The focal point of Dr. Brewer's research is the study of natural enemy, pest and plant interactions in diverse agricultural landscapes. He is currently addressing the ecological question of how plant diversity, on- and off-crop, affects herbivores and their enemies. He organizes and works in teams to develop economical and environmentally-responsible pest management strategies in response to pressing concerns, while pursuing better understanding of how land use strategies, such as cropping system modification may contribute to long-term sustainable management approaches. Dr. Brewer currently has one research associate and two graduate students working directly with him, and participates in a number of graduate student committees.

As IPM coordinator, Dr. Brewer supervises the IPM Program staff and over sees its outreach and applied research activities. The IPM Program advocates practices that protect agricultural plant production and use of these products from pest organisms while maintaining environmental health. We work with MSU Extension field staff, campus faculty, growers, consultants, public agencies, and private organizations to increase IPM implementation in Michigan. The IPM Program coordinates and delivers IPM educational products, such as the Crop Advisory Alert (CAT) Alert newsletters, IPM Report, pocket-guides for pest identification and management, and many other resources. These can be viewed at our recently updated IPM Resources web page: <http://ipm.msu.edu/>. IPM Program staff also participate in research with primary focus on developing and deploying pest management tactics that are economically viable and environmental sound.

Dr. Brewer is also involved in teaching a capstone course in IPM for the Professional Master Degree in IPM and a field course in Sustainable Approaches in IPM.

Dr. Brewer's current sponsored research activities and collaborations include:

Aphid natural enemies in soybean and neighboring habitats. Mike Brewer, Takuji Noma, Matt Kaiser and Shaun Langley (Entomology).

Aphid natural enemy interactions. Doug Landis, Alejandro Costamagna, and Mike Brewer (Entomology).

Regional management of soybean pests. Chris DiFonzo, Doug Landis, Mike Brewer (Entomology), Scott Swinton (Agricultural Economics); Matt O'Neal (Iowa State U.), George Heimpel, David (U. Minnesota), Claudio Gratton, Craig Grau, Tom German (U. Wisconsin).

Organic approaches to pest and nutrient management in cucumbers and soybean. Sieg Snapp (Kellogg Biological Station), Mathieu Ngougio and John Biernbaum (Horticulture), Mike Brewer, Dale Mutch and Joy Landis (IPM/Entomology), Ed Grafius (Entomology), Vicki Morrone (CARRS).

Dr. Brewer's current sponsored extension IPM activities and collaborations include::

Grower adoption of IPM as a conservation tool. Mike Brewer, Joy Landis, Rebecca Lamb, David Epstein and Nikki Rothwell (IPM/Entomology), Mark Whalon (Entomology), Amy Irish-Brown and Norm Myers (MSU Extension, Fruit, Vegetable and Ornamentals Area of Expertise teams).

Weather initiative for integrated pest, plant and natural resources management. Mike Brewer, Nikki Rothwell and Joy Landis (IPM/Entomology), Jeff Andresen (Geography), Ron Calhoun (Crop and Soil Sciences), Willie Kirk and Annemieke Schilder (Plant Pathology), Ed Grafius (Entomology), Ron Goldy, Bruce MacKellar and Bill Shane (MSU Extension).

Methyl bromide alternatives for nurseries. Suzanne Thornsby (Agricultural Economics), Willie Kirk, Dennis Fulbright, and Diane Brown-Rytlewski (Plant Pathology), Bernie Zandstra (Horticulture), George Bird (Entomology), Mike Brewer (IPM/Entomology).

Recent publications from Dr. Brewer's research laboratory and extension focus in implementing IPM  
Bird, G. and M. J. Brewer. 2005. Innovative integrated pest management for sustainable systems. In: Francis, C., R. Poincelot, and G. Bird (eds.). A new social contract: developing and extending sustainable agriculture. The Haworth Press, Inc. (in press).

Brewer, M. J. and N. C. Elliott. 2004. Biological control of cereal aphids in North America and mediating effects of host plant and habitat manipulations. *Ann. Rev. Entomol.* 49: 219- 242.

Lanier, W., M. Brewer, G. Hein, F. Peairs, H. Schwartz, J. Campbell, and S. Blodgett. 2006. Development and Assessment of an On-line High Plains Integrated Pest Management Guide for a Regional Audience. *Amer. Entomol.* 52: in press.

Hoard, R. J, and M. J. Brewer. 2006. Adoption of pest, nutrient, and conservation vegetation management using financial incentives provided by a U.S. Department of Agriculture conservation program. *HortTechnology* 16: in press.

Brewer, M. J., R. J. Hoard, J. N. Landis, and L. E. Elworth. 2004. The case and opportunity for public-supported financial incentives to implement integrated pest management (Forum article). *J. Econ. Entomol.* 97: 1782-1789.

Brewer, M. J., T. Noma, and N. C. Elliott. 2005. Hymenopteran parasitoids and dipteran predators of the invasive aphid *Diuraphis noxia* after enemy introductions: temporal variation and implication for future aphid invasions. *Biol. Control*, in press.

Noma, T., M. J. Brewer, K. S. Pike, and S. D. Gaimari. 2005. Hymenopteran parasitoids and dipteran predators of *Diuraphis noxia* in the west-central Great Plains of North America: species records and geographic range. *BioControl* 50: 97-111.

Olson, R. A. and M. J. Brewer. 2003. Benefits of a 3-year diversified dryland winter wheat cropping system for small mammals. *Agriculture, Ecosystems & Environment* 95: 311-319.