

AMY E. BROWN
CURRICULUM VITAE

Notarization. I have read the following and certify that this curriculum vitae is a current and accurate statement of my professional record.

Signature 

Date 25 January 2013

I. PERSONAL INFORMATION

I. A. Contact Information

University address:

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Program web page: <http://pesticide.umd.edu>

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I. B. Educational Background

B.S. 1975. Entomology and Nematology, University of Florida, Gainesville, Florida.

M.S. 1980. Entomology, Michigan State University, East Lansing, Michigan.

Ph.D. 1993. Marine-Estuarine-Environmental Sciences, Toxicology specialty, University of Maryland, College Park, Maryland.

I. C. Academic Activities

I. C. 1. Percentage of Official Time

August 1982 – May 2005: Extension 100%

June 2005 - present: Extension 90% Instruction 10%

I. D. Positions Held

Pest Management Field Asst, Department of Entomology, Michigan State University, 1976

Graduate Assistant, Department of Entomology, Michigan State University, 1976-1978

Assistant Pesticide Safety Education Coordinator, Department of Entomology and Department of Botany and Plant Pathology, Michigan State University, 1978 - 1982

Coordinator, Pesticide Education & Assessment Programs, Department of Entomology, University of Maryland, 1982 - present

Associate Chair, Department of Entomology, University of Maryland, 1996 - 2001

Associate Professor, Department of Entomology, University of Maryland, 1992 - 2005

Professor, Department of Entomology, University of Maryland, 2005 - present

Affiliate Professor, Maryland institute of Applied Environmental Health, School of Public Health,
University of Maryland, 2009 - present

II. RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITIES

II. A. Articles in Refereed Journals

1. **Brown, A. E.** 1996. Multiple chemical sensitivity: Issues for science and society. *J. Agromedicine* 3(2):61-67.
2. **Brown, A. E.** 1999. Developing a pesticide policy for individuals with multiple chemical sensitivity: Considerations for institutions. *Toxicology & Industrial Health*. 15(3-4):432-437.
3. **Brown, A. E.** and J. Z. Schmidt. 2000. Response to Pre-notification of Pesticide Application in a Public School System. *J. Pesticide Safety Education*. 2:1-14.
4. Curwin, B., **A. Brown**, and J. Acquavella. 2005. International Symposium on Agricultural Exposures and Cancer: Exposure Assessment Summary. *Scand. J. Work, Environment, & Health*. 31(suppl. 1):63-65.
5. Menon, K. S. and **A. E. Brown**. 2005. Exposure of children to deet and other topically applied repellents. *American J. Industrial Medicine*. 47(1):91-97.
6. **Brown, A. E.** 2007. Web-based distribution of electronic labels: Implications for pesticide safety education. *J. Pestic. Safety Educ.* 9:20-24.
7. **Brown, Amy E.** 2008. Comparative safety statements or logos for pesticide labels. *J. Pestic. Safety Educ.* 10:7-12.
8. Matheny, A. L., J. Traunfeld, M. J. Raupp, and **A. E. Brown**. 2009. Gardeners and gardening trends in the United States. *Outlooks on Pest Mgt.* 20(2):1-6.
9. **Brown, A.E.** 2012. A low-cost method of evaluating outreach-based changes in recommended practices. *J. Pestic. Safety Educ.* 14:13-22.
10. **Brown, A.E.**, C. Ramsay and C. Foss. 2012. Pairing epidemiological research results with a practical message to improve pesticide applicators' personal safety practices. *J. Pesticide Safety Educ.* 14:23-32.

II. B. Books, Books Edited, Chapters In Books (* indicates peer-reviewed)

1. **Brown, A. E.** 1985. Pesticides. Chapter in *The Baybook*, a cooperative project produced by a consortium of organizations: The University of Maryland Cooperative Extension Service, Chesapeake Bay Foundation, Citizens Program for the Chesapeake Bay, U.S. Soil Conservation Service, Maryland Dept. of Health and Mental Hygiene, Maryland Dept. of Natural Resources, and Maryland Dept. of Agriculture. pp. 5 - 10.

2. **Brown, A. E.** (Ed.) (Original edition) 1999. Pesticide Resource Book for Health Professionals. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. 236 pp.
3. ***Brown, A. E.** and M. Mehlman (Guest eds.) (Original edition) 1999. Special Issue on Multiple Chemical Sensitivity. *Toxicol. Ind. Hlth.* 15(3-4), 437 pp. Stockton Press, NY.
4. ***Brown, A. E.**, C. Burns, M. Keifer, A. Lindell, C. Miller, and C. Simpson. 2000. Integrating Pesticide Education Across Curriculum. Chapter in *Pesticides and National Strategies for Health Care Providers*. US EPA. pp. 40 - 48.
5. *NEETF, USDA, DHHS, DOL, and US EPA. 2002. Educational Settings. Chapter in *Implementation Plan. National Strategies for Health Care Providers: Pesticides Initiative*. U.S. EPA, Washington, DC. pp 39 - 64. *Note:* Brown's role was as one of three co-authors with background in pesticides; all other authors were from a medical/nursing or administrative background.
6. *Whitford, F., G. Ruhl, A. Martin, D. Weisenberger, **A. Brown**, B. Field, B. Corrigan, B.R. Lerner, L. Ballentine, Z. Reicher, T. Gibb, K. Pearson, R. Ballard, D. Huth, C. Sadof, and B. Wolf. 2002. Educating Your Customer Clientele: A Holistic Approach to Pest Management. Chapter in *The Complete Book of Pesticide Management: Science, Regulation, Stewardship, and Communication*. J. Wiley and Sons, NY. (*Note:* Authors are listed in relative order of contribution.)
7. *Bernier, G., A. Lindell, J. Roberts, C. Burns, and **A. Brown**. (Original edition) 2003. *National Pesticide Competency Guidelines for Medical & Nursing Education*. U.S. EPA, Washington, DC, 55 pp. *Note:* Authors are listed in order of role – coordination (Bernier and Lindell), medical/nursing background (Roberts and Burns), and pesticide background (Brown).
8. *Bernier, G., A. Lindell, C. Simpson, B. Rogers, and **A. Brown**. (Original edition) 2003. *National Pesticide Practice Skills Guidelines for Medical & Nursing Practice*. U.S. EPA, Washington, DC, 76 pp. *Note:* Authors are listed in order of role – coordination (Bernier and Lindell), medical/nursing background (Simpson and Rogers), and pesticide background (Brown).
9. Traunfeld, J. H. and **A. E. Brown**. 2008. Pesticides and Pesticide Safety. Chapter in *The Master Gardener Handbook*. University of Maryland, B&B Printing, Richmond, VA. pp. 239-250.
- 10 – 14. **Brown, A.E.** 2010. Pesticides and Food Safety. Section IV (pp. 116 – 136) in *Good Agricultural Practices Manual. Improving the Safety and Quality of Fresh Fruits and Vegetables: A Training Manual for Trainers*. J. W. Rushing (Ed.) JIFSAN, University of Maryland. Five chapters:
 - 1: General Considerations for Pesticide Use and Minimization of Residues.
 - 2: Pesticide Movement and Degradation in the Environment.
 - 3: Pesticide Movement and Degradation in the Plant.
 - 4: Best Handling Practices for Pesticides.
 - 5: Minimizing Human Exposure to Pesticides.

II. C. Non-Refereed Articles, Reports, Bulletins, etc. (*Indicates invited)

1. ***Brown, A. E.** 1996. Risk reduction initiative: Multiple chemical sensitivity. Report to EPA. 8 pp.
2. ***Brown, A. E.** 1996. Worker protection initiative: Personal protective equipment. Report to EPA. 3 pp.
3. ***Brown, A. E.** 1997. Brief summary of Maryland's pesticide education program. Report to EPA. 3 pp.
4. ***Brown, A. E.** 1997. Pesticide education in the United States. Report to EPA. 13 pp.
5. **Brown, A. E.** and S. P. Whitney. 1997. Evaluation of NAPIAP pesticide use survey methodology. Report to the Northeast Pesticide Impact Assessment Program. 3 pp.
6. ***Brown, A. E.** 1997. Testimony on notification of pesticide use in a public school or on school property. Testimony prepared for legislative hearings in Maryland. 3 pp.
7. ***Brown, A. E.** (Ed.) 1998. Maryland Integrated Pest Management Enhancement FFY96. Quarterly reports to Maryland Department of Natural Resources. 14 pp.
8. ***Brown, A. E.** and M. Tucker. 1998. Certification and Training Advisory Group Infrastructure and Delivery Team Summary. Report to US EPA. 15 pp.
9. ***Brown, A. E.** and A. Wilson. 1998. Certification and training in the U.S.: Analysis of the current state of the Pesticide Applicator Training Program. Report to US EPA. 21 pp.
10. ***Brown, A. E.** Annually, 1985 - 1999. Maryland's participation in the National Agricultural Pesticides Impact Assessment Program (NAPIAP). Report to USDA. 7 pp.
11. ***Brown, A. E.** Annually, 1985 - 1999. Maryland's Pesticide Applicator Training (PAT) program. Report to USDA. 7 pp.
12. ***Brown, A. E.** 1999. Cholinesterase monitoring – will it protect your health on the job? *Turf & Ornamentals Service Technician Magazine*. Meister Media Worldwide, Willoughby, OH. 2 pp.
13. ***Brown, A. E.** 1999. Pesticides and your health: Monitoring your cholinesterase level. *T & O Service Tech*. 2 pp.
14. **Brown, A. E.** 2000. Pesticide Impact Assessment program (PIAP) helps people understand pesticide risks and benefits. In: *University of Maryland Integrated Pest Management Progress Report, 1999*. University of Maryland, College Park, MD. 1 p.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
15. **Brown, A. E.** 2000. Pesticide Applicator Training Program helps applicators learn safer ways to use pesticides. In: *University of Maryland Integrated Pest Management Progress Report, 1999*. University of Maryland, College Park, MD. 1 p.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
16. **Brown, A. E.** 2000. Environmental Medicine Program helps medical professionals understand pesticide risks. In: *University of Maryland Integrated Pest Management Progress Report, 1999*. University of Maryland, College Park, MD. 1 p.
17. ***Brown, A. E.** and J. Z. Schmidt. 2001. Implementation of pesticide notification and IPM in U.S. public schools. Report to Western Region Pesticide Conference, 5 pp.
18. **Brown, A. E.** 2001. Maryland Agromedicine Program Activities. In: *University of Maryland Integrated Pest Management Progress Report, 2000*. University of Maryland, College Park, MD. 1 p.
19. ***Brown, A. E.** 2001. Endangered Species Report, 2 pp. In: AAPSE Committee and Liaison Reports.
20. **Brown, A. E.** Report to AAPSE members, July 2001. 6 pp. <http://aapse.ext.vt.edu/pdfs/02hcp.pdf>
21. **Brown, A. E.** Report to AAPSE members, Dec. 2001. 7 pp. <http://aapse.ext.vt.edu/pdfs/02hcp.pdf>

22. **Brown, A. E.** 2002. Pesticide Applicator Training Program, 1 p. In: *Integrated Pest Management Progress Report, 2001*. University of Maryland, College Park, MD.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
23. **Brown, A. E.** 2002. Agromedicine Program, 1 p. In: *Integrated Pest Management Progress Report, 2001*. University of Maryland, College Park, MD.
24. **Brown, A. E.** Report to AAPSE members, Apr. 2002. 5 pp. <http://aapse.ext.vt.edu/pdfs/02hcp.pdf>
25. **Brown, A. E.** 2003. Maryland Information Network for Pesticides and Alternative Strategies. In: *University of Maryland Integrated Pest Management Progress Report, 2002*. University of Maryland, College Park, MD. 1 p. . <http://www.pprs.info/minpas/>.
26. **Brown, A. E.** President's Report to AAPSE members, Aug. 2003. 4 pp.
<http://aapse.ext.vt.edu/pdfs/02hcp.pdf>
27. **Brown, A. E.** 2003. Maryland Pesticide Safety Education Program (PSEP), 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2002*. University of Maryland, College Park, MD. <http://www.pprs.info/psep/>.
28. **Brown, A. E.** and D. Herzfeld. 2004. Financial sustainability of state Cooperative Extension Pesticide Safety Education Programs and state pesticide certification and training programs, 2 pp. American Association of Pesticide Safety Educators. <http://aapse.ext.vt.edu/>.
29. Herzfeld, D. and **A. E. Brown**. 2004. Overview of Funding for the Pesticide Safety Education Programs, 2002 – 2003, 3 pp. American Association of Pesticide Safety Educators
<http://aapse.ext.vt.edu/>.
30. **Brown, A. E.** 2004. Improving Pesticide Handling Practices through Recertification Training, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2003*. University of Maryland, College Park, MD. <http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
31. **Brown, A. E.** 2004. *Just-In-Time Pesticide Info* – A New Resource for Maryland Clientele, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2003*. University of Maryland, College Park, MD. <http://www.pprs.info/psep/>.
32. *Foss, C. R. and **A. E. Brown**. 2005. Summary of Cooperative Extension Pesticide Safety Education Program (PSEP) Data for 2004, 2 pp. Prepared for the American Association of Pesticide Safety Educators. (<http://aapse.org>)
33. **Brown, A. E.** 2005. Maryland Information Network for Pesticides and Alternative Strategies, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2004*. University of Maryland, College Park, MD. <http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
34. **Brown, A. E.** 2005. Education and Impact Assessment: Improving Pesticide Handling Practices through Education, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2004*. University of Maryland, College Park, MD.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
35. **Brown, A. E.** 2005. Safeguarding Human Health: Assessing Children's Exposure to Topically Applied Repellents, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2004*. University of Maryland, College Park, MD.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
36. ***Brown, A. E.**, S. Snedeker, and J. Storm. 2005. Risk Communication Strategies for the Agricultural Health Study: Recommendations for an Integrated Plan. Report to National Advisory Panel, Agricultural Health Study. 8 pp.
37. **Brown, A. E.** 2006. Annual Report, Maryland Information Network for Pesticides and Alternative Strategies. Submitted to Northeastern IPM Center. 17 pp.

38. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper II. A. – Minimum Age for Applicators. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 6 pp.
39. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper II. B. – Exams for All Applicators. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 8 pp.
40. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper II. C. – Standardize Exam Requirements. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 7 pp.
41. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper IV.A. – Ensure Meaningful Hazard Communication. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 5 pp.
42. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper IV. B. Ensure Meaningful Training. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 3 pp.
43. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper IV. D. – Establish Training Verification / Worker Protection Standard Recordkeeping. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 2 pp.
44. ***Brown, A. E.** 2006. AAPSE Response to EPA Proposal for Change: Issue Paper IV. E -- Protect Children from Pesticide-Treated Fields. Prepared for the American Association of Pesticide Safety Educators (AAPSE). Submitted to U.S. EPA. 2 pp.
45. **Brown, A. E.** 2006. Human Health and Environment Protected Through Education of Pesticide Users, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2005*. University of Maryland, College Park, MD.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
46. **Brown, A. E.** 2006. Maryland State Network Project, 1 p. In: *University of Maryland Integrated Pest Management Progress Report, 2005*. University of Maryland, College Park, MD.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
47. **Brown, A. E.** 2006. Report from the June 2006 Pesticide Program Dialogue Committee Meeting. Arlington, VA. Prepared for the American Association of Pesticide Safety Educators. 5 pp.
48. **Brown, A. E.,** Sandra Sardanelli, and Carol A. Holko. 2007. Keeping Maryland stakeholders informed. In: *University of Maryland Integrated Pest Management Progress Report, 2006*. University of Maryland, College Park, MD.
<http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm> 1 p.
49. Matheny, A. and **A. E. Brown,** 2007. Results of informal survey on outreach to home gardeners. Prepared for the American Association of Pesticide Safety Educators. 2 pp.
50. ***Brown, A. E.** 2007. Proposed Changes to Worker Protection: A Cooperative Extension Viewpoint. Submitted to U.S. EPA. 3 pp.
51. **Brown, A. E.** 2007. Report from the May 2007 Pesticide Program Dialogue Committee Meeting. Arlington, VA. Prepared for the American Association of Pesticide Safety Educators. 3 pp.
52. ***Brown, A. E.** 2007. Protecting the health of agricultural pesticide workers and handlers by informing them of pesticide hazards (WPS 1). WPS Issue Papers for Consideration by the AAPSE Board of Directors. 5 pp.
53. ***Brown, A. E.** 2007. Improving administration of safety training to help protect agricultural workers from pesticide exposure (WPS 2). WPS Issue Papers for Consideration by the AAPSE Board of Directors. 3 pp.

54. *Ramsay, C., **A. E. Brown**, and K. Richards. 2007. Proposed changes to Certification and Training / Worker Protection: Summarization of AAPSE members' input. Submitted to U.S. EPA. 7 pp.
 55. ***Brown, A. E.** 2008. Response to HB 55 – IPM Training and Plans for State Agencies, Part I.: General Impacts. Submitted to Maryland state legislature. 6 pp.
 56. ***Brown, A. E.** 2008. Response to HB 55 – IPM Training and Plans for State Agencies, Part II: Impacts of Specific Elements. Submitted to Maryland state legislature. 4 pp.
 57. ***Brown, A. E.** 2008. PSEP Teacher, a Searchable Database to Aid Pesticide Safety Educators. In: *University of Maryland Integrated Pest Management Progress Report, 2007*. University of Maryland, College Park, MD. 1 p. <http://www.agnr.umd.edu/users/nrsl/entm/IPM/MDProg.htm>
 58. ***Brown, A. E.** and C. Ramsay. 2008. Report from the May 2008 Pesticide Program Dialogue Committee Meeting. Arlington, VA. Prepared for the American Association of Pesticide Safety Educators. 4 pp.
 59. **Brown, A. E.** 2008. In the Pipeline – Pesticide Policy and Regulatory Developments. Prepared for the Maryland Cooperative Extension field faculty in agriculture, natural resources, and horticulture. 2 pp.
 60. ***Brown, A. E.** 2008. Report from the October 2008 Pesticide Program Dialogue Committee Meeting. Arlington, VA. Prepared for the American Association of Pesticide Safety Educators. 4 pp.
 61. ***Brown, A. E.** and J. Parochetti. 2008. The Role of Impacts on Behavior Change in Future Funding for State Pesticide Safety Education Programs. Submitted to USDA and the state Pesticide Safety Education Program Coordinators. 3 pp.
 62. **Brown, A. E.** 2008. Recommendations for Regionalization of Pesticide Safety Education Program (PSEP) in Maryland. Submitted to Maryland Cooperative Extension. 2 pp.
 63. Matheny, A. and **A. E. Brown**. 2009. Master Gardener-Facilitated IPM Education for Homeowners. In: *University of Maryland Integrated Pest Management Progress Report, 2008*. University of Maryland, College Park, MD. 1 p. <http://www.mdipm.umd.edu/reports/MDIPM%202008%20ANNUAL%20Report.pdf>
 64. Matheny, A. and **A. E. Brown**. 2009. Understanding Motivating Factors for Adoption of IPM. In: *University of Maryland Integrated Pest Management Progress Report, 2008*. University of Maryland, College Park, MD. 1 p. <http://www.mdipm.umd.edu/reports/MDIPM%202008%20ANNUAL%20Report.pdf>
 65. **Brown, A. E.** 2009. Report from the April 2009 Pesticide Program Dialogue Committee Meeting. Arlington, VA. Prepared for the American Association of Pesticide Safety Educators. 18 pp.
- Brown, A. E.** and S. McDonald. 2009. Reporting PSEP Impacts and Accomplishments: Building a Better Template for the Future. Prepared for the American Association of Pesticide Safety Educators. 3 pp.
72. ***Brown, A. E.** and C. Ramsay. 2009. Report from the April 2009 Pesticide Program Dialogue Committee Meeting. Arlington, VA. Prepared for the American Association of Pesticide Safety Educators. 8 pp.
 73. **Brown, A. E.** 2009. Improving access to pesticide safety education through a database of English and Spanish teaching tools. Submitted to EPA Region III. 4 pp.

- 74 – 82. ***Brown, A. E.** 2001 – 2009. Liaison Report: Pesticide Safety Education Action Issues from the Pesticides and National Strategies for Health Care Providers. *In*: Annual AAPSE Committee and Liaison Reports. <http://aapse.ext.vt.edu/pdfs/02hcp.pdf>
- 83 – 89. ***Brown, A. E.** Annually, 2004 – 2010. Liaison Report: Pesticide Safety Education Action Issues from the Pesticide Program Dialogue Committee. *In*: Annual AAPSE Committee and Liaison Reports. <http://aapse.ext.vt.edu/pdfs/02hcp.pdf>
- 90 – 103. ***Brown, A. E.** Biannually, 2004 – 2010. Report to AAPSE Members: Update on EPA Pesticide Policies. Submitted to AAPSE. (Reports average 6 pp.)
104. *Buhler, W., D. Herzfeld, **A.E. Brown**, and J. Parochetti. 2011. The Pesticide Safety Education Program (PSEP): A Report to the PPDC on Program Impacts and Sustainability. *In*: Proceedings, Pesticide Program Dialogue Committee Spring Meeting. Background Materials. <http://www.epa.gov/oppfead1/cb/ppdc/2011/april/april2011.html>. 6 pp.
- 105 – 111. ***Brown, A.E.** Annually, 2006 – 2012. Report on Maryland PSEP Activities. Submitted to Northeast Pesticide Coordinators. (Reports average 3 pp.)
- 112 – 113. ***Brown, A.E.** Annually, 2006 – 2012. Report on Delaware PSEP Activities. Submitted to Northeast Pesticide Coordinators. (Reports average 3 pp.)

II. D. Extension Publications

1. **Brown, A. E.** 1979. Wood Preservation. Michigan State University Cooperative Extension Service (CES). 10 pp.
2. **Brown, A. E.** 1979. Control of Wood-Destroying Pests. Michigan State University CES. 69 pp.
3. **Brown, A. E.** 1979. Safe, Effective Use of Pesticides: A Manual for Commercial Applicators (revision). Michigan State University CES. 77 pp.
4. **Brown, A. E.** 1980. Vertebrate Pest Control. Michigan State University CES. 95 pp.
5. **Brown, A. E.** 1980. Structural and Institutional Pest Control, Wood Destroying Organisms, Contractual Public Health Pest Control, Public Health Pest Control. Michigan State University CES. 10 pp.
6. **Brown, A. E.** 1980. Aquatic and Swimming Pool Pest Control. Michigan State University CES. 7 pp.
7. **Brown, A. E.** 1980. Forest, Turf, Ornamental and Turf, and Right-of-Way Pest Control, Michigan State University CES. 12 pp.
8. **Brown, A. E.** 1980. Animal Health Pest Control. Michigan State University CES. 10 pp.
9. **Brown, A. E.** 1980. Field, Vegetable, & Fruit Crops Pest Control. Michigan State University CES. 10 pp.
10. Ruppel, R. F. and **A. E. Brown**. 1980. Recertification Manual for Private Pesticide Applicators. Michigan State University CES. 12 pp.
11. **Brown, A. E.** 1981 (rev.). Ornamental and Turf Pest Control Michigan State University CES. 49 pp.
12. **Brown, A. E.** 1981 (rev.). Right-of-Way Pest Control Michigan State University CES. 30 pp.
13. Dollhopf, C. and **A. E. Brown**. 1981. Microbial Pest Control. Michigan State University CES. 26 pp.

14. **Brown, A. E.** and C. Dollhopf. 1981 (rev.) Livestock Pest Control. Michigan State University CES. 23 pp.
15. **Brown, A. E.** 1981 (rev.). Fruit Pest Control. Michigan State University CES. 70 pp.
16. **Brown, A. E.** 1981. *Granular Insecticides Application Manual*. DOW Chemical, USA. Agricultural Products Department, Midland, Michigan 48640; 10 pp.
17. **Brown, A. E.** 1981. *Buyer's Guide to Corn Soil Insecticides*. DOW Chemical, USA. Agricultural Products Department, Midland, Michigan 48640; 20 pp.
18. **Brown, A. E.** 1983. Pesticide Storage. University of Maryland Department of Entomology.
19. **Brown, A. E.** 1984. Common Irritants. University of Maryland, Department of Entomology.
20. Davidson, J. A. and **A. E. Brown**. 1985. Pesticide Options for Gypsy Moth Control in Aerial Spray Programs. University of Maryland CES Fact Sheet 386. 4 pp.
21. **Brown, A. E.** 1986. Maryland Pesticide Applicator Training Series: Trainer's Guide for Private Pesticide Applicators. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. 17 pp.
22. **Brown, A. E.**, P. Dernoeden, T. Turner, E. Dutky, J. Davidson, J. L. Hellman, M. Raupp, F. Gouin, W. Healy. 1986. Maryland Pesticide Applicator Training Series: Ornamentals and Turf Manual. 61 pp.
23. **Brown, A. E.** (Ed.), 1987. Maryland Pesticide Applicator Training Series: Core Manual. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. 42 pp.
24. **Brown, A. E.**, R. Ritter, E. Dutky, J. Kantzes, P. Steiner, J. L. Hellman, J. Linduska, B. Marose, G. Jubb. 1987. Maryland Pesticide Applicator Training Series: Agricultural Manual. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. 48 pp.
25. Hellman, J. L., **A. Brown**, G. Dively, J. M. Luna, M. Graustein. 1988 Insect Control for Field Crops in Field Crop Recommendations. 24 pp.
26. **Brown, A. E.** 1988. PIL No. 3: Insecticide Options for Termite Control. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 4 pp.
27. **Brown, A. E.** 1989. PIL No. 12: Implementation of the Endangered Species Act: Implications for the Pesticide User. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 1 p.
28. Beste, E., **A. E. Brown**, G. Dively, J. Kantzes, J. Linduska, C. McClurg, F. Schales in cooperation with the University of Delaware, Rutgers University, and Virginia Polytechnic Institute and State University. 1989 (last rev.) Commercial Vegetable Productions Recommendations. Bulletin 236. 116 pp.
29. **Brown, A. E.** 1990 (last rev.). PIL No.1: Superfund Amendments and Reauthorization Act (SARA): Pesticide Users' Responsibilities. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 10 pp.
30. **Brown, A. E.** 1991. PIL No. 15: Personal Protective Equipment for Pesticide Applicators: A Guide to Services in the Mid-Atlantic States. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 11 pp.
31. Davidson, J. A., **A. E. Brown**, C. L. Staines, Jr., M. Raupp. 1991 (last rev.) 1984 & 1985 Recommendations for Insect Monitoring and Control on Ornamentals. Bull. 258. University of Maryland Cooperative Extension Service. 48 pp.
32. **Brown, A. E.** 1993. PIL No. 16: Handling Pesticide Spills. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 4 pp.
33. Curtis, W. M. and **A. E. Brown**. 1994. Maryland Pesticide Applicator Training Series Core Manual. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. 93 pp.
34. **Brown, A. E.** 1995 (last rev.) PIL No. 5: Educational Materials for Worker Protection Standards. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 6 pp.

35. **Brown, A. E.** 1995. PIL No. 19: The Worker Protection Standard: A Checklist for University Personnel. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 2 pp.
36. **Brown, A. E.** 1997. No. 22: Pesticides Associated with Skin Disease in Agriculture. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 2 pp.
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118. **Brown, A. E.** 2008. Obtaining Training Manuals for Pesticide Applicator Certification in Maryland. *Pesticide Safety Educators' Briefs Series*. Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 3 pp. (Replaces "Training Manuals for Pesticide Applicator Certification in Maryland, 2007.")
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141. **Brown, A. E.** (Ed.) 2011. Delaware Extension Educators' Guide to Pesticide Education and Assessment: Trainers' Handbook, 2011 Edition. University of Delaware Cooperative Extension. 53 pp.
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145. **Brown, A.E.** 2012 (Rev.) PIL No. No. 9: Protecting Groundwater from Pesticides. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 3 pp.
146. **Brown, A.E.** and E. Ingianni. 2012 (Rev.) PIL No. 10: Using Insect Repellents Safely. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 6 pp.

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148. **Brown, A.E.** and E. Ingianni. 2012 (Rev.) PIL No. 39: Pesticide Storage and Security. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 5 pp.
149. **Brown, A.E.** and E. Ingianni. 2012 PIL No. 45: Protecting Pet Health when Using Flea & Tick Control Products. *Pesticide Information Leaflet Series*, Dept. of Entomology, Univ. of MD Coop. Ext., College Park, MD. 3 pp.

II. E. Contracts, Grants, and Gifts

II. E. 1. Submitted / Pending (*Indicates competitive grant)

1. *NIOSH. Mid-Atlantic Center for Agricultural Safety and Health. 2012 – 2017. \$1,931,184. E. Hodgson, (PI for overall Center); **A. E. Brown** (PI for Center component education/translation project “Targeting outreach to maximize adoption of improved pesticide safety practices.”) Brown’s share = \$855,810. **This grant was submitted and made it through the first review. Final review has been delayed due to government debt crisis uncertainty.**
2. *USDA NIFA Pesticide Safety Education Program (PSEP). 2012 - 2013. **A. E. Brown** (PI). University of Maryland PSEP activities. \$10,000.

II. E. 2. Current (*Indicates competitive grant)

1. *USDA Northeast Pest Management Center Grants. 2010 – 2012. C. R. Hooks, M. J. Raupp, S. A. Shrewsbury, **A. E. Brown** (co-PI), and K. K. Rane. Increasing the impact of Maryland's statewide IPM program through multi-disciplinary partnerships. \$499,176. (Brown’s share = \$53,190).
2. *USDA NIFA Pesticide Safety Education Program (PSEP). 2012 - 2013. **A. E. Brown** (PI). University of Maryland PSEP activities. \$10,000.
3. *U.S. EPA Office of Pesticide Programs. 2011 - 2012. **A. E. Brown** (PI). Delaware’s Pesticide Safety Education Program (PSEP). \$10,000.
4. Syngenta Crop Protection, LLC, Unrestricted Gift,. 2011 - 2012. **A. E. Brown** (PI) Enhancing Pesticide Safety Education for Certified Applicators in Maryland and Delaware. \$20,000.

II. E. 3. Expired (*Indicates competitive grant)

1. University of Maryland Grounds Division, 1988 - 1989. **A. E. Brown** (P.I.). Development of a videocassette series for registered employees: Stage I. \$8,500
2. Water Resources Research Center, 1989 - 1990. **A. E. Brown** (P.I.). Educational initiatives to protect Maryland's water quality. \$5,500.
3. *USDA-Water Quality Grant, 1989 - 1990. W. L. Magette and **A. E. Brown** (co-P.I.) Protecting Maryland's water quality through educational initiatives. \$20,000.
4. USDA-CSRS Special Grant, 1989 - 1990. A. L. Steinhauer and **A. E. Brown** (co-P.I.). data collection and assimilation for pesticide assessment. \$8,753.
5. *Environmental Protection Agency Chesapeake Bay Liaison Office Grant, 1989 - 1990. **A. E. Brown** (P.I.). Surveys of pesticide use on selected Maryland crops. \$30,000.

6. USDA Certification and Training Special Grant, 1989 - 1990. **A. E. Brown** (P.I.) and M. E. Setting. Development and production of a videocassette series for registered employees: Stage II. \$29,900.
7. *USDA-CSRS Special Grant, 1990 - 1991. **A. E. Brown** (P.I.). Survey of pesticide use on tree fruit in Maryland. \$10,135.
8. *EPA Special Grants Program, 1990 - 1991. **A. E. Brown** (P.I.) and R. E. Menzer. Neurobehavioral performance in pesticide applicators exposed to low to moderate levels of organophosphate insecticides. (Approved for funding, but special funds were recalled.) \$46,815.
9. *Environmental Protection Agency, Region III. Special Grants, 1993 - 1994. **A. E. Brown** (P.I.) and M. E. Setting. Implementation of IPM in Maryland public schools. \$25,000.
10. *Environmental Protection Agency Region III. Worker Protection Initiative Grants Program. 1994 - 1995. **A. E. Brown** (P.I.). Development of a program to train Maryland workers and handlers under the federal Worker Protection Standard. \$50,000.
11. *Environmental Protection Agency Region III. Risk Reduction Initiative Grants Program. 1994 - 1995. **A. E. Brown** (P.I.). Development of a model institutional policy on multiple chemical sensitivity (MCS). \$5,000.
12. *Environmental Protection Agency Region III. Special Grants Program. 1995 - 1996. **A. E. Brown** (P.I.). Organization of a national short course for state pesticide enforcement officials. \$180,000.
13. *USDA Special Grants Program, 1996 - 1997. **A. E. Brown** (P.I.). Measuring adoption of safety practices among pesticide applicators. (Approved for funding but special funds for 1996 projects were recalled.) \$7,950.
14. USDA-CSRS. 1983-1999. **A. E. Brown** (P.I.). Maryland's participation in the National Pesticide Impact Assessment Program (NAPIAP). \$549,750.
15. American Chemical Society, Divisions of Agrochemicals and Chemical Health and Safety. 1998 - 1999. **A. E. Brown** (P.I.). Organization of the ACS symposium, Multiple chemical sensitivity: problems for scientists and society. \$6,400.
16. *USDA Agricultural Marketing Service Pesticide Recordkeeping Section Special Grants Program, 1999 - 2000. **A. E. Brown** (P.I.) Development of pesticide curricula and resource materials for health care professionals. \$16,800.
17. USDA PIAP Regional Projects. 1998 - 2000. **A. E. Brown** (P.I.). Development of crop profiles for Maryland. \$10,000
18. *AgrAbility Program, USDA. 2001 - 2002. R. Jester and **A. E. Brown** (subcontractor). Expanding the regional capabilities of the AgrAbility program in Delaware and Maryland. \$150,000.
19. *EPA Region III Risk Reduction Initiative, 1999 - 2003. **A. E. Brown** (P.I.). Pesticide education initiatives for health care providers. \$108,200.
20. *USDA Northeast Pest Management Center Grants. 2003. **A. E. Brown** (P.I.). Mid-Atlantic Information Network for Pesticides and Alternative Strategies – Maryland activity. \$15,000.
21. *USDA Northeast Pest Management Center Grants. 2004. **A. E. Brown** (P.I.). Mid-Atlantic Information Network for Pesticides and Alternative Strategies – Maryland activity. \$15,000.
22. *USDA Northeast Pest Management Center Grants. 2001 - 2004. **A. E. Brown** (P.I.). Mid-Atlantic Information Network for Pesticides and Alternative Strategies – Maryland activity. \$89,000.
23. *USDA Northeast Pest Management Center Grants. 2005 - 2006. **A. E. Brown** (P.I.), S. Sardanelli and C. Holko. Mid-Atlantic Information Network for Pesticides and Alternative Strategies – Maryland activity. \$15,000.
24. U.S. EPA Office of Pesticide Programs. 2004 - 2009. G. Dively and **A. E. Brown** (co-PI). University of Maryland pesticide regulatory and policy undergraduate/graduate training program. \$500,000.

25. *EPA Region III Pesticide Misuse Initiative Grants. 2005 - 2007. **A. E. Brown** (P.I.). Improving access to pesticide safety education through a database of English and Spanish teaching tools. \$67,027.
26. *USDA Northeast Pest Management Center Grants. 2006 - 2007. **A. E. Brown** (P.I.), S. Sardanelli and C. Holko. Mid-Atlantic Information Network for Pesticides and Alternative Strategies – Maryland activity. \$15,000. U.S. EPA Office of Pesticide Programs. 1983 - 2010. **A. E. Brown** (PI). Maryland's Pesticide Safety Education Program (PSEP). (formerly, Pesticide Applicator Training, PAT). \$660,750.
27. *U.S. EPA Office of Pesticide Programs. 2010. **A. E. Brown** (PI). Delaware PSEP: Informing and educating pesticide users about acceptable uses and regulations. \$17,109.
28. *USDA Northeast Pest Management Center Partnership Grants. 2006 - 2010. **A. E. Brown**. (PI) Facilitating Informed Decision-Making on Maryland Pesticides. \$5,000.
29. *USDA Northeast Pest Management Center Grants. 2007 – 2010. **A. E. Brown** (PI) and A. Matheny. Master Gardener-facilitated IPM education for homeowners. \$55,650.

II. F. Abstracts and Other Professional Papers Presented (* indicates invited)

1. Smith, O.H., W.L. Magette, **A.E. Brown**, J.R. Loser. 1991. Mapping Pesticide Movement Potential Using STATSGO Data. *Proc. Amer. Soc. of Agric. Eng.* 6 pp.
2. **Brown, A. E.** 1992. Neurobehavioral effects of low to moderate organophosphate exposure in lawn and landscape applicators. American Chemical Society Annual Conference. Los Angeles, CA. 7 pp.
3. ***Brown, A. E.** 1993. The role of education in managing pesticides in the Chesapeake Bay watershed. *Proc. 4th Nat'l. Pestic. Res. Conf.* Richmond, VA. 7 pp.
4. ***Brown, A. E.** 1993. The role of education in managing pesticides in the Chesapeake Bay watershed. *Proc. 4th Nat'l. Pestic. Res. Conf.* Richmond, VA. 7 pp.
5. ***Brown, A. E.** 1993. The role of education in managing pesticides in the Chesapeake Bay watershed. *Proc. 4th Nat'l. Pestic. Res. Conf.* Richmond, VA. 7 pp.
6. **Brown, A. E.** 1994. Maryland's Pesticide Applicator Training Program activities. TriAgency Annual Meeting, University of Puerto Rico. San Juan, Puerto Rico.
7. **Brown, A. E.** 1995. Pesticide applicator education in Maryland: A new era. TriAgency Meeting, University of Rhode Island. Providence, RI.
8. **Brown, A. E.** and M. E. Setting. 1995. Problem-solving in pesticide regulatory programs. Pesticide Regulatory Education Program National Workshop II., U. S. Environmental Protection Agency. Annapolis, MD.
9. Setting, M. E. and **A. E. Brown**. 1995. Innovative solutions to regulatory problems. Pesticide Regulatory Education Program National Workshop II., U. S. Environmental Protection Agency. Annapolis, MD.
10. **Brown, A. E.** 1995. Maryland activities in the Pesticide Impact Assessment Program. Northeast Pesticide Impact Assessment Meeting, University of Rhode Island. Providence, RI.
11. **Brown, A. E.** 1996. Maryland's Pesticide Impact Assessment Program. Northeast Pesticide Impact Assessment Annual Meeting, USDA. Arlington, VA.
12. **Brown, A. E.** and S. Gardner. 1996. Pesticide education: Maryland Extension activities. TriAgency Annual Meeting, Rutgers University. Cape May, NJ.
13. **Brown, A. E.** 1996. Pesticide education outreach to health care providers. Annual meeting, Agromedicine Consortium Meeting, West Virginia University. Morgantown, WV.

14. ***Brown, A. E.** 1996. Pesticide applicator training -- beyond certification. *Proc. 1996 Spring National Pollution Prevention Roundtable Conference*. Arlington, VA. 9 pp.
15. **Brown, A. E.** 1997. Building an Agromedicine program in Maryland. Annual meeting, Agromedicine Consortium Annual Meeting, The Pennsylvania State University. Philadelphia, PA.
16. **Brown, A. E.** and A. Welsch. 1997. Pesticide impact assessment in Maryland. Northeast Pesticide Impact Assessment Meeting, University of Massachusetts. North Hampton, MA.
17. **Brown, A. E.** 1998. Pesticide outreach and education programs in Maryland. Toxicology Program Retreat, University of Maryland. Catonsville, MD.
18. **Brown, A. E.** 1998. The role of pesticides in alleged multiple chemical sensitivity syndrome. American Academy of Environmental Medicine. Potomac, MD.
19. **Brown, A. E.** and A. Fournier. 1998. Maryland's pesticide assessment activities. Northeast Pesticide Impact Assessment Program Annual Meeting, The Pennsylvania State University. Lancaster, PA.
20. **Brown, A. E.** 1998. Developing a pesticide policy for individuals with multiple chemical sensitivity: Considerations for institutions. Annual meeting, American Chemical Society. Boston, MA.
21. **Brown, A. E.** 1999. Pesticide initiatives in Maryland's Agromedicine Program. North American Agromedicine Consortium Annual Conference, North Carolina State University and North Carolina A&T University. Raleigh, NC.
22. ***Brown, A. E.** 1999. Evaluation of and preparation for prenotification of pesticide application in Maryland public schools. *Proc. Environ. WATCH*. Chicago, IL. 14 pp.
23. **Brown, A. E.** and A. Fournier. 1999. Maryland's Pesticide Impact Assessment Program. Northeast Region Pesticide Impact Assessment Meeting, University of Maine. Portland, ME.
24. **Brown, A. E.** 2000. Pesticide workshops for health professionals. Fourteenth Congress of the International Association of Agricultural Medicine and Rural Health. Pecs, Hungary.
25. **Brown, A. E.** and J. Z. Schmidt. 2000. Prenotification of pesticide application in a public school system: Responses of parents and staff. First Annual Bioscience/Biotech Research Review Day, University of Maryland. College Park, MD.
26. **Brown, A. E.** 2000. Maryland's agromedicine program. North American Agromedicine Consortium Annual Conference, University of Florida. Gainesville, FL.
27. **Brown, A. E.** 2001. Accomplishments and needs in pesticide education: The AAPSE perspective. TriAgency Meeting, University of Puerto Rico. San Juan, PR.
28. **Brown, A. E.** and J. Z. Schmidt. 2001. Pre-notification of pesticide application in a public school system. Annual meeting, Society of Toxicology. San Francisco, CA.
29. **Brown, A. E.** 2001. AAPSE's role in pesticide education post-September 11. Southern Region Pesticide Education and Training Meeting, University of Tennessee. Nashville, TN.
30. **Brown, A. E.** and J. Z. Schmidt. 2002. Evaluation of parents' and staff's responses to pre-notification of pesticide application in a public school system. Annual meeting, Society for Occupational and Environmental Health. Bethesda, MD.
31. **Brown, A. E.** 2002. Making an impact in pesticide safety education. National Certification and Training Workshop, University of Maine. Portland, ME.
32. ***Brown, A. E.** 2003. Pesticide education in the practice setting: Consensus recommendations for change. National Forum on National Strategies for Health Care Providers: Pesticides Initiative. Sponsored by Amer. Acad. Pediatrics, Amer. Assn. Colleges of Nursing, Amer. Assn. Occupational Health Nurses, Assn. Academic Health Centers, Migrant Clinicians Network, and the National Institute of Environmental Health Sciences. Washington, DC. 6 pp.
33. ***Brown, A. E.** 2003. Pesticide education for health care providers in the practice setting: Successful models. National Forum on National Strategies for Health Care Providers: Pesticides

- Initiative. Sponsored by Amer. Acad. Pediatrics, Amer. Assn. Colleges of Nursing, Amer. Assn. Occupational Health Nurses, Assn. Academic Health Centers, Migrant Clinicians Network, and the National Institute of Environmental Health Sciences. Washington, DC. 3 pp.
34. Menon, K. S. and **A. E. Brown**. 2003. Children's exposure to deet and other topically-applied insecticides. Annual meeting, Society of Toxicology. Salt Lake City, UT.
 35. ***Brown, A. E.**, S. Snedeker, and J. Storm. 2005. Risk Communication Strategies for the Agricultural Health Study: Recommendations for an Integrated Plan. Annual meeting of the Agricultural Health Study National Advisory Panel. National Cancer Institute, Bethesda, MD.
 36. ***Brown, A. E.** 2005. Implications of consumer literacy for pesticide labeling. Pesticide Program Dialogue Committee Work Group on Consumer Pesticide Label Improvement. Washington, DC.
 37. Sardanelli, S., **A. E. Brown**, and C. A. Holko. 2006. Partnerships Expand the Horizon for the Maryland Integrated Pest Management Program. The Fifth National IPM Symposium, "Delivering on a Promise", St. Louis, MO.
 38. **A. E. Brown**. 2006. Pesticide worker safety program: Enhancements in protections. Biannual Pesticide Program Dialogue Committee meeting, Arlington, VA. 7 pp.
 39. ***Brown, A. E.** and K. Richards. 2006. Potential impacts of proposed worker safety policy changes on pesticide safety education and certification in the U.S. American Association of Pesticide Safety Educators annual conference, Arlington, VA. 23 pp.
 40. ***Matheny, A.** and **A. E. Brown**. 2009. How do home gardeners' preferences and perceptions affect their pest management decisions? Northeast Region of the American Society for Horticultural Science annual conference, Newark, DE.
 41. ***Brown, A.E.** and A. Matheny. 2009. Objectives, perceptions, & practice: Are industry and consumers moving toward "greener" gardens? The Pesticide Stewardship Alliance annual conference, Albuquerque, NM. 4 pp.
 42. **Brown, A. E.** and S. McDonald. 2009. Reporting PSEP Impacts and accomplishments: Designing a useful and reliable tool. *North American Pesticide Applicator Certification and Safety Education Workshop*. Charleston, SC. 5 pp.
 43. M. Weaver, ***A. E. Brown**, C. Ramsay, and D. Martin. 2009. Writers' Workshop: Developing Manuscripts for the Journal of Pesticide Safety Education. North American Pesticide Applicator Certification and Safety Education Workshop. Charleston, SC. 3 pp.
 44. **Brown, A. E.** 2009. Addressing a desire to "go green" through pesticide labeling. North American Pesticide Applicator Certification and Safety Education Workshop. Charleston, SC. 12 pp.
 45. Shaw, A., C. Coffman, and **A. Brown**. 2010. Garment wear study to determine the pesticide protective performance of cotton/polyester fabrics with a fluorochemical finish. International Conference of American Association of Textile Chemists and Colorists. Atlanta, GA.

II. G. Invited Seminars

II. G. 1. **Invited International Seminars and Presentations**

1. **Brown, A. E.** 1994. Promoting collaborations between the medical community and the agricultural education sector to prevent, diagnose, and treat pesticide-related illness. Fifth International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Cairo, Egypt.
2. **Brown, A. E.** 1994. Pesticide education for health care providers: A dialogue with students. Fifth International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Cairo, Egypt.

3. **Brown, A. E.** 1994. Behavioral effects of organophosphate insecticides: An overview. Fifth International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Cairo, Egypt.
4. **Brown, A. E.** 1994. Pesticide education programs in the U.S. Fifth International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Cairo, Egypt.
5. **Brown, A. E.** 2004. Pesticide regulation and education in the U.S.: Ensuring competency. College Park, MD. Requested by USDA-CSREES for visiting Chinese delegation.
6. **Brown, A. E.** 2005. Toxicology fundamentals and pickling cucumbers: Pesticide degradation processes. International Pickle Packers Annual Meeting, Baltimore MD.
7. Suguiyama, L. and **A. E. Brown.** 2009. Control de Plagas – Introduccion. *Good Agricultural Practices Workshop*, Antigua, Guatemala, sponsored by JIFSAN, USDA-FAS, and US-AID.
8. **Brown, A.E.** and L. Suguiyama. 2009. Minimizing pesticide residues in food crops. *Good Agricultural Practices Workshop*, Antigua, Guatemala, sponsored by JIFSAN, USDA-FAS, and US-AID.
9. **Brown, A.E.** and L. Suguiyama. 2009. Movimiento y degradación de un plaguicida en plantas. *Good Agricultural Practices Workshop*, Antigua, Guatemala, sponsored by JIFSAN, USDA-FAS, and US-AID.
10. **Brown, A. E.** and L. Suguiyama. 2009. Buenas prácticas de manejo y aplicación de los plaguicidas que reducen los residuos de los plaguicidas en cultivos de alimentos. *Good Agricultural Practices Workshop*, Antigua, Guatemala, sponsored by JIFSAN, USDA-FAS, and US-AID.
11. **Brown, A. E.** 2009. and L. Suguiyama. Las mejores prácticas para minimizar la exposición humana a los plaguicidas. *Good Agricultural Practices Workshop, Antigua, Guatemala*, sponsored by JIFSAN, USDA-FAS, and US-AID.
12. **Brown, A.E.** 2009. Potential implications of green labeling of pesticides for Pesticide Safety Education Programs. *American Association of Pesticide Safety Educators (AAPSE) Board of Directors Meeting*. Baltimore, MD.
13. **Brown, A.E.** 2009. Protecting human health and environmental integrity through educating pesticide applicators: Pesticide Safety Education Programs in the U.S. *Chinese government delegation meeting with U.S. Environmental Protection Agency*. Arlington, VA.
14. **Brown, A.E.,** D. Herzfeld, A. Mayer and N. Murphy. 2012. Impacts of PPE safety outreach. *First International Symposium on PPE for Agricultural Pesticide Operators*. Instituto Agromedico, Campinas, Sao Paulo, Brazil.

II. G. 2. Invited National Seminars and Presentations

1. **Brown, A. E.** 1994. Changing needs in pesticide education in the U.S. Pesticide Roundtable. Lanham, MD.
2. **Brown, A. E.** 1995. An investigation of neurobehavioral effects in applicators occupationally exposed to organophosphate insecticides. Agromedicine Consortium Annual Meeting. University Park, PA.
3. **Brown, A. E.** 1997. The role of the occupational medicine specialist in diagnosing, treating, and preventing pesticide-related illness. Occupational Medicine Symposium, Environmental and Occupational Health Sciences Institute, Rutgers University. Piscataway, NJ.
4. **Brown, A. E.** 1997. Notification of pesticide use in schools: Planning efforts. Senate Hearings. Annapolis, MD.

5. **Brown, A. E.** 1998. Training clinicians who treat migrant and seasonal workers for pesticide illnesses. U. S. Migrant Health Commission Meeting. Easton, MD.
6. **Brown, A. E.** 1999. Building a successful agromedicine program. Nebraska Agromedicine Meeting, University of Nebraska Medical Center. Omaha, NE.
7. **Brown, A. E.** 1999. Pesticide education opportunities for primary health care providers. Pesticide Recordkeeping Annual Conference, USDA. New Orleans, LA.
8. **Brown, A. E.** 1999. Pesticide regulation and policies in the U.S. Joint Institute for Food Safety and Applied Nutrition Symposium, University of Maryland and U. S Food and Drug Administration. College Park, MD.
9. **Brown, A. E.** and M. E. Setting. 2000. Pesticide education for school nurses. American Association of Control Officials Annual Meeting. Charleston, WV.
10. **Brown, A. E.** 2000. Integrating agromedicine with pesticide education programs. North Central Region Pesticide Training and Certification Meeting, University of Minnesota. Minneapolis, MN.
11. **Brown, A. E.** 2000. A model for a successful agromedicine program on pesticides. First Texas Agromedicine Forum, Texas A&M University. College Station, TX.
12. **Brown, A. E.** 2001. Pesticides and asthma. Research group meeting. Johns Hopkins University, Baltimore, MD.
13. Ford, S., G. Henning, M. Hughes, and **A. E. Brown.** 2001. Agromedicine: Extending health care outreach. National Certification and Training Workshop, Texas A&M University. San Antonio, TX.
14. **Brown, A. E.** 2001. Moving AAPSE into the future. National Certification and Training Workshop, Texas A&M University. San Antonio, TX.
15. **Brown, A. E.** 2001. Chemical security: Moving to action – the academic sector responds. National Pesticide Stewardship Association annual meeting. Memphis, TN.
16. **Brown, A. E.** 2001. The agromedicine initiative: A call for Extension and State Lead Agency input. Western Region Pesticide Conference, Oregon State University. Portland, OR.
17. **Brown, A. E.** 2001. Integrated Pest Management programs in public schools: A national picture. Western Region Pesticide Conference, Oregon State University. Portland, OR.
18. **Brown, A. E.** 2001. The marketing plan for the revitalized Endangered Species Protection Program: Report from the outreach work group. Quest for a Viable Endangered Species Program, U.S. Environmental Protection Agency. Albuquerque, NM.
19. **Brown, A. E.** 2002. New initiatives in pesticide education. Western Region Annual Pesticides Meeting, University of California - Davis. San Diego, CA.
20. **Brown, A. E.** 2002. Considerations for pesticide educators. Southern Region Pesticides Conference, Virginia Polytechnic Institute and State University. Roanoke, VA.
21. **Brown, A. E.** 2002. Strategies for continued success in pesticide education. North Central Regional Certification and Training Workshop, Iowa State University. Des Moines, IA.
22. Johnson, M. and **A. E. Brown.** 2002. States' activities in the Pesticide Safety Education Programs: Addressing the needs of migrant and farm workers. Migrant Stream Commission Meeting. Washington, DC.
23. **Brown, A. E.** 2002. Working with health care providers to promote better understanding of pesticide risks. Annual meeting, Entomological Society of America. Ft. Lauderdale, FL.
24. **Brown, A. E.** 2002. Report from the American Association of Pesticide Safety Educators: Improving pesticide policy on a national scale. Association of American Pesticide Control Officials annual meeting. Arlington, VA.
25. **Brown, A. E.** and J. Peterson. 2003. The future of worker safety. North American Pesticide Applicator Certification and Safety Education Workshop, University of Hawaii. Honolulu, HI.

26. **Brown, A. E.** 2006. Pesticide safety considerations for public health officials. Biology and Control of Insects and Rodents Workshop, sponsored by the National Environmental Health Association. San Antonio, TX.
27. **Brown, A. E.** 2007. Changes to worker protection: Impacts for Cooperative Extension and other training providers. Pesticide Program Dialogue Committee Spring Meeting. Arlington, VA.
28. **Brown, A. E.** and J. V. Parochetti. 2008. The National Pesticide Safety Education Program: Accomplishments, Innovative Programming, and Impacts, 2002 – 2007. Pesticide Program Dialogue Committee Fall Meeting. Arlington, VA
29. **Brown, A.E.** 2009. Documenting land grant university contributions to improved pesticide practices in the U.S. Presented to the National Association of State Universities and Land Grant Colleges (NASULGC). Washington, DC.
30. **Brown, A.E.** 2009. Improving worker safety, environmental integrity, and consumer health through Pesticide Safety Education Program research and outreach. Presented to the National Association of State Departments of Agriculture (NASDA). Washington, DC.
31. **Brown, A.E.** 2009. Considerations for states on the green labeling initiative for pesticides. Presented to the States FIFRA Issues Research and Evaluation Group (SFIREG). Arlington, VA.
32. **Brown, A.E.** 2010. Clicker-facilitated learning and impact assessment targeting Extension learners. Turning Technologies User Conference. Northwestern University, Chicago, IL.
33. Buhler, W., D. Herzfeld, **A.E. Brown**, and J. Parochetti. 2011. The Pesticide Safety Education Program (PSEP): A Report to the PPDC on Program Impacts and Sustainability. Pesticide Program Dialogue Committee Spring Meeting. Arlington, VA.

II. G. 3. Invited Regional and Local Seminars and Presentations

1. **Brown, A. E.** 1994. The federal Worker Protection Standard: Implications for pest management specialists and consultants. Weed Science Society of America, Northeastern Branch Meeting. Baltimore, MD.
2. **Brown, A. E.** 1994. The role of education outreach in protecting watersheds from pesticide contamination. Great Lakes Forum, Annapolis, MD.
3. **Brown, A. E.** 1997. Neurobehavioral effects of organophosphate insecticides. Toxicology Program Colloquium, University of Maryland. Baltimore, MD.
4. **Brown, A. E.** 1997. Pesticides as indoor air pollutants. Indoor Air Pollutants Conference, University of Maryland School of Medicine and Environmental Health Education Center. Baltimore, MD.
5. **Brown, A. E.** 1999. Preparing health professionals in training to diagnose and treat pesticide illnesses. Epidemiology Colloquium, University of Maryland. Baltimore, MD.
6. **Brown, A. E.** 1999. What health care professionals should know about pesticides and children's health. Conference on Children's Health, University of Maryland Medical School. Ocean City, MD.
7. **Brown, A. E.** 1999. The role of county officials in pesticide illness detection and prevention. Maryland Association of County Officials. Hagerstown, MD.
8. **Brown, A. E.** and J. Z. Schmidt. 2000. Prenotification of pesticide application in Maryland public schools: Parental and staff acceptance. Governor's Pesticide Council. Annapolis, MD.
9. **Brown, A. E.** 2001. Using the agromedicine model to address pesticide education needs of health care providers. Epidemiology Seminar Series, George Washington University. Washington, DC.
10. **Brown, A. E.** 2002. Training health care providers to recognize pesticide-related illnesses in children. Maryland Council on Children's Environmental Health. Annapolis, MD.
11. **Brown, A. E.** 2004. Integrating pesticide education into medical and nursing curricula. 2004 Pennsylvania Rural Health Conference, The Pennsylvania State University. State College, PA.

12. **Brown, A. E.** 2004. Progress on national pesticide safety initiatives. Annual Tri-Agency Meeting, University of Delaware. Dewey Beach, MD.
13. **Brown, A. E.,** T. Hall., and R. Wootton. 2004. Panel discussion: Positioning Pesticide Safety Education Programs for the future. Annual Tri-Agency Meeting, University of Delaware. Dewey Beach, MD.
14. ***Brown, A. E.** 2007. The Maryland Pesticide Safety Education Program: Ongoing Activities, Accomplishments, and Concerns. Northeast Pesticide Coordinators Meeting, Portland, ME. 4 pp.
15. **Brown, A. E.** 2008. Moving the Pesticide Market through Comparative Safety Claims: Implications for Resistance Development and Other Environmental Consequences. Northeast TriAgency Meeting, Rutgers U., New Brunswick, NJ. 4 pp.
16. **Brown, A.E.** 2009. What Have We Learned About Protecting Worker Health? *Pesticide Regulatory Education Program (PREP)*, Ocean City, MD.
17. **Brown, A.E.** 2009. Insecticide Modes of Action. *Pesticide Regulatory Education Program (PREP)*, Ocean City, MD.
18. **Brown, A.E.** 2009. Environmental Fate of Pesticides. *Pesticide Regulatory Education Program (PREP)*, Ocean City, MD.
19. **Brown, A.E.** 2009. Public Health implications of Current US Pesticide Regulatory and policy Initiatives. George Washington University School of Public Health and Health Services, Washington, DC.

III. TEACHING

III. A. Courses Taught

ENTM 699D: Pesticide Technology, Regulation, and Policy: Impacts on Environment and Health. **A. E. Brown** and G. P. Dively, co-Instructors. Fall semester 2002, 2005.

HONR 229M: Evaluating Health Risks from Environmental Toxicants. Fall semester, 2009.

III. A. 1. Guest Lectures

MIEH 600 -- Foundations of environmental health. Spring semester, 2009.

III. B. Curriculum Development

Brown, A. E. (co-Author). 2003. Developed national guidelines on pesticides and other environmental exposures for insertion into medical and nursing school curricula.

Brown, A. E. (co-Author). 2003. Developed national guidelines on pesticides and other environmental exposures for insertion into continuing education for health care providers.

Brown, A. E. 2008-9. Developed curriculum for a new non-majors course, HONR 229M: Evaluating Health Risks from Environmental Toxicants.

III. C. Student Activities / Supervision

III. C. 1. Undergraduate Advising

Advisor for 6 undergraduate students annually, 2002 - 2003

Advisor for approximately 20 undergraduate students annually, 1996-2001

Mentor to *Aesha Minter*, 1997-1998

III. C. 2. Supervision Of Student Research

III. C. 2. a. Undergraduate Students

Jessica Garzon, 1997-1998. Project: Pesticide application pre-notification requirements in the U.S.

V-Tsien Fan, 1999. Project: Evaluation of changes in pesticide handling practices after attendance at Extension pesticide safety education sessions.

Sarah McClellan, 2003. Project: Sampling for pesticide residues in homes of farm families.

III. C. 2. b. Graduate Students

III. C. 2. b. i. Supervision of graduate student research

Madeleine Greene, Home Economics, Hood College. Thesis: Clothing selection and care practices of certified pesticide handlers in Montgomery County, Maryland. Graduated with M.S., 1988. This project won the National Association for Home Economists Excellence in Research Award, 1989.

Jacob Schmidt, Environmental Policy Specialization, University of Maryland School of Public Affairs. Project: Evaluation of notification of pesticide application in public schools in Anne Arundel County, Maryland. Graduated with M.P.P., 1999.

Geoffrey Gipson, Environmental Chemistry Specialization, Toxicology Program, University of Maryland, 2000. Lab rotation project: State pesticide reporting requirements for health care providers.

Sunil Menon, Department of Public and Community Health. (Dr. Menon has a M.D. equivalent from the Medical College in Trichur, India). Thesis: Children's exposure to deet and other topically-applied repellents. Admitted Sep. 2001; graduated with M.P.H, Jun. 2005.

Lisa Clark, Environmental Policy Specialization, Marine-Estuarine Environmental Sciences Program. Thesis: Assessment of home pesticide residues and pesticide handling practices. Admitted Sep. 2002; graduated with M.S., Dec. 2004.

Leanne Ganser, Environmental Chemistry Specialization, Marine-Estuarine Environmental Sciences Program. Thesis: Evaluation of pesticide handling practices to decrease personal and home contamination. Admitted Aug. 2004; graduated with M.S., May 2006.

Amanda Matheny, Environmental Science Specialization, Marine-Estuarine Environmental Sciences Program. Thesis project: Moving homeowners from conventional pest control to an IPM approach: Assessing motivational targets. Admitted Aug. 2007; graduated with M.S., June 2009. This project won the Norman F. Childers Award at the annual conference of the Northeast Region American Society for Horticultural Science.

III. C. 2. b. ii. Service on student committees

Sallie Gentry, Marine-Estuarine Environmental Sciences Program, 1999

J. Aidan Manubay, ENTM Honors Program, 2013. Thesis: The rare female reproductive soldier caste in the termite *Zootermopsis nevadensis*: Observations on ecological contexts inducing differentiation and behaviors.

III. D. Awards, Honors, and Special Recognition

1989 – National Association for Home Economists Excellence in Research Award. (This award was for the graduate research project of Madeleine Green. I was the co-director for the project.)

1994 – Extension Educational Aids Award for co-author of Commercial Vegetable Production Recommendations, MD Cooperative Extension Ser. Bull. 236. American Society for Horticultural Science.

1994 – Certificate of Appreciation, 5th International Symposium on Neurobehavioral Methods and Effects.

1995 – Partnership in Environmental Protection Medal (U.S. Environmental Protection Agency).

1996 – U. S. Department of Agriculture Secretary’s Award for Environmental Protection.

1999 – Certificate of Appreciation, Joint Institute for Food Safety and Applied Nutrition.

2003 – U.S. Environmental Protection Agency Honoree “for significant contributions to pesticide safety education to protect human health and the environment.”

2003 – Letter of appreciation for outstanding service, Secretary of the Maryland Department of Agriculture.

2005 – American Association of Pesticide Safety Educators Board of Directors Award for Meritorious Service “for excellence in pesticide education.”

2005 – American Association of Pesticide Safety Educators Honoree “for outstanding leadership and service to AAPSE.”

2009 – Norman F. Childers Award for best research paper by a graduate student at the annual conference of the Northeast Region American Society for Horticultural Science. (This award was for the graduate research project of Amanda Matheny. I was her graduate program research advisor.)

2009 – Elected a Fellow of the American Association of Pesticide Safety Educators. The American Association of Pesticide Safety Educators (AAPSE) is an association of educators providing science-based pesticide safety education programs through the land-grant universities, government agencies, and tribal organizations. Members are national leaders in pesticide safety education, training, and certification. AAPSE has become an important source for federal and state agencies in their deliberations on pesticide regulations and policies.

III. E. Extension

III. E. 1. Major Programs Established

My Pesticide Education and Assessment Program (PEAP) has three components: (1) pesticide education for pesticide applicators; (2) collecting and disseminating sound information about pesticide use, policies, regulations, developing issues, and technologies; and (3) pesticide education for health care providers. The PEAP web site (<http://pesticide.umd.edu>) that I designed and maintain is a primary vehicle for accomplishing these goals. In 2010, at the invitation of the Extension Director for University of Delaware, I took on the role of Coordinator of Delaware's PSEP as well. In FY2010 – 11, I did this through an official MOU between UM and UD. Subsequent to that year, I have been coordinating the Delaware PSEP as a consultant.

III. E. 1 a. The Pesticide Safety Education Program (PSEP)

PSEP trains professional pesticide applicators and educates others about using pesticides in the safest way possible. As director of the Maryland PSEP, I am responsible for coordinating the program between trainers and state and federal authorities, generating and revising teaching materials, developing and implementing training for applicators, training and serving as a resource for other trainers throughout the state, and reporting to federal agencies (USDA and U.S. EPA).

III. E. 1. a. i. PSEP publications and resources developed: (* indicates I am the primary author or editor, or played a primary role)

*Three manuals used for initial training of pesticide applicators in Maryland (listed in Sec. II. D.). The Pesticide Applicator Series Core manual serves as the primary source for all commercial and private applicators in the state to prepare for the certification exam. The two category manuals (Agricultural and Ornamentals & Turf) prepare applicators for additional sections of the exam in these categories.

*27 publications in the *Pesticide Information Leaflet* series for use in pesticide education programs for pesticide applicators, farm workers, and consumers (listed in Sec. II. D.).

*25 publications in the *Pesticide Educators' Briefs* series (listed in Sec. II. D.) designed to provide Extension faculty and other pesticide education trainers with (1) thumbnail sketches of developing issues or (2) detailed background information they need to offer effective pesticide training.

*5 Trainers' Guides that serve as the teachers' editions for Maryland Extension field faculty who conduct pesticide applicator training. Each guide contains lesson plans, audiovisual teaching aids, and sample exams.

A coloring book (listed in Sec. II. D.) teaching basic concepts of safe use of pesticides through Mr. Wrong and Mr. Right. Although the coloring book itself is aimed at children, the book is distributed with a companion *Pesticide Information Leaflet* (No. 11) to show parents practices necessary to protect themselves and their families.

*Video series, *Using Pesticides Safely*. The 6-part series is the primary vehicle by which registered employees in Maryland are trained. Developed to train employees of pest control firms in Maryland, the set continues to be sold throughout the state and around the U.S. It was adopted by the Professional Lawn Care Association of America as the core of training for their members nationwide. Translated into Spanish, re-shot and reissued in English and Spanish, 2010.

*CD on maintaining security with pesticide storage and transport. This PowerPoint presentation was the first to be developed for distribution nationally in 2001 following new concerns about possible use of pesticides for terrorist acts, and has been incorporated by many states into their PSEP training and other outreach.

*Pesticide Safety Education web site (major section of PEAP web site). URL: <http://pesticide.umd.edu/PAToverview.html>. Program overview; training manuals and publications; information on certification/recertification courses, registered employee training, the Worker Protection Standard; and resources/links. The site is updated frequently.

*Pesticide Educators' Home Page for Maryland Extension Personnel (<http://www.agnr.umd.edu/PesticideTrainer/>) . An internal resource for Maryland Extension professionals whose duties involve providing pesticide education to pesticide applicators. The site is updated annually or more often to include the latest information on training materials, policies, and requirements for trainers to follow.

III. E. 1. b. The Maryland Information Network for Pesticides and Alternative Strategies (MINPAS)

MINPAS collects, compiles, and disseminates sound information about pesticide use, policies, regulations, emerging issues, and technologies. I am the Principal Investigator and Director for MINPAS, which functions as Maryland's competitive grant-funded state network project under the Northeastern Regional Integrated Pest Management Center. *Note:* prior to 2001, activities in this program were referred to as Pesticide Impact Assessment (PIAP).

III. E. 1. b. i. MINPAS/PIAP publications and resources developed (* indicates I am the sole author or played a primary role):

*7 publications in the *Pesticide Information Leaflet* series designed to explain pesticide regulations, laws, and/or policies (listed in Sec. II. D.)

*16 publications in the *Pesticide Educators' Briefs* series designed to provide Extension faculty with thumbnail sketches of developing issues (listed in Sec. II. D.).

*9 crop profiles (listed in Sec. II. D.). These publications present the entire picture for how major crops in the state are grown, including field preparation, pest management strategies, post-harvest handling, and farm worker involvement. USDA and U.S. EPA use crop profiles in determinations regarding pesticide registrations. I co-edited this series.

*The *Pesticide Information Users Group Network* serves the needs of Maryland Extension personnel and researchers working with pesticides in Maryland. I formed the network and utilize it to keep Maryland researchers, Extension professionals, and other clientele informed of topical pesticide information including grant opportunities, research needs, and regulatory and policy developments.

*The Maryland Information Network for Pesticides and Alternative Strategies (MINPAS) web site (<http://pesticide.umd.edu/MINPAS.html>) provides users with publications, opportunities to comment on federal policies and regulations, and links to other resources on pesticides and non-pesticide alternatives.

III. E. 1. c. Maryland Agromedicine

The Maryland Agromedicine Program provides outreach to health care professionals to increase their ability to recognize and treat pesticide overexposures. In 1994, I established the Maryland Agromedicine Program, a partnership of agricultural and medical/nursing professionals promoting the health and safety of farm families, agricultural workers, consumers of agricultural products, and non-agricultural populations exposed to environmental contaminants. The Maryland Agromedicine Program currently focuses on pesticides.

III. E. 1. c. i. Maryland Agromedicine Program publications and resources developed (* indicates I played a primary role):

*2 texts (*National Pesticide Competency Guidelines for Medical & Nursing Education* and *National Pesticide Practice Skills Guidelines for Medical & Nursing Practice*) for medical and nursing schools and continuing education institutions (listed in Sec. II. B.).

*13 publications in the *Pesticide Information Leaflet* series designed for use in pesticide education programs for health care providers (listed in Sec. II. D.).

*5 publications in the *Pesticide Educators' Briefs* series designed to provide Extension faculty with thumbnail sketches of developing issues (listed in Sec. II. D.).

*Video for school nurses. The unit provides a discussion of pesticide regulation in the U.S. and Maryland's state law requiring notification of pesticides used in public schools. The video presents additional topics including how students, staff, and others may be exposed to pesticides; how to take an

exposure history; how to recognize and treat pesticide over-exposure; and resources available to the practitioner.

*Outreach for Health Care Providers. Section of the Maryland Pesticide Education and Assessment Program web site (<http://pesticide.umd.edu>) providing publications; notice of availability of seminars; and links to case studies, tutorials, training opportunities, general references, specific references, occupational medicine, toxicology literature files, and how to estimate/determine exposure.

Pesticide Information Gateway Project. I helped to develop and review this database of over 200 pesticide texts and on-line resources for health care providers. The database, maintained at Rutgers University, is in the final stages of development and is planned to be posted to the website of the National Environmental Education Foundation (NEETF).

III. E. 2. Information Transfer

III. E. 2. a. Newsletters

Brown, A. E. (Ed.) 1983-2008. *Pesticide Notes*. Monthly newsletter for Cooperative Extension Service Agents and Specialists, state and federal agency representatives, U. S. Pesticide Coordinators, pesticide-related businesses, medical professionals, and private individuals.

Brown, A. E. (Ed.) 2003 - present. *Just-In-Time Pesticide Info*. An as-needed electronic bulletin to address time-sensitive pesticide issues such as comment periods, meetings, etc. Average number of bulletins issued per year = 25.

III. E. 2. b. Multimedia Projects

1. **Brown, A. E.** (Ed.) 1990. *Using Pesticides Safely*. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Videotape series in 6 parts, with accompanying manual, study guides, and tests:

- Module 1: Pesticide Laws and Regulations
- Module 2: The Pesticide Label
- Module 3: Protecting the Pesticide Handler
- Module 4: Guidelines for Proper Pesticide Handling
- Module 5: Pesticides and the Environment
- Module 6: Integrated Pest Management

2. **Brown, A. E.** 1995. *Trainer's Guide for the Maryland Pesticide Applicator Training Series Core Manual*. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 57 pp., 19 slides, 4 overheads.
3. **Brown, A. E.** 1995. *Trainer's Guide for the Maryland Pesticide Applicator Training Series, Private Applicators: Field and Forage Crops Category*. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 9 pp., 20 slides.
4. **Brown, A. E.** 1995. *Trainer's Guide for the Maryland Pesticide Applicator Training Series, Private Applicators: Fruit Crops Category*. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 11 pp., 22 slides.

5. **Brown, A. E.** 1995. Trainer's Guide for the Maryland Pesticide Applicator Training Series, Private Applicators: Vegetable Crops Category. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 13 pp., 24 slides.
6. **Brown, A. E.** 1995. Trainer's Guide for the Maryland Pesticide Applicator Training Series, Private Applicators: Tobacco Category. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 5 pp., 8 slides
7. **Brown, A. E.** 1996. Personal Protective Equipment (PPE) Training Unit for Worker Protection Standard (WPS). Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 6 pp., 5 overheads, 31 items of PPE.
8. **Brown, A. E., M. E. Setting, and W. Klein-Schwartz,** 2000. Pesticide Training for Maryland Public School Nurses. School of Nursing, Univ. of MD., Baltimore, MD. Videocassette, 3 hrs.
9. Poole, T. and **A. Brown.** 2001. Pesticide Storage Security. PowerPoint presentation on CD, Dept. of Entomol., U. MD, College Park, MD. <http://pesticide.umd.edu>.
10. **Brown, A. E., E. Crow, and D. Howard (Eds.)** 2004. PSEP Trainers' Guide: Maryland Pesticide Programs. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 74 pp., 5 overheads, 1 PowerPoint presentation.
11. **Brown, A. E. and E. Crow (Eds.)** 2005. PSEP Trainers' Guide: Maryland Pesticide Programs. Dept. of Entomol., U. MD Coop. Ext., College Park, MD. Multimedia project: 120 pp., 1 overhead set, 9 PowerPoint presentations.
12. **Brown, A. E.** 2005. Insecticide / Miticide Mode of Action: Agricultural Applications. PowerPoint presentation available for field Extension faculty to use in their pesticide training programs, U. MD Coop. Ext., College Park, MD. 86 slides.
13. **Brown, A. E.** 2005. Insecticide / Miticide Mode of Action: Landscape Applications. PowerPoint presentation available for field Extension faculty to use in their pesticide training programs, U. MD Coop. Ext., College Park, MD. 87 slides.
14. **Brown, A. E., H. Rasmussen, and A. Wilson.** Last significant revision, 2005. Pesticide Safety Education web site. URL: <http://pesticide.umd.edu/PAToverview.html>. Program overview; training manuals and publications; information on certification/recertification courses, registered employee training, the Worker Protection Standard; and resources/links. The site is updated frequently.
15. **Brown, A. E., H. Rasmussen, and A. Wilson.** Last significant revision, 2005. Outreach for Health Care Providers web site. URL: <http://pesticide.umd.edu/hcp/index.html>. Provides publications; notice of availability of seminars; and links to case studies, tutorials, training opportunities, general references, specific references, occupational medicine, toxicology literature files, and how to estimate/determine exposure.
16. **Brown, A. E., A. Bogomolov and M. Shute.** Last significant revision, 2005. Pesticide Educators' Home Page for Maryland Extension Personnel. URL: <http://www.agnr.umd.edu/PesticideTrainer/>. In-house web site for Extension faculty involved in the statewide Pesticide Safety Education Program.
17. **Brown, A. E.** 2006. Spray Adjuvants. PowerPoint presentation available for field Extension faculty to use in their pesticide training programs, U. MD Coop. Ext., College Park, MD. 27 slides.
18. **Brown, A. E. and S. Zwicker.** Last significant revision, 2006. The Maryland Information Network for Pesticides and Alternative Strategies (MINPAS) web site. URL: <http://pesticide.umd.edu/MINPAS.html>. Provides users with publications, opportunities to comment on federal policies and regulations, and links to other resources on pesticides and non-pesticide alternatives.

19. **Brown, A. E.**, H. Rasmussen, A. Wilson, and S. Zwicker. Latest revision, 2007. (Orig., 2001) Pesticide Education and Assessment Program web site. URL: <http://pesticide.umd.edu>.
20. **Brown, A.E.** and S. Zwicker. 2007; updated frequently, 2008 - 2010. PSEP Teacher. URL: <http://PSEPTeach.umd.edu>. A fully searchable database of teaching materials for pesticide safety education. Developed with a grant from EPA Region III. For use by Extension professionals.
21. **Brown, A.E.** and L. Suguiyama. 2009. Minimizing pesticide risks in Guatemala: Best practices for produce, humans, and the environment. Five lectures in a Spanish language CD for trainers of agricultural workers in Guatemala. Sponsored by the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), US Agency for International Development (US AID), and the USDA Foreign Agricultural Service.
22. **Brown, A. E.** 2010. Utilizando Pesticidas sin Riesgo. Video series in 6 parts, with accompanying manual, study guides, and tests:

Modulo 1: Leyes y reglamentos para el uso de los pesticidas

Modulo 2: La etiqueta del pesticida

Modulo 3: Proteccion para el que aplicué los pesticidas

Modulo 4: Guias para el manejo apropiado de pesticidas

Modulo 5: Pesticidas y el ambiente

Modulo 6: Manejo integrado de las plagas

III. E. 2. c. Internet-based Outreach

1. **Brown, A.E.** and S. Zwicker. 2010. Pesticide Education & Assessment - A Resource for University of Maryland Extension Educators. Built a wiki to provide ongoing professional development and resources for all UM Extension faculty and staff (campus- and field-based) with responsibilities in pesticide safety education.
2. **Brown, A. E.** and C. Mannering, 2011. Pesticide Safety Education – A Resource for University of Delaware Extension Educators. Initiated a blog to provide ongoing professional development and resources for all University of Delaware Extension faculty and staff (campus- and field-based) with responsibilities in pesticide safety education.
3. **Brown, A. E.** and E. Ingianni, 2012. Pesticide Resources for Maryland Extension Educators. The wiki described above (#1) was extensively redesigned as a password-protected website. The site serves as the major planning resource for PSEP programming in Maryland Extension.
4. **Brown, A. E.** and E. Ingianni, 2012. The blog described above (#2) was extensively redesigned as a password-protected website. The site serves as the major planning resource for PSEP programming in Delaware Extension.

III. E. 2. d. Media Activities

1. **Brown, A. E.**, 1997. PBS documentary. A critical balance: Why do we need pesticides? Produced by the University of Georgia Cooperative Extension Service.
2. **Brown, A. E.**, 1999. *The Human Ecologist*. A symposium on Multiple Chemical Sensitivity: An Interview with Amy Brown, Ph.D.

3. **Brown, A. E.**, 2002. Channel 9 News. Pesticide use to control/repel mosquitoes carrying West Nile Virus and other human diseases.
4. **Brown, A. E.**, 2003. *Delmarva Farmer*. Staying Safe with Pesticides.
5. **Brown, A. E.**, 2003. *Pesticide and Toxic Chemical News*. Implications of funding cuts to the national Pesticide Safety Education Program.
6. **Brown, A. E.**, 2004. *Delmarva Farmer*. What Is the Agricultural Health Study?
7. **Brown, A. E.**, 2004. *Pesticide.Net Insider eJournal*.

(a)EPA Slashes Funding to Train Certified Pesticide Applicators.

(b)Pesticide.Net Profiles of Current Newsmakers: Dr. Amy Brown.

8. **Brown, A. E.**, 2005. *Reuters*. Many Parents Apply Insect Repellant Incorrectly.

III. E. 3. Training

III. E. 3. a. PSEP Professional Development Courses For Extension Faculty And Other Agency Personnel (* indicates I am the organizer and/or principal lecturer):

*Food Safety Symposium, Maryland Cooperative Extension Service Annual Conference, 1990. Audience: Maryland Extension faculty. Invited lecture on pesticide residues in foods.

In-Service Training: Agronomy. 1992, 1996. Audience: Maryland Extension faculty. Invited lectures on pesticide toxicology.

In-Service Training: Pesticide and Fertilizer Containment Facilities, 1992. Audience: Maryland Extension faculty. Invited lecture on pesticide storage facilities.

Plant Clinic, 1999. Audience: Maryland Extension faculty, growers, crop consultants. Invited participant; discussion of new regulations and policies.

*Tri-Agency Meeting, 1985, 1987, 1990, 1994. Audience: PSEP Coordinators, State Lead Agency representatives, and U.S. EPA officials from the Northeast region. Thirteen states, the District of Columbia, the U.S. Virgin Islands, and Puerto Rico send representatives. I organized these annual meetings and planned the programs.

*In-Service Inspectors' Training, 2003. Audience: Pesticide regulatory agency personnel from Pennsylvania, West Virginia, Maryland, Delaware, and the District of Columbia. Invited lecture on pesticide exposure patterns and opportunities for exposure minimization.

University of Maryland Home and Garden Center Pesticide Update / Master Gardener Training, annually 1997 - 2004. Audience: Maryland Extension faculty and volunteers. These invited lectures have included pesticide toxicology, general pesticide safety, minimizing exposure of consumers who use pesticides, acute and chronic health concerns, and environmental safety.

*In-Service Inspectors' Training, 2009. Audience: Pesticide regulatory agency personnel from Pennsylvania, West Virginia, Maryland, Delaware, and the District of Columbia. Invited lecture: current research on how best to protect pesticide applicators from potential adverse effects.

*In-Service Training: Pesticide Education and Assessment, annually 1991 – 2012. Audience: Maryland Extension faculty. This teacher training course is offered for Extension campus and field faculty who train pesticide applicators. Both PSEP and MINPAS initiatives are covered in the workshop. It is a major event of the year, wherein the blueprint for the coming year's pesticide applicator training is laid out, new teaching tools are demonstrated and distributed, implications of upcoming changes in pesticide policy and regulations are explained, and initiatives for the next annual cycle are determined. I plan and coordinate the conference, prepare new teaching tools for distribution during the meeting, teach 80 - 90% of the subject matter covered each year, and post all materials distributed during the conference to the internal web site for Extension professionals so they have ready access throughout the year.

III. E. 3. b. PSEP Workshops For Pesticide Applicators (* indicates I am the organizer and/or principal lecturer).

*Fumigation Conference, 1991, 1992, 1994, 1997, 2000, 2003, 2006, 2009, 2012. Audience: Maryland commercial applicators who fumigate grains and commodities. Attendance averages about 30 applicators per year.

*Maryland Agricultural Pesticides Conference, annually 1983 - 1994. Audience: Maryland commercial applicators who apply pesticides to agricultural crops and commodities. Attendance averaged about 275 applicators per year.

*Tributyltin Conference, 1991, 1993, 1997, 2000, 2003. Audience: Private and commercial applicators who use tributyltin as an antifouling paint on boats and crab pots. Supports watermen and the marine industries. Attendance averages about 60 applicators per year.

*Wood Treatment Conference, 1994, 1997, 2000, 2003, 2006, 2009. Audience: Commercial applicators from Maryland and surrounding states who work in wood preservation plants. Attendance averages about 20 applicators per year.

*Maryland Pesticide Safety Conference, annually 1991-2012. Audience: Commercial applicators in right-of-way, forest, aquatic, industrial weed, and demonstration and research categories. Applicators from Maryland, Delaware, West Virginia, Pennsylvania, and the District of Columbia attend. Attendance averages about 250 applicators per year.

III. E. 3. c. Maryland Information Network for Pesticides and Alternative Strategies (MINPAS) Professional Development Courses For Extension Faculty And Other Agency Personnel (* indicates I am the organizer and/or principal lecturer)

*Pesticides and Maryland's Water Quality, Easton and Frederick, MD. 1988. This program was held once on each side of the state to maximize the opportunity for attendance. Representatives of county, state, and federal agencies involved in issues concerning pesticides and water quality in Maryland attended. This was

the first time these entities had formally met. Common interests were identified, and working relationships were established.

*Northeast Pesticide Impact Assessment (NEPIAP) Meeting, 1990. NEPIAP Liaisons from the thirteen Northeast states, the District of Columbia, the U.S. Virgin Islands, and Puerto Rico attended. I organized the program for this three-day meeting.

*National Pesticide Regulatory Education Program (PREP) Short Course: Compliance Management II. 1996. Co-organizer with M. E. Setting, MD Department of Agriculture. State regulatory agency personnel from across the country attended. Format included presentations by the principal organizers and by state and federal regulatory agency personnel as well as workshops on pesticide topics of concern from an enforcement/compliance perspective. Prior to the short course, I conducted a detailed survey to determine the specific concerns of the states represented, and prepared specific exercises to enhance problem-solving during the week-long course.

*In-Service Training: Pesticide Education and Assessment, annually 1991 - 2010. Audience: Maryland Extension faculty. This teacher training course is offered for Extension campus and field faculty who train pesticide applicators. Both PSEP and MINPAS initiatives are covered in the workshop.

III. E. 3. d. Maryland Agromedicine Program Workshops for Health Care Professionals (* indicates I am the organizer and/or principal lecturer)

*American Chemical Society symposium, Multiple Chemical Sensitivity: Problems for Scientists and Society, 1998 (listed in Sec. 2.1.). I obtained grant support from ACS, organized the two-day symposium, coordinated media and security (this was a controversial topic for ACS to address), presented a professional paper, and co-edited the special supplement that resulted.

*Public Health Worker Conference. 1999. For sanitarians and public health workers. Annapolis, MD.

*Pesticide Workshop for Public School Nurses, 1999. Conference was held at the Baltimore School of Nursing and was downlinked via satellite to remote locations in the state. Provided training to all school nurses in the state of Maryland either directly, by satellite, or through their supervisors.

* School of Medicine, University of Maryland. 2001. For medical students. Baltimore, MD.

*Chesapeake College School of Nursing. 2001. For student nurses. Easton, MD.

*George Washington University. 2001. For graduate students in epidemiology. Washington, DC.

*Pesticide Workshops. 1996, 1998, 1999, 2000, 2003. Various locations on Maryland's Eastern Shore. For clinicians treating migrant and seasonal laborers.

*National Forum – National Strategies for Health Care Providers: Pesticides Initiative, 2003 (listed in Sec. 2. I.). Two-day symposium sponsored by U.S. EPA and the National Environmental Education and Training

Foundation. I was a member of the Planning Committee, co-chaired a workshop, and made a presentation to the plenary session. Attendees included individuals responsible for developing curriculum in for medical and nursing professionals in education and practice settings.

Biology and Control of Insects and Rodents Workshop. 2006. Sponsored by the National Environmental Health Association. For public health officials, sanitarians. epidemiologists.

III. E. 4. Extension Presentations

III. E. 4. a. PSEP / PAT Presentations

Most frequently requested topics include pesticide toxicology, applicator safety, environmental safety, potential health effects of pesticides, and overview of recent epidemiological studies. Number of professional presentations at pesticide applicator recertification and other Extension conferences since 1982:

- 151 state or local invited presentations
- 128 national or regional invited presentations

III. E. 4. b. MINPAS / Pesticide Impact Assessment Presentations

Most frequently requested topics include pesticide use and usage, overview of current research, and current or developing pesticide policies. Number of professional presentations at in-service Extension meetings and government agency sessions since 1982:

- 169 state or local invited presentations
- 4 national or regional invited presentations

III. E. 4. c. Maryland Agromedicine Program Presentations

Most frequently requested topics include pesticide toxicology, pesticide regulation and policy, and patterns of exposure. Number of professional presentations at workshops, conferences, or other venues since program inception in 1994:

- 20 invited state or local presentations
- 9 invited international, national, or regional presentations

IV. SERVICE

IV. A. Service to Public Agencies and Professional Organizations

IV. A. 1. Editorships, Editorial Boards, and Reviewing Activities for Journals or Other Learned Publications

Reviewer, *Pesticide Information Gateway Project*, 2003 - 2005. Reviewed a database of more than 200 references and texts for enhancement of health care providers' understanding of pesticides.

Reviewer, *Risk Analysis*, 2009, 2010

Consulting Editor, *Archives of Environmental and Occupational Health*, 2009

Reviewer, *International Journal of Environmental Research and Public Health*, 2011.

Reviewer, *National Advisory Panel for the Agricultural Health Study*, 2004 – 2011. This NCI/NIEHS-sponsored project is following more than 89,000 pesticide applicators and family members. Panel members review each proposed research project and resultant papers submitted to various peer-reviewed journals (average = 12 papers/year).

Editor, *Journal of Pesticide Safety Education*, 1997 – 2004; Reviewer, 2007 – 2012

Reviewer, University of Maryland Extension publications, 2013

IV. A. 2. Reviewing Activities for Institutions and Agencies

Referee for faculty promotion:

- Michigan State University, 2004
- University of Delaware, 2005
- University of Connecticut, 2005
- Washington State University, 2000, 2006
- Rutgers University, 2006
- Cornell University, 2008
- Oregon State University, 2008
- University of Florida, 2012

Certification and Training Advisory Group (CTAG, EPA), 1997 - 1998; 2000 - 2002

- CTAG Infrastructure and Delivery Team, **Co-Chair** 1997 - 1998.
- Special assignment, 1997 - 1998: Compiled and analyzed data on pesticide certification and training programs from survey of 54 states and territories.

U.S. Civilian Research and Development Foundation (CRDF) Cooperative Grants Program, *Ad hoc* reviewer, 2004

National Academies of Sciences (NAS), *Ad hoc* reviewer, 2005. Reviewer for US AID pesticide projects: US-Israel Cooperative Development Research Program and the Middle East Regional Cooperation Program.

Work Group on Consumer Pesticide Label Improvement (EPA), Reviewer, 2004 - 2006. This group is charged with providing recommendations to EPA to improve consumers' understanding of safe use, storage, disposal, and environmental and health information on household pesticide product labels.

Work Group on Performance Measures (EPA), 2005 - 2007. This group is charged with providing recommendations to EPA on appropriate national indicators of environmental improvement.

Work Group on Pesticide Worker Safety Regulatory Enhancements (EPA), 2006 – 2008. This group is charged with providing recommendations to EPA on proposed changes to the basic regulations that govern pesticide applicator training and farmworker safety.

Work Group on Comparative Safety Statements or Logos for Pesticide Product Labeling (EPA), 2008 – 2012. This group is charged with review and recommendations on an EPA policy on Agency or third party endorsements, statements or logos on labels regarding comparative product safety.

IV. A. 3. Symposia Organized

Member, Planning Committee, National Forum – National Strategies for Health Care Providers: Pesticides Initiative. 2003. Two-day symposium for leaders in environmental health, education, nursing, and medicine. Sponsored by Amer. Acad. Pediatrics, Amer. Assn. of Colleges of Nursing, Amer. Assn. of Acad. Health Ctrs., Migrant Clin. Network, and Natl. Inst. of Environmental Health Sciences. Washington, DC.

Co-chair, American Chemical Society symposium, Multiple Chemical Sensitivity: Problems for Scientists and Society, 1998. Two-day symposium during annual meeting of ACS. Boston, MA.

IV. A. 4. Membership / Service to Professional Organizations

American Association of Pesticide Safety Educators (AAPSE), Member, 1994-present

- Water Quality Committee, **Chair**, 1995
- Regional Representative, **Board of Directors**, 1996-1998
- Member, Constitution and By-Laws Committee, 1998-2005
- Issues and Evaluation Committee, **Chair**, 1999-2001
- **Liaison** to U.S. EPA, U.S. Department of Health and Human Services, USDA, and U.S. Department of Labor: National Pesticide Initiatives for Health Care Providers, 2001- 2005
- **Liaison** to EPA: Endangered Species, 2001
- **Liaison** to EPA: Global Harmonization and Reclassification of Pesticides, 2001
- **President**, 2001-2003
- Member, **Executive Committee** and **Board of Directors**, 1999 – 2005
- **Co-Chair**, Task Force on Pesticide Safety Education Sustainability, 2004 -2005
- **Member**, Impact Assessment/Reporting Committee, 2010

American Chemical Society, Agrochemicals Division, Member, 1983-1985; 1993-2005

American Council on Science and Health, Member, 1981-1982

Chemical Society of Washington, Member, 1983-1984

Entomological Society of America, Member, 1976-1987; 1999-2005

Institute for Alternative Agriculture, Member, 1983-1984

North American Agromedicine Consortium (NAAC), Member, 1995 - present

- Representative-at-Large, 1997-1998
- Judge, student paper competition and poster presentations, national meeting, 1999
- **Treasurer** and Member of **Executive Committee**, 1999-2001

Northeast Pesticide Coordinators, **President** 1992-1995; Member, 1982-present

Pest Science Society of Washington, **President** 1987-1988; Member, 1984-1989

Society of Environmental Toxicology and Chemistry (SETAC), Member, 1986-1991

Society for Occupational and Environmental Health (SOEH), Member, 2001 - 2006

Society of Toxicology (SOT), **Elected Member** 2001-2006

IV. A. 5. Committees, Commissions, Panels, etc.

Agricultural Chemicals in Groundwater Working Group (EPA Region III.), 1988-1996

Agricultural Health Study (AHS) National Review Panel, 2003 - present

- **Chair**, AHS Risk Communication Work Group (NCI, NIEHS), 2004 – present

Applicator Certification and Training Task Force (USDA), 1991-1994

Certification and Training National Workshop Coordinating Committee (EPA), 2002

Chesapeake Bay Toxics Subcommittee Pesticide Work Group, 1990-1998

Governor's Controlled Hazardous Substances Advisory Council (Maryland), 1992-2009

Governor's Pesticide Council (Maryland), Member, 1991-2003; **Chair**, 1993-2003

- **Chair**, Pesticide Education Subcommittee, 1992-2003

Interagency Consortium on Project TEACH (USDA/Cooperative Extension), 1985

Interagency Migrant and Seasonal Workers Task Force (Maryland), 1997-1998

Interagency Worker Protection Standards Task Force on Educational Materials, 1993-1998

Interagency Working Group on Worker Protection Standards (Maryland), 1990-1995

Label Improvement Workgroup, (EPA), 2005 - 2006

Maryland Agricultural and Environmental Leaders, 1995-1998

Maryland Interagency Working Group on Food Residues of Pesticides, 1990-1994

Michigan Pesticide Association, **Advisory Board Member**, 1979-1982

Monocacy River Watershed Demonstration Project (Maryland), 1990-1996

National Agricultural Pesticide Impact Assessment Program Committee on Dealing with the Media (USDA), 1988

Nursery and Farmworker Safety Standards Committee (USDA Coop. Extension), 1985

Pesticides and National Strategies for Health Care Providers (EPA, USDA, HHS, DOL), 1998-2005

- Position Statement Workgroup, 2003
- National Forum Planning Committee, 2001-2003
- **Co-Chair**, Practice Workgroup, 2002
- **Technical Expert Spokesperson**, 2002
- Curriculum Committee, 1999-2001
- Federal Interagency Planning Committee, 1998-2001
- Expert Panel, Education Workgroup, 1998-1999

Pesticide Program Dialogue Committee (EPA), 2004 - 2010. This is the national advisory committee for all of U.S. EPA's Office of Pesticide Program activities.

Pesticide Safety Education Program Funding Revision Committee (USDA), 2002

Pesticides and the Chesapeake Bay Watershed Project, 2008 - 2010

Search Committee, National Program Leader, USDA CSREES Pesticide Safety Education Program, 2000

Task Force on Atrazine (Maryland Coop. Extension Service / Department of Agriculture), 1992-1994

Task Force on National Needs in Toxicology Education (USDA), 1988-1989

Technical Team on Groundwater (Maryland Department of Agriculture / Cooperative Extension Service), 1986-1992

Working Group on Food Safety Issues (Maryland Cooperative Extension Service / American Farm Bureau), 1990-1991

IV. B. Service to the University

IV. B. 1. Service to the Department of Entomology

Associate Chair, Department of Entomology, 1996 – 2001

Faculty Advisory Committee, 1995 - 1996; 1999 - 2001

Search Committee for Chair of Entomology Department, University of Maryland, 1993-1994

Search Committee for Lecturer/Director of Undergraduate Programs, **Chair**, 1997

Search Committee for Ornamental IPM Extension Specialist, 1996-1999

Review of Entomology Graduate Program Director: Designed survey of students and faculty; compiled final report, 2001

Review Committee for Graduate Director, 2002

Faculty Evaluation Committee, 1998-1999; 2004; 2007-2008

Promotion & Tenure Committee for Dr. Maile Neel, Chair, 2008

Web Site Committee, 1998 - 2010; **Chair**, 1998-1999 and 2005 - 2010

Faculty mentor for Dr. Cerruti Hooks, 2008 - 2011

IV. B. 2. Service to the College of Chemical & Life Sciences (CLFS) / College of Computer, Math and Natural Sciences (CMNS) and to the College of Agriculture & Natural Resources (AGNR)

Search Committee for University of Maryland Coordinator of Environmental Programs, (AGNR) 1988-1989

Extension Task Force on SARA Title III implementation, **Chair**, (AGNR) 1987-1990

Communications Committee, (AGNR) 1991-1992

Extension Task Force on Endangered Species Act, **Chair**, (AGNR) 1987-1993

Water Resources Team, (AGNR) 1987-1993

Environmental Issues Coordinating Committee, (AGNR) 1993-1994

Service Award Committee, (CLFS) 1995

Environmental Policy Focus Group, (AGNR) 1994-1997

Advisory Council, (CLFS) 1996-1998

Bay Environmental Group, (AGNR) 1996-1999

Merit Committee, (CLFS) 1999

Appeals Committee, (CLFS) 1999

Food Safety Rapid Response Team, (AGNR) 1993-2000

Search Committee for Asst. Director of Extension / Asst. Dean of Agric. and Natural Resources, (AGNR) 2001

Extension Workgroup on Environmental Stewardship, (AGNR) 2002

Extension Plan of Work Writing Team on Environmental Stewardship, (AGNR) 2002

Extension Task Force on Cost Recovery, (AGNR) 2003, 2004

Dean's Faculty Advisory Committee, (AGNR) 2003 - 2005

Advancement, Promotion, and Tenure Committee, (CLFS) 2006

Faculty Teaching and Service Awards Committee, (CLFS) 2007

Impact Team: Natural Resources, Conservation & Sustainability (AGNR) 2009 – 2012

Impact Team: Agricultural Profitability (AGNR), 2010 – 2012

Advancement, Promotion & Tenure Committee (CMNS), 2012

IV. B. 3. Service to the University

University of Maryland Council on Groundwater Pollution, 1985

University of Maryland System Women's Forum, 1991-1992

Facilities Management Planning Committee, 2000-2002

Council on Security and Counter-Terrorism Studies Faculty Inventory, 2002

Iraq, Terrorism, Homeland Defense: UM Experts, 2003, 2004

President's Awards Committee, 2006

Business Processes Committee, 2007

University Senate

- Faculty Senator, 2003, 2004, 2005
- **Chair**, Academic Standards & Procedures Committee, 2005
- Member, Committee on Committees, 2004, 2005
- Member, Student Conduct Committee, 2006 – 2008

IV. C. Service to the Community

Judge, Regina High School Science Fair, 1988, 1989

Judge, Northern Virginia Regional Science Fair, 1990-1995

Judge, Science Fair, Sligo Middle School, 2011

IV. D. Consulting Activities

Consortium for International Crop Protection (CICP), 1983. Evaluation of health and safety implications of a proposal to use Temik insecticide in the Sudan to control white fly on cotton.

Consortium for International Crop Protection (CICP), 1984 - 1985. Pesticide risk assessment for APHIS Tri-Fly Eradication Environmental Impact Statement; pesticide tolerance information.

Walcoff and Assoc., 1993. Technical reviewer for Worker Protection Standards Guide for Handlers.

National Environmental Education and Training Foundation (NEETF). 2000-2002. Technical pesticide expert working with a team of physicians and nurses to develop educational curricula competencies and practice guidelines to educate and train health care providers on pesticide-related health outcomes.

NCI U-56 Pilot Project, Univ. of Maryland School of Medicine and University of Maryland Eastern Shore, 2004 – 2006. Carcinogen distribution, risk perceptions, and cancer disparities in the Eastern Shore. Technical expert consultant on use patterns and handling practices of pesticides in Maryland.

Minnesota Institute of Public Health, 2004 - 2006. Technical expert to design a program for health care providers and pesticide applicators that introduces the issue of chronic health consequences of pesticide exposure. This project is being funded through Blue Cross / Blue Shield.

JIFSAN, 2009. Developed the pesticide chapter for the Good Agricultural Practices handbook, used internationally to aid exporters from other countries in meeting U.S. standards. Developed and presented a series of lectures at a Train-the-Trainers workshop in Antigua, Guatemala. Provided expertise to Guatemalan government representatives, consultants, trainers, growers, and packing house operators on best pesticide handling and use practices, toxicology, and protection of human health and the environment.

Delaware Pesticide Safety Education Program, 2012. Serve as program coordinator. Offer in-service training workshops for University of Delaware Extension (UDE) faculty and staff. Develop and maintain an internal website for UDE faculty and staff professional development. Provide a limited number of

pesticide safety continuing education presentations to certified pesticide applicators. Develop and distribute pesticide safety education outreach materials to UDE faculty and staff.