

PATRICIA J. VITTUM

PRESENT ADDRESS:

Department of Plant, Soil, and Insect Sciences
Agricultural Engineering Building
250 Natural Resources Road
University of Massachusetts
Amherst, MA 01003
413-545-0268
pvittum@ent.umass.edu

PRESENT POSITION:

Department: Plant, Soil, and Insect Sciences
Academic Rank: Professor - 2000
Tenure: 1986
Assignment: 1980 - 1989 50% Extension, 50% Research
1990 - Present 50% Extension, 35% Teaching, 15% Research

EDUCATIONAL BACKGROUND:

Ph.D.	1980	Cornell University	Entomology
M.S.	1979	Cornell University	Entomology
B.A.	1974	College of Wooster (Ohio)	Chemistry

Ph.D. Dissertation: The biology and ecology of the annual bluegrass weevil, *Hyperodes* sp. near *anthracinus* (Dietz) (Coleoptera: Curculionidae) damaging turfgrass in New York State.
Major advisor, Haruo Tashiro.

Masters Thesis: A taxonomic study of two species of *Hyperodes* (Coleoptera: Curculionidae) damaging turfgrass in New York State. Major advisor, Haruo Tashiro.

Independent Study Thesis: Trace metal analysis in calves liver.
Major advisor, Theodore R. Williams.

PROFESSIONAL EXPERIENCE:

2004 – present	Professor, Department of Plant, Soil, and Insect Sciences University of Massachusetts-Amherst
2000 – 2004	Professor, Department of Entomology University of Massachusetts-Amherst

1990 - 2000	Associate Professor, Department of Entomology, University of Massachusetts-Amherst
1986 - 1990	Associate Professor, Suburban Experiment Station (Waltham) University of Massachusetts
1980 - 1986	Assistant Professor, Suburban Experiment Station (Waltham) University of Massachusetts
1975 - 1980	Graduate Research Assistant, Department of Entomology, Cornell University - Ithaca
1971 - 1974	Undergraduate Research Assistant, Department of Entomology, New York State Agricultural Experiment Station, Geneva.

AWARDS AND HONORS:

Awards

Excellence in Teaching, Entomological Society of America, Eastern Branch (2004)
 Outstanding Teaching Award, College of Natural Resources and the Environment (2003)
 Excellence in Urban Entomology, Entomological Society of America, Eastern Branch (2001)
 Outstanding Outreach Award (Faculty), College of Food and Natural Resources (2000)
 John Reid Lifetime Achievement Award, Metropolitan Golf Course Superintendents
 Association (1998)
 Dean's List all 12 quarters at Wooster

Honors

Graduate Women in Science, Excellence in Science (Finalist), Cornell University (1980)
 Athletic Hall of Fame, College of Wooster (1989)
 Honorary Member, Metropolitan Golf Course Superintendents Association
 Honorary Member, Cape Cod Turf Managers Association
 Honorary Member, Golf Course Superintendents Association of Connecticut

Honorary Academic Societies

Phi Beta Kappa (Wooster, 1974)
 Sigma Xi, The Scientific Research Society (Cornell, 1980)

Professional Organizations

Entomological Society of America
 Cape Cod Turf Managers Association (honorary)
 Golf Course Superintendents Association of Connecticut (honorary)
 Metropolitan Golf Course Superintendents Association (honorary)

PUBLICATIONS

BOOKS

- Vittum, Patricia J., Michael G. Villani, and Haruo Tashiro. 1999. Turfgrass Insects of the United States and Canada, Second Edition. Cornell University Press, Ithaca, New York. 424 pp.
- Schumann, Gail L., Patricia J. Vittum, Monica L. Elliott, and Patricia P. Cobb. 1997. Handbook of Integrated Pest Management for Golf Courses. Lewis Publishers, Ann Arbor, Michigan. 264 pp.

REFEREED JOURNAL PUBLICATIONS

- Paul S. Robbins, 54 authors listed alphabetically, R. Chris Williamson, and Michael G. Villani. 2007. Journal of Insect Science 6: Article 39.
- M. R. McNeill, P. J. Vittum, and T. A. Jackson. 2000. *Serratia marcescens* as a rapid indicator of *Microctonus hyperodae* oviposition activity in *Listronotus maculicollis* and potential application of the technique to host specificity testing. *Entomologica Experimentalis et Applicata* 95: 193-200.
- M. R. McNeill, P. J. Vittum, and D. B. Baird. 1999. Suitability of *Listronotus maculicollis* (Coleoptera: Curculionidae) as a host for *Microctonus hyperodae* (Hymenoptera: Braconidae). *J. Econ. Entom.* 92:1292-1300.
- Brooks, M. W., S. Roy, P. C. Uden, and P. J. Vittum. 1996. The extraction and determination of azadirachtin from soil and insects by supercritical fluid extraction. *J. Testing and Evaluation* 24: 149-153.
- Vittum, P. J. 1994. Enhanced efficacy of isazophos against Japanese beetle (Coleoptera: Scarabaeidae) grubs using subsurface placement technology. *J. Econ. Entom.* 87: 162-167.
- Vittum, Patricia J. 1993. Enhanced efficacy of isazophos against Japanese beetle larvae using subsurface placement technology. *Internat'l. Turfgrass Soc. Res. J.* 7: 364-369. Intertec Publishing Corp., Overland Park, KS.
- Vittum, P. J. and B. Morzuch. 1990. Effect of soil pH on Japanese beetle (Coleoptera: Scarabaeidae) oviposition in potted turfgrass. *J. Econ. Entom.* 83:2036-2039.
- Cooper, R. J., P. J. Vittum, and P. C. Bhowmik. 1988. An approach to improved extension outreach: User-supported programming. *J. Agron. Educ.* 17:88-92.
- Vittum, P. J. and H. Tashiro. 1987. Seasonal activity of *Listronotus maculicollis* (Coleoptera: Curculionidae) on annual bluegrass. *J. Econ. Entom.* 80:773-780.
- Vittum, P. J. 1986. Biology of the Japanese beetle (Coleoptera: Scarabaeidae) in eastern Massachusetts. *J. Econ. Entom.* 79:387-391.

- Vittum, P. J. 1985. Effect of liming on subsequent applications of isofenphos for control of Japanese beetle (Coleoptera: Scarabaeidae) grubs in turf. *J. Econ. Entom.* 78:898-901.
- Vittum, P. J. 1985. Effect of timing of application on effectiveness of isofenphos, isazophos, and diazinon on Japanese beetle (Coleoptera: Scarabaeidae) grubs in turf. *J. Econ. Entom.* 78: 172-180.
- Vittum, P. J. 1984. Effect of lime applications on Japanese beetle (Coleoptera: Scarabaeidae) grub populations in Massachusetts soils. *J. Econ. Entom.* 77:687-690.
- Vittum, P. J. and H. Tashiro. 1980. Effect of soil pH on survival of Japanese beetle and European chafer larvae. *J. Econ. Entom.* 73:577-579.
- Tashiro, H., C. L. Murdoch, R. W. Straub and P. J. Vittum. 1977. Evaluation of insecticides on *Hyperodes* sp., a pest of annual bluegrass turf. *J. Econ. Entom.* 70:729-733.

CHAPTERS IN BOOKS

- Vittum, Patricia J. 2003. Soil habitats. *In Encyclopedia of Insects*, Academic Press, New York, NY. pp. 1053-1057.
- Vittum, Patricia J. 1995. Annual bluegrass weevil. *In Handbook of Turfgrass Insect Pests*. Rick L. Brandenburg and Michael G. Villani, editors. Entomological Society of America, Lanham, MD. pp. 21-23.
- Vittum, Patricia J. 1995. Black turfgrass ataenius. *In Handbook of Turfgrass Insect Pests*. Rick L. Brandenburg and Michael G. Villani, editors. Entomological Society of America, Lanham, MD. pp. 35-37.
- Vittum, Patricia J. 1995. Japanese beetle. *In Handbook of Turfgrass Insect Pests*. Rick L. Brandenburg and Michael G. Villani, editors. Entomological Society of America, Lanham, MD. pp. 66-69.

TRADE JOURNAL ARTICLES

- Patricia J. Vittum. 2006. Annual bluegrass weevil rears its ugly head. *USGA Green Section Record* (Jan/Feb): 16-17.
- Patricia J. Vittum. 2005. Nonchemical options for controlling the annual bluegrass weevil. *Golf Course Management* (Nov): 78-80.
- Patricia J. Vittum. 2006. White grubs: What's the deal? *Michigan Landscape* (Sept): 23-26.
- Patricia J. Vittum. 2005. Annual bluegrass weevil: A metropolitan pest on the move. *Golf Course Management* (May): 105-108.

- Patricia J. Vittum. 2005. Grasping the girdler and other new bugs. TurfGRASS Trends (May): 69-74.
- Patricia J. Vittum. 2005. Waging war on the Hyperodes weevil. Tee to Green (Metropolitan GCSA), Jan/Feb: 1-5.
- Patricia J. Vittum. 2005. Can Merit™ or Mach 2™ be justified in an IPM Program? Turf Notes (UMass Extension), Spring (Vol. 12 No. 2): 1-3
- Rothwell, Nikki, and Patricia J. Vittum. 2003. The annual bluegrass weevil: A little weevil causing big problems in the Northeast. U.S.G.A. Green Section Record (Jan/Feb): 6-7.
- Vittum, Patricia J. 2003. White grubs: What's the deal? Golf Course Management (Jan/Feb): 6-7.
- Vittum, Patricia J. 2002. Grub identification tips. Landscape Management (Dec):46-47.
- Vittum, Patricia J. 2002. Thresholds pinpoint insecticide timing. TurfGrass Trends (November): 14-16.
- Vittum, Patricia J. 2002. The new look at turf insecticides: Life after Dursban. TPI Turf News (May/June): 54-56.
- Vittum, Patricia J. 2002. A primer on turf insect control. Green Master (Canadian Golf Superintendents Association) (June): 30-33.
- Vittum, Patricia J. 2002. Effective grub options shrink. Golfdom (August): 52.
- Vittum, Patricia J. 2002. All grubs are NOT created equal. TurfGrass Trends (June): 1-4.
- Vittum, Patricia J. 2000. Life after Dursban: The new insecticides. Landscape Management (August): 45-48.
- Vittum, Patricia J. 2000. Insecticides a la mode. Landscape Management (April): 67-70.
- Vittum, Patricia J. 2000. Life after Dursban (and Turcam and diazinon and Oftanol...). Turf Notes (UMass Extension Newsletter), Vol. 9 No. 3: 2-4.
- Vittum, Patricia J. 1999. Integrated pest management. Sports Turf 15(11): 14-17.
- Vittum, Patricia J. 1999. Annual bluegrass weevil. Our Collaborator (Sept.): 10-19.
- Vittum, Patricia J. 1999. Cool season turf's public enemies. Landscape Management (April): 40-41.
- Vittum, Patricia J. 1999. It's a jungle out there! A different view of turfgrass and its insect fauna. N.Y. State Turfgrass Association Bulletin (Spring/Summer):2385-2386. (Reprinted from Accents)

- Vittum, Patricia J. 1999. Annual bluegrass weevils-Major headache for Northeast superintendents. *The 19th Hole*, Vol. 7(3): 6-7.
- Vittum, Patricia J. 1999. Annual bluegrass weevil-A metropolitan nightmare. *TurfGrass Trends* 8(5): 1-6.
- Werle, Sean F., and Patricia J. Vittum. 1999. The turfgrass ant: a necessary nuisance? *Golf Course Management* (January): 49-52.
- Vittum, Patricia J. 1998. Current trends in turfgrass entomology. *TurfGrass Trends* 7(6): 1-6.
- Vittum, Patricia J. 1998. It's a jungle out there! A different view of turfgrass and its insect fauna. *Accents* (Mass. Agric. Exp. Station), Vol. 2(3): 5-6.
- Vittum, Patricia J. 1998. Timing is everything. *Landscape Management* (April): 28-29.
- Vittum, Patricia J. 1997. Insect monitoring techniques and setting thresholds. *TurfGrass Trends* 6(12): 8-15.
- Vittum, Patricia J. 1997. Strategies for insect control. *TurfGrass Trends* 6(11): 9-15.
- Vittum, Patricia J. 1997. Chemical classes of turfgrass insecticides. *TurfGrass Trends* 6(1): 9-16.
- Vittum, Patricia J. 1997. Insecticide formulations. *TurfGrass Trends* 6(4): 1-8.
- Vittum, Patricia J. 1997. How insecticides work. *TurfGrass Trends* 6(7): 9-12.
- Vittum, Patricia J. 1997. Biological control of the annual bluegrass weevil. *New York State Turfgrass Association Bulletin*. Vol. 154: 2167-2168.
- Vittum, Patricia J. 1997. Insecticides and environmental issues. *TurfGrass Trends* 6(8): 7-15.
- Vittum, P.J. 1996. Following the clues to identify pests. *Landscape Management* (April): 20-22.
- Vittum, Patricia J. 1996. Non-chemical and traditional control of annual bluegrass weevil (*Hyperodes* weevil). *N. Y. State Turfgrass Assoc. Bull. No. 150*: 2037-2040.
- Vittum, Patricia J. 1996. Non-chemical control of annual bluegrass weevil (*Hyperodes* weevil). *N.Y. State Turfgrass Assoc. Bull. No. 150*: 2066-2068.
- Vittum, Patricia. 1995. Controlling the oriental beetle. *Grounds Maintenance* (April): 24, 28, 30.
- Vittum, Patricia J. 1995. Consider causes of insecticide failure. *The Newsletter* (GCSA New England) (July): 7.
- Vittum, Patricia J. 1995. *Hyperodes* update: What's hot and what's not? *New York State Turfgrass Assoc. Bull. 148* (Spring): 1960-1962.

- Vittum, Patricia J. 1994. Why insecticides fail. New York State Turfgrass Assoc. Bull. 147 (Fall): 1885.
- Vittum, Patricia J. 1994. Turf managers can affect groundwater quality. Northern Turf Mgmt. (Feb.): 9-10.
- Vittum, Patricia J. 1993. Weather affects white grub activity. Northern Turf Management (Aug.): 26.
- Vittum, Patricia J. 1993. Exploring subsurface technology. Lawn and Landscape Maint. (July): 52-53.
- Vittum, Patricia J. 1993. Using parasites and predators to control insects on ornamentals. The Plantsman (NH) (June/July): 21-23.
- Vittum, Patricia J. 1993. Chinchbug damage often severe. Northern Turf Management (May): 22-23.
- Vittum, Patricia J. 1993. Black turfgrass ataenius update. Sand Blaster (Cape Cod Turf Managers Association) (June): 4-6.
- Vittum, Patricia J. 1993. Subsurface insecticide placement. Grounds Maintenance (April): 70, 74, 107.
- Vittum, Patricia J. 1993. Successful insect control program alternates chemical classes. Northern Turf Management (March): 2-3.
- Vittum, Patricia J. 1993. Endophytes – One time curiosity draws interest. Northern Turf Management (Feb.): 6-7.
- Vittum, Patricia J. 1992. Biological control of insects in ornamentals. The Plantsman (NH) (Dec 92/ Jan 93): 23-24.
- Vittum, Patricia J. 1992. Insect season winding down. Northern Turf Management (Sept.): 23-24.
- Vittum, Patricia J. 1992. Update: Biological control. Northern Turf Management (Aug.): 12-14.
- Vittum, Patricia J. 1992. Effective control of white grubs. Golf Course Management (July): 18-20, 24, 26, 28.
- Vittum, Patricia J. 1992. Weather will influence 1992 insect populations. Northern Turf Management (June/July): 34-35.
- Vittum, Patricia J. 1992. Pest profiles improve IPM program. Northern Turf Management (April): 22-23.
- Vittum, Patricia J. 1992. Pesticides – Which formulation best? Northern Turf Management (March): 14,46.

- Vittum, Patricia J. 1992. Busting bugs underground. *Northern Turf Management* (Jan.): 22-23.
- Vittum, Patricia J. 1991. Can biological control help us? *New York State Turfgrass Assoc. Bull.* 141 (Fall): 1615-1616.
- Vittum, Patricia J. 1991. Weevils threatening annual bluegrass. *Northern Turf Management* (Sept.): 15-17.
- Vittum, Patricia J. 1991. Controlling turf insects – Biocontrol methods improving. *Turf North* (Sept.): 64-67.
- Vittum, Patricia J. 1991. Biological pest controls. *Northern Turf Management* (Aug.): 26, 31.
- Vittum, Patricia J. 1991. Black turfgrass ataenius. *Turf (North)* (July): 33-34.
- Vittum, Patricia J. 1991. Using degree days. *Northern Turf Management* (July): 14-15.
- Vittum, Patricia J. 1991. Knowing characteristics helps improve billbug control efforts. *Northern Turf Management* (June): 5-7.
- Vittum, Patricia J. 1991. Controlling white grubs. *Northern Turf Management* (April): 14-15.
- Vittum, Patricia J. 1991. Those pesky pests! *Lawn and Landscape Maintenance* (April): 60-68.
- Vittum, Patricia J. 1991. How to sample for insects. *Northern Turf Management* (March): 18-20.
- Vittum, Patricia J. 1991. Safe, sensible chemical storage. *Northern Turf Management* (February) 20-21.
- Vittum, Patricia J. 1991. Why do some insecticide applications seem to fail? *Northern Turf Management* (January): 14-15.
- Vittum, Patricia J. 1990. Integrated pest management. *Northern Turf Management* (November/December): 22-23.
- Vittum, P.J. 1990. High pressure injection for control of soil insects. *The Sand Blaster* (Cape Cod Turf Managers Association) (March): 1-3.
- Vittum, Patricia J. 1990. White grub: Primary insect pest. *Northern Turf Management* (September/October): 36-40.
- Vittum, P.J. 1989. High-pressure injection for white grub control. *Golf Course Management* (November): 46-48.
- Vittum, P.J. 1989. High pressure injection for control of white grub pests. *Lawn and Landscape Maintenance* (November): 54-57.

- Vittum, P.J. 1989. New key to grub control? Tee to Green (Metropolitan GCSA Newsletter) (Sept./Oct.): 4-5
- Vittum, P. J. 1989. Granular formulations continue to interest turf managers. ALA/Maintenance (April): 50-52.
- Vittum, P. J. 1989. More options available for controlling white grubs. Lawn Care Industry (March): 12-15.
- Vittum, P. J. 1989. Insecticides – Where do they go? Turf (March): 18-21.
- Vittum, P.J. 1989. Insecticides - Where do they go? Green World (N.J. Turfgrass Assoc.) July:1, 5-6. (Reprinted from Turf/March 1989).
- Vittum, P.J. 1989. Fledgling New Zealand turf industry prospering. Lawn and Landscape Maintenance (Aug.): 28-30.
- Vittum, P. J. 1989. IPM accountability – Improving a public image. Turf (February): 10-13.
- Vittum, P. J. 1988. Finding acceptable levels. Turf (October): 14-16.
- Vittum, P.J. and K.N. Knight. 1988. A survey of nematodes on Christchurch bowling greens. New Zealand Turf Management Journal 2(4): 8-10.
- Vittum, P. J. 1988. Control grubs – A review of various insecticides. Turf (September): 28-29.
- Vittum, P. J. 1988. Nematodes on golf courses – Are they a problem? New Zealand Turf Management Journal 2(2): 9-11.
- Vittum, P. J. 1988. Controlling northern turf insects. ALA (American Lawn Applicator) (July): 20-22.
- Vittum, P. J. 1988. A sabbatical in New Zealand: One turfgrass researcher's experience. Golf Course Management (April): 154-157.
- Vittum, P. J., R. L. Wick and S. R. Swier. 1987. Nematodes on New England greens. Golf Course Management (August): 58, 60, 62.
- Vittum, P. J. 1987. Nematodes on golf greens. New Hampshire Turf Talk (Spring): 18-21.
- Vittum, P. J. 1987. What's the story with Oftanol? ALA (American Lawn Applicator) (May): 34-36. Reprinted in ALA special technical issue (December): 40-42.
- Vittum, P. J. 1987. Home lawn IPM update. ALA (American Lawn Applicator) (October): 27-29.
- Vittum, P. J. 1987. What about Oftanol? Golf Course Management (April): 66-70.

- Cobb, P. P. and P. J. Vittum. 1987. Insecticide treatments: Prevention vs. correction. *Lawn Servicing* (April): 20-23, 36.
- Vittum, P. J. 1987. Nematodes on golf course greens. *New York State Turfgrass Assoc. Bull.* (Jan.): 1231-1233.
- Vittum, P. J. 1986. The secret of controlling white grubs. *ALA (American Lawn Applicator)* (November): 34-38.
- Vittum, P. J. 1986. Keeping lawns free of white grubs. *Lawn Care Industry* (April): 32-34, 37.
- Vittum, P. J. 1986. IPM for lawn care. *ALA (American Lawn Applicator)* (March): 34-36, 39.
- Vittum, P. J. 1986. A program for Japanese beetle grubs. *Grounds Maintenance* (February): 30-34.
- Vittum, P. J. 1985. Toxicity and you. *ALA (American Lawn Applicator)* (August): 43-45.
- Vittum, P. J. 1985. Liquid vs. granular white grub insecticides. *ALA (American Lawn Applicator)* (June): 22-26.
- Vittum, P. J. 1985. Liquid vs. granular insecticides: A Stand-off. *Lawn Care Industry* (January): 34-37.
- Vittum, P. J. 1985. Control of Japanese beetle grubs: Oftanol and Triumph field trials. *Golf Course Management* (March): 42, 46, 50, 52, 56.
- Vittum, P. J. 1984. Root damaging turf insects. *Grounds Maintenance* (January): 16, 18, 82, 84.
- Vittum, P. J. 1984. Root damaging turf insects. *The Catholic Cemetery* (June): 38, 41, 42.
- Vittum, P. J. 1984. Does lime control Japanese beetle grubs on turf? *U.S.G.A. Green Section Record* (January/February): 6-8.

EXTENSION PUBLICATIONS

- Annual revision of *Professional Turfgrass Management Guide for Massachusetts*. (Responsible for all insect management information and reviewing entire text for accuracy.)
- Vittum, Patricia J., and Ruth Hazzard. 2002. Scarab beetles in vegetable crops. *Vegetable IPM Newsletter (UMass Extension)*, 18 July: 2-3.
- Vittum, P. J. 1999. Identifying and managing white grubs in New England. *Turf Notes (Univ. of Mass. Extension)* (March/April): 1-5.

- Clarke, B. B. and P. Vittum. 1999. Insect and disease control on lawns and turf areas. Pp. O111-O119. *In Pesticides for New Jersey 1999*. Gould, A. B., and G. C. Hamilton, editors. Rutgers Coop. Extension Publication E045N. 501 pp.
- Vittum, Patricia. 1998. Merit and Mach 2. Turf Notes (Univ. of Mass. Extension) (May): 1-2.
- Villani, Mike, Jana Lamboy, and Pat Vittum. 1998. Managing white grub infestations. Cornell Univ. Turfgrass Times Vol. 9(2): 1-4.
- Vittum, Patricia J. 1997. Windows of opportunity. Turf Notes (Univ. of Mass. Extension) Vol. 7(1): 1-3.
- Vittum, Patricia J. 1996. Using Merit wisely. Turf Notes (Univ. of Mass. Extension) Vol. 6(1):5-7.
- Vittum, Patricia J. 1996. Annual bluegrass weevil (*Hyperodes weevil*) update. Turf Notes (Univ. of Mass. Extension) Vol. 6(2): 4-7.
- Vittum, Patricia J. 1995. Why insecticides fail. Turf Notes (Univ. of Mass. Extension) 5(3): 1-3.
- Vittum, Patricia J. 1995. Black turfgrass ateniensis update. Turf Notes (Univ. of Mass. Extension) 5(2): 5-6.
- Vittum, P. J. and E. A. Cox. 1983-1984. Insect and disease control for the home vegetable garden. 16 pp.
- Vittum, P. J. and E. A. Cox. 1982. Insect and disease control for the home vegetable garden. 16 pp.
- Moorman, G. W., P. J. Vittum, F. J. Campbell, and W. Bennett. 1982. Pest Management and Growth Regulators for Commercial Floriculture. 51 pp.
- Cox, E. A. and P. J. Vittum. 1981. Insect and disease control for the home vegetable garden. 14 pp.
- Vittum, P. J. and E. A. Cox. 1980. Insect and disease control for the home vegetable garden. 19 pp.

PROCEEDINGS

- Vittum, Patricia J. 1999. Kiss your *Poa* and bentgrass good-bye. Rutgers Turfgrass Proceedings, pp. 41-44.
- Vittum, Patricia J. 1994. Sub-surface placement of insecticides: Can it work? 64th Michigan Turfgrass Conf. Proceedings.
- Vittum, Patricia J. 1994. Insect identification and monitoring techniques. 64th Michigan Turfgrass Conf. Proceedings.

- Vittum, Patricia J. 1994. Effect of insecticides on non-target organisms. Conference Proc. 65th International Golf Course Conference and Show, Golf Course Superintendents Association of America, Lawrence, KS. pp. 9-10.
- Vittum, Patricia J. 1993. Can you justify a scout? Proc. 64th Internatl. Golf Course Conf., Golf Course Superintendents Association of America, Lawrence, KS. p. 13.
- Vittum, Patricia J. 1993. Enhanced efficacy of isazophos against Japanese beetle larvae using sub-surface placement technology. Proc. 6th Australasian Conf. Grassland Invert. Ecology, Hamilton, New Zealand. pp. 41-44.
- Vittum, Patricia J. 1991. Innovative methods for white grub control. Proc. 31st Virginia Turfgrass and Landscape Conf. : 11-13.
- Vittum, P. J. 1989. Why insecticides fail. New Jersey Turf Expo Proceedings (Cook College, Rutgers University), 1989: 43-45.
- Vittum, P. J. 1986. Controlling insects on interior plantscapes. Proc. 2nd Conf. on Insect and Disease Management on Ornamentals (Society of American Florists): 45-50.
- Vittum, P. J. 1985. Factors affecting Japanese beetle grub control with Oftanol and Triumph. Proc. Mich. Turf Conf. 14:
- Vittum, P. J. 1985. Lawn insect control – Current insecticides. Proc. Mich. Turf Conf. 14:
- Vittum, P. J. 1985. Biology and control of turf insects. 1 Mass. Turfgrass Conf. Proc.:1-4.
- Vittum, P. J. 1985. Control of Homoptera on interior plants. Proc. 1st Conf. on Insect and Mite Management on Ornamentals (Society of American Florists): 67-69.
- Vittum, P. J. 1984. Use of insecticides on chrysanthemums in Massachusetts. Proc. 4th Annual Industry Conf. on Leafminers (Society of American Florists): 131-133.
- Vittum, P. J. 1982. Leafminers in Massachusetts greenhouse chrysanthemums. Proc. 3rd Annual Industry Conf. on Leafminers (Society of American Florists): 168-169.
- Vittum, P. J. 1982. Annual bluegrass weevil in New England. New Hampshire Turfgrass Conf. Proc.: 28-32.
- Vittum, P. J. 1981. Biology of the annual bluegrass weevil. 50th Annual Mass. Turfgrass Conf. Proc.: 1-4.
- Vittum, P. J. 1979. Biology of the annual bluegrass weevil. N.Y. State Turfgrass Conf. Proc. 3: 22-26.
- Vittum, P. J. 1978. Biology of the Hyperodes weevil. N.Y. State Turfgrass Conf. Proc. 2: 16-21.

Vittum, P. J. 1977. Biology of the Hyperodes weevil. N.Y. State Turfgrass Conf. Proc. 1: 65-67.

INSECTICIDE AND ACARICIDE TESTS (1980 – 1994) AND ARTHROPOD MANAGEMENT TESTS (1995 to present)

P. J. Vittum, N. J. Luce, and L. J. Brocklesby. 2007. Field efficacy of several insecticides applied curatively against first generation annual bluegrass weevil, golf course fairway, 2006. Arthropod Management Tests 32: G27.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2007. Field efficacy of Allectus™ against first generation annual bluegrass weevil, golf course fairway, 2006. Arthropod Management Tests 32: G28.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2007. Field efficacy of Allectus™ against second generation annual bluegrass weevil, golf course fairway, 2006. Arthropod Management Tests 32: G29.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2007. Long term field efficacy of an experimental compound against Japanese beetle larvae, golf course fairway, 2006. Arthropod Management Tests 32: G30.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2007. Field efficacy of an experimental compound against oriental beetle larvae, golf course fairway, 2006. Arthropod Management Tests 32: G31.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2006. Field efficacy of an experimental compound against second generation annual bluegrass weevil, golf course fairway, 2005. Arthropod Management Tests 31: G58.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2006. Field efficacy of an experimental compound against first generation annual bluegrass weevil, golf course fairway, 2005. Arthropod Management Tests 31: G56.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2006. Field efficacy of an experimental compound against second generation annual bluegrass weevil, golf course fairway, 2005. Arthropod Management Tests 31: G58.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2006. Field efficacy of an experimental compound against oriental beetle larvae, golf course fairway, 2005. Arthropod Management Tests 31: G57.

Vittum, P.J., N. J. Luce, and L. J Brocklesby. 2006. Long term field efficacy of an experimental compound against European chafer larvae, golf course fairway, 2005. Arthropod Management Tests 31: G59.

Vittum, Patricia J., and Nancy J. Luce. 2001. Field efficacy of several insecticides against annual bluegrass weevil, golf course fairway, 2000. Arthropod Management Tests 26: G31.

Vittum, Patricia J., and Nancy J. Luce. 2001. Field efficacy of halofenozide and bifenthrin against annual bluegrass weevil, golf course fairway, 2000. Arthropod Management Tests 26: G32.

- Vittum, Patricia J, and Nancy J. Luce. 2001. Field efficacy of imidacloprid and thiamethoxam against Japanese beetle larvae, home lawn, 2000. *Arthropod Management Tests* 26: G33.
- Vittum, Patricia J., and Nancy J. Luce. 2001. Field efficacy of halofenozide and thiamethoxam against Japanese beetle larvae, golf course rough, 2000. *Arthropod Management Tests* 26: G34.
- Vittum, Patricia J. and Nikki L. Rothwell. 2000. Field efficacy of bifenthrin, alone or in tank mix with chlorpyrifos, against annual bluegrass weevil on golf course fairway, 1999. *Arthropod Management Tests* 25: G44.
- Vittum, Patricia J., and Nikki L. Rothwell. 2000. Field efficacy of bifenthrin, alone or in tank mix with chlorpyrifos, against annual bluegrass weevil on golf course fairway, 1999. *Arthropod Management Tests* 25: G45.
- Vittum, Patricia J. 2000. field efficacy of deltamethrin against annual bluegrass weevil on golf course fairway, 1999. *Arthropod Management Test* 25: G46.
- Vittum, Patricia J. and Christopher Becker. 2000. Effect of post application irrigation on efficacy of halofenozide and imidacloprid against Japanese beetle larvae on golf course rough, 1999. *Arthropod Management Tests* 25: G70.
- Vittum, Patricia J., Nancy Luce and Michael Tiskus. 2000. Efficacy of several insecticides against Japanese beetle larvae on golf course rough, 1999. *Arthropod Management Tests* 25: G71.
- Vittum, Patricia J., Nancy Luce and Michael Tiskus. 2000. Efficacy of halofenozide and imidacloprid against European chafer and oriental beetle larvae relative to rates and dates of application, home lawn, 1999. *Arthropod Management Tests* 25: G72.
- Vittum, P. J. 1999. Field efficacy of deltamethrin, alone or in tank mixes with chlorpyrifos or imidacloprid, against annual bluegrass weevil, golf course fairway, 1998. *Arthropod Management Tests* 24: G50.
- Vittum, P. J. 1999. Field efficacy of three pyrethroids, alone or in tank mixes with chlorpyrifos or imidacloprid, golf course fairway, 1998. *Arthropod Management Tests* 24: G51.
- Vittum, P. J. 1999. Field efficacy of lambda-cyhalothrin and three other pyrethroids against annual bluegrass weevil, golf course fairway, 1998. *Arthropod Management Tests* 24: G52.
- Vittum, P. J. 1999. Suppression of ant mounding, golf course fairway, 1996. *Arthropod Management Tests* 24: G19.
- Vittum, P.J. 1998. Efficacy of late season applications of various turf insecticides against Japanese beetle populations, 1996. *Arthropod Management Tests* 23: 15G.

- Vittum, P.J. 1998. Effect of date of application on efficacy of Tempo and Merit against annual bluegrass weevil on golf course fairway, 1997. *Arthropod Management Tests* 23: 48G.
- Vittum, P.J. 1996. Efficacy of several formulations of chlorpyrifos against annual bluegrass weevils, golf course fairway, 1995. *Arthropod Management Tests* 21: 44G.
- Vittum, P.J. 1996. Efficacy of several turf insecticides against annual bluegrass weevils, golf course fairway, 1995. *Arthropod Management Tests* 21: 45G.
- Vittum, P.J. 1996. Efficacy of Merit and Tempo against annual bluegrass weevils, golf course fairway, 1995. *Arthropod Management Tests* 21: 46G.
- Vittum, P.J. 1996. Efficacy of several turf insecticides against Japanese beetle larvae, golf course fairway, 1995. *Arthropod Management Tests* 21: 72G.
- Vittum, P.J. 1996. Efficacy of several turf insecticides against Japanese beetle larvae, home lawn, 1995. *Arthropod Management Tests* 21: 73G.
- Vittum, P.J. 1996. Efficacy of four turf insecticides against Japanese beetle larvae, golf course rough, 1995. *Arthropod Management Tests* 21: 74G.
- Vittum, P.J. 1996. Efficacy of three formulations of RH-0345 against Japanese beetle larvae, golf course rough, 1995. *Arthropod Management Tests* 21: 75G.
- Vittum, P.J. 1996. Efficacy of two formulations of RH-0345 (a growth regulator) and Merit against European chafer and Japanese beetle larvae, home lawn, 1995. *Arthropod Management Tests* 21: 76G.
- Vittum, P.J. 1996. Efficacy of several turf insecticides against European chafer larvae, home lawn, 1995. *Arthropod Management Tests* 21: 77G.
- Vittum, P.J. 1995. Efficacy of several turf insecticides against Japanese beetle larvae, golf course fairway, 1994. *Arthropod Management Tests* 20: 10G.
- Vittum, P.J. 1995. Effect of date of application on efficacy of entomopathogenic nematodes against annual bluegrass weevils, golf course fairway, 1994. *Arthropod Management Tests* 20: 26G.
- Vittum, P.J. 1995. Effect of date of application on efficacy of four insecticides against annual bluegrass weevils, golf course fairway, 1994. *Arthropod Management Tests* 20: 27G.
- Vittum, P.J. 1995. Effect of rate of application on efficacy of four insecticides against annual bluegrass weevils, golf course fairway, 1994. *Arthropod Management Tests* 20: 28G.
- Vittum, P.J. 1995. Efficacy of several turf insecticides against European chafer larvae, home lawn, 1994. *Arthropod Management Tests* 20: 38G.

- Vittum, P.J. 1994. Effect of date of application on efficacy of Turcam and Dylox against annual bluegrass weevils, golf course fairway, 1993. *Insecticide and Acaricide Tests* 19: 33G.
- Vittum, P.J. 1994. Effect of date of application on efficacy of Dursban and Oftanol against annual bluegrass weevils, golf course fairway, 1993. *Insecticide and Acaricide Tests* 19: 34G.
- Vittum, P.J. 1994. Effect of date of application on efficacy of reduced rates of Dursban against annual bluegrass weevils, golf course fairway, 1993. *Insecticide and Acaricide Tests* 19: 35G.
- Vittum, P.J. 1994. Efficacy of insecticides applied curatively against annual bluegrass weevils, golf course fairway, 1993. *Insecticide and Acaricide Tests* 19: 36G.
- Vittum, P. J. 1993. Control of first generation black turf grass ataenius adults on a golf course fairway, 1992. *Insecticide and Acaricide Tests* 18: 26G.
- Vittum, P. J. 1993. Efficacy of several insecticides against annual bluegrass weevils, golf course fairway, 1992. *Insecticide and Acaricide Tests* 18: 27G.
- Vittum, P. J. 1993. Effect of date of application on efficacy of Dursban and Turcam against annual bluegrass weevils, golf course fairway, 1992. *Insecticide and Acaricide Tests* 18: 28G.
- Vittum, P. J. 1993. Effect of date of application on efficacy of Dursban and Oftanol against annual bluegrass weevils, golf course fairway, 1992. *Insecticide and Acaricide Tests* 18: 29G.
- Baxendale, F. P., A. P. Weinhold and P. J. Vittum. 1993. Control of southern masked chafer grubs with rates of Dursban using subsurface and conventional broadcast applications, 1991. *Insecticide and Acaricide Tests* 18: 30G.
- Vittum, P. J. 1993. Efficacy of three insecticides against European chafer larvae, home lawn, 1992. *Insecticide and Acaricide Tests* 18: 42G.
- Vittum, P. J. 1993. Efficacy of imidacloprid against European chafer larvae, home lawn, 1992. *Insecticide and Acaricide Tests* 18: 43G.
- Vittum, P. J. 1993. Efficacy of several insecticides against Japanese beetle larvae, golf course rough, 1992. *Insecticide and Acaricide Tests* 18: 44G.
- Vittum, P. J., S. J. Roy and M. Tirrell. 1992. Efficacy of neem extract and entomopathogenic nematodes against Japanese beetle grubs, 1991. *Insecticide and Acaricide Tests* 17: 35G.
- Vittum, P. J. and F. P. Baxendale. 1992. Sub-surface vs. conventional application of Turcam for control of Japanese beetle grubs on golf course rough, 1991. *Insecticide and Acaricide Tests* 17: 33G.
- Vittum, P. J. 1992. Efficacy of several formulations of carbaryl against Japanese beetle grubs, golf course fairway, 1991. *Insecticide and Acaricide Tests* 17: 32G.

- Vittum, P. J. 1992. Effect of timing of application on efficacy of two insecticides against Japanese beetle grubs, home lawn, 1991. *Insecticide and Acaricide Tests* 17: 34G.
- Baxendale, F. P., A. P. Weinhold, K. von Bargaen, R. D. Grisso and P. J. Vittum. 1992. Sub-surface and conventionally placed granular and liquid insecticides for control of annual white grubs, 1991. *Insecticide and Acaricide Tests* 17: 67G.
- Baxendale, F. P., A. P. Weinhold, K. von Bargaen, R. D. Grisso and P. J. Vittum. 1992. Sub-surface placement of granular insecticides for white grub control, 1990. *Insecticide and Acaricide Tests* 17: 66G.
- Baxendale, F. P., A. P. Weinhold, K. von Bargaen, R. D. Grisso and P. J. Vittum. 1992. Control of annual white grubs using sub-surface placed soil insecticides and entomopathogenic nematodes, 1991. *Insecticide and Acaricide Tests* 17:19G.
- Vittum, P. J. and R.A.S. Mimms. 1990. Efficacy of reduced rates of isazophos (Triumph™) on Japanese beetle grubs, 1989. *Insecticide and Acaricide Tests* 15: 18G.
- Vittum, P. J. and R.A.S. Mimms. 1990. Efficacy of carbamate insecticides on Japanese beetle grubs, 1989. *Insecticide and Acaricide Tests* 15: 19G.
- Vittum, P. J. 1990. Spring control of Japanese beetle grubs, 1989. *Insecticide and Acaricide Tests* 15: 20G.
- Mimms, R.A.S. and P. J. Vittum. 1990. Phytotoxicity and efficacy of several insecticide combinations on greenhouse whitefly, Massachusetts greenhouse, 1989. *Insecticide and Acaricide Tests* 15: 38G.
- Vittum, P. J. 1987. Efficacy of several insecticides against Asiatic garden beetle, Massachusetts, 1986. *Insecticide and Acaricide Tests* 12: 393.
- Vittum, P. J. and R.A.S. Mimms. 1987. Effect of liquid Aqua-Grow on efficacy of Dursban against Japanese beetle grubs, Massachusetts golf course, 1986. *Insecticide and Acaricide Tests* 12: 394.
- Vittum, P. J. and R.A.S. Mimms. 1987. Phytotoxicity and greenhouse whitefly control on poinsettias, Massachusetts greenhouse, 1986. *Insecticide and Acaricide Tests* 12: 428.
- Vittum, P. J. 1986. Effect of date of application on efficacy of insecticides against Japanese beetle grubs, Massachusetts, 1985. *Insecticide and Acaricide Tests* 11: 520.
- Vittum, P. J. 1986. Efficacy of two carbamates against Japanese beetle grubs, Massachusetts golf course, 1985. *Insecticide and Acaricide Tests* 11: 521.
- Vittum, P. J. 1986. Effect of granular AquaGrow on efficacy of Dursban against Japanese beetle

- grubs, Massachusetts lawn, 1975. *Insecticide and Acaricide Tests* 11: 522.
- Vittum, P. J. 1986. Efficacy of several insecticides against June beetle grubs, Massachusetts lawn, 1985. *Insecticide and Acaricide Tests* 11:523.
- Mimms, R.A.S. and P. J. Vittum. 1986. Phytotoxicity on potted chrysanthemums, Massachusetts greenhouse, 1985. *Insecticide and Acaricide Tests* 11: 552.
- Mimms, R.A.S. and P. J. Vittum. 1986. Phytotoxicity of experimental synthetic pyrethroids on three foliage plants, Massachusetts greenhouse, 1985. *Insecticide and Acaricide Tests* 11: 555.
- Vittum, P. J. and R.A.S. Mimms. 1986. Phytotoxicity and greenhouse whitefly control on poinsettias, Massachusetts, 1985. *Insecticide and Acaricide Tests* 11: 566.
- Vittum, P. J. 1985. Efficacy of insecticides on Japanese beetle grubs. Massachusetts, Spring 1984. *Insecticide and Acaricide Tests* 10: 384.
- Vittum, P. J. 1985. Efficacy of insecticides on Japanese beetle grubs. Massachusetts, Summer 1984. *Insecticide and Acaricide Tests* 10: 385.
- Vittum, P. J. 1985. Effect of liquid AquaGrow on efficacy of insecticides against Japanese beetle grubs, Massachusetts 1984. *Insecticide and Acaricide Tests* 10: 386.
- Vittum, P. J. and R.A.S. Mimms. 1985. Phytotoxicity tests with synthetic pyrethroids on greenhouse geraniums, Massachusetts 1982. *Insecticide and Acaricide Tests* 10: 446.
- Vittum, P. J. and R.A.S. Mimms. 1985. Phytotoxicity tests on three varieties of ornamental peppers, Massachusetts 1983. *Insecticide and Acaricide Tests* 10: 450.
- Mimms, R.A.S. and P. J. Vittum. 1985. Greenhouse whitefly control on potted chrysanthemums, Massachusetts 1984. *Insecticide and Acaricide Tests* 10: 391.
- Mimms, R.A.S. and P. J. Vittum. 1985. Greenhouse whitefly control on poinsettias, Massachusetts 1984. *Insecticide and Acaricide Tests* 10: 461.
- Vittum, P. J. 1984. Efficacy of granular insecticides against Japanese beetle grubs on a Massachusetts golf course, 1983. *Insecticide and Acaricide Tests* 9: 450.
- Vittum, P. J. and R.A.S. Mimms. 1984. Phytotoxicity tests on Wandering Jew plants, Massachusetts greenhouse, 1983. *Insecticide and Acaricide Tests* 9: 505.
- Vittum, P. J. and R.A.S. Mimms. 1984. Phytotoxicity tests on Swedish ivy, Massachusetts 1983. *Insecticide and Acaricide Tests* 9: 504.
- Vittum, P. J. 1983. Insecticide efficacy against Japanese beetle grubs on a Massachusetts golf course, 1982. *Insecticide and Acaricide Tests* 8: 109.

- Vittum, P. J. 1983. Insecticide efficacy against black turfgrass ateniensis in Massachusetts, 1982. Insecticide and Acaricide Tests 8: 110.
- Vittum, P. J. and R. A. Mimms. 1983. Phytotoxicity tests on greenhouse ornamental peppers, Massachusetts, 1982. Insecticide and Acaricide Tests 8: 140.
- Vittum, P. J. and R. A. Mimms. 1983. Phytotoxicity tests on Wandering Jew, Massachusetts, 1982. Insecticide and Acaricide Tests 8: 141.
- Vittum, P. J. and R. A. Mimms. 1983. Greenhouse whitefly control on poinsettias, Massachusetts, 1981. Insecticide and Acaricide Tests 8: 145.
- Vittum, P. J. 1982. Insecticide efficacy against black turfgrass ateniensis in Massachusetts, 1981. Insecticide and Acaricide Tests 7: 342.
- Vittum, P. J. 1982. Insecticide efficacy against Japanese beetle grubs on a Massachusetts golf course, 1981. Insecticide and Acaricide Tests 7: 343.
- Vittum, P. J. and R. A. Mimms. 1982. Greenhouse whitefly control on potted chrysanthemums, Massachusetts, 1981. Insecticide and Acaricide Tests 7: 350.
- Vittum, P. J. and R. A. Mimms. 1982. Phytotoxicity tests on greenhouse geraniums, Massachusetts, 1981. Insecticide and Acaricide Tests 7: 378.
- Vittum, P. J. and R. A. Mimms. 1982. Phytotoxicity tests on greenhouse geraniums, Massachusetts, 1981. Insecticide and Acaricide Tests 7: 379.

Greenhouse Entomology Bulletin Series (1981-1987):

- | | |
|--|--|
| 1 Spider Mites | 12 Classes of Insecticides |
| 2 Identification of Greenhouse Insects | 13 Using Yellow Sticky Traps |
| 3 Pesticide Toxicity | 14 Protective Gear |
| 4 Blood Cholinesterase | 15 How to Get the Most from Insecticides |
| 5 Aphids | 16 Thrips |
| 6 Greenhouse Whiteflies | 17 Fungus Gnats |
| 7 Chrysanthemum Leafminer | 18 Biological Control |
| 8 How Insecticides Work | 19 Black Vine Weevil |
| 9 Insect Growth Regulators | 20 Insecticide Formulations |
| 10 Water pH | 21 Insecticide Resistance |
| 11 Oxamyl Application Rates | 22 Cyclamen Mites |

Wrote more than 50 information bulletins on various insect pests or pesticide related issues of concern to homeowners (1980-1987). Wrote, narrated, and produced two slide-tape programs intended for pesticide recertification programs (Pesticides – General Information, Toxicity, and Labels Principles of Insect Control).

Other Extension Publications

Write articles regularly for Tee to Green (Newsletter of the Metropolitan Golf Course Superintendents Association), Connecticut Clippings (Golf Course Superintendents Association of Connecticut), Golf Course Superintendents Association of New England Newsletter, and Newslines (Associated Landscape Contractors of Massachusetts).

Produce weekly management updates on UMass Turf Team website (www.umassturf.org) during growing season.

EXPERIMENT STATION BULLETINS

Vittum, P. J., B. J. Morzuch and G. W. Moorman. 1984. Assessment of Pesticide and Plant Growth Regulator Use for Chrysanthemums in Massachusetts. Final Report for CSRS/NAPIAP Project No. 101-NE-MA-0. 31 pp.

Van Driesche, R. and P. Vittum. 1987. Potential for Increased Use of Biological Control Agents against Greenhouse Pests in Massachusetts, pp. 88-111. In R. Van Driesche and E. Carey (eds.), Opportunities for Increased Use of Biological Control in Massachusetts. Research Bulletin No. 718. Mass. Agric. Exp. Station, University of Massachusetts, Amherst, MA.

PAST RESEARCH AWARDS

Generate ca. \$50,000 to \$60,000 per year in grants-in-aid, used to support my turfgrass insect research

Northeast Regional IPM, *Integrated Management and Resistance Management of Annual Bluegrass Weevil on Golf Course Turf*, \$15,929 (2008-2009)

New England Regional Turfgrass Foundation, *Management Strategies for Turfgrass Ants*. \$10,500, 2008-2009

New England Regional Turfgrass Foundation. *Bionomics and control of the annual bluegrass weevil on golf courses*. \$87,130 (1999-2003).

Massachusetts Turf and Lawngrass Council: *Field studies on the biology of the black turfgrass ataenius*. \$8,960 (1992).

Northeast Pesticide Impact Assessment Program. *Efficacy and effect of sub-surface placement of isazophos and bendiocarb on non-target arthropods in turf*. \$9,970 (1992).

Northeast Pesticide Impact Assessment Program. *Residues of two white grub insecticides*. \$9,600 (1991).

Northeast Pesticide Impact Assessment Program. *Assessment of pesticide and plant growth regulator use on chrysanthemums*. Co-PIs: G.W. Moorman, F.J. Campbell. \$15,840 (1982).

PAST EXTENSION PROJECTS

University of Massachusetts IPM Program: *Pilot program- IPM for home lawns.*

1989	\$ 28,150
1988	\$ 27,500
1987	\$ 20,800
1986	\$ 12,200

University of Massachusett IPM Program: *Bionomics of turf insects.* \$10,000 (1985).

In addition, we compete for and receive \$30,000 to \$50,000 per year from USDA to support the Pesticides Program.

As Pesticide Coordinator – We compete for and receive \$40,000 to \$60,000 per year from USDA and EPA for Pesticides Program.

TEACHING EXPERIENCE

Integrated Turf Management (PLNTSOIL 597V)

Department of Plant, Soil, and Insect Sciences, University of Massachusetts. Three credit course. Average 20 students. Every Spring semester 2006 to present.

Pesticides, Public Policy and the Environment. (ENVIRSCI 342)

Department of Plant, Soil, and Insect Sciences and Environmental Science Program, University of Massachusetts joint offering. Three credit course. Average 20 students. Every Fall semester 1992 to present

Turfgrass Entomology (PLSOILIN 107)

Entomology Department (now Plant, Soil, and Insect Sciences), Stockbridge School, University of Massachusetts. Two credit course. Average 55 students. Every Spring semester 1991 to present

Greenhouse Entomology

Entomology Department, Stockbridge School, University of Massachusetts. Two credit course. Taught spring semester: 1985, 1986, 1991 - 1998.

Turfgrass Entomology, Winter School

Continuing Education, University of Massachusetts. 20 to 24 class hours. Taught 1986, 1987, 1989 -1996, 1998- 2003, 2005 to present.

Introduction to Integrated Pest Management for Golf Courses

Continuing Education, Golf Course Superintendents Association of America. Taught 1989(1) , 1990 (2), 1991 (4), 1992 (3), 1993 (2), 1994 (1), 1995 (1), 1996 (1), 1998 (1).

Insecticide Resistance Management

Continuing Education, Golf Course Superintendents Association of America. Taught 2008 to present

GRADUATE STUDENTS SUPERVISED

Dissertation or thesis advisor for:

Stephen Weckstrom	Plant, Soil, and Insect Sciences, M.S. 2009
Nikki Rothwell	Entomology, Ph.D., 2003
Sean Werle	Entomology, M.S., 1999
Susan Roy	Entomology, M.S., 1994

Dissertation or thesis committee member for:

Ray Putnam	Entomology, Ph. D. , 2006
Robin Edwards	Entomology, M.S. (in progress)
Ben McGraw	Entomology, M.S., 2005
Tara Murray	Entomology, M.S., 2005
Sara Hoffman	Entomology, M.S., 2003
Scott Carrier	Entomology, M.S., 2001
Tracy Leskey	Entomology, Ph.D., 2000
Scott Carrier	Entomology, M.S., 2000
Gerald Roy	Entomology, M.S., 1998
Mark Hoddle	Entomology, Ph.D., 1997
Juan Manuel Alvarez	Entomology, M.S., 1996
Normal LaFaille	Plant and Soil Science, M.S., 1995
Heather May	Entomology, M.S. (not completed)
Carolyn DeMoranville	Plant and Soil Science, Ph.D., 1991
Jennifer Nobel	Plant and Soil Science, M.S., 1991
Sarah Bennett	Plant and Soil Science, M.S., 1987
John Cuevas	Plant and Soil Science, M.S., 1985

UNDERGRADUATE STUDENTS ADVISED

Primary advisor for about 50 Stockbridge Turf majors each year

Primary advisor for 5 to 8 Environmental Science majors each year

SCHOLARLY PRESENTATIONS

Vertical response of *Lasius neoniger* (Hymenoptera: Formicidae) to turf insecticides. Entomological Society of America National Meeting, Las Vegas, NV. December 1998.

Weevils and wasps - Potential for biological control of the annual bluegrass weevil using a parasitic wasp. Department of Entomology Seminar, Cook College, Rutgers University, New Brunswick, NJ April 1998.

Chemical control of exotic scarab beetles, both historical and current. Entomological Society of America Eastern Branch (Invited speaker, Turf Symposium), Cherry Hill, NJ. March 1998.

Assessment of two *Microctonus* spp. (Hymenoptera: Braconidae) for use as a biological control agent for annual bluegrass weevil (Coleoptera: Curculionidae). Entomological Society of America National Meeting, Nashville, TN. December 1997.

Weevils and wasps - Suitability of *Microctonus hyperodae* as a biological control agent for the annual bluegrass weevil. Department of Entomology Seminar, University of Massachusetts, Amherst. September 1997.

Weevils in turf - Traditional and non-traditional control strategies. Department of Entomology Seminar. Auburn University, Auburn, AL. October 1995.

Japanese beetles: Control with nematodes and pathogens. Entomological Society of America Eastern Branch (Invited speaker, Turf Symposium), Williamsburg, VA. February 1997.

Sub-surface application: Where have we been and where are we going? Entomological Society of America National Meeting (Invited speaker, Turf Symposium), Las Vegas, NV. December 1995.

Monitoring systems - Home lawns, golf courses and athletic fields. Entomological Society of America Eastern Branch (Invited speaker, IPM Symposium), Harrisburg, PA. February 1995.

The Hyperodes weevil: A challenge to IPM. Entomological Society of America National Meeting (Invited speaker, Turf Symposium), Dallas, TX. December 1994.

Reducing pesticide exposure in turf settings. Invited speaker, Tri-Agency Meeting (pesticide coordinators, pesticide impact assessment liaisons, state lead agency representatives). San Juan, Puerto Rico. October 1994.

Enhanced efficacy of isazophos against Japanese beetle larvae using sub-surface placement technology. International Turfgrass Society Research Conference, Palm Beach, FL. July 1993.

Bionomics of the annual bluegrass weevil (*Listronotus maculicollis*) in the Northeastern United States. Entomological Society of America National Meeting. Baltimore, MD. December 1992.

Comparison of conventional and sub-surface applications of insecticides on non-target arthropods. Invited speaker, Northeast Pesticide Impact Assessment Program Regional Meeting, Morgantown, WV. October 1992.

Sub-surface placement of insecticides in turf using slicing technology. Australasian Conference on Grassland Invertebrate Ecology, Hamilton, New Zealand. February 1992.

Enhanced efficacy of isazophos against Japanese beetle larvae using sub-surface placement technology. Entomological Society of America National Meeting, Reno, NV. December 1991.

Short term effects of turf insecticides on non-target arthropods. Entomological Society of America National Meeting, San Antonio, TX. December 1989.

Agriculture in New Zealand. Department of Entomology Seminar, Auburn University, Auburn, AL. September 1988.

The Extension Service and American Universities. Seminar, Ministry of Agriculture and Fisheries, Invermay (Mosgiel), New Zealand. February 1988.

Balancing Extension and Research. Seminar, Ministry of Agriculture and Fisheries, Lincoln, New Zealand. February 1988.

Annual bluegrass weevil (*Listronotus maculicollis*) on golf courses in the Northeastern United States. Department of Entomology Seminar, Lincoln College, Lincoln, New Zealand. August 1987.

Initiating a homeowner-supported integrated pest management program for home lawns. Entomological Society of America National Meeting, Reno, NV. December 1986.

Speed of efficacy of several insecticides on Japanese beetle (*Popillia japonica* Newman) grubs. Entomological Society of America National Meeting, Hollywood, FL. December 1985.

Bionomics of Japanese beetle, *Popillia japonica* Newman, in Massachusetts. Entomological Society of America National Meeting, San Antonio, TX. December 1984.

Liming and timing - Their effect on efficacy of Oftanol™ on white grubs. Entomological Society of America Eastern Branch (Invited speaker, Turf Symposium), Hershey, PA. September 1984.

Effect of timing of isofenphos applications on control of white grubs in turf. Entomological Society of America National Meeting, Detroit, MI. November 1983.

Field observation of Japanese beetle life cycle in Massachusetts. Entomological Society of America Eastern Branch, Providence, RI. September 1983.

Effect of lime applications on Japanese beetle, *Popillia japonica* Newman, grub populations on turf. Entomological Society of America National Meeting, Toronto, Ontario. November 1982.

Biology of the annual bluegrass weevil. Cambridge Entomological Club, Cambridge, MA. April 1983.

Laboratory studies on factors affecting Japanese beetle oviposition and grub survival.

Entomological Society of America Eastern Branch, Hartford, CT. September 1982.

Effect of soil pH on oviposition and survival of Japanese beetle grubs under field conditions.
Entomological Society of America National Meeting, San Diego, CA. November 1981.

Growing degree days and the development of the annual bluegrass weevil. Seminar, Graduate Women in Science, Cornell University, Ithaca, NY. May 1980.

Growing degree days and the development of the annual bluegrass weevil (*Hyperodes* sp. near *anthracina*). Entomological Society of America National Meeting. Denver, CO. November 1979.

Field studies on the annual bluegrass weevil. Entomological Society of America Eastern Branch (Invited speaker, Turf Symposium), Hershey, PA. September 1979.

OTHER PRESENTATIONS

Invited speaker on at least one occasion:

Alabama Turfgrass Conference (1989)

Algonquian College (Ottawa, Ontario) Turfgrass Short Course (1990, 1991, 1992)

Associated Landscape Contractors of Massachusetts (1983-1987, 1989, 1993)

Cambridge Entomological Club (1983)

Canadian Golf Course Superintendents Association (1990, 2002, 2007)

Cape Cod Turf Managers Association (1981, 1983, 1984, 1985, 1987, 1989, 1990)

Connecticut Groundskeepers Association (1985, 1987, 1989, 1991, 1992, 1994)

Eastern Pennsylvania Turfgrass Conference (1990)

Ecological Landscaping Association (1998, 2005)

Essex County Florists Association (1981, 1983, 1985, 1986)

Golf Course Superintendents Association of America (1985, 1987, 1989-1996, 1998, 2008)

Golf Course Superintendents Association of Connecticut (1978, 1982, 1984, 1985, 1987, 1989-1991, 1993, 1994, 1997, 2002, 2007)

Golf Course Superintendents Association of New England (1980-1987, 1989, 1990, 1992, 1995, 1998, 1999, 2001, 2003)

New Hampshire Plant Growers Association (1992)

Hudson Valley Golf Course Superintendents Association (1992, 2002)

Maine Turfgrass Conference (1983, 1996, 1998, 2008)

Maryland Turf Conference (2007)

Massachusetts Flower Growers Association (1981-1986, 1988)

Massachusetts Horticultural Congress (1982, 1987, 1991, 2000)

Massachusetts Turfgrass Conference (1981, 1985-1987, 1990, 1991, 1994, 1996)

Master Gardener Training (1995, 1997 - 2008)

Metropolitan Golf Course Superintendents Association (1978, 1979, 1982, 1984, 1985, 1987, 1989 -1991, 1993, 1994, 1995, 1998, 2000, 2005)

Michigan Turfgrass Conference (1985, 1994)

Minnesota Turfgrass Conference (1994, 2000)

Nebraska Turfgrass Conference (1998)

New England Greenhouse Conference (1984)

New England Regional Turfgrass Conference (1999, 2002, 2005, 2007)

New England Vegetable Growers Association (1982 -1985, 1988)

New Hampshire Turfgrass Conference (1982, 1986)

New Jersey Turf Expo (1985, 1988, 1992, 1999)

New Jersey Golf Course Superintendents Association (1996, 1999, 2001, 2003, 2007)

New York State Association of Cemeteries (1992, 1996)

New York State Turfgrass Association Conference (1977-1979, 1986, 1991, 1992 -1994, 1996, 1998, 1999, 2001)

Northeast Golf Course Superintendents Association (2000, 2002, 2003)

Ohio Turfgrass Conference (1989, 2001)

Ontario Turfgrass Symposium (1996)

Ottawa Valley (Canada) Turf Association (1992, 2004)

Professional Grounds Maintenance Society (Northeast Region) (1989, 1990)

Professional Lawn Care Applicators Association (Northeast Region) (1985, 1990)

Rhode Island Golf Course Superintendents Association (1986, 1989)

Rhode Island Turfgrass Conference (1995)

Society of American Florists (1982, 1983, 1985, 1986)

Sports Turf Managers Association of America (1995)

Texas Turfgrass Conference (1989)

United States Golf Association Green Section (Northeast Region) (1982, 1983, 1994, 1997)

Vermont Golf Course Superintendents Association (1990, 2001, 2003, 2004, 2006)

Vermont Greenscape Association (1998, 2000, 2002, 2004, 2006, 2007)

Virginia Turfgrass Conference (1991)

Western Canada Turfgrass Association (2003)

Western Massachusetts Florists and Gardeners Association (1981, 1983, 1985, 1986)

Western Pennsylvania Turfgrass Conference (1989, 2005)