

## Michael D. Toews, Ph.D.

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### Education

2001. Ph.D. Oklahoma State University, Department of Entomology and Plant Pathology.

Dissertation title: Improved sampling methodology for estimating populations of *Cryptolestes ferrugineus* (Stephens) (Coleoptera: Cucujidae) in stored wheat.

1998. M.S. Oklahoma State University, Department of Entomology and Plant Pathology. Thesis title: Influence of wheat cultivar, temperature, and *Theocolax elegans* (Hymenoptera: Pteromalidae) on *Rhyzopertha dominica* (Coleoptera: Bostrichidae) development.

1995. B.S. Fort Hays State University (Hays, KS), Department of Biology.

### Professional Employment

2006- present	Assistant Professor	University of Georgia
2008-present	Adjunct Assistant Professor	Clemson University
2002-2006	Postdoctoral Research Entomologist	USDA ARS CGAHR
2001-2002	Postdoctoral Research Associate	Kansas State University
2001-2002	Pest Management Consultant	Anheuser Busch Companies, Inc.

### Honors and Awards (3)

Gary A. Herzog Award of Excellence for Junior Scientist-Research, University of Georgia, College of Agricultural and Environmental Science-Tifton Campus, April 27, 2010.

Oliver I. Snapp Award (best research paper by a regular member), Georgia Entomological Society, April 4, 2008.

John Henry Comstock Graduate Student Award (outstanding graduate student achievement), Entomological Society of America, February 27, 2001.

### Graduate Student Committees (4)

Thodi, Ishakh Pulakkatu. 2010-present. Ph.D. student (committee chair).

Huang, Ta-I. 2008-present. Ph.D. student (committee chair).

Pilkay, Grant. 2010-present. Ph.D. student in the Department of Entomology, Soils, & Plant Sciences at Clemson University (committee member).

Reeves, Richard. Graduated in May 2009 with an MS in the Department of Entomology, Soils, & Plant Sciences at Clemson University (committee member).

### Dissertation Reading Committee (1)

Haider, Karar. Graduated in May 2010 with Ph.D. from the University of Agriculture, Faisalabad, Pakistan.

### Other Mentoring (3)

Soria, Miguel Ferreira. 2011-present. Visiting Ph.D. student in my laboratory from the Federal University of Grande Dourados, Mato Grosso do Sul, Brazil.

Herbert, John. 2009-present. Post Doctoral Scholar in my laboratory.

Perrin, Anna. 2009. Biology Teacher from Tift County High School spent 4 weeks in my laboratory during the summer as a participant in the Georgia Intern-Fellowships for Teachers Program.

### **Teaching Experience**

ENTO 8500 (Insect Ecology-University of Georgia). Instructor of record (25%). Fall 2009 (9 students).

ENTO 3740 (Insect Pest Management-University of Georgia). Guest lecturer on cotton insects. Two 50-minute lectures and a 105-minute lab. Dec. 9 & 11, 2009 (10 students).

CRSS 430 (Crop Production and Management-university of Georgia). Guest lecturer on the role of an entomologist in crop production. 75-minute lecture. Dec. 5, 2009 (10 students).

AESC 3920 (Agricultural and Environmental Sciences Internship-University of Georgia). Instructor of record (100%). Summer 2009 (1 student).

ENTO 3740 (Insect Pest Management-University of Georgia). Guest lecture on cotton insects. 50-min lecture and 120-minute lab. December 3, 2008 (9 students).

GRSC 651 (Food and Feed Product Protection-Kansas State University). Guest lecturer on sanitation, sampling, and pest management. 2 lectures and lab sessions each in 2003 and 2005 (20 students).

GRSC 710 (Fundamentals of Grain Storage-Kansas State University). Guest lecturer on insect identification and use of residual insecticides. 2 lectures in 2001 (12 students).

ENTO 3421 (Horticultural Insects-Oklahoma State University). Teaching assistant responsible for 8 wk of lecture and lab material. 8 lectures and labs in spring 1999 (21 students).

ENTO 2003. (Insects and Society-Oklahoma State University). Teaching assistant responsible for classroom set up, testing, grading, and class management. Fall 1998 and 1999 (160 students).

### **Awarded Competitive Grant Funding (\$3,035,915 total, \$1,930,188 at UGA)**

*Asterisks (\*) designate grants by post docs in my lab*

Tubbs, R.S., M.D. Toews, G.H. Harris, G.D. Collins, W.D. Shurley and A.R. Smith. Fertilization and cover crop interactions for strip-till cotton production. Georgia Cotton Commission (\$10,000).

Toews, M.D. 2012. Improved insecticide selection and foliar timing for mitigating thrips in seedling cotton. Georgia Cotton Commission (\$16,145).

Toews, M.D., J.J. Herbert, R.S. Tubbs, G.H. Harris, R. Srinivansan, and P.M. Roberts. 2011. Managing early season thrips in seedling cotton using a seed treatment, starter fertilizer, and foliar insecticides. Cotton Incorporated. (\$13,000).

Herbert, D.A. and M.D. Toews. 2011. Managing early season thrips in seedling cotton using a seed treatment, starter fertilizer, and foliar insecticides. Cotton Incorporated. (\$10,500).

Toews, M.D., X. Ni, and D. Buntin. 2011. A novel strategy for reducing aflatoxin contamination. Georgia Corn Commission (\$20,000).

Toews, M.D., J. Herbert, F.P. Reay-Jones, D. Reisig, and J. Greene. 2011. Ecologically driven stink bug management in commercial farmscapes. USDA NIFA Southern Region IPM Center (\$140,167).

Tubbs, R.S., T.L. Grey, M.D. Toews, P. Ji, and A.K. Hagan. 2011. Cropping systems research for peanut. National Peanut Board Southeastern Peanut Research Initiative (\$104,740).

- Balkcom, K.S., K.B. Balkcom, A.K. Hagan, G.H. Harris, J.A. Howe, N.B. Smith, R. Srinivasan, M.D. Toews, and R.S. Tubbs. 2011. Fertilization, tillage, and phorate interaction on thrips and TSWV incidence in early planted peanuts. National Peanut Board Southeastern Peanut Research Initiative (\$28,640).
- Tubbs, R.S., G. Harris, W. Shurley, M. Toews, A. Smith, and G. Collins. 2011. Fertilization and cover crop interactions for strip-till cotton production. Georgia Cotton Commission. (\$10,00).
- Herbert, J. and M.D. Toews. 2011. Stink bug distribution and reproductive capacity in Georgia cotton farmscapes. Georgia Cotton Commission (\$10,000).
- Toews, M.D. 2011. Understanding stink bug feeding preferences and movement on individual cotton plants. Georgia Cotton Commission. (\$21,313).
- Toews, M.D., J.R. Ruberson and P.M. Roberts. 2010. Preservation of Georgia Cotton Fiber. USDA FIFA Special Research Grants (\$322,011).
- Bachelor, J., A. Herbert, P. Roberts, J. Greene, and M.D. Toews. 2010. Development, production and distribution of a pocket-sized field instrument to improve stink bug management on cotton. Enhancement Grants-Special Projects-Southern Region IPM Center (\$25,000).
- Tubbs, R.S., M.D. Toews, A. Hagan, and B. Goodman. 2010. Cropping systems research for peanut. National Peanut Board Southeastern Peanut Research Initiative (\$98,999).
- Tubbs, R. S., M. D. Toews, W. D. Shurley, A. R. Ziehl, G. H. Harris, and R. D. Lee. 2010. Nutrient cycling and cover crop decomposition in strip-till and conventional cotton tillage systems. Georgia Cotton Commission. (\$20,000).
- Balkcom, Ki, Kr. Balkcom, A. Hagan, G. Harris, J. Howe, M. Toews, and R.S. Tubbs. 2010. Fertilization, tillage, and phorate interaction on thrips and TSWV incidence in early planted peanuts. National Peanut Board Southeastern Peanut Research Initiative (\$30,572).
- Toews, M. D., M. A. Haidekker, and J. Xia. 2010. Rapid detection of damaged cotton bolls using fluorescence. Georgia Cotton Commission. (\$12,500).
- Toews, M. D. 2010. In-field border insecticide applications to manage stink bugs. Georgia Cotton Commission. (\$15,000).
- Toews, M. D., J. R. Ruberson, and P. Roberts. 2009. Cotton insect management and quality. USDA/CSREES Special Research Grants Program (\$322,571).
- Toews, M. D., M. A. Haidekker, and J. Xia. 2009. Rapid detection of damaged cotton bolls using fluorescence. Cotton Incorporated. (\$14,000).
- Tubbs, R. S., M. D. Toews, W. D. Shurley, A. R. Ziehl, G. H. Harris, and R. D. Lee. 2009. Nutrient cycling and cover crop decomposition in strip-till and conventional cotton tillage systems. Georgia Cotton Commission. (\$20,000).
- Li, C. and M. D. Toews. 2009. Development of a rapid sensing technology for detection of stink bug infested (internally damaged) cotton bolls. Georgia Cotton Commission. (\$17,252).
- Reay-Jones, F.P.F., J. K. Greene, M. D. Toews, and C. Carpio. 2009. Farmscape ecology of stink bugs and the development of environmentally friendly control strategies. USDA CSREES Southern Region IPM Center (\$153,946).
- Toews, M. D., J. R. Ruberson, and P. M. Roberts. 2008. Cotton insect management and quality. USDA/CSREES Special Research Grants Program (\$343,542).
- Herbert, A., J. Bachelor, E. Blinka, and M. D. Toews. 2008. Refinement and validation of a new time-saving technique for hemipterous pests of cotton based on external feeding symptoms. USDA CSREES Southern Region IPM Center (\$25,000).
- Toews, M. D. 2008. Marking methods for stink bugs (yr 2). Cotton Incorporated. (\$19,895).

- Toews, M. D. 2008. Optimization of sampling methods for stink bugs (yr 2). Georgia Cotton Commission (\$17,500).
- Ruberson, J. R., P. M. Roberts, and M. Toews. 2008. Insecticide resistance monitoring of Heliothines in Cotton. Georgia Cotton Commission and Cotton Incorporated (\$22,000).
- Pettis, G., M. D. Toews, and J. K. Greene. 2007. Development of a Georgia PMSP. Critical and Emerging Issues, Southern Region IPM Center. (\$5000).
- Toews, M. D. 2007. Landscape scale movement of stink bugs. University of Georgia College of Agriculture and Environmental Sciences (\$23,500).
- Toews, M. D. 2007. Marking methods for stink bugs. Cotton Incorporated. (\$19,895).
- Toews, M. D. 2007. Optimization of sampling methods for stink bugs. Georgia Cotton Commission (\$17,500).
- Zhu, K. Y., F. H. Arthur, J. F. Campbell, M. D. Toews, and M. R. Langemeier. 2006. Aerosol applications as a methyl bromide alternative for milling, processing, and food storage. USDA/CSREES/Methyl Bromide Transitions (\$369,181).
- Phillips, T. W., F. H. Arthur, J. F. Campbell, M. D. Toews, J. Criswell, and M. Casada. 2005. Pest management strategies for stored products: raw grain and value added products. USDA/CSREES/PMAP (\$196,205).
- Phillips, T. W., F. H. Arthur, J. F. Campbell, M. D. Toews, and J. T. Criswell. 2003. Alternatives to organophosphates as stored grain protectants and for use in food processing. USDA/CSREES/PMAP (\$165,009).
- Ramaswamy, S., M. D. Toews, J. Campbell, and F. Arthur. 2003. Implementation of a monitoring program to reduce pesticide application at certified seed stock facilities. US-EPA Region VII (\$24,370).
- Subramanyam, Bh., and M. D. Toews. 2002. Fate and efficacy of spinosad for insect management in farm stored grain. USDA/CSREES/PMAP (\$199,195).
- Subramanyam, Bh., C. R. Reed, M. D. Toews. 2002. Stored wheat insect management with spinosad and aeration. Kansas Wheat Commission (\$61,811).
- Subramanyam, Bh., and M. D. Toews. 2002. Sixth National Stored-Product IPM Training Conference. USDA/ARS, IPM (\$20,000).
- Subramanyam, Bh., M. D. Toews, and C. Reed. 2001. Pesticide alternatives and pollution prevention techniques in response to FQPA for postharvest ecosystems. US-EPA Region VII (\$69,956).

### **Pending Grant Funding (\$0)**

#### **Contract Research Support (\$176,875 total, \$51,875 at UGA)**

- Toews, MD. 2011. Evaluation of novel chemistries for control of cotton pests. Bayer CropScience (\$4500).
- Toews, MD. 2011. Evaluation of cyazypyr for control of lepidoptera in cotton. E.I. du Pont de Nemours and Company (\$2500).
- Toews, M.D. 2010. Evaluation of foliar insecticide applications following preventative insecticide for control of thrips. The Cotton Foundation (\$700).
- Toews, M. D. 2010. Assessment of seed treatments and foliar oversprays for management of thrips in Georgia cotton. Bayer CropScience (\$6700).
- Toews, M. D. 2010. Evaluation of spinosad for managing stored grain pests in stored corn. Bayer CropScience (\$9,975).

- Toews, M. D. 2009. Evaluation of foliar sprays for managing whitefly population in Georgia cotton. Bayer CropScience (\$2000).
- Toews, M. D. 2009. Evaluation of foliar insecticide applications following preventative insecticide for control of thrips. The Cotton Foundation (\$1000).
- Toews, M. D. 2008. Assessment of cotton fiber quality following whitefly management regimes. Bayer CropScience (\$5,000).
- Toews, M. D. 2008. Evaluation of novel stink bug and lepidopteran insecticides. Bayer CropScience (\$6,000).
- Toews, M. D. 2007. Experimental compounds for management of plant bug/stink bugs in Georgia cotton. Bayer CropScience (\$4500).
- Toews, M. D. 2007. Experimental compounds for management of lepidopteran pests in Georgia cotton. BASF Corporation (\$5000).
- Toews, M. D. 2007. Experimental seed treatments for thrips management in seedling cotton. Valent USA Corp. (\$4000).
- Subramanyam, Bh, and M. D. Toews, 2002. Characterization of spinosad as a stored grain and stored products protectant. Dow AgroSciences (\$105,000).
- Subramanyam, Bh., M. D. Toews, F. Huang. 2001. Efficacy of actellic on sunflower seeds. Agriliance, LLC (\$20,000).

### **Patent Applications (2)**

- Haidekker, M. A., M. D. Toews, and J. Xia. 2009. Non-invasive methods and apparatus for detecting insect-induced damage in a plant. Provisional patent application to United States Patent and Trademark Office (January 30).
- Haidekker, M. A., M. D. Toews, and J. Xia. 2011. Non-invasive methods and apparatus for detecting insect-induced damage in a plant. Full patent application in the following countries: United States, Brazil, India, China, Egypt, and Australia.

### **Peer Reviewed Research Publications (34 total)**

*Asterisks (\*) designate manuscripts authored by graduate students or post docs in my lab*

- Edde, P.A., M.D. Toews, and T.W. Phillips. Effects of various semiochemicals on the responses of *Rhyzopertha dominica* (F.) to pheromone traps in the field. Annals of the Entomology Society of America (accepted August 2011).
- Xia, J., A. Mustafic, M. D. Toews, and M. A. Haidekker. Sink bug feeding induces fluorescence in developing cotton bolls. Journal of Biological Engineering (accepted July 2011).
- \*Herbert, J.J and M.D. Toews. Seasonal abundance and population structure of the brown stink bug in farmscapes containing corn, cotton, peanut and soybean. Annals of the Entomological Association of America (accepted June 2011).
- Adedoyin, A., C. Li and M.D. Toews. 2010. Characterization of single cotton fibers using a laser diffraction system. Textile Research Journal 81: 355-367.
- Toews, M.D., R.S. Tubbs, D.Q. Wann, and D. Sullivan. 2010. Thrips (Thysanoptera: Thripidae) mitigation in seedling cotton using strip tillage and winter cover crops. Pest Manag. Sci. (66: 1089-1095).
- Toews, M.D., J.F. Campbell, and F.H. Arthur. 2010. The presence of flour affects the efficacy of aerosolized insecticides used to treat the red flour beetle, *Tribolium castaneum*. J. Insect Sci. 10:196 available online: [www.insectscience.org/10.196](http://www.insectscience.org/10.196).

- Reeves, R. B. J. K. Greene, F.P.F. Reay-Jones, M. D. Toews, and P. D. Gerard. 2010. Effects of adjacent habitat on populations of stink bugs (Heteroptera: Pentatomidae) in cotton as part of a variable agricultural landscape in South Carolina. *Environ. Entomol.* 39:1420-1427.
- Reay-Jones, F.P.F., M. D. Toews, J. K. Greene, and R. B. Reeves. 2010. Spatial dynamics of stink bugs (Hemiptera: Pentatomidae) and associated boll injury in southeastern cotton fields. *Environ. Entomol.* 39:956-969.
- Campbell, J.F., M.D. Toews, F.H. Arthur, and R.T. Arbogast. 2010. Long term monitoring of *Tribolium castaneum* in two flour mills: seasonal patterns and impact of fumigation. *J. Econ. Entomol.* 103:991-1001.
- Campbell, J.F., M.D. Toews, F.H. Arthur, and R.T. Arbogast. 2010. *Tribolium castaneum* populations in two flour mills: rebound after fumigation. *J. Econ. Entomol.* 103:1002-1011.
- Reay-Jones, F.P.F., M. D. Toews, J. K. Greene, and R. B. Reeves. 2010. Development of sampling plans for cotton bolls injured by stink bugs (Hemiptera: Pentatomidae). *J. Econ. Entomol.* 103: 252-532.
- Reay-Jones, F.P.F., J. K. Greene, M. D. Toews, and R. B. Reeves. 2009. Sampling stink bugs (Hemiptera: Pentatomidae) for population estimation and pest management in southeastern cotton production. *J. Econ. Entomol.* 102:2360-2370.
- Nansen, C., P. Flinn, D. Hagstrum, M. D. Toews, and W. G. Meikle. 2009. Interspecific associations among stored grain beetles. *J. Stored Prod. Res.* 45:254-260.
- Toews, M. D. and W. D. Shurley. 2009. Crop juxtaposition affects cotton fiber quality in Georgia farmscapes. *J. Econ Entomol.* 102:1515-1522.
- Toews, M. D., E. L. Blinka, J. W. Van Duyn, D. A. Herbert Jr., J. S. Bacheler, P. M. Roberts and J. K. Greene. 2009. Fidelity of external boll feeding lesions to internal damage for assessing stink bug damage in cotton. *J. Econ. Entomol.* 102:1344-1351.
- Toews, M. D., F. H. Arthur, and J. F. Campbell. 2009. Monitoring flour beetles in pilot-scale warehouses treated with  $\beta$ -cyfluthrin: are residual insecticides and trapping compatible? *Bulletin of Entomological Research.* 99: 121-129.
- Jia, F., M. D. Toews, J. F. Campbell, and S. B. Ramaswamy. 2008. Survival and reproduction of the lesser grain borer, *Rhyzopertha dominica* (F.) (Coleoptera: Bostrichidae) on flora associated with native habitats in Kansas. *Journal of Stored Products Research.* 44: 366-372.
- Toews, M. D., J. Perez-Mendoza, J. E. Throne, F. E. Dowell, E. B. Maghirang, F. H. Arthur and J. F. Campbell. 2007. Rapid assessment of insect fragments in flour milled from wheat infested with known densities of immature and adult *Sitophilus oryzae* (L.) (Coleoptera: Curculionidae). *J. Econ. Entomol.* 100: 1714-1723.
- Subramanyam, Bh., M. D. Toews, K. E. Ileleji, D. E. Maier, G. D. Thompson, and T. J. Pitts. 2007. Evaluation of spinosad as a grain protectant on three Kansas farms. *Crop Protection.* 26: 1021-1030.
- Toews, M. D., J. F. Campbell, F. H. Arthur, and S. B. Ramaswamy. 2006. Outdoor flight activity and immigration of *Rhyzopertha dominica* into seed wheat warehouses. *Entomologia Experimentalis et Applicata* 121: 73-85.
- Toews, M. D., J. F. Campbell, and F. H. Arthur. 2006. Temporal Dynamics and Response to Fumigation of Stored-Product Coleoptera in a Grain Processing Facility. *Journal of Stored Product Research.* 42:480-498.
- Toews, M. D., T. C. Pearson, and J. F. Campbell. 2006. Imaging and automated detection of *Sitophilus oryzae* L. (Coleoptera: Curculionidae) pupae in hard red winter wheat. *Journal of Economic Entomology* 99:583-592.

- Toews, M. D., J. F. Campbell, F. H. Arthur, and M. West. 2005. Monitoring *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) in pilot- scale warehouses treated with residual applications of (S) hydroprone and cyfluthrin. *J. Econ. Entomol.* 98: 1391-1398.
- Edde, P. A.; T. W. Phillips, and M. D. Toews. 2005. Responses of *Rhyzopertha dominica* (Coleoptera: Bostrichidae) to its aggregation pheromones as influenced by trap design, trap height, and habitat. *Environ. Entomol.* 34: 1549-1557.
- Toews, M. D., T. W. Phillips, and M. E. Payton. 2005. Estimating populations of grain beetles using probe traps in wheat-filled concrete silos. *Environ. Entomol.* 34: 712-718.
- Toews, M. D., F. H. Arthur, and J. F. Campbell. 2005. Role of food and structural complexity on capture of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) in simulated warehouses. *Environ. Entomol.* 34: 164-169.
- Huang, F., Bh. Subramanyam, and M. D. Toews. 2004. Susceptibility of laboratory and field strains of four stored-product insect species to spinosad. *J. Econ. Entomol.* 97: 2160-2167.
- Toews, M. D., and Bh. Subramanyam. 2004. Survival of stored-product insect natural enemies in spinosad-treated wheat. *J. Econ. Entomol.* 97: 1174-1180.
- Toews, M. D., Bh. Subramanyam, and J. M. Rowan. 2003. Knockdown and mortality of eight stored-product beetles exposed to four surfaces treated with spinosad. *J. Econ. Entomol.* 96: 1967-1973.
- Toews, M. D., and Bh. Subramanyam. 2003. Contribution of contact toxicity and wheat condition to mortality of stored-product insects exposed to spinosad. *Pest Manag. Sci.* 59: 538-544.
- Toews, M. D., T. W. Phillips, and D. Shuman. 2003. Electronic and manual monitoring of *Cryptolestes ferrugineus* (Stephens) (Coleoptera: Laemophloeidae) in stored wheat. *J. Stored Prod. Res.* 39: 541-554.
- Toews, M. D., and T. W. Phillips. 2002. Factors affecting capture of *Cryptolestes ferrugineus* (Coleoptera: Laemophloeidae) in traps placed in stored wheat. *J. Econ. Entomol.* 95: 200-207.
- Toews, M. D., T. W. Phillips, and G. W. Cuperus. 2001. Effects of wheat cultivar and temperature on suppression of *Rhyzopertha dominica* (Coleoptera: Bostrichidae) by the parasitoid *Theocolax elegans* (Hymenoptera: Pteromalidae). *Biological Control* 21: 120-127.
- Toews, M. D., G. W. Cuperus, and T. W. Phillips. 2000. Susceptibility of eight U.S. wheat cultivars to infestation by *Rhyzopertha dominica* (Coleoptera: Bostrichidae). *Environ. Entomol.* 29: 250-255.

### Submitted Peer Reviewed Research Publications (0)

### Other Research Publications (48)

- Toews, M.D., Francis P.F. Reay-Jones, and Jeremy K. Greene. 2011. Application of border sprays to mitigate stink bugs in cotton. *In* A. Smith & G. Collins (eds.) 2010 Georgia Cotton Research and Extension Report. UGA/CPES Research Extension Publication No. 7. Georgia Cooperative Extension, University of Georgia College of Agricultural and Environmental Sciences, Athens.
- Hutchinson, J.M.S., J.F. Campbell, M.D. Toews, T.J. Vought, Jr., and S.B. Ramaswamy. 2011. Designing a local-scale microsimulation of lesser grain borer population dynamics and movements. *In* S. Clay (ed.) GIS Applications in Agriculture, Volume Three: Invasive Species, CRC Press, Boca Raton, FL. pp. 207-232.

- Campbell, J.F., M.D. Toews, F.H. Arthur, and R.T. Arbogast. 2010. Structural fumigation efficacy against *Tribolium castaneum* in flour mills. *In* Carvalho, O.M, Fields, P.G., Adler, C.S., Arthur, F.H., Athanassiou, C.G., Campbell, J.F., Fleurat-Lessard, F., Flinn, P.W., Hodges, R.J., Isikber, A.A. Navarro, S., Noyes, R.T., Riudavets, J., Sinha, K.K., Thorpe, G.R., Timlick, B.H., Trematerra, P., White, N.D.G. (Eds), Proceedings of the Tenth International Working Conference on Stored Product Protection, 27 June-2 July 2010, Estoril, Portugal, Julius-Kuhn-Archiv, Berlin, Germany (*In press*).
- Roberts, P., M. Toews, and R. Brannen. 2010. Excessive thrips injury impacts root growth in seedling cotton. Pp. 112-116. *In* G. Ritchie, A. Smith & G. Collins (eds.) 2009 Georgia Cotton Research and Extension Report. UGA/CPES Research Extension Publication No. 7. Georgia Cooperative Extension, University of Georgia College of Agricultural and Environmental Sciences, Athens.
- Ruberson, J.R., D.M. Olson, M.D. Thompson, R.J. Ottens, M.D. Toews, S. Jones, and W.A. Mills. 2010. Importance of natural enemies for stink bug control. Pp. 126-1135. *In* G. Ritchie, A. Smith & G. Collins (eds.) 2009 Georgia Cotton Research and Extension Report. UGA/CPES Research Extension Publication No. 7. Georgia Cooperative Extension, University of Georgia College of Agricultural and Environmental Sciences, Athens.
- Tubbs, R.S., M.D. Toews, W.D. Shurley, A. R. Smith, G. H. Harris, and R.D. Lee. 2010. Nutrient cycling and cover crop decomposition in strip-till and conventional cotton tillage systems. Pp. 83-90. *In* G. Ritchie, A. Smith & G. Collins (eds.) 2009 Georgia Cotton Research and Extension Report. UGA/CPES Research Extension Publication No. 7. Georgia Cooperative Extension, University of Georgia College of Agricultural and Environmental Sciences, Athens.
- Toews, M.D. 2010. Stink bug ecology in southeastern farmscapes, pp. 72-77. *In* K. Stevenson (ed.) Proceedings of the 103<sup>rd</sup> Annual Convention of the Southeastern Pecan Growers Association, February 26-27 2010, Destin, FL.
- Bachelor, J., J. Van Duyn, D. Mott, A. Herbert, E. Blinka, J. Greene, P. Roberts, M. Toews, and R. Smith. 2010. Managing stink bugs in cotton: research in the southeast region. pp. 991-993. *In* Proceedings of the Beltwide Cotton Conferences, January 4-7, New Orleans, LA. National Cotton Council of America, Memphis, TN.
- Griffin, J. David, M.D. Toews, R.S. Tubbs, D.Q. Wann, and D. Sullivan. 2010. Reduction of thrips populations with tillage and winter cover crops. pp. 905. *In* Proceedings of the Beltwide Cotton Conferences, January 4-7, New Orleans, LA. National Cotton Council of America, Memphis, TN.
- Herbert, J. and M.D. Toews. 2010. Stink bug distribution and reproductive capacity in Georgia cotton farmscapes. pp. 1233-1237. *In* Proceedings of the Beltwide Cotton Conferences, January 4-7, New Orleans, LA. National Cotton Council of America, Memphis, TN.
- Reay-Jones, F.P.F, J.K. Greene, W. Henderson, M.D. Toews, and J.H. Herbert. 2010. Border applications of insecticide to manage stink bugs in South Carolina and Georgia cotton. pp. 1226-1232. *In* Proceedings of the Beltwide Cotton Conferences, January 4-7, New Orleans, LA. National Cotton Council of America, Memphis, TN.
- Roberts, P., M. Toews, and J. Greene. 2010. Evaluating critical periods of early season thrips control. pp. 1122. *In* Proceedings of the Beltwide Cotton Conferences, January 4-7, New Orleans, LA. National Cotton Council of America, Memphis, TN.
- Toews, M.D., P. Roberts, E.G. Medrano. 2010. Interrelationships among stink bug management, cotton fiber quality and boll rot. pp. 245-247. *In* Proceedings of the Beltwide Cotton

- Conferences, January 4-7, New Orleans, LA. National Cotton Council of America, Memphis, TN.
- Herbert, A., E. Blinka, J. Bacheler, J. Van Duyn, J. Greene, M. Toews, P. Roberts, and R. Smith. 2009. Managing stink bugs in cotton: research in the southeast region. Publication number 444-390. Virginia Cooperative Extension, Blacksburg. <http://pubs.ext.vt.edu/444/444-390/444-390.html>.
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### **Extension Books Edited (2)**

- Grey, T., M. Toews, & C. Perry (eds.). 2008. 2007 Georgia Cotton Research and Extension Report. UGA/CPES Research Extension Publication No. 6. Georgia Cooperative Extension, University of Georgia College of Agricultural and Environmental Sciences, Athens. 140 pp. [www.http://commodities.caes.uga.edu/fieldcrops/cotton/rerpubs/2007/index.htm#toc](http://commodities.caes.uga.edu/fieldcrops/cotton/rerpubs/2007/index.htm#toc).
- Toews, M. G. Ritchie & A. Smith (eds). 2009. 2008 Georgia Cotton Research and Extension Report. UGA/CPES Research Extension Publication No. 6. Georgia Cooperative Extension, University of Georgia College of Agricultural and Environmental Sciences, Athens. 164 pp. <http://commodities.caes.uga.edu/fieldcrops/cotton/rerpubs/2008/index.htm#toc>.

### **Extension Publications (9)**

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### **Invited Research Presentations (12)**

- Toews, M.D. 2011. A landscape perspective of stink bugs in Georgia field crops. Georgia Association of Professional Agricultural Consultants, Annual Meeting, February 9, Tifton.
- Toews, M.D. 2010. Stink bug ecology in southeastern farmscapes. Seminar at Entomology and Nematology Department, University of Florida. November 4, Gainesville.
- Toews, M.D. 2010. Stink bug dispersal and ecology in southeastern farmscapes. Seminar at Department of Entomology, Soils, and Plant Sciences, Clemson University. September 20, Clemson, SC.
- Toews, M.D. 2010. Stink bug ecology in southeastern farmscapes. Tri State Pecan Convention & Trade Show. June 18, Vicksburg, MS.
- Toews, M.D. 2010. Stink bug ecology in southeastern farmscapes. 103<sup>rd</sup> Annual Convention of the Southeastern Pecan Growers Association. February 27, Destin, FL.
- Toews, M.D. 2010. Detecting insect damaged plants with medical technologies. University of Georgia-Tifton Campus Seminar Series. February 11, Tifton, GA.
- Toews, M.D., P.M. Roberts and E.G. Medrano. 2010. Interrelationships among stink bug management, cotton fiber quality and boll rot. Beltwide Cotton Conferences. January 6, New Orleans, LA.
- Toews, M.D. 2009. Cotton IPM tactics at the farmscape level. Sixth International Integrated Pest Management Symposium. March 25, Portland, OR.
- Toews, M.D. 2008. Applied research in food processing ecosystems. 32<sup>nd</sup> Annual Field Day and Workshop in Entomology, hosted by Florida A&M University. November 6, Tallahassee, FL.
- Toews, MD. 2006. Mechanisms underlying the effectiveness of food processing IPM programs. Annual Meeting of the Northcentral Branch of the ESA, March 26, Bloomington, IL.
- Toews, MD, T Pearson, F.H. Arthur, and J.F. Campbell. 2005. Rapid detection of internal insect infestations in bulk grain. 53<sup>rd</sup> Annual Meeting of the Entomological Society of America, December 9, Fort Lauderdale, FL.
- Toews, M.D., J.F. Campbell, and F.H. Arthur. 2004. Monitoring red flour beetles in insecticide treated pilot scale warehouses. Annual Meeting of the Pacific Branch of the Entomological Society of America. June 21, Bozeman, MT.

### **Other Research Presentations (93)**

*Asterisks (\*) designate presentations by post docs, graduate students, or technicians in my lab*

- Toews, M.D., A. Mustafic, J. Xia, and M.A. Haidekker. 2011. Rapid detection of stink bug damaged cotton bolls. 75<sup>th</sup> Annual Meeting of the Georgia Entomological Society. April 6-8, Cordele, GA.
- \*Herbert, J.J. and M.D. Toews. 2011. Seasonal abundance and reproductive biology of brown stink bugs. 2011. 75<sup>th</sup> Annual Meeting of the Georgia Entomological Society. April 6-8, Cordele, GA.
- \*Huang, Ta-I and Michael Toews. 2011. Movement of stink bugs across Georgia farmscapes. 75<sup>th</sup> Annual Meeting of the Georgia Entomological Society. April 6-8, Cordele, GA.
- Robert, P.M and M.D. Toews. 2011. Temporal susceptibility of cotton to early season thrips. 75<sup>th</sup> Annual Meeting of the Georgia Entomological Society. April 6-8, Cordele, GA.
- \*Herbert, J.J. and M.D. Toews. 2011. Tracking the movement and reproduction of stink bugs in Georgia farmscapes. 85th Annual Meeting of the Southeastern Branch of the Entomological Society of America, March 19-22, San Juan, Puerto Rico.
- Akin, D.S., J. Reed, J. Bacheler, A. Catchot, D. Cook, C. Daves, J. Gore, J. Greene, A. Herbert, D. Kerns, R. Leonard, G. Lorenz, S. Micinski, D. Reisig, P. Roberts, S. Stewart, G. Studebaker, K. Tindall, and M. Toews. 2011. Regional survey 2009 and 2010: Thrips species composition. 85th Annual Meeting of the Southeastern Branch of the Entomological Society of America, March 19-22, San Juan, Puerto Rico.
- Toews, M.D., R.S. Tubbs, and G. Harris. 2011. Addition of starter fertilizer to shorten susceptibility to thrips. 85th Annual Meeting of the Southeastern Branch of the Entomological Society of America, March 19-22, San Juan, Puerto Rico.
- Bacheler, J., A. Herbert, J. Greene, P. Roberts, and M. Toews. 2011. Scouting for stink bug damage in southeast US cotton: description and use of a pocket decision aid. 85th Annual Meeting of the Southeastern Branch of the Entomological Society of America, March 19-22, San Juan, Puerto Rico.
- Medrano, E.G., J. F. Esquivel, A.A. Bell, and M.D. Toews. 2011. Assessment of cotton boll damage caused by stink bug feeding and transmitted pathogens. Sucking Bugs: Issues and Approaches. February 22, Texas AgriLife Research and Extension Center, Corpus Christi, TX.
- Medrano, E.G, M.D. Toews, A.A. Bell and J. Esquivel. 2011. Analysis of potential cotton pathogen reservoirs based on *Nezara viridula* (L.) collections from two different crop sources. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- Akin, D.S, G. Lorenz, G.E. Studebaker, S.D. Stewart, B.R. Leonard, S. Micinski, J.K. Greene, R. Jackson, K.C. Allen, A. Catchot, J. Reed, J. Gore, D.R. Cook. K.V. Tindall, D. Kerns, P. Roberts, M.D. Toews, A. Herbert, J.S. Bacheler and D.D. Reisig. 2011. Evaluation of automatic insecticide applications following preventative insecticides from thrips. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- Bacheler, J, D.A. Herbert, J. Greene, P. Roberts and M.D. Toews. 2011. Concept to delivery: a pocket size scouting decision aid for stink bug scouting in the southeast. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- \*Herbert, J. and M.D. Toews. 2011. A landscape perspective of stink bugs in cotton. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- Toews, M.D., J. Herbert, F.P.F. Reay-Jones and Jeremy Greene. 2011. Understanding colonization of cotton field by stink bugs. Beltwide Cotton Conferences. January 7, Atlanta, GA.

- Akin, D.S., J. Reed, G. Lorenz, G.E. Studebaker, S.D. Stewart, B.R. Leonard, S. Micinski, J.K. Greene, R. Jackson, K.C. Allen, A. Catchot, J. Reed, J. Gore, D.R. Cook, K.V. Tindall, D. Kerns, P. Roberts, M.D. Toews, A. Herbert, J.S. Bachelier and D.D. Reisig. 2011. Thrips species composition across multiple regions: a two-year summary. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- \*Griffin, J.D., R.S. Tubbs, G.H. Harris and M.D. Toews. 2011. Addition of starter fertilizer to shorten the window of susceptibility to thrips. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- Adedoyin, A., C. Li and M.D. Toews. 2011. Single cotton fiber measurement using Fraunhofer diffraction. Beltwide Cotton Conferences. January 7, Atlanta, GA.
- Reay-Jones, FPF, J. Greene, M.D. Toews. 2010. Spatiotemporal dynamics of stink bugs across the farmscapes in South Carolina and Georgia. 58<sup>th</sup> Annual Meeting of the Entomological Society of America, December 12-15, San Diego, CA.
- Toews, M.D., FPF Reay-Jones, J. Greene, J. Herbert. 2010. A chronology of stink bug populations in Georgia Farmscapes. 58<sup>th</sup> Annual Meeting of the Entomological Society of America, December 12-15, San Diego, CA.
- \*Herbert, J., and M.D. Toews. 2010. Connecting crop phenology with the reproductive capacity of stink bugs in Georgia farmscapes. 58<sup>th</sup> Annual Meeting of the Entomological Society of America, December 12-15, San Diego, CA.
- Bachelier, J.S., D.A. Herbert, J. Greene, P. Roberts, M.D. Toews. 2010. Scouting for stink bug damage in Southeast cotton: description and use of a pocket decision aid. 58<sup>th</sup> Annual Meeting of the Entomological Society of America, December 12-15, San Diego, CA.
- \*Huang, Ta-I and M.D. Toews. 2010. Movement of immature stink bugs on individual cotton plants. 58<sup>th</sup> Annual Meeting of the Entomological Society of America, December 12-15, San Diego, CA.
- Toews, M.D. 2010. Stink bug ecology and pest management. Israel Association of Field Crop Growers tour group, hosted by the Georgia Cotton Commission, November 9, Tifton, GA.
- McInnes, B., C. Li, X. Ni, M.D. Toews, JP. Wilson, and S. L. Brown. Using an electronic nose to monitor corn storage pest status. 74<sup>th</sup> Annual Meeting of the Georgia Entomological Society, 8 October, Hickory Knob State Park, McCormick, SC.
- \*Huang, T. and M.D. Toews. 2010. Selection of cotton feeding sites by the southern green stink bug. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 8, Atlanta, GA.
- Reay-Jones, F.P.F., J.K. Greene and M.D. Toews. 2010. Farmscape dynamics of stink bugs in South Carolina. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 9, Atlanta, GA.
- \*Herbert, J.J. and M.D. Toews. 2010. Stink bug reproductive potential in Georgia cotton, soybean, and peanut. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 9, Atlanta, GA.
- Toews, M.D., R.S. Tubbs, D.Q. Wann, D Sullivan, and P.M. Roberts. 2010. Mitigating thrips populations with strip tillage and winter cover crops. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 9, Atlanta, GA.
- Akin, D.S., G. Lorenz, G. Studebaker, R. Leonard, S. Stewart, J. Reed, A. Catchot, D. Cook, J. Gore, C. Daves, R. Jackson, C. Allen, D. Kerns, M. Toews, P. Roberts, K. Tindall, A. Herbert, J. Greene, and J. Bachelier. 2010. Evaluation of foliar insecticide applications

- following preventative insecticide for control of thrips. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 9, Atlanta, GA.
- Bacheler, J., A. Herbert, E. Blinka, J. Greene, P. Roberts, M. Toews, J. Van Duyn, and R. Smith. 2010. Stink bug management on cotton in the Southeast: from concept to delivery. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 9, Atlanta, GA.
- Roberts, P.M. and M. Toews. 2010. Impact of thrips damage on cotton growth dynamics. 84<sup>th</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 9, Atlanta, GA.
- Roberts, P., J. Greene, and M. Toews. 2010. Evaluating critical periods of early season thrips control. Beltwide Cotton Conferences. January 6, New Orleans, LA.
- Bacheler, J., A. Herbert, E. Blinka, J. Greene, P. Roberts, J. Van Duyn, M. Toews, D. Mott, and R. Smith. 2010. Managing stink bugs in cotton: research in the southeast region. Beltwide Cotton Conferences. January 7, New Orleans, LA.
- \*Griffin, D., S. Tubbs, D. Wann and M. Toews. 2010. Reduction of thrips populations with tillage and winter cover crops. Beltwide Cotton Conferences. January 7, New Orleans, LA.
- Herbert, J. and M. Toews. 2010. Stink bug distribution and reproductive capacity in Georgia cotton farmscapes. Beltwide Cotton Conferences. January 7, New Orleans, LA.
- Reay-Jones, F.P.F., J.D. Greene, M.D. Toews and J. Herbert 2010. Border applications of insecticide to manage stink bugs in South Carolina and Georgia cotton. Beltwide Cotton Conferences. January 7, New Orleans, LA.
- Reed, J., S. Akin, J. Bacheler, A. Catchot, D. Cook, C. Daves, J. Greene, A. Herbert, D. Kerns, R. Leonard, G. Lorenz, P. Roberts, S. Stewart, G. Studebaker, K. Tindall and M. Toews. 2010. Regional thrips trial, 2009: thrips species composition. Beltwide Cotton Conferences. January 7, New Orleans, LA.
- Akin, S., G. Lorenz, G. Studebaker, R. Leonard, S. Stewart, J. Reed, A. Catchot, D. Cook, J. Gore, C. Daves, R. Jackson, K. Allen, D. Kerns, M. Toews, P. Roberts, K. Tindall, A. Herbert, J. Greene, and J. Bacheler. 2010. Evaluation of foliar insecticide applications following preventative insecticide for control of thrips. Beltwide Cotton Conferences. January 6, New Orleans, LA.
- Ruberson, J., S.R. Shaw, M.D. Thompson, M.D. Toews, and P.M. Roberts. 2009. Temperature and host stage suitability for the parasitoid, *Aridelus rufotestaceus*. 57<sup>th</sup> Annual Meeting of the Entomological Society of America, December 16, Indianapolis, IN.
- \*Herbert, J.H. and M.D. Toews. 2009. Stink bug movement and distribution within a four crop system. 57<sup>th</sup> Annual Meeting of the Entomological Society of America, December 15, Indianapolis, IN.
- Reay-Jones, F.P.F., M.D. Toews, J. Greene, and R.B. Reeves. 2009. Sequential sampling of stink bugs and boll injury in cotton. 57<sup>th</sup> Annual Meeting of the Entomological Society of America, December 15, Indianapolis, IN.
- Toews, M.D., F.P.F. Reay-Jones, J. Greene, J. Xia, M. Haidekker, P.M. Roberts, R.B. Reeves, and D.A. Herbert. Improving detection of stink bugs in cotton. 57<sup>th</sup> Annual Meeting of the Entomological Society of America, December 15, Indianapolis, IN.
- Toews, M.D. 2009. Sampling progress on stink bugs in cotton. Cotton and Southern Corn IPM Seminar, Oct. 6, Point Clear, AL
- Greene, J., P. Roberts, J. Bacheler, M. Toews, D. Robinson, D. Mott. 2009. Current thresholds for boll-feeding bugs in southeastern cotton: a dynamic approach to a static problem. 83<sup>rd</sup>

- Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 10, Montgomery, AL.
- Roberts, P., M.D. Toews, J. Ruberson, J. Greene, J. Bacheler, J. Van Duyn, E. Blinka, A. Herbert and R. Smith. 2009. Boll feeding bugs in the southeast: where we have been and where are we going? 83<sup>rd</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 10, Montgomery, AL.
- Toews, M.D., P.M. Roberts, J.K. Greene, F. Reay-Jones, J.S. Bacheler, E. L. Blinka and D. A. Herbert Jr. 2009. Alternative sampling methods for stink bugs in southeastern cotton. 83<sup>rd</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 10, Montgomery, AL.
- Reeves, R.B., J.K. Greene, P.H. Adler, F.P.F. Reay-Jones, M.D. Toews, P.D. Gerard and A. Khalilian. 2009. Margin effects on stink bug (Heteroptera: Pentatomidae) densities in cotton as part of a variable agroecosystem. 83<sup>rd</sup> Annual Meeting of the Southeastern Branch of the Entomological Society of America. March 8, Montgomery, AL.
- Bacheler, J.S., P. Roberts, J. Greene, D. Mott, D. Robinson, M. Toews, J. Ruberson, D. Morrison, T. Pegram, F.P.F. Reay-Jones, T. Walker, C. Davis, and E. Blinka. 2009. Use of the dynamic stink bug threshold in southeastern cotton. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Blinka, E.L., D.A. Herbert, M.D. Toews, J. Bacheler, S. Malone, and J.W. Van Duyn. 2009. Comparison of two stink bug scouting techniques under field conditions. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Greene, J.K., J.S. Bacheler, P.M. Roberts, M.D. Toews, J.R. Ruberson, F.P.F. Reay-Jones, D. Robinson, D.W. Mott, D.E. Morrison, T. Pegram, T. Walker, and C. Davis. 2009. Continued evaluation of internal boll-injury treatment thresholds for stink bugs in the southeast. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Li, Changying, and M. Toews. 2009. A preliminary study of detecting stink bug infestation on cotton bolls using a gas sensor array. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Roberts, P.M., M. Toews, B. Freeman, T. Reed, R. Smith, J. Bacheler, A. Herbert, and J. Greene. 2009. Spider mites-pest status, southeastern region. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Roberts, P.M., M.D. Toews, and R.C. Kemerait. 2009. Impact of early season thrips control on root development and nematode management. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Toews, M.D., E.L. Blinka, A. Herbert, J. Bacheler, S. Malone, J. Van Duyn, P.M. Roberts, J. K. Greene, and W. Don Shurley. 2009. Balancing sampling size, accuracy, and time when monitoring stink bug damage. Beltwide Cotton Conferences, January 8, San Antonio, TX.
- Reeves, R.B., J.K. Greene, F.P.F. Reay-Jones, A. Khalilian, M.D. Toews, and P.D. Gerard. 2009. Spatial-temporal analysis of stink bug populations in cotton. Beltwide Cotton Conferences, January 7, San Antonio, TX.
- Roberts, P., M. Toews, J. Ruberson, J. Greene, J. Bacheler, J. Van Duyn, E. Blinka and A. Herbert. 2008. IPM for stink bugs in cotton: What do we know and what do we need to know? Symposium: New perspectives on stink bug biology, ecology, behavior, and management. 56<sup>th</sup> Annual Meeting of the Entomological Society of America. November 19, Reno, NV.

- Toews, M.D. 2008. Stink bug movement in Georgia farmscapes. 56<sup>th</sup> Annual Meeting of the Entomological Society of America. November 18, Reno, NV.
- Reeves, R.B., J. G. Greene, P.H. Adler, F.P.F. Reay-Jones, and M. D. Toews. 2008. Population dynamics of stink bugs (Heteroptera: Pentatomidae) in transgenic dual-toxin Bt cotton. 56<sup>th</sup> Annual Meeting of the Entomological Society of America. November 17, Reno, NV.
- Toews, M.D. 2008. Sampling stink bugs in Georgia and South Carolina cotton. Cotton Pest Seminar, October 8, Puerto Vallarta, Nuevo Vallarta, Nayarit, Mexico.
- Toews, M.D. 2008. A comparison of sampling methods for stink bugs in cotton. 72<sup>nd</sup> Annual Meeting of the Georgia Entomological Society. April 4. Cordele, GA.
- Roberts, P., J. Bacheler, J. Greene, J. Van Duyn, E. Blinka, M. Toews, J. Ruberson, and F.R. Jones. 2008. Progressive Spray tests, treatment thresholds, and fiber quality associated with stink bugs in cotton. 82<sup>nd</sup> Annual Meeting of the Southeastern Branch of the ESA. March 4, Jacksonville, FL.
- Reay-Jones, F.P. F., J.K. Greene, M.D. Toews, and R. B. Reeves. 2008. Stink bug sampling and associated injury in cotton in South Carolina. 82<sup>nd</sup> Annual Meeting of the Southeastern Branch of the ESA. March 4, Jacksonville, FL.
- Toews, M.D. 2008. Stink bug movement into cotton fields. 82<sup>nd</sup> Annual Meeting of the Southeastern Branch of the ESA. March 4. Jacksonville, FL.
- Bacheler, J.S., P.M. Roberts, J.K. Greene, M.D. Toews, D. W. Mott, J.W. Van Duyn, and J.R. Bradley. 2008. Relationship between cotton phenology and bug pressure v. yield and quality in a regressive spray environment. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Bacheler, J., P. Roberts, J. Greene, J. Van Duyn, A. Herbert, M. Toews, J. Ruberson, E. Blinka, D. Mott, D. Robinson, T. Walker, C. Davis, R. Smith, D. Morrison, and T. Pegram. 2008. A southeastern perspective on hemipteran pests. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Blinka, E., J. Bacheler, P. Roberts, J. Greene, M. Toews, D. Mott, J. Van Duyn, and J.R. Bradley. 2008. Evaluation of the relationship between stink bug pressure vs. yield under a regressive spray environment. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Greene, J., P. Roberts, J. Bacheler, J. Ruberson, J. Van Duyn, M. Toews, E. Blinka, D. Robinson, D. Mott, T. Walker, C. Davis, and R. Reeves. 2008. Refining treatment thresholds for stink bugs in the southeast – 2007. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Reeves, R.B., J.K. Greene, F.P.F. Reay-Jones, and M.D. Toews. 2008. Density and distribution of stink bugs (Hemiptera: Pentatomidae) in cotton, *Gossypium hirsutum*, as influenced by surrounding ecotones. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Roberts, P., J. Ruberson, M. Toews, A. Knowlton, J. Bacheler, D. Mott, D. Morrison, T. Pegram, J. Greene, D. Robinson, T. Walker, and R. Smith. 2008. Influence of boll feeding bugs on cotton fiber quality. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Toews, M.D., J. Greene, F.P.F. Reay-Jones, and R.B. Reeves. 2008. A comparison of sampling techniques for stink bugs in cotton. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Toews, M.D., and D. Griffin. 2008. Performance of seed treatments for early season thrips management. Beltwide Cotton Conferences, January 11, Nashville, TN.
- Toews, M.D. 2007. Distribution of phytophagous stink bugs in Georgia cotton fields. 55<sup>th</sup> Annual Meeting of the Entomological Society of America, December 12, San Diego, CA.
- Toews, MD. 2007. Rapid assessment of insect fragments in flour. 71<sup>st</sup> Annual Meeting of the Georgia Entomological Society, May 18, Athens, GA.

- Toews, MD, JC Campbell, and FH Arthur. 2006. Do conventional pesticide applications decrease pest populations in refugia, or just our ability to detect them? 54<sup>th</sup> Annual Meeting of the Entomological Society of America, December 10-13, Indianapolis, IN.
- Toews, MD. 2006. Mechanisms underlying the effectiveness of food processing IPM programs. 5<sup>th</sup> National Integrated Pest Management Symposium, April 4-6, St. Louis, MO.
- Toews, MD & JF Campbell. 2006. Monitoring for pest activity. Kansas Pest Control Association Spring Conference and Exhibition, March 2, McPherson, KS.
- Toews, MD, FH Arthur, JF Campbell, and S. Ramaswamy. 2005. Immigration of lesser grain borers into seed wheat warehouses. 5<sup>th</sup> Annual Meeting of the Consortium for Integrated Management of Stored product Insects Pests (CIMSPIP). October 20-21, Manhattan, KS.
- Toews, M.D., T.C. Pearson, F.H. Arthur, and J.F. Campbell. 2005. Imaging and automated detection of rice weevil pupae in wheat. Rice Industry Alliance Meeting. May 25-26, Fayetteville, AR.
- Toews, M.D., J.F. Campbell, F.H. Arthur, and S.B. Ramaswamy. 2005. Beetle immigration into foundation seed warehouses. Annual Meeting of the North Central Branch of the Entomological Society of America. March 20-23, West Lafayette, IN.
- Toews, M.D., J.F. Campbell, F.H. Arthur, and S.B. Ramaswamy. 2004. Flight activity of the lesser grain borer near certified seed facilities. 52<sup>nd</sup> Annual Meeting of the Entomological Society of America, November 14-17, Salt Lake City, UT.
- Toews, M.D. 2004. Detection of internal insects in rough rice. Rice Industry Alliance Meeting. May 27, Fayetteville, AR.
- Toews, M.D., F.H. Arthur, and J.F. Campbell. 2003. Fumigation impact on stored product insects in a grain processing facility. 51<sup>st</sup> Annual Meeting of the Entomological Society of America. Oct. 26-29, Cincinnati, OH.
- Toews, M.D. and Bh. Subramanyam. 2003. Trials with surfaces & biocontrol agents. Spinosad data review and product update meeting. Presented by Dow AgroSciences and hosted by Kansas State University. May 20, Manhattan, KS.
- Toews, M.D., and Bh. Subramanyam. 2002. Compatibility of natural enemies and spinosad in stored wheat. Annual Meeting of the Entomological Society of America. November 17-20, Fort Lauderdale, FL.
- Toews, M.D. 2002. Lead trainer in the *prevention through sanitation* sessions and team trainer in the *monitoring insects in bulk grain* sessions at the Sixth National Stored Product IPM Training Conference. Aug. 19-21, Manhattan, KS.
- Toews, M.D. and Bh. Subramanyam. 2002. Development and validation of sequential sampling plans for *Sitophilus* species associated with pet specialty stores. 8<sup>th</sup> International Working Conference on stored Product Protection, July 23, York, UK.
- Toews, M.D., Bh. Subramanyam, and L. Fang. 2001. Method of exposure and grain condition on the time-mortality responses of two stored product insects. Annual Meeting of the Entomological Society of America. December 9-12, San Diego, CA.
- Toews, M.D. 2001. Pest management practices, use of pesticides, and pesticide residues in the US stored wheat marketing system. Third stored product pest management and heat treatment workshop. Aug 7, Kansas State University, Manhattan, KS.
- Toews, M.D., and T.W. Phillips. 2000. Use of traps to estimate insect population density in concrete silos. Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of America. December 3-6, Montréal, Québec, Canada.

- Toews, M.D. 2000. New methods for trapping insects. Television interview on SunUp, an agricultural based news program. Sept. 28, Stillwater, OK.
- Toews, M.D. 2000. Insect traps for grain storage. Television interview on SunUP, an agricultural based news program. June 22, Stillwater, OK.
- Toews, M.D., G.W. Cuperus, and T.W. Phillips. 1998. Decrease in population size of *Rhyzopertha dominica* (Coleoptera: Bostrichidae) at different temperatures in divergent wheat cultivars by the parasitoid *Theocolax elegans* (Hymenoptera: Pteromalidae). 7<sup>th</sup> International Working Conference on Stored-product Protection, October 16, Beijing, China.
- Toews, M.D., G.W. Cuperus, T.W. Phillips, and EL. Bonjour. 1997. Susceptibility of lesser grain borer to *Choetospila elegans* in 5 cultivars of stored wheat. Annual Meeting of the Entomological Society of America. December 14-18, Nashville, TN.

### **Extension Presentations (28)**

- Toews, M.D. 2011. Update on cotton insect research. County Agent Training Day, June 30.
- Toews, M.D. 2011. Update on cotton pest management. Georgia Cotton Commission Field Day, July 8.
- Toews, M.D. 2011. How animals and plants survive the Georgia heat. UGA-Tifton Campus Ag Awareness Day, May 5.
- Toews, M.D. 2011. Research update on thrips in cotton. UGA Cotton Production Workshop, Tifton, GA, January 26.
- Toews, M.D. 2010. Landscape management of stink bugs. UGA-Tifton Campus cotton and peanuts field day, Tifton, GA. September 8.
- Toews, M.D. 2010. Landscape management of stink bugs. SWREC Cotton, peanuts, and soybeans field day, Plains, GA, Aug. 26.
- Toews, M.D. 2010. Landscape management of stink bugs. SEREC Field Day, Midville, GA, Aug. 18.
- Toews, M.D. 2010. Cotton pest research update. Georgia Farm Bureau Commodity Conference. July 29, Tifton, GA.
- Toews, M.D. 2010. Thrips and stink bug update. Agronomic Crops Field Day, County Agent Training. June 24, Tifton, GA.
- Toews, M.D. 2010. Stink bug research update. Georgia Cotton Conference. Jan. 27, Tifton, GA.
- Toews, M.D. 2009. Stink bug movement and distribution in cotton. Cotton and Peanut Research Field Day. September 9, 2009. Tifton, GA.
- Toews, M.D. 2009. Stink bugs. SWREC Cotton, Peanuts and Soybeans Field Day. August 25, Plains, GA.
- Toews, M.D. 2009. Research update on thrips and stink bugs in cotton. Agronomic Crops Field Day, County Agent Training. June 25, Tifton, GA.
- Toews, M.D. 2009. Bug pests. Cotton Scout School. June 8, Tifton, GA.
- Toews, M.D. 2009. Cotton insect update. Georgia Cotton Conference. Jan. 28, Tifton, GA.
- Toews, M.D. 2008. Insect movement. Cotton and Peanut Research Field Day, Sept 10, Tifton, GA.
- Toews, M.D. 2008. Stink bugs in cotton. SEREC Field Day and Grand Re-opening. Aug. 20, Midville, GA.
- Toews, M.D. 2008. Cotton pest update. Agronomic Crops Field Day, County Agent Training. June 26, Tifton, GA.

- Toews, M.D. 2008. Insects of Georgia Cotton. RiverQuest Summer Camp Program. June 20, Albany, GA.
- Toews, M.D. 2008. Bug pests of cotton. Cotton Scout School. June 2, Tifton, GA.
- Toews, M.D. 2008. Stink bug scouting and management in cotton. Georgia Cotton Conference. Jan. 30, Tifton, GA.
- Toews, M.D. 2007. Cotton insect research. Georgia Cotton Research Tour. August 21, Tifton, GA.
- Toews, M.D. 2007. Insects of Georgia. Annie Bell Clarke Primary School, May 2, Tifton, GA.
- Toews, MD. 2006. Insecticide usage in post harvest ecosystems. State of Kansas Commercial Pesticide Applicator Training Program. October 17, Hays, KS.
- Toews, M.D. 2004. Insect management for grain storage and processing. State of Kansas Cooperative Extension Service commercial pesticide applicator training programs. October 22, Topeka, KS.
- Toews, M.D. 2002. Pantry pest identification and control, and monitoring for stored product insects. State of Kansas Cooperative Extension Service commercial pesticide applicator training programs. November 5-6, Garden City and Emporia, KS.
- Toews, M.D. 2002. Stored product insects: identification. Workshop organized for Agrilience Company's agronomy field scouts. May 15-16, Garden City, KS.
- Toews, M.D. 2002. Stored product insect biology and identification. April 15-16, presentation for the ProFume working group at Dow AgroSciences, Indianapolis, IN.
- Toews, M.D. 2001. Integrated pest management for stored product insects in commercial elevators. Missouri Dept. of Agriculture Pesticide Certification Training. January 29, Columbia, MO.

### **Media Coverage of Research Projects (6)**

- Dean, Kyle. 2011. Stink bugs in cotton. Radio interview on FM 107.5 WTIF. June 16.
- Haire, Brad. 2010. Sniffing out stink bugs. Magazine article in Southscapes. 6: 16-18.
- Southern Region IPM Center. 2009. New report sheds light on stink bug management. Article in the Southern Region IPM Center Annual Update, published for the National IPM Committee Meeting, October 2009. Pg. 5.
- Haire, Brad. 2009. UGA researcher sleuths stink bug's on-farm travels. Newspaper article in Georgia FACES, September 25.  
<http://georgiafaces.caes.uga.edu/storypage.cfm?storyid=3830>.
- Bishop, Leah. 2009. Stink bugs major pests in Southeast. Newspaper article in The Red and Black, September 18.
- Hull, Peter. 2009. Clemson researchers awarded grant to study 'No. 1 threat' to Southeast agriculture. Newspaper article in Clemson University Newsroom, August 25.  
[http://www.clemson.edu/media-relations/article.php?article\\_id=2191](http://www.clemson.edu/media-relations/article.php?article_id=2191).

### **Peer Reviewer (20)**

- Annals of the Entomological Society of America
- Canadian Entomologist
- Crop Protection
- Current Microbiology
- Environmental Entomology

- Entomologia Experimentalis et Applicata
- Insect Science
- Journal of Applied Entomology
- Journal of Cotton Science
- Journal of Economic Entomology
- Journal of Insectology
- Journal of Insect Science
- Journal of Pest Science
- Journal of the Science of Food and Agriculture
- Journal of Stored Products Research
- Kuwait Journal of Science and Engineering
- Pakistan Journal of Zoology
- The Philippine Agricultural Scientist
- Phytoparasitica
- Revista Colombiana de Entomologia

**Presubmission Reviewer (13)**

- Clemson University
- Fort Valley State University
- Kansas State University
- North Carolina State University
- University of Agriculture, Faisalabad, Pakistan.
- University of Florida
- University of Georgia
- University of Minnesota
- USDA-ARS APMRU
- USDA-ARS CGAHR
- USDA-ARS CGBRU
- USDA-ARS CMAVE
- USDA-ARS WICSRU

**Grant Panelist (3)**

- National Institute of Food and Agriculture, Agriculture and Food Research Initiative (2011)
- Kentucky Science and Engineering Foundation (2009)
- California Department of Food and Agriculture (2007)

**Professional Affiliations (3)**

- Entomological Society of America (ESA), 1995 to present.
- Sigma Xi, 2001 to present.
- Georgia Entomological Society, 2007 to present.

**Professional Service**

- President elect, Tifton Sigma Xi Chapter. 2011.
- Local arrangements committee (chair 2011). Georgia Entomological Society. 2011.

- Judging panelist (chair 2010). ESA Shripat Kamble Urban Entomology Graduate Student Award. 2010.
- Judging panelist. SEB ESA Kirby L. Hays Award. 2008-2010.
- Judging panelist. SEB ESA John Henry Comstock Award. 2008-2010.
- Judging panelist. Pioneer Hi-Bred International Graduate Student Fellowship. 2008-2010.
- Organizer and Moderator for PIE Program Symposium titled: Transcending Geography with Regional Cotton IPM Projects. ESA National Meeting, 2010.
- Session Moderator. Beltwide Cotton Conferences. 2009-2011.
- Student Poster/Paper Competition Judge. Annual Meetings of the Entomological Association of America. 2005-2010.
- Student Poster/Paper Competition Judge. Annual Meetings of the Southeastern Branch of the Entomological Society of America. 2008-2011.
- Program Committee. Annual Meeting of the Southeastern Branch of the Entomological Society of America. 2010.
- Student Awards Committee. Annual Meeting of the Southeastern Branch of the Entomological Society of America. 2009-2011.
- *Ad Hoc* By-Laws Revisions Committee. Annual Meeting of the Southeastern Branch of the Entomological Society of America. 2009-2011.
- Audit Committee. Georgia Entomological Society. 2010-2011.
- Program Committee (chair 2009). Tifton Sigma Xi Chapter. 2008-2009.
- Student Affairs Committee (chair 2011). Georgia Entomological Society. 2009-2011.
- Secretary. Tifton Sigma Xi Chapter. 2008-2009.
- Session Moderator. Student paper competition, Georgia Entomological Society. 2008.
- Student Poster/Paper Competition Judge. Annual Meetings of the North Central Branch of the Entomological Society of America. 2005-2006.
- Organizer and moderator of Stored Products Protection Symposium. Annual Meeting of the ESA. 2002.
- Student Affairs Committee. Annual Meeting of the Entomological Association of America. 1998-2000.
- Student Liaison to Program Committee and Local Arrangements Committee. Annual Meeting of the ESA. 2000.
- Student Affairs Committee (Chair, 2000). Southwestern Branch of the Entomological Society of America. 1998-2000.

### **University Service**

- UGA Tifton Campus Cotton Micro Gin Oversight Committee. 2011.
- UGA CAES Undergraduate Student Affairs Committee. 2009-2011.
- UGA CAES Faculty Affairs and Grievances Committee. 2007-2010.
- UGA Tifton Campus Social Committee. 2007-2011.
- UGA Tifton Campus Library Committee. 2007-2011.
- UGA Tifton Campus Safety and Hazard Committee. 2008-2011.

### **References**

Available upon request.