

CURRICULUM VITA
Maurice Blake Layton, Jr., Ph.D.

Extension Professor of Entomology

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- Education:** *1988 Ph.D., Louisiana State University*
 Major: Entomology, Minor: Agronomy
 Dissertation: Response of Soybean Growth and Dinitrogen-fixing Ability to Insect-induced Defoliation
 Major Professor: Dr. David J. Boethel
- 1983 M.S., Louisiana State University*
 Major: Entomology
 Thesis: The Effects of Feeding by Bean Leaf Beetle Larvae, *Cerotoma trifurcata* on Nodulation and Nitrogen Fixation of Soybeans
 Major Professor: Dr. Leo Dale Newsom
- 1977 B.S., Mississippi State University*
 Major: Entomology

Professional Employment and Relevant Experience:

Mississippi State University Extension Service, Extension Entomology Specialist: February 2004 to present. Appointment is 100% extension with responsibilities in urban and commercial horticultural entomology, household and structural pests, home and commercial vegetable entomology, and forage insect pests. Duties include developing and maintaining insect management and control recommendations for these areas and developing and presenting educational programs, also provide insect identification diagnostic services and insect control consultation services to Mississippi homeowners and commercial growers and insect management professionals in structural and horticultural pest control.

Mississippi Cooperative Extension Service, Extension Cotton Entomology Specialist: July 1993 to Feb. 2004. Appointment was 100% extension with commodity responsibilities allocated 95% to cotton and 5% to pecans. Duties included working with other research and extension staff to develop and maintain current cotton insect control recommendations and developing and disseminating information and educational material on cotton IPM.

Mississippi Cooperative Extension Service, Area Entomologist: 1988-June 1993. Employed as an Area Entomologist with the MSU Extension Service, located at the Central Mississippi Research and Extension Center in Raymond, MS (appointment was 85% extension, 15% research). Duties included working with county agents, producers, consultants, researchers and industry representatives in a 20 county area of southwest Mississippi. Responsibilities included planning and conducting on-farm insecticide efficacy trials (some small-plot, some large-plot, some unreplicated, some replicated); conducting on-farm demonstrations of IPM techniques; assisting growers and county agents in making control decisions; trouble shooting reasons for control failures and insect outbreaks; updating and developing Extension Insect Control Guides; and preparing and presenting educational presentations on insects and insect management. While the majority of duties involved work with the major row crops (cotton, soybeans, corn, sorghum), I also was responsible for entomological problems in all other areas as well (livestock, forages, fruits, nuts, vegetables, ornamentals, household) and had state extension entomology responsibilities in corn, pecans, and Christmas trees.

Teaching: 1991 and 1993. During the spring semester of 1993 and the Fall semester of 1991, I cooperated with Dr. David Ingram in team teaching course HLT 2113 A1, Ornamental and Turf Pest Management, at the Raymond branch of Hinds Community College. This was a 3 credit hour class on insects and diseases of turf and ornamental plants with Dr. Ingram teaching the pathology section, and myself teaching the entomology portion. The course was offered at night and was taken primarily by students enrolled in the Landscape Management Technology curriculum direct by Ms. Martha Hill.

Research Associate: 1985-1988. Louisiana State University, Employed as a full-time research associate with Dr. D. J. Boethel to conduct research in soybeans insect pest management. Duties included conducting a wide variety of field, greenhouse, and laboratory research involving all facets of soybean insect pest management.

Graduate Research Assistant: 1984-1985. Louisiana State University, Employed as a graduate research assistant with Dr. D. J. Boethel while working toward the Ph.D. degree in Entomology.

Household Pest Control: 1982-1988. Baton Rouge, LA, Owned and operated a household pest control service (part time) servicing approximately 300 apartments per month.

Crop Production: 1980-1983. Employed on a commercial row crop farm in West Baton Rouge parish, LA (John Kissner Jr.), gained extensive experience in commercial production of soybeans, wheat and rice.

Graduate Research Assistant: 1978-1979. Louisiana State University, Worked as a research assistant with Dr. L. D. Newsom while working toward the M.S. Degree in Entomology.

Cotton Scout: Summer 1977. Employed by Dr. K. K. Shaunak to scout cotton near Canton, MS., gained experience in cotton insect pest management and cotton production practices.

Teaching Assistant: 1973-1977. Worked as student assistant to Dr. H. B. Green (20 hours/wk, 8 semesters) while attending Mississippi State University; was responsible for preparation of instructional materials and test materials, grading tests, and interacting with the 50 to 80 students per semester who took the general entomology course.

Livestock Protection: 1972-75. Employed by the Mississippi Board of Animal Health for several summers to inoculate heifer calves for brucellosis. This job required that I work closely with livestock producers in that I had to contact the farmers, arrange a time and place to perform the vaccinations, vaccinate and identify the calves, and file appropriate papers with the Board of Animal Health.

Commercial Vegetable Production: Summers of 1975 & 1975. Self employed in the commercial production of many types of vegetable crops (tomatoes, peas, snap beans, okra, squash, watermelons, etc.). Gained first hand experience with many insect pests of vegetables.

Agricultural Inspection: Summer 1973. Employed by the Mississippi Division of Plant Industry to assist District Entomologists and Plant Pathologists in the Inspection of apiaries, nurseries, orchards and pest control operators.

Farm Experience: Grade school-1973. Grew up a diverse, working farm in Simpson County, MS where I gained extensive experience in the production of corn, soybeans, forage crops, timber, vegetable crops, cattle, swine, and broilers.

4-H Experience: 1964-1973. Active in 4-H work, major project was entomology, gained early experience in insect identification and control, as well as in visual presentation and public speaking, also gained experience as an amateur bee keeper, also exhibited cattle and hogs in state, district, and local livestock shows, competed on livestock judging teams.

Honor Societies:

- Alpha Zeta
- Gamma Sigma Delta
- Phi Kappa Phi

- 4-H Allstars

Honors and Awards:

- Distinguished Service Award, 2016, Presented by Mississippi Entomological Association
- StatePride Award, 2010, Presented by Mississippi State University (\$2500)
- Merit Award, 2003, Presented by Mississippi Entomological Association
- Merit Award, 2000, Presented by Mississippi Entomological Association
- Extension Specialist Appreciation Award, 1998, Presented by the National Association of County Agricultural Agents
- Achievement Award, 1993, Presented by the National Association of County Agricultural Agents
- Certificate of Appreciation, 1995, Mississippi Agricultural Consultants Association
- Mississippi Farm Bureau, Boswell Stevens Scholarship for 4 years (1973-1977) while attending Mississippi State University
- Mississippi Entomology Association Scholarship Award (1973)
- Mississippi Wildlife Federation Youth Conservationist of the Year Award (1972)
- Awarded trip to National 4-H Citizenship Shortcourse in Washington, DC (1972)
- State winner in 4-H Entomology Record Contest, awarded trip to National 4-H Club Congress in Chicago and Southeast regional winner at the national level (1972)
- State winner in 4-H insect identification contest, as a junior and as a senior
- State winner in 4-H Entomology visual presentation contest, as a junior and as a senior

Graduate Student Training:

Graduate Co-Major Professor:

David Scott Akin, Ph.D., Entomology, Graduated, May 2004, Dissertation: Efficacy and Resistance Management Implications of Cotton Expressing Two Insecticidal Proteins of *Bacillus thuringiensis* var. *kurstaki*

Graduate Committee Member:

Have served as graduate committee member for nine Masters and Ph.D. Students in Entomology and Plant and Soil Science.

Publications:

Extension Publications (examples):

Layton, B., 2016, Crape Myrtle Bark Scale, Identification and Control, MSU-ES Publication 2938, 8 pp.

- Layton, B.**, 2016, Insect Pests of the Home Vegetable Garden, MSU-ES Publication 2347, 18 pp.
- Layton, B.**, 2016, Insect Control in Commercial Turf, MSU-ES Publication 1858, 16 pp.
- Kelly, L., V. Maddox, **B. Layton**, and A. Henn, 2016, Care and Selection of Indoor Plants, MSU-ES Publication 1012, 12 pp.
- McCurdy, J., B. Stewart, A. Henn, **B. Layton**, and M. Richard, 2016, Managing Sports Fields in Mississippi, MSU-ES Publication 2086, 16 pp.
- M. Burnham, D. Nagel, **B. Layton**, A. Henn and D. Ingram, 2016. Garden Tabloid, MSU-ES Publication, 31pp.
- Willis, John, B. Self and **B. Layton**, 2016, Signs and Symptoms of Emerald Ash Borer, MSU-ES Publication 2896, 4 pp.
- Layton, M.B.**, J. Goddard, K.T. Edwards and J. McGown, 2015, Control Fleas: On Your Pet, In Your House, and In Your Yard, MSU-ES Publication 2597, 7 pp.
- Layton, B.** and A. Henn, 2014, Disease and Insect Control for Homegrown Peaches and Plums, MSU-ES Publication 2858, 12 pp.
- Layton, M.B.**, 2014, Insect Pests of Houseplants, MSU-ES Publication 2652, 6 pp.
- Layton, M. B.**, 2014, Insect Pests of Roses, MSU-ES Publication 2472, 10 pp.
- Collins, P., Denny, G., **Layton, B.**, and Henn, A., 2014, Roses in Mississippi, MSU-ES Publication 2835, 31pp.
- Layton, B.**, and D. Ingram, 2013, Greenhouse Tomatoes, Pest Management in Mississippi, MSU-ES Publication 1861, 24 pp.
- Layton, M. B.**, 2013, What Home Builders Need to Know about Termites, MSU-ES Publication 2765, 8 pp.
- Layton, M.B.**, 2013, Control Insect Pests in and around the Home Lawn, MSU-ES Publication 2331, 23 pp.
- Layton, M. B.**, 2012, Fall Armyworms in Hayfields and Pastures, MSU-ES Publication 2717, 4 pp.
- Layton, M. B.**, 2011, Control Fire Ants in Your Yard, MSU-ES Publication 2429. 4 pp.
- Layton, M. B.**, 2011, Control Household Insect Pests, MSU-ES Publication 2443, 43 pp.
- Layton, M. B.**, 2011, Insect Pests of Ornamental Plants in the Home Landscape, MSU-ES Publication 2369, 39 pp.
- Layton, M. B.**, 2010, 4-H Insect Identification Study Guide for Senior 4-Hers MSU-ES Publication 2591, 8 pp.
- Layton, M. B.**, 2010, 4-H Insect Identification Study Guide for Senior 4-Hers MSU-ES Publication 2592, 4 pp.
- Goddard, J. and **M. B. Layton**, 2010, Spiders: Brown Recluse and Black Widow, MSU-ES Publication 2154, 7 pp.
- Layton, M. B** and J. McGown, 2009, Protect Your House from Termites, MSU-ES Publication 2568, 15 pp.

Wells, W., **B. Layton**, A. Henn, and J. Taylor, 2009, Establish and Manage Your Home Lawn, MSU-ES Publication 1322, 16 pp.

Layton, M. B., 2008, Integrated Pest Management in the Home Landscape, MSU-ES Publication 2483, 6 pp.
Rankins, D, Nagle, **B. Layton**, D. Ingram, D. Nagel, and J. Black, 2008, Growing Watermelons for Farmers' Markets, MSU-ES Publication 2468, 16 pp.

Snyder, R., D. Ingram and **M.B. Layton**, 2008, Organic Vegetable IPM Guide, MSU-ES Publication 2036.

Layton, M. B., 2008, Control Fire Ants in Hayfields, Pastures, and Barnyards, MSU-ES Publication, 2493. 3 pp.

Layton, M. B., 2008, Control Fire Ants in Commercial Fruits, Nuts, and Vegetables, MSU-ES Publication, 2494. 3 pp.

Nagle, D., A. Rankins, D. Ingram, **B. Layton**, J. Black, 2007, Greens Production for Farmers Markets, MSU-ES Publication 2444.

Held, D. and **M. B. Layton**, 2007, Insect Control in Commercial Turf, MSU-ES Publication 1858, 16 pp.

Jarratt, J. H., **B. Layton**, J. Goddard and J. A. MacGown, 2005, Insect Management Guidelines for Dairy Cattle and Dairies, MSU-ES Publication 2357.

Layton, M.B., 2004, Cotton Insect Control Guide, 2004, MSU-ES Publication 343, (also produced the Cotton Insect Control Guide each year from 1994-2003)

Jarratt, J. H., E. Nebeker, and **B. Layton**, 2004, Asian Ambrosia Beetle Biology and Control, MSU-ES Publication 2345.

Jarratt, J. H., J. Goddard, **B. Layton**, and J. A. MacGown, 2004, The Southern House Mosquito and Related Species, Biology and Control, MSU-ES Publication 2336.

Layton, M.B. D. Ingram, and J. Byrd, 2003, Commercial Pecan Pest Control, MSU-ES Publication 461.

Layton, M.B., 2002, The Boll Weevil in Mississippi: Gone But Not Forgotten, MSU-ES Publ. 2294. 11 pp.

Layton, M.B. and J.T. Reed, 2002, Biology and Control of Thrips on Seedling Cotton, MSU-ES Publ. 2302, 8 pp.

Layton, M.B. 1996. Scouting and Management of Bt-Transgenic Cotton, Mississippi Cooperative Extension Service Publication 2108.

Layton, M.B., R.B. Head, J.P. Harris, and Frank Davis. 1993. Control Insects Attacking Corn, Mississippi Cooperative Extension Service Publication 899.

Layton, M.B., and J.P. Harris, 1993. Biology and Control of Christmas Tree Insects, Mississippi Cooperative Extension Service Publication 1765.

Refereed Publications:

Akin, D.S., S.D. Stewart, **M.B. Layton**, and J.A. Mills, 2011, Efficacy of Cotton Expressing Pyramided *Bacillus thuringiensis* Insecticidal Proteins Against Lepidopteran Pests. *Midsouth Entomologist*, 4(1):1-13.

Layton, B. McAdory, J. and Hudson, H., 2010, Effectiveness of Fire Ant Mound Treatment Products for Home Lawns, *Midsouth Entomol.*, 3:42-43.

- MacGown, J. and **B. Layton**, 2010, The Invasive Raspberry Crazy Ant, *Nylanderia* sp. near *pubens* (Hymenoptera: Formicidae), Reported from Mississippi, Midsouth Entomol., 3:44-47.
- J. J. Riggins, M. Hughes, J. A. Smith, A. E. Mayfield, III, **B. Layton**, C. Balbalian, and R. Campbell, 2010, First Occurrence of Laurel Wilt Disease Caused by *Raffaelea lauricola* on Redbay Trees in Mississippi, Plant Disease, 94: 5, p 634.
- Layton, M.B.**, J.L. Long, and D. Steinkraus, 2001, Influence of Boll Weevil Eradication on Cotton Aphid and Bandedwinged Whitefly Populations in Mississippi Cotton, Southwest. Entomol. Suppl. No. 24, pp. 57-67.
- Stewart, S.D., **M.B. Layton**, M.R. Williams, D. Ingram, and W. Maily, 2001, Response of cotton to pre-bloom square loss, J. Econ. Entomol., 94: 388 - 396.
- Layton, M.B.**, 2000. Biology and Damage of the Tarnished Plant Bug, *Lygus lineolaris*, in Cotton, Southwest. Entomol. Suppl. 23: 7-20.
- Boethel, D.J., J.S. Russin, A.T. Wier, **M.B. Layton**, J.S. Mink, and M.T. Boyd, 2000, Soybean Delayed Maturity Associated With Southern Green Stink bug, *Nezara viridula* (L.) injury at various plant phenological stages., J. Econ. Entomol. 93:707-712.
- Stewart, S.D., and **M.B. Layton**, 2000, Cultural controls for the management of Lygus populations in cotton, Southwest. Entomol. Suppl. 23: 83-95.
- Leonard, B.R., D.J. Boethel, A.N. Sparks Jr., **M.B. Layton**, J.S. Mink, A.M. Pavloff, E. Burris, and J.B. Graves. 1990. Variations in Response of the Soybean Looper (Lepidoptera: Noctuidae) to selected Insecticides in Louisiana. Journal of Economic Entomology. 83: 27-34.
- Russin, J.S., **M.B. Layton**, D.J. Boethel, E.C. McGawley, J.P. Snow, and G.T. Bergeren. 1990. Growth, Nodule Development, and N₂-Fixing Ability in Soybean Damaged by an Insect-Fungus-Nematode Pest Complex. Journal of Economic Entomology. 83: 247-254.
- Layton, M.B.** & D.J. Boethel. 1989. Response of Soybean Growth and N₂-fixing Ability to Progressive Insect-induced Defoliation. Journal of Economic Entomology. 82: 275-280.
- Orr, D.B., D.J. Boethel, & **M.B. Layton**. 1989. Effect of Insecticide Applications in Soybean on *Trissolcus basalus* (Hymenoptera: Scelionidae). Journal of Economic Entomology. 82: 1078-1084.
- Russin, J.S., **M.B. Layton**, D.J. Boethel, E.C. McGawley, J.P. Snow, and G.T. Berggren. 1989. Development of *Heterodera glycines* on Soybean damaged by Soybean Looper and Stem Canker. J. Nematol. 21: 108-114.
- Russin, J.S., **M.B. Layton**, D.J. Boethel, E.C. McGawley, J.P. Snow, and G.T. Berggren. 1989. Severity of Soybean Stem Canker Disease Affected by Insect-induced Defoliation on Soybean. Plant Disease. 73: 144-147.
- Layton, M.B.**, & D.J. Boethel. 1988. Recovery of N₂ Fixation by Soybean Following Insect-induced Defoliation. Journal of Economic Entomology. 81: 1217-1225.
- Russin, J.S., D.B. Orr, **M.B. Layton**, & D.J. Boethel. 1988. Incidence of Microorganisms in Soybean Seeds Damaged by Stink Bug Feeding. Phytopathology. 78: 306-310.
- Layton, M.B.**, & D.J. Boethel. 1987. Reduction in N₂ Fixation by Soybean in Response to Insect-induced Defoliation. Journal of Economic Entomology. 80: 1319-1324.
- Layton, M.B.**, D.J. Boethel, & C.M. Smith. 1987. Resistance to Adult Bean Leaf Beetle and Banded Cucumber Beetle (Coleoptera: Chrysomelidae) in Soybean. Journal of Economic Entomology. 80:

151-155.

Russin, J.S., **M.B. Layton**, D.B. Orr, & D.J. Boethel. 1987. Within-plant Distribution of, and Partial Compensation for, Stink Bug (Heteroptera: Pentatomidae) Damage to Soybean Seeds. *Journal of Economic Entomology*. 80: 215-200.

Bulletins:

Goddard, J. and **B. Layton**, 2006, A Guide to the Ticks of Mississippi, Technical Bulletin 1150, Mississippi Agricultural and Forestry Experiment Station.

MacGown, J. A., R. L. Brown, J. G. Hill, and **B. Layton**., 2007, Carpenter ants (Hymenoptera: Formicidae: *Camponotus*) of Mississippi. Mississippi Agricultural and Forestry Experiment Station Technical Bulletin 1158.

Abstracts and Proceedings:

Author or co-author of 50+ articles or abstracts published in proceedings of professional meetings.

Other Publications:

Tomaso-Peterson, M., W. Wells, D. Held, **B. Layton**, G. Munshaw, and A. Henn, 2009, A Guide for Southern Turfgrass Pests and Their Management. Mississippi State University-Extension Service.

Abney, M.R., J.F. Walgenbach, G.G. Kennedy, P. Smith, R. Bessin, A. Sparks, D. Riley, **M. Layton**, F. Hale, and A.L. Morgan, 2009, Insect Control for Commercial Vegetables, in 2009 Vegetable Crop Handbook, Southeastern Vegetable Extension Workers Group.

Louws F., Davis J., Gunter C., Monks D., Jennings K., Walgenbach J., Abney M.R., Hoyt G., Boyette M., Yarborough B., Hardison K., Augostini N., Kemble J., Smith J.P., Kelley W.T., Boyhan G., Sparks A.N., Sumner P., Boudreaux J., **Layton M.B.**, Nagel D., R. Snyder, 2009, Commercial Production Of Staked Tomatoes in the Southeast, Eds. K. Ivors and D. Sanders.

Layton, M.B., 2004, Into the Fire, A Review of the Biology and Control of Fire Ants, with Special Reference to Sensitive Indoor Accounts, pp 80-92, *Pest Control Technology*, April 2004.

Steinkraus, D.C., J. Zawislak, G. Lorenz, **M.B. Layton** and B.R. Leonard, 2003, Spider Mites on Cotton in the MidSouth, Univ. Ark, 8 pp.

Hardee, D.D., J.W. Van Duyn, **M.B. Layton** and R.D. Bagwell, 2001, Bt Cotton and Management of the Tobacco Budworm-Bollworm Complex. USDA-ARS Pub. No. ARS-154, 37pp.

Layton, M.B. 1995. Current Trends in Insect Control: Cotton, in *Insect Control Guide*. Meister Publishing Company. pp 86-88.

Layton, M.B. 1995. Scouting in Insect Control: Cotton, in *Insect Control Guide*. Meister Publishing Company. pp 89-90.

Layton, M.B. & D.J. Boethel. 1988. Defoliation by Insects Reduces Nitrogen-fixing Ability of Soybean. *Louisiana Agriculture*. 31 (3): 18-19.

Russin, J.S., **M.B. Layton**, D.B. Orr, and D.J. Boethel. 1988. Stink Bug Damage to Soybeans. *Louisiana*

Insecticide Efficacy Trials:

Author or Co-Author of 35+ articles on results of insecticide efficacy trials published in Arthropod Management Trials.

Newsletters:

Layton, M.B., 2015 to 2016. Bug's Eye View E-Newsletter, 31 and 34 electronic issues per year. Recipients include extension personnel, master gardeners, commercial pest control companies, commercial vegetable and horticulture producers, pest management professionals, media professionals, horticulture professionals, and commercial distributors.

Layton, M.B., 2004 to 2014. Bug Wise Newsletter, 10 to 21 'hard copy' issues per year. Recipients include extension personnel, master gardeners, commercial pest control companies, commercial vegetable and horticulture producers, pest management professionals, media professionals, horticulture professionals, and commercial distributors.

Layton, M.B., et. al. 1993-2003. Mississippi Cotton Insect Situation Newsletter, 14 to 17 weekly 'hard copy' issues per year, produced during the cotton insect management season. Recipients included cotton producers, professional crop consultants, extension personnel, agricultural product distributors, agricultural chemical industry professionals, agricultural media professionals, and other agricultural pest management professionals,

Layton, M.B., 2004 to present: Prepared numerous articles for the newsletters of professional organizations such as: Northeast Mississippi Vegetable Producers Newsletter, Mississippi Turfgrass Association, Mississippi Pest Management Association, and Mississippi Nursery and Landscape Association.

Popular Press Articles:

2004 to Present: Prepared numerous articles (50+) on insect pests of ornamental plants for popular press gardening magazines and specialty trade publications and newsletters.

1993 to 2004: Prepared or contributed to numerous articles on cotton insect management for newspapers, magazines, and trade journals.

Recent Examples of Popular Press Articles:

Layton, M. B., 2015, Yes, You Can Control Fire Ants, Miss. Gardener Magazine, and 10 other State Specific Magazines, April, 2015.

Layton, M. B., 2015, Crape Myrtle Bark Scale, a Serious New Threat to Crape Myrtles, Miss. Nursery & Landscape Assoc. News Messenger, Spring 2015, pp. 8 & 9.

Layton, M. B., 2015, Top Ten Insect Pests of Southern Lawns and Gardens, Miss. Gardener Magazine, and 10 other State Specific Magazines. Sept. 2015, pp. 37-42.

Layton, M. B., 2014, Thrips Control in Greenhouse and Nursery-grown Ornamentals, Miss. Nursery & Landscape Assoc. News Messenger, Winter 2014, pp. 7 & 9.

Layton, M. B., 2014, Recent Experiences with Biological Control in Mississippi Greenhouses, Miss. Nursery & Landscape Assoc. News Messenger, Spring 2014, pp. 7 & 8.

- Layton, M. B.**, 2014, Insecticide Options for Whiteflies on Poinsettias, Miss. Nursery & Landscape Assoc. News Messenger, Summer 2014, pp. 4-5.
- Layton, M.B.**, 2012, Tipping the Scales, Mississippi Gardener, Vol. 12, No. 1, also published by State by State Gardening in 13 other Southeastern states, Feb. 2012.
- Layton, M.B.**, 2012, Caterpillar Calamities, Mississippi Gardener, Vol. 12, No. 2, also published by State by State Gardening in 13 other Southeastern states, March, 2012.
- Layton, M.B.**, 2012, Control Caterpillar Pests, Mississippi Gardener, Vol. 12, No 3. also published by State by State Gardening in 13 other Southeastern states, April, 2012.
- Layton, M.B.**, 2012, What's Eating My Plant?, Mississippi Gardener, Vol. 12, No 5. also published by State by State Gardening in 13 other Southeastern states, July, 2012.
- Layton, M.B.**, 2012, Moths, Mysteries of the Night, Mississippi Gardener, Vol. 12, No 7, also published by State by State Gardening in 13 other Southeastern states, September, 2012.
- Layton, M. B.**, 2012, Mealybugs, Miss. Nursery & Landscape Association News Messenger, Winter 2012.
- Layton, M. B.**, 2012, Mixing Small Amounts of Liquid Insecticides, Miss. Nursery & Landscape Association News Messenger, Spring 2012.
- Layton, M. B.**, 2012, Mixing Small Amounts of Dry Insecticides, Miss. Nursery & Landscape Association, News Messenger, Summer, 2012, pp. 9&23.
- Layton, M. B.**, 2012, Insecticides for Commercial Turf, Tee to Green, Louisiana-Mississippi Golf Course Superintendents Assoc. of America, Spring 2012.
- Layton, M. B.**, 2012, Test Your Knowledge of Turf Insect Pests, Tee to Green, Tee to Green, Louisiana-Mississippi Golf Course Superintendents Assoc. of America, Winter 2012.
- Layton, M.B.**, 2011, The Trouble with Honey Bees, Mississippi Gardener, Vol. 11, No. 1, also published by State by State Gardening in 13 other Southeastern states, Feb., 2011.
- Layton, M.B.**, 2011, Cicadas Are Coming, Mississippi Gardener, Vol. 11, No. 3, also published by State by State Gardening in 13 other Southeastern states, April, 2011.
- Layton, M.B.**, 2011, Venomous Spiders in the Garden, Mississippi Gardener, Vol. 11, No 4. also published by State by State Gardening in 13 other Southeastern states, May, 2011.
- Layton, M.B.**, 2011, Grazing Grasshoppers, Mississippi Gardener, Vol. 11, No 6. also published by State by State Gardening in 13 other Southeastern states, July/Aug. 2011.
- Layton, M.B.**, 2011, Liquid Fire Ant Mound Drenches: Get "Em Gone Fast!, Tee to Green, Summer, 2011.
- Layton, M.B.**, 2010, The Spiders in Your Garden, Mississippi Gardener, Vol. 10, No 8.
- Layton, M.B.**, 2010, Fall Armyworm Biology, Tee to Green, Fall, 2010
- Layton, M.B.**, 2010, Good Bugs, Bad Bugs, Mississippi Gardener, Vol. 10, No. 1.
- Layton, M.B.**, 2010, Organic Insecticides for Home Gardeners, Mississippi Gardener, Vol. 10, No. 2.
- Layton, M.B.**, 2010, Insect Pests of the Home Vegetable Garden, Mississippi Gardener, Vol. 10, No 5.
- Layton, M.B.**, 2010, Miniature Wildlife in Your Garden, Mississippi Gardener, Vol. 10, No 7.

Presentations and Posters:

Presentations at State, County and Multi-County Level:

Thirty to forty educational presentations are made annually to homeowners, master gardeners, commercial clients, growers, extension personnel, and pest management professionals at state-level, multi-county, and county meetings.

Example: County/multi-county level presentations for Jan. 2016 to October 2016

Layton, M.B., Crape Myrtle Bark Scale, A Serious New Pest of Southern Crape Myrtles. Mississippi Turfgrass Assoc. Road Show, Tupelo, MS, Jan. 14, 2016.

Layton, M.B., Basic Entomology, Miss. Pest Control Assoc. Annual Meeting, Ocean Springs, MS, Jan. 21, 2016.

Layton, M.B., Watermelon Insects, North MS Fruit and Vegetable Grower's Conference, Verona, MS, Feb. 11, 2016

Layton, M.B., Insecticides for Commercial Vegetable Production and Crape Myrtle Bark Scale, Pest Management Workshop, Central MS R&E Center, Raymond, MS, Mar. 23, 2016.

Layton, M.B., Entomology Training for Master Gardeners: Insect Pests of Ornamental, Plants, Lamar/Forest County Master Gardener Training, Purvis, MS. April 5, 2016.

Layton, M.B., Entomology Training for Master Gardeners: Insect Pests of Fruits, Nuts and Vegetables, Lamar/Forest County Master Gardener Training, Purvis, MS. April 5, 2016.

Layton, M.B., Insect Pests of Ornamental Plants, Hinds Community College Horticultural Pest Management Class, Guest Lecture, Raymond, MS, April 7, 2016.

Layton, M.B., Protect Your House from Termites, Union County Home and Garden Show, New Albany, MS. April 9, 2016.

Layton, M.B., Strawberry Insect Identification and Management, Commercial Strawberry Growers Field Day, Crystal Springs, MS. April 21, 2016.

Layton, M. B., 2016, Pecan Insect Management in a Nutshell, Mississippi Pecan Grower Field Day, Raymond, MS, May 3, 2016.

Layton, M.B., Insect Pests of Ornamental Plants, Adams County Master Gardeners, Natchez, MS, May 5, 2016.

Layton, M.B., Insect Pests in the Home Vegetable Garden, Mississippi Home Volunteers, State Association Meeting, Miss. State Univ. May 17, 2016.

Layton, M.B., Insects in Nature, Lecture and Walking Tour, Miss. Band of Choctaw Indians Summer Youth Program, Nanih Waiya Cave Mound, MS, June 13, 2016.

Layton, M.B., Insects in Nature, Walking Tour, Miss. State Univ Insect and Plant Camp, Noxubee Wildlife Refuge, MS, June 14, 2016.

Layton, M.B., Organic Control Options for Vegetable Insect Pests, Alliance for Sustainable Agricultural Production, Pest Management Field Day, Greenwood, MS, June 17, 2016.

Layton, M.B., Invasive Insect Pests Affecting Mississippi Agriculture, Miss. State Univ./Miss. Farm Bureau Young Farmers Program, Starkville, MS, July 8, 2016.

Layton, M.B., Control Cockroaches and Other Household Insect Pests, Forest Housing Authority, Healthy Homes Pest Management Program, Forest, MS, July 13, 2016.

Layton, M.B., Crape Myrtle Bark Scale, Biology and Control, Adams County Master Gardeners and Natchez City Managers, Natchez, MS, Aug. 16, 2016.

Layton, M.B., Insect Pests in Commercial Landscapes and Turf, Mississippi Turfgrass Field Day, Mississippi State, MS., Aug. 23, 2016.

Layton, M.B., Entomology Training for Master Gardeners: Insect Pests of Ornamental, Plants, Hinds, Rankin, Madison County Master Gardener Training, Jackson, MS Aug. 25, 2016.

Layton, M.B., Entomology Training for Master Gardeners: Insect Pests of Fruits, Nuts and Vegetables, Hinds, Rankin, Madison County Master Gardener Training, Jackson, MS, Aug. 25, 2016.

Layton, M.B., Indoor Pest Ants: Identification, Biology, and Control, Miss. Pest Control Assoc. Summer Technician's Training Meeting, Raymond, MS, Aug. 31, 2016.

Layton, M.B., Entomology Training for Master Naturalists, South Miss. Master Naturalist Program, Crosby Arboretum, Picayune, MS. Sept. 9, 2016.

Layton, M.B., Fire Ant Control in Large Land Areas and Pastures, Marshal County Lady Landowners Conference, Holly Springs, MS., Sept. 27, 16.

Layton, M.B., Insect Pests in the Home Vegetable Garden, Fall Flower and Garden Festival, Crystal Springs, MS., Oct. 14, 2016.

Layton, M.B., Insect Pests in the Home Vegetable Garden, Fall Flower and Garden Festival, Crystal Springs, MS., Oct. 15, 2016.

Layton, M.B., Yes, You Can Control Fire Ants, Fall Flower and Garden Festival, Crystal Springs, MS., Oct. 14, 2016.

Layton, M.B., Yes, You Can Control Fire Ants, Fall Flower and Garden Festival, Crystal Springs, MS., Oct. 15, 2016.

Layton, M.B., Non-native Insect Pests in Mississippi, Guest Lecture, Insects: Pets and Pests, class for Dr. John Guyton, Miss. State, MS, Oct. 17, 2016.

Layton, M.B., Integrated Pest Management, Guest Lecture, Insects: Pets and Pests, class for Dr. John Guyton, Miss. State, MS, Oct. 17, 2016.

Layton, M.B., Non-native Insect Pests Affecting Mississippi, Mississippi Senate and House of Representatives Agriculture Committee Tour, Miss. State, MS, Oct. 19, 2016.

Invited Presentations: Regional & National: (Examples)

Layton, M.B., Crape Myrtle Bark Scale, Gulf States Horticulture Expo, Mobile, AL, Jan. 20, 2016.

Layton, M.B., No Fly Zone: Small Fly Management, National Pest Management Assoc. Southern Conference, Memphis, TN, Feb. 10, 2016.

Layton, M.B., Insect Pests in Greenhouse Tomatoes, Greenhouse Tomato Short Course, Raymond, MS, March 2, 2016.

- Layton, M.B.**, Help Your Clients Protect Their Homes from Termites, Mississippi/Louisiana County Agents Association Professional Improvement Conference, Natchez, MS, May 26, 2016.
- Layton, M.B.**, Neonicotinoids, Bees, and Ornamental Plants, Mid-South Green Industry Conference, Starkville, MS, June 6, 2016.
- Layton, M.B.**, Pecan Insect Management in a Nutshell, TriState Pecan Growers Annual Meeting, Alexandria, LA, June 16, 2016.
- Layton, M.B.**, Small Flies: Identification and Management, Technician Training Session, Arkansas Pest Management Assoc., Hot Springs, AR., Sept. 13, 2016.
- Layton, M.B.**, Small Flies: Identification and Management, Owner Operator Training Session, Arkansas Pest Management Assoc., Hot Springs, AR., Sept. 13, 2016.
- Layton, M.B.**, Experiences with Tawny Crazy Ants in Mississippi, 2015 Imported Fire Ant and Invasive Ant Conference, New Orleans, La., April 7, 2015.
- Layton, M.B.**, Biological Control in the Pecan Orchard, 2015 TriState ArkLaMS Pecan Convention, Natchez, MS, June 19, 2015.
- Layton, M.B.**, Fire Ant Management in Hayfields and Pastures, American Forage and Grassland Council Annual Conference, Memphis, TN, Jan. 13, 2014.
- Layton, M.B.**, Insect Pest Management in Commercial Landscape Accounts, BWI Turf and Landscape Seminar, Olive Branch, MS, Jan. 21, 2014.
- Layton, M.B.**, Insect Pests of Roses, American Rose Society, Gulf District, Mid-winter Workshop, Natchez, MS, Feb. 8, 2014.
- Layton, M.B.**, Panel on Biological Control of Greenhouse Insect Pests, Mid-South Green Industry Conference, Pearl, MS., June 17, 2013.
- Layton, M.B.**, Insect Pest Management in Commercial Pecans, Tri-State Pecan Growers Meeting, Vicksburg, MS, June 20, 2013
- Layton, M.B.**, You Can Control Fire Ants, Southern Region Master Gardener Conference, Natchez, MS, May 2, 2012
- Layton, M.B.**, Insect Pests of Ornamental Plants in Southern Landscapes, Southern Region Master Gardener Conference, Natchez, MS, May 2, 2012.
- Layton, M. B.**, 2011, Garden Insects, USDA Executive Master Gardener Program Webinar Series, April 19, 2011.
- Layton, M. B.** & L. S. Kelly. 2011, Entomological Training for Master Gardeners. In Entomologists as Educators Symposium, Entomol. Soc. Of America, SE Branch Meeting, San Juan, Puerto Rico
- Layton, M.B.**, Non-insecticidal Insect Management, Vegetable Production and IPM Web Conference, Alabama Cooperative Extension System, February 26, 2010.
- Layton, M. B.**, 2009, Insect Management in Greenhouse Tomatoes, Greenhouse Tomato Short Course, Raymond, MS, March 12, 2009
- Layton, M. B** and J. MacGown, 2008, Dark Rover Ants, *Brachymyrmex patagonicus*, in Mississippi, Presented at National Conference on Urban Entomology, Tulsa, Oklahoma, May 21, 2008.
- Layton, M.B.**, Invasive Insect Pests of Roses, presented at American Rose Society Gulf States District

Meeting, Mississippi State, MS, Feb. 9, 2008.

Layton, M.B., Insect Pests of Roses, presented at American Rose Society Gulf States District Meeting, Vicksburg, MS, Feb. 10, 2007.

Layton, M. B., 2003, Fire Ant Biology and Management with Emphasis on Sensitive Accounts, Annual Meeting of National Pest Management Association, Dallas TX, October 25, 2003.

Layton, M. B., 1994-2002, 30+ invited presentations on various aspects of cotton insect management at regional and national professional meetings.

Submitted Presentations at Multi-State and National Meetings:

Layton, M.B., 1985 to present, 35+ submitted presentations at regional and national professional meetings. Most of these presentations focused on various aspects of cotton insect management.

Poster Presentations:

Numerous posters have been prepared and presented. These include scientific posters presented at professional meetings as well as extension educational posters presented at field days, plant shows, workshops and other educational events.

Poster Presentations (examples):

Layton, M.B., 2016, Crape Myrtle Bark Scale, A Serious New Pest of Crape Myrtles in Mississippi, poster presented at NE MS Producer Advisory Conference, Verona, MS, Feb. 17, 2016

Layton, M.B., 2016, Insect Pests of Home Lawns and Landscapes, Electronic Poster, presented at Plant and Patio Show, Jackson, Ms, Mar. 19.

Layton, M.B., 2016, Insect Pests of Home Vegetable Gardens, Electronic Poster, presented at Plant and Patio Show, Jackson, Ms, Mar. 20.

Layton, M.B., 2016, Control Fire Ants in Your Lawn, poster presented at Jackson Plant and Patio Show, Jackson, MS, Mar. 19 & 20.

Layton, M.B., 2016, Crape Myrtle Bark Scale Identification and Control, poster presented at Jackson Plant and Patio Show, Jackson, MS, Mar. 19 & 20.

Layton, M.B., 2016, Insects and Spiders in Mississippi Gardens and Landscapes, electronic poster, presented at Fall Flower and Garden Festival, Truck Crops Experiment Station, MS, Oct 14 & 15, 2016.

Layton, M.B., Control Program for Bermudagrass Stem Maggot, Southeast MS Regional Cattlemen's Field Day, Lucedale, MS, April, 16, 2015.

Layton, M.B., Control Program for Bermudagrass Stem Maggot, Northeast MS Regional Cattlemen's Field Day, Corinth, MS, June, 16, 2015.

Layton, M.B., 2014, Spotted Wing Drosophila Control in Blueberries and Blackberries, NE MS Regional Vegetable Growers Conference, Verona, MS, Feb. 7, 2014.

Layton, M.B., 2014, Spotted Wing Drosophila, An Important New Pest of Small Fruit, poster presented at North MS Producer Advisory Council Meeting, February.

Layton, M.B., 2013, Stink Bugs, Key Pests of Commercial Vegetables, poster presented at North MS

Producer Advisory Council Meeting, February 21.

Layton, M.B., Scale Insects, poster presented at Plant and Patio Show, Biloxi, MS, Mar. 2&3, 2012.

Layton, M.B., Caterpillar Pests of Commercial Vegetables, presented at Northeast MS Producers Advisory Conference, Verona, MS, Feb. 17, 2011.

Layton, M.B., Insect Pests of Ornamental Plants, Electronic Poster, presented at Plant and Patio Show, Biloxi, MS, Feb. 25 & 26, 2011.

Layton, M.B., Mississippi Insects and Spiders, Electronic Poster, presented at Plant and Patio Show, Biloxi, MS, Feb. 25 & 26, 2011.

Layton, M.B., Azalea Lace Bugs, poster presented at Everything Garden Show, Starkville, MS, Mar. 5, 2011.

Layton, M.B., Interesting Insects and Spiders, electronic poster presented at Fall Flower and Garden Festival, Truck Crops Experiment Station, MS, Oct 15 & 16, 2010

Layton, M.B., Vegetable Insect Identification, electronic poster presented at Fall Flower and Garden Festival, Truck Crops Experiment Station, MS, Oct 15 & 16, 2010

Layton, M.B., You Can Control Fire Ants, poster presented at Fall Flower and Garden Festival, Truck Crops Experiment Station, MS, Oct 15 & 16, 2010.

Teaching Aids:

Layton, M.B., 2011, Entomology Study Guide, Mississippi Master Naturalist Program

Layton, M.B., 2008, Entomology, in Mississippi Master Gardener Student Training Manual, ed. L. Kelly, MSU-ES Publication M1561

Layton, M. B., 2008, Entomology, in Mississippi Master Gardener Training Resources for Extension Professionals, DVD, MSU-ES Publication M1368

Web Sites:

- Layton, M.B., Fire Ants, www.msucare.com activated in Feb. 2008.
<http://extension.msstate.edu/insects/fire-ants>
- Layton, M.B., Home Lawn Insects, www.msucare.com, activated Mar. 2008.
<http://extension.msstate.edu/lawn-and-garden/insects-home-lawns>
- Layton, M.B., Ornamental Plant Pests, www.msucare.com, activated Mar. 2008.
<http://extension.msstate.edu/lawn-and-garden/insects-ornamental-plants>
- Layton, M.B., Vegetable Garden Insects, www.msucare.com, activated Mar. 2008.
<http://extension.msstate.edu/insects-vegetable-gardens>
- Layton, M.B., Pests in the Home, www.msucare.com, activated Mar. 2008.
<http://extension.msstate.edu/insects/household-insects>
- Layton, M.B., Insect Identification Service, www.msucare.com, activated. 2013.
<http://extension.msstate.edu/insects/insect-identification>
- Layton, M.B., Insect Pests of Hayfields and Pastures, www.msucare.com, activated. 2015.
<http://extension.msstate.edu/agriculture/forages/insects-forage-pests>

Videos and WebCasts:

- Layton, M. B., 2011, Stink bugs in the Home Vegetable Garden, Gardening Through the Seasons WebCast, July, 2011.
- Layton, M. B., 2011, Non-native Insect Pests Affecting or Threatening Mississippi, Training DVD for Commercial Applicator Recertification, Miss. Ext. Serv.
- Layton, M.B., 2010, Control Azalea Lace Bugs, Gardening Through the Seasons WebCast, April, 2010.
- Layton, M. B., 2010, Methods of Applying Insecticides, Gardening Through the Seasons WebCast, June, 2010
- Layton, M.B. 2009, Knock Out Fire Ants with a One-two Punch, Gardening Through the Seasons WebCast, July.
- Layton, M.B., 2009, Termites and Gardening, Gardening Through the Seasons WebCast, November.
- Layton, M.B., 2006, Insect Control, Commercial Applicator Recertification Training Video, 33 min., training video produced by Mississippi State University Extension Service.
- Layton, M.B., D. Lack, and J. Wells, 2000, Cotton Insect Scouting: Monitoring Plant Development, 35 min. training video produced by Mississippi State University Extension Service.
- Layton, M.B., 1997, Cotton Insect Management: Changing Trends, Video Presentation prepared for Mississippi Agricultural Consultants Association.

Teleconferences:

- Layton, M.B.**, Entomology Training for Master Gardeners, remote teleconference training, MSU, March 8, 10, and 17, 2011.
- Layton, M.B.** Protect Your House from Termites, Interactive video training, hosted in 35 counties, May 6, 2010.
- Layton, M.B.**, Entomology Training for Master Gardeners, remote teleconference training, MSU, March 16, 18, and 25, 2010.
- Layton, M. B.**, 2008, Insect Pests in the Home Vegetable Garden, QuickBytes Teleconference, May 29, 2008.
- Layton, M.B.**, Insect Pests of Roses, Statewide teleconference sponsored by the American Rose Society, April 10, 2007.
- Layton, M.B.** 2000. Insect Management Tips for Mississippi Row Crops, Risk Management Teleconference, February 11, 2000. Produced by Mississippi State University Extension Service
- Layton, M.B.** 1996. Early Season Cotton Insect Management, portion of Farm Week TV program coordinated by Mississippi Cooperative Extension Service Cotton Program Action Team.
- Layton, M.B.** 1996. Late Season Cotton Insect Management, portion of Farmweek TV program coordinated by Mississippi Cooperative Extension Service Cotton Program Action Team.

Layton, M.B. 1996. Basic Cotton IPM Principles, training for the Certified Crop Advisors Exam via the Community College Network.

Layton, M.B. 1995. Early Season Cotton Insect Management, portion of two-hour teleconference sponsored by Mississippi Cooperative Extension Service Cotton Program Action Team.

Layton, M.B. 1995. Mid Season Cotton Insect Management, portion of two-hour teleconference sponsored by Mississippi Cooperative Extension Service Cotton Program Action Team.

Layton, M.B. 1995. Late Season Cotton Insect Management, portion of two-hour teleconference sponsored by Mississippi Cooperative Extension Service Cotton Program Action Team.

Layton, M.B. 1994. Late Season Cotton Insect Management, portion of two-hour teleconference sponsored by Mississippi Cooperative Extension Service Cotton Program Action Team.

Radio and Television:

- Several two to five minute radio programs or TV interviews on insects and insect management are recorded each year. These are aired primarily by the Farm and Family Program of the Mississippi Extension Service or Mississippi News Network or on local radio or TV stations.

Insect Identification/diagnostics/control recommendations/ and trouble-shooting, 2004 to present:

- Provide insect identifications and, when necessary, control recommendations for insect samples submitted to the MSU Extension Entomology Insect Diagnostics Lab. The lab receives approximately 200 physical samples and 200 + digital images annually. We also provide numerous telephone and e-mail consultations on insect management and insect control. Numerous trouble-shooting visits to fields, nurseries, job sites, homes, and commercial facilities are also made each year to investigate insect problems and provide management recommendations.

Extramural Grants:

- Termiticide Evaluation Grants. 2004 to present: receive several grants for EUP evaluation of termiticides or proposed changes in termiticide use patterns. Grants total approximately \$2500 to \$8000 per year.
- Insecticide Evaluation Grants. 1989 to 2003, Received several grants from insecticide industry each year to support Extension Demonstrations and replicated small plot evaluation trials. Grants total approximately \$2,000 to \$35,000 each year.
- State IPM Coordinator for Mississippi, Coordinate application for competitive USDA NIFA IPM Implementation grants, and administer resulting funds. From to 2016 total funds for these grants equal

Membership and Service in Professional Societies:

- Entomological Society of America
- Mississippi Entomological Association
- Southwestern Entomologist Society

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