

Curriculum Vitae

Brandon N. Lyons, Ph.D.

Education

JULY 2021

Doctor of Philosophy in Entomology

Oklahoma State University, Stillwater, OK

Dissertation Title: Lesser mealworm (*Alphitobius diaperinus*) association with *Enterococcus cecorum* and pest management considerations for this pest in broiler houses.

Major Professor: Dr. Justin Talley

MAY 2014

Master of Science in Entomology

Texas A&M University, College Station, TX

Thesis Title: Insecticide resistance of *Alphitobius diaperinus* (Coleoptera: Tenebrionidae) to β -Cyfluthrin in relation to heat tolerance.

Major Professor: Dr. Jeff Tomberlin, Dr. Pete Teel

MAY 2010

Bachelor of Science in Animal Science and Entomology

Texas A&M University, College Station, TX

Work Experience

SEPTEMBER 2021- PRESENT

Assistant Research Scientist

Texas A&M AgriLife Research, College Station, TX

Supervisor: Dr. Phillip Kaufman

- Responsible for all research laboratory operations including hiring and supervision of personnel (post-docs, technicians, and student workers), grant writing, budgeting on existing grants and contracts, animal and safety compliance, and interactions with stakeholders and project collaborators. Responsible for safety compliance for a campus laboratory and a separate insect colony laboratory.

AUGUST 2023- DECEMBER 2023

Visiting Lecturer

Texas A&M University, College Station, TX

Supervisor: Dr. Craig Coates

- Medical Entomology (ENTO 423/ENTO 427)
- Instructor on record for undergraduate Medical Entomology course with approximately 85 undergraduate students. Responsible for developing and presenting lectures, syllabus, course materials, and overseeing the two assigned teaching assistants for the associated lab sections.

Research Highlights

- Coordinating sample collection, RNA extraction and RT-qPCR screening for Equine Hepacivirus in mosquitoes collected from New York and Florida.
- Conducted Larval Packet Tests (LPT) with lone star tick (*Amblyomma americanum*) and the Asian longhorned tick (*Haemaphysalis longicornis*).
- Coordinated and implemented a tick predilection study with cattle fever ticks on cattle in Texas.

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- Geographic information system QGIS generation of heatmaps of predilection sites of immature tick life stages on cattle.
- Coordinated the collection and dissection of insect vectors from Texas broiler facilities in support of pathogen and antimicrobial resistance gene detection project.
- Executed a cattle feedthrough horn fly (*Haematobia irritans*) insecticide study and assisted with a house fly (*Musca domestica*) bait study for industry partners.
- Developed and distributed a Knowledge, Attitudes, and Practices (KAP) survey of lesser mealworm, litter, and waste management practices in Oklahoma in support of the poultry broiler industry.
- Conducted insecticide-treated filter paper and litter amendment interaction bioassays with multiple formulations and modes of action to identify insecticide-amendment combinations that have greater or reduced mortality.
- Insect colony maintenance of lesser mealworms (*Alphitobius diaperinus*), Stable flies and Horn flies

Extension Outputs

Researching pests in the broiler industry. Aired 3/27/21 Sunup TV Oklahoma Agriculture public television programming segment focused on *Alphitobius diaperinus* research conducted at Oklahoma State University.

Lyons, B., Talley, J.L. 2015. What is *Enterococcus cecorum*? Oklahoma Cooperative Extension Service. Poultry Practices, Vol 5(2).

Presentations (*presenter underlined)

Lyons, B.N., Kaufman, P.E., Thomas D.B. 2023. Predilection sites of *Rhipicephalus (Boophilus) microplus* larvae and nymphs on cattle. Livestock Insect Workers' Conference. Fredericksburg, TX. June 13.

Perez, I., Berry, E., Zwally, K., Athrey, G., Taylor, M., **Lyons, B.N.**, Kaufman, P.E. 2023. Population study of non-biting insect vectors of enteric pathogens in broiler farms. Livestock Insect Workers' Conference. Fredericksburg, TX. June 12.

Holda, E., Berry, E., Zwally, K., **Lyons, B.N.**, Perez, I., Beamsely, K.S., Cobb, M.K., Mattine, M.C., Athrey, G., 2023. Insects as vectors of enteric pathogens and antimicrobial resistance genes on broiler facilities. Livestock Insect Workers' Conference. Fredericksburg, TX. June 12.

Lyons, B.N., Kaufman, P.E., Thomas D.B. 2023. Comparison of predilection sites of *Rhipicephalus (Boophilus) microplus* tick larvae and nymphs on cattle. Joint North Central and Southwestern Branch Entomological Society of America Meeting. Oklahoma City, OK. April 18.

Holda, E., Baucom, E., Perez, I., Zwally, K., Mattine, M., **Lyons, B.**, Taylor, M., Kaufman, P., Athrey, G. 2023. Insects as vectors of antimicrobial resistance genes on livestock farms. S1076: Fly Management in Animal Agriculture Systems multistate hatch group annual meeting. Orlando, FL. January 10.

Lyons, B., Kaufman, P., Thomas D.B. 2022. The predilection sites of *Rhipicephalus (Boophilus) microplus* tick larvae and nymphs on cattle. Joint Annual Meeting of the Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia. Vancouver, Canada. November 15.

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Lyons, B., 2022. Lesser mealworm pest management considerations in broiler houses. Livestock Insect Workers Conference. Dallas, TX: June 7.

Lyons, B., Talley, J.L., Royer, T., Wayadande, A., Wilson, B. 2020. Lethal temperature of the lesser mealworm exposed to commonly used insecticidal compounds. Southwest Branch Entomological Society of America Meeting (Online). March 15.

Lyons, B., Talley, J.L., Royer, T., Wayadande, A., Wilson, B. 2019. Litter amendment and insecticide interactions in relation to the lesser mealworm, *Alphitobius diaperinus*. Entomological Society of America Annual Meeting. St. Louis, MO: Nov. 18.

Lyons, B., Talley, J.L., Royer, T., Wayadande, A., Payne, J. 2015. *Enterococcus cecorum* vector competency of *Alphitobius diaperinus* (Panzer). Entomological Society of America Annual Meeting. Minneapolis, MN: Nov. 16.

Lyons, B., Tomberlin, J.K., Crippen, T.C., Teel, P. 2013. Insecticide resistance of *Alphitobius diaperinus* to β -cyfluthrin and commercial insecticides on various surfaces common in poultry operations. Entomological Society of America Annual Meeting. Austin, TX: Nov. 11.

Poster Presentations

Lyons, B.N., Kaufman, P.E., Thomas D.B. 2023. *Rhipicephalus (Boophilus) microplus* tick predilection of immature life stages. College Station, TX. Texas 6 Vector Mix. March 13.

Lyons, B., Wayadande, A., Payne, J. Royer, T., Talley, J.L. 2016. Mechanical transmission of *Enterococcus cecorum* by the lesser mealworm *Alphitobius diaperinus*. Southwest Branch Entomological Society of America Meeting. Tyler, TX: February 22.

Publications

Lyons, B.N., Crippen, T.L., Zheng, L, Teel, P.D., Swiger, S.L., Tomberlin, J.K. 2017. Susceptibility of *Alphitobius diaperinus* in Texas to permethrin and β -Cyfluthrin treated surfaces. Pest Management Science, 73: 562-567.