

CURRICULUM VITAE
TIMOTHY P. BOLTZ
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ACADEMIC TRAINING

Doctor of Philosophy, Animal and Food Science, 2022 **West Virginia University**
Dissertation: *Investigation of a novel throughput agent on production rate and pellet quality and the development of a lab-based method to predict Salmonella reduction in poultry feed, utilizing varying feed manufacture parameters*

Master of Science, Animal and Nutritional Sciences, 2019 **West Virginia University**
Thesis: *The Effect of Feed Manufacture Techniques on Pathogen Reduction and Feed Nutrient Value*

Bachelor of Science, Animal Science, 2017 **Colorado State University**

Associate of Science, Agriculture, 2015 **Laramie County Community College**

EMPLOYMENT

Assistant Professor of Poultry Nutrition and Feed Hygienics **May 2022-Current**
Department of Poultry Science, Mississippi State University
50% Research, 50% Teaching Appointment

Graduate Research Assistant (Ph.D.) **May 2019-April 2022**
West Virginia University

Graduate Research Assistant (M.S.) **August 2017-April 2019**
West Virginia University

TEACHING ACTIVITIES

Current Courses at Mississippi State:

- Broiler Production (PO 4334/6334) – 3 ch lecture, 2 ch lab, Fall 2023-Present
 - Practical management problems encountered in the production of broilers including breeding, housing, brooding, diseases, and feeding.
- Undergraduate Seminar in Poultry Science (PO 3011/3021/4031/4041) – 1 ch lecture, Fall 2023
 - Preparation and presentation of specially assigned current problems in poultry science.
- Poultry Nutrition (PO 4413/6413) - 3 ch lecture, Fall 2022-Present
 - Poultry nutrition, digestion, absorption, ingredients, and feed formulation

- Research/Thesis/Dissertation (PO 8000) – Var ch, graduate student training

Active Participant in Courses at Mississippi State:

- Graduate Poultry Seminar (PO 8011) - 1 hr lecture; Instructor: Dr. Kelley Wamsley
Student-led course on specially assigned current problems in poultry science

Previous Courses at West Virginia University:

- Teaching Assistant for Poultry Production (ANPR 367) (2021)
- Teaching Assistant for Poultry Judging (ANPR 338) (2020-2021)
- Teaching Assistant for Advanced Animal Nutrition (ANNU 362) (2019)
- Guest lectured on poultry anatomy for Intro to Animal Science Class (A&VS 251) (2019)
- Teaching Assistant for Companion Animal Science (A&VS 275) (2018)
 - Guest lectured on reptile and amphibian management/nutrition (2018-2019)

BOLTZ LAB STUDENTS TRAINED/CURRENT

Major Professor for the following M.S. Students at Mississippi State University:

Current

- Michel Carroll – Fall 2022 – Spring 2024
- Sanya Boby – Fall 2023 – Spring 2025

Committee Member for the following Ph.D. Students:

- Nelly Cribillero Chuqui huaccha (MSU) – Began Ph.D. Program Spring '22-Current
- Rebecca Stearns (WVU) – Began Ph.D. Program Fall '22 - Current

SERVICE

Public

- Assisted with extension work in Wyoming County, WV on backyard poultry production: December 2017- May 2022
- Assisted with creating tutorial video and 2020 Virtual Career Development poultry contest for FFA students in the State of West Virginia: September-October 2020
- Assisted with backyard broiler chicken processing: 2019-2021
- Assisted with a traveling backyard poultry demonstration in various locations throughout the state of West Virginia: Fall 2017- April 2022
- Judge at local county fairs (Monongalia and Ritchie counties): 2019-2021
- Assisted with numerous West Virginia University Animal Science Farm tours: Fall 2017- April 2022
- Assisted with the Poultry Festival: 2018, 2021
 - Moorefield, WV
 - Assisted with conducting an annual poultry judging competition.
 - Assisted with the West Virginia State FFA Poultry CDE Competition: 2017- 2022
 - Helped organized the competitions (place classes of birds, set up parts and eggs)

Professional Organizations

- American Feed Industry Association, (AFIA), (June 2022-Present).
- Member of World Poultry Science (2016-Current)
- Member of Poultry Science Association (2016-Current)
- Poultry Science Association Annual Meeting (July 2018-Current)
 - Student Competition Judge (2022)
- International Poultry Scientific Forum (Atlanta, GA)
 - Served as Moderator for Metabolism and Nutrition V Feed Additives (2023)
- Reviewer for International Journal of Poultry Science (August 2022-Current)
- Reviewer for Journal of Applied Poultry Science (August 2022-Current)

University

- Attended and judged MSU CALS Undergraduate Symposium (April 2023)
- Faculty Evaluator for Graduate Teaching Assistant Workshop (Spring 2023)
- Faculty advisor for Sigma Alpha Professional Agriculture Sorority (December 2022-Present)
- Attended and judged MSU Graduate Research Symposium (October 2022, February 2023)
- Attended and judged Mississippi Academy of Sciences Summer Student Symposium (June 2022)

College

- Committee member for CALS/MAFES Diversity Council Charter (August 2022-Current)

Department

- Participated in various departmental committees (April 2022-Present)
 - Farm and Award committees
- Participated in department promotional video (December 2022)
 - Demonstrated my lab-based work, aided with a teaching demonstration, and aided in showing off our commercial houses.
- Thanksgiving turkey processing (November 2022)
 - Assisted with processing the judging turkeys to be used as Thanksgiving turkeys.

HONORS/AWARDS

- Eagle Scout Rank from Troop 221, Cheyenne Wyoming: 2013

PROFESSIONAL DEVELOPMENT

- Met with Dr. Birger Svihus and Industry Colleagues to discuss the poultry industry in Norway and America; Auburn, AL (May 2023)
- Alabama Feed and Grain Association Nutrition Seminar; Huntsville, AL (2023-Current)
- Layer Workshop, sponsored by Zoetis and Phospha at Mississippi State (Oct 17-19, 2022)

- Mississippi Poultry Association Annual Meeting; Destin, FL (2022-Current)
- New Faculty Orientation (August 11, 2022)
- New Faculty Teaching Academy; online (July-September 2022)
- International Poultry Scientific Forum; Atlanta, GA (2020-Current)
- International Poultry Expo; Atlanta, GA (2020-Current)
- Poultry Science Association Annual Meeting; Rotating locations (2018-Current)
- Arkansas Nutrition Conference; Rogers, AR (2019-Current)

RESEARCH PROJECTS AND SOURCES OF FUNDING

Specific Cooperative Agreement with USDA; NP 101 Animal Production CRIS Project (July 2022-Current), “Reducing the Impact of Subclinical Enteric Infections on Performance and Gastrointestinal Function of Broilers” (MSU PI: Kelley Wamsley, Collaborators: **T. Boltz**)

Funding: ~\$403,000/year

Hatch Funding CRIS project – MIS-322440 (Oct 2022 - Sep 2026) “Modeling thermal inactivation of surrogate and pathogenic organisms in poultry feed and processing consequences on pellet quality and nutrient availability” (PI: **T. Boltz**, Collaborators: A.T. Sukumaran.)

Grants, Contracts (Funded)

Sept 2022. USDA-NIFA. Improving Feed Safety of Pelleted Broiler Feed during the Feed Manufacture Process Through Integrated Research and Extension Workshops. MSU PI: **Timothy Boltz**. Collaborators—Cangliang Shen, Joe Moritz, Kelley Wamsley, Anuraj Theradiyil Sukumaran; Funding Requested: **\$297,000**. Outcome: **Funded**.

Grants, Contracts (Not Funded)

Nov 2022. SRI - Mississippi Agricultural and Forestry Experiment Station. “Modeling thermal inactivation of surrogate and pathogenic organisms in poultry feed and processing consequences on pellet quality and nutrient availability.” (PI: **Timothy Boltz**). Funding requested: **\$83,200**. Outcome: **Not Funded**.

REFEREED JOURNAL ARTICLES

1. Obe, T., **T. P. Boltz**, M. Kogut, S. C. Ricke, L. A. Brooks, K. Macklin, and A. Peterson. 2023. Controlling *Salmonella*: strategies for feed, the farm, and the processing plant. *Poult. Sci.* Under Review.
2. Ayres, V. E., **T. P. Boltz**, K. M. Bowen, S. Grushecky, J. Wang, and J. S. Moritz. 2023. Heating system and feed additive effects on foot pad quality, broiler performance, and immune status. *J. Appl. Poult. Res.* Under Review.
3. Lynch, E. A., K. M. Bowen, V. E. Ayres, **T. P. Boltz**, K. G. S. Wamsley, J. W. Boney, and J. S. Moritz. 2023. Hygienic pelleting can decrease Hubbard × Ross 708 apparent

ileal amino acid digestibility, broiler performance, and increase digestible amino acid requirement. J. Appl. Poult. Res. 32:100355. <https://doi.org/10.1016/j.japr.2023.100355>

4. **Boltz, T. P.**, J. Ferrel, F. L. S. Castro, B. R. Bickmore, K. M. Bowen, E. A. Lynch, V. E. Ayres, and J. S. Moritz. 2022. Improvement in production rate, milling efficiency, and pellet quality of broiler diets containing corn, soybean, and corn-derived distillers dried grains with solubles using separated fractions and whole particle inclusion of a dacitic tuff breccia (AZOMITE[®]). J. Appl. Poult. Res. 32:100303. <https://doi.org/10.1016/j.japr.2022.100303>
5. Coe, C., **T. P. Boltz**, R. Stearns, P. Foster, R. L. Taylor, J. S. Moritz, J. Jaczynski, A. Freshour, and C. Shen. 2022. Thermal inactivation of *Salmonella* Typhimurium and surrogate *Enterococcus faecium* in mash broiler feed in a laboratory scale circulated thermal bath. Poult. Sci. 101:101976. <https://doi.org/10.1016/j.psj.2022.101976>
6. Bowen, K. M., **T. P. Boltz**, J. Ferrel, V. E. Ayres, and J. S. Moritz. 2022. The effect of a dacitic (rhyolitic) tuff breccia (Azomite[®]) in corn, soybean, and DDGS based diets that vary in inorganic phosphate source on pellet mill energy use, 0 to 21-day broiler performance, and apparent ileal amino acid digestibility. J. Appl. Poult. Res. 31:100259. <https://doi.org/10.1016/j.japr.2022.100259>
7. Bowen, K. M., M. Jackson, V. E. Ayres, **T. P. Boltz**, E. A. Lynch, and J. S. Moritz. 2022. Performance, Carcass Quality, Tibia ash, and Mineral Digestibility Responses of Ross 708 Broilers to Increasing Dose of Two Commercially Available Mixer-added Phytases. J. Appl. Poult. Res. 31:100264. <https://doi.org/10.1016/j.japr.2022.100264>
8. **Boltz T. P.**, J. S. Moritz, V. E. Ayres, C. L. Showman, J. Jaczynski, and C. Shen. 2021. Modeling thermal inactivation of *Salmonella* Typhimurium in mash broiler feed. J. Appl. Poult. Res. 30:100208. <https://doi.org/10.1016/j.japr.2021.100208>
9. Ayres V. E., M. Jackson, S. Cantley, S. J. Rochell, C. Crumpacker, T. Lee, B. Bodle, W. J. Pacheco, M. R. Lastres, C. A. Bailey, K. N. Gardner, **T. P. Boltz**, and J. S. Moritz. 2021. Multi-experiment evaluation of increasing phytase activity from Optiphos[®] and Optiphos Plus[®] on 21-day broiler performance and tibia mineralization. J. Appl. Poult. Res. 30:100210. <https://doi.org/10.1016/j.japr.2021.100210>
10. **Boltz T. P.**, J. Ferrel, K. M. Bowen, K. L. Harding, V. E. Ayres, and J. S. Moritz. 2021. The effect of a dacitic tuff breccia (Azomite[®]) in corn, soybean, and DDGS based diets that vary in inorganic phosphate source on pellet mill production rate and pellet quality. J. Appl. Poult. Res. 30:100147. <https://doi.org/10.1016/j.japr.2021.100147>
11. Ayres, V. E., **T. P. Boltz**, P. A. Lessard, R. M. Raab, and J. S. Moritz. 2021. The Effects of Two Corn-Expressed Phytases on Broiler Growth Performance and Tibia Mineralization. J. Appl. Poult. Res. 30:100131. <https://doi.org/10.1016/j.japr.2020.100131>

12. **Boltz, T. P.**, N. E. Ward, V. E. Ayres, A. E. Lamp, and J. S. Moritz. 2020. The effect of varying steam conditioning temperature and time on pellet manufacture variables, true amino acid digestibility, and feed enzyme recovery. *J. Appl. Poult. Res.* 29: 328-338. <https://doi.org/10.1016/j.japr.2019.11.007>
13. **Boltz, T. P.**, J. W. Boney, C. Shen, J. Jaczynski, and J. S. Moritz. 2019. The effect of standard pelleting and more thermally aggressive pelleting utilizing a hygieniser on feed manufacture and reduction of *Enterococcus faecium*, a *Salmonella* Surrogate. *J. Appl. Poult. Res.* 28: 1226-1233. _____

CONFERENCE ABSTRACTS

1. K. M. Bowen, Lynch, E. A., **T. P. Boltz**, V. E. Ayres, and J. S. Moritz. 2023. The effects of hygienic pelleting in diets that differ in amino acid density on Ross 708 broiler performance, amino acid apparent ileal digestibility, and requirement. International Poultry Scientific Forum. (Accepted Abstract (P295)).
2. Ayres, V. E., **T. P. Boltz**, S. Grushecky, J. Wang, and J.S. Moritz. 2023. Heating system and feed additive effects on foot pad quality, broiler performance, and immune status. International Poultry Scientific Forum. (Accepted Abstract (130)).
3. Cribillero, N. G., C. Wyatt, K. G. Wamsley, **T. P. Boltz**, L. McCaffery, and P. Adhikari. 2023. Impact of a cellulase-xylanase enzyme supplementation on performance and intestinal health in pullets fed almond hulls. International Poultry Scientific Forum. (Accepted Abstract (94)).
4. Lynch, E. A., K. M. Bowen, **T. P. Boltz**, V. E. Ayres, and J. S. Moritz. 2023. The effects of hygienic pelleting in diets that differ in amino acid density on Ross 708 broiler performance, amino acid apparent ileal digestibility, and requirement. International Poultry Scientific Forum. (Accepted Abstract (90)).
5. Lyons, A., J. S. Moritz, **T. P. Boltz**, J. W. Boney, and M. Persia. 2023. Evaluation of corn particle size on the growth performance, gut permeability, pellet quality, and litter moisture of turkey hens raised without antibiotics. International Poultry Scientific Forum. (Accepted Abstract (60)).
6. **Boltz, T. P.**, J. Ferrel, F. L. S. Castro, K. M. Bowen, E. A. Lynch, V. E. Ayres, and J. S. Moritz. 2022. The effect of a *dacitic tuff breccia* (AZOMITE®) and its fractions in a corn, soybean, and dried distillers grains with solubles-based diet on pellet mill production rate and pellet quality. *Poult. Sci.* (Accepted Abstract (298)).
7. **Boltz, T. P.**, C. Coe, R. Stearns, J. S. Moritz, and C. Shen. 2022. Modeling the Thermal Inactivation of *Salmonella* Typhimurium and surrogate *Enterococcus faecium* in Mash Broiler Feed in a Laboratory Scale Circulated Thermal Bath. *Poult. Sci.* (Accepted Abstract (290)).

8. Browning, A., R. Stearns, C. Coe, **T. P. Boltz**, P. Foster, J. Temple, and C. Shen. 2022. Impact of Temperature and Salt Concentrations for Thermal Inactivation of *Salmonella* in Moisture Enhanced Reconstructed Chicken Patties. IAFP. (Accepted Abstract (P1-37)).
9. Bowen K. M., E. Lynch, **T. P. Boltz**, V. E. Ayres, and J. S. Moritz. 2021. Performance and tibia ash response of Ross 708 broilers to increasing concentrations of two commercial phytase products post pelleting. Poult. Sci. (Accepted Abstract (133)).
10. Ayres V. E., M. Jackson, S. Cantley, S. J. Rochell, C. Crumpacker, T. Lee, B. Bodle, W. J. Pacheco, M. R. Lastres, C. A. Bailey, K. N. Gardner, **T. P. Boltz**, and J. S. Moritz. 2021. Multi- experiment evaluation of increasing phytase activity from Optiphos[®] and Optiphos Plus[®] on 21-day broiler performance and tibia mineralization. Poult. Sci. (Accepted Abstract (147)).
11. **Boltz T. P.**, J. Ferrel, K. M. Bowen, K. L. Harding, V. E. Ayres, and J. S. Moritz. 2021. The effect of a *dacitic tuff breccia* (Azomite[®]) in corn, soybean, and DDGS based diets that vary in inorganic phosphate source on pellet mill production rate and pellet quality. Poult. Sci. (Accepted Abstract (162)).
12. Bowen K. M, E. Lynch, **T. P. Boltz**, V. E. Ayres, J. Ferrel, and J. S. Moritz. 2021. The effect of a *dacitic tuff breccia* (Azomite[®]) in corn, soybean, and DDGS based diets that vary in inorganic phosphate source on pellet mill energy consumption, live bird performance, and amino acid digestibility. Poult. Sci. (Accepted Abstract (178)).
13. **Boltz T. P.**, V. E. Ayres, C. Shen, and J. S. Moritz. 2021. Modeling the thermal inactivation of *Salmonella* reduction in poultry feed in a lab-based water bath. Poult. Sci. (Accepted Abstract (262)).
14. Ayres V. E., M. Basye, **T. P. Boltz**, A. E. Lamp, P. Lessard, M. Lanahan, and J. S. Moritz. 2020. The Effects of two corn-expressed phytases in pelleted diets on broiler growth performance and tibia mineralization. International Poultry Scientific Forum. (Accepted Abstract (P277)).
15. **Boltz T. P.**, V. E. Ayres, K. L. Harding, A. E. Lamp, and J. S. Moritz. 2020. The effect of NSPase enzymes in an energy deficient diet on 0 to 38 d broiler performance. International Poultry Scientific Forum. (Accepted Abstract (P278)).
16. **Boltz T. P.**, N. E. Ward, V. E. Ayres, A. E. Lamp and J. S. Moritz. 2019. The Effect of Varying Steam Conditioning Temperature and Time on Pellet Manufacture Variables, Digestible Amino Acid Concentration, and Feed Enzyme Recovery. Poult. Sci. (Accepted Abstract (171)).
17. Ayres V. E., **T. P. Boltz**, A. E. Lamp, and J. S. Moritz. 2019. Exogenous enzyme supplementation can overcome amino acid deficient diets. Poult. Sci. (Accepted Abstract (503P)).

18. Harding K. L., A. E. Lamp, **T. P. Boltz**, V. Ayres, and J. S. Moritz. 2019. The Effect of Pelleting Diets Composed of Large Particle Corn using Standard Conditioning and More Thermally Aggressive Conditioning Utilizing a Hygieniser. *Poult. Sci.* (Accepted Abstract (521P)).
19. **Boltz T. P.**, J.W. Boney, and J.S. Moritz. 2018. Feed manufacture and *Salmonella* surrogate mitigation differences between standard pelleting and more thermally aggressive pelleting utilizing a hygieniser. *Poult. Sci.* (Accepted Abstract (161)).

INVITED PRESENTATIONS

National Presentations

- Boltz, T. P.** 2023. Improving poultry feed hygienics: Utilizing feed manufacture techniques and equipment to improve feed hygiene. Part of the 2023 Poultry Science Annual Meeting “Controlling *Salmonella*: strategies for feed, the farm, and the processing plant” symposium. Philadelphia, PA on July 10th, 2023.
- Boltz, T. P.** 2021. 21st Century Feed Manufacture Research: From the mill to the lab. Mississippi State University. Invited department seminar on June 28, 2021. Starkville, Mississippi. Invited department seminar.