



Waseem Abbas, PhD

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Faisalabad, Punjab, Pakistan

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GitHub: <https://github.com/wabbas2>

RESEARCH INTERESTS

Ruminant Nutrition, Host microbiome interactions, Climate-smart Farming, Statistical Modelling, Methane emission, Feed efficiency, Metagenomics, Transcriptomics, and genomic Data analysis.

EDUCATION

August 2016 – December 2021 **PhD – Animal Sciences (Ruminant Nutrition and Genetics)**
The University of Nebraska Lincoln, Lincoln, NE, United States.

Thesis title: “Host Genetics and Phenotype Associations Within the Bovine Rumens Microbiome”

Supervisors:

Dr. Samodha C. Fernando (UNL – USA) (Chair)
Dr. Andrea Cupp (UNL – USA)
Dr. Phillip Miller (UNL – USA)
Dr. Paul Kononoff (UNL – USA)
Dr. Stephen D. Kachman (UNL – USA)

August 2015 **Master of Science (Hons) in Animal Nutrition**
University of Agriculture Faisalabad, Pakistan

Thesis title: “Effect of weaning age and milk feeding levels on pre-weaning and post-weaning growth performance of Nili-Ravi Buffalo Calves”

Supervisors:

Dr. Shaukat Ali Bhatti (UAF - PAK) (Chair)
Dr. M. Sajjad Khan (UAF - PAK)
Dr M. Sarwar (UAF - PAK)

JUNE 2012 **Bachelor of Science (Hons) in Animal Sciences**
University of Agriculture Faisalabad, Pakistan
(Awarded Gold Medal)

PROFESSIONAL EXPERIENCE

January 2022-present	Assistant Professor , Institute of Animal and Dairy Sciences, University of Agriculture, Faisalabad, Pakistan <ul style="list-style-type: none">▪ Mentoring MSc (Hons) Animal Nutrition Students.▪ Managing Research Projects.▪ Responsible for Teaching<ul style="list-style-type: none">• AN-701 Physiology and Biochemistry of Nutrition• AN-709 Nutrition of Dairy and Beef Animals• AN-401 Minerals and Vitamins in Nutrition• AN-501 Feeding of Farm Animals
August 2016-2021	Research Associate , Department of Animal Science, UNL, NE, USA Worked on project funded by USD-NIFA
October 2014-August 2016	Lecturer , Department of Animal Science, University of Agriculture Faisalabad, Pakistan
January 2016- June 2016	Course Trainer , Selected by PSDF, Govt. of the Punjab for the course “Calf Fattening”
August 2013 - February 2014	Research Scholar , Livestock Experiment Station Bhuneki, Pattoki, Kasoor, Punjab Pakistan. Six-month work experience in a project of Agriculture Sector Linkages Program (ASLP) entitled “Effect of weaning age and milk volumes on pre-weaning and post-weaning growth performance of Nili-Ravi buffalo calves”
June 1- September 2012	Internship , Livestock Experiment Station Bahadurnagar, Okara, Punjab Pakistan. Actively worked in a project of the Agriculture Sector Linkages Program (ASLP) entitled “Effect of weaning period and milk feeding regimens on post weaning growth performance of Sahiwal calves”

TECHNICAL SKILLS

Programming & Analysis

- R Programming
- Statistical Analysis
- Bioinformatics Pipelines
- Data Visualization
- Metagenome Analysis
- Transcriptome Analysis
- Metabolome Analysis

Laboratory & Field Skills

- Rumen Sampling Techniques
 - Feed Analysis
 - DNA Extraction
 - PCR
 - Illumina/ HiSeq Library Preparation
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HONORS

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| 2012 | Gold Medal in Science , University of Agriculture Faisalabad, Pakistan (B.Sc. Animal Science) |
| 2008- 2013 | Scholarship holder “ University Merit scholarship ”, University of Agriculture Faisalabad, Pakistan |
| 2012-2014 | Scholarship holder “ The Punjab Educational Endowment Fund (PEEF) ”, Pakistan |
| 2019-2020 | Ned S. and Esther B. Raun International Graduate Fellowship |
| 2016- 2021 | Ph.D. Scholarship holder “ 50 OVERSEAS SCHOLARSHIPS FOR UNIVERSITY OF AGRICULTURE, FAISALABAD-SPECIAL INITIATIVE OF THE WORTHY CHIEF MINISTER FOR FACULTY DEVELOPMENT OF UAF ” Punjab, Pakistan |
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PUBLICATIONS

- Munawar, Z., Amjid, S., Ramzan, F., Rafique, A., Hassan, S., Anwar, U., Mehmood, M., Farooq, U., Khalid, M.F., Mustafa, R. and Riaz, M., **W. Abbas**. 2025. Effects of partial soybean meal replacement with sunflower meal and non-starch polysaccharide degrading enzymes supplementation on broiler growth performance, nutrient digestibility, and gut morphology. *Veterinary World*, 18(3).
- Liaqat, W., Anwar, U., Fatima, A., Rafique, A., Mustafa, R., Farooq, U., Ramzan, F., **Abbas, W.**, Khalid, M.F., Ashraf, M. and Riaz, M., 2025. Effect of Ideal Amino Acid Ratio of Arginine to Lysine on Intake, Nutrient Digestibility, Growth Performance, Antibody Titers of Newcastle Disease and Infectious Bronchitis Disease, and Carcass Characteristics of Broilers. *Animals*, 15(2), p.135.
- Chishti, M.F.A., Bilal, M.Q., Riaz, M., Khalid, M.F., Anwar, U., Mustafa, R., **Abbas, W.** and Farooq, U., 2025. Particle size of wheat straw from genetically improved wheat affects the production performance and feeding behavior of Sahiwal cows. *Tropical Animal Health and Production*, 57(1), pp.1-10.
- Ali, B., Irfan, M., Ramzan, F., Abbas, B., Ashraf, M., Mehmood, M., Khan, O.A., Ishtiaq, I. and **Abbas, W.**, 2024. Super Dosing of IP6 Phytase in Phosphorus-Deficit Diets to Replace Added Phosphorus and Evaluate Growth Performance, Nutrient Digestibility and Bone Mineralization of Broiler Chickens.
- Shi, C., Li, Y., Wang, H., Zhang, S., Deng, J., Aziz-ur-Rahman, M., Cui, Y., Lu, L., Zhao, W., Qiu, X., He, Y., Cao, B., **Abbas, W.**, Ramzan, F., Ren, X., and Su, H., 2024. From Food Waste to Sustainable Agriculture: Nutritive Value of Potato By-Product in Total Mixed Ration for Angus Bulls. *Foods*, 13(17), p.2771.
- Shah, M.H., Ayaz Chishti, M.F., Anwar, U., **Abbas, W.**, Mustafa, R., Farooq, U., Ramzan, F., Khalid, M.F., Riaz, M. and Bilal, M.Q., 2024. Evaluation of Chemical Composition and In-Situ Digestion Kinetics of Industrial Hemp Silage and Hay. *Pakistan Journal of Agricultural Sciences*, 61(3), p 941-946.
- Adams, S, N.D Aluthge, **W. Abbas**, M.L Spangler, W. James, K. E. Hales, L. A Kuehn, W. T Oliver, T. Burkey, P. S Miller, S. C Fernando., 2023. Microbiomes from Theory to Application. *Journal of Animal Science*, Volume 101, Issue Supplement_2, November 2023, Page 63.
- Abbas, W.**, 2021. Host Genetics and Phenotype Associations Within the Bovine Rumen Microbiome (Doctoral dissertation, The University of Nebraska-Lincoln)
- Beard, J.K., **Abbas, W.**, Musgrave, J.A., Funston, R., Fernando, S.C. and Mulliniks, T., 2021. Metabolomic Profile Associated with Pre-Breeding Puberty Status in Range Beef Heifers.

- Abbas, W.**, Keel, B.N., Kachman, S.D., Fernando, S.C., Wells, J.E., Hales, K.E. and Lindholm-Perry, A.K., 2020. Rumen epithelial transcriptome and microbiome profiles of rumen epithelium and contents of beef cattle with and without liver abscesses. *Journal of animal science*, 98(12), p.skaa359.
- Abbas, W.**, Howard, J.T., Paz, H.A., Hales, K.E., Wells, J.E., Kuehn, L.A., Erickson, G.E., Spangler, M.L. and Fernando, S.C., 2020. Influence of host genetics in shaping the rumen bacterial community in beef cattle. *Scientific reports*, 10(1), pp.1-14.
- Niederwerder, M.C., Constance, L.A., Rowland, R.R., **Abbas, W.**, Fernando, S.C., Potter, M.L., Sheahan, M.A., Burkey, T.E., Hesse, R.A. and Cino-Ozuna, A.G., 2018. Fecal Microbiota Transplantation Is Associated With Reduced Morbidity and Mortality in Porcine Circovirus Associated Disease. *Frontiers in microbiology*, 9, 1631
- Gebhardt, J.T., Niederwerder, M., Fernando, S.C., **Abbas, W.**, Burkey, E., Thomson, K.A., Woodworth, J.C., Tokach, M.D., DeRouchey, J.M., Goodband, R.D. and Dritz, S.S., 2018. Effect of Medium Chain Fatty Acid Supplementation on Nursery Pig Fecal Microbial Populations. *Kansas Agricultural Experiment Station Research Reports*, 4(9), p.9.
- Abbas, W.**, Bhatti, S.A., Khan, M.S., Saeed, N., Warriach, H.M., Wynn, P. and McGill, D., 2017. Effect of weaning age and milk feeding volume on growth performance of Nili-Ravi buffalo calves. *Italian Journal of Animal Science*, 16(3), pp.490-499.

ABSTRACT/ORAL PRESENTATIONS

- Abbas, B., **W. Abbas***. Exploring the Influence of Bacteriophages on Microbial Communities and Nutrient Dynamics in the Rumen. 2024. 1st International Conference on Applied Sciences and Technology (ICAST-2024). October 24-25, Baba Guru Nanak University Nankana Sahib, Punjab Pakistan.
- Ehsan, H., D. Ahmad, **W. Abbas**. Socio-political dimensions in food security. 2024. International conference on integrative life sciences. September 25-27, Islamabad, Pakistan.
- Ehsan, H., **W. Abbas**. Role of backyard poultry in reducing food waste and its benefits. 2024. 1st International conference on Applied Sciences and Technology. October 24-25, Nankana Sahib, Pakistan.
- Ahmad, D., H. Ehsan, **W. Abbas***. Minimizing Polyethylene Usage: Advancing Sustainable Agriculture with Eco-Friendly Biodegradable Mulching Films. 2024. International Conference on Integrated Life Sciences. September 25-27, NUST, Islamabad.
- Ahmad, D., **W. Abbas***. Effects of Poultry Waste on Environment. 2024. International Conference on Integrated Life Sciences. September 25-27, NUST, Islamabad.
- Ehsan, H., D. Ahmad, **W. Abbas***. EXPLORING SOCIO-POLITICAL DIMENSIONS IN FOOD SECURITY IN PAKISTAN. 2024. International Conference on Integrated Life Sciences. September 25-27, NUST, Islamabad.
- Ahmad, D., **W. Abbas**. Waste-to-Resource: Innovations in Poultry Manure Management. 2024. 1st International Conference on Applied Sciences and Technology. October 24-25, BGNU, Nankana Sahib.

- Safdar Hassan, Muhammad Mahboob Ali Hamid, Muhammad Asnan, **Waseem Abbas**, Fawwad Ahmad, Muhammad Ashraf and Muhammad Sharif. Effect of nanoparticles of zinc prepared by different green methods on egg production and egg quality in caged layers. 2024. International Symposium on “Nanobiology: Integrating Nanotechnology and Microbiology for a Sustainable Future (ISNB2024)”. Page 70-71. February 28-29, Faisalabad, Pakistan.
- Javed, M. M, **W. Abbas***, F. Ramzan, M. A. Mirza. Effect of Dietary Replacement of Maize with Wheat-Based Bread Waste Pellets on Growth Performance, Nutrients Digestibility, and Carcass Response in Broiler Chicken. 2023. 4th BRI Sino-Pakistan Agriculture Forum. Page 124. November 9-10, Faisalabad, Pakistan.
- Fatima. A , **W. Abbas**, M. Ashraf, M. M. Javed, F. Ramzan, M. M. A. Hamid. Exploring the Influence of Bacteriophages on Microbial Communities and Nutrient Recycling in the Rumen. 2023. 4th BRI Sino-Pakistan Agriculture Forum. Page 125. November 9-10, Faisalabad, Pakistan.
- Rohan. M, **W. Abbas**, M. U. Munir, M. Awais, M. M. Javed . From Antibiotics to DFMs: A Paradigm Shift in Beef Cattle Farming. 2023. 4th BRI Sino-Pakistan Agriculture Forum. Page 113. November 9-10, Faisalabad, Pakistan.
- Bilal. Q, S. Ahmad, **W. Abbas**. 2023. Animal Production and Husbandry Systems in Pakistan: Challenges, Solutions and Way Forward. 4th BRI Sino-Pakistan Agriculture Forum. Page 109. November 9-10, Faisalabad, Pakistan.
- Abbas. W**, M. M.A. Hamid, F. Ramzan, U. B. Tahir. Exploring the Role of Rumen Microbiota in Enhancing Beef Quality. 2023. International Conference on Food & Applied Sciences (ICFAS-23). Page 217. August 03-05, Dir, Pakistan.
- M.M.A. Hamid., M. Sharif., **W.Abbas** et al. 2022, Evaluation of forage silage quality and *In-situ* digestibility coefficients of different maize varieties. First International Conference on Climate Resilient Agriculture for Sustainable Development & Food Security. Page 56. September 5-7, 2022, AIOU, Pakistan.
- S.Z. Khan., M.M.A. Hamid., U. Gull., **W.Abbas** et al. 2022. A response of Nili-Ravi buffalo milk fatty acid profile and plasma metabolites to the increasing dietary energy supplies. First International Conference on Climate Resilient Agriculture for Sustainable Development & Food Security. Page 58. September 5-7, 2022, AIOU, Pakistan.
- Abbas, W.**, Lindholm-Perry, A.K., Keel, B.N., Wells, J.E., Hales, K., Knoell, A., Paz, H.A. and Fernando, S., 2020. 224 Epimural microbiota and rumen epithelial gene expression in healthy and liver-abscessed animals. *Journal of Animal Science*, 98(Supplement_3), pp.135-135.
- Knoell, A., Aluthge, N., **Abbas, W.**, Bartenslager, A., Judy, J., Morris, D., Wilson, H.C., Herrick, K., Kononoff, P.J. and Fernando, S., 2020. 247 The effect of diet on the microbial community structure and composition in lactating Jersey cows consuming a mixture of straw and dry distillers grains plus solubles in replacement of alfalfa hay. *Journal of Animal Science*, 98(Supplement_3), pp.138-139.
- Abbas, W.**, Howard, J.T., Paz, H.A., Hales, K.E., Wells, J.E., Kuehn, L.A., Spangler, M.L., Erickson, G.E. and Fernando, S.C., 2019. 93 Host genetics help shape the rumen microbiome in beef cattle. *Journal of Animal Science*, 97(Supplement_2), pp.51-52.
- Abbas, W.**, Knoell, A.L., Tom, W.A., Anderson, C.L., Paz, H.A. and Fernando, S.C., 2018. 458 Impact of Rumen Bacteria on Marbling in Wagyu Cattle. *Journal of Animal Science*, 96(suppl_2), pp.245-246.

Bhatti S. A., **W. Abbas**, M. Sarwar, M. S. KHAN, A. Haq, N. Saeed, H. M. Warriach, P. Wynn. 2015. Effect of weaning age and milk feeding level on growth performance of Nili- Ravi buffalo calves up to age of 16 week. 8th Assian Buffalo Congress, Istanbul- Turkey, April 21-25.

Mustafa B. E., U. H. Khan, **W. Abbas** and M. S. Zubair. 2015. Mycotoxins: A hidden threat to wild and fancy birds. International Seminar on Poultry Diseases, UAF- Pakistan, December 14-15.

PROFESSIONAL MEMBERSHIPS

2017- Present	American Society of Animal Science
2024- Present	Pakistan Animal Scientists Welfare Association

INVITED PRESENTATIONS

September 2024	<i>Enhancing Air Quality and Livestock Nutrition: The Socio-Environmental Benefits of Urea-Treated Rice Straw in Pakistan</i> , International Conference on Integrative Life Sciences (ICiLS-24) (25-27 September, 2024), National University of Sciences and Technology (NUST) Islamabad, Pakistan
October 2024	<i>Feeding Management Strategies for fancy birds in hot environments</i> , Fancy Bird Showcase, University of Agriculture, Faisalabad (2024).
November 2023	<i>Effect of Dietary Replacement of Maize with Wheat-Based Bread Waste Pellets on Growth Performance, Nutrients Digestibility, and Carcass Response in Broiler Chicken</i> , 4 th BRI Sino-Pakistan Agriculture Forum (SPAF2023).
August 2023	<i>“Exploring the Role of Rumen Microbiota in Enhancing Beef”</i> , International Conference on Food & Applied Sciences (ICFAS-23).
May 2022	<i>“Cattle Nutrition: Recent Advances and Opportunities”</i> at Institute of Animal and Dairy Sciences, University of Agriculture, Faisalabad.
June 2022	<i>“Influence of host genetics in shaping the rumen bacterial community in beef cattle”</i> . Webinar hosted by Microbiome Virtual International Forum.

ADMINISTRATIVE SERVICES TO UNIVERSITY OF AGRICULTURE, FAISALABAD

March 2024-Present	Serving as Manager of Animal Nutrition Research Centre at University of Agriculture, Faisalabad.
June 2022 - Present	Serving as Assistant Superintendent Boys Hostel.
March 2022 - Present	Serving as the Focal Person for Undergraduate Degree Program Admission for the Faculty of Animal Husbandry, University of Agriculture, Faisalabad.
February 2022-Present	Serving as the Focal Person for Sports Events for the Faculty of Animal Husbandry, University of Agriculture, Faisalabad.
August 2022 - Present	Member Management Committee of the “ <i>Cattle Feed Project</i> ” constituted by the University of Agriculture, Faisalabad.

VOLUNTEER

2024	Member of a Committee to complete the process of accreditation with National Agriculture Education Accreditation Council (NAECA) of the under and postgraduate degrees of Faculty of Animal Husbandry.
2024	Member of the committee to make arrangements for organizing Animal Husbandry Exhibition at Expo Centre, UAF
2023	One day duty at 25 th Convocation of the University of Agriculture, Faisalabad
2022	Member of the Vigilance Committee for the Final Examination Spring Semester, 2021-022
2022	Farmer Training at District Mandi Bahauddin.

Project as P.I

1. Project Title: **Evaluating Elan® Cox Liquid: A Phytogenic Extract for Coccidiosis, Gut Health, Improved Immunity, and Growth Performance in Broiler**

Funding Agency: OLUS⁺ B.V (Netherlands)
OlusPlus B.V.
Randweg 8 & 10 8061 RW Hasselt,
The Netherlands
<https://olusplus.com/>
+31 384 774 410
Total Amount: 2.4 million PKR
Year: 2024 (On Going)

Current Research Supervision: Ms/MPhil Students

- I. Research Project: **Effects of Rumen-Protected Choline and Niacin on Performance and Metabolic Parameters of transitioning Holstein-Friesian Cows.**
 - II. Research Project: **Comparative Nitrogen Use Efficiency of Nili-Ravi Buffaloes and Crossbred Cattle Fed Low and High Nitrogen Diets.**
 - III. Research Project: **Optimizing Glycine Supplementation in Low-Protein Diets to Enhance Broiler Performance.**
 - IV. Research Project: **Comparative Evaluation of Alternative Feed Additives for Broiler Production Without Antibiotic Growth Promoters.**
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