



Rana Muhammad Bilal

PhD Poultry Nutrition Associate Professor

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Director Quality Enhancement cell Cholistan University of Veterinary and Animal Sciences
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EDUCATION

Ph D	2016	University of Agriculture, Faisalabad Pakistan <i>Dissertation title:</i> Effect of replacing dietary soybean meal with dried distillery yeast sludge on health and performance of layers.
M.Sc.	2000	Animal Nutrition, University of Agriculture, Faisalabad Pakistan <i>Thesis title:</i> Effect of maturity and variety on digestion kinetics of Maize (<i>Zea Mays</i>).

RESEARCH INTERESTS

1. Poultry nutrition for improved gut health and immunity
2. Indigenous phyto-genic feed additives and their application in poultry and dairy
3. Digestion kinetics of fibre

STUDENT SUPERVISION

PhD Co-supervisor 02

MPhil 10

As Co-Supervision

MPhil 10

SCIENTIFIC PUBLICATIONS

1. Shamsuddin, M.R., Sheikh, I.S. and Bilal, R.M., 2023. Comparative Study to Evaluate Antibacterial Feed Additive and Probiotic on the Performance of Broiler Chicken. *Pak euro journal* 2023.
2. Sher, A.L.I., Nouman, A.S.I.F., HAYAT, M., BILAL, R.M., NAUMAN, K., NASIR, J., Asghar, B. and BADAR, I., Omega-3 Fatty Acids Enriched Flaxseed Oil Effects on Meat Quality and Fatty Acid Profile of Broiler Chicks. *KAFKAS ÜNİVERSİTESİ VETERİNER FAKÜLTESİ DERGİSİ*, 29(4). 2023.
3. Janmohammadi, H., Hosseintabar-Ghasemabad, B., Amirdahri, S., Gorlov, I.F., Vladimirovna, K.E., Slozhenkina, M.I., Bilal, R.M., Seidavi, A. and Phillips, C.J.C., 2022. The Energy Value for Broiler Chickens of Heat-Treated and Untreated Amaranth Grain, with and without Enzyme Addition. *Agriculture*, 12 (11), p.1810.
4. Qaisrani SN, Hussain AI, Naveed S, Bibi F, Akram CA, Pasha TN, Asif M, Irshad I, Bilal RM. Effects of protein source, whole wheat and butyric acid on live performance, gut health and amino acid digestibility in broiler chickens. *Metabolites*. 2022 Oct 19;12(10):989.
5. Laudadio, V., Nasiri-Dehbaneh, M., Bilal, R.M., Qotbi, A., Javandel, F., Ebrahimi, A., Seidavi, A., Slozhenkina, M., Gorlov, I., Dunne, P.G. and Tufarelli, V., 2022. Effects of different levels of dietary black cumin (*Nigella sativa L.*) and fenugreek (*Trigonella foenum-graecum L.*) and their combination on productive traits, selected blood constituents, microbiota and immunity of broilers. *Animal Biotechnology*, 33(5), 941-954.

6. Tauqir, N.A., Faraz, A., Passantino, A., Shahzad, M.A., Bilal, R.M., Tahir, A., Ishaq, H.M. and Waheed, A., 2022. Impact of Corn Steep Liquor and Enzose Mixture on Growth Performance of Chicks. *Pak. J. Zool*, 54, pp.491-494.
7. Qiao, N., Pan, J., Chen, H., Kang, Z., Pang, C., Liu, B., Zeng, Q., Mehmood, K., Bilal, R.M., Pasha, R.H. and Tang, Z., 2022. Hypoxia Promotes Proliferation and Inhibits Apoptosis of Pulmonary Arterial Smooth Muscle Cells via Modulating TRPC6. *Pakistan Veterinary Journal*, 42(1).
8. Maqbool, M.U., Akhtar, M.U., Bilal, R.M., Faraz, A., Yousaf, M., Ahmad, I., Khan, A.H., Abbasi, B.H.A. and Rafeeq, M., 2021. Impact of brewer's spent grain inclusion and replacement of corn gluten meal on the economical growth performance, carcass characteristics of broiler chicks. *Pak-Euro Journal of Medical and Life Sciences*, 4(3), 185-190.
9. Ahmad, B., Khan, M.A., Ahmad, Z., Bilal, R.M. and Kamboh, A.A., 2021. Improvement of Processing Quality and Yield while Sustaining Consumer Acceptability of Cobb Broiler Meat through Zinc Biofortification. *Pak. J. Zool*.
10. Bilal, R.M., Liu, C., Zhao, H., Wang, Y., Farag, M.R., Alagawany, M., Hassan, F.U., Elnesr, S.S., Elwan, H.A., Qiu, H. and Lin, Q., 2021. Olive oil: nutritional applications, beneficial health aspects and its prospective application in poultry production. *Frontiers in Pharmacology*, 12, p.723040.
11. Batool, F., Bilal, R.M., Hassan, F.U., Nasir, T.A., Rafeeq, M., Elnesr, S.S., Farag, M.R., Mahgoub, H.A., Naiel, M.A. and Alagawany, M., 2021. An updated review on behavior of domestic quail with reference to the negative effect of heat stress. *Animal Biotechnology*, pp.1-14.
12. Bilal, R.M., Hassan, F.U., Saeed, M., Rafeeq, M., Zahra, N., Fraz, A., Saeed, S., Khan, M.A., Mahgoub, H.A., Farag, M.R. and Alagawany, M., 2021. Role of yeast and yeast-derived products as feed additives in broiler nutrition. *Animal Biotechnology*, pp.1-10.
13. Abdelnour, S.A., Alagawany, M., Hashem, N.M., Farag, M.R., Alghamdi, E.S., Hassan, F.U., Bilal, R.M., Elnesr, S.S., Dawood, M.A., Nagadi, S.A. and Elwan, H.A., 2021. Nanominerals: fabrication methods, benefits and hazards, and their

- applications in ruminants with special reference to selenium and zinc nanoparticles. *Animals*, 11(7), p.1916.
14. Farag, M.R., Alagawany, M., Bilal, R.M., Gewida, A.G., Dhama, K., Abdel-Latif, H.M., Amer, M.S., Rivero-Perez, N., Zaragoza-Bastida, A., Binnaser, Y.S. and Batiha, G.E.S., 2021. An overview on the potential hazards of pyrethroid insecticides in fish, with special emphasis on cypermethrin toxicity. *Animals*, 11(7), p.1880.
 15. Luqman, Z., Masood, S., Ali, H.M., Rehman, T.U., Altaf, M., Iqbal, N., Bilal, R.M., Din, S., Hussain, N. and Aslam, S., 2021. Effects of *In-ovo* Administration of L-arginine on the Histo-morphometry of Thigh Muscles, Meat Characteristics and Growth Performance in Japanese Quails (*Coturnix coturnix*. *Pakistan Veterinary Journal*, 41(3), pp.456-458.
 16. Yu, W., Liao, J., Yang, F., Zhang, H., Chang, X., Yang, Y., Bilal, R.M., Wei, G., Liang, W., Guo, J. and Tang, Z., 2021. Chronic tribasic copper chloride exposure induces rat liver damage by disrupting the mitophagy and apoptosis pathways. *Ecotoxicology and environmental safety*, 212, p.111968.
 17. Bilal, R.M., Hassan, F.U., Farag, M.R., Nasir, T.A., Ragni, M., Mahgoub, H.A. and Alagawany, M., 2021. Thermal stress and high stocking densities in poultry farms: Potential effects and mitigation strategies. *Journal of Thermal Biology*, 99, p.102944.
 18. Abdul Waheed. Asim faraz. Riaz Hussain Mirza. Hafiz Muhammad Ishaq. Rana Muhammad Bilal and Muhammad Asif Yaseen. A Review of Reproductive Performance of Pakistani Camels. *International Journal of camel science* (2019) Vol: 01 Issue 02.
 19. Nadeem, M.T., Shah, S.Z.H., Malik, N., Bilal, R.M. and Husain, W., 2021. A Study of the Perception of the Community Regarding Impact of University Education in Developing Tolerance. *Ilkogretim Online*, 20(3).
 20. Mehmood, K., Bilal, R.M. and Zhang, H., 2020. Study on the genotypic and phenotypic resistance of tetracycline antibiotic in *Escherichia coli* strains isolated from free ranging chickens of Anhui Province, China. *Agrobiological Records*, 2, pp.63-68.

21. Ning, Z., Lan, J., Jiang, X., Zhong, G., Zhang, H., Wan, F., Wu, S., Tang, Z., Bilal, R.M., Hu, L. and Huang, R., 2022. Arsenic trioxide-induced autophagy affected the antioxidant capacity and apoptosis rate of chicken hepatocytes. *Chemico-Biological Interactions*, 354, p.109821.
22. Ahmad, B., Khan, M.A., Ahmad, Z., Bilal, R.M. and Kamboh, A.A., 2021. Improvement of Processing Quality and Yield while Sustaining Consumer Acceptability of Cobb Broiler Meat through Zinc Biofortification.
23. Shabbir, M.A., Ahmed, W., Latif, S., Inam-Ur-Raheem, M., Manzoor, M.F., Khan, M.R., Bilal, R.M. and Aadil, R.M., 2020. The quality behavior of ultrasound extracted sunflower oil and structural computation of potato strips appertaining to deep-frying with thermic variations. *Journal of Food Processing and Preservation*, 44(10), p.e14809.
24. Faraz, A., Waheed, A., Nazir, M.M., Hameed, A., Tauqir, N.A., Mirza, R.H., Ishaq, H.M. and Bilal, R.M., 2020. Impact of oxytocin administration on milk quality, reproductive performance and residual effects in dairy animals—A review. *Punjab Univ. J. Zool*, 35(1), 61-67.
25. Bilal, R.M., Nasir, T.A., Ashfaq, F., Faraz, A., Rafeeq, M., Abbasi, B.H.A., Khan, A.H., Yameen, K., Sajid, H.A.U., Kakar, M.E. and Saboor, A., 2021. Impact of Maturity and Variety on Nutritive Value and In Situ Digestion Kinetics of Maize (*Zea Mays*) in Nili Ravi Buffalo Bulls. *Pak-Euro Journal of Medical and Life Sciences*, 4(4), pp.313-318.
26. Rafeeq, M., Rashid, N., Tariq, M.M., Shahzad, I., Sheikh, M.Z.M., Shafee, M., Mehmood, K., Bilal, R.M. and Asmat, T., 2021. Effect of herbal extract on the growth performance, serum biochemical composition, ileal histo-morphology and immune response of broiler chickens. *Pakistan Journal of Zoology*, 1(5), pp.1-9.
27. Tauqir, N.A., Bilal, R.M., Faraz, A., Khan, A.H., Ashfaq, F., Abbasi, B.H.A., Rafeeq, M., Tahir, A.S., Ahmad, F. and Yameen, K., 2021. Palm Oil Cake Can Substitute Cottonseed Cake in the Feed of Milking Nili Buffaloes. *Pak-Euro Journal of Medical and Life Sciences*, 4(3), pp.153-160.
28. Abbas, G., Mahmood, S., Fawwad Ahmad, M.Y., Qureshi, R.A., Qamar, S.H., ur Rehman, M.Z., Ashar, M.F.M.I.S., Mahfooz, M.K.S., Bilal, M., Iqbal, A. and

- Siddique, F., 2014. Effect of Varying Light Intensity on Immunity Level, Dressed Weight, Minor Body Parts Weight, Fat Deposition and Serum Glucose Level in Broilers. *J. Anim. Vet. Adv.*, 1, pp.38-42.
29. Bilal, R.M., Hassan, F., Saeed, M., Ayasan, T., Rashed, N., Akhtar, M.U. and Seidavi, A., 2020. Prospects of yeast based feed additives in poultry nutrition: Potential effects and applications. *Indian J. Anim. Sci*, 90(4), pp.495-505.
 30. Bilal, R.M., Sarwar, M.S. and Sultan, J.I., 2016. Effect of replacing dietary soybean meal with various levels of dried distillery yeast sludge on gut health, immunity, egg quality and performance of layers. *Transylvanian Rev*, 10, pp.2626-2638.
 31. Bilal, R.M., Akhtar, M. and Nisa, M.U., 2018. Impact of replacement of dietary soybean meal with dried distillery yeast sludge on performance and health of layer chicks. *Gomal University Journal of Research*, 34(2), pp.20-29.
 32. Bilal, R.M., Akhtar, M. and Javaid, A., 2018. Effect of replacement of soybean meal with dried distillery yeast sludge on performance, immunity and gut health of layer pullets. *Gomal University Journal of Research*, 34(1), pp.7-14.
 33. Abd El-Hack, M.E., El-Shall, N.A., El-Kasrawy, N.I., El-Saadony, M.T., Shafi, M.E., Zabermawi, N.M., Alshilawi, M.S., Alagawany, M., Khafaga, A.F., Bilal, R.M. and Elnesr, S.S., 2022. The use of black pepper (*Piper guineense*) as an ecofriendly antimicrobial agent to fight foodborne microorganisms. *Environmental Science and Pollution Research*, pp.1-14.
 34. Tahir, M.A., Abbas, A., Muneeb, M., Bilal, R.M., Hussain, K., Abdel-Moneim, A.M.E., Farag, M.R., Dhama, K., Elnesr, S.S. and Alagawany, M., 2022. Ochratoxicosis in poultry: Occurrence, environmental factors, pathological alterations and amelioration strategies. *World's Poultry Science Journal*, 78(3), pp.727-749.
 35. Mastoi, A.N., Abbasi, B.H.A., Nawaz, Z., Rashid, N., Bilal, R.M., Shafee, M., Ayub, S., Iqbal, M., ud Din, S. and Fareed, G., 2023. Effects of dietary supplementation of Garlic (*Allium Sativum* L.) on Production and Haematological Parameters and Serum Cholesterol Level in the Broilers. *Pak-Euro Journal of Medical and Life Sciences*, 6(2), pp.47-54.

36. Alagawany, M., El-Hindawy, M.M., Mohamed, L.A., Bilal, R.M. and Soomro, J., 2022. The use of cold pressed oils as eco-friendly alternatives for antibiotics in high and low-CP diets of laying Japanese quail. *Animal Biotechnology*, 33(5), pp.816-823.
37. Li, Y., Liu, Y., Yi, J., Li, Y., Yang, B., Shang, P., Mehmood, K., Bilal, R.M., Zhang, H., Chang, Y.F. and Tang, Z., 2021. The potential risks of chronic fluoride exposure on nephrotoxic via altering glucolipid metabolism and activating autophagy and apoptosis in ducks. *Toxicology*, 461, p.152906.
38. Hassan, F., Arshad, M.A., Hassan, S., Bilal, R.M., Saeed, M. and Rehman, M.S., 2021. Physiological role of arginine in growth performance, gut health and immune response in broilers: a review. *World's Poultry Science Journal*, 77(3), pp.517-537.
39. Rafeeq, M., Bilal, R.M., Batool, F., Yameen, K., Farag, M.R., Madkour, M., Elnesr, S.S., El-Shall, N.A., Dhama, K. and Alagawany, M., 2023. Application of herbs and their derivatives in broiler chickens: a review. *World's Poultry Science Journal*, 79(1), pp.95-117.
40. Bilal, R.M., Elwan, H.A., Elnesr, S.S., Farag, M.R., El-Shall, N.A., Ismail, T.A. and Alagawany, M., 2022. Use of yeast and its derived products in laying hens: an updated review. *World's Poultry Science Journal*, 78(4), pp.1087-1104.
41. Rajput N, Sher AL, Naeem M, Bilal RM, Wang TI. Role of dietary supplementation with plant origin carotenoids (curcumin and lutein) for the control of eimeria-challenged broiler chickens. *Kafkas Üniversitesi Veteriner Fakültesi Dergisi*. 2022 Mar 15;28(1).
42. Bilal, R.M., 2021. Physiochemical and sensory characteristics of ice cream from lassi camel milk. *Pak-Euro Journal of Medical and Life Sciences*, 4(3), pp.191-194.
43. Alagawany, M., Bilal, R.M., Elnesr, S.S., Elwan, H.A., Farag, M.R., Dhama, K. and Naiel, M.A., 2023. Yeast in layer diets: its effect on production, health, egg composition and economics. *World's Poultry Science Journal*, 79(1), pp.135-153.
44. Faraz, A., Tauqir, N.A., Waheed, A., Ishaq, H.M., Hussain, S.M., Mirza, R.H., Bilal, R.M., Akbar, M.A. and Nabeel, M.S., 2022. Haematological and

- Biochemical Profile of Extensive Kept Male Barela (*Camelus dromedarius*) Camel during Breeding and Non-Breeding Season. *Sarhad Journal of Agriculture*, 38(4), pp.1184-1188.
45. Faraz, A., Faye, B., Tirink, C., Mustafa, A.B., AlKharusi, A., Sani, M.B., Tauqir, N.A., Akbar, M.A., Saleem, M.U., Bilal, R.M. and Waheed, A., 2022. Forced mating an efficient tool in camel production to reduce the age at puberty and calving interval in dromedary she-camel (*Camelus dromedarius*).
 46. Bilal, R.M., Tahir, M.A., Shahzad, A., Farag, M.R., Siddiq, A., El-Shall, N.A., Dhama, K., Elnesr, S.S. and Alagawany, M., 2023. Yeast and derived products: their uses in preventing mycotoxins in poultry feeds. *World's Poultry Science Journal*, 79(2), pp.351-378.
 47. Faraz, A., Tauqir, N.A., Ishaq, H.M., Hussain, S.M., Hamid, M.M.A., Waheed, A., Mirza, R.H., Sheikh, I.S., Akbar, M.A., Bilal, R.M. and Nabeel, M.S., 2022. Hematological profile of Marecha camel (*camelus dromedarius*) reared under semi-intensive management System. *JAPS: Journal of Animal & Plant Sciences*, 32(6).
 48. Abbasi, B.H.A., Achakzai, K.B., Bilal, R.M., Sherani, S., Niazi, M.R., Tareen, M.A., Tareen, S.A., Saba, I., Jan, E., Shahid, S. and Shah, M.A., 2022. Effects of Substitution of Soybean Meal With Sesame Meal on the Performance of Japanese Quails (*Coturnix Coturnix Japonica*) and its Impact on Economics of these Quails Raising. *Pak-Euro Journal of Medical and Life Sciences*, 5(2), pp.351-356.
 49. Yameen RK, Nazir A, Bilal RM, Shahzad A, Tahir MA, Farag M, Elnesr SS, El-Shall NA, Di Cerbo A, Alagawany M. A Review on Feed Particle Size and Form: Implications on the Performance and Gut Health of Poultry. *Poultry Science Journal*. 2024 Dec 8:1-5.
 50. Hassan FU, Liu C, Mehboob M, Bilal RM, Arain MA, Siddique F, Chen F, Li Y, Zhang J, Shi P, Lv B. Potential of dietary hemp and cannabinoids to modulate immune response to enhance health and performance in animals: opportunities and challenges. *Frontiers in Immunology*. 2023 Dec 4;14:1285052.
 51. Abbasi BH, Rashid N, Bilal RM, Wadaan MA, Khan MF. Supplementation of *Cichorium intybus* roots improved the growth performance, immunity response,

- gut ecology and morphology of broilers chicken Ross308 strain. Journal of King Saud University-Science. 2024 Jun 19:103314.
52. Riaz R, Bilal RM, Hassan MU, Todaro M, Gannuscio R, Inal F, Haque MN, Tahir MN. Crude Protein Degradation Kinetics of Selected Tropical Forages in Buffalo Using NorFor *In Situ* Standards. Animals. W Feb 18;15(4):585.2025.
 53. Tahir Mahmood Qureshi, Umair Altaf, Muhammad Nadeem , Zahid Manzoor, Muhammad Azeem, Roua Lajnaf, Rana Muhammad Bilal, Waseem Ahmed, Noman Walayat, Tawfq Alsulami, and Isam A. Mohamed Ahmed. Physicochemical Characteristics and Antioxidant Activity of Buffalo's Milk Paneer Incorporated With Green Chilli and Peppermint Powder. 2025.
<https://doi.org/10.1155/jfq/7983928>.
 54. "Effect of dietary supplementation of *Bacillus subtilis* on growth performance, meat quality, blood biochemistry and immune response of broiler chicks: *BACILLUS SUBTILIS* ON BROILER PERFORMANCE. Journal of the Hellenic Veterinary Medical Society. Accepted. 2025.
 55. Bashir HS, Sajjad A, Parveen R, Sajjad M, Bilal RM, Binyameen M, Mozūratis R. Exploring the potential of protein-rich moringa and lupin diets on the life cycle, biology and nutritional composition of *Hermetia illucens* and *Tenebrio molitor*. Journal of Insects as Food and Feed. 2026 Mar 25;1(aop):1-5.
 56. Rana Muhammad Bilal, H. A., Zain Qadeer, Usman Safdar, Salah, A. S., Alawam, A. S., Allam, A. A., Farag, M. R., Elnesr, S. S., & Mahmoud Alagawany. (2026). Alternative approaches to antibiotic growth promoters for sustainable poultry production and food security. Journal of Animal Physiology and Animal Nutrition, 105(3), 417–432. <https://doi.org/10.1111/jpn.13460>
 57. Bilal RM, Qureshi TM, Khan MS, Hassan FU, Anser MR, Iqbal MA, Al-Dalain SY, Alqahtani NK, Alsanei WA, Aljehany BM, Alfaleh AA. Sustainable utilization of olive leaves and pomace as sources of fatty acids and bioactive compounds. International Journal of Agricultural and Biological Engineering. 2026 Jul 14;19(3):314-22.
 58. Mahmood M, Qureshi TM, Ishfaq M, Bilal RM, Nadeem M, Welearegay H, Taye M. Effect of Olive Fruit Paste on the Physicochemical Characteristics, Antioxidant

Potential, Shelf Stability, and Sensorial Quality of Cheddar-Type Cheese. International Journal of Food Science. 2026;2026(1):1114786.

59. Impact of sorghum sudan hybrid varieties on lactation performance and nutrient digestibility of crossbred cows. Journal of the Hellenic Veterinary Medical Society.

ABSTARCT PUBLISHED

1. Bilal, R.M., F. U. Hassan., M. Jameel. 2018. Effect of different level of distillery yeast sludge on immune level, egg quality and performance of layers as a substitute for soybean meal. International poultry Science Congress of WPSA Turkish Branch, 2018 Cappadocia/Nidge /Turkey, 09-12 May 2018.
2. M.S. Rehman., A. Mahmud., S. Mehmood., T.N. Pasha., K. Javed., J. Hussain, M.T. Khan and R.M. Bilal. 2018. Reproductive performance under aseel chicken under different rearing systems contrast during breeding phase. National poultry symposium on health and welfare, World poultry Science Branch. Pakistan. Dec 11-12, 2018.
3. Abdul. W., A. Faraz., R.H. Mirza., R.M. Bilal and H.M. Ishaq. 2019. Interdependence of lactation milk yield and lactation length in Nili Ravi Buffalo in Pakistan. International buffalo congress. 19-20 February Lahore Pakistan.
4. Rana Muhammad Bilal Fayyaz Ahmad* Muhammad Ahmad, Muhammad Uzair Akhtar, Muhammad Naeem Tahir Musarat Abbas Khan Effects of Sorghum Sudan Grass Variety on Lactation Performance, Digestibility, and Blood Metabolites of Dairy Cows. MNS University of Agriculture Multan Nov, 29-30. 2023.
5. M. T. Khan, Z. Afzal, M. Azhar, R. M. Bilal, M. Arslan and T. Asad. Effect of water-based nutritional supplement on growth performance, carcass characteristics, serum biochemistry, and immunological response of broiler chicken. Poultry Science Conference-September 21-23, 2023. Lahore Pakistan.
6. “Participated in 10th National conference impact of climate change on biodiversity, water and Natural resources” Rational Uses of olive leaves 9-10 July 2024. Bara Gali University of Peshawar.

7. Oral presentation “Animal production and its impact on carbon footprints: Challenges and pathways for sustainable development” International Multidisciplinary conference on SDGs RESEARCH POLICY AND ACTIONS Nov,17-19-2025.
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INTERNATIONAL CONFERENCE ATTENDED

1. Orally Presentation of Chemical characterization of olive leaf and olive pomace. 3rd International Olive Conference On Olive Value Chain-A Smart Intervention For Better Future at Barani Agriculture Research Institute Chakwal.7-6-2023. Pakistan.
2. Effects of Sorghum Sudan Grass Variety on Lactation Performance, Digestibility, and Blood Metabolites of Dairy Cows. Orally Presented at international conference fodder production in climate shift paradigm: Better nutrition for better dairy production. Nov 29-30. 2023. Organized by Muhammad Nawaz Sharif University of Agriculture, Multan.
3. Attended On Day International Camel Milk in Pakistan: Exploring current potential, Future prospectus, Research and Investment opportunities. 17 Feb, 2025. Organized by Cholistan University of veterinary and animal sciences and ELC Biotechnology. PVT. LTD.
4. Bilal, R. M., Batool, A., Ayasan, T., Sajjad, M., Alagawany, M., Ul Hassan, F., Younas, U., & Shahzad, A. (2026, May 23–25). Carbon footprint in agriculture sector: A literature review. In 25th International Istanbul Scientific Research Congress on Life, Engineering, Architecture and Mathematical Sciences: Congress proceedings book (pp. xx–xx). Istanbul, Türkiye.
5. International conference; Camel milk in Pakistan: Exploring current potential, prospects, research and investment opportunities 17 Feb, 2025. Jointly organized by CUVAS and ELC. BIOTECHNOLOGY PVT. LTD.
6. Rana Muhammad Bilal has participated in 8th International Conference on Engineering and Applied Natural Sciences on July 25-26 in 2026 in Konya, Turkey. Characterization of olive leaves and implications in poultry encompassing its nutritional and health benefits.

QUALITY ENHANCEMENT CELL

1. Participated in Program Review Meeting with head of QEC and leadership engagement program for transforming QA system in Pakistan 29-31 January 2026.
2. The undersigned attended 6th International Conference of Pakistan Network of Quality Assurance in Higher Education (PNQAHE) and Annual General Meeting (AGM) on April 14-15, 2026 at Baqai Medical University, Karachi.
3. 4th International Conference and Annual General Meeting (AGM) of the Pakistan Network of Quality Assurance in Higher Education (PNQAHE) March 3-5, 2024. Jinnah Convention Centre Islamabad, Pakistan.
4. 5th International Conference and Annual General Meeting (AGM) of the Pakistan Network of Quality Assurance in Higher Education (PNQAHE) April 14-16, 2025 at Forman Christian College (A Chartered University)-FCCU Lahore, Pakistan.
5. International multi-disciplinary conference on SDG, s Research policy and action 17-19 November 2025. Oral presenter.

JOURNAL REVIEWER

1. Reviewer Italian Journal of Animal Science.
2. Reviewer in Aquaculture.
3. Iranian Journal of Applied Animal Science

Research Paper Reviewed

Paper peer reviewed 19

RESEARCH PROJECT AND GRANTS

1. Substituting traditional protein sources in poultry diet with low cost more sustainable insect protein. NRPU. HEC Awarded, **Co-Principal investigator**. 2021 active. (6.3 million).
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BOOK CHAPTERS

Published 08

COURSES TAUGHT

DVM Livestock feed resources and forage conservation	3(2-1)
BS PS Nutrient Requirement of Farm Animals	3(2-1)
B.Sc. (Agri) Animal Science	2(1-1)
LAD Animal Nutrition	3(2-1)
NUTR-705 Analytical Techniques in Animal Nutrition	3(0-3)
NUTR-710 Nutrition of Broilers	3(2-1)
NUTR-501 Nutrition of Layers	3(2-1)
NUTR-503 Poultry Nutrition and Feed Technology	3(2-1)

RESEARCH THESIS EVALUATION

Evaluated 04

WORK EXPERIENCE

Feed Industry Experience 02 Years

As Lecturer 14 Years

Assistant Professor 02 Years

Associate Professor 3.5 Years

LANGUAGE SKILLS

1. Proficient in English
2. Urdu

References will be provided upon request.