

Muhammad Arslan

Lecturer| Sustainable Poultry Scientist

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Professional Summary

Dedicated Poultry Scientist with expertise in broiler growth performance, gut health, meat quality, poultry nutrition, and antimicrobial resistance (AMR) mitigation. Research focuses on improving poultry health, immunity, and production through molecular and innovative approaches, including strategies for AMR amelioration. Author of peer-reviewed publications and book chapters, with experience in applied research and student supervision.

Professional Experience

Lecturer **Cholistan University of Veterinary and Animal Sciences, Bahawalpur** **(7 years)**

(20 Nov. 2018 – to date)

- Taught various undergraduate and graduate courses
- Conducted research in poultry science, resulting in several publications in peer-reviewed journals
- Designed and implemented curriculum for undergraduate and post-graduate courses in poultry science
- Mentored and advised students on academic and career goals
- Establish Poultry Science lab for undergraduates
- I participated in various university committees and provided service to the department and community
- Supervisor of 13 undergraduate research projects (2022–Present)
- Major Member of Graduate Research Committees for 9 postgraduate students

Teaching Assistant **University of Agriculture Faisalabad, Faisalabad, Punjab (2.5 years)**

(2013-2016)

- Taught UG courses
- Conducted research etc.

Assistant Production Manager **Wali Feeds, Shorkot Cantt., Punjab, Pakistan** **(2 years)**

(19 Nov. 2016- 19 Nov. 2018)

- Managed all the activities and processes related to poultry feed production
- Maintenance of quality of ingredients, feed and feed mill machinery

Education Attainment

M.Sc. (Hons.) Poultry Science **University of Agriculture, Faisalabad, Pakistan** **(2016)**

- I completed my M.Sc. (Hons.) Poultry Science and secured CGPA 3.67/4.
- I have completed my research with research title “Effect of turmeric (*Curcuma longa*) supplementation on growth performance and carcass characteristics of broilers”.

B.Sc. (Hons.) Poultry Science **University of Agriculture, Faisalabad, Pakistan** **(2013)**

- I completed my B.Sc. (Hons.) Poultry Science and secured CGPA 3.50/4.

Awards

Bronze Medal B.Sc. (Hons.) Poultry Science, University of Agriculture, Faisalabad (2013)

Publications

Research Articles

- 2025** Khan, M.T., Z. Afzal, **M. Arslan**, T. Asad,and M. A. Arshad. 2024. Effect of water-based nutritional supplement on growth performance, carcass characteristics, serum biochemistry, and immunological response of broiler chicken. Journal of the Hellenic Veterinary Medical Society. 76(2): 9209-9216 (**IF: 0.4**)
- 2025** Raziq, M., M. T. Khan, M. Imran, W. Khan, M. Mushtaq, **M. Arslan**, M. Azhar, T. Asad, S. Liaqat, M. A. Gondal, and M. Rauf. 2025. A preliminary assessment of the impact of honey on the reproductive performance of naked neck hens: effect of honey on naked neck hens performance. Slovenian Veterinary Research. 62: 107-114. (**IF: 0.6**)
- 2025** Khan, K., F. Raziq, M. T. Khan, **M. Arslan**, M. Azhar, T. Asad, G. Abbas, E. Bughio, A. S. Magsi, M. A. Gondal, M. Rauf, G. Faran, Z. Farooq, Z. M. Iqbal, M. Qumar, F. Ali, F. Wadood, M. M. Salam, and S. Liaqat. 2025. Evaluating the impact of honey inclusion in drinking water on the semen quality, immunological response, and haematology of naked neck cocks. Polish Journal of Veterinary Sciences. 28(1): 43-49 (**IF: 0.8**)
- 2024** Khan, M. T., Rehman, M. F., **Arslan, M.**, Javaid, A., Farooq, U., Asad, T., ... & Qumar, M. (2024). Effect of Blend of Essential Oils on Growth Performance, Carcass Characteristics, Meat Quality, Intestinal Morphology, Serum Biochemistry, and Immune Response of Broiler Chickens. Brazilian Journal of Poultry Science, 26(01), eRBCA-2023. (**IF:1.10**)
- 2024** Khan, M. T., Ahmed, S., Azhar, M., Asad, T., **Arslan, M.**, Raziq, F., ... & Raja, I. H. (2024). Effects of Selenium-enriched Diets on the Growth Performance, Slaughter Characteristics, and Blood Biochemistry of Rhode Island Red Chicken. Brazilian Journal of Poultry Science, 26, eRBCA-2022. (**IF:1.10**)
- 2024** Hassan, S., Bhatti, S. A., Ahmad, F., Hyder, A. U., **Arslan, M.**, Mehfooz, A., ... & Sharif, M. (2024). Dietary effect of zinc on growth performance, carcass characteristics and immune response in hubbard broilers raised under hot climate. J. Anim. Health Prod, 12(1), 78-84. (**IF:1.10**)

- 2023** Khan, M.T., Niazi, A.S., **Arslan, M.**, Azhar, M., Asad, T., Raziq, F., Gondal, M.A., Rauf, M., Liaqat, S., Naz, S. and Bachaya, H.A., 2023. Effects of selenium supplementation on the growth performance, slaughter characteristics, and blood biochemistry of naked neck chicken. *Poultry Science*, 102(3), p.102420. (IF: 4.014)
- 2023** Khan, M.T., Mehmood, S., Asad, T., Azhar, M., **Arslan, M.**, Raziq, F., Liaqat, S., Raja, I.H., Gondal, M.A., Rauf, M. and Nazir, S., 2023. Assessing effect of feeding poultry byproducts compost on organoleptic characteristics and compositional profile of meat of broiler chickens. *Brazilian Journal of Biology*, 83, p.e275633.
- 2023** Khan, M.T., Mehmood, S., **Arslan, M.**, Azhar, M., Asad, T., Raziq, F., Liaqat, S., Gondal, M.A., Rauf, M., Nazir, S. and Faran, G., 2023. Organoleptic characteristics and compositional profile of meat of growing Japanese quail fed different levels of poultry byproducts compost. *Brazilian Journal of Biology*, 83, p.e274040.
- 2022** Shafiq, M., Khan, M.T., Rehman, M.S., Raziq, F., Bughio, E., Farooq, Z., Gondal, M.A., Rauf, M., Liaqat, S., Sarwar, F., Azad, A., Asad T., **Arslan M.**, Azhar M., Kamal R.M.A and Shakir M., 2022. Assessing growth performance, morphometric traits, meat chemical composition and cholesterol content in four phenotypes of naked neck chicken. *Poultry Science*, 101(3), p.101667. (IF: 4.014)
- 2021** Iqbal, J., Sharif, M., Suleman, M.N. and **Arslan, M.**, 2021. Effect of Dietary Supplementation of a Non-antibiotic Growth Promoter on Growth Performance and Intestinal Histomorphology in Broilers. *Pakistan J. Zool.*, pp 1-7. (IF:0.831)
- 2017** **Arslan, M.**, Haq, A., Ashraf, M., Iqbal, J. and Mund, M.D., 2017. Effect of turmeric (*Curcuma longa*) supplementation on growth performance, immune response, carcass characteristics and cholesterol profile in broilers. *Veterinaria*, 66(1), pp.16-20.

Books

- 2025** Yousaf, M., & **Arslan, M.** (2025). *Dynamics of Poultry Feed Milling Technology*. University of Agriculture, Faisalabad, Pakistan. ISBN: 978-627-7823-27-6.

Book Chapters

- Arslan M**, Zaheer I, Qudoos A, Safdar U, Zafar T, Ali S, Iqbal U, Khan SA, Elahi RK and Fatima M, 2024. Myths and realities adhered to ph for control of poultry gut microbes. In: Khan A, Mohsin M, Khan AMA and Aziz S (eds), *Complementary and Alternative Medicine: Chinese/Traditional Medicine*. Unique Scientific Publishers, Faisalabad, Pakistan, pp: 154- 160. <https://doi.org/10.47278/book.CAM/2024.300>
- Zaheer I, **Arslan M**, Asad T, Safdar U, Iqbal U, Qudoos A, Khan SA, Elahi RK, Ali S and Fatima M, 2024. Trends in application of nanotechnology for poultry production. In: Ahmed R, Khan A, Abbas RZ,

- Farooqi SH and Asrar R (eds), Complementary and Alternative Medicine: Nanotechnology-II. Unique Scientific Publishers, Faisalabad, Pakistan, pp: 189-197. <https://doi.org/10.47278/book.CAM/2024.159> .
3. Aqib, A.I., Fatima, M., Pal, K., Zia, S., **Arslan, M.**, Shafiq, A., Sattar, J., Zaheer, T. and Kausar, T., 2023. Diversities of Various Nanomaterials-Based Vaccines for Healthcare Applications. In Nanovaccinology: Clinical Application of Nanostructured Materials Research to Translational Medicine (pp. 1-21). Cham: Springer International Publishing.
 4. Aqib, A.I., Atta, K., Muneer, A., **Arslan, M.**, Shafeeq, M. and Rahim, K., 2023. Saponin and its derivatives (glycyrrhizin) and SARS-CoV-2. In Application of Natural Products in SARS-CoV-2 (pp. 25-46). Academic Press. <https://doi.org/10.1016/B978-0-323-95047-3.00018-6>
 5. Aqib, A.I., Fatima, M., Muneer, A., Atta, K., **Arslan, M.**, Zaheer, C.N.F., Muneer, S. and Murtaza, M., 2023. Explainable Artificial Intelligence (XAI) in the Veterinary and Animal Sciences Field. Explainable Artificial Intelligence for Biomedical Applications, pp.33-56.
 6. Aqib, A.I., Zaheer, T., Usman, **Arslan, M.**, M. and Atta, K., 2022. Commercialization of Nanovaccines: Utopia or a Reality? Nanovaccinology as Targeted Therapeutics, pp.267-282. <https://doi.org/10.1002/9781119858041.ch17>

Conference Papers/ Abstracts

1. **Arslan, M.**, Hassan, F.-U., Aqib, A. I., Asad, T., Khan, M. T., Nazir, S., Akbar, M. A., Iqbal, U., Qudoos, A., Ali, S., & Elahi, R. K. (2024). Bacteriophages in poultry: A potential game-changer. Proceedings of Poultry Science Conference 2024 (IPEX).
2. **Arslan, M.**, Nazir, S., Iqbal, U., Ali, S., Safdar, U., Khan, M. T., Asad, T., Akbar, M. A., Iftikhar, H. M., Elahi, R. K., & Khan, S. A. (2024). Woody breast: A growing concern in the poultry industry. Proceedings of Poultry Science Conference 2024 (IPEX).
3. Bukhari, M., Naz, H., Asad, T., **Arslan, M. J.**, Ahmed, T., Babu, I., Arslan, M., & Manzoor, M. (2024). Assessing the potential of herbal feed additives to replace antibiotic growth promoters in broiler feed. Proceedings of Poultry Science Conference 2024 (IPEX), Pakistan Poultry Association & UVAS Lahore.
4. Khan, M. T., Aslam, M. A., **Arslan, M.**, Azhar, M., & Asad, T. (2024). Assessing growth performance, meat quality, and gut morphology of naked neck chickens fed varying concentrations of essential oil blend. Proceedings of Poultry Science Conference 2024 (IPEX).
5. Ali, S., Iqbal, U., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). A machine vision system for early detection and prediction of sick birds. Proceedings of Poultry Science Conference 2024 (IPEX).
6. Iqbal, U., Ali, S., Hassan, F.-U., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Effect of probiotics on production performance of layer birds. Proceedings of Poultry Science Conference 2024 (IPEX).

7. Khan, S. A., Rasheed, M., & **Arslan, M.** (2024). Apple cider vinegar: A natural approach to reduce antibiotic resistance and improve gut health in poultry. Proceedings of Poultry Science Conference 2024 (IPEX).
8. Iqbal, U., Safdar, U., Ali, S., **Arslan, M.**, Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Discovering a nutrigenomic world in poultry. Proceedings of Poultry Science Conference 2024 (IPEX).
9. Safdar, U., **Arslan, M.**, Ali, S., Iqbal, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Alternative protein sources used in poultry industry.
10. Proceedings of Poultry Science Conference 2024 (IPEX).
11. Iqbal, U., Ali, S., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Qudoos, A., Elahi, R. K., & Khan, S. A. (2024). Effects of early-life nutrition and nutritional programming on long-term productivity and health outcomes in poultry. Proceedings of Poultry Science Conference 2024 (IPEX).
12. Ali, S., Iqbal, U., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Enrichment of chicken eggs with omega-3 fatty acid by feeding flaxseed oil. Proceedings of Poultry Science Conference 2024 (IPEX).
13. Iqbal, U., Safdar, U., **Arslan, M.**, Ali, S., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Gut health and microbiota modulation. Proceedings of Poultry Science Conference 2024 (IPEX).
14. Ali, S., Iqbal, U., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Machine learning application in growth and health predictions of broiler chickens. Proceedings of Poultry Science Conference 2024 (IPEX).
15. Iqbal, U., Ali, S., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Methods to improve efficiency and profitability in poultry. Proceedings of Poultry Science Conference 2024 (IPEX).
16. Iqbal, U., Ali, S., Safdar, U., **Arslan, M.**, Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Phytogetic as feed additives in poultry industry. Proceedings of Poultry Science Conference 2024 (IPEX).
17. Ali, S., Iqbal, U., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Prospects and challenges of adopting and implementing smart technologies in poultry production.
18. Proceedings of Poultry Science Conference 2024 (IPEX).
19. Ali, S., Iqbal, U., **Arslan, M.**, Safdar, U., Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Recent advances in the role of use of insects as protein in poultry nutrition. Proceedings of Poultry Science Conference 2024 (IPEX).

20. Iqbal, U., Safdar, U., **Arslan, M.**, Ali, S., Nazir, S., Khan, M. T., Asad, T., Iftikhar, H. M., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Role of non-nutritive feed additive in poultry production. Proceedings of Poultry Science Conference 2024 (IPEX).
21. Iqbal, U., Ali, S., Safdar, U., **Arslan, M.**, Nazir, S., Khan, M. T., Asad, T., Akbar, M. A., Elahi, R. K., & Khan, S. A. (2024). Role of precision nutrition in development of poultry. Proceedings of Poultry Science Conference 2024 (IPEX).
22. Rasheed, M., Khan, S. A., & **Arslan, M.** (2024). Innovative nanoemulsion approaches to combat infectious bronchitis in poultry. Proceedings of Poultry Science Conference 2024 (IPEX).
23. Iqbal, Z. M., Arslan, M., Akbar, M. A., Nazir, S., Khan, M. T., Elahi, R. K., & Raja, I. H. (2024). Revolutionizing the poultry industry: A deep dive into the cultured chicken meat. Proceedings of Poultry Science Conference 2024 (IPEX).
24. **Arslan M**, Ahmad F, Rehman SU, Bashir MK, Zulfiqar Z. 2019. Natural Growth Promoters: A Safe Solution for Broiler and Human Health. ICFPE. UAF.
25. Zulfiqar Z, Bashir MK, Rehman SU, Farooq U, Khalid MF, **Arslan, M**, Ashraf M, Tariq M, Mahmood U, Mobeen R. 2019. Backyard Poultry and Food Security. ICFPE. UAF.
26. Zulfiqar Z, Rehman SU, Bashir S, Bashir MK, Farooq U, Ashraf M, Bashir MK, **Arslan M**, Mobeen R. 2019. Proper Food Labeling: Delineating Consumer Behavior towards Purchase. ICFPE. UAF.
27. Zulfiqar Z, Bashir S, Rehman SU, Bashir MK, Ashraf M, Farooq U, Khalid MK, **Arslan M**, Mobeen R. 2019. Manipulating the Fatty Acid Composition of Poultry Meat and Eggs for the Health-Conscious Consumer. ICFPE. UAF.
28. **Arslan M**, Imran M, Iqbal J, Saifullah. 2016. Turmeric supplementation improved body weight gain and reduced feed consumption in broilers. Agro-vet conference. Faisalabad.
29. Imran M, **Arslan M**, Iqbal J,. 2016. Effect of emulsifier with dietary fat on broiler growth performance and digestibility. Agro-vet conference. Faisalabad.
30. Saifullah, **Arslan M**, Mustafa M and Iqbal M. 2016. Effect of different levels of cholecalciferol on performance of laying hens. Agro-vet conference. Faisalabad.
31. Iqbal J, Imran M, **Arslan M**, Saifullah. 2016. Effect of MFeed as a growth promoter on growth performance and histopathology of broilers. Agro-vet conference. Faisalabad.
32. Farooq U, Farooq MK, Bashir MK, Shehzad MA, **Arslan M**, Aoun M, Akhtar M. 2015. Japanese quails (*Coturnix coturnix japonica*) grow better on feed supplemented with neomycin rather than organic acid. International seminar on poultry diseases. UAF.
33. Farooq U, Farooq MK, Bashir MK, **Arslan M**, Aoun M, Abbas W, Akhtar P,. 2015. Use of natural growth promoters in Japanese quail diet. International Poultry Nutrition Conference and Expo. PC Hotel, Lahore.

34. Bashir MK, **Arslan M**, Farooq U, Rehman SU, Khalid MF, Aoun M. 2016. Culling of Non-Layers (Urdu). Zarai Digest. 2: 38-39.
35. **Arslan M.**, Khalid MF, Aoun M Usman M. 4 to 11 Feb. 2014. Poultry farming: Nutritional importance and general management during winter (Urdu article). Vet. News and Views.
36. Khalid MF, Bashir MK, **Arslan M**, Aoun M, Akhtar P. 2014. Raising Pigeons (Urdu Article). Vet. News and Views.

Training Attended

- Participated in “Virtual Training on Biorisk Management”. June 21-25, 2021, online
- Certificate of Participation, in five days training workshop on “Integrating Genetic Improvement in Livestock Production for Improving Productivity and Profitability”. October 11-15, 2021.
- Certificate of appreciation from CUVAS One Health Club for successfully organizing a series of activities during celebrations of One Health week from November 7-14, 2019.
- Participated in Three days training on “In-Service Competency Enhancement Training for University Faculty” from 28-30 January 2019. In collaboration with Centre for Educational Policy and Administration, UVAS held in CUVAS.
- Attend “1st International Workshop on Biodiversity: Techniques and Tools as part of Exhibition on Biodiversity Conservation of Cholistan Desert”. April 4-5, 2019.
- Participated in one-day hands-on training workshop on “Application of SPSS in research” held in CUVAS on April 23, 2019.
- Attend “One-day International Symposium on Zoonotic Diseases of Camel” held in CUVAS on November 7, 2019. Organized by Department of Zoology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur.
- Participated in one-day workshop on “Introduction to Endnote” held in CUVAS on April 29, 2019.
- Participated in “Research Planning, Data Handling, Analysis and Interpretation”. 8 May 2016. UAF Sub-Campus Toba Tek Singh.
- Participated in “Poultry Management System and Distribution of Poultry Management System (DVD)”. 14 May 2016. University of Agriculture, Faisalabad.
- Participated in “Agro-vet conference”. 24 April 2016. Khayyam banquet hall, Faisalabad.
- Participated in “International Poultry Expo-2015”. 1-12 Sep 2015. Expo Center Johar Town, Lahore.
- Participated in “Broiler flock control system and distribution of broiler flock control system”. 19 Sep. 2015. University of Agriculture, Faisalabad.
- Participated in “Layer flock control system and distribution of broiler flock control system”. 23 Nov. 2015. University of Agriculture, Faisalabad.

- Participated in “Development of Commercial Farm Data Recording Sheets and World Egg Day Celebrations”. 11 Oct. 2013. University of Agriculture, Faisalabad.
- Participated in “International Poultry Expo-12”. 28-30 Sep 2012. Expo Center Johar Town, Lahore.
- Participated in “CPDI (Centre for Peace and Development Initiatives)”. 22-26 Oct 2011 at UAF sub-Campus Toba Tek Singh.

Administrative Experience

- **Officer Incharge**, Department of Poultry Science, CUVAS, Bahawalpur (19.07.2024 to date)
- **Convener**, Internship Committee, Department of Poultry Science, CUVAS, Bahawalpur (14.03.2023 to date)
- **Lab Incharge**, Undergraduate lab, Department of Poultry Science, CUVAS, Bahawalpur (02.07.2019 to date)
- **Class coordinator**, BS Poultry Science Department of Poultry Science, CUVAS, Bahawalpur (30.08.2019 to date)
- **Class coordinator**, CUVAS for BS Poultry Science, Fall 2019-2023
- **Advisor**, Poultry Science Club, Senior Tutor, CUVAS Bwp (03.05.2023 to date)
- Secretary, Internship Committee, Department of Poultry Science, CUVAS, Bahawalpur (14.12.2018)
- Member, Academia-industry linkages committee, CUVAS (22.12.2021 to date)
- **Advisor**, CUVAS Poultry Science Club, Department of Poultry Science, CUVAS, Bahawalpur (10.03.2020 to 12.03.2020)
- **Advisor**, CUVAS Poultry Science Club, Department of Poultry Science, CUVAS, Bahawalpur (08.03.2023 to date)
- **Advisor**, CUVAS Poultry Science Club, Department of Poultry Science, CUVAS, Bahawalpur (20.01.2021 to 31.12.2021)
- Member, Technical Services Committee for Mohd Poultry Farm (24.06.2022 to date)
- Secretary, Internship Committee, Department of Poultry Science, CUVAS, Bahawalpur (10.05.2022 to 13.03.2023)
- Member, Timetable Committee for BS program at CUVAS, Bahawalpur (02.10.2019 to date)
- **Executive Manager**, CUVAS One Health Club (05.11.2019 to date)
- **Tutor**, Allama Iqbal Group, CUVAS, Bahawalpur (12.02.2021 to date)
- Management of World Egg Day 2020 activities at CUVAS (09.10.2020)
- Dean’s nominee, Faculty of Animal Production and Technology, CUVAS, Bahawalpur (09.03.2020 to date)

Reviewer Services

- **Peer Reviewer, Poultry Science (Elsevier)** – Awarded certificate of reviewing for evaluating 4 manuscripts between June 2024 and May 2026.
- **Veterinary Medicine and Science (Wiley):** Awarded for reviewing 2 manuscripts in 2019 (Certificate dated February 13, 2020).
- **Plant Cell Biotechnology and Molecular Biology:** Awarded in recognition of an outstanding contribution to the quality of the journal (2020).
- **Open Veterinary Journal:** Awarded for reviewing 1 manuscript in 2025 (Certificate dated December 01, 2025).
- **Bionature:** Certificate of Excellence in Reviewing awarded for the 2025–2026 academic year.

Laboratory and Analytical Skills

Hands on

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|-----------------------------|----------------------------------|
| • Scientific Writing | • ELISA |
| • SPSS Statistical Analysis | • Hemagglutination (HA/HI) |
| • HA/HI/ELISA | • Feed Formulation |
| • Feed Formulation | • Poultry Performance Evaluation |
| • Egg Quality Analysis | • Meat Quality Analysis |
| • Hatchery Management | • Experimental Design |

Hobbies

	Reading		Badminton
	Gardening		Photography

References

Dr Muhammad Yousaff

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