

FAIZ-UL HASSAN

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Postal Address: Department of Breeding and Genetics, Faculty of Animal Production and Technology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur, PAKISTAN.

Education

University

Year	Degree	Institution	CGPA	Subjects
2018-2020	Postdoc	CAAS, Guangxi Buffalo Research Institute, China	-	Nutrigenomics
2012	Ph. D	University of Agriculture Faisalabad	-	Animal Breeding and Genetics
2004	M. Sc. (Hons) A.B.G	University of Agriculture Faisalabad	3.67/4.00	Animal Breeding and Genetics
2001	B.Sc. (Hons) A.H	University of Agriculture Faisalabad	3.86/4.00	Animal Husbandry

Basic

1996	F. Sc. (Pre-Med.)	Government Gordon College, Rawalpindi.
1994	Matriculation	Government High School Chak No. 170 GB, Faisalabad.

Honors/Distinctions

1. Earned First position Gold Medal in B.Sc.(Hons) Animal Husbandry for year 2001 by securing highest CGPA

2. Recipient of University merit scholarship for four years of B.Sc. (Hons.) Animal Husbandry (1997-2001)

3. Recipient of Short Term Training Fellowship (5 Months) of EFS-USDA in 2009 at Newcastle University, UK

4. Recipient of Nottingham International Visiting Fellowship, 2014 (3 Months) at Nottingham University, UK

5. Recipient of Short Term Visiting Fellowship (6 Weeks) of GEF-ILRI AnGR project at CAAS-ILRI JLLFGR, China

6. Recipient of two year postdoc fellowship (2018-2020) under TYSP program of MOST at CAAS, BRI, China

Work Experience

Position	Institution	Responsibilities	Tenure
Professor	Cholistan University of Veterinary and Animal Sciences, Bahawalpur	Main responsibilities are teaching, research, administration, and public service.	Dec. 23, 2022 to date
Lecturer	University of Agriculture, Faisalabad (Pakistan)	Main responsibilities are teaching, research, administration, and public service.	March, 2007 to Dec. 22, 2022

Teacher (Per Lecture Basis)	University of Agriculture, Faisalabad (Pakistan)	Teaching of undergraduate and postgraduate courses	July, 2004 to Feb. 2007
Brooke Equine Facilitator	Brooke Hospital for Animals, Pakistan	Training and education of equine owners. Development of extension material on different aspects of equine health and welfare	May, 2002 to March, 2003

Research

Research area: General: Animal Production
Specific: Animal Genomics

Current Research Interests:

1. How epigenetic changes affect performance and health in farm animals
2. Rumen metagenomics to modulate rumen fermentation to mitigate methane emanation
3. Exploring genotype-nutrient interaction for modulation of growth performance
4. Identifying genetic signature of selection to environmental challenge in indigenous tropical livestock
5. Identification of candidate genes for performance traits in farm animals
6. Genomic characterization of diversity for improved utilization and conservation of animal genetic resources

Research Profile

Total Impact Factor Publications:	90
Total Citations (Google Scholar):	4536
h-index	36
i10-index	66
Total Impact Factor	300

Postgraduate Student's research Supervision

As Supervisor:	Ph.D= 01	M. Phil= 18
As member:	Ph.D= 02	M. Phil= 25

Research Projects

2022-2026. Development of Rohi Chicken Breed for Cholistan. Sponsored by Punjab Agricultural Research Board, Pakistan for Rs 34.3 million as **Project Manager.** (ongoing)

2019-2020. Role of amino acid metabolism in modulation of ruminal microbiome diversity, metagenomic functional profile and subsequent changes in rumen fermentation and methanogenesis. Sponsored by Ministry of Science and Technology, China, as **Research Fellow** (Completed)

2018-2019. Modulation of Rumen Microbiome using Phytogenic Feed Additives for Improvement of Productive Performance of Buffaloes. Sponsored by Ministry of Agriculture and Guangxi Buffalo Research Institute, Chinese Academy of Agricultural Sciences, Nanning, China, as **Research Fellow** (Completed)

2018-2020. Genomic assisted prediction of genetic values for economic traits in Sahiwal cattle of Pakistan. Sponsored by Higher Education Commission for Rs 6.93 Million as **Co-Principal Investigator** (completed)

2017-2019. Production and Dissemination of Heat Tolerant Rural Chicken for Egg and Meat Production. Sponsored by USPCAS-AFS for $75,000/- as **Co-Principal Investigator** (completed)

Jan-Feb, 2016 "Genomic Characterization of Indigenous Pakistani Goats Using High Density SNP Markers" Sponsored by GEF-UNEP-ILRI FAnGR Asia Project as **Visiting Scientist.** (Completed)

2014-2016 Improvement of Beetal Goats and Indigenous Chicken through Availability of Superior Sires. Sponsored by EFS-USDA, UAF for Rs. 5.587 million as **Co-Principal Investigator** (completed)

2011-2016. Development of egg-type chicken lines for backyard poultry production. Sponsored by PARB for Rs 20.3 million as **Research Team Scientist.** (Completed)

April-July, 2014 Characterization of signature of positive selection in Ethiopian village chicken. Sponsored by University of Nottingham as **Visiting Scientist** (completed)

2012-2014. Improved Utilization of Beetal Goats through Open Nucleus Breeding Scheme. Sponsored by Agricultural Linkage Program, PARC for Rs 1.97 million as **Research Team Member**. (completed)

2009-2012. Development of a new breed of chicken for backyard poultry rearing (Phase-I). Sponsored by HEC, Islamabad for Rs 7.8 million as **Co-Principal Investigator** (Completed).

2004-2012. Crossbreeding of Sahiwal with Holstein and Jersey cattle in Pakistan-Performance Traits and Genetic Parameters ***(Ph.D Thesis***)

2001-2004. Phylogenetic relationship among different horse breeds of Pakistan using DNA fingerprinting technology (***M. Sc. (Hons.) Thesis)***

Teaching (Courses offered)

1. Undergraduate	ABG 101 Introduction to Animal Breeding and Genetics
	ABG-202 Animal breeding plans and policies
	ABG-301 Principles of heredity
	ABG-302 Introductory molecular genetics
	ABG-304 Principles of animal breeding
2. Postgraduate	
	ABG-701 General genetics
	ABG-712 Animal cytogenetics
	ABG-713 Molecular genetics of farm animals
	ABG-716 Poultry genetics and breeding
	ABG-730 Preparation of research projects & scientific writing

Professional Trainings

Attended One day Sino-Pak Symosium on "**Improvement of reproductive performance in animals using genomic tools**" held on November, 2018 at Guangxi Buffalo Research Institute, Nannng, China.

Attended 5-day international training of trainer's workshop on "**Artificial Insemination in Indigenous Goats**" held at University of Agriculture, Faisalabad (Pakistan).

Attended 5 month short term training course on "**QTL Detection for Economic Traits in Cattle**" at **Newcastle University, UK** from March to July 2009, funded by Endowment Fund Secretariat (FDTTPC), University of Agriculture, Faisalabad (Pakistan).

Participated in two day training workshop on "**Quantitative Polymerase Chain Reaction**" held on June 15-16, 2009 at School of Biology, Newcastle University, UK.

Participated in one day training workshop on **"SAS for Beginners"** held on 28th May, 2009 at ISS Training Suite, Newcastle University, UK.

Participated in one day training workshop on **"SPSS for Beginners"** held on 14th May, 2009 at ISS Training Suite, Newcastle University, UK.

Participated in one day training workshop on **"SPSS for Advanced Users"** held on 30th April, 2009 at ISS Training Suite, Newcastle University, UK.

Attended **Staff Development Course** under the scheme of **National Academy of Higher Education** held from May 9 – June 4, 2005 at University of Agriculture, Faisalabad organized by Higher Education Commission, Pakistan.

Attended a course of instruction in "**Strategic planning for Effective Communication and Extension Education**" from 27th to 30th August, 2002 at Brooke Hospital for Animals, Lahore, Pakistan.

Seminars/Conferences /Workshops attended

Attended one day International workshop on **Buffalo Genetic and Reproductive Biotechnology (2019)** held on 27 November, 2019 at Guangxi Buffalo Research Institute, Nanning China.

Attended three day International Conference on "**Livestock Genomic Resources in a Changing World**" held at Cardiff University, UK on 17th – 19th June, 2014.

Participated in three day "**6th Asian Buffalo Congress**" held on October 27-30, 2009 at Pearl Continental Hotel, Lahore (Pakistan).
Attended one day NEPAF seminar on "**X-Tandem, and the Global Proteome Machine (GPM)- Bioinformatic tools to explore the proteome"** held on 15th May, 2009 at Devonshire Building, School of Biology, Newcastle University, UK.

Attended one day seminar on "**Animal Behavioural Variations & Cognitive traits**" held on 13th May, 2009 at School of Biology, Newcastle University, UK.

Attended three day "**British Society of Animal Science Annual Conference**, held on 30th March-1st April, 2009 at Southport Theatre and Convention Centre, UK.

Two day National Workshop on "**Genetic Resources and Molecular Techniques in Livestock Production**" held on March 20-22, 2008 under the HEC-BC JHEL Program II, at University of Agriculture, Faisalabad (Pakistan).

Two day International conference on "**Future Prospects of Dairy Production in Pakistan**" held on November, 3-4, 2008 at University of Agriculture, Faisalabad (Pakistan).

Six Day Workshop on **"Scientific Presentations"** held on August 6-11, 2007 at University of Agriculture, Faisalabad (Pakistan).

EU training workshop on "**Selection and Management of Young Breeding Bulls**" (Sep 26 to Oct 1st, 2005), Semen Production Unit, Qadirabad, Distt. Sahiwal, Pakistan. (as Resource person)

Computer/Statistical/Bioinformatics Skills

Experience to work with most of the Word Processing, Spread Sheets / Data Management, Graphing and Statistical Analyses software such as R (GenABEL), SVS, BioEdit, SPSS, SAS, ASREML, MEGA, POPGEN, Microbiome Analyst.

Publications

Books/Book Chapters/ Reports

1. **Hassan, F**., M. Mehboob, R. M. Bilal, F. Siddique, and M. Alagawany. 2025. Chapter 13 - Yeast and its derivatives in animal and fish nutrition. Editor(s): Mahmoud Alagawany, Sobhy M. Sallam, Mohamed E. Abd El-Hack. Organic Feed Additives for Livestock, Academic Press, Elsevier. Pages 195-210. https://doi.org/10.1016/B978-0-443-13510-1.00013-X.
2. **Hassan, F.**, M. Mehboob, R. M. Bilal, M. U. Akhtar. 2025. Chapter 14 - Chelates and organic minerals, Editor(s): Mahmoud Alagawany, Sobhy M. Sallam, Mohamed E. Abd El-Hack. Organic Feed Additives for Livestock. Academic Press, Elsevier, Pages 211-234. https://doi.org/10.1016/B978-0-443-13510-1.00014-1.
3. Alagawany, M., M. R. Farag, N. A. El-Shall, **F. Hassan**, M. E. Abd El-Hack. 2025. Chapter 5. Emulsifiers and their applications in farm animals. Editor(s): Mahmoud Alagawany, Sobhy M. Sallam, Mohamed E. Abd El-Hack. Organic Feed Additives for Livestock. Academic Press, Pages 69-83. https://doi.org/10.1016/B978-0-443-13510-1.00005-0.
4. Bilal, R.M., **F. Hassan**, M. Rafeeq, M. R. Farag, M. E. Abd El-Hack, M. Madkour and M. Alagawany. 2022. Use of Cinnamon and its Derivatives in Poultry Nutrition. Pp: 52-65 (14): DOI: 10.2174/9789815049015122010007. Editors: M. E. Abd El-Hack & M. Alagawany. Antibiotic Alternatives in Poultry and Fish Feed (2022) 1: 52. https://doi.org/10.2174/9789815049015122010007
5. Javed M., Nadeem A., and **F. Hassan**. 2021. Introduction to Molecular Genomics. Bentham Science Publishers, UAE ISBN: 978-1-68108-926-3 (Print): ISBN: 978-1-68108-925-6 (Online) **DOI:** https://doi.org/10.2174/9781681089256121010 1.
6. **Hassan, F**., Jha, R., Alagawany, M. M., eds. (2022). Interplay of Nutrition and Genomics: Potential for Improving Performance and Health of Poultry. E-Book. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-83250-523-6.
7. M. S. Khan, S. A. Bhatti, S. H. Raza, M. S. Rehman and **F. Hassan**. 2018. Chapter 20: **Livestock production - Status and Policy Options**. Book chapter in The Punjab Agricultural Policy (by lqrar Ahmad Khan) CRC Press, eBook ISBN9781351208239. https://doi.org/10.1201/9781351208239
8. M. S. Khan, M.S. Rehman and **F. Hassan**. 2014. "Poultry Guide". A farmer training booklet under PARB funded project (A Urdu Booklet).
9. **F. Hassan**. 2009. Short term training report on "**QTL Detection for Economic Traits in Cattle**" at **Newcastle University, UK** (**March to July 2009)**, submitted to Endowment Fund Secretariat (FDTTPC), University of Agriculture, Faisalabad.
10. M. S. Khan and **F. Hassan.** Chapter 15**.** Crossbreeding**,** In**:** "**Health and Husbandry of Dairy Animals**" (2008) Eds. B. B. Khan, Pak TM Printer Faisalabad: ISBN: 978.969.8237.37.0

Research Papers

1. Jian-Hai Chen, X. Du, Z. Zheng, N. A. Gorkhali, C. Xiao, S. Zhu, J. Zhong, L. Fu, J. Li, Z. Yan, E. S. Ricemeyer, F. Jiang, T. N. T. Tran, P. Ni, N. VanKuren, G. He, Y. Yang, S. Mekchay, S. S. Hmwe, M. Sablin, N. Šprem, L. T. Thuy, A. Omar, M. O. Faruque, A. A. Bhuiyan, G. L. L. Pradeepa Silva, A. M. Samaraweera, D. Phukon, M. Thakur, S. Sapkota, S. M. F. Vahidi, **F. Hassan**, et al. Ancient introgression drives wild boar expansion and phenotypic diversification of domestic pigs. *Science* **393**,1335-1341(2026). DOI:10.1126/science.adq7553
2. Al-Khalaifah, H., **Hassan, F.**, Ullah, M. M., & Chen, Y. (2026). Role of PI3K gene family as a molecular hub for regulation of growth and immunity: Potential implications for sustainable poultry production. *Poultry Science*, 106667.
3. Bilal, R. M., Rudayni, H. A., Siddique, U., **Hassan, F**., Siddique, F., Saeed, S., … Alagawany, M. (2026). Using herbal plants in broiler diets with special reference to coriander, garlic, cumin, fennel, and yarrow: toward sustainable broiler production. *World's Poultry Science Journal*, *82*(1), 277–298. https://doi.org/10.1080/00439339.2025.2611354
4. Shao, Z., Z. Lu, L. Wu, W. Liu, M. Abdullah, **F. Hassan**, X. Chen, R. Cao, B. He. 2026. Methyl Coenzyme M Reductase as a Target for Inhibition of Methanogenesis in Ruminants: Challenges and Opportunities. Frontiers in Microbiology 16, 1704809.
5. Bibi, N., S. Ahmed, **F. Hassan**, Z. Mushtaq, Z. Qadeer, M. Shafiq, M. R. Tariq, R. Mugabi, E. Macit, G. A. Nayik. 2025. Isolation and characterization of *Enterococcus faecium* from camel milk and its potential use for value addition of functional yogurt. International Journal of Food Science and Technology,; vvaf253, https://doi.org/10.1093/ijfood/vvaf253.
6. **Hassan, F**., Ashraf, N., Arain, M.A. et al. Heat stress in riverine buffaloes: regulatory mechanism, physiological changes, production and reproductive performance, and mitigation strategies. Int J Biometeorol (2025). https://doi.org/10.1007/s00484-025-02997-2.
7. Imran, S., M.S. Khan, A.U. Hyder, S.A. Bhatti, F. Ramzan, M.S.U. Rehman and **F. Hassan**. 2025. Comparing Fertility Outcomes of Washed and Unwashed Cryopreserved Semen in Beetal Goat Through Artificial Insemination. Pakistan J Agri. Sci. 62: 59-68. https://doi.org/:10.21162/PAKJAS/25.402
8. Li, Z., Ali, S., Arain, M.A. **Hassan, F**. 2025. Postbiotics and Parabiotics: A Viable Health Promoting Alternative for Poultry Industry—A Comprehensive Review. Probiotics & Antimicro. Prot. https://doi.org/10.1007/s12602-025-10708-x.
9. Jin, Y.; Sehgal, S.A.; **Hassan, F**.; Liu, G. *In Silico* Identification of Novel Compounds as Anthelmintics Against *Haemonchus contortus* Through Inhibiting β-Tubulin Isotype 1 and Glutathione S-Transferase. *Animals* **2025**, *15*, 1846. https://doi.org/10.3390/ani15131846.
10. Saeed, M., **F. Hassan**, H. Al-Khalaifah, R. Islam, A. A. Kamboh, G. Liu. 2025. Fermented banana feed and nanoparticles: a new eco-friendly, cost-effective potential green approach for poultry industry. Poultry Science, 104 (7): 105171. https://doi.org/10.1016/j.psj.2025.105171.
11. Arsalan A, Rehman AU, Younus H, Ravikumar Y, **Hassan F**, Arain MA, Buzdar JA, Qi X. Nutrigenomic Potential of Mineral Nano-Particles to Modulate Poultry Health and Performance. J Anim Physiol Anim Nutr (Berl). 2025 Jul;109(4):1048-1061. https://doi.org/10.1111/jpn.14119.
12. Li M, **Hassan F.**, Lin Q, Arshad MA, Akhtar MU, Peng L, Yang C, Liang X, Huang J. 2025. In Vitro Evaluation of Ruminal Digestibility, Fermentation Characteristics, and Bacterial Diversity of Kenaf Crop at Various Cutting Heights. Vet Sci. 12;12(1):50. https://doi.org/10.3390/vetsci12010050.
13. Shi, Zh., Lan, Yl., Qiao, Zh., Yan, X.Z., Wang, YZ, Zhang, B., Ma, X., **Hassan, F**., Wang, WJ., & Deng, T. Changes in fecal microbiota of dairy cows with and without endometritis. *BMC Vet Res* **21**, 201 (2025). https://doi.org/10.1186/s12917-025-04580-8 .

14. Li, M.; **Hassan, F.**; Akhtar, M.U.; Peng, L.; Xie, F.; Deng, Q.; Zhong, H.; Wei, K.; Yang, C. 2024. Fibrolytic Enzymes and Lactic Acid Bacteria Improve the Ensiling Characteristics of Ramie and Elephant Grass Mixed Silage. *Agriculture*, *14*, 1746. https://doi.org/10.3390/agriculture14101746.
15. Morammazi, Salim, Shokrollahi, B. and **Hassan, F.** 2024. Genomic characterization, phylogenetic and expression analysis of foraging gene in *Apis mellifera*. Gene, 910:148318.
16. Aboamer, A.A., Ebeid, H.M., Siddique, F., M.A. Arain and **F. Hassan**. Nutraceutical potential of essential oils in dairy animal diets: challenges and opportunities. *Proc. Indian Natl. Sci. Acad.* (2024). https://doi.org/10.1007/s43538-024-00310-0.
17. Safdar, M., **F. Hassan**, Muhammad Sajjad Khan, Aneeb Hassan Khan, Yasmeen Junejo, Mehmet Ozaslan, Muhammad Asif Arain, Atique Ahmed Behan. 2024. In silico analysis of polyphenols modulate bovine PPARγ to increase milk fat synthesis in dairy cattle via the MAPK signalling pathways, *Journal of Animal Science*, skae248, https://doi.org/10.1093/jas/skae248.
18. Shi Z, Lan Y, Wang Y, Yan X, Ma X, **Hassan F**, Rushdi HE, Xu Z, Wang W, Deng T. 2024. Multi-omics strategy reveals potential role of antimicrobial resistance and virulence factor genes responsible for Simmental diarrheic calves caused by *Escherichia coli*. mSystems 9:e01348-23. https://doi.org/10.1128/msystems.01348-23
19. **Hassan F**., Liu C, Mehboob M, Bilal RM, Arain MA, Siddique F, Chen F, Li Y, Zhang J, Shi P, Lv B and Lin Q (2023) Potential of dietary hemp and cannabinoids to modulate immune response to enhance health and performance in animals: opportunities and challenges. Front. Immunol. 14:1285052. doi: 10.3389/fimmu.2023.1285052.
20. **Hassan, F**., M. S. Rehman, M. Javed, K. Ahmad, I. Fatima, M. Safdar, N. Ashraf & A. Nadeem (2023). Identification of phytochemicals as putative ligands for the targeted modulation of peroxisome proliferator-activated receptor α (PPARα) in animals, Journal of Biomolecular Structure and Dynamics, DOI: 10.1080/07391102.2023.2268185
21. Safdar, M., S. U. Rehman, F. Shafqat, M. Shan, S. S. Khan, **F. Hassan**, Hafiz Khawar Ali, Mehmet Ozaslan, The global spread of human monkeypox virus: Challenges and opportunities for prevention, Vacunas, 24, (4): 2023.
22. Azhar, J., A. Nadeem, M. Javed, H. I. Ahmad, **F. Hassan** & F. S. Shah (2023). Evaluation of phytochemicals from *Thymus serpyllum* as potential drug candidates to manage oxidative stress in transition dairy cows, Journal of Biomolecular Structure and Dynamics, DOI: 10.1080/07391102.2023.2209190.
23. Abdullah M, Rehman MS-u, Rehman MSN, AlKahtane AA, Al-Hazani TM, **Hassan F.,** Rehman Su. Genome-Wide Identification, Evolutionary and Mutational Analysis of the Buffalo Sox Gene Family. *Animals*. 2023; 13(14):2246. https://doi.org/10.3390/ani13142246.
24. Rehman, M.S., **F. Hassan**, Z. Rehman, H. N. Hussain, M. A. Shahid, M. Mushahid, B. Shokrollahi. 2022. "Comparative Genomic Characterization of Relaxin Peptide Family in Cattle and Buffalo", *BioMed Research International*, vol. 2022, Article ID 1581714, 11 pages. https://doi.org/10.1155/2022/1581714.
25. Javed, M., Nadeem, A., **Hassan, F**. *et al.* 2022. Genomic analysis of arginine vasopressin gene in riverine buffalo reveals its potential association with silent estrus behavior. *Mol Biol Rep* **49**, 9315–9324. https://doi.org/10.1007/s11033-022-07776-5.
26. El-Saadony, M., Umar, M., **Hassan, F.**, Alagawany, M., Arif, M., Taha, A., . . . Abd El-Hack, M. (2022). Applications of butyric acid in poultry production: The dynamics of gut health, performance, nutrient utilization, egg quality, and osteoporosis. *Animal Health Research Reviews,* 1-11. doi:10.1017/S1466252321000220.
27. Asim, M., M. S. Rehman, **F. Hassan** & F. S. Awan. (2022) Genetic variants of *CSN1S1, CSN2, CSN3*, and *BLG* genes and their association with dairy production traits in Sahiwal cattle and Nili-Ravi buffaloes, Animal Biotechnology, DOI: 10.1080/10495398.2022.2126365.
28. Arain, M. A. F. Nabi, I. B. Marghazani, **F. Hassan**, H. Soomro, H. Kalhoro, F. Soomro & J. A. d Buzdar (2022). *In ovo* delivery of nutraceuticals improves health status and production performance of

poultry birds: a review, World's Poultry Science Journal, 78:3, 765-788, DOI: 10.1080/00439339.2022.2091501.

29. Wang X., **F. Hassan**, S. Liu, S. Yang, M. Ahmad, I. Ahmed, K. Huang, H. M. N. Iqbal, H. Yu, Q. Liu, S. U. Rehman, "*De Novo* Transcriptome Dataset Generation of the Swamp Buffalo Brain and Non-Brain Tissues", *BioMed Research International*, vol. 2022, Article ID 4472940, 15 pages, 2022. https://doi.org/10.1155/2022/4472940.
30. Rehman, M.S.; **Hassan, F.**; Rehman, Z.-u.; Ishtiaq, I.; Rehman, S.u.; Liu, Q. Molecular Characterization of TGF-Beta Gene Family in Buffalo to Identify Gene Duplication and Functional Mutations. Genes 2022, 13, 1302. https://doi.org/10.3390/genes13081302 (Impact Factor, 4.141)
31. Shah, T., L Ding, A Ud Din, **F. Hassan**, H Wei, X Wang, Q Yan. 2022. Differential Effects of Natural Grazing and Feedlot Feeding on Yak Fecal Microbiota. Front. Vet. Sci. 9: 791245. doi: 10.3389/fvets (Impact factor, 3.471)
32. Shokrollahi, B., A Fazli, S Morammazi, N Saadati, HI Ahmad, **F Hassan**. 2022. Cysteamine administration in lambs grazing on mountain pastures: Effects on the body weight, antioxidant capacity, thyroid hormones and growth hormone secretion. Veterinary Medicine and Science 8 (1), 328-335 (Impact Factor, 1.772).
33. Rehman M.S, **F. Hassan**, James Reecy, and Tingxian Deng. 2022. Whole-genome SNP markers reveal runs of homozygosity in indigenous cattle breeds of Pakistan. Animal Biotechnology; 2026369. https://doi.org/10.1080/10495398.2022.2026369. (Impact Factor 2.140).
34. Liu, S., Xiaoya Ma, **F. Hassan**, Teng-yun Gao, and Tingxian Deng. 2022. Genome-wide analysis of runs of homozygosity in Italian Mediterranean buffalo. Journal of Dairy Science JDS.2021-21543. (Impact Factor 4.225).
35. Rehman, M. S., **F. Hassan** and M. S. Khan. 2022. Phylogenetic Relationship Among Indigenous Cattle Breeds Of Pakistan Based on RAPD Markers. Pakistan Journal of Zoology. MH20210615070608. (Impact Factor 0.687).
36. Guo, Y., **Hassan, F**., Li, M., Tang, Z., Peng, L., Peng, K., & Yang, C. (2022). Effect of Hydrogen-Consuming Compounds on In Vitro Ruminal Fermentation, Fatty Acids Profile, and Microbial Community in Water Buffalo. Current Microbiology, 79(8), 1-18. (Impact Factor, 2.343)
37. Pirzado, S. A., **Hassan, F.**, Arain, M. A., Zhengke, W., Huiyi, C., Haile, T. H., & Guohua, L. (2021). Effect of azomite on growth performance, nutrient utilization, serum biochemical index and bone mineralization of broilers fed low protein diet. Italian Journal of Animal Science, 20(1), 1282-1291. (Impact Factor, 2.552)
38. Arshad, M. A., **F. Hassan**, Bhatti, S. A., Rehman, M. S. U., Yousaf, W., Younus, G., Sizmaz, O., & Bilal, M. Q. (2021). Supplementation of bile acids and lipase in broiler diets for better nutrient utilization and performance: Potential effects and future implications–A review. Annals of Animal Science, 21(3), 757-787. (Impact factor, 2.667)
39. Li, M., Liang, X., Tang, Z., **Hassan, F.**, Li, L., Guo, Y., ... & Yang, C. (2021). Thermal Comfort Index for Lactating Water Buffaloes under Hot and Humid Climate. Animals, 11(7), 2067. (Impact Factor, 3.231)
40. Li, M., **Hassan, F**., Tang, Z., Guo, Y., Liang, X., Peng, L., ... & Yang, C. (2021). Physiological, oxidative and metabolic responses of lactating water buffaloes to tropical climate of South China. Veterinary Medicine and Science, 7(5), 1696-1706. (Impact Factor, 1.772)
41. Yaqoob, M. U., Abd El-Hack, M. E., **Hassan, F.**, El-Saadony, M. T., Khafaga, A. F., Batiha, G. E., ... & Wang, M. (2021). The potential mechanistic insights and future implications for the effect of prebiotics on poultry performance, gut microbiome, and intestinal morphology. Poultry Science, 100(7), 101143. (Impact Factor, 4.014)
42. Raza, Z. H., Nadeem, A., Javed, M., **Hassan, F.**, Shehzad, W., Ahmad, A., ... & Ali, M. M. (2020). Polymorphic status and phylogenetic analysis of myostatin gene in pak-thoroughbred. Genetika, 52(3), 1281-1290. (Impact Factor, 0.761)

43. **Hassan, F.**, Arshad, M. A., Ebeid, H. M., Rehman, M. S. U., Khan, M. S., Shahid, S., & Yang, C. (2020). Phytogenic additives can modulate rumen microbiome to mediate fermentation kinetics and methanogenesis through exploiting diet–microbe interaction. Frontiers in Veterinary Science, 7, 575801. (Impact Factor, 3.471)
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Abstracts in Conferences/Symposium

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4. Muhammad Amjad Ali, Laeeq A. Lodhi, **Faiz-ul-Hassan**, Mian Muhammad Awais, Syed Muhammad Raihan Dilshad, Nabeel Ijaz, Ejaz Ahmad and Waqas Ahmad, 2019. Serum macro-minerals in Nili-Ravi buffaloes (*Bubalus bubalis*) with and without dystocia, having different agro-ecology. 12th World Buffalo Congress, 18-20 September, Istanbul, Turkey.
5. **F. Hassan** and M. S. Khan. 2016. "Phenotypic and Molecular variation among indigenous goats", abstract published in proceedings of dissemination colloquium on "Studies on Indigenous Chicken and Goat Production in Pakistan-Outcomes and way forward" organized by Institute of Animal & Dairy Sciences, Faculty of Animal Husbandry, University of Agriculture, Faisalabad on May 28th , 2016 (Page No. 7)
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8. Ali, M. A., Lodhi, L. A., Waheed, Tariq, M., **Hassan, F**., and Ahmad, S., 2015. Distribution of Buffaloes affected with Peri-Partum Reproductive Disorders, Maintained under Different Production Systems. Journal of Veterinary and Animal Sciences, 5(1). Proceedings of International Symposium on Dairy and Animal Reproduction, March, 30-31, 2015, Lahore, Pakistan.
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Papers/Lecture Presented at Conferences/Workshops

1. January, 2020. Annual meeting of TYSP 2019, Nanning, China
2. M. S. Khan and **F. Hassan**. 2015. Genetic evaluation basics and example with BLUP analysis. Workshop on Development of Indigenous Resources - The Sahiwal Cattle and Beetal Goats (Data Recording and Genetic Evaluation) Institute of Animal Sciences, U.A Faisalabad (Nov 19, 2015).
3. **Hassan, F**. and M. S. Khan. 2014. Conservation of Sahiwal Cattle in Pakistan. Threats, Challenges and Prospects. Poster presented at International Conference on "Livestock Genomic Resources in a Changing World" held at Cardiff University, UK on 17th – 19th June, 2014.
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Postgraduate Research Projects

1. Genetic characterization of beta Casein variants in indigenous sheep breeds of Pakistan (2017-2018)
2. Molecular Characterization of Beta-Lactoglobulin Variants in Dairy Cattle (2017-2018)
3. Molecular Characterization of Alpha S1 Casein Variants in Beetal Goat (2017-2018)
4. Growth modulation in broiler chickens by Natural Growth Promoters (NGPs): Implicating nutrigenomic approach (2014-2018)
5. Effects of Riboflavin and Ascorbic Acid on Cryopreserved Semen of Sahiwal Cattle Bulls (2017-18)
6. Comparison of Triladyl and Tris-Egg yolk based extender for Cryopreservation of Bovine Semen (2017-18)
7. Characterization of Beta Casein gene in indigenous goats of Pakistan (2017-2018)
8. Characterization of Growth Hormone gene in Indigenous Chicken Strains of Pakistan (2015)
9. Effect of Ghrelin gene polymorphism on growth traits in Indigenous Chicken of Pakistan (2015)
10. Progeny testing of barred cocks for the inheritance of barring pattern (2013)
11. Effect of black tea, green tea and lemon grass supplementation on egg quality and serum cholesterol profile in laying hens (2011)
12. Genetic variation in egg quality traits in different breeds of chicken (2011)