



Muhammad Farhan Khan

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ABOUT MYSELF

I am a dedicated academic with a B.Sc. (Hons) and M.Sc. (Hons) in Plant Breeding and Genetics from the University of Agriculture Faisalabad. Currently serving as a Lecturer in the Department of Plant Breeding and Genetics, I aim to fully utilize my specialized training and skills to make significant contributions to research and education. With hands-on experience in agricultural research and a demonstrated history in research management, I have developed expertise in wheat and cereal breeding. My work in the agriculture sector, particularly in crop improvement and breeding programs, has equipped me with valuable insights into enhancing crop yield, disease resistance, and overall productivity. I am committed to advancing agricultural practices through innovative research, while fostering academic growth in future generations of plant breeders.

WORK EXPERIENCE

 **UNIVERSITY OF AGRICULTURE, FAISALABAD – FAISALABAD, PAKISTAN**

LECTURER, BS-18, DEPARTMENT OF PLANT BREEDING AND GENETICS – 14/10/2024 – CURRENT

1. Deliver lectures on plant breeding, genetics, and the latest molecular techniques to undergraduate and postgraduate students, equipping them with advanced knowledge in the field.
2. Design and conduct laboratory and field-based practicals, providing students with hands-on experience in modern breeding techniques.
3. Participate actively in research and development projects related to the breeding of cereals, focusing on improving crop yield, disease resistance, and quality traits.
4. Guide and mentor students in research projects, helping them develop their skills in molecular genetics, phenotyping, and crop improvement.
5. Stay up to date with the latest advancements in molecular breeding and other emerging technologies, incorporating them into course content and research projects.
6. Collaborate with colleagues and industry partners to advance research initiatives and contribute to the department's goals in crop improvement and agricultural sustainability.

 **FOUNDATION SEED CELL, AARI, FAISALABAD. – FAISALABAD, PAKISTAN**

SCIENTIFIC OFFICER, PLANT BREEDING AND GENETICS BS-17 – 25/03/2022 – 13/10/2022

Field: Plant Breeding and Genetics

Nature of Experience:

- Early generation seed production of different crops e.g. wheat, vegetables, pulses etc.
- Contributing in arranging trainings at Foundation Seed Cell, AARI, Faisalabad.
- Member of purchase committee at Foundation Seed Cell, AARI, Faisalabad.
- Vehicle Incharge at Foundation Seed Cell, AARI, Faisalabad.
- Furniture committee member at Foundation Seed Cell, AARI, Faisalabad.
- Published 2 research articles in HEC recognized Journals.
- Worked on development of rust resistant genotypes of wheat.
- Worked on development of drought resistant varieties of wheat.
- Worked on the development of wheat hybrid and maintenance of lines.

 **WRI, FOUNDATION SEED CELL, AARI, FSD – FAISALABAD, PAKISTAN**

INTERNEE – 31/12/2020 – CURRENT

My research work is related to Breeding and Data Collection of various trials which Includes

- Germination Trials of Wheat
- Sowing Trials
- Zn Biofortification
- Breeding Generations and Advance yield Trials
- Rust Screening Trials

- Handling of the Pre-Basic Seeds
- CIMMYT Nurseries

 **C.B.L, U.S. - PAKISTAN CENTER FOR ADVANCE STUDIES IN AGRICULTURE AND FOOD SECURITY, UAF, FAISALABAD** – FAISALABAD, PAKISTAN

RESEARCH STUDENT – 30/04/2019 – 30/12/2020

Two years of lab research work experience as a research student at Chickpea Genomics Lab, U.S. - Pakistan Center for Advanced Studies in Agriculture and Food Security (CAS - AFS), University of Agriculture Faisalabad. DRY-LAB

I have done In-Silico Analysis Consisting of Following

- Genome-wide Analysis
- Evolutionary Analysis
- Expression Analysis
- Collinearity Analysis
- Promoter Analysis
- SSR Marker Analysis

I have done Research on Field Trials and Germplasm storage

I have worked on the Germination Trials and Chemical Tests of Seed (ROS Analysis)

I have worked on the In Planta Transformation of the Chickpea Genotypes

I have worked on the production of Haploid Seeds in the Wheat

WET-LAB

I Have Learned Following Skills

- Molecular Breeding (Marker Assisted Breeding) including DNA and RNA Extraction, PCR (Reverse Transcription-Polymerase Chain Reaction), Agarose and Two-Dimensional Polyacrylamide Gel Electrophoresis (2D PAGE).
- Tissue Culture and Vector Construction
- Preparation of Various Media
- Regeneration of Crop Plants on Artificial Media and Hydroponics
- Transformation of Crop Plants

 **DEPARTMENT OF AGRICULTURE (EXT. & ADAPTIVE RESEARCH WING), GOVT OF PUNJAB.** – CHINIOT, PAKISTAN

AGRICULTURE OFFICER, (EXT & AR). BS-17 – 15/10/2022 – 13/10/2024

Main Responsibilities and Tasks

AGRICULTURE OFFICER

1. To supervise the work of all Field Assistants under command to check their regular work/schedule.
2. To visit contact farmers and provide necessary guidance. Supervised the Field Assistants in the field.
3. Supervised and guided the Field Assistants under control in laying out the demonstration centre/plots, according to the approved layout plan in consultation with the A.R. Experts. Recorded impressions as well as supervisory observations.
4. Arranged farmer's gatherings with the assistance of concerned Field Assistant, at all demonstration centres.
5. Interacted with progressive farmers for technology transfer and acceptability of the newly developed technologies by experts.
6. Monitored the supply of inputs in my jurisdiction and reported to the seniors in case of any short supply of the inputs.
7. Ensured prompt communication to the higher authorities about unusual phenomena occurring in my jurisdiction.
8. Maintained Agriculture statistics of the area.
9. Compiled and submitted prescribed reports about crop production program to higher office.
10. Implemented Rabi & Kharif production plans.

 **PULSES RESEARCH INSTITUTE, AARI, FAISALABAD** – FAISALABAD, PAKISTAN

INTERNEE – 17/02/2019 – 25/04/2019

My research work was related to Breeding and Data Collection of various trials and I learned the following techniques

- Emasculation and Pollination of Legumes
- Data Collection of Advanced Yield Trials
- Data Collection of Comparative Yield Trials 1
- Data Collection of Comparative Yield Trials 2
- Data Collection of NUY Trials
- Participated in selection of Parents for Breeding

- Data Collection of Resistant Lines Abiotic and Biotic Stress
- Data Collection in PARB Project. no. 909
- Selection of Desirable Plants from Generations (F1, F2, F3, F4, F5, F6 and F7)
- Pedigree Record Maintenance and Verification

● LANGUAGE SKILLS

Mother tongue(s): **URDU**

Other language(s): **PANJABI | ENGLISH**

● PUBLICATIONS

2021

[RESEARCH ARTICLES](#)

RASHID, K., ULLAH, A., MAHMOOD, S., RASOOL, I., ANWAR, S. A., ZAHID, M. A., HUSSAIN, A., **KHAN, M. F.**, SAEED, Z., & BATOOL, A. (2021). EVIDENCE OF CLIMATE RESILIENT HYBRID DEVELOPMENT IN WHEAT (*Triticum aestivum* L.) FOR FOOD SECURITY. *PLANT CELL BIOTECHNOLOGY AND MOLECULAR BIOLOGY*, 22(67-68), 64-70

2021

[REVIEW ARTICLE](#)

RASHID, K., ARFAN, M., MAHMOOD, S., JAVAID, T., MAJID, M., ALI, S., ANWAR, S. A., KHAN, M. F., & **KHAN, M. F.** (2021). RESPONSE OF WHEAT PLANT TO DROUGHT STRESS: A REVIEW. *PLANT CELL BIOTECHNOLOGY AND MOLECULAR BIOLOGY*, 22(71-72), 263-271.

● PROFESSIONAL SKILLS

I have following professional skills

- Word Processing (MS Word, Power point, Excel)
- Search Engines (Google, Yahoo)
- R_Studio
- Experience in independently producing, analyzing, and presenting scientific work.
- Works effectively efficiently and independently or as a team member

● CONFERENCES AND WEBINARS

27/03/2019

International seminar on Awareness of Fodder Cultivation Under the scenario of Climate Change - organized by Department of Plant Breeding and Genetics, University of Agriculture, Faisalabad.

U.S. - PAKISTAN CENTER FOR ADVANCE STUDIES IN AGRICULTURE AND FOOD SECURITY, UAF, FAISALABAD

28/03/2019

International Seminar on Wheat Breeding and Genetics - Organized by Department of Plant Breeding and Genetics, University of Agriculture, Faisalabad

U.S. - PAKISTAN CENTER FOR ADVANCE STUDIES IN AGRICULTURE AND FOOD SECURITY, UAF, FAISALABAD

26/11/2020

Pakistan Academy of Sciences Agriculture Policy Debate on "Weed Ecology and Management" held on 24th of October 2020- Jointly Organized by Pakistan Academy of Sciences, University of Agriculture, FSD

Online

04/12/2020

World Soil Day Celebrations, Jointly organized by Pakistan Academy of Sciences, UAF, FFC, Wageningen UR, Global Soil partner ship of the FAO, UCT and MNSUA

Online

21/12/2021

Heat Tolerant Wheat Variety Having High Productivity

National Productivity Organization

Liaison Office of Asian Productivity Organization, Tokyo , Japan

under the Ministry of Industries & Production Awarded this Certificate

18/01/2022 – 19/01/2022

Wheat Seed Production, Storage and Distribution in Pakistan

Pakistan Agricultural Research Council

PDSP Wheat Project

Productivity Enhancement of Wheat

28/02/2022

Capacity Building Workshop on Brassica Seed production,

Jointly Organized by Pakistan Agriculture Research Council and Directorate of Oilseeds, AARI, Faisalabad, Project Director Foundation Seed Cell, AARI, Faisalabad.

15/06/2022 – 16/06/2022

Wheat System Expert Knowledge Elicitation

Organized by: National Center for Genome Editing (NCGE) Center for Advanced Studies in Agriculture and Food Security (CAS-AFS) University of Agriculture Faisalabad.

19/10/2022 – 20/10/2022

International Wheat Conference

Department of Plant Breeding and Genetics, University of Agriculture Faisalabad

● **HONOURS AND AWARDS**

Awarded with 'Laptop' from prime Minister under "Prime Minister's Laptop Scheme" in 2017 – University of Agriculture Faisalabad

Awarded with University Merit Scholarship" from UAF, Faisalabad in 2017 – University of Agriculture Faisalabad
