

CURRICULUM VITAE

PERSONAL INFORMATION

Name: Fahim Ullah Khan
Date of Birth: March 20, 1987
Mobile: 0092-333-6402721
Email: fahimbiotech@gmail.com / fahimbiotech@hu.edu.pk
Marital Status: Married
Domicile: Hangu, Khyber Pakhtunkhwa, Pakistan
Passport Number: UL4116703
Postal Address: Department of Agriculture, Hazara University Dodhial Mansehra, Khyber Pakhtunkhwa Pakistan

RESEARCH INTERESTS

My major research interests include the development of crop cultivars that use water more efficiently and better adapt to increasingly hostile production conditions. Genetic variation for stress tolerance can be introduced into commercial cultivars from ancestral forms of some of the world's most important food crops. This work benefits the agriculture industry in many ways: it increases productivity, raises income, and improves the sustainability of farming systems. A combined genetic and agronomic approach to improve productivity is vital in the context of climate change.

EDUCATION PROFILE

- 2017 PhD: Plant Breeding & Genetics**
Department of Plant Breeding & Genetics
The University of Agriculture, Peshawar
CGPA: 3.89/4.00
Dissertation Title: "Genetic analysis for nitrogen use efficiency and yield associated traits in bread wheat"
- 2012 MSc(Hons): Plant Breeding & Genetics**
Department of Plant Breeding & Genetics
The University of Agriculture, Peshawar
CGPA: 3.92/4.00
Thesis Title: "Genetic variability, traits association and path coefficient studies in Brassica napus"
- 2009 BSc (Hons): Agriculture- Plant Breeding & Genetics**
Department of Plant Breeding & Genetics
The University of Agriculture, Peshawar
CGPA: 3.61/4.00
Internship Report Title: "Heritability estimates in Inter and intra specific populations of Brassica napus"
- 2005 Higher Secondary School Certificate**
Pre Medical Group
Peshawar Model Degree College
Marks obtained: 775/1100
- 2003 Secondary School Certificate**
Public High School Thall, District Hangu
Marks obtained: 611/850

PROFESSIONAL EXPERIENCE

| | |
|--|----------------------------|
| Assistant Professor (TTS) Department of Agriculture Hazara University Dohial, Mansehra | Dec 2018 till date |
| Research Officer (BPS-17) Barani Agricultural Research Station, Kohat Agricultural Research System, Khyber Pakhtunkhwa | Jan 2013– Nov 2018 |
| Field Officer (G-32) Pakistan Tobacco Company Ltd. Leaf Supply Chain, Akora Khattak Factory, Nowshera Khyber Pakhtunkhwa, Pakistan | Feb 2012 – Jan 2013 |
| Research Assistant HEC-AUP Joint Project Department of Plant Breeding & Genetics, The University of Agriculture, Peshawar | Feb 2010 – Jan 2012 |

ACHIEVEMENTS

1. Developed two wheat variety "KOHAT-2017" and "FAHIM-2019" for the rainfed areas of Pakistan
2. Selected as "Young Scientist of Pakistan" at Global Young Scientists Summit, 2018 (Singapore)
3. Won competitive research grant from International Foundation for Science, Sweden July 2020

MEMBERSHIP/REVIEWER

1. Membership: European Association for Research on Plant Breeding (EUCARPIA)
2. Reviewer: Molecular Biology Reports
3. Reviewer: The Journal of Animal & Plant Sciences
4. Reviewer: Pakistan Journal of Botany
5. Reviewer: Sarhad Journal of Agriculture (SJA)
6. Reviewer: Pure & Applied Biology (PAB)

RESEARCH STUDENTS PRODUCED/SUPERVISING

A. PhD Students Under Co-Supervision

1. Nodia Shujaat. **2019**. Grain and four quality analysis of spring wheat cultivars in relation to fungal diseases
2. Zeeshan Shehzad. **2021**. Assessment of grain yield stability and triple rust resistance in advanced bread wheat genotypes

B. M.Phil Students Produced as Co-supervisor

1. Amir Sohail. 2019. Molecular analysis of cold responsive COR protein gene in sugarcane genotypes.
2. Shazma Firdous Jan. 2020. Genetic diversity in exotic oat germplasm & resistance against barley yellow dwarf virus
3. Salman Khan. 2020. Phenotypic and molecular characterization of yellow rust resistance in wheat 2019.
4. Irfan Ali. 2021. Molecular assessment of some maize varieties grown in Pakistan using randomly amplified polymorphic DNA (RAPD) primer
5. Luqman Khan. 2021. Genetic potential of advance wheat lines for agronomic and yellow rust resistance under drought stress conditions

6. Kinza Sakhawat. 2021. Synthesis and characterization of silver doped cobalt ferrite nanostructures for biological applications
7. Aiman Batool. 2021. Assessment of wheat germplasm for leaf rust and drought resistance
8. Farah Shahzadi. 2021. Screening of wheat germplasm for yellow rust and drought resistance
9. Muhammad Amir Khan. 2022. Molecular characterization of selected wheat genotypes for fusarium head blight resistance
10. Muhammad Amjad. 2022. Drought tolerance indices in selected advance wheat lines for yield and associated traits.
11. Jebran Muhammad. 2022. Phenotypic and molecular characterization of adult plant resistance to stripe rust in F2 wheat population.
12. Anjum Qudsia. 2022. Comparative study of detection method used for the identification of seed borne fungi in wheat cultivars of Mansehra region.
13. Naqeeb Ullah. 2022. Pesticides residues analysis in selected vegetables grown in Mansehra region.

C. M.Phil Students Under Supervision (In Progress)

1. Nauman Ijaz. 2021. Evaluation of advance facultative wheat lines for adaptability in Mansehra (Thesis submitted)
2. Sehrish Hussain. 2021. Morphophysiological and biochemical characterization of indigenously collected wheat landraces for drought tolerance (Thesis submitted)
3. Sidra tul Muntaha. 2021. Evaluation of nearisogenic lines for yellow rust resistance at disease hotspot areas of Pakistan (Thesis submitted)
4. Shamim Khan. 2021. Exploring genetic potential of wheat landraces for yellow rust resistance (Thesis submitted)
5. Rani Gul. 2021. Screening of selected wheat germplasm for leaf rust resistance (Thesis submitted)
6. Natasha Rasheed. 2021. Marker assisted selection for selected yellow rust resistance genes in bread wheat (Thesis submitted)
7. Ayesha Gulfam. 2021. Gene specific screening of commercial wheat cultivars for stripe rust resistance (Thesis submitted)
8. Zainab Noor. 2021. Incidence of fusarium head blight and its impact on grain quality in bread wheat (Thesis submitted)

D. BSc (Hons) student Supervised

1. Hassan Mujtaba. 2019. Screening of wheat germplasm for yield and stripe rust resistance at Mansehra
2. M. Jawad Anwar. 2019. Genetic variability and traits association among yield and yield components in wheat
3. Khalil ur Rehman. 2019. Evaluation of top cross progenies derived from Azam Pahari and Qayyum
4. Bisma Khan. 2019. Evaluation of advance rice lines for yield and yield attributed traits.
5. Izaz Ahmad. 2020. Correlation analysis for yield and yield associated traits in bread wheat.
6. Mehran Khan. 2020. Screening of wheat lines for yield and stripe rust resistance in Mansehra.
7. Ehsaan Hafeez. 2020. Morphological characterization of okra varieties grown in Hazara division.
8. Muhammad Azhar. 2020. Estimation of heterosis and heterobiltiosis for grain yield in bread wheat.
9. M. Zaid Anwar. 2020. Evaluation of wheat lines for yield and Karnal bunt resistance in Mansehra.
10. Maaz Khan. 2020. Genetic potential of advance bread wheat lines for important traits under rainfed condition
11. Gulfam Khan. 2020. Genetic variability and traits association among yield and related traits in bread wheat
12. Ashfaq Ullah. 2020. Genetic variability and heritability estimate for yield and yield associated traits in wheat
13. Gul Tahir. 2021. Genetic variability and traits association studies in bread wheat

14. Muhammad Faheem. 2021. Correlation analysis for yield associated traits in bread wheat
15. Hajra Bibi. 2021. Assessment of genetic variability for yield and associated traits in bread wheat
16. Waseem Amjid Khan. 2021. Genetic potential of exotic bread wheat lines for important traits under rainfed condition

CONFERENCE/SEMINARS/TRAININGS/WORKSHOPS

1. International Symposium on “Institutional Linkages for Agriculture Development in Pakistan” organized under the HEC sponsored project “International Linkages of Pakistani Universities with Foreign Universities” held on December 20-21, 2010.
2. Stakeholder’s workshop of wheat seed value chain in KPK organized under Agricultural Innovation Program (AIP), jointly by Pakistan Agriculture Research Council (PARC), Cereal Crops Research Institute (CCRI) and CIMMYT International on 04 June, 2014 CCRI, Pirsabak-Nowshehra, Pakistan.
3. Two days workshop on “Judicious management of weeds in cereal, orchards and vegetable in the environment of Khyber Pakhtunkhwa” under SORCA project on April 01-02, 2015.
4. Two days conference “4th International Molecular Biology and Biotechnology Congress & Conference on Life Sciences Research” at ISRA University Islamabad Campus on September 05-06, 2015.
5. One day workshop on “How to write Literature Review” at The University of Sydney, on 16th October, 2015.
6. Three day workshop on statistical software “R” at Biomedical Building, Australia Technology Park, The University of Sydney, Australia on November, 17 – 19, 2015.
7. F. U. Khan and F. Mohammad. Identification of traits for improvement of grain yield in bread wheat under nitrogen stress and non-stress conditions. September 04-06, 2015. 4th Int’l Molecular Biology and Biotechnology Congress & Conference on Life Science Research, Islamabad, Pakistan.
8. I. Hussain, F. Mohamad, F. U. Khan, A. R. Rattu and M. Imtiaz. Genetic diversity for production traits in wheat recombinant inbred lines. September 20–25, 2015. 9th International Wheat Conference, Sydney Australia (<http://www.iwc2015sydney.com/download/IWC2015-Delegate-List.pdf>).
9. F. Z. Zafar, F. Mohammad, F. Bangash and Nabiullah. Genetic divergence among wheat breeding lines for various traits. January 15-18, 2016. “14th National & 5th International Conference of Botany “Climate Change and Phytodiversity: Challenges and Opportunities” at Department of Botany, University of Karachi, Pakistan.
10. F. U. Khan and F. Mohammad. Identification of traits for the improvement of grain yield in bread wheat under nitrogen stress and non-stress condition. January 15-18, 2016. “14th National & 5th International Conference of Botany “Climate Change and Phytodiversity: Challenges and Opportunities” at Department of Botany, University of Karachi, Pakistan.
11. F. U. Khan and F. Mohammad. Graphical analysis of genotype × trait relationship in some bread wheat cultivars using GGE biplot. March 28-30, 2016. “International Conference on “Major Environmental Constraints to Plants: Assessment & Reclamations” at Department of Botany Government College University, Faisalabad Pakistan.
12. F. U. Khan, F. Mohammad, M. U. Rehman and M. Imtiaz. Current and future prospects of karnal bunt in Pakistan. May 3-6, 2016. “XIX International Workshop on Smuts and Bunts” at Izmir, Turkey.
13. Three days training on “Medicinal plants” at Pakistan Forest Institute, Peshawar held on 21-23, December, 2016
14. One day national awareness seminar on “Pathological constraints to wheat production in Pakistan” at Nuclear Institute for Food & Agriculture, Peshawar held on 29, December, 2016
15. International Conference on “Climate change threats to agriculture and food security think-Adapt, 2017” organized by Department of Agronomy and Climate Change Centre, The University of Agriculture, Peshawar Pakistan held on November 22-24, 2017

16. International Conference on "Conventional and Modern Approaches in Plant Sciences" organized by Department of Botany, University of the Punjab Pakistan held on November 28-29, 2017
17. F. U. Khan, C. M. Dong, R. Threthowan, T. Chatta and F. Mohammad. Protein profiles in wheat seedlings under nitrogen stress. National Biotechnology conference on "Recent advances in Biotechnology" at Kohat University of Science & Technology, Kohat 26-27, April 2017.
18. F. U. Khan, D. Fuentes, R. Threthowan, T. Chatta and F. Mohammad. Comparative metabolite profiling of two wheat genotypes with contrasting nitrogen stress tolerance at seedling stage. 6th Int'l and 15th National Conference "Dynamic Trends in Plant Sciences-Fostering Environment and Food Security" at Sardar Bahadur Khan Women University, Quetta, Pakistan 9-11th May 2017.
19. F. U. Khan, F. Mohammad and Raziuddin. Screening wheat genotypes for grain yield determinants under nitrogen stress and non-stress conditions. 6th Int'l and 15th National Conference "Dynamic Trends in Plant Sciences-Fostering Environment and Food Security" at Sardar Bahadur Khan Women University, Quetta, Pakistan 9-11th May 2017.
20. F. U. Khan and F. Mohammad. Heterotic response of nitrogen use efficiency and associated traits in bread wheat. 1st Int'l and 2nd National Conference "Challenges and Opportunities To Boost Agriculture In Changing Climate" at College of Agriculture, Bahaudin Zakriya University Multan Sub Campus Layyah Campus 26-28 March 2018.
21. Attended 5 days training course on "Drought Management" at Pakistan Academy for Rural Development, Peshawar held on August 06-10, 2018
22. Delivered Keynote talk on "Plant Breeding in Changing Climate" at International Seminar on Modern Techniques To Improve Crops Yield In Changing Climate at Hazara University, Mansehra on 4th April, 2019
23. Participated in 3-days International Workshop on Use of genome editing and other new breeding technologies for global food security at COMSTECH, Islamabad from 8-10, April 2019.
24. Attended Two days National Workshop on Research Methods in Biological Sciences and use of endnote software as Resource Person at Hazara University, Mansehra from May 02-03, 2019.
25. Presented paper on "GEA-R: A Graphical Tool for The Analysis of Complex Multi-environment Trial (MET) Data". Third National Conference on Emerging Trends in Bioinformatics and Biosciences (NCETBB-19), at Hazara University, Mansehra from October 03-05, 2019.
26. Delivered talk on "Wheat Breeding in Changing Climate" as Invited speaker at National Conference on Strategies for Ensuring Food Security in the Changing Climate held at The University of Agriculture Peshawar, Pakistan from October 23-24, 2019.
27. Attended Two days Hands-on-Workshop "SPSS" as Resource Person at University of Engineering & Technology, Peshawar from October 24-25, 2019.
28. Organized One day seminar on "Modern Techniques to Improve Crops Yield In Changing Climate" at Hazara University, Mansehra on 4th April, 2019.
29. Organized Two days National Workshop on Research Methods in Biological Sciences and use of endnote software as Chief Coordinator at Hazara University, Mansehra from May 02-03, 2019.
30. Attended Int'l Webinar on "Gene editing using CRISPR Cas9" organized by Northeast Normal University, China held on 07 June 2020.
31. Participated in the 18th Int'l Congress of Soil Science on "Wise Soil Management Ensure Better Environment and Livelihood" held on 11-13 February 2020
32. Organized One day Training/Workshop on "Food Safety" at Hazara University Mansehra held on 12th March 2020

33. Delivered Oral Talk in 4th International Symposium on “Advances in Molecular Biology of Plants and Health Sciences” held at Centre of Excellence in Molecular Biology, Lahore, Pakistan during 23-24, December 2021
34. Participated in “BGRI 2021 Virtual Technical Workshop” organized by Borlaug Global Rust Initiative held on 06-08 October 2021
35. 1st International Hybrid Mode Conference on Emerging Innovative Research Trends in Biology (EIRTB 2021) held on 11-12 August 2021
36. Attended two months course on “Advanced Wheat Improvement Course-2019” organized by The International Maize and Wheat Improvement Center held during 02-August to 1st October 2021.

RESEARCH PROJECT/GRANTS

1. Won competitive research grant entitled Exploring Genetic Variation of Fusarium Head Blight Resistance for Marker Assisted Breeding in Pakistani Wheat Gene Pool" of worth 15000\$ from International Foundation for Science, Sweden.

HONORS AND AWARDS

1. HEC IRSIP Scholarship (2015)
2. HEC-USAID Merit & Need Based Scholarship (2010)
3. Best Oral Presenter Award at 4th International Conference on Advances in Plant & Health Science

Foreign Trainings/Visit

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| 1. Plant Breeding Institute, The University of Sydney, Australia | Aug 2015– Feb 2016 |
| 2. CIMMYT/Country Representative to Izmir, Turkey | 03-07 May, 2016 |
| 3. Young Scientist of Pakistan (Global Young Scientists Summit, Singapore) | 21-26 Jan, 2018 |
| 4. Two weeks trainings on Wheat rust at KALRO, Njoro Kenya | 29-09 Oct, 2018 |
| 5. Two-month course on “Advance wheat improvement, CIMMYT Mexico | 02 Aug–01 Oct, 2021 |

RESEARCH INTEREST

Cereal Breeding, Cereal Pathology, Molecular breeding

PUBLICATIONS (Total =49)

1. F. U. Khan, Raziuddin, I. A. Khalil. 2013. Correlations and Factor Wise Contributions of Various Traits Related to Yield in Rapeseed (*Brassica napus* L.). *American-Eurasian J. Agric. & Environ. Sci.*, 13 (1): 101-104
2. Z. Rehman Khalil, S. Akhter, A. Rahman, I. Ahmad, S. Khan, S.M. Sohail, I. Amin Khalil and F. U. Khan. 2013. Comparative effect of different milking methods and udder Hygiene on somatic cell count and milk quality in dairy cows. *Iranian J. Applied Animal Sci.* 3(2), 339-342.
3. F. U. Khan, Raziuddin, I. A. Khalil, I. H. Khalil and I. Ullah. 2013. Heritability and genetic potential of *Brassica napus* genotypes for yield and yield components. *American-Eurasian J. Agric. & Environ. Sci.*, 13(6): 802-806
4. N. Ali, F. U. Khan and H. U. Shah. 2013. Biochemical variability among wheat cultivars grown in Khyber Pakhtunkwa. *Pak. J. Biochem. Mol. Biol.* 46(1): 11-15
5. S. G. Khattak, Z. Saleem, M. Ilyas, N. Muhammad, J. Iqbal, M. Khan, Z. Iqbal, F. U. Khan. 2014. Effect of different sources of fertilizers on the yield and yield components of wheat variety Kohat-2000 under rainfed conditions of Kohat during 2012. *Current Res. Agric. Sci.* (1): 1-5.
6. Z. Saleem, J. Iqbal, S. G. Khattak, M. Khan, N. Muhammad, Z. Iqbal, F. U. Khan, H. Fayyaz. 2014. Effect of different insecticides against maize stem borer infestation at Barani Agricultural Research Station, Kohat, KPK, Pakistan during kharif 2012. *Int'l J. Life Sci. Res.* 2(1): 23-26
7. S. Shaukat, Raziuddin, F. U. Khan, I. A. Khalil. 2014. Genetic Variation and Heritability Estimates of Quality Traits in *Brassica napus* L. *J. Bio. Agric. & Healthcare*, 4(20):1-4

8. F. U. Khan, Farhatullah, Raziuddin, and F. Mohammad. 2014. Heritability Estimates in Intra and Inter-Specific F2 Populations of Brassica. *J. Biol. Agric. & Healthcare*, 4(20):102-107
9. G. Shafi, N. Ara, and F. U. Khan. 2014. The effect of seed priming and soaking durations with Di Ammonium Phosphate (DAP) on seedling emergence and morphological traits in okra (*Hibiscus esculentus* L.). *Int'l J. Environ.*, 3(3):113-125
10. R. Gul, H. Khan, N. U. Khan, and F. U. Khan. 2014. Characterization of Chickpea germplasm for nodulation and effect of rhizobium inoculation on nodules number and seed yield. *The J. Animal & Plant Sci.* 24(5): 1421-1429
11. N. Muhammad, Z. Saleem and F. U. Khan. 2015. Media standardization for propagation of *Carralluma* (*Carraluma Tuberculata* L.). *J. Biol. Agric. & Healthcare* 5(1): 228-230
12. Z. Saleem, S. G. Khattak, M. Khan, J. Iqbal, N. Muhammad, Z. Iqbal, F. U. Khan. 2015. Comparison of new cereals in barani areas to improve food security under rainfed conditions of Kohat. *J. Biol. Agric. & Healthcare*, 5(3): 33-34
13. M. Khan, F. U. Khan, Z. Saleem, S. G. Khattak. 2015. Comparative suitability of wheat, triticale, barley and oat in the ecology of Kohat, Pakistan. *J. Biol. Agric. & Healthcare* 5(5): 202-204
14. S. Jan, F. Mohammad, F. U. Khan. 2015. Genetic potential and heritability estimates of yield traits in F3 segregating populations of bread wheat. *Int'l J. Environ.* 4(2): 106-115
15. I. Khan, F. Mohammad, F. U. Khan. 2015. Estimation of genetic parameters of yield and yield traits in wheat genotypes under rainfed conditions. *Int'l J. Environ.* 4(2): 193-205
16. S. Shaukat, Raziuddin, F. U. Khan, I. A. Khalil. 2015. Genetic potential and heritability estimates of yield and yield associated traits in rape seed *Brassica napus* L. *Int'l J. Environ.* 4(2): 330-340
17. F. U. Khan, M. Khan, S. G. Khattak, Z. Iqbal, Z. Saleem, J. Iqbal and N. Muhammad. 2015. Evaluation of advance bread wheat lines in preliminary wheat yield trial. *Pure Appl. Biol.* 4(3): 384-388
18. G. Shafi, N. Ara, F. U. Khan, Y. Jamal and A. Basir. 2015. Influence of DAP seed priming and soaking durations on yield and yield associated traits in Okra. *Pure Appl. Biol.* 4(3): 389-397
19. F. Z. Zafar, F. Mohammad, F. U. Khan, G. Ghuttai and W. U. Khan. 2015. Genetic divergence among wheat breeding lines for production traits. *Pure Appl. Biol.* 4(3): 427-433
20. M. Ilyas, Z. Iqbal, S. G. Khattak, F. U. Khan, Z. Saleem, M. Khan, J. Iqbal and N. Muhammad. 2015. Assessment of nutritional requirement of wheat variety KT-2000 under rainfed condition. *Pure Appl. Biol.* 4(4): 497-502
21. S. Jan, R. Gul, F. U. Khan, H. Khan and S. Saeed. 2015. Interrelationships among yield and yield components in chickpea (*Cicer arietinum* L.) under irrigated and rainfed conditions *Pure Appl. Biol.* 4(4): 551-556
22. G. Ghuttai, F. Mohammad, F. U. Khan, W. U. Khan and F. Z. Zafar. 2015. Genotypic differences and heritability for various polygenic traits in F5 wheat populations. *American-Eurasian J. Agric. & Environ. Sci.*, 15 (10): 2039-2044
23. W. U. Khan, F. Mohammad, F. U. Khan, F. Z. Zafar and G. Ghuttai. 2015. Correlation studies among production traits in bread wheat under rainfed conditions. *American-Eurasian J. Agric. & Environ. Sci.*, 15 (10): 2059-2063
24. F. U. Khan and F. Mohammad. 2016. Application of stress selection indices for the assessment of nitrogen tolerance in wheat. *The J. Animal & Plant Sci.* 26(1): 201-210
25. F. U. Khan, M. Khan, S. G. Khattak, Z. Iqbal, J. Iqbal, Z. Saleem and N. Muhammad. 2016. Screening of Wheat Germplasm for Morpho-Yield Traits under Rainfed Condition. *American-Eurasian J. Agric. & Environ. Sci.*, 16 (2): 266-269
26. F. U. Khan, M. Khan, M. Hassan and R. Gul. 2017. Genotypic Differences among Mung Bean (*Vigna radiata* L.) Genotypes for Yield and Associated Traits *Int'l J. App. Agri. Sci.* 3(2):47-50
27. F. U. Khan, F. Mohammad, Raziuddin, Z. Shah, M. Ahmad and Z. Shah. 2017. Genotypic differences and genotype × nitrogen interactions for yield traits in bread wheat. *The J. Animal & Plant Sci.* 27(4):1264-1268

28. F. U. Khan, D. Fuentes, R. Threthowan, F. Mohammad and M. Ahmad. 2019. Comparative metabolite profiling of two wheat genotypes as affected by nitrogen stress at seedling stage, *The J. Animal & Plant Sci.*29(1): 260-268
29. F. U. Khan, F. Mohammad, M. Ahmad, M. Adil, N. Rehman and A. Iqbal. 2019. Identification of traits for the improvement of grain yield in bread wheat under nitrogen stress and nonstress conditions. *Pure Appl. Biol.* 8(1): 698-705
30. S. Mahpara, M. Amjad Bashir, S. Kamaran, M. Irfanullah, S. Salman, F. U. Khan, Zamarud Shah, Amanullah and M. Shahnawaz. 2019. Genetic response of diverse sunflower genotypes in contrasting moisture regimes for various physiological and growth parameters at early developmental stage. *Pure Appl. Biol.* 8(1): 820-837
31. F. U. Khan, M. Khan, S.G. Khattak, Z. Iqbal, J. Iqbal and Z. Saleem. 2019. Performance of some improved bread wheat varieties grown in Khyber Pakhtunkhwa, Pakistan *Adv. Plants & Agri. Res.* 9(1):191–193
32. S. Mahpara, M. Shahnawaz, K. Rehman, T. Batool Qaisarani, R. Ahmad and F. U. Khan.2019. Nitrogen fertilization induced drought tolerance in sunflower: a review. *Pure Appl. Biol.* 8(2): 1675-1683
33. M. Khan, M. Hassan and F. U. Khan. 2019. Evaluation of farmers vs improved production technology for enhanced wheat productivity under the rainfed conditions of Kohat region *IOARP J. Crop Production*2(1):1-6
34. F. U. Khan and M. Khan. 2019. Genetic Potential of Advance Guar Lines for Morhpo-Yield Traits Under Rainfed Condition. *IOARP J. Crop Production*, 2(2):13-16
35. M. Ahmad, M. J. Khan, D. Muhammad, W. A. Shah, F. U. Khan, R. A. Khattak, Z. H. Khan, A. Iqbal and F. Shah. 2019. Critical solution [P] in diverse calcareous soil series using adsorption equations. *Fresenius Environ. Bulletin*, 28(6): 466-4670
36. M. A. U. Khan, F. Mohammad, F. U. Khan, S. Ahmad and I. Ullah. 2020. Additive main effect and multiplicative interaction analysis for grain yield in bread wheat. *The J. Animal & Plant Sci.* 30(3): 677-684
37. Z. Shah, A. Iqbal, F. U. Khan, H. U. Khan, F. Durrani and M. Z. Ahmad. 2020. Genetic manipulation of pea (*Pisum sativum* L.) with *Arabidopsis*'s heat shock factor HsfA1d improves ROS scavenging system to confront thermal stress. *Genet Resour Crop Evol.* <https://doi.org/10.1007/s10722-020-00966-9>
38. M. A. U. Khan, F. Mohammad, F. U. Khan, S. Ahmad, M. A. Raza and T. Kamal. 2020. Comparison among different stability models for yield in bread wheat. *Sarhad Journal of Agriculture*, 36(1): 282-290
39. S. F. Jan, M. R. Khan, A. Iqbal, F. U. Khan and S. Ali. 2020. Genetic diversity in exotic oat germplasm & resistance against barley yellow dwarf virus. *Saudi J. Biol. Sci.*
40. Safiullah, Azmat Ali Awan, Mohammad Ilyas, Fahim Ullah Khan, Arshad Iqbal, Muhammad Adil and Asad Ullah. 2020. Effects of different concentrations of naphthalene acetic acid on rooting of various olive varieties. *Sarhad Journal of Agriculture* 36(4): 1289-1294
41. Inamullah, T. Mahmood, H. Mahmood, H. Khan, F. U. Khan, A. Ali and M. Islam. 2021. Identification of multiple leaf rust resistance genes in selected germplasm of Pakistani bread wheat using molecular markers. *The J. Animal & Plant Sci.* 31(2): 459-467
42. M. Islam, Inamullah, I. Ahmad, N. Akhtar, J. Alam, A. Razaq, K. Mohammad, T. Mahmood, F. U. Khan, W. M. Khan, I. Ahmad, I. Ullah, N. Shafaqat, S. Qamar. 2021. Medicinal plants resources of Western Himalayan Palas Valley, Indus Kohistan, Pakistan: Their uses and degrees of risk of extinction. *Saudi J. Biol. Sci.* 28(5): 3076-3093
43. M. Irfan, F. Ishaq, D. Muhammad, M. J. Khan, I. A. Mian, K. M. Dawar, A. Muhammad, M. Ahmad, S. Anwar, S. Ali, F. U. Khan, B. Khan, H. Bibi, A. Kamal, M. Musarat, W. Ullah, M. Saeed. 2021. Effect of wheat straw derived biochar on the bioavailability of Pb, Cd and Cr using maize as test crop. *J. Saudi Chem. Society*, 25, 101232

44. Shafqat, N., A. Shahzad, S. H. Shah, Z. Khan, M. Sajid, F. Ullah, M. Islam, R. Masood, N. Jabeen and K. Zubair. 2021(Accepted). Characterization of wheat-Thinopyrum bessarabicum genetic stock for stripe rust and Karnal bunt resistance. Brazilian J. Bio, 2023, vol. 83, e246440
45. Shah, G. M., N. Shad, M. Sajid, Asma, A. Naeem, F. U. Khan, N. Jabeen, M. Urooj, S. Muhammad & M. Hasnain. 2021. Herbal remedies used for the management of urolithiasis in Abbottabad, Northern Pakistan. Plant Sci. Today, 8(4): 836–847
46. Rehman, N.U., F. Abbas, M. Imran, I. Alam, M. Imran, I. Ullah, M. Riaz, F. U. Khan. 2022. Genome wide analysis of DWARF27 genes in soybean and functional characterization of GmD27c reveals eminent role of strigolactones in rhizobia interaction and nodulation in Glycine max. Mol. Bio. Reports <https://doi.org/10.1007/s11033-022-07127-4>
47. Rehman, N., F. U. Khan, M. Imran, S. A. Rajput, Y. Li, I. Ullah, R. W. Akhtar, M. Imran, A. A. AL-Huqail, A. E. Askary, A. S. Khalifa and M. T. Azhar. 2022. Knockdown of GmD53a confers strigolactones mediated rhizobia interaction and promotes nodulation in soybean. PeerJ. 10:e12815 <http://doi.org/10.7717/peerj.12815>.
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DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge.

Dr. Fahim Ullah Khan _____

