

WPEP funded PhD completed by Dr. Muhammad Rameez Khan under the supervision of Dr. Sajid Ali (University of Agriculture, Peshawar) and Dr. Muhammad Imtiaz (CIMMYT, Pakistan)

Dr. Muhammad Rameez Khan completed his PhD project entitled “**Population structure of wheat rust pathogen in Pakistan and its temporal maintenance over time**” under the supervision of Dr. Sajid Ali (University of Agriculture, Peshawar) and Dr. Muhammad Imtiaz (CIMMYT, Pakistan). This PhD project is funded by USAID-USDA supported Wheat Productivity Enhancement Programme (WPEP), Pakistan. The work generated useful information on the status of wheat diseases and population structure of *Puccinia striiformis* across Pakistan during the rust seasons of 2016 and 2017, along with the role of host on structuring pathogen diversity. The work covered countrywide surveillance, sample collection, molecular genotyping of more than 2000 samples and population genetic analyses. The results generated were presented at both national and international conferences, including the BGRI meetings, rewarding Dr. Khan twice the Graduate Student Award by BGRI in Australia (2015) and Morocco (2018). The work was published in internationally recognised journals like Phytopathology.



Further reading:

- Khan MR, Rahman ZU, Nazir SN, Tshewang S, Baidya S, Hodson D, Imtiaz M and Ali S. 2019. Genetic divergence and diversity in Himalayan *Puccinia striiformis* populations from Bhutan, Nepal and Pakistan. *Phytopathology*. <https://doi.org/10.1094/PHTO-01-19-0031-R>
- Khan MR, Imtiaz M, Farhatullah, Ahmed, S, Ali S. 2019. Northern Himalayan region of Pakistan with cold and wet climate favours a high prevalence of wheat powdery mildew. *Sarhad Journal of Agriculture* 35, 187-193. <https://researcherslinks.com/current-issues/Northern-Himalayan-Region-of-Pakistan-with-Cold-and-Wet-Climate-Favors-a-High-Prevalence-of-Wheat-Powdery-Mildew/14/1/2024>
- Khan MR, Imtiaz M and Ali S. 2018. Wheat disease surveillance, genetic structure and temporal shifts of *Puccinia striiformis* population across Pakistan. PhD thesis. The University of Agriculture, Peshawar, Pakistan.

http://pr.hec.gov.pk/jspui/bitstream/123456789/10383/1/Rameez%20thesis_complete.pdf

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