

ZULQARNAIN HAIDER

QUALIFICATION and PROFESSIONAL BACKGROUND



NIC#:
36502-4164590-7

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CE6975903

Nationality:
Pakistani

Religion:
Islam

Date of Birth:
21/07/1986

Postal address:
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Rice Research
Institute,
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Languages:
Urdu
English
Panjabi
Turkish
Chinese

IELTS scores:
Speaking 6.0
Listening 6.5
Reading 6.0
Writing 6.0
CEFR level B2

PhD scholar (Chinese University Scholarship)
Crop Genetics and Breeding Department
Yangzhou University, Jiangsu
China

(12th September 2020 to date)

Scientific Officer (BS-17)

Rice Research Institute

Kala Shah Kaku, Lahore

Government of Punjab, Department of Agriculture (Research)

(12th July 2012 to 14th September 2021)

Responsibilities:

1. Molecular and phenotypic screening of Basmati / non-Basmati / long grain rice varieties / hybrids for abiotic stresses (drought, salinity and submergence) and for biotic stresses (Bacterial Leaf Blight, Brown Plant Hopper)
2. Molecular Characterization of rice lines / hybrids using SSR, SNP and InDel markers
3. Use of GC (SPME-FID) for measuring Basmati compound (2AP)
4. Hybrid Rice, parental line development, identification of restorers and CMS lines maintenance
5. Rapid Generation Advance (RGA) in rice for prompt advancement of filial generations

M. Sc. (Hons) Agriculture

Major: Plant Breeding and Genetics
University of Agriculture, Faisalabad

Aug-2010

(1st Division)

CGPA: 3.75

B. Sc. (Hons) Agriculture

Major: Plant Breeding and Genetics
University of Agriculture Faisalabad

Jul-2008

(1st Division)

CGPA: 3.49

ACHIEVEMENTS AND CERTIFICATES

- Thirty-two (32) research articles in well reputed journals (*Impact Factor of 14.36 estimated by Research Gate*), including two chapters in Books (published in Food & Agric. Organization, USA; Springer Nature) of internationally recognized publishers regarding Hybrid Rice development and Research in Pakistan.
- Three rice varieties (two Basmati / one extra-long grain) developed that are being cultivated in hard-climate areas of Punjab, Pakistan, to meet food security issues in Pakistan. One candidate rice lines with four BLB resistant genes pyramided through MAS method was developed.
- International Project under Asian Development Bank partnership, title: TA 8578-PAK: Punjab Basmati Rice Value Chain. Project Number: 47166-001, 2014 – 2018
- Three projects approved by Secretary, Government of the Punjab, Agriculture Department, Lahore, Pakistan and PARB were successfully implemented including Development of Basmati hybrids with submergence, drought and salinity tolerance; Provision of MAS lab at RRI KSK; and Development of heat tolerant and early rice varieties for rice-wheat cropping system
- Certificate for participating in international training program
 - Hybrid Rice Development & Research, in Changsha, China, organized by Long Ping High Tech., from 08 to 28 July, 2018.
 - "Rice Breeding Course" and "Biometrics in Plant Breeding" conducted and organized by International Rice Research Institute (IRRI), Los Benos, Philippines
 - Certificate for participating in training program on Identification and Isolation of Bacterial Leaf Blight pathogens by Dr. Vera Cruze (*International Rice Research Institute, Philippines*)
- Honoraria for 2014, 2015, 2016, 2017 and 2018 from Agriculture Department, Punjab awarded for extraordinary performances during all these years of service.

SUBJECTS

- Improvements in quality traits (aroma) in basmati rice; Stress Breeding (biotic and abiotic) in Rice (Drought, Salinity, Submergence and Bacterial Leaf Blight); Biometrical Techniques in Plant Breeding
- Marker Assisted Selection in rice using SSR, SNPs and InDel markers; Transgenic rice, Hybrid Rice and parental lines development; Cytogenesis of Crop Plants; Rapid Generation Advance (RGA) in rice
- Advanced Genetics, epi-genetics, Proteomics, Metabolomics

ADDITIONAL SKILLS AND EXPERTIES

- PCR handling, Gas Chromatography and HPLC
- Data analysis Using statistical software such as SPSS, Minitab.v16.1.1, Sigma STAT, M STAT, DarWin, PAST, PowerMarker, and PopGene software

High – rated impact factor articles (WOS, TR & JCR)

1. Sabar, M., M. Akhter, T. Bibi, **Z. Haider**, R.A.R. Khan and A. Bibi. **2019**. Basmati rice lines development carrying multiple bacterial blight resistance genes pyramided using the marker-assisted backcross breeding approach. **Molecular Breeding** (2019) 39: 155. <https://doi.org/10.1007/s11032-019-1047-7> (IF 1.862)
2. Sadia G., **Z. Haider**, H. Gu, R.A.R. Khan, J. Miao, T. Wenchen, S. Uddin, I. Ahmad and G. Liang*. **2019**. InDel marker-based estimation of Multi-Gene Allele Contribution and Genetic Variations for Grain Size and Weight in Rice (*Oryza sativa* L.). **International Journal of Molecular Sciences (IJMS)**. Int. J. Mol. Sci. 2019, 20(19), 4824 <https://doi.org/10.3390/ijms20194824> (IF 5.9)
3. M. Akhter and **Z. Haider**. **2020**. Chapter: Basmati rice production and research in Pakistan. Book: *Sustainable Agriculture Reviews* 39. **Springer Nature Switzerland AG 2020**. Chapter 5, 2020. Springer International Publishing, ISBN: 978-3-030-38881-2 (eBook), 978-3-030-38880-5 (hardcover), p 227; <https://doi.org/10.1007/978-3-030-38881-2>
4. **Haider, Z***, M Akhter, A Mahmood, RAR Khan. **2017**. Comparison of GGE biplot and AMMI analysis of Multi-Environment Trial (MET) data to assess adaptability and stability of rice genotypes. **African J. Agric. Res.** Vol. 12(51), pp. 3542-3548, 21 December, 2017, <https://doi.org/10.5897/AJAR2017.12528> (IF 0.51)
5. Sabar M, T Bibi, HU Farooq, **Z Haider***, I Naseem, A Mahmood and M Akhter. **2016**. Molecular screening of rice (*Oryza sativa* L.) germplasm for Xa4, xa5 and Xa21 bacterial leaf blight (BLB) resistant genes using linked marker approach. **African Journal of Biotechnology**. Vol. 15(41), pp. 2317-2324, 12 October, 2016 <https://doi.org/10.5897/AJB2016.15612> (IF=0.67)
6. Tahir L, **Z Haider***, M Ramzan, M Akhter, S Gull, A Mahmood, A Riaz, RAR Khan. **2019**. Quantifying Effects of Photoperiod, Temperature and Humidity on Flowering Initiation in Basmati Rice Lines (2019). **American Journal of Plant Sciences** (AJPS), 2019, Volume: 10, pp: 893-903. <https://doi.org/10.4236/ajps.2019.106064> (IF 1.41)
7. **Haider, Z.**, Akhter, M., Mahmood, A. and Saleem, U. **2018**. Phenotypic expression of *Sub1* gene and association analysis of submergence stress related traits in advance rice (*Oryza sativa* L.) genotypes as a tool of climate change adaptation. **American J Climate Change**, 2018, 7, 171-186. <https://doi.org/10.4236/ajcc.2018.72012> (IF 1.45)
8. Akhter M*, N Afzal, **Z Haider** and MA Raza. **2015**. Inactivation of Lipase enzyme by using Chemicals to maximize Rice Bran Shelf Life and its Edible Oil Recovery. **Journal Nutrition and Food Sciences**, 2015, S12:002 (IF=1.22)
9. Akhter M, S Zia, **Haider Z**, AM Sabir. **2015**. Associating light trap catches of some major rice insect pests with prevailing environmental factors. (2015). **Pakistan Journal of Agricultural Sciences**. Pak. J. Agri. Sci., Vol. 52(3), 716-722. <https://www.pakjias.com.pk/papers/2473.pdf> (IF=1.24)
10. Akhter M, M Riaz, M Sabar, **Z Haider***, T Latif. **2014**. Hybrid Rice production in Pakistan: Assessments of limitations and potentials. Proceedings of "Regional Expert Consultation on Hybrid Rice Development in Asia: Assessment of Limitations and Potential", Bangkok, Thailand, 2 to 3 July 2014 organized by **Food and Agriculture Organization of the United Nations (FAO)** and Asia-Pacific Seed Association (APSA), pp: 129-150 <http://www.fao.org/3/a-i4395e.pdf>

Peer-reviewed & Pakistani Journals

2008

11. Selection of restorers and maintainers from test crosses for the development of hybrid rice. (2008). *Pakistan J. Sciences*. 60(3-4): 100-102

2012

12. Correlation and Path coefficient analysis of yield components in rice under simulated drought stress condition (2012). [ISI indexed International journal: *American-Eurasian J. Agric. Environ. Sci.*, 12(1): 100-104, 2012]

2014

13. Comparison of Associations among Yield and Yield Components in Rice (*O. sativa*) under Simulated Drought Stress condition using Multivariate Statistics. (2012). (International Journal of Scientific and Engineering Research, Volume 4, Issue 8, August-2013, pp: 329-340)
14. Bio-efficacy of different Citrus Peel Extracts as Grain Protectant against *Callosobruchus chinensis*, *Trogoderma granarium* and *Tribolium castaneum*. (2012). (ISI & SCOPUS indexed International Journal: World Applied Science Journal, 21(12):1760-1769)
15. Efficacy of parboiling on physico-chemical properties of some promising lines/varieties of rice (*Oryza sativa* L.) (2014). *Sci. Tech. and Dev.* 33 (3): 115-122
16. Effect of different environmental factors on the population fluctuations of rice stem borers and leafrollers (2014). Abstracts of 34th Pakistan Congress of Zoology (International) February 25-27, 2014.
17. Changes in physico-chemical properties of some promising lines/ varieties of rice after parboiling. (2014) International Journal of Developmental Research. 4(12): 2575-2580
18. Studies to determine the effect of storage on extrusion stabilized raw and parboiled rice bran. (2014) International Journal of Developmental Research. 4(9): 1966-1969

2015

19. PK386: A new high yielding, early maturing, long grain rice variety (2015). Journal of Agricultural Research, 52(3): 321-326, 2015
20. Free Fatty Acid Profiling of Rice Bran oils for Improving Shelf Life through Parboiling and Different Treatments. (2015). J. Nutr. Food Sci., 2016, 6:1
21. Physico-chemical changes in grains of some promising lines/ varieties of rice after parboiling. (2015). Pakistan J. Agric. Res. Vol. 28 No.2.

2016

22. Effect of different water depths on plant population and rice (*Oryza Sativa*) yield at time of transplanting using mechanized transplanter. (2015). International Journal of Scientific & Engineering Research, 6 (6): 76-80.
23. Straining indica rice genotypes for resistance against prevalence of leafroller *Cnaphalocrocis medinalis* Guenee and stem borers *Scripophaga incertulas* Walker. Pakistan Entomologist, 37(1): 61-66
24. Heritability of yield and yield components in hexaploid wheat. Academic Journal of Agricultural Research 4(5): 277-280, May 2016
25. Genetic Variability and Heritability Studies in Relation to Seed Yield and its Component Traits in Mustard (*Brassica Juncea* L.). 2016. Academia J. of Agri. Res; 4(8): 478-482.
26. Effect of transplanting dates on cooking, milling and eating quality parameters of some fine and coarse grain rice lines. 2016. Inter. J. of Nutrition and Food Sci., 8(4): 254-258.

2017

27. Molecular and Phenotypic Screening of Rice cultivars and promising Genotypes with *SUB1* QTL for Submergence Tolerance, Re-generation and Elongation ability. Accepted in 2nd Agriculture & Climate Change Conference (Elsevier), 26-29 March, Sitges, Spain
28. Comparison of Yield and Water Productivity of Rice (*Oryza sativa* L.) Hybrids in Response to Transplanting Dates and Crop Maturity Durations in Irrigated Environment. Irrigation Drainage Sys Eng 6: 180. doi: 10.4172/2168-9768.1000180

2018

29. Nutritional, Physico-Chemical and Milling Quality Traits in Aromatic Pure Basmati Rice Lines as Affected by Different Transplanting Dates. J Nutr Food Sci 2018, 8:1. DOI: 10.4172/2155-9600.1000657
30. Abstracts (Three abstracts/full length article) accepted for oral presentation in International Rice Congress (IRC-2018) being held in Singapore

2019

31. Developing extra-long Grain, Early Maturing and High Yielding Basmati Rice Variety for Flood-Prone Areas of Pakistan (2019). Annals of Agricultural Sciences. 3(2): 7-13. DOI: 10.22606/as.2019.32001
32. Development of an Aromatic High Yielding Basmati Rice Variety Having Extra Long Grains and Short Duration (2019). J Rice Res, 7:1. DOI: 10.4172/2375-4338.1000204

PROJECTS

1. Development of Basmati / extra-long grain Rice Hybrids with high yield, tolerant to Salinity, BLB and Submergence using Marker Assisted Selection
2. Trait pyramiding for Bacterial Leaf Blight, Drought, Salinity and Submergence in advance rice genotypes using Marker Assisted Selection
3. Development of early maturing rice varieties for rice-wheat cropping system having submergence, salinity and drought tolerance
4. Development of Zn and Fe fortified rice varieties to cope with malnutrition