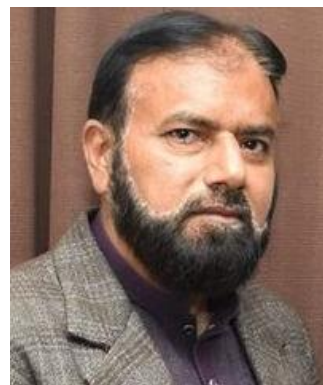


# DR. ZAHID MAHMOOD

## PERSONAL INFORMATION

- Marital status: Married
- Nationality: Pakistani
- Date of Birth: September 1, 1964
- Place of Birth: Multan
- Father's Name: Muhammad Rafique
- Contact Address: Central Cotton Research Institute, Multan
- Phone: +923006373428
- Email: zahidch20@gmail.com



## SUMMARY OF QUALIFICATIONS

| Degree                                  | Year        | Institution  | Division / %age                |
|---|-------------|--|--------------------------------|
| Ph.D.(Molecular genetics)               | 1993 - 1997 | University of Wales, Bangor, Gwynedd, UK               | Excellent                      |
| M.Sc. (Hons.) Plant Breeding & Genetics | 1986 - 1988 | University of Agriculture, Faisalabad, Pakistan        | 1 <sup>st</sup> Division (73%) |
| B.Sc. (Hons.) Plant Breeding & Genetics | 1982 - 1986 | University of Agriculture, Faisalabad, Pakistan        | 1 <sup>st</sup> Division (68%) |
| Higher Secondary School Courses (HSSC)  | 1980 - 1982 | Government Superior Science College, Karachi, Pakistan | 2 <sup>nd</sup> Division (55%) |
| Secondary School Courses (SSC)          | 1979        | Government High School, Sahiwal, Pakistan              | 1 <sup>st</sup> Division (65%) |

## PROFESSIONAL EXPERIENCE

- **Research Promoter** at the University of Agriculture, Pakistan (1982 – To date)
- **Post-Graduate Research Fellow**, University of Wales, Bangor, UK
- **Senior Scientific Officer**, Central Cotton Research Institute, Multan, Pakistan. (1997-2006)
- **Senior Scientific Officer**, Central Cotton Research Institute, Sakrand, Pakistan. (2006-2007)
- **Assistant Professor**, Institute of Biotechnology, Bahauddin Zakariya University, Multan, Pakistan (2007 to 2011)
- **Director**, Central Cotton Research Institute, Multan (13.05.2011 to 14.08.2011)
- **Officer Incharge**, Cotton Research Station, Ghotki (15.08.2011 to 31.01.2017)
- **Director**, Central Cotton Research Institute, Multan (01.02.2017 to date)

## PATENTS AND PUBLICATIONS

- More than 40 research papers published in reputed national and international journals.

## PROFESSIONAL EXPERIENCE

- i) Since my Bachelor and Master Degrees, I have been massively involved in **Biostatistics** and **Hybrid Seed Production**.
- ii) I also have expertise in **Molecular Variations** in **Sclerosopra graminicola** Downy Mildew pathogen of Pearl Millet. During my PhD investigations, I have investigated Molecular Variations between and within Isolates of **Sclerosopra graminicola** of different countries (India and Africa). I have developed a protocol for Molecular studies of this pathogen with RAPD (Random Amplified Polymorphic DNA) and PCR (Polymerase Chain Reaction).

- iii) Additionally, I have an experience of RFLP (Restricted Fragment Length Polymorphism) technique. I have scrutinised in the DNA of single oospore and single Zoospore Isolates of the pathogen. Furthermore research is being exploited for **Markers Assisted Selection** for the Downy Mildew resistance in Pearl Millet.
- iv) I am involved in the project of “the development of transgenic plant of cotton”. Two new Cotton cultivars developed i.e. CIM-511, CIM-512, having maximum boll weight in Pakistan.
- v) 3000 strains of cotton have been developed having different trait for example Coloured cotton, Okra Leaf cultivar, Short Duration, Heat resistance etc.
- vi) Molecular characterization of encestors of the *Gossypium hirsutum*.
- vii) Identification of DNA markers linked to various traits (Virus resistance, 40 polymorphisms has been identified between virus resistant and virus susceptible genotypes) in cotton.
- viii) Identification of Monosome.
- ix) Genetic analysis of cotton gene pool revealed by RAPD-PCR.
- x) Interspecific hybridization for transferring the desirable traits from wild to cultivated cotton. A hybrid of *Gossypium hirsutum* and *Gossypium arboreum* was developed to solve the problem of leaf curl virus in cotton.
- xi) Development of transgenic cotton (**Bt Cotton**) resistant to bollworms and having desirable fibre characteristics at CCRI Multan. Introduced first time Local cotton cultivar with Bt. gene in the Pakistan. CIM-443GE, CIM-448GE, CIM-511, CIM-512 etc. were developed. Moreover, Bt. Cyto-515, Bt CIM-343, Bt. CIM-632 and Bt. CIM-663 are under field testing stage.

#### **VARIETAL EVOLUTION AT CRS, GHOTKI**

- Top ranking Bt cotton strains in NCVT 2013 to 2019 i.e., GH-142, Baghdadi, Mubarak, Deebal, Haddi, Hamaliya, Sultan, Sanabaland Non-Bt strain Hammad were developed.

#### **PROJECTS DEVELOPED**

- Improvement of cotton genotypes through genetic engineering & biotechnology.

#### **OBJECTIVE**

- I would like to peruse for the **Molecular Genetics**.

#### **VOLUNTEER EXPERIENCE**

- Besides good academic record, I have also taken a good and an active participation in Muslim Activities as the **President of Bangor Islamic Society (BIS)**. Bangor Islamic Society was established in Bangor in 1962 and it is affiliated with Student Union of the University of Wales, Bangor, UK.

#### **SUPERVISOR OF PHD/MPHILL SCHOLARS OF BZU**

- Many PhD and MPhil scholars are completing their studies under my supervision.
- Four PhD scholars from Institute of Pure and Applied Biology BZU, Multan completed their studies.
- Six MPhil Scholar Institute of Pure and Applied Biology BZU, Multan has completed their studies.
- One MPhil Scholar from the Department of Chemistry, BZU, Multan has completed her studies.

#### **EXTERNAL EXAMINAR FOR POSTGRADUATE STUDIES**

- On the panel of University of Punjab, Lahore and Bahauddin Zakarya University, Multan for PhD/MPhil/MSc examinations

#### **ESTABLISHMENT OF BIOTECH LAB**

- A well-equipped Biotechnology Laboratory established at Central Cotton Research Institute, Multan.

## **LIST OF RESEARCH PUBLICATION**

1. Mahmood, Z., D.S. Shaw and J.R. Witcombe (1995). Molecular variation in *Sclerospora graminicola* Downy Mildew pathogen of Pearl Millet. International Symposium on Downy Mildews, 29 August – 2 September, Thunersee, Switzerland.
2. Mahmood, Z., S. Shaw, J.R. Witcombe, A.Price and R.C. Shattok (1996). The Reproducibility of RAPD from *Sclerospora graminicola*. (Poster). School of Biological Sciences, University of Wales Bangor, UK
3. Ahmad, G., S.A. Malik, Z. Mahmood, M.Z. Iqbal, S. Ahmad and S. Ahmad. (2002). Effect of cotton leaf curl virus disease on morphology, yield and fibre characteristics of susceptible lines/cultivars of cotton (*Gossypium hirsutum* L.). Asian J. of Plant Sciences, 1(6):705-707
4. Soomro, A.R., Z. Mahmood, N. Illahi and Allahyar. (2004). Earliness comparison in new cotton strains of CCRI, Multan. Indus Journal of Plant Sciences 3(1):1-4.
5. Mahmood, Z., A.R. Soomro, M. Saleem, M. A. Mian and M. Akram. (2004). Correlation for grain yield and its component in maize (*Zea mays* L.). Indus Journal of Plant Sciences 3(1): 176-179.
6. Mahmood, Z., A. R. Soomro, K. Khan and N. Illahi. (2004). Correlation between oil contents and some other characters in maize. Indus Journal of Plant Sciences 3(2): 180-182.
7. Soomro, A.R., Z. Mahmood, N. Illahi and Allahyar. (2004) Performance of new cotton strains at Multan. The Indus Cottons 1(1): 1-3.
8. Mahmood, Z., A. R. Soomro, A. Perveen, K. Khan and N. Illahi. (2004). Phenotypic and Genotypic correlation between protein contents and yield components in maize. Indus Journal of Plant Sciences 3(3): 366-369.
9. Mahmood, Z. (2004). Inheritance of cotton leaf curl virus resistance in cotton (*G. hirsutum* L.). Journal of Research (Science) 15(3).
10. Mahmood, Z., A. R. Soomro and M. Ishaq. (2004) Development of naturally coloured cottons for commercial cultivation in Pakistan. The Indus Cottons 1(1): 18-20.
11. Mahmood, Z., A. R. Soomro, A. Perveen, K. Khan and N. Illahi. (2004) Temperament of aberrant plant in cotton. The Indus Cottons 1(2): 92-95.
12. Khan, K., A.R. Soomro, A. Perveen, Z. Mahmood, and Muhammad, I. Khan. (2004) Some investigations on sowing period effect on seed cotton yield in D. I. Khan. The Indus Cottons 1(2): 88-91.
13. Illahi, N., A.R. Soomro, Z. Mahmood, and K. Khan. (2004) To study whether fiber characters of cotton are under influence of planting dates. The Indus Cottons 1(2): 35-39.
14. Soomro, A.R., N. Illahi, Z. Mahmood, and K. Khan. (2004) How picking dates affect ginning outturn and fiber characteristics in cotton. The Indus Cottons 1(2): 29-34.
15. Mahmood, Z., Mohammad Q. Alam, A. A. Dasti and A. R. Soomro. (2004) Ancestors of *Gossypium hirsutum*: A molecular study. *International Symposium on "Strategies for sustainable cotton production: A Global Vision" Dharwad, India from 23-25<sup>th</sup> November*
16. Mahmood, Z., A. R. Soomro, K. Khan, N. Illahi & Muhammad Ishaq. (2005) Seedcotton yield comparison between transgenic Bt-cotton and non-transgenic Commercial Cotton. The Indus Cottons 2(1): 72-74.
19. Ahmad, G., S. A. Malik, Z. Mahmood and Muhammd Jamil. (2005) Inheritance pattern of cotton leaf curl virus resistance in upland cotton. The Indus cotton 2(2): 144-146.
20. Khan, K., Z. Mahmood, A. R. Soomro and Noor Illahi. (2005) Seed cotton yield as influenced by different plant spacing under D.I.Khan environment. The Indus cotton 2(2): 147-150.
21. Soomro, A. R., N. Illahi, Z. Mahmood and K. Khan. (2005) Yield and yield components of candidate genotypes as affected by seasons. The Indus cotton 2(2): 155-160.
22. Soomro, A. R., N. Illahi, Z. MAhmood and K. Khan. (2005) Ginning out turn percent and some fibre characterstics as influenced by seasons. The Indus cottons 2(2): 166-171
23. Raheel, F., Z. Mahmood and A. A. Dasti (2007). Optimization of genomic DNA extraction from cotton (*Gossypium hirsutum*) leaves. Life Sciences International Journal, 1(1):77-82.
24. Mahmood, Z., F. Raheel, A. A. Dasti, S. Saima and A. Tariq (2009). Genetic diversity analysis of the species of *Gossypium* by using RAPD. African Journal of Biotechnology Vol. 8(16), pp. 3691-3697.
25. Dasti, A. A., S. Saima, Z. Mahmood, A. Tariq and S. Gohar (2010) Vegetation zonation along the geological and geomorphological gradient at Eastern slope of Sulaiman range, Pakistan African Journal of Biotechnology, 9(37):6105-61015

26. Mahmood, Z., A. Tariq, A. Khan, S. Saima, M. Ali and A. A. Dasti,(2011) Genetic relatedness among CHICKPEA (*Cicer arietinum*) cultivars of Pakistan by using RAPD(2011) African Journal of Biotechnology, 9(39): 27 Accepted in sep. 2010
27. Kalim, U., M.I. Khan, Z. Mahmood, T. Iqbal, S. Muhammad, H.A. Haq, A. Ahmad, S. Hussain. 2017. Response of Yield and related Attributes of Upland Cotton to Weather Variable.s American Journal of Plant Sciens, 8, 1711-1720.
28. Mahmood, Z., R Saeed, N Abbas, M Razaq, M Naveed M., Ur Rehman, H.M. (2018) Field evolved resistance to pyrethroids, neonicotinoids and biopesticides in *Dysdercus koenigii* (Hemiptera: Pyrrhocoridae) from Punjab, Pakistan Chemosphere (2018) doi: 10.1016/j.chemosphere.2018.09.042

**Publications In The Pakistan Cotton Grower**

1. Sheikh, A.L. and Z. Mahmood (1998). Kapas Ki Tehkik-u-Tarakki Kay Nai Ufaq. The Pakistan Cottongrower, 2(3): 4-5.
2. Sheikh, A.L. and Z. Mahmood. 1998. Bio-technology of cotton. The Pakistan Cotton Growers. 2(4): 4-5
3. Sheikh, A.L. and Z. Mahmood. (1999). Genetic engineering ki madad sa gene taghayer wali kapas ki deryaft. Daily Khabrein, 6<sup>th</sup> February.
4. Sheikh, A.L., Z. Mahmood and Z. I. Anjum. (2000). Genetic engineering-Ghzai killat ka hal. The Pakistan Cottongrower. Vol.4(3):7-8.
5. Sheikh, A.L. and Z. Mahmood (2000). Bt. Cotton: A source to minimize environmental pollution. The Pakistan Cottongrower. Vol.4(3):9.
6. AbdulAziz and Z. Mahmood (2005). Kapas Ki Kasht Ke Lia Safarshat. The Pakistan Cottongrower. Vol.9(1):13-15.
7. Mahmood, Z and A. L. Sheikh (2005). Mulak Mein Bi Ti Kapas Ki Kasht Cotton: A source to minimize environmental pollution. The Pakistan Cottongrower. Vol.9(2):4-7.
8. Sheikh, A.L. and Z. Mahmood (2005). Aala Mayar Aur Alaeshon Se Pak Ruee Ki Tayari. The Pakistan Cottongrower. Vol.9(3):4-6 & 9.
9. AbdulAziz and Z. Mahmood (2006). Zameen Ki Islah Brae Kasht Kari. The Pakistan Cottongrower. Vol.10(1):4-6
10. Mahmood, Z and A. L. Sheikh (2006). Punjab Mein Zare Kasht Kapas Ki Ahm Iksam Aur Un Ki Khasusiat. The Pakistan Cottongrower. Vol.10(1):7-12.
11. Mahmood, Z and G. A. Pahnwar (2007). Kapas Ke Paton Men Surakh Pun Ki Beemari. The Pakistan Cottongrower.
12. Mahmood, Z. (2009). Pakistan ka mustaqbil aur B. T. Kapas. Sohni Dharti, 1:6-9.

**Unpublished**

1. Mahmood, Z., D.S. Shaw and J.R. Witcombe. Optimization of RAPD-PCR conditions to study the obligate parasite *Sclerospora Graminicola* of Pearl Millet. (Un published).
2. Mahmood, Z., D.S. Show and J.R. Witcombe. Investigation of DNA variations among the populations of *Sclerospora graminicola* from Africa & Asia.
3. Mahmood, Z., D.S. Shaw and J.R. Witcombe. Characterisation of genetic variations within populations of *Sclerospora graminicola* revealed by RAPD-PCR.
4. Mahmood, Z. A quick approach for the DNA finger printing of an obligate parasite *Sclerospora graminicola*, pathogen for downy mildew of pearl millet.

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