

MUHAMMAD IRFAN



**Address: Department of Agronomy, Faculty of Agricultural Sciences and Technology
Bahauddin Zakariya University Multan**

Email: Muhammad.irfan26@gmail.com, muhammadirfan@bzu.edu.pk Phone: 03017457509

Education 2014 PhD (Agronomy): University of Agriculture, Faisalabad, Pakistan

Thesis title: Response of Cotton to tillage, irrigation and sowing methods

2009 M.Sc. (Hons.) Agronomy: University of Agriculture, Faisalabad, Pakistan

Thesis title: Estimation of economic threshold level of *Euphorbia dracunculoides* in gram.

2007 B.Sc. (Hons.) Agriculture (2003-2007): Bahauddin Zakariya University Multan, Pakistan

Work Experience

- Associate Professor (TTS) 19-3-2022 to Date in Department of Agronomy, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University Multan
- Assistant Professor (TTS) 10-6-2016 to 18-3-2022 in Department of Agronomy, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University Multan
- Assistant Professor (IPFP) 15-01-2015 to 14-01-2016 in Department of Agronomy, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University Multan

Academic Distinctions/Honours/Awards

- Merit scholarship holder throughout the carrier
- Qualified GRE (General) examination arranged by Higher Education Commission, Pakistan
- Qualified GRE (Subject) examination arranged by University of Agriculture, Faisalabad, Pakistan
- Indigenous Scholarship holder in M. Phil leading to Ph.D. from Higher Education Commission Pakistan

Research Publications

1. Abbas, A., Sattar, A., Ul-Allah, S., Sher, A., Ijaz, M., Abbas, T., **M. Irfan**, S. Ullah, M. Butt, M. M. Javaid, Y. Kim, A. Z Gaafar, M.S Elshikh, Hodhod, M. S. (2023). Foliar application of silicon and boron improves boll retention, lint yield and fiber quality traits of transgenic cotton. Journal of King Saud University-Science, 35(8): 102858.
2. Javed, M.A., Mahmood, Y., Gondal, A.S., Sajid, M., Sheeraz, M., Irfan, M., Naqvi, S.A.H., and Abeer, M., 2023. Disease Surveillance and Pathogenic Variability of *Ascochyta Rabiei* causing Blight of

Chickpea in Punjab Pakistan. Plant Health, 2(2), pp.65-73.

3. Hussain, S., Sajid, M., Mehmood, Y., Sheeraz, M., Irfan, M., Hussain, S., Ameer, S., Mehtab, M. and Abbas, T., 2023. Determining the Efficacy of Plant Extracts and Chemicals against Bacterial Leaf Spot of Spinach. Plant Health, 2(1), pp.17-26.
4. Sheeraz, M., Sajid, M., Mehmood, Y., Irfan, M. and Tahir, I., 2023. Brand Awareness and Digital Marketing: Measurement Tools and Data Analytics for Agricultural Industry. Journal of Arable Crops and Marketing, 5(1), pp.35-48.
5. Tayyab, M., Sajid, M., Mehmood, Y., Sheeraz, M., Hussain, S., Irfan, M., Abbas, T., Hussain, S. & Tabassam, S. A. 2023. Impact of Plant Extracts and Chemicals against Bacterial Blight of Pomegranate. Journal of Agriculture and Veterinary Science, 2, 223-230.
6. Hussain, S., Sajid, M., Mehmood, Y., Gondal, A.S., Sheeraz, M., Irfan, M., Ameer, S., Mehtab, M. & Tayyab, M. 2023 Alteration in ionic contents due to bacterial leaf spot of spinach disease. Jammu Kashmir Journal of Agriculture, 3, 297-304.
7. Javed, A., Mehmood, Y., Gondal, A. S., Sajid, M., Sheeraz, M., Irfan, M., Hussain, S. & Abeer, M. Screening of advanced germplasm against Ascochyta rabiei and its management. Jammu Kashmir Journal of Agriculture, 3, 305-310.
8. Muhammad Mehboob Hassan Khan, Niaz Ahmed, Umber Ghafoor, Muqarrab Ali, Muhammad Arif Ali, **Muhammad Irfan**, Shabir Hussain, Shah Fahad, Vibhor Agarwal, Shams H Abdel-Hafez, Reham Ali, Syed Mohammed Basheeruddin Asdaq, Nadiyah M Alabdallah, Ali Tan Kee Zuan, Subhan Danish, Rahul Datta, 2022. Synchronization of Boron application methods and rates is environmentally friendly approach to improve quality attributes of *Mangifera indica* L. On sustainable basis. Saudi Journal of Biological Sciences. 29 (3): 1869-1880 **IF= 4.052**
9. Sajjad Hussain, **Muhammad Irfan**, Abdul Sattar, Shabir Hussain, Sami Ullah, Haseeb ur Rehman, Farukh Nawaz, Abdulrahman Al-Hashimi, Mohamed S. Elshik, Mumtaz A Cheema, Jianjun Yang*, 2022. Alleviation of Cadmium Stress in Wheat through the Combined Application of Boron and Biochar via Regulating Morpho-Physiological and Antioxidant Defense Mechanisms. Agronomy, 12, 434:01-15 **IF=3.417**
10. Haseeb-ur-Rehman, Malik Ghulam Asghar, Rao Muhammad Ikram, Sarfraz Hashim, Shabbir Hussain, **Muhammad Irfan**, Khuram Mubeen, Muqarrab Ali, Mahmood Alam, Mazhar Ali, Imran Haider, Muhammad Shakir, Milan Skalicky, Sulaiman Ali Alharbi, Saleh Alfarraj, 2022. Sulphur coated urea improves morphological and yield characteristics of transplanted rice (*Oryza sativa* L.) through enhanced nitrogen uptake. Journal of King Saud University – Science 34 (1): 1-7 **IF= 4.011**
11. Abdul Sattar, Xiukang Wang b, Sami Ul-Allah , Ahmad Sher , Muhammad Ijaz , **Muhammad Irfan** , Tahira Abbas , Sajjad Hussain , Farukh Nawaz , Abdulrahman Al-Hashimi , Bandar M. Al Munqedhi , Milan Skalicky, 2022. Foliar application of zinc improves morpho-physiological and antioxidant

defense mechanisms, and agronomic grain biofortification of wheat (*Triticum aestivum* L.) under water stress. Saudi Journal of Biological Sciences 29: 1699–1706. **IF= 4.052**

12. Abdul Sattar, Sami Ul-Allah, Muhammad Ijaz, Ahmad Sher, Madiha Butt, Tahira Abbas, **Muhammad Irfan**, Tehreem Fatima, Saleh Alfarraj, Sulaiman Ali Alharbi. 2022. Exogenous application of strigolactone alleviates drought stress in maize seedlings by regulating the physiological and antioxidants defense mechanisms. Cereal Research Communications 50:263–272 **IF=1.43**
13. Umair Aziz, Ambreen Naz, Shabbir Ahmad, Muhammad A. Shehzad, Riaz Hussain, Hira Tariq, **Muhammad Irfan**, Nosheen Naz. 2022. Sensory Acceptance of Malted and Un-Malted Barley Pretzels in South Punjab Sector of Pakistan. J. Plant Environ. 04 (02) 93-100.
14. Rehman,H., M. G. Asghar, R. M. Ikram, S. Hashim, S. Hussain , **M. Irfan**, K. Mubeen, M. Ali, M. Alam, M. Ali, I. Haider, M. Shakir, M. Skalicky, S. A. Alharbi, S. Alfarraj. 2021. Sulphur coated urea improves morphological and yield characteristics of transplanted rice (*Oryza sativa* L.) through enhanced nitrogen uptake. Saudi Journal of Biological Sciences. <https://doi.org/10.1016/j.jksus.2021.101664>

- Mustafa, T., A. Sattar, A. Sher, S.Ul. Allah, M. Ijaz, **M. Irfan**, M. Butt and M. Cheema. 2021. Exogenous application of silicon improves the performance of wheat under terminal heat stress by triggering physio-biochemical mechanisms. *Scientific Report*, 11:23170. | <https://doi.org/10.1038/s41598-021-02594-4>
15. Sattar, A., X. Wang, T. Abbas, A. Sher, M. Ijaz, S. Ul-Allah, **M. Irfan**, M. Butt, M.A. Wahid, M. Cheema, S. Fiaz, A. Qayyum, M.J. Ansari, S.A. Alharbi, M. Wainwright, F. Ahmad, K. Xie, A.T. Zuan. 2021. Combined application of zinc and silicon alleviates terminal drought stress in wheat by triggering morpho-physiological and antioxidants defense mechanisms. *PLoS ONE*. 16(10): 1-14. e0256984.
 16. Saboor, A., Ali, M.A., Husain, S., Tahir, M.S., **Irfan, M.**, Bilal, M., Baig, K.S., Datta, R.; Ahmed, N., Danish, S., Glick, B.R. 2021. Regulation of Phosphorus and Zinc Uptake in Relation to Arbuscular Mycorrhizal Fungi for Better Maize Growth. *Agronomy* 11, 2322. <https://doi.org/10.3390/agronomy11112322>
 17. Shahzad, A., M. Qin, M. Elahie, M. Naeem, T. Bashir, H. Yasmin, M. Younas, A. Areeb, **M. Irfan**, M. Billah, A. Shakoor and S. Zulfqar. 2021. *Bacillus pumilus* induced tolerance of Maize (*Zea mays* L.) against Cadmium (Cd) stress. *Scientific Reports*, 11:17196
 18. Sattar, A., S. Ul-Allah, M. Ijaz, A. Sher, M. Butt, T. Abbas, **M. Irfan**, T. Fatima, S. Alfarraj and S. A. Alharbi. 2021. Exogenous application of strigolactone alleviates drought stress in maize seedlings by regulating the physiological and antioxidants defense mechanisms. *Cereal Research Communication*. doi:10.1007/s42976-021-00171-z (IF = 0.85)
 19. Sattar, A., X. Wang, S. Ul-Allah, A. Sher, M. Ijaz, **M. Irfan**, T. Abbas, S. Hussain, F. Nawaz, A. Al-Hashimi, B. M. Al Munqedhi, M. Skalicky. 2021. Foliar application of zinc improves morpho-physiological and antioxidant defense mechanisms and agronomic grain biofortification of wheat (*Triticum aestivum* L.) under water stress. *Saudi Journal of Biological Sciences*, <https://doi.org/10.1016/j.sjbs.2021.10.061>
 20. Khalofah, A., Khan, M.I., Arif, M., Hussain, A., Rehmatullah, **Irfan, M.** Mahpara, S., Shah, R.U., Ansari, M.J., Kintl, A., Brtnicky, M., Danish, S. and Datta, R. 2021. Deep placement of nitrogen fertilizer improve yield, nitrogen use efficiency and economic returns of transplanted fine rice. *PLOS ONE*. In (Press) (IF = 2.79)

21. Shemi, R., Wang, R., Gheith, E.S., Hussain, H.A., Hussain, S., **Irfan, M.**, Cholidah, L., Zhang, K., Zhang, S. and Wang, L. 2021. Effects of salicylic acid, zinc and glycine betaine on morpho-physiological growth and yield of maize under drought stress. **Scientific Reports** 11: 3195 doi.org/10.1038/s41598-021-82264-7 (IF = 3.99)

22. Ali, H., Hassan, W., **Irfan, M.** 2021. The effect of different planting systems on the growth, yield and fiber quality of cotton cultivars. **Applied Ecology and Environmental Research** 19(1): 149-158 (IF = 0.84)

23. Ali, E., Hassan, Z., **Irfan, M.**, Hussain, S., Rehman, H., Shah, J.M., Shahzad, A.N., Ali, M., Alkahtani, S., Abdel-Daim, M.M., Bukhari, S.A.H. and Ali, S. 2020. Indigenous tocopherol improves tolerance of oilseed rape to cadmium stress. **Frontier in Plant Sciences**. 11: 547133. doi: 10.3389/fpls.2020.547133 (IF = 4.84)

24. Sattar, A., Sher, A., Ijaz, M., Ul-Allah, S., Butt, M., **Irfan, M.**, Rizwan, M.S., Ali, H. and Cheema, M.A. 2020. Interactive effect of biochar and silicon on improving morpho-physiological and biochemical attributes of maize by reducing drought hazards. **Journal of Soil Science and Plant Nutrition** 20: 1819–1826 (IF = 2.14)

25. Sattar, A., Sher, A., Ijaz, M., **Irfan, M.**, Butt, M. (2019). Biochar application improves the drought tolerance in maize seedlings. **Phyton-International Journal of Experimental Botany**, 88(4), 379–388. (IF = 0.48)

26. Sattar, A., M.A. Cheema, A. Sher, T. Abbas, **M. Irfan**, M. Ijaz, S. Hussain and Q. Ali, 2018. Foliage applied silicon alleviates the combined effects of salinity and drought stress on wheat seedlings. **International Journal of Agriculture and Biology**, 20: 2537–2543 (IF = 0.84)

NATIONAL/INTERNATIONAL TRAININGS/WORKSHOPS

1. Participated in International Conference on “**Climate resilience Smart soil management: Focusing on food security, Ecosystem and Environment**” **Focusing Food Security and Climate Change**” in March 5-7, 2020, held at The University of Haripur, Haripur- Pakistan.

2. Participated in 1st International Conference on “**Climate Change and Biodiversity**” in January 2-4, 2020, held at CIDs The Islamia University Bahawalpur Pakistan.

3. Participated in International Workshop on “**Use of GIS Techniques and stable Isotopes for sustainable development in Agriculture and environment**” in Oct 15-16, 2020, held at University of Haripur – Pakistan.

4. Participated in “**Capacity Building Event on SDGs**” organised by society for sustainable development (SSD) under the Champions of Change (CoC) Project , 24 December 2019.
5. Participated in 1st**International Conference on Sustainable Agriculture: Food Security under changing climate scenarios**” from 3rd -5th April, 2019 at Ghazi University Dera Ghazi Khan, Pakistan.

6. Participated in **International Conference on Agricultural and Biological Sciences**”
from 27-30 March, 2019 at University of Haripur (UOH), Haripur, Pakistan.