

# CURRICULUM VITAE



## **PROF. DR. MEHBOOB ALAM**

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Faculty of Crop Production Sciences  
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# C.V. OF PROF. DR. MEHBOOB ALAM

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## PERSONAL INFORMATION

|                        |                                                                                                                                                                                    |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Father's Name          | Gulab Shah                                                                                                                                                                         |
| Date of Birth          | February 02 <sup>nd</sup> , 1981                                                                                                                                                   |
| Place of Birth         | District and Tehsil Peshawar, Pakistan                                                                                                                                             |
| Sex                    | Male                                                                                                                                                                               |
| Marital Status         | Married                                                                                                                                                                            |
| N.I.C. No.             | 173011-426148-1                                                                                                                                                                    |
| Correspondence Address | Department of Horticulture<br>Faculty of Crop Production Sciences<br>The University of Agriculture Peshawar<br>Phone: +92-91-9216540                                               |
| Residential Address    | Village Panam Dheri, Warsak Road,<br>Peshawar, KPK, Pakistan<br>Cell #: +92-3479550806<br><br>Ali Villas St: 3E, Darmangi Garden St:<br>1, Warsak Road, Peshawar, KPK,<br>Pakistan |

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## LANGUAGES

|         |                                 |
|---------|---------------------------------|
| English | (Speaking, reading and writing) |
| Urdu    | (Speaking, reading and writing) |
| Pashto  | (Mother tongue) speaking only   |

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## EDUCATION

### Ph.D. (2009-2014)

**Microbial Horticulture Laboratory, Department of Biosystems and Technology, Swedish University of Agricultural Sciences, Sweden.**

**Title:** Microbial status of irrigation water as affected by cultural practices: Agronomic aspects.

(ISSN 1652-6880), ISBN (print) 978-91-576-7932-1, ISBN (Electronic) 978-91-576-7933-8

*Advisor: Prof. Beatrix Alsanius,*

### M.Sc. (Hons) (2005-2007)

**Department of Horticulture, The University of Agriculture, Peshawar, Pakistan.**

**Title:** Influence of budding dates and rootstocks on growth of Almond.

*Advisor: Prof. Abdur rab.*

### B.Sc. (Hons) (2001-2005)

**Department of Horticulture, The University of Agriculture, Peshawar, Pakistan.**

**Title:** Response of different plum varieties budded on Peach rootstocks.

*Advisor: Prof. Faridullah Wazir.*

**B.Sc. (Hons) Internship project (2004)**

**Laboratory of Micropropagation, Nuclear Institute for Food and Agriculture, Peshawar, Pakistan. Micropropagation of woody plants.**

*Advisor: Dr. Roshan Zameer.*

**H.S.S.C. (1998-2000)**

Higher Secondary School Certificate from Board of Intermediate and Secondary Education, Peshawar, Pakistan. (Major as Pre-Medical, 1<sup>st</sup> division)

**S.S.C. (1998)**

Secondary School Certificate from Board of Intermediate and Secondary Education, Peshawar, Pakistan. (Major as Science group, 1<sup>st</sup> division)

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**PROFESSIONAL EXPERIENCE**

- I worked as Business Support Officer in Pakistan Tobacco Company (PTC) from 15<sup>th</sup> August 2005 to 23<sup>rd</sup> November 2007.
- I worked as Drip Agronomist in Royal Abyari from May 2009 to August 2009.
- I worked as Lecturer at the Department of Horticulture, The University of Agriculture, Peshawar, Pakistan (UAP) from September 2009 to April 2014.
- I switched over to Assistant Professor (TTS) at the Department of Horticulture, UAP from May 2014 to June 2020.
- Promoted to Associate Professor (Tenured) at the Department of Horticulture, UAP in June 2020 till Sep 2026.
- Currently working as Professor (Tenured) at the Department of Horticulture, UAP since Sep 2026.

**COURSES TAUGHT:**

- Introductory Horticulture (**BSc (Hon)**)
- Principles of Fruit Production (**BSc (Hon)**)
- Minor Fruits (**BSc (Hon)**)
- Principles of Vegetables Production (**BSc (Hon)**)
- Research Methods in Horticulture (**BSc (Hon)**)
- Temperate Fruits (**BSc (Hon)**)
- Tropical and Subtropical Fruits (**BSc (Hon)**)
- Arid Zone Horticulture (**BSc (Hon)**)
- Advanced Vegetable Science (**MSc (Hon)**)
- Environmental Horticulture (**MSc (Hon)**)
- Mineral Nutrition of Horticulture Crops (**MSc (Hon)**)
- Special and Minor Fruits (**PhD**)

**COURSES/TRAININGS ATTENDED:**

- Organized 3-days “**10<sup>th</sup> International Horticulture Conference & Expo 2026**” at the department of Horticulture, The University of Agriculture Peshawar-Pakistan
- 4-Days training course on **Integrated Rural Development** at **Pakistan Academy for Rural Development Peshawar.**
- 3-Days training on **Fruit orchard management and net farming**, organized by Agri. Extension Department, Tribal District South Waziristan.

- Attended one day workshop on **Developing a Winning Research Proposal** held at **The University of Agriculture Peshawar-Pakistan.**
- Attended course on **“Horticulture landscape and 3D-technique in real time”** at Department of Horticulture, UAP

#### **STUDENTS SUPERVISED/SUPERVISING:**

- **BSc (Hon)**, 23 students supervised and 06 under supervision
- **MSc (Hon)**, 40 students supervised and 03 under supervision
- **PhD**, 02 students supervised and 01 under supervision.

#### **REVIEWER SCIENTIFIC JOURNAL:**

- Agriculture and Food Security
- Science of the total environment
- Sarhad Journal of Agriculture
- Pure and Applied Biology
- Acta Scientiarum Polonorum Hortorum Cultus
- Pakistan Journal of Botany
- Environmental Pollutants and Bioavailability
- The Sciencetech
- Scientific Reports
- Journal of Soil Science and Plant Nutrition
- Regularly reviewing various projects from Pakistan Science Foundation, Higher Education Commission, etc.

#### **MEMBER EDITORIAL BOARD:**

- Associate Editor at Sarhad Journal of Agriculture
- Member Editorial Board at Journal of Plant Health, Ecology and Evolution

#### **RESEARCH PROJECTS:**

- **Principal investigator:**  
HEC, startup research grant for Assistant Professors under IPFP/TTS  
**Project Title:** Microbial status of vegetables irrigated from local irrigation water sources
- **Principal investigator:**  
HEC, National Research Program for Universities  
**Project Title:** Employing plant growth promoting bacteria in phytoremediation of foodborne pathogens and toxic metals from wastewater
- **Co-Principal investigator:**  
HEC, National Research Program for Universities  
**Project Title:** The effect of Brassinosteroid and chitosan on the morphological and biochemical changes in tomato under drought stress
- Focal person from department of horticulture in preparing PC-1 on **Technology Development Centre** and **Business Incubation Center** at The University of Agriculture Peshawar-Pakistan

- Focal person from department of horticulture in preparing PC-1 for **Swat campus**, The University of Agriculture Peshawar-Pakistan

#### **MEMBERSHIP:**

- Member and head of press and publication at Society for Horticulture Development.
- Member of Academic Council of The University of Agriculture Peshawar-Pakistan.
- Member ethical committee at the Department of Horticulture, UAP
- Life time membership of Pakistan Society for Horticultural Science (PSHS)
- Previously member of International Society of Horticultural Sciences (ISHS)
- Member of the strategic planning committee
- Member Board of Studies, Department of Horticulture, The University of Agriculture Peshawar
- Member Board of Studies, Department of Horticulture, The University of Agriculture Swat

#### **ADDITIONAL DUTIES:**

- Focal person of Quality Assurance Cell and Director Teaching from Department of Horticulture, UAP
- Secretary of institutional disciplinary committee at the Department of Horticulture, UAP
- Secretary Board of Studies meetings at the Department of Horticulture, UAP
- Incharge Environmental Horticulture laboratory and Constructed Wetlands
- Manager at university sports committee

#### **EXAMINER:**

- Act as external examiner of PhD scholars, Department of Environmental Sciences, University of Peshawar-Pakistan (UoP)
- External examiner for MS/M.Phil. and BS students of Centre for Disaster Preparedness and Management, UoP
- Actively involved in carrying out BSc (Hon) semester exam, MSc (Hon) entrance exam, Board of studies exam and other semester and annual exams
- Act as DASAR nominee for student thesis defense and Board of studies in other departments at UAP

#### **AWARDS:**

- Overseas PhD scholarship from Higher Education Commission, Pakistan under Strengthening and Development of Agriculture University Peshawar, Pakistan.
- Best poster award at 2nd symposium on horticulture in Europe, SHE2012, at Angers (France).

#### **ACHIEVEMENTS:**

- Established Environmental Horticulture laboratory at the department of Horticulture, UAP
- Established constructed wetlands at the department of Horticulture, UAP

- Won the best poster award in Symposium for Horticulture in Europe (SHE) Angers, France during 2012.

## LIST OF PUBLICATIONS

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### Impact Factor

1. **Mehboob Alam**, Ibadullah Jan, Baokun Lei, Yongbo Xu, Muhammad Sajid and Bo Fan. **2026**. Unlocking the genetic potential of cauliflower: the 'lucky' cultivar and *Bacillus subtilis* synergy for superior productivity and bioactive enrichment. *Frontier in Plant Science*. 17:1829722. **(IF. 4.8) W**.
2. Khadim Dawar, Siraj Khan, Imran Ahmad, **Mehboob Alam**, Ishaq Ahmad Mian, Asim Muhammad, Hamayoon Khan, Parviz Fatullayev, Hossam S. El-Beltagi and Nazih Y. Rebouh. **2026**. Mitigation of drought stress in wheat by *Bacillus xiamenensis* and *Bacillus gibsonii* through improved growth, nitrogen dynamics, and urease activity. *Chemical and Biological Technologies in Agriculture*. 1-39. **(IF. 5.2) W**.
3. Arshad Alam, **Mehboob Alam** and Javed Nawab. **2025**. Assessment of ecological and human health risk associated with toxic metals from the consumption of vegetables exposed to low quality irrigation water of industrial zones in semi-arid regions. *Biological Trace Element Research*. 1-18. **(IF. 3.6) W**.
4. Muhammad Amjad Khan, Javed Nawab, Tasneem Sarwar, Anwarzeb Khan, Iqbal Ahmad, Muhammad Waqas, Shah Nawaz Khan, **Mehboob Alam**, Kalsoom Kalsoom, Muhammad Ziad and Sardar Khan. **2025**. Arsenic speciation in soil from urban recreational parks and human health risk assessment. *Urban Ecosystems*. 28(2): 1-14. **(IF. 2.500) W**.
5. **Mehboob Alam**, Anwarzeb Khan, Rasheeqa Zaman, Shahnawaz Khan, Muhammad Amjad Khan, Imran Ahmad, Abdullah Jalal and Ki In Kim. **2024**. Vermi-remediation impacts on growth and metals bioaccumulation in tomato irrigated with wastewater. *Chemosphere*. 362: 142848. **(IF. 8.1) W**.
6. Basharat Ali, Anwarzeb Khan, Syed Shujait Ali, Haji Khan, **Mehboob Alam**, Asmat Ali, Abdulwahed Fahad Alrefaei, Mikhlid H. Almutairi and Ki In Kim. **2023**. Heavy metals and microbial diversity: A comparative analysis of rivers Swat and Kabul. *Water*. 15(18): 3297. **(IF. 3.400) W**.
7. **Mehboob Alam**, Shaukat Ali, Syed Tanveer Shah, Zawar Hussain, Liaqat Ali, Abdur Rab, Asim Muhammad, Sultan Akbar Jadoon, Masood Ahmad and Imran Ahmad. **2023**. Effect of chitosan on post-harvest shelf life of persimmon (*Diospyros kaki* L.). *Acta Scientiarum Polonorum Hortorum Cultus*. 22(2): 27-43. **(IF. 0.695) X**.
8. Abdulnour Ali Jazem Ghanim, Muhammad Azhar Shah, **Mehboob Alam**, Anwarzeb Khan, Muhammad Amjad Khan, Saifur Rahman, Mabkhoot A. Alsaiari, Mohammed Jalalah, Mohammad Kamal Asif Khan, Muhammad Irfan and Zawar Hussain. **2023**. The influence of compost amendments on

bioaccumulation of potentially toxic elements by pea plant cultivated in mine degraded soils. *Arabian Journal of Geosciences*. 16(1): 46-61. (IF. 1.827) X.

9. Islam Zeb and **Mehboob Alam**. 2022. Microbial analysis of ready to eat leafy vegetables collected from various areas of district Swat, Khyber Pakhtunkhwa. *Journal of Xi'an Shiyu University, Natural Science Edition*. 18 (11): 764-776. (IF. 0.376) X.
10. Imran Ahmad, **Mehboob Alam**, Saeed ul Haq, Shahryar Javed, Gulalay Wahab, Imran Habib, Imad ud Din, Sumera Afzal, Humaira Wasila and Khushnood ur Rehman. 2022. Evaluation of anticancer, antioxidant and phytotoxic activities of (*Saxifraga flagellaris* Willd.). *Pakistan Journal of Agricultural Sciences*. 59(5):829-835. (IF. 0.856) X.
11. Ayaz Ahmad, Majid S. Hashmi, Yasser Durrani, Nazir Ahmad Khan, Muhammad Rafiullah Khan, Muhammad Zubair Siddiqi, Aysha Riaz, **Mehboob Alam** and Wasif Ur Rahman. 2022. Synergy of 1-MCP and hypobaric treatments prevent fermented flavour and improve consumers' acceptability of 'Shughri' pear. *Journal of Food Science and Technology*. 60(1):200-210. (IF. 3.117) W.
12. Muhammad Sajid, Saeed Ul Haq, Abdullah Jan, Fahad Noor, **Mehboob Alam**, Qazi Shoaib, Fawad Ali Shah, Akhtar Zaman, Walid F. A. Mosa and Hesham S. Abada. 2022. Effect of foliar application with potassium nitrate and copper sulfate on fruit yield and quality of pear (*Pyrus communis* L.) trees. *International Journal of Fruit Science*. 22:1, 759-768. (IF: 1.359) X.
13. Aneela Shah Bano, Abdul Mateen Khattak, Abdul Basit, **Mehboob Alam**, Syed Tanveer Shah, Naveed Ahmad, Syed Abdul Qadir Gilani, Izhar Ullah, Sumera Anwar, and Heba Ibrahim Mohamed. 2022. Callus induction, proliferation, enhanced secondary metabolites production and antioxidants activity of *Salvia moorcroftiana* L. as influenced by combinations of auxin, cytokinin and melatonin. *Brazilian Archives of Biology and Technology*. 65. e22210200. (IF: 0.797) W.
14. Javed Nawab, Zia Ud Din, Shah Faisal, Sardar Khan, Abid Ali, Zia ur Rehman, **Mehboob Alam**, Amirzeb Khan, Muhammad Amjad Khan, Khalid Khan and Attaullah Khan. 2021. Farmlands degradation with intensive agricultural practices and human health risk assessment: A case study of province Punjab, Pakistan. *Land Degradation and Development*. 32: 4546-4561. (IF: 4.977) W.
15. Hazratullah, A. Muhammad, **M. Alam**, I. Ahmad and A. Jalal. 2021. Role of beneficial microbes with nitrogen and phosphorous levels on canola productivity. *Brazilian Journal of Biology*. 82 (e227703): 1-11. (IF: 1.266) X.
16. Fahad Noor, Imran Ahmad, **Mehboob Alam**, Abdullah Jan, Khalid Nawab, Abdullah Jalal, Akhtar Zaman, Asim Muhammad, Shahryar Javed, Haider Mukhtar. 2021. Ascorbic acid prolongs the post-harvest life of persimmon. *Fresenius Environmental Bulletin*. 30(06A): 6615-6622. (IF: 0.553) X.
17. Intikhab Alam, **Mehboob Alam**, Anwarzeb Khan, Saeed ul Haq, Aliya Ayaz, Abdul Jalal and Javaid Akhter Bhat. 2021. Biochar supplementation regulates

growth and heavy metal accumulation in tomato grown in contaminated soils. *Physiologia Plantarum*. 173: 340–351. (IF: 4.148) W.

18. Zawar Hussain, **Mehboob Alam**, Muhammad Amjad Khan, Muhammad Asif, Muhammad Azhar Shah, Shehnaz Khan, Sardar Khan and Javed Nawab. **2020**. Bioaccumulation of potentially toxic elements in spinach grown on contaminated soils amended with organic fertilizers and their subsequent human health risk. *Arabian Journal of Geosciences*. 13(18): 945. (IF: 1.327) X.
19. Masood Ahmad, Muhammad Ishtiaq, Izhar Ullah, Abdul Basit, Sultan Akbar Jadoon, Iftikhar Hussain Khalil, Asim Muhammad, **Mehboob Alam**, Imran Ahmad, Muhammad Sajid, Ghulam Nabi and Abdullah Jalal. **2020**. Influence of Zinc on seed production and fats content of black seed (*Nigella sativa* L.). *Fresenius Environmental Bulletin*. 29(09A): 8094-8103. (IF: 0.553) X.
20. Anwarzeb Khan, Sardar Khan, Ming Lei, **Mehboob Alam**, Muhammad Amjad Khan and Ajmal Khan. **2020**. Biochar characteristics, applications and importance in health risk reduction through metal immobilization. *Environmental Technology and Innovation*. 20. 101121. (IF: 3.356) W.
21. **Mehboob Alam**, Zawar Hussain, Anwarzeb Khan, Muhammad Amjad Khan, Abdur Rab, Muhammad Asif, Muhammad Azhar Shah and Asim Muhammad. **2020**. The effects of organic amendments on heavy metals bioavailability in mine impacted soil and associated human health risk. *Scientia Horticulturae*. 262. 109067. (IF: 1.961) W.
22. **Mehboob Alam**, Khizar Hayat, Izhar Ullah, Muhammad Sajid, Masood Ahmad, Abdul Basit, Imran Ahmad, Asim Muhammad, Sultan Akbar, Zawar Hussain. **2020**. Improving okra (*Abelmoschus esculentus* L.) growth and yield by mitigating drought through exogeneous application of salicylic acid. *Fresenius Environmental Bulletin*. 29(1):529-535. (IF: 0.691) W.
23. Tehreem Ayaz, Sardar Khan, Amir Zeb Khan, Ming Lei and **Mehboob Alam**. **2020**. Remediation of industrial wastewater using four hydrophyte species: A comparison of individual (pot experiments) and mix plants (constructed wetland). *Journal of Environmental Management*. 255: 109833. (IF: 4.865) W.
24. Amir Zeb Khan, Sardar Khan, Muhammad Amjad Khan, **Mehboob Alam** and Tehreem Ayaz. **2019**. Biochar reduced the uptake of toxic heavy metals and their associated health risk via rice (*Oryza sativa* L.) grown in Cr-Mn mine contaminated soils. *Environmental Technology and Innovation*. 17: 100590 (IF: 2.800) W.
25. Muhammad Ali Khan, Muhammad Imtiaz, Adil Hussain, Fazal Jalal, Sikandar Hayat, Sayed Hussain, Fazal Said, **Mehboob Alam** and Rabia Amir. **2019**. Isolation and functional characterization of an ethylene response factor (RhERF092) from rose (*Rosa hybrida*). *Plant Cell, Tissue and Organ Culture*. 140:157–172 (IF: 2.200) W.
26. **Mehboob Alam**, Muhammad Ayaz Khan, Muhammad Imtiaz, Muhammad Ali Khan, Muhammad Naeem, Syed Asim Shah, Samiullah, Sayed Hamad Ahmad and Lajbar Khan. **2019**. Indole-3-Acetic Acid rescues plant growth and yield of

salinity stressed tomato (*Lycopersicon esculentum* L.). *Gesunde Pflanzen*. 72(1): 87-95. **(IF: 0.789) W.**

27. Liaqat, A, Ihsan, M. Z., Rizwan, M. S., Mehmood, A., Ijaz, M., **Alam, M.**, Abdullah, M., Wajid, M., Hussain, R., Naeem, M., Yaqub, M. S. **2019**. Inducing effect of chitosan on the physiological and biochemical indices of eggplant (*Solanum melongena* L.) genotypes under heat and high irradiance. *Applied Ecology and Environmental Research*. 17(5):11273-11287. **(IF: 0.689) W.**
28. **Mehboob Alam**, Shahzeb, Muhammad Amjad Khan, Imran Ahmad, Muhammad Sajid, Majid S. Hashmi, Asim Muhammad and Liaqat Ali. **2019**. Microbiological quality of fresh vegetables from selected retail establishments in Peshawar-Pakistan. *Fresenius Environmental Bulletin*. 28(11A):8773-8782. **(IF: 0.691) W.**
29. **Mehboob Alam**, Fazal-ur-rehman, Muhammad Ali Khan, Muhammad Sajid, Imran Ahmad, Noor ul Amin, Muhammad Imtiaz, Muhammad Amjad Khan, Wasim Bilal, Babar Hussain, Zakria Bacha and Ahmad Naeem. **2019**. Physicochemical attributes of peach fruit as influenced by application of salicylic acid in cold storage. *Fresenius Environmental Bulletin*. 28(10):7058-7068. **(IF: 0.691) W.**
30. **Mehboob Alam**, Maaz Khan, Anwarzeb Khan, Shahzeb, Muhammad Amjad Khan, Abdul Mateen Khattak, Noor ul Amin, and Muhammad Sajid. **2018**. Concentrations, dietary exposure and human health risk assessment of heavy metals in market vegetables of Peshawar, Pakistan. *Environmental Monitoring and Assessment*. 190(9):505. **(IF: 1.804) W.**
31. Muhammad Amjad Khan, Sardar Khan, Xiaodong Ding, Anwarzeb Khan and **Mehboob Alam**. **2018**. The effects of biochar and rice husk on adsorption and desorption of cadmium on to soils with different water conditions (upland and saturated). *Chemosphere*. 193.1120-1126. **(IF: 4.208) W.**
32. Muhammad Amjad Khan, Sardar Khan, Anwarzeb Khan and **Mehboob Alam**. **2017**. Soil contamination with cadmium, consequences and remediation using organic amendments. *Science of the total environment*. 601-602:1591-1605. **(IF: 4.900) W.**
33. **Mehboob Alam**, Fazali Wahid, Imran Ahmad, Ali Raza Gurmani, Muhammad Sajid, Noor ul Amin and Amjad Ali. **2017**. Effect of pre-soaking agents on salinity stressed cucumber seedlings. *Pakistan Journal of Agricultural Sciences*. 54(4):801-810. **(IF: 1.049) W.**
34. Muhammad Ali Khan, Noor ul amin, Imran Ahmad, Muhammad Sajid, Ibadullah Jan, Abdul Mateen Khattak, Juniad Khan, **Mehboob Alam**, Humaira Wasila and Sikandar Hayat. **2016**. Therapeutic horticulture: influencing psychological responses of surgical patients and their environmental assessment scale. *Pakistan Journal of Agriculture Sciences* (53(2): 355-363). **(IF: 0.609) W.**
35. Anwarzeb khan, Sardar Khan, **Mehboob Alam**, Muhammad Amjad Khan, Muhammad Aamir, Zahir Qamar, Zahir ur Rehman and Sajida Parveen. **2016**.

Toxic metal interactions affect the bioaccumulation and dietary intake of macro- and micro-nutrients. *Chemosphere* (146: 121-128). (IF: 4.208) W.

36. **Alam, M.**, Ahlström, C., Burleigh, S., Olsson, C., Ahrné, S., El-Mogy, M., Molin, G., Jensen, P., Hultberg, M., and Alsanius, B. W. **2014**. Prevalence of *E. coli* O157:H7 on spinach and rocket as affected by inoculums density and interval to harvest. *Scientia Horticulturae* (165: 235-241). (IF: 1.624) W.

## **Non-Impact Factor**

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1. Qazi Shoaib Ali and **Mehboob Alam**. **2025**. Synergistic Effect of Biochar and Organic Fertilizers on Tomato Growth, Fruit Quality, and Yield in Heavy Metals-Contaminated Soil. *Indus Journal of Bioscience Research*. 3(6): 602-613.
2. Misbah Karim and **Mehboob Alam**. **2024**. Microbial status of winter vegetables collected from different locations of Khyber Pakhtunkhwa. *Eur. Chem. Bull.* 13(6): 458 – 474.
3. Sabeen Alam, **Mehboob Alam**, Hafsa Naeem, Muhammad Adeel, Adil Riaz, Usama Zeb Awan, Abdul Basit and Burhan Ullah. **2024**. Effect of *Bacillus pumilus* strains on heavy metal accumulation in lettuce grown on contaminated soil. *Asian Journal of Research in Crop Science*. 9(2): 10-20.
4. Islam Zeb, Masood Ahmad, Faiza Aman, Asim Muhammad, Farzana Fatima, Habibullah Khan, Muhammad Younis and **Mehboob Alam**. **2022**. Heavy metal analyses of ready to eat leafy vegetables collected from different areas of district Swat. *Bioscience Research*. 19(1): 322-328.
5. Islam Zeb and **Mehboob Alam**. **2021**. Assessment of heavy metals in irrigation water collected from various vegetables growing areas of swat valley. *Bioscience Research*. 18(2): 1794-1801.
6. Khan, S., F. Aman, M, Ismaeel, Z. Ali, **M. Alam**, S. Iqbal and T. Khan. **2021**. Growth and yield response of pea (*Pisum sativum* L.) cultivars to phosphorus fertilization. *Sarhad Journal of Agriculture*, 37(2): 369-376.
7. Zawar Hussain, **Mehboob Alam**, Izhar Ullah, Imran Ahmad, Muhammad Sajid, Intikhab Alam, Attiq Ur Rehman, Muhammad Azhar Shah and Muhammad Asif. **2020**. Effect of organic and inorganic regimes on growth, production and quality characteristics of cauliflower. *Bioscience research*. 17(2): 1289-1298.
8. Abdul Basit, Hassnain, **Mehboob Alam**, Izhar Ullah, Syed Tanveer Shah, Syed Ali Zuhair and Inayat Ullah. **2020**. Quality indices of tomato plant as affected by water stress conditions and chitosan application. *Pure and Applied Biology*. 9(2): 1364-1375.
9. **Mehboob Alam**, Zawar Hussain, Izhar Ullah, Samiullah, Imran Ahmad, Muhammad Asif, Muhammad Azhar Shah, Syed Qaisar Ali Shah and Johar Raza Khan. **2020**. Effect of growing media on rooting response of tomato

(*Lycopersicum esculentum* L.) stem cuttings. *Pure and Applied Biology*. 9(1): 884-896.

10. Zari Said, Yasir Ali, **Mehboob Alam**, Naveed Ahmad and Azmat Ali Awan. **2020**. Influence of Foliar Application of Sulfur at Various Stages on Yield and Oil Content of Olive (*Olea europaea* L.). *Acta Scientific Agriculture*. 4(7): 114-122.
11. Hassnain, **Mehboob Alam**, Imran Ahmad, Abdul Basit, Izhar Ullah, Noor Alam, Inayat Ullah, Muhammad Areeb Khalid, Bashir Muhammad and Muhammad Shair. **2020**. Efficacy of Chitosan on Performance of Tomato (*Lycopersicon esculentum* L.) Plant under Water Stress Condition. *Pakistan Journal of Agricultural Research*. 33(1): 27-41.
12. Masood Ahmad, Sumbal Ayaz, Sultan Akbar Jadoon, **Mehboob Alam**, Abdur Rab, Iftikhar Hussain Khalil, Gohar Ayub and Hassan Ali. **2019**. Application of maleic hydrazide controlled plant height and ameliorate flower production in local dahlia. *Bioscience Research*. 16(2): 1882-1890.
13. Ibrar Hussain, Sohail Ahmad, Izhar Ullah, Imran Ahmad, **Mehboob Alam**, Sajid Khan, Sumbal Ayaz. **2019**. Foliar application of Chitosan modulates the morphological and biochemical characteristics of tomato. *Asian Journal of Agriculture and Biology*. 7(3): 365-372.
14. Imran Ahmad, Izharullah, Izhar Ullah, Abdul Basit, Rahmat Ullah Khan, **Mehboob Alam**, Fareeda Bibi, Shehryar Javed, Imran Habib Khan, Humaira Wasila and Izhar Ullah. **2019**. Performance of different rootstocks and cultivars on growth and quality components of grafted Tomato. *Bioscience Research*. 16(3): 3241-3250.
15. Zawar Hussain, **Mehboob Alam**, Muhammad Asif, Muhammad Azhar Shah, Shehnaz Khan, Jawad khan. Islam Zeb, Omer Mumtaz, Ahmad Siyab and Arshad Jalal. **2019**. Dipping of pear fruit (*Pyrus communis* L.) in Calcium Chloride may help in prolonging its storability. *Acta Scientific Agriculture*. 3(8): 31-35.
16. Muhammad Zakirullah, Sumayya Innayat, Tariq Jan, Muhammad Arif, Muhammad Ali and **Mehboob Alam**. **2018**. The effect of different levels of amino acid and zinc on the quality and quantity of berseem (*Trifolium alexandrium*). *Asian Journal of Agriculture and Biology*. 6(3):379-384.
17. Muhammad Sajid, Abdur Rab, Ijaz Ahmad Khan, Ibadullah Jan, Noor ul Amin, Abdul Mateen, Hamid Usman, **Mehboob Alam**, Syed Tanveer Shah. **2018**. The pre-harvest foliar application influenced the flower quality and vase life of chrysanthemum cultivars. *Horticulture International Journal*. 2(4):145-152.
18. Izhar Ullah, Javeed Rahman, Sajid Khan, Imran Ahmad, Noor Ul Amin, Muhammad Sajid, Noor Habib, **Mehboob Alam**, Shah Faisal and Fazal-E-Ahad. **2017**. Influence of organic manure on growth and yield of lettuce cultivars. *International Journal of Agricultural and Environmental Research*. 3(3): 260-267.
19. Nadeem Haider, **Mehboob Alam**, Abid Khan, Waseem Haider, Sadiq Hussain and Shah Zeb. **2017**. Influence of humic acid application on phenology, leaf area

and production duration of okra (*Abelmoschus esculentus* L.) cultivars. *Pure and Applied Biology*. 6(3): 1010-1020.

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