

## ***CURRICULUM VITAE***

Name: Dr. Muhammad Razaq      Father's name: Allah Yar  
CNIC No: 36302-2241347-3      Religion: Islam  
Date of Birth: 24-5-1971      Place of Birth: Vehari  
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### **QUALIFICATIONS**

| <b>Degree</b>             | <b>Year<br/>Passing</b> | <b>Subjects</b>     | <b>Marks<br/>Obtained</b> | <b>Division/Grade</b> | <b>Board /<br/>University</b>                            |
|---------------------------|-------------------------|---------------------|---------------------------|-----------------------|----------------------------------------------------------|
| Matric                    | 1987                    | Phy. Bio.           | 648 / 850                 | 1 <sup>st</sup>       | Multan Board,<br>Pakistan                                |
| F.Sc (Pre-<br>medical)    | 1989                    | Che. Math.          | 76.23 %                   | A                     | Multan Board,<br>Pakistan                                |
|                           |                         | Phy. Bio.           | 728 / 1100                | 1 <sup>st</sup>       |                                                          |
| B. Sc<br>(Hons.)<br>Agri. | 1994                    | Che.                | 66.18 %                   | B                     | University of<br>Agriculture,<br>Faisalabad,<br>Pakistan |
|                           |                         | Agri.<br>Entomology | 2994/4000                 | 1 <sup>st</sup>       |                                                          |
| M. Sc<br>(Hons)           | 1996                    | -do-                | 74.85 %                   | B                     | University of<br>Agriculture,<br>Faisalabad,<br>Pakistan |
|                           |                         |                     | 3.58/4.00<br>659/800      | 1 <sup>st</sup>       |                                                          |
| Ph. D                     | 2006                    | -do-.               | 82.37%                    | B                     | University of<br>Agriculture,<br>Faisalabad,<br>Pakistan |
|                           |                         |                     | 3.95/4.00<br>3.90/4.00    | 1 <sup>st</sup>       |                                                          |
|                           |                         |                     |                           | A                     | University of<br>Agri., Faisalabad,<br>Pakistan          |

### **Administrative experience**

1. Chairman Department of Entomology, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan 2012-2019.
2. Member programme evaluation panel (for accreditation of Agricultural Educational Programmes) National Agricultural Education Accreditation Council.
3. Member National Curriculum Committee of Entomology, Higher Education Commission of Pakistan
4. Twenty years experience of working as Incharge Examination in University College of Agriculture/ Faculty of Agricultural Sciences and Technology,, Bahauddin Zakariya University, Multan.
5. Twelve years experience as secretary and chairman committee for time table date-sheet and duty list at the College of Agriculture.
6. Student Advisor of students of Entomology for several years.
7. Coordinator Undergraduate Evening Programme of Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.
8. Chairman//Member Board of Studies of Department of Entomology.
9. Chairman, Examination Committee of the Department of Entomology and Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.
10. Chairman, Admission Committee of the Department of Entomology, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.
11. Member Bahauddin Zakariya University, Multan and Pakistan Agricultural Research Council Islamabad, Pakistan Coordination Committee.
12. Chairman, Seminar Committee of the Department of Entomology, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.
13. Member Administrative Committee to run the affairs of Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.

14. Member Board of Studies Department of Agriculture, Khawaja Farid University Khwaja Fareed University of Engineering and Information Technology, Rahimyar Khan
15. Member Board of Faculty of Agricultural Sciences, Ghazi University Dera Ghazi Khan, Pakistan
16. Member Departmental Tenure Review Committee, of Department of Entomology, Faculty of Agricultural Sciences, Ghazi University Dera Ghazi Khan, Pakistan
17. Member Departmental Tenure Review Committee, of Department of Entomology, University College of Agricultural and Environmental Sciences, The Islamia University of Bahawalpur, Pakistan
18. Secretary, Tenure Track System Standing Committee, Bahauddin Zakariya University, Multan
19. Member Departmental Tenure Review Committee, of Department of Plant Pathology, University College of Agricultural and Environmental Sciences, The Islamia University of Bahawalpur, Pakistan
20. Member Departmental Tenure Review Committee, of Department of Entomology, Gomal University, Dera Ismail Khan, Pakistan

### **Teaching and Research Experience**

Twenty-eight years post graduate and undergraduate teaching and research experience

Lecturer, 17-12-1995 to 29-03-2002, Assistant Professor BPS 30-03-2002 to 26-05-2008

Assistant Professor TTS 27-05-2008 to 26-05-2014, Assistant Professor Tenured 27-05-2014 to date, Tenured Associate Professor from 13-03-2015 to 24-10-2019, Tenured Professor 25-10-2019 to today

### **Courses taught:**

**Undergraduate B. Sc. (Hons.) Agriculture**

Principles of Insect Taxonomy, Preparation of Research Projects and Scientific Writing, Pest Management, Range and Forest Entomology, Pest Forecasting and Management, Insect Biodiversity, Applied Entomology, Insecticides and their Application

### **Postgraduate M. Sc (Hons.)/ M. Phill. Entomology**

Advanced Insect Ecology, Insecticide Application Equipment, Advances in Pest Management Research, Research Methods in Entomology. Classification of Immature Insects, Insecticide Toxicology

### **Postgraduate Ph. D Entomology**

Insect Population Ecology, Integrated Pest Management, Classification of Immature Insects.

### **Research Projects**

| <b>Sr. No</b> | <b>Project Title</b>                                                                                                                        | <b>Sponsoring Agency and amount million (Rs)</b> | <b>Year</b> | <b>Duration</b> |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------|-----------------|
| 1             | Determination of role of esterases in resistant strains of <i>Helicoverpa armigera</i> (Hub.) <b>(P.I)</b> .                                | B. Z. University 0.1                             | 2002        | 2 years         |
| 2             | Ultra narrow row cotton production at Multan <b>(Co. P.I)</b> .                                                                             | B. Z. University 0.035                           | 2001        | 2 years         |
| 3             | Development of IPM strategy of Canola <b>(Co. P.I)</b> .                                                                                    | ALP-PARC, Islamabad 1.3                          | 2002        | 3 years         |
| 4             | Development of package of production technology and pest management on canola <b>(Co. P.I)</b> .                                            | B. Z. University 0.15                            | 2002        | 3 years         |
| 5             | Studies on resistance monitoring and insecticide effects on chrysopid predator <i>Chrysoperla carnea</i> (Steph.) <b>(As team member)</b> . | ALP-PARC, Islamabad 1.346                        | 2004        | 3years          |
| 7             | Development of integrated pest management of chillies <b>(P.I)</b> .                                                                        | B. Z. University 0.1                             | 2006        | 2 years         |
| 8             | Integrated management of <i>Helicoverpa armigera</i> in cotton wheat system in Southern Punjab Pakistan <b>(As team</b>                     | ALP-PARC, Islamabad 4.534                        | 2008        | 3 years         |

|    |                                                                                                                                                                              |                                                                                                            |      |             |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------|-------------|
|    | <b>member).</b>                                                                                                                                                              |                                                                                                            |      |             |
| 9  | Development of management strategies for jassid, <i>Amrasca devastans</i> (Dist.) on cotton in Southern Punjab, Pakistan                                                     | B. Z. University 0.137                                                                                     | 2012 | 1 year      |
| 10 | Evaluation of insecticide alternatives and development of action threshold for environmental friendly IPM strategy of cauliflower and cabbage in Southern Punjab (Pakistan). | HEC Islamabad Rs. 2.47 millions                                                                            | 2014 | 3 years     |
| 11 | Genetic diversity of <i>Amrasca devastans</i> (Dist.) (Cicadellidae: Homoptera) in Southern Punjab, Pakistan and its infection with endosymbionts.                           | HEC, Islamabad PKRs.3.44 Million <b>Co principal investigator</b>                                          | 2013 | 3 years     |
| 12 | Modulation of the reproductive behaviors by herbivore induced plant volatiles in the polyphagous moth, <i>spodoptera litura</i> .                                            | Higher Education Commission, Islamabad, Pakistan, (PKR, 0.5 million) <b>(as co-principal investigator)</b> | 2014 | 1 year      |
| 13 | Integrated Management Strategies for Fruit flies                                                                                                                             | RADP/PARC <b>(PKR 16.80as co-principal investigator)</b>                                                   | 2014 | One year    |
| 14 | Assessment of yield losses due to aphids in wheat (Pakistan).                                                                                                                | B. Z. University <b>(As Principal investigator) PKRs 0.2 million</b>                                       | 2016 | One year    |
| 15 | Taxonomic Studies of Family Noctuidae From Four Districts of Southern Punjab, Pakistan                                                                                       | Higher Education Commission of Pakistan <b>(As Co-principal investigator) PKRs 0.447 million</b>           | 2017 | One year    |
| 16 | Development of molecular insecticidal proteins from entomopathogenic fungi for the management of <i>Bemisia tabaci</i> (Gennadius)                                           | Higher Education Commission of Pakistan <b>(As Co-principal investigator) PKRs 7.809 million</b>           | 2022 | Three years |
| 17 | Development of forecasting techniques and sustainable pest management of inse pests of summer vegetables                                                                     | Punjab Agricultural Research Board <b>(PARB) PKR12.045</b>                                                 | 2023 |             |

**Research Guidance**

Six Ph. D scholars have been awarded degree, thesis of one scholar submitted

Forty two scholars completed M. Phil/M.Sc (Hons.) Entomology

Acted as member of supervisory committee of 10 students

Two Ph. D scholars under supervision

## Publications

### Research papers

#### *Published in journals having impact factor*

1. Akhter, W., F.M. Shah, M. Yang, S. Freed, **M. Razaq**, A. G. Mkindi, H. Akram, A. Ali, K. Mahmood and M. Hanif, 2023. Botanical biopesticides have an influence on tomato quality through pest control and are cost-effective for farmers in developing countries. PLoS ONE 18(11):e0294775. doi.org/10.1371/journal.pone.0294775
2. Shahid, M., M. O. Farooq, **M. Razaq**, M. Adnan, S. Zahid, A. Hussain, and F. M. Shah, 2023. Organic fertility management in cotton *Gossypium hirsutum* L. fosters arthropod biodiversity and complements pest suppression. Journal of Applied Entomology, 147:1001–1013. https://doi.org/10.1111/jen.13196
3. Hamza, A., M. O. Farooq, **M. Razaq**, and F. M. Shah, 2023. Organic farming of maize crop enhances species evenness and diversity of hexapod predators. Bulletin of Entomological Research, 113:565-73. doi:10.1017/S000748532300024X
4. Farooq, M.O., **M. Razaq**, and F.M.Shah, 2022. Plant diversity promotes species richness and community stability of arthropods in organic farming. Arthropod-Plant Interactions, 16: 593-606.
5. Shahbaz A., M. Ahmad, **M. Razaq** and F. M. Shah, 2022. Irrigation Stress to wheat at sensitive growth stages: Tri-trophic effects and implications for aphid control. Pakistan. Pakistan Journal of Zoology, 54:2817-2826.
6. Younas, H., **M. Razaq**, M. O. Farooq and R. Saeed, 2022. Host plants of *Phenacoccus solenopsis* (Tinsley) affect parasitism of *Aenasius bambawalei* (Hayat). Phytoparasitica 50: 669–681. https://doi.org/10.1007/s12600-022-00980-w
7. Noman, Q.M., F. M. Shah, F.M., K. Mahmood, and **M. Razaq**, 2022. Population dynamics of tephritid fruit flies in citrus and mango orchards of Multan, Southern Punjab, Pakistan. Pakistan J. Zool. 54: 325-330.
8. Islam, Y., F. M. Shah, X. Rubing, **M. Razaq**, M., Yabo, L. Xihong, and X. Zhou, 2021. Functional response of *Harmonia axyridis* preying on *Acyrtosiphon pisum* nymphs: the effect of temperature. Scientific Reports, 11
9. Saeed, R. M. Naveed, **M. Razaq**, M. Rafiq, M. T. Jan, S. I. A. Shah, S. Wazir and F. Munir, 2020. Biology of newly recorded predator *Antilocbus coquebertii* of red cotton bug, *Dysdercus koenigii* Fabricius (Hemiptera: Pyrrhocoridae) from Pakistan. Pakistan J. Zool. 52: 2011-13
10. Shah, F.M., **M. Razaq**, Q. Ali, A. Ali, M. Aslam, I. C. Hardy and S. A. Shad, 2020. Action threshold development in cabbage pest management using synthetic and botanical insecticides, Entomologia Generalis, 40:157-172.
11. Akmal, M., S. Freed, M. A. Schäfer, W. U. Blankenhorn, **M. Razaq** and U. D. Umar, 2020. Population genetics and phenotypic differentiation of

- cotton leafhoppers (Hemiptera: Cicadellidae) from Pakistan, *Écoscience*, DOI: 10.1080/11956860.2019.1688915
12. Shah, F.M., **M. Razaq**, Q. Ali, S.A. Shad, M. Aslam and I.C.W. Hardy, 2019. Field evaluation of synthetic and neem-derived alternative insecticides in developing action thresholds against cauliflower pests. *Scientific Reports*, 9:7684.
  13. Binyameen, M., M. Ejaz, S. A. Shad, **M. Razaq**, R. M. Shah, F. Schlyter; 2018. Eugenol, a Plant Volatile, Synergizes the Effect of the Thrips Attractant, Ethyl Iso-Nicotinate, *Environ. Entomol.*, 47:1560-1564. <https://doi.org/10.1093/ee/nvy153> (I.F. 1.66)
  14. Saeed, R., N. Abbas, **M. Razaq**, Z. Mahmood, M. Naveed, and H.M.U. Rehman, 2018. Field evolved resistance to pyrethroids, neonicotinoids and biopesticides in *Dysdercus koenigii* (Hemiptera: Pyrrhocoridae) from Punjab, Pakistan. *Chemosphere* 213: 149-155. (Impact Factor. 4.43)
  15. Saeed, R., **M. Razaq**, H. M.U. Rehman, A. Waheed, and M. Farooq, 2018. Evaluating action thresholds for *Amrasca devastans* (Hemiptera: Cicadellidae) management on transgenic and conventional cotton across multiple planting dates. *J. Econ. Entomol.*, 111: 2018, 2182–2191 <https://doi.org/10.1093/jee/toy161> (Impact Factor. 1.93)
  16. Akmal, M., S. Freed, C.H. Dietrich, M. Mehmood and **M. Razaq**, 2018. Patterns of genetic differentiation among populations of *Amrasca biguttula biguttula* (Shiraki) (Cicadellidae: Hemiptera). *Mitochondrial DNA Part A*, 29:6, 897-904, DOI: [10.1080/24701394.2017.1383405](https://doi.org/10.1080/24701394.2017.1383405) (Impact Factor. 0.575)
  17. Shah, F. M., **M. Razaq** , A. Ali, P. Han and J. Chen, 2017. Comparative role of neem seed extract, moringa leaf extract and imidacloprid in the management of wheat aphids in relation to yield losses in Pakistan. *PLoS ONE* 12(9): e0184639. (Impact Factor. 2.76) <https://doi.org/10.1371/journal.pone.0184639>
  18. Rehman, H.M. R. Mahmood, **M. Razaq**, R. Saeed, M. Jamil and G.V.P. Reddy, 2017. Varietal preferences and within-orchard and tree distribution of newly recorded gall midges, *Dasineura amaramanjarae* and *Procontarinia mangiferae* (Diptera: Cecidomyiidae), from commercial mango cultivars in Pakistan. *Environ. Entomol.* 46: 826–830. (I.F. 1.60)
  19. Saeed, R., **M. Razaq**, N. Abbas, M. T. Jan and M. Naveed, 2017. Toxicity and resistance of the cotton leaf hopper, *Amrasca devastans* (Distant) to neonicotinoid insecticides in Punjab, Pakistan. *Crop Protection* 93: 143-147. (Impact factor, 1.83)
  20. Rehman, H.M., R. Mahmood, **M. Razaq** and G. V. Reddy, 2016. Damage patterns, monitoring, and management of *Procontarinia mangiferae* (Diptera: Cecidomyiidae) in Pakistan. *J. Econ. Entomol.* 109: 2446–2453
  21. Abbas, N., R.M. Shah, S. A. Shad, N. Iqbal, and **M. Razaq**, 2016. Biological trait analysis and stability of lambda-cyhalothrin resistance in the house fly, *Musca domestica* L.(Diptera: Muscidae). *Parasitology Research*, 115:2073-2080.
  22. **Razaq, M.**, M. Farooq, G. Abbass, M. Aslam, H. M. U. Rehman, M. Iqbal and H. R. Athar, 2016. Is reduction in yield potential of some



- brassicaceous species due to aphid infestation associated with the changes in stomatal factors of photosynthesis? Pak. J. Bot. 48: 1665-1671. (Impact factor, 0.658)
23. Saeed, R., M. Razaq, M. Rafiq and M. Naveed, 2016. Evaluating insecticide spray regimes to manage cotton leafhopper, *Amrasca devastans* (Distant): their impact on natural enemies, yield and fiber characteristics of transgenic Bt cotton. Pakistan J. Zool. 48:703-711. (Impact factor, 0.478)
  24. Saeed, R., M. Razaq, and I. C. W. Hardy, 2016. Impact of neonicotinoid seed treatment of cotton on the cotton leaf hopper, *Amrasca devastans* (Hemiptera: Cicadelliae), and its natural enemies. Pest Manag. Sci. 72:1260–1267 (Impact factor, 2.81)
  25. Hussain, A., M. Razaq, S. M. Zaka, W. Shahzad, and K. Mahmood, 2015. Effect of aphid infestation on photosynthesis, growth and yield of *Brassica carinata* A. Braun. Pakistan J. Zool., 47:1335-1340. (Impact factor, .404)
  26. Rehman, A. U., M. Razaq, and W. Muhammad, 2015. Incidence and population dynamics of leaf hopper, *Amrasca biguttula* (Cicadellidae: Homoptera) on four varieties of okra (*Abelmoschus esculentus*) Crop in Multan, Pakistan. Pakistan J. Zool. 47:763-767. (Impact factor, 0.404)
  27. Rehman, A., **M. Razaq**, M. Ishtiaq, 2016. Cost effective management of leafhopper *Amrasca biguttula biguttula* (Ishida) infesting okra in Southern Punjab (Pakistan). International Journal of Sciences: Basic and Applied Research, 28:245-253.
  28. Saeed, R., M. Razaq, and I.C.W. Hardy, 2015. The importance of alternative host plants as reservoirs of the cotton leaf hopper, *Amrasca devastans*, and its natural enemies. J. Pest Sci., DOI 10.1007/s10340-014-0638-7 (Impact factor, 2.68)
  29. Saeed, R. and M. Razaq, 2015. Effect of prey resource on the fitness of the predator, *Chrysoperla carnea* (Neuroptera: Chrysopidae). Pakistan J. Zool., 47:103-109. (Impact Factor, 0.40)
  30. Ishtiaq, M. Razaq, M. A. Saleem, F. Anjum, M. N. Ane, A. M. Raza and D. J. Wright, 2014. Stability, cross-resistance and fitness costs of resistance to emamectin benzoate in a re-selected field population of the Beet Armyworm, *Spodoptera exigua* (Lepidoptera: Noctuidae). Crop Prot., 65:227-231. (Impact Factor, 1.53)
  31. Saeed, N. A. and M. Razaq, 2014. Effect of sowing dates within a season on incidence and abundance of insect pests of canola crops. Pakistan J. Zool. 46: 1193-1203 (Impact Factor, 0.40)
  32. Binyameen, M., P. Anderson, R. Ignell, G. Birgersson, M. Razaq, S. A. Shad, B. S. Hansson, F. Schlyter, 2014. Identification of plant semiochemicals and characterization of new olfactory sensory neuron types in a polyphagous pest moth, *Spodoptera littoralis*. Chemical Senses, 39:719-733. (Impact Factor, 3.278)
  33. Razaq, M., G. Abbas, M. Farooq, M. Aslam and H.R. Athar, 2014. Effect of insecticidal application on aphid population, photosynthetic parameters and yield components of late sown varieties of canola, *Brassica napus* L. Pakistan J. Zool. 46: 661-668. (Impact Factor, 0.40)

34. Rehman, H. M., R. Mahmood, and M. Razaq, 2014. Occurrence, monitoring techniques and management of *Dasineura amaramanjarae* Grover (Diptera: Cecidomyiidae) in Punjab, Pakistan. Pakistan J. Zool. 46: 45-52. (Impact Factor, 0.40)
35. Razaq, M., Q. Haneef, H. R. Athar, M. Nasir and M. Afzal, 2014. Interactive effect of nitrogen and insecticide on jassid, *Amrasca devastans* (Dist.) population and photosynthetic capacity of okra *Abelmoschus esculentus* (L.) Moench. Pakistan J. Zool., 46: 577-579. (Impact Factor, 0.40)
36. Abbas, N., M. M. Mansoor, S. A. Shad, A. K. Pathan, A. Waheed, M. Ejaz, M. Razaq and M.A. Zulfiqar, 2014. Fitness cost and realized heritability of resistance to spinosad in *Chrysoperla carnea* (Neuroptera: Chrysopidae). Bulletin of Entomological Research 104:707-715 <http://dx.doi.org/10.1017/S0007485314000522> (Impact Factor, 1.895)
37. Abbas, N., Samiullah, S. A. Shad, M. Razaq, A. Waheed and M. Aslam, 2014. Resistance of *Spodoptera litura* (Lepidoptera: Noctuidae) to profenofos: Relative fitness and cross resistance. Crop Prot., 58:49-54 (Impact Factor, 1.539).
38. Razaq, M., A. Suhail, M. Aslam, M. J. Arif, M. A. Saleem and H. A. Khan, 2013. Patterns of insecticides used on cotton before introduction of genetically modified cotton in Southern Punjab, Pakistan. Pak J. Zool., 45:574-577. (I.F. 0.40)
39. Khan, H. A., W. Akram, S. A. Shad, M. Razaq, U. Naeem-Ullah and K. Zia, 2013. A cross sectional survey of knowledge, attitude and practices related to houseflies among dairy farmers in Punjab, Pakistan. Journal of Ethnobiology and Ethnomedicine, 9:18 doi:10.1186/1746-4269-9:18. (I.F.1.978)
40. Mansoor, M. M., N. Abbas, S. A. Shad, A. K. Pathan and M. Razaq, 2013. Increased fitness and realized heritability in emamectin benzoate resistant *Chrysoperla carnea* (Neuroptera: Chrysopidae). Ecotoxicology DOI 10.1007/s10646-013-1111-8. (I.F. 2.773)
41. Rehman, H. M., R. Mahmood and M. Razaq, 2013. Phenology, distribution, biology and population trends of *Procontarinia matteiana* Kieffer and Cecconi (Diptera: Cecidomyiidae) in Punjab, Pakistan. Pakistan J. Zool., 45:941-947. (I.F. 0.30)
42. Yousafi, Q., M. Afzal, M. Aslam, M. Razaq and M. Shahid, 2013. Screening of brinjal (*Solanum melongena* L.) varieties sown in autumn for resistance to cotton jassid, *Amrasca bigutulla* (Ishida). Pakistan J. Zool., 45:897-902. (I.F. 0.30)
43. Shahzad, M. W., M. Razaq, M. Yasin, A. Hussain and M. K. Mehmood, 2013. Yield and yield components of wheat affected by aphid feeding and sowing time at Multan, Punjab (Pakistan). Pak. J. Bot., 45: 2005-2011. (I.F. 0.83).
44. Abbas, N., Samiullah, S. A. Shad, M. Razaq, Abdul Waheed and M. Aslam. 2013. Resistance of *Spodoptera litura* (Lepidoptera: Noctuidae) to profenofos: Relative fitness and cross resistance. ). Accepted Crop Prot (I.F. 1.53)
45. Rehman, H. M., R. Mahmood and M. Razaq, 2013. Phenology, population dynamics and within tree distribution of *Dasineura amaramanjarae*

- Grover (Diptera: Cecidomyiidae) in Punjab Pakistan. Pakistan J. Zool., 45:1563-1572. (I.F. 0.30)
46. Abass, N., S. A. Shad and M. Razaq, 2012. Fitness cost, cross resistance and realized heritability of resistance to imidacloprid in *Spodoptera litura* (Lepidoptera: Noctuidae). Pesticide Biochem. Physiol., 103:181–188.(I.F. 1.71)
  47. Ishtiaq, M. M. A. Saleem and M. Razaq, 2012. Monitoring of resistance in *Spodoptera exigua* (Lepidoptera: Noctuidae) from four districts of the Southern Punjab, Pakistan to four conventional and six new chemistry insecticides. Crop Prot., 33:13-20. (I.F. 1.40)
  48. Razaq, M., S. Maqsood, M. Aslam, S. A. Shad and M. Afzal, 2012. Effect of plant spacing in late sowing *Brassica napus* L. on aphid population, yield, yield components and oil contents at Multan. Pak. J. Zool., 44:991-995. (I.F. 0.33)
  49. Aslam, M., Razaq, M., S. Hussain and A. k. Pathan, 2011. Biology of cabbage aphid under laboratory conditions. Pakistan J. Zool., 43: 1009-1012. (I.F. 0.33)
  50. Razaq, M., A. Mehmood and M. Aslam, 2011. Response of recently developed and already cultivated genotypes of *Brassica napus* L. and *Brassica juncea* (L.) to two aphid species at Multan, Pakistan. Pakistan J. Zool., 43:1016-1018. (I.F. 0.33)
  51. Razaq, M., A. Mehmood, M. Aslam, M. Ismail, M. Afzal and S. A. Shad, 2011. Losses in yield and yield components caused by aphids to late sown *Brassica napus* L., *Brassica juncea* L. and *Brassica carinata*. A. Braun at Multan, Punjab (Pakistan). Pak. J. Bot., 43:319-324.(I.F. 0.83)
  52. Razaq, M., M. Aslam and S. A. Shad, 2011. Occurrence of whitefly, *Bemisia tabaci* (Genn.) in chili, *Capsicum frutescens* L., at Multan, Pakistan. Pakistan J. Zool., 43:405-408. (I.F. 0.33)
  53. Pathan, A., A. H. Sayyed, M. Aslam, T.-X. Liu, M. Razaq, and W. A. Gilani, 2010. Resistance to pyrethroids and organophosphates increased fitness and predation potential of *Chrysoperla carnea* (Neuroptera: Chrysopidae) J. Econ. Entomol., 103:823-834; DOI: 10.1603/EC09260.(I.F. 1.69)
  54. Amer, M., M. Aslam, M. Razaq and S. A. Shad, 2010. Effect of conventional and neonicotinoid insecticides against aphids on canola, *Brassica napus* L. at Multan and Dera Ghazi Khan Pakistan J. Zool., 42:463-468. (I.F. 0.33)
  55. Amer, M., M. Aslam, M. Razaq and M. Afzal, 2009. Lack of plant resistance against aphids, as indicated by their seasonal abundance in canola, *Brassica napus* (L.) in Southern Punjab, Pakistan. Pak. J. Bot., 41:1043-1051. (I.F. 0.83)
  56. Aslam, M., M. Razaq, M. Amer, F. Ahmad and Y. H. Mirza, 2009. Lack of plant resistance in Raya, *Brassica juncea* (L.) varieties against two aphid species in Southern Punjab, Pakistan J. Zool., 41:463-468. (I.F. 0.33)
  57. Pathan, A., A. H. Sayyed, M. Aslam, M. Razaq, G. Jilani, and M. A. Saleem, 2008. Evidence of field-evolved resistance to organophosphates and pyrethroids in *Chrysoperla carnea* (Neuroptera: Chrysopidae), J. Econ. Entomol., 101:1676-1684. (I.F. 1.69)

58. Aslam, M. and Razaq, M., 2007. Arthropod fauna of *Brassica napus* and *Brassica juncea* from Southern Punjab (Pakistan). J. Agri. Urban Entomol., 24:49-50. (I.F. 0.11) not included now in impact factor
59. Aslam, M., M. Razaq, A. Shahzad, 2007. Comparative resistance of different canola (*Brassica napus* L.) varieties against turnip aphid (*Lipaphis erysimi* Kalt.). Pak. J. Zool., 39:311-314. (I.F. 0.33)
60. Razaq, M., A. Suhail, M. J. Arif, M. Aslam and A. H. Sayyed, 2007. Effect of rotational use of insecticides on pyrethroid resistance in *Helicoverpa armigera* (Lep.:Noctuidae). J. Appl. Entomol., 131:460-465. (I.F. 1.31)

***Papers published in other journals recognized by HEC etc.***

61. Hussain, A., M. Razaq, W. Shahzad, K.Mahmood, and F.Z.A.Khan, 2014. Influence of aphid herbivory on the photosynthetic parameters of *Brassica campestris* at Multan, Punjab, Pakistan. J. Bio. &Env. Sci., 5: 410-416.
62. Shahzad, M. W., M. Razaq, S. M. Zaka, A. Hussain and M. K. Mehmood, 2013. Abundance of predators as affected by planting dates in wheat, (*Triticumaestivum* L.) at Multan (Punjab, Pakistan). Pak. Entomol., 35:51-54. (HEC approved, Y category).
63. Razaq, M. M. Aslam, M. Amer and S. A. Shad, 2011. Insect pest status of aphids on oilseed brassica crops and need for chemical control. Crop & Environment., 2:60-63.
64. Razaq, M., M. Aslam and A. Suhail, 2006. Synergism of pyrethroids with piperonylbutoxide (PBO) in jassid, *Amrasca devastans* (Dist.) (Homoptera: Cicadellidae) from Pakistan Pak. Entomol., 28:51-56. (HEC approved, Y category).
65. Aslam, M., M. Razaq and A. Malik, 2006. Cabbage aphid (*Brevicoryne brassicae* L.) population on different canola varieties. Sci. Int., (Lahore). 18:65-67.
66. Razaq, M., A. Suhail, M. Aslam, M. J. Arif, M. A. Saleem and M. H. A. Khan, 2005. Evaluation of neonicotinoids and conventional insecticides against Cotton Jassid, *Amrasca devastans* (Dist.) and cotton whitefly, *Bemisia tabaci* (Genn.) on cotton. Pak. Entomol., 27:75-78. (HEC approved, Y category).
67. Razaq, M., A. Suhail, M. Aslam, M. J. Arif, M. A. Saleem and M. H. A. Khan, 2005. Evaluation of new chemistry and conventional insecticides against *Helicoverpa armigera* (Hubner) on cotton at Multan (Pakistan). Pak. Entomol., 27:71-73. (HEC approved, Y category).
68. Aslam, M., M. Razaq, W. Akhtar, M. Faheem, F. Ahmad, 2005. Effect of sowing date of on aphid (*Schizaphis graminum* Rondani) population. Pak. Entomol., 27:79-82. (HEC approved, Y category).
69. Aslam, M., M. Razaq, A. Shahzad, 2005. Comparison of different canola (*Brassica napus* L.) varieties for resistance against cabbage aphid (*Brevicoryne brassicae* L.). Int. J. Agric. Biol., 07:781-782. (I.F. 0.94)
70. Ahmad, F., M., M. Aslam and M. Razaq, 2004. Chemical ecology of insects and tritrophic interactions. J. Res. (Sci) B. Z. Univ., 15:181-190.
71. Faheem, M., M. Aslam and M. Razaq, 2004. Pollination ecology with special reference to insects. J. Res. (Sci) B. Z. Univ., 15:395-409.

72. Razaq, M. M. Aslam, S. A. Shad, M. Naeem and N. A. Saeed, 2004. Evaluation of some new promising cotton strains against bollworm complex. J. Res. (Sci) B. Z. Univ., 15: 313-318.
73. Aslam, M., M. Razaq and A. Malik, 2004. Effect of nitrogen fertilizer application on population of mustard aphid (*Lipaphis erysmi*Kalt.) on different canola varieties. Pak. Entomol., 26:115-119.
74. Aslam, M., M. Razaq, F. Ahmad, M. Fa heem and W. Akhtar 2004. Population of aphid (*Shizaphis granarium* R.) on different varieties/lines of wheat (*Triticuma estivium*L.) Int. J. Agri. & Biol., 06:974-977. (I.F. 0.94)
75. Aslam, M., M. Razaq, S. A. Shah and F. Ahmad, 2004. Comparative efficacy of different insecticides against sucking pests of cotton. J. Res. (Sci.) B. Z. Univ., 15: 53-58.
76. Aslam, M., N. A. Saeed, M. Naveed and M. Razaq, 2004. Comparative resistance of different cotton genotypes against sucking insect pest complex of cotton. Sarhad J. Agric., 20:441-445. (HEC approved, Y category).
77. Aslam, M., M. Razaq, N. A. Saeed and F. Ahmad, 2004. Comparative resistance of different cotton varieties against bollworm complex. Int. J. Agric. Biol., 6:39-41. (I.F. 0.94)
78. Aslam, M., M. Razaq, S. Hussain and W. Akhter, 2004. Efficacy of different insecticides against bollworms of cotton. J. Res. (Sci.) B. Z. Univ., 15: 17-22.
79. Aslam, M., M. Razaq, S. Hussain and W. Akhter, 2004. Effect of insect pollinators on fruit setting on mango (*Mangifera indica* L.). J. Res. (Sci) B. Z. Univ., 15:207-210.
80. Aslam, M., M. Razaq, S. Rana and M. Faheem, 2003. Efficacy of different insecticides against sucking insect pests of cotton. Pak. Entomol., 25:155-159. (HEC approved, Y category).
81. Razaq, M., M. Aslam. A. D. Abid and N. A. Saeed, 2003. Efficacy of different insecticides against eggs of *Helicoverpa armigera* (Hubner) on cotton. Pak. Entomol., 25:171-76. (HEC approved, Y category).
82. Aslam, M., M. Razaq, W. Akhtar, K. Hanif, A. Hameed, F. Ahmad and M. Faheem, 2003. Population of *coccinella septempunctata* L. in wheat planted on different dates. Pak. Entomol., 25:45-48. (HEC approved, Y category).
83. Razaq, M. M. Aslam, Kashif Sharif, B. Salman and M. F. Aleem, 2003. Evaluation of insecticides against cotton whitefly *Bemisia tabaci* (Genn) (Homoptera: Aleyrodidae). J. Res. (Sci) B. Z. Univ., 14:199-202.
84. Razaq, M., M. Aslam, M. Iqbal, M. Hussain and A. Shahzad, 2003. Efficacy of six insecticides with different mode of actions against sucking insect pests of cotton. Sarhad J. Agri., 19:97-100.
85. Razaq, M., M. Aslam, A. D. Abid and R. Akhter, 2002. Effect of different doses of nitrogenous fertilizers on insect pest of sweet corn. Pak. Entomol., 24:125-128. (HEC approved, Y category).
86. Aslam, M., M. Razaq, Z. U. Islam and S. Anjum, 2001. Effecacy different insecticides for control of aphid *Breviconyne brassicae* (Linn.) (Homoptera: Aphididae) on canola *Brassica napus* (L.). J. Res. Sci. B. Z. Univ., 12:163-66.

87. Aslam, M., M. Razaq, Q. Yousafi and S. Rana, 2001. Effect of planting geometry on insect pests of sweet corn. Pak. J. Biol. Sci., (Suppl. Iss.1):102-103.
88. Suhail, A., M. Razaq and M. S. Yazdani, 2000. Studies on seasonal activity and control of fruit flies (*Dacus* spp.) on mango (*Mangifera indica* L.) at Faisalabad. Arab J. Pl. Pro., 18:121-123.
89. Afzal, M., M. Farooq, M. Razaq and S. Ayub, 2000. Determination of effective and economic dose of two carbamate insecticides against cotton whitefly, *Bemisia tabaci* (Genn.) on NiabKarishna at Faisalabad (Pakistan). Pak. J. Biol. Sci., 3:1283-84.
90. Afzal, M., N. H. Gill, M. Razaq and Sajid Ali, 2000. The physiomorphic influence of some latest spray schedules against cotton variety FH-672. Pak. J. Biol. Sci., 3:1168-69.
91. Yazdani, M. S., A. Suhail, M. Razaq and H. A. Khan, 2000. Comparative efficacy of some insecticides against cotton jassid, *Amrasca devastans* (Dist.) and their effect on non-target insects in cotton. Int. J. Agric. Biol., 2:18-20. (I.F. 0.94)
92. Razaq, M., M. Tufail, M. Afzal and S. Ali, 1998. The comparative effectiveness of some latest spray schedules against cotton jassid, *Amrasca devastans* (Dist) and aphid *Aphis gossypii* G. on cotton variety FH-672. Pak. Entomol., 20:59-61. (HEC approved, Y category).
93. Tufail, M, R. Z. Mehmood and M. Razaq, 1995. The comparative efficacy of some latest spray schedules against sucking pest insects of cotton variety FH. 682. Pak. Entomol., 17:117-119. (HEC approved, Y category).

### Others

1. Aslam, M., **M. Razaq**, F. Ahmad and H. Mirza, 2007. Population abundance of aphids (*Brevicoryne brassicae* L. and *Lipaphis erysimi* (Kalt.) on Indian mustard (*Brassica juncea* L.). Proceedings African Conference of Crop Science, 2007.
2. Aslam, M. **M. Razaq** and W. Akhter, 2010. Biology of cabbage aphid on Indian mustard. Extended abstract. 1<sup>st</sup> National Conference on Animal and Agriculture Sciences, University of Agriculture Tandojam, Pakistan.
3. Aslam, M., and **M. Razaq**. Aphid management in Southern Punjab Pakistan. SAARC Bulletin, Bangladesh, 2004.
4. **Razaq, M.** Recurring problem of insecticide resistance, daily news paper Dawn, 28<sup>th</sup> December, 2004.
5. **Razaq, M** and M. Aslam, Controlling insect pests of canola (*IN URDU*), 2010.

### PAPERS PRESENTED IN CONFERENCES

1. **Razaq, M.**, M. Afzal, M. J. Arif and A. Suhail, 1999. Incidence of cotton leaf curl virus on new genotypes of cotton at Faisalabad. Proceedings of 2<sup>nd</sup> National

- Conference of Plant Pathology, September 27-29, 1999. University of Agriculture, Faisalabad (Pakistan).
2. Suhail, A. **M. Razaq** and A. Jamil, 2000. Changing scenario of pest problems due to misuse of pesticides in Pakistan. Proceedings 2<sup>nd</sup> International Symposium on new technologies for environment and Agr-Applications, 18-20 October Tekridag (Turkey) pp. 261-64.
  3. **Razaq, M., M. Aslam, A. Khan and M. Basit and M. Afzal**, 2008. Survey of alternate host plants of cotton mealybug *Phenacoccus solenopsis* Ferris from selected cotton growing areas International Conference of Plant Scientists, 10<sup>th</sup> National Meeting of Plant Scientists, April 21- 24, 2008, Department of Botany, Faculty of Sciences, University of Agriculture Faisalabad.
  4. **Razaq, M., M. Aslam and F. Naveed**, 2009. Pest status of whitefly, *Bemisia tabaci* (Genn.) in chili, *Capsicum annuum* L. in Multan, Pakistan, Fourth International Botanical Conference, 16-18 January, 2009, held at Department of Botany, University of Dhaka, Dhaka-1000, Bangladesh.
  5. Aslam, M., **M. Razaq** and M. Predatory efficacy of ladybird beetle, *Coccinellaseptem punctata* (L.) on cabbage aphid, *Brevicoryne brassicae* L. and turnip aphid, *Lipaphis erysimi* (Kalt.) under laboratory conditions, 30<sup>th</sup> Pakistan Congress of Zoology, at University of Agriculture, Faisalabad March, 2-4, 2010.
  6. **Razaq, M., S. Maqsood, M. Aslam, S. A. Shad and M. Afzal**, 2011. Influence of plant spacing in late sowing *brassica napus* l. on aphid population, yield, yield. components and oil contents at Multan. 11<sup>th</sup> National Meeting of Plant Scientists and 2<sup>nd</sup> International Conference of Plant Scientists (ICPS-2011) held on 22-24 February, 2011 at GC University Lahore.
  7. Aslam, M., **M. Razaq**, M. I. Aslam, and A. Ishaq, 2011. Management of *Brevicoryne brassicae* and *Lipaphis erysimi* (Homoptera: Aphididae) on canola, *Brassica napus* through seed treatment with imidacloprid and thiamethoxam in Southern Punjab, Pakistan. 31<sup>st</sup> Pakistan Congress of Zoology (International) held on 19-21 April, 2011 at University of Azad Jammu and Kashmir, Muzaffarabad, Pakistan.
  8. Aslam, M. Q., Yousafi, and **M. Razaq**, 2012. Suitability of canola (*Brassica napus* L.) and raya (*Brassica juncea* L.) as hosts of mustard aphid (*Lipaphis erysimi* Kalt.), in 1<sup>st</sup> National conference on "Advancements in Science & Technology (ASTech-2012)" at Vehari.
  9. Aslam, M. Q., Yousafi, and **M. Razaq**, 2012. Population Growth of Cabbage Aphid (*Brevicoryne brassicae* L.) on Canola (*Brassica napus* L.) and Raya (*Brassica juncea* L.) in 1<sup>st</sup> National conference on "Advancements in Science & Technology (ASTech-2012)" at Vehari.
  10. Shahzad, M. W., **M. Razaq**, A. Hussain, M. K. Mehmood, M. Aslam and H. R. Athar, 2013. Aphids feeding on wheat and reduction in photosynthesis and chlorophyll contents, in 33<sup>rd</sup> Congress of Zoology held 02-04-2013 to 04-04-2013 at Islamabad, Pakistan.
  11. Rehman, H. M., R. Mahmood, **M. Razaq** and M. Aslam. 2014. Integrated pest management (IPM) for mango gall midges, *Procontarinia matteiana* Kieffer & Cecconi and *Dasineura amaramanjarae* Grover in Pakistan. In World Mango Conference (June 24-25, 2014), The Islamia University Bahawalpur Pakistan.
  12. **Rehman, H. M., R. Mahmood, M. Razaq, and M. W. Hassan**. 2016. Incidences, damage patterns and seasonal variations of gall midges associated with mango

- in Pakistan. In 2<sup>nd</sup> International Conference on Horticultural Sciences (February 18-20, 2016), University of Agriculture Faisalabad.
13. **Razaq, M.** , 2016. Developing integrated pest management of aphids on canola *Brassica napus* L. in Southern Punjab, Pakistan, in International Congress of Entomology and One Exclusive Day on Current Scenario and Management of Pink Bollworm held on December 16-18, 2016, at Faisalabad.
  14. Arranged seminar on Vertebrate pests and their management in Pakistan (by Irfan Ahmad, Senior Scientific Officer, National Expert, National Agricultural Research Centre, Islamabad Pakistan) on 07-04-2017 at Department of Entomology, B.Z., University, Multan
  15. Paper entitled Pest management in transgenic cotton: A success story from developed countries presented in Sino-Pak conference Innovations in Cotton Breeding and Biotechnology” held on November 22-24, 2017 at Multan, Pakistan.



### Book Chapters

1. **Razaq, M.** and R.Mensah and H. R. Athar, 2019. Insect Pest Management in Cotton. In *Cotton Production* (pp.85-102), Editors: K. Jabran and B. S. Chauhan, John Wiley & Sons, UK.
2. **Razaq, M.**, F. M.Shah, S. Ahmad and M. Afzal, 2019. Pest Management for Agronomic Crops. In *Agronomic Crops* (pp. 365-384). Editor: H. Zaman, Springer, Singapore.
3. Shah F. M. and **Razaq, M.** 2021. From agriculture to sustainable agriculture: prospects for improving pest management in industrial revolution 4.0 in *Handbook of Smart Materials, Technologies, and Devices* Editors, Chaudhery, M. H. and P. D. Sia, Springer Nature, USA. In press
4. **Razaq, M.** and F. M. Shah, 2022. Biopesticides for management of arthropod pests and weeds in *Biopesticides: development, production, and application Vol.2.* (pp7-18) (Editors, Amitava Rakshit et al. Elsevier, Amsterdam, Netherlands.
5. Shah F. M. and **Razaq, M.** and Y. Islam, 2022. Contemporary Management of Insect Pests in Rice in *Modern Techniques For Rice Crop Production* Editors Sarwar et al. (pp. 349-376) Springer Singapore.
6. Shah F. M. and **Razaq, M.** F. Ahmad, A. U. Rehamn<sup>4</sup> and U. D. Umar, 2023. Crop protection under climate change: the effect on tri-trophic relations concerning pest control in *Climate change—concepts, issues and policies for developing countries* Springer Nature in Review

### Ph. D theses supervised/ under supervision

| Sr. No | Title of thesis                                                                                                                                                            | Name of Scholar         | Status         |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------|
| 1      | Studies on insecticides resistance in beet armyworm, <i>Spodoptera exigua</i> from Southern Punjab, Pakistan.                                                              | Muhammad Ishtiaq        | Degree Awarded |
| 2      | Seasonal abundance and management of mango inflorescence midges in South Punjab.                                                                                           | Hafiz Mahmood ur Rehman | Degree Awarded |
| 3      | Development of management strategies for jassid, <i>Amrasca devastans</i> (Dist.) on cotton in Southern Punjab, Pakistan.                                                  | Ms Rabia Saeed          | Degree Awarded |
| 4      | Determining the optimum timing of insecticide applications to manage aphids on canola in Southern Punjab (Pakistan).                                                       | Noor Abid Saeed         | Degree Awarded |
| 5      | Development of IPM strategies to control insect pests of okra ( <i>Abelmoschus esculentus</i> ) in Southern Punjab.                                                        | Atta ur Rehman          | Degree Awarded |
| 6      | Development of IPM Strategy for Insect Pests of Tomato <i>Lycopersicon esculentum</i> L. in Multan and Muzaffargarh Districts of Punjab, Pakistan.                         | Ms Waheed Akhtar        | Degree Awarded |
| 7.     | Evaluation of insecticide alternatives and development of action threshold for environmental friendly IPM strategy of cauliflower and cabbage in Southern Punjab, Pakistan | Farhan Mehmood Shah     | Degree Awarded |

### M. Sc (Hons)/ M. Phil Theses supervised

| Sr. No | Title                                                                                                                                                                                                                 | Submitted By                           | Year |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------|
| 01     | Efficacy of different insecticides against eggs of <i>Helicoverpa armigera</i> (Hubner) on cotton.                                                                                                                    | Allah Ditta Abid<br>96-ag-07           | 2002 |
| 02     | Evaluation of some promising cotton strains against bollworm complex under sprayed and unsprayed conditions.                                                                                                          | Muhammad Naeem<br>Aslam<br>2000-ag-56  | 2002 |
| 03     | Comparative resistance of raya ( <i>Brassica juncea</i> L.) genotypes against <i>Brevicoryne brassicae</i> L. and <i>Lipaphis erysimi</i> (Kalt.).                                                                    | Yasir Hameed<br>Mirza<br>97-ag-12      | 2003 |
| 04     | Spatio- temporal distribution of cabbage aphid ( <i>Brassica juncea</i> L.) on canola ( <i>Brassica napus</i> L.).                                                                                                    | Uman Shoaib<br>97-ag-39                | 2003 |
| 05     | Monitoring insecticides resistance in <i>Helicoverpa armigera</i> (Hubner) (Lepidoptera :Noctuidae).                                                                                                                  | Syeda Zahida<br>Sultana<br>97-ag-23    | 2003 |
| 06     | Changes in whitefly <i>Bemisia tabaci</i> Genn. susceptibility to different insecticides.                                                                                                                             | Farrukh Faraz<br>2003-ag-              | 2004 |
| 07     | Changes in jassid <i>Amrasca devastans</i> (Distant) susceptibility to different insecticides.                                                                                                                        | Muhammad Faraz<br>Aleem<br>98-ag-43    | 2004 |
| 08     | Response of army worm, <i>Spodoptera litura</i> (F.) (Lepidoptera: Noctuidae) to different insecticides.                                                                                                              | Shahid Hussain<br>99-ag-35             | 2005 |
| 09     | Toxicity of some insecticides on different larval instars of laboratory strain of <i>Chrysoperla carnea</i> (Stephens) (Chrysopidae: Neuroptera) & their effect on lipase.Enzyme                                      | Muhammad Aleem<br>Zulfiqar<br>99-ag-07 | 2005 |
| 10     | Effect of conventional and new chemistry insecticides on whitefly, <i>Bemisia tabaci</i> Genn and some natural enemies on cotton under field conditions.                                                              | Muhammad Hamza                         | 2008 |
| 11     | Efficacy of different insecticides against <i>Helicoverpa armigera</i> (Hub.) on okra <i>Abelmoscus esculentus</i> .                                                                                                  | Farhan Khan                            | 2008 |
| 12     | Performance of different species of oil seed brassica for comparative resistance against two aphid species.                                                                                                           | Arshad Mehmood                         | 2009 |
| 13     | Relationship of plant spacing of canola, <i>Brassica napus</i> (L.) and aphid population at Multan.                                                                                                                   | SajidMaqsood                           | 2011 |
| 14     | Cost of fitness of profenofos in armyworm, <i>Spodoptera litura</i> (F.).                                                                                                                                             | Samiullah                              | 2011 |
| 15     | Effect of nitrogen levels on abundance of Jassid, <i>Amrasca biguttula</i> (Dist.), yield components and photosynthesis under sprayed and unsprayed conditions on okra, <i>Abelmoschus esculentus</i> (L.) at Multan. | Qurat-ul-Ain<br>Haneef                 | 2012 |
| 16     | Reduction in photosynthesis activity, chlorophyll contents and yield components due feeding <i>Brevicoryne brassicae</i> L. and <i>Lipaphis erysimi</i> (Kalt.) on late sown Brassica species at Multan.              | Muzamil Farooq                         | 2012 |
| 17     | Influence of aphid <i>Brevicoryne brassicae</i> L. and <i>Lipaphis erysimi</i> (Kalt.) feeding late sown canola,                                                                                                      | Gul Abbas                              | 2012 |

*Brassica napus* L. varieties at Multan.

|     |                                                                                                                                                 |                               |      |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------|
| 18  | Trend of resistance ratio for three insecticides against <i>Phenacoccus solenopsis</i> Tinsley (Homoptera: Pseudococcidae).                     | Mahmood Ayaz                  | 2012 |
| 19  | Yield of wheat <i>Triticum aestivum</i> L. as affected by sowing time and aphids.                                                               | Muhammad Shahzad Waseem       | 2013 |
| 20  | Effect of different insecticides regimes on photosynthesis and yield of Brassica species to manage aphids                                       | Arjad Hussain                 | 2013 |
| 21  | Integrating insecticides application and varieties of <i>Brassica napus</i> L. and <i>Brassica juncea</i> to reduce losses in growth and yield. | Malik Khalid Mahmood Tabbasum | 2013 |
| 22  | Response of neem and imidacloprid and their interaction of foliar application of moringa, extract on wheat to manage aphids                     | F. M. Shah                    | 2014 |
| 23  | Impact of insecticides to manage aphid on two recently developed varieties of canola                                                            | Hafiz Muhammad Noman,         | 2015 |
| 24  | Effect of different sources of nutrients on populations of insect pests of okra, <i>Abelmoschus esculentus</i> (L.) Moench                      | Ammar Majeed                  | 2015 |
| 25. | Survey of cotton growers knowledge about insect pests and their management                                                                      | Muhammad Ameer                | 2016 |
| 26. | Assessment of yield losses due to insect pests in transgenic cotton                                                                             | Muhammad Usman                | 2016 |
| 27. | Comparison of yield loss on different species of oilseed <i>Brassica</i> from aphids using two insecticides                                     | Maqsood Ahmad                 | 2016 |
| 28. | Abundance of insect pests and their predators on organically and conventionally grown cauliflower                                               | Faisal Mehmood                | 2016 |
| 29. | Effect of aphid feeding on yield losses in three varieties of wheat, <i>Triticum aestivum</i> L.                                                | Shahzad Aslam                 | 2016 |
| 30. | Comparative effect of neem based and organic insecticides for managing aphids on different varieties of canola                                  | Umar Mushtaq                  | 2016 |
| 31. | Identification and Population Dynamics of Tephritids Fruit Flies in Citrus and Mango Orchards of Multan, Southern Punjab, Pakistan              | Qazi. M. Noman                | 2017 |
| 32. | Tritrophic interaction of host plants <i>Phenacoccus solenopsis</i> Tinsley and its parasitoid, <i>Aenasius bambawalei</i> (Hayat)              | Hamza Younas                  | 2018 |
| 33. | Impact of plant spacing on aphid abundance and yield of <i>Brassica campestris</i> L. and <i>Brassica juncea</i> L.                             | Kiran Fatima                  | 2018 |
| 34. | Interactive effect of plant spacing and varieties on populations of aphids and yield of canola, <i>Brassica napus</i> L.                        | Anam Haneef                   | 2018 |
| 35. | Drought stress in <i>Brassica juncea</i> (L.): impacts on aphid populations and yield                                                           | Hamza Naeem                   | 2019 |
| 36. | The influence of water stress on aphid population, plant growth and yield of <i>Brassica napus</i> L.                                           | Mubeen Ahmad                  | 2019 |

|     |                                                                                                                                      |                |      |
|-----|--------------------------------------------------------------------------------------------------------------------------------------|----------------|------|
| 37. | Effect of water stress on wheat, <i>Triticum aestivum</i> L. in relation to insect communities and yield                             | Shahbaz Ahmad  | 2019 |
| 38. | Evaluation of action threshold to manage diamondback moth, <i>Plutella xylostella</i> L., in cabbage planted on different dates      | Tariq Javed    | 2019 |
| 39. | Comparison of populations of insect pests and their natural enemies in organic and conventional cotton, <i>Gossypium hirsutum</i> L. | M. Shahid      | 2020 |
| 40. | Response of cotton insect pest complex and natural enemies to water stress                                                           | M. Wasif       | 2020 |
| 41. | Effect of planting diversity on species richness and stability of arthropods communities in organic farming                          | M. Omer Farooq | 2021 |
| 42. | Effect of organic and conventional farming of maize, <i>Zea mays</i> L. on populations of hexapods                                   | Amir Hamza     | 2021 |
| 43. | Validation of nominal thresholds for aphids complex on canola, <i>Brassica napus</i> L.                                              | M. Usman       | 2022 |
| 44. | Effects of different pattern of intercropping of <i>Sesamum indicum</i> L. in cotton on populations of hexapods                      | Shayan Zahid   | 2022 |
| 45. | Effects of border crops on diversity of hexapods in okra and maize ecosystems                                                        | Rameez Ishfaq  | 2023 |
| 46. | The response of hexapods to new chemistry insecticides, pyrethroids and <i>Moringa</i> leaf extract applied in okra                  | M. Zulqarnain  | 2023 |

### Workshops/Seminars/Symposium

- Attended 10<sup>th</sup> National Beekeeping Training Course April 17-21, 1996 at National Agricultural Research Centre, Islamabad.
- Arranged seminar on insect pest management of canola at RARI Bahawalpur, June 15, 2004 for researchers and extension workers.
- National conference on semester system, 24-25 January, 2006 at Institute of Management Sciences, Bahauddin Zakariya University, Multan.
- Application of Statistics in Agricultural Research (ASAR) April, 8-10, 2008, University College of Agriculture and Environmental Sciences, The Islamia University of Bahawalpur.
- Attended symposium on insect genomics, 25<sup>th</sup> March, 2009 held at NIBGE, Faisalabad.
- Precision Agriculture Technology for Maximizing Productivity and Minimizing Environmental Impacts held on 9<sup>th</sup> March, 2010 at University College of Agriculture, Bahauddin Zakariya University, Multan By. Dr. Qamar-uz-Zaman Nova Scotia College of Agriculture, Canada.

- Organic Farming held on 19<sup>th</sup> March, 2010 at University College of Agriculture, Bahauddin Zakariya University, Multan By. Dr Farhat Abbas University of Hawaii, USA.
- Attended Consultation Workshop, Punjab Irrigation and ProductivityImprovement Program 18<sup>th</sup> May, 2011at Central Cotton Research Institute, Multan.
- Attended three day workshop for the program evaluators of NAEAC (National Agriculture Education Accreditation Council), December 11-13, 2012 atIslamabad.
- Organized seminar on Managing Insect Pests of cotton in the Pakistan by Mr. M. Rafiq, Head of the Entomology Section, Central Cotton Research Institute, Multan on 29-11-2013, at Department of Entomology, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.
- Organized seminar on Managing Insect Pests of Rice in the Pakistan by Dr. Arshed Makhdoom Sabir, Assistant Entomologist, Rice Research Institute, Kala Shah Kaku, Lahore- 39018, Pakistan on 24-02-2014, at Department of Entomology, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan.
- Participated in final meeting national curriculum committee of entomology held on March 17-19, 2014 at HEC, Regional Centre, Peshawar.
- Participated in 4th Training Workshop on Proposal Writing at University of Agriculture Faisalabad, Pakistan from 2<sup>nd</sup> to 6<sup>th</sup> June 2014 arranged ALP-PARC. Islamabad., Pakistan.
- Awareness Seminar on Potash use in Pakistan Agriculture IPI-BZU Bahauddin Zakaiya University Multan on December 04-2014
- Arranged seminar on Current status and future perspective of genetically modified cotton (by Dr Mehboobur Rehman, Principal Scientist National Institute of Biotechnology and Genetic Engineering, Faisalabad, Pakistan) on 26-03-2015 at Department of Entomology, B.Z., University, Multan.
- Arranged seminar on Biosystematics of fruit flies (Diptera: Tephritidae) of Pakistan) by Dr. Khalid Mehmood, Curator, Pakistan Museum of Natural History, Islamabad, Pakistanon 14-04-2015 at Department of Entomology, B.Z., University, Multan.
- Arranged seminar on History and current status of biological control of insect pests in Pakistan (by Riaz Mehmood, Project Manager, CABI, Rawalpindi Pakistan) on 29-04-2015 at Department of Entomology, B.Z., University, Multan.
- Arranged Nonchemical Pest Management in Agriculture workshop 7-12-2015 to 9-12-2015 through video conference arranged by Asian Productivity Organization, Japan, in which five member countries participated
- Presented country report in Nonchemical Pest Management in Agriculture workshop 7-12-2015 to 9-12-2015 through video conference arranged by Asian Productivity Organization in which scientists from Bangladesh, India, Iran, Pakistan and Sri Lanka participated
- Participated in National Seminar on "Pink Bollworm Management" held at Central Cotton Research Institute, Multan on January 11, 2016.
- Arranged seminar on Vertebrate pests and their management in Pakistan (by Irfan Ahmad, Senior Scientific Officer, National Expert, National Agricultural

Research Centre, Islamabad Pakistan) on 07-04-2017 at Department of Entomology, B.Z., University, Multan

- Participated in symposium for poster presentation of research work of MS scholars of School of Biological Sciences, Sutton Bonington, University of Nottingham on September 19, 2017.
- Visited Rothamsted Research, Harpenden, UK on September 22, 2017 which is the longest-running agricultural research institution in the world; its foundation dates from 1843.
- Participated in partnership workshop food security, safety and sustainability held on October 27, 2017 at Lahore University of Management Sciences Lahore, Pakistan.
- Paper entitled Comparative role of *Moringa* leaf and neem seed extract in the management of wheat aphids in relation to yield losses” presented in National Symposium on *Moringa oleifera* April 9-10, 2018 at Centre of Excellence in Molecular Biology (CEMB), Lahore.
- Completed four days training from 1<sup>st</sup> August to 4<sup>th</sup> August, 2022, capacity building course for researchers at Ramada, Multan arranged by British Council-Higher Education Commission Islamabad.

### **Honours and Awards**

**2004.** Received certificate of honour in 4<sup>th</sup> international 4th International Congress of Entomological Sciences" at University of Agriculture, Faisalabad (22-24, September, 2004).

**2009.** Received life membership/fellowship by zoological society of Pakistan.

**2010.** Received certificate of active participation 30<sup>th</sup> Pakistan in Congress of Zoology, at University of Agriculture, Faisalabad March, 2-4, 2010.

**2010.** Received certificate of appreciation on organizing seminar on Integrated Pest Management of *Helicoverpa armigera* in Cotton Wheat System in Southern Punjab Pakistan by Regional Office of Pakistan Agricultural Research Council Islamabad on 09-10 April, 2010.

**2011.** Received research and productivity from Pakistan Council for Science & Technology, Govt. of Pakistan for the year 2009 research with cash prize

**2012.** Received research and productivity from Pakistan Council for Science & Technology, Govt. of Pakistan for the year 2010 research with cash prize Rs. 16300/=

**2012.** Received appreciation letter for arranging visit of National Agricultural Education and Accreditation Committee for the accreditation of the department of Entomology.

**2014.** Received first position in presenting paper in World Mango Conference, The Islamia University of Bhawalpur (Pakistan) held on 24-25, June, 2014.

**2015.** Received Shield of Honour in Annual Dinner of Faculty of Agricultural Sciences and Technology Bahauddin Zakariya University, Multan-60800, Pakistan on 03-12-2015

**2016.** Received research and productivity from Pakistan Council for Science & Technology, Govt. of Pakistan for the year 2014 research with cash prize 71325/=

**2017.** Received research and productivity from Pakistan Council for Science & Technology, Govt. of Pakistan for the year 2014 research with cash prize 36570/=

### **Lectures delivered as invited speaker**

**2010.** Seminar on Integrated Pest Management of *Helicoverpa armigera* in Cotton Wheat System in Southern Punjab Pakistan by Regional Office of Pakistan Agricultural Research Council Islamabad on 09-10 April, 2010 at held on at University College of Agriculture, Bahauddin Zakariya University, Multan

1. American bollworm: Economic importance.
2. Integrated Pest Management of American bollworm in tomato.

**2012.** Basic principles (kinds of field experiments, site selection, experimental error, field uniformity, steps in experimentation, types of data to collect, hypothesis testing) lecture delivered at Three day HEC workshop on Statistical Modeling for Improving Standards of Research and Education for University Professionals at University College of Agriculture, Bahauddin Zakariya University, 23-25 January, 2012.

**2015.** Presented paper titled Developing integrated pest management of aphids on canola *Brassica napus* L. in Southern Punjab, Pakistan as Guest Speaker in 5<sup>th</sup> International Conference on “Crop Protection for Sustainable Agriculture” from November 23-25, 2015 in Institute of Agriculture Sciences (IAGS), University of the Punjab, Lahore, Pakistan

**2016** Delivered Lecture as **Guest Speaker** titled Insect Pests of Wheat” in seminar *Wheat Production Technology & off season Management of Cotton Pests 2016-17* at REDEC, Vehari arranged by Govt of the Punjab held on 29-11-2016.

### **International**

**2021.** Delivered online lecture Master level course on Plant Production in the Tropics titled Cabbage and Cauliflower Production Department of Agricultural Sciences University of Helsinki PO Box 27 Viikki Campus FI-00014, Finland



## **Technical Reports**

### ***Research Project***

#### **2003**

Determination of role esterases in resistant strains of *Helicoverpa armigera*(Hub.).

Ultra narrow row cotton production at Multan.

#### **2005**

Development of package of production technology and pest management on canola.

Development of IPM strategy of canola.

#### **2007**

Studies on resistance monitoring and insecticide effects on chrysopid predator *Chrysoperla carnea* (Steph.).

#### **2009**

Development of integrated pest management of chillies. (Project report of research project granted by BZU)

#### **2013**

Inspection and accreditation report of B.Sc (Hons) Agri. Entomology and M.Sc (Hons) / M. Phill Entomology programmes at Agriculture College Dera Gahzi Khan, Sub-Campus of University of Agriculture, and Faisalabad, Pakistan for accreditation of degree programmes after visit. (21-01-2013 to 22-01-2013)

### **Examiner of Universities**

1. Thesis examiner of M.Sc (Hons) Department of agri. Entomology, University of Agriculture, Faisalabad.
2. Thesis examiner of M.Sc (Hons) College of Agriculture, Dera Ghazi Khan, sub-campus University of Agriculture, Faisalabad.
3. Thesis examiner of M.Sc (Hons) University College of Agriculture, University of Sargodha, Sargodha, Pakistan.
4. External Examiner for comprehensive examination of B. Sc (Hons.) Agri. with specialization in Entomology of Muhammad Nawaz Shareef University of Agriculture, Multan, Pakistan.

### **Member of the professional societies**

1. Member Entomological Society of America
2. Member Bangladesh Botanical Society, University of Dhaka, Bangladesh (Year, 2009).
3. Life member/fellow Zoological Society of Pakistan.

### **Management of Social Events/Creative Activity**

**Arranged visit of the students/study cum recreational tour (10-12 days) to Provincial Punjab and KPK) National research institutes of the Pakistan some are (1996, 1997, 2001, 2002, 2007, 2008, and 2014)**

1. Central Cotton Research Institute, Multan.
2. Soil Testing Laboratory, Multan.
3. Ayub Agricultural Research Institute, Faisalabad.
4. Nuclear Institute for Agricultural and Biology, Faisalabad.
5. National Institute of Genetic Engineering and Biotechnology, Faisalabad.
6. Rice Research Institute, Kala Shah Kaku.
7. Water Management Department, Govt. of Punjab, Lahore.
8. Various Research Institutes at National Agricultural Research Centre, Islamabad.
9. National Honey bee Research Institute, NARC, Islamabad.
10. Visit to Public Places of Hilly Areas of Murree and Khanaspur.
11. Common Wealth Agriculture and Biology Institute, Rawalpindi.
12. Agricultural Research institute Tarnab, Peshawar.
13. Hazara Agriculture Research Station, Abbottabad-Mansehra Rd, Bagar, Mirpur, Abbottabad, Khyber Pakhtoonkhwa, Pakistan.
14. The University of Agriculture, Peshawar-Pakistan.
15. Agricultural Research Station ARS, Mingora, Swat, Pakistan.
16. Crop Diseases Research Institute, substation Sunny Bank, Murree, Punjab, Pakistan.