

DR. RASHAD RASOOL KHAN

Associate Professor

Department of Entomology, University of Agriculture, Faisalabad,
Pakistan.

Date of Joining Associate Professor: 22 March 2022

Date of first joining: 12 April 2002

ORCID ID: <https://orcid.org/0000-0002-5554-2953>

WOS Researcher ID: <https://publons.com/researcher/AAZ-4592-2020/>

Google Scholar: Rashad Rasool Khan (Associate Professor) (Citations: 884; h-index: 16; i10-index: 32) <https://scholar.google.com/citations?user=ZlRbFekAAAAJ&hl=en>

LinkedIn: [linkedin.com/in/rashad-rasool-khan-8629b0a8](https://www.linkedin.com/in/rashad-rasool-khan-8629b0a8)



Visiting Scientist/Bioassay Research Consultant

Department of Plant Protection, Directorate General of Agricultural and Livestock Research
Ministry of Agriculture, Fisheries Wealth, and Water Resources, Muscat, Sultanate of Oman.

RESEARCH INTEREST:

Insect toxicology and management of insecticide resistance in insects.

Chemical control plays a vital role in integrated pest management, aiding farmers in eliminating economically significant crop pests. Inadequate pesticide application, however, can lead to numerous issues related to pest control, human health, and environmental pollution. The development of insecticide resistance is a serious concern, and mitigating it presents an emerging challenge for scientists. My research focuses on determining and understanding the mechanisms behind insect resistance development and evaluating the biocidal efficacy of insecticides against major pest insects and their toxicity to natural enemies. Assessing insecticide resistance and its reduction is another aspect of my research plan. During my stay in the Sultanate of Oman, I served as the lead on a project addressing resistance management for the Dubas bug. We also investigated the toxicity of certain insecticides against *Trichogramma* sp., which are commonly used for Lepidopteran control. Additionally, we explored insecticidal toxicity and resistance development challenges in managing the Red Palm Weevil in the Sultanate. Projects related to insecticide toxicity, efficacy, and resistance are being conducted through individual and student research, as well as collaborative efforts.

Name: Rashad Rasool Khan
Father's Name: Ghulam Hussain Khan
Date of Birth: September 15, 1975
Domicile: Faisalabad
C.N.I.C. No.: 33104-2728230-7
Passport No. EJ4102304
Marital Status: Married
Permanent Address: House No. 139/B, Street No. 4, Eden Garden, Faisalabad
Postal Address: Department of Entomology, University of Agriculture, Faisalabad, Pakistan
Phone No. 0092-3327272638
Office: 0092-41-9200161-171; Ext 2905; 2906
E-mail: rashadkhan@uaf.edu.pk ; rashadrkhan@outlook.com

COUNTRIES VISITED

PEOPLE'S REPUBLIC OF CHINA:

- Participated in the 2023 Asia-Europe Expo and Education International Exchange and Cooperation Forum on 15th September 2023 in Urumqi, Xinjiang, China.
- Presented a talk on "Insecticide Resistance and Pest Management Challenges in the Cotton Crop of Pakistan" at the Special Report on Green Prevention and Control held from September 16 - 17, 2023, by the Department of Plant Protection Research at Tarim University in Aral, People's Republic of China.

SULTANATE OF OMAN:

- Worked as Visiting Scientist/Bioassay Expert in the insecticide bioassay Laboratory, Plant Protection Research Center, Directorate General of Agriculture and Livestock, Ministry of Agriculture and Fisheries, MUSCAT, OMAN (February 27 - May 27, 2015)
- Worked as Visiting Scientist/Bioassay Expert in the insecticide bioassay Laboratory, Plant Protection Research Center, Directorate General of Agriculture and Livestock, Ministry of Agriculture, Fisheries Wealth and Water Resources, MUSCAT, OMAN (April 15, 2017 – September 25, 2021)

JAPAN:

- Participated in the training program "Integrated Pest Management for Plant Protection" held at Kobe University, KOBE, Japan for a period of 03 Months, organized by JAPAN INTERNATIONAL CO-OPERATION AGENCY, (June 07 - September 04, 2010)

INDIA:

- Five Days visit to attend the Alumni meeting held at Punjab Agriculture University Ludhiana, India (January 10 - 15, 2010)

LANGUAGES PROFICIENCY

Fluent in Reading, writing, and speaking 1. Urdu 2. English 3. Punjabi

ACADEMIC QUALIFICATION:

- **Ph.D. in the subject of Agricultural Entomology (2010)**

Department of Agricultural Entomology, University of Agriculture, Faisalabad.

Thesis Title: Sustainable Management of *Spodoptera litura* (Lepidoptera: Noctuidae) on Cotton by using Bio-control Agent *Bracon hebetor* (Say), Selective Insecticides and pheromones.

- **M. Sc. (Hons) Agriculture (2001)**

Department of Agricultural Entomology, University of Agriculture, Faisalabad.

Two Years Course with Major Subject **Entomology**, Securing CGPA 3.89/4.00 (83.33% 1st Division)

Thesis Title: Comparative Feeding Behavior of *Rhyzopertha dominica* (F) towards different wheat varieties.

- **B.Sc. (Hons) Agriculture (1999)**

Department of Agricultural Entomology University of Agriculture, Faisalabad. Pakistan

Four years course with Major Subject in **Entomology**, Securing CGPA 3.73/4.00 (79% 1st Division)

- **F.Sc. (1994)**

Govt. College Faisalabad, (Board of Intermediate and Secondary Education, Faisalabad)

Special Subject (Pre-Medical), Securing 684 + 20 = 704/1100 (64% 1st Division)

- **Matriculation (1992)**

Faisal Public High School, Madina Town, Faisalabad, (Board of Intermediate and Secondary Education, Faisalabad) Special Subject; (Science Group), Securing 714/850 (84% 1st Division)

WORK EXPERIENCE:

- Associate Professor (Regular Basis) from 22-03-2022 to date.
- Visiting Scientist (Bioassay Expert), Plant Protection Research Center, Directorate General of Agricultural and Livestock Research, MINISTRY OF AGRICULTURE, FISHERIES WEALTH AND WATER RESOURCES, MUSCAT, OMAN (14.04.2017 to 25.09.2021)
- Visiting Scientist (Bioassay Expert), Plant Protection Research Center, Directorate General of Agricultural and Livestock Research, MINISTRY OF AGRICULTURE, FISHERIES WEALTH AND WATER RESOURCES, MUSCAT, OMAN (February 27-May 27, 2015)
- Assistant Professor (Regular Basis), Department of Entomology, University of Agriculture, Faisalabad from August 11, 2008, to March 22, 2022. (Ex-Pakistan Leave from April 14, 2017, to September 25, 2021, to serve as Visiting Scientist (Bioassay Expert), MINISTRY OF AGRICULTURE, FISHERIES WEALTH AND WATER RESOURCES, MUSCAT, OMAN).
- Lecturer (Regular Basis), University Agriculture, Faisalabad (12-03-2002 to 11-08-2008).

HONORS AND AWARDS

- Merit Scholarship in M.Sc. (Hons) at the University of Agriculture, Faisalabad

MEMBERSHIPS

- Member Pakistan Entomological Society
- Member Advisory Board, Journal of the Entomological Research Society.

<http://www.entomol.org/advboard.php>

- Editorial Board Member, Scientific Reports (Nature Publishers).
<https://www.nature.com/srep/about/editors>
- Member of Japan International Co-operation Agency (JICA) Alumni Association.
- Joint Secretary, Academic Staff Association (2009)
- Secretary Board of Studies in the Department of Entomology, UAF, 2009-2015.
- Member Faculty Board, Faculty of Agriculture, UAF, 2013-2015 and 2022 to date.
- Associate Editor, International Journal of Zoology and Animal Biology
- Editorial Board Member (Manuscript Handling Editor) Scientific Reports and PLOS-ONE

SERVICE ACTIVITY

Administration

- Focal Person for Establishment of Handball Academy and Resource Center under Kamyab Jawan Youth Program (2022 to date)
- Associate Senior Tutor (2022 to date).
- Member, Undergraduate Admission Committee, University of Agriculture, Faisalabad, (2013-2015).
- Advisor, Under and postgraduate student (2014-2017).
- Vice president, Badminton, Sports Board, University of Agriculture Faisalabad (2013-2016).
- Member of various committees for various curricular and cocurricular events (2010-2017)
- Member of the organizing committee for the International Congress of Entomology in 2016.
- Deputy superintendent for under and postgraduate examinations.
- Member of stall management and organization of farmer exhibitions.
- In charge of Insect toxicology laboratory.
- Joint Secretary, Academic Staff Association 2009.

Professional Service

- Secretary Board of Studies, Dept. of Entomology, University of Agriculture Faisalabad (2009-2015).
- Member, Faculty Board of Studies, Faculty of Agriculture, University of Agriculture, Faisalabad.
- Organized workshop on “Sustainable Management of *Spodoptera litura* (Noctuidae: Lepidoptera) by using a bio-control agent and pesticides.
- Organized training on Termite Management as Community Service.
- Offered a one-month course to beekeepers on Apiculture: Rearing and Management of Honeybees.
- Short courses (2 months) on Plant Protection are offered four times a year for professionals of the Pak Army.
- Organized International Entomological Congress (One Exclusive Day on Current Scenario and Management of Pink Bollworm), at the University of Agriculture, Faisalabad, Pakistan from December 16-18, 2016.
- Offered consultative services to the farming community.
- Member of the departmental committee for pesticide evaluation trials for Pesticide registration.
- Served as Dean’s representative and convener of PhD oral/viva examinations.
- Manuscript handling editor for Scientific Reports and PLOS-One.

- Reviewer of national and international journals (International Journal of Agriculture and Biology, PLOS-ONE, Scientific Reports, International Journal of Tropical Insect Science, Physiological Entomology, Phytoparasitica).
- Reviewer with The Research Council, Sultanate of Oman during 2017-2018.
- Served as editor of the Annual Report for the Directorate General of Agricultural and Livestock Research for 2018, 2019 and 2020.
- Member of the departmental synopsis and thesis review committee.
- Convener Departmental QEC committee (2022 to date)
- Focal Person for the on-site accreditation of the Department of Entomology, UAF by the Higher Education Commission, Pakistan (2022-23).

Public Service

- Consultative services to the farming community for pest identification and their management.
- Member of the whitefly and pink bollworm management committee under the supervision of the Secretary of Agriculture, Punjab during 2015-16.
- Training of trainers for farmer field School for identifying the Farmer Friendly Insects.
- Provision of advisory service to the stakeholders (Farmers, pest Exterminators, beekeepers, students, etc.)
- Training of In-service researchers for insecticide bioassay experimentation at the Directorate General of Agricultural and Livestock Research, Ministry of Agriculture, Fisheries Wealth and Water Resources, Sultanate of Oman
- Provision of reviewing and editing services to several scientific journals
- Provision of peer reviewing services to The Research Council, Sultanate of Oman

GRADUATE STUDENTS

- **M.Sc (Hons)**

Major Supervisor = 58

Committee member = 43

- **Ph.D.**

Major Supervisor = 02 (ongoing) Committee Member = 04

PUBLICATIONS

Articles Published in Refereed Journals

Journals with Impact Factor

1. Arshad M, M Saqib, A, Aslam, **RR Khan**, and A Ullah, 2024. Efficacy of Entomopathogenic Nematodes and Insecticides in Managing *Bactrocera dorsalis*: A Laboratory Study. Plant and Environment 5(02): 1-11
2. Riaz M, M Arshad, M Saqib, **RR Khan**, A Aslam, M Iqbal and F Akbar, 2024. Pathogenicity of entomopathogenic nematodes, *Steinernema feltiae* against different life stages of mole crickets. Journal of Xi'an Shiyu University, Natural Science Edition 20(1):412-417. IF = 0.4
3. Asad M, **RR Khan**, AB Aljuboory, MU Rashid, U Kumar, IU Haq, A Hafeez, A Nooreldeen and K Alharbi, 2023. Toxic and antifeedant effects of different pesticidal plant extracts against beet

armyworm (*Spodoptera exigua*). *Phyton-International Journal of Experimental Botany*. <http://dx.doi.org/10.32604/phyton.2023.026513> IF = 1.7

4. Rizwan M, B Atta, M Arshad, **RR Khan**, A Dageri, M Rizwan, MI Ullah, 2021. Nondetrimental impact of two concomitant entomopathogenic fungi on life history parameters of generalist predator, *Coccinella septempunctata* (Coleoptera: Coccinellidae). **Scientific Reports** 11, 20699. <https://doi.org/10.1038/s41598-021-00037-8> IF = 4.996
5. Ali MY, Naseem T, Arshad M, Ashraf I, Rizwan M, Tahir M, Rizwan M, Sayed S, Ullah MI, **Khan RR**, Amir MB, Pan M, Liu T-X, 2021. Host-Plant Variations Affect the Biotic Potential, Survival, and Population Projection of *Myzus persicae* (Hemiptera: Aphididae). **Insects**. 12(5):375. <https://doi.org/10.3390/insects12050375> IF = 3.141
6. **Khan RR**, M Arshad, A Aslam and M Arshad, 2021. Additive interactions of some reduced-risk biocides and two entomopathogenic nematodes suggest implications for integrated control of *Spodoptera litura* (Lepidoptera: Noctuidae). **Scientific Reports** 11, 1268. <https://doi.org/10.1038/s41598-020-79725-w> IF = 4.996
7. Arshad M, MI Ullah, **RR Khan**, S Anjum, M Tahir, A Shamshad, M Rizwan, 2021. Demographic parameters of the reduviid predator, *Rhynocoris marginatus* (Reduviidae: Hemiptera) fed on two lepidopterous insect pests. **BioControl**. 66, 227-235. <https://doi.org/10.1007/s10526-020-10060-9> IF = 2.581
8. Asad M, S Ahmed, **RR Khan**, A Ali, MF Raza, A Shabbir, F Munir, AN Abbas and M Tariq, 2021. Effects of soil application of two different fipronil formulations on some soil-dwelling non-target arthropods. **International Journal of Tropical Science**. 41, 663-669. <https://doi.org/10.1007/s42690-020-00254-0> IF = 1.17
9. **Khan RR**, THA Al-Ghafri, SAH Al-Khatiri, ISS Al-Mazidi and FG Al-Rawahi, 2020. Resistance to deltamethrin and fenitrothion in dubas bug, *Ommatissus lybicus* de Bergevin (Homoptera: Tropiduchidae) and possible biochemical mechanisms. **Scientific Reports** 10, 13220. <https://doi.org/10.1038/s41598-020-70150-7> IF = 4.379
10. Afzal H, S Ahmed, **RR Khan**, M Sufian, M Arshad and M Qasim, 2020. Management of house fly, *Musca domestica* L. (Muscidae: Diptera), through botanical baits. **Revista Brasileira de Entomologia** 64 (1): 2018–21. <https://doi.org/10.1590/1806-9665-rbent-2019-68> IF = 1.133
11. Ahmed S, MW Saleem, A Ali, MS Nisar, **RR Khan** and A Rashid, 2020. Cost benefit analysis of integration of biocontrol agents with insecticides and plant extracts for the management of *Thrips tabaci* Lin. in Bt cotton ecosystem. **Pakistan Journal of Zoology**, 52(5): 1949-1954. <https://dx.doi.org/10.17582/journal.pjz/20170602120635> IF = 0.831
12. Aslam M, A Habib, ST Sahi, **RR Khan**, 2020. Effect of BION and Salicylic acid on peroxidase activity and total phenolics in tomato against *Alternaria Solani*. **Pakistan Journal of Agricultural Sciences** 57(1): 53-62. DOI: 10.21162/PAKJAS/20.2020 IF = 0.748
13. **Khan RR**, SAH Al-Khatiri, THA Al-Ghafri, ISS Al-Mazidi, F Al-Rawahi, SS Al-Jabri and MH Hussain, 2019. Susceptibility survey of *Ommatissus lybicus* (de Bergevin) populations against deltamethrin and fenitrothion in Oman. **Scientific Reports** 9, 11690. <https://doi.org/10.1038/s41598-019-48244-8> IF = 3.998

14. Hassan N, S. Irshad, MS Saddiq, S Bashir, S Khan, MA Wahid, **RR Khan** and M Yousra, 2019. Potential of zinc seed treatment in improving stand establishment, phenology, yield and grain biofortification of wheat. **Journal of Plant Nutrition**, 42(14): 1676-1692.
<https://doi.org/10.1080/01904167.2019.1630429> IF = 1.132
15. Arshad M, MI Ullah, NS Çağatay, A Abdullah, F Dikmen, C Kaya and **RR Khan**, 2019. Field evaluation of water plant extracts on sucking insect pests and their associated predators in transgenic *Bt* cotton. **Egyptian Journal of Biological Pest Control**. 29:39.
<https://doi.org/10.1186/s41938-019-0142-8> IF = 0.763
16. Aslam M, A Habib, ST Sahi, **RR Khan**, 2019. Comparative Study of BION and Salicyclic acid applied through foliar and seedling root dipping in tomato against *Alternaria Solani*. **Applied Ecology and Environmental Research**, 17(1): 561-574.
http://dx.doi.org/10.15666/aeer/1701_561574 IF = 0.712
17. **Khan RR**, RA Ali, A Ali, M Arshad, S Majeed, S Ahmed, SA Khan and M Arshad, 2018. Compatibility of entomopathogenic nematodes (Nematoda: Rhabditida) and the biocide, spinosad for mitigation of the armyworm, *Spodoptera litura* (F.) (Lepidoptera: Noctuidae). **Egyptian Journal of Biological Pest Control**, 28: 58. IF = 0.381
<https://doi.org/10.1186/s41938-018-0063-y>
18. Ahmad F, MW Sanjrani, SN Khuhro, A Sajjad, A Ali, **RR Khan**, F Ahmed and J Liu, 2018. Spatial Field Survey of Cotton Whitefly and its Pupal Parasitism in Relation to Temperature and Humidity in Southern Pakistan. **Pakistan Journal of Zoology**, 50(4): 1231-1236.
<http://dx.doi.org/10.17582/journal.pjz/2018.50.4.1231.1236> IF = 0.790
19. Arshad M, **RR Khan**, MI Ullah, M Afzal, B Tiroesele, I Mustafa and JE Foster, 2016. Evaluation of different insecticide formulations against *Lipaphis erysimi* (Hemiptera: Aphididae), a pest on oil seed crop, *Camelina sativa* in Pakistan. **Pakistan Journal of Zoology**, 48(6): 1623-1626.
20. Asif MU, S Ahmad, **RR Khan** and M Atiq, 2016. Relationship of collembola population with different abiotic factors in an agricultural ecosystem of Faisalabad, Punjab, Pakistan. **Pakistan Journal of Agricultural Sciences**, 53(01): 201-208. IF = 0.491
21. Nasir S, W Akram, **RR Khan**, M Arshad and I Nisar, 2015. *Paederus* Beetles: the agent of human dermatitis. **Journal of Venomous Animals and Toxins Including Tropical Diseases**, 21:5. DOI 10.1186/s40409-015-0004-0 IF = 1.488
22. Arshad M, Z Abidin, MD Gogi, MJ Arif and **RR Khan**, 2015. Seasonal pattern of infestation by spotted bollworm, *Earias insulana* (Boisd.) and pink bollworm *Pectinophara gossypiella* (Saund.) in field plots of transgenic Bt and non-Bt Cotton. **Pakistan Journal of Zoology**, 47(1): 177-186. IF = 0.478
23. Zia K, F Hafeez, MH Bashir, BS Khan, **RR Khan** and HAA Khan, 2013. Severity of cotton whitefly (*Bemisia tabaci* Genn.) population with special reference to abiotic factors, **Pakistan Journal of Agricultural Sciences**, 50(2): 217-222. IF = 1.24
24. Ahmad S, MK Iqbal, M Shahid and **RR Khan**, 2012. Comparison of antibiosis of Spotted Bollworm, *Earias vittella* (Fab.), on two Bt- and one non Bt- Cotton Varieties. **Pakistan Journal of Zoology**, 44(2): 463-468. IF = 0.309

25. Ahmad S, M Ashfaq, **RR Khan** and HAA Khan, 2011. Toxicity of some insecticides against *Bracon hebetor* (Say.), a potential lepidopterist parasitoid. **Kuwait Journal of Science and Engineering**, 38(2A); 185- 192. IF = 0.059
26. Haider H, S Ahmad and **RR Khan**, 2011. Determination of level of resistance in fruit fly, *Bactrocera zonata* (Saunders) (Diptera: Tephritidae) by bait bioassay. **International Journal of Agriculture and Biology**, 13: 815-818 IF = 0.940

Peer reviewed HEC recognized Journals

27. **Khan RR**, Shaheen T, Majeed S, Ali A, Arshad M, AlMazidi ISS and AlGhafri THA, 2019. Appraisal of Biocidal Effectivity of Some Selected Biochemical and Chemical Formulations against *Helicoverpa Armigera* (Hubner) in Tomato Crop. **International Journal of Zoology and Animal Biology**, 2(2): 000138. DOI: 10.23880/izab-16000138
28. Majeed MZ, MI Nawaz, **RR Khan**, U Farooq and CS Ma, 2018. Insecticidal Effects of Acetone, Ethanol and Aqueous Extracts of *Azadirachta indica* (A. Juss), *Citrus aurantium* (L.), *Citrus sinensis* (L.) and *Eucalyptus camaldulensis* (Dehnh.) against Mealybugs (Hemiptera: Pseudococcidae). **Tropical and Subtropical Agroecosystems**. 21: 421-430.
29. Shafique MA, KS Ahmed, N Haider, **RR Khan** and MZ Majeed, 2016. Field evaluation of different insecticides against wheat aphid (*Schizaphis graminum* Rondani) and comparative yield assessment for different wheat cultivars. **Academic Journal of Entomology**, 9(1): 01-07.
30. Naeem M, **RR Khan**, S Ahmed, M Arshad, S Majeed, M Sufyan and A Rasul, 2016. Relative effectiveness of different insecticides against Pea Leaf Miner (*Phytomyza horticola* GOUREAU) on pea under field conditions. **Pakistan Entomologist**, 38(1):47-53.
31. Zia K, MS Fareed, M Arshad, F Hafeez and **RR Khan**, 2015. Impact of abiotic factors on population fluctuation of cotton whitefly (*Bemisia tabaci*). **Pakistan Entomologist**, 37(2): 127-131.
32. **Khan RR**, S Ahmad, M Arshad and S Ullah, 2015. Laboratory assessment of repellency and insecticides efficacy of some plant extracts against adults of Red Pumpkin Beetle (*Aulacophora foveicollis* Lucas) **Pakistan Journal of Life and Social Sciences**, 13(1): 49-57.
33. Rasul A, M Hasan, M. Fiaz and **RR Khan**, 2014. Sustainable management of sugarcane pyrrilla, *Pyrilla perpusilla* Wlk. (Homoptera: Lophopidae) by using cultural, chemical and biological practices in Punjab, Pakistan. **Pakistan Entomologist**, 36(1); 45-49.
34. **Khan RR**, I Rasool, S Ahmad and M Arshad, 2012. Individual and combined efficacy of different insecticides against *Lipaphis erysimi* (Kalt.) (Homoptera: Aphididae). **Pakistan Entomologist**, 34(2): 157-160.
35. Ashfaq M, **RR Khan** and MA Farooq, 2011. Refinement of rearing technique of a potent larval parasitoid *Bracon hebetor* (Say.) (*Braconidae: Hymenoptera*). **Proceedings of Pakistan Academy of Sciences**, 48(2): 83-88.
36. **Khan RR**, S Ahmad and S Nisar, 2011. Mortality responses of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae) against some conventional and new chemistry insecticides under laboratory conditions. **Pakistan Entomologist**, 33(2): 147-150.

37. Naseem MT and **RR Khan**, 2011. Comparison of repellency of essential oils against red flour beetle *Tribolium castaneum* Herbst (Coleoptera: Tenebrionidae). **Journal of Stored Product and Postharvest Research**, 2(7), pp. 131-134.
38. **Khan RR**, K Zia, W Salman, B Salman, 2010. Efficacy of tracer 240SC and steward 150SC against first and second instar larvae of *Helicoverpa armigera* by using the leaf dip method. **Journal of Plant Protection Research**, 50(4): 438-441. DOI: 10.2478/v10045-010-0073-6
39. Fatima R, S Ambreen, **RR Khan** and S Ahmad, 2010. Effect of salt stressed wheat varieties on life history of *Tribolium Castaneum* (Hebrst) (Tenebrionidae: Coleoptera). **Pakistan Journal of Agricultural Sciences**, 47(4), 333-337.
40. Ahmad SF, S Ahmad, **RR Khan** and MK Nadeem, 2010. Evaluation on insecticide resistance in two strains of fruit fly, *Bactrocera zonta* (Saunders) (Tephritidae: Diptera), with fruit dip method. **Pakistan Entomologist**, 32(2): 163-167.
41. **Khan RR**, M Ashfaq, S Ahamd and ST Sahi, 2009. Mortality responses in *Bracon hebetor* (Say) (Braconidae: Hymenopetra) against some new chemistry and conventional insecticides under laboratory conditions. **Pakistan Journal of Agricultural Sciences**, 46: (1) 30-33
42. Zia K, F Hafeez, **RR Khan**, M Arshad and UN Ulla, 2008. Effectiveness of *Chrysoperla carnea* (Stephnes) (Neuroptera: Chrysopidae) on the population of *Bermisia tabaci* (Genn.) (Homoptera: Aleyrodidae) in different cotton Genotypes. **Journal of Agricultural and Social Sciences**, 4: 112- 6
43. Ahmad S, **RR Khan**, G Hussain, MA Riaz and A Hussain, 2008. Effect of intercropping and organic matter on the subterranean termites population in sugarcane field. **International Journal of Agriculture and Biology**, 10: 581-4.
44. Nasreen A, M Ashfaq, G Mustafa and **RR Khan**, 2007. Mortality rates of five commercial insecticides on *Chrysoperla carnea* (Stephens) (Chrysopidae: Neuroptera). **Pakistan Journal of Agricultural Sciences**, 44(2): 266-271.
45. **Khan RR**, S Ahamd, MW Saleem and M Nadeem, 2007. Field evaluation of different insecticides against spotted bollworms *Earias spp.* at Dist. Sahiwal. **Pakistan Entomologist**, 29 (2): 129-133.
46. **Khan RR**, B. Ahmad and S Ahmad, 2007. Comparative efficacy of neem seed power seed powder granules and the insecticides against *Chilo partellus* Swin. (Pyralidae: Lepidoptera) on autumn maize. **Pakistan Entomologist**, 29: 33-36.
47. Ahmed S, **RR Khan** and MA Riaz, 2007. Some Studies on field performance of plant extracts against termites (*Odontotermes guptai* and *Microtermes obesi*) in sugarcane at Faisalabad. **International Journal of Agriculture and Biology**, 9(3): 398-400.
48. **Khan RR**, AN Syed and M Hassan, 2005. Interactive response of two wheat varieties and three insect pests. **International Journal of Agriculture and Biology**, 7(1): 152-153.
49. **Khan RR**, M Ashfaq and SA Rana, 2005. Some studies on the toxicity of conventional and new chemistry insecticides against *Bracon hebetor* (Say) (Hymenoptera: Braconidae) under laboratory conditions. **Pakistan Entomologist**, 27(1): 19-22.
50. Ahmed S, **RR Khan** and T Mahmood, 2005. Effect of cultural practices on subterranean termites in wheat at Faislabad, Pakistan. **Pakistan Entomologist**, 27(1): 27-31.

51. Syed AN, M Ashfaq, K Zia, and **RR Khan**, 2005. Small-scale production of common green lacewing *Chrysoperla carnea*. **International Journal of Biology and Biotechnology**, 2(4): 959-961
52. Ahmed S, N Ahamd and **RR Khan**, 2004. Some studies on population dynamics and chemical control of citrus psylla, *Diaphorina citri*. **International Journal of Agriculture and Biology**, 6(6): 970-973
53. Ahmed S, **RR Khan**, M Irfanullah and I Rauf, 2004. Comparative efficacy of some insecticides against *Helicoverpa armigera* Hub, and *Spodoptera* Spp. on tobacco. **International Journal of Agriculture and Biology**, 6(1): 93-95
54. Ahmad S, **RR Khan** and M Khan, 2003. Some studies of varietal resistance of spring maize against *Chilo partellus* (Swin.) with and without release of *Trichogramma chilonis*. **International Journal of Agriculture and Biology**, 5(4): 552-554
55. Hassan M, F Ahmad YJ Kwon and **RR Khan**, 2003. Relative Susceptibility of different varieties of wheat to lesser grain borer, *Rhyzopertha dominica* F. **Pakistan Entomologist**, 25(2):127-130
56. Hassan M, F Ahmad and **RR Khan**, 2002. Some studies on processing losses of Rice in the Punjab, Pakistan. **Pakistan Journal Agricultural Sciences**, 39 (4): 341-343.

Book / Manuals Published

1. Ahmad S., **RR Khan**, M. A. Khan, 2003. Laboratory manual of Natural History and Behavior of insects. MAS computers and publishers, Faisalabad.
2. **Khan RR**, M. Ashfaq and S. Ahmad, 2011, Sustainable Management of *Spodoptera litura* on cotton. VDM Verlag Dr. Muller GmbH and Co. KG. Germany

Book Chapters Published

1. Sial MU, **RR Khan**, R Ahmed, Z Abdin, and UE Ummara, 2024. Machine Learning Algorithms for Predictive Pest Modeling. In: Revolutionizing Pest Management for Sustainable Agriculture. Ed. MZU Haq, and I Ali, 2024. IGI Global; 411-441. DOI: 10.4018/979-8-3693-3061-6.ch014
2. Sial MU, R Ahmed, **RR Khan**, JN Ahmad, and A Riaz, 2024. Remote Sensing Technologies in Pest Detection. In: Revolutionizing Pest Management for Sustainable Agriculture. Ed. MZU Haq, and I Ali, 2024. IGI Global; 331-352. DOI: 10.4018/979-8-3693-3061-6.ch017
3. **Khan RR**, MU Sial, M Arshad, A Riaz, U Ummara, A Parveen and T Liaqat, 2023. Insect Pests of Fodder Grains of Summer Season. In: Sustainable Summer Fodder: Production, Challenges, and Prospects. Ed. IU Haq and S Ijaz, 2023. CRC Press; 143-157
4. **Khan RR**, U Sial, and M Arshad, 2023. Current Status of Fall Armyworm and Maize Fodder Decline Foresee. In: Sustainable Summer Fodder: Production, Challenges, and Prospects. Ed. IU Haq and S Ijaz, 2023. CRC Press; 211-229.
5. **Khan RR**, IU Haq, and SA Naqvi, 2023. Pest and disease management. In Date Palm. Eds. Al-Khayi and R Krueger. CABI Publishers; 297-338.
6. **Khan RR**, M Iftikhar, M Arshad, and S Majeed, 2022. Agricultural Risks within Plant Protection Approaches. In: Agricultural Risks Management through Collective Actions. Ed. M. Iftikhar and GA Khan, 2022. Univ. Agric. Faisalabad, Pakistan. ISBN (Print): 978-969-7705-06-1; ISBN (Online): 978-969-7705-40-5
7. Arif MJ, W Wakil, MD Gogi, **RR Khan**, M Arshad, M Sufyan, A Nawaz, A Ali and S Majeed, 2018. Trends in Sustainable Management of Emerging Insect Pests. In: Developing Sustainable Agriculture in Pakistan. Ed. I.A. Khan and M.S. Khan, 2018. CRC Press Taylor and Francis Group. London. p. 926. ISBN 978-0815366539 - CAT# K336489 <https://www.crcpress.com/Developing-Sustainable-Agriculture-in-Pakistan/Khan-Khan/p/book/9780815366539>

8. Arif MJ, MD Gogi, A Nawaz, M Sufyan, **RR Khan** and M Arshad, 2018. Critical Analysis of the Starring Role of Pesticides Inputs in Agricultural Productivity and Food Security. In: Developing Sustainable Agriculture in Pakistan. Ed. I.A. Khan and M.S. Khan, 2018. CRC Press Taylor and Francis Group. London. p. 926. ISBN 978-0815366539 - CAT# K336489 <https://www.crcpress.com/Developing-Sustainable-Agriculture-in-Pakistan/Khan-Khan/p/book/9780815366539>
9. Arshad, M, **R.R. Khan** and A. Aslam, 2016. Impact of Bt Cotton on the Insect Biodiversity in Cotton Ecosystem. In: Past, Present and Future Trends in Cotton Breeding. Editors, Rahman MU and Zafar Y, INTECH, ISBN 978-953-51-4817-3. DOI: 10.5772/intechopen.73182 <http://www.intechopen.com/booksprocess/aboutthebook/chapter/104604/book/5297>

Under and Postgraduate Courses

- Ent-301 (Introductory Agricultural Entomology)
- Ent-305 (Insect Ecology and Behavior)
- Ent-310 (Beneficial Insects.)
- Ent-314 (Social and Aquatic insects.)
- Ent-402 (Applied Entomology)
- Ent-404 (Apiculture and Sericulture)
- Ent-506 (Agricultural Pests and their Management)
- Ent-512 (Insecticides and Environmental Pollution)
- Ent-605 (Insecticides and their Application)
- Ent-607 (Range and Forest Entomology)
- Ent-617 (Pesticide Legislation)
- Ent-701 (Research Methods in Entomology)
- Ent-703 (Environmental Entomology)
- Ent-714 (Insect Toxicology)
- Ent-719 & 720 (Special Problem and Seminar)

Selected Professional Presentations and Abstracts Published

1. Al-Mazidi ISS, **RR Khan**, THA Al-Ghafri, F Al-Rawahi and SAH Al-Khatri, 2022. Deltamethrin resistance testing in *Ommatissus lybicus* (Homoptera: Tropiduchidae) populations collected from Omani date palm orchards. 2nd International Conference on Smart Plant Protection, March 09-10, 2022.
2. Faisal M, M Sufiyan, M Arshad, MD Gogi, A Nawaz, **RR Khan**, Z Abdin and A Aslam, 2022. Wheat aphids management by augmentation of *Chrysoperla carnea* (Stephens) (Neuroptera: Chrysopidae) under field conditions. 1st International Conference on Plant Protection Sciences (ICPPS-2022). Faculty of Crop protection, Sindh Agriculture University, Tandojam. March 29-30, 2022.
3. Majeed S, **RR Khan**, H Bashir, M Sufyan, MD Gogi, M Arshad, A Ali, Z Ali, S Zafar, F Ameer and RS Sharif, 2022. Role of Pheromones in *Bactrocera cucurbitae* for the development of trapping devices. 7th International Conference on Climate Smart Agriculture: Innovations and Adaptations. Faculty of Agriculture, University of Poonch Rawalakot, Azad Jammu and Kashmir, Pakistan. June 15-17, 2022.
4. Shafqat V, M Sufyan, S Majeed, M Arshad, MD Gogi, **RR Khan**, A Nawaz and U Liaqat, 2022. Effect of egg parasitoids *Trichogramma chilonis* against Maize stem borer (*Chilo partellus*) (Lepidoptera: Pyralidae). 7th International Conference on Climate Smart Agriculture: Innovations and Adaptations. Faculty of Agriculture, University of Poonch Rawalakot, Azad Jammu and Kashmir, Pakistan. June 15-17, 2022.

5. Manzoor RU, M Sufyan, **RR Khan**, M Arshad and A Aslam, 2022. Efficacy of Potassium silicate (K_2SiO_3) against wheat aphids and their natural enemies on wheat crop. 2nd International Conference on Smart Plant Protection. Institute of Plant Protection, MNS-University of Agriculture, Multan, Pakistan. March 9-10, 2022.
6. Majeed S, A Ali, W Akram, **RR Khan** and A Adnan, 2019. Oviposition selection by gravid female *Aedes aegypti* (Diptera: Culicidae) in different water types. International Entomological Congress, April 8-10, 2019, p 75-76.
7. **Khan RR**, M Zeeshan, A Ali, K Abid, Z Fatima and S Ahmed, 2019. Efficacy of different insecticides against wheat and brassica aphids under laboratory conditions. International Entomological Congress, April 8-10, 2019, pp 71.
8. Al-Ghafri THA, ISS Al-Mazidi, F Al-Rawahi, SAH Al-Khatiri and **RR Khan**, 2019. Deltamethrin resistance survey in different field collected populations of Dubas bug, *Ommatissus lybicus* (Homoptera: Tropoduchidae) in Oman. International Entomological Congress, April 8-10, 2019, p 64-65.
9. Abid K, **RR Khan**, M Islam and S Ahmed, 2019. Repellent and deterrent effects of some plant oils against fruit fly, *Bactrocera zonata* (Diptera: Tephritidae) under laboratory and field conditions. International Entomological Congress, April 8-10, 2019, pp 33.
10. **Khan RR**, 2018. Susceptibility/Resistance Status of Dubas Bug, *Ommatissus lybicus* in Sultanate of Oman. Regional Workshop on Dubas Bug Management Program, The Research Council and Ministry of Agriculture and Fisheries, Muscat, Oman, December 3-4, 2018.
11. Majeed S, A Ali, **RR Khan**, M Binyameen, S Ahmad, K Shahzad, 2018. Assess the behavior of *Aedes aegypti* against organic volatiles. 54th Annual Scientific Conference of the Malaysian Society of Parasitology and Tropical Medicine (MSPTM) held on 14-15 March 2018 at Connexion Conference and Event Center, Malaysia. pp 19.
12. **Khan RR**, K Kaya, B Ulasli, S Majeed, MM Ulasli and FC Cengiz, 2017. Some biological features and current status of spotted stem borer *Chilo partellus* (Swinhoe) in Pakistan and Turkey. International Conference on Agriculture, Forest, Food Sciences and Technologies held on May 15-17, 2017 at Cappadocia, Turkey.
13. **Khan RR**, S Ahmed, A Ali, RA Ali, S Majeed and M Arshad, 2017. Potential integrated efficacy of Entomopathogenic Nematodes and an insecticide against *Spodoptera litura* (Lepidoptera: Noctuidae). International Conference on Agriculture, Forest, Food Sciences and Technologies held on May 15-17, 2017 at Cappadocia, Turkey.
14. **Khan RR**, S Ahmed, M Arshad, A Ali, MS Nisar and HM Yasin, 2016. Comparative efficacy and repellency of different plant extracts against adults of Cotton Mealy Bug, *Phenacoccus gossypiphilous* (Hemiptera: Pseudococcidae). International Entomological Congress, December 16-18, 2016, pp 11.
15. Gogi MD, MJ Arif, A Nawaz, M Sufyan, **RR Khan**, MA Khan, M Arshad, A Ali and G Abbas, 2016. Assessment of carryover, losses, and IGRs for Dusky Cotton Bug: A growing threat to cotton in cotton belt of Punjab, Pakistan. International Entomological Congress, December 16-18, 2016, p 3-4.
16. **Khan RR**, 2015. Susceptibility/Resistance Status of Dubas Bug, *Ommatissus lybicus* in Sultanate of Oman. TRC Meeting held in the Ministry of Agriculture and Fisheries, Muscat, Oman.
17. **Khan RR**, S Ahmed and I Rasool, 2012. Susceptibility of *Lipaphis erysimi* (KALT) to Insecticides Alone and in Combination Under Laboratory Conditions. Proc. Pakistan Congr. Zool. 32: 181-182.
18. Ahmed S, M Abbas and **RR Khan**, 2012. Studies on the Frequency of Insecticides Application on the Citrus Nursery Against Citrus Leaf Miner, *Phyllocnistis citrella* Strain. Proc. Pakistan Congr. Zool. 32: 180-181.

19. **Khan RR**, 2012. Termite Management in Buildings; Pre and Post Construction Management Practices. Workshop on Training of Termite Management for Stakeholders as Community Service. University of Agriculture, Faisalabad-Pakistan.
20. **Khan RR**, M Ashfaq, S Ahmed and K Zia, 2011. Mortality Responses of *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae) Against Some Conventional and New Chemistry Insecticides Under Laboratory Conditions. Proc. Pakistan Congr. Zool. 31: 262-263.
21. Ahmed S, **RR Khan**, G Hussain, MA Riaz and A Hussain, 2008. Effect of intercropping and organic matters on the subterranean termites in field of sugarcane at Faisalabad, Pakistan. 16th Biennial International Zoological Conference. Rajshahi University, 27-29 February 2008.
22. Ahmad S, F Ahmad, MA Riaz, O Rehman, A Hussain and **RR Khan**. 2007. Some studies on the cultural and chemical control of maize stem borer (*Chilo partellus* Swinhoe), shoot fly (*Atherigona soccata* rond.) and termites in maize (*Zea mays*) at Distt. Sahiwal, Punjab, Pakistan. 27th Pakistan Congress Zool. P. 50.
23. Ahmad S, **RR Khan**, H Haider and F Ahmad, 2010. Prospects of integrated pest management of *Phyllocnistis citrella* (Stain.) in Punjab, Pakistan. IOBC/WPRS working Group "Integrated Control in Citrus Fruit Crps" Agadir. Morocco. 01 to 03 March 2010
24. **Khan RR**, 2007. Integrated Management of wheat with special reference to post harvest losses. Training workshop integrated management of wheat with special reference to post harvest losses. Held on March 26 to April 07, 2007 at UAF
25. Ashfaq M and **RR Khan**, 2006. Quality Production through: IPM Tools and technologies for Environment Friendly and Sustainable Agriculture. International Conference on Productivity and Growth in Agriculture: Strategies and Interventions. Faculty of Agricultural Economics and Rural Sociology, UAF, Pakistan. p. 13
26. **Khan RR.**, AN Syed and M. Hassan, 2006. Correlation studies on losses in wheat varieties and reproductive potential of *Rhyzopertha dominica* F. 4th International Congress of Entomological Sciences
27. **Khan RR.**, AN Syed and M. Hassan, 2006. Response of two wheat varieties to *Tribolium castaneum* (Herbst.), *Rhyzopertha dominica* F. and *Sitotroga cerealella* (Oliver). 4th International Congress of Entomological Sciences
28. Ashfaq M and **RR Khan**, 2005. Pest Management with Eco-Friendly Techniques. 34th Pakistan (SAARC) Countries Science Conference, UVAS, Lahore, Pakistan. p. 16.
29. Ashfaq M and **RR Khan**, 2005. Pest Management with Eco-Friendly Techniques: Options to Combat Environmental Pollution. ICPEP-3, Lucknow, India. p. 66

RESEARCH PROJECTS COMPLETED

- **Title: Refinement of Rearing/Release Technique of *Bracon hebetor* (Say) as a Biocontrol Agent For the Integrated Management of Armyworm (*Spodoptera litura* (Noctuidae: Lepidoptera)**
Funding Agency: Pakistan Academy of Sciences
Project Cost: PKR 2.02 Million
Duration: 3 Years (July 2007 - June 2010)
- **Title: Training of Termite Management for Stakeholders as Community Service**
Funding Agency: Endowment Fund Secretariat
Project Cost: PKR 0.748 Million
Duration: 3 Months (April - June 2012)

- **Title:** Status of Insecticide Resistance, Tolerance and Susceptibility of Dubas Bug, *Ommatissus lybicus* De Berg. Population to Insecticides in the Sultanate of Oman
Funding Agency: The Research Council, Sultanate of Oman
Project Cost: OMR 271,000 (0.705 Million USD)
Duration: 4 Years (Jan 2017 - Dec 2020)

RESEARCH PROJECTS IN PROGRESS (CO-PI)

- **Title:** Population dynamics studies and management of Fall armyworm on Maize crop
Funding Agency: Punjab Agricultural Research Board
Project Cost: PKR 107.335 Million
Duration: 3 Years (October 2022 - June 2025)

RESEARCH REPORTS SUBMITTED TO SPONSORS

- Refinement of Rearing/ Release Technique of *Bracon hebetor* (Say) as a Bio-control Agent for the Integrated Management of Armyworm (*Spodoptera litura* (Noctuidae: Lepidoptera)). (Report submitted to Pakistan Academy of Sciences)
- Status of Insecticide Resistance, Tolerance and Susceptibility of Dubas Bug, *Ommatissus lybicus* De Berg. Populations to Insecticides in the Sultanate of Oman. (Report submitted to The Research Council, Oman)

WORKSHOPS/TRAININGS/CONFERENCES ORGANIZED

1. Sustainable Management of *Spodoptera litura* (Noctuidae: Lepidoptera) by using a bio- control agent and pesticides (2010).
2. Training of Termite Management as Community Service. (3- Sessions) (2012)
3. Apiculture: Rearing and Management of Bees. (One Month Training Course) (2012-13)
4. International Entomological Congress (One Exclusive Day on Current Scenario and Management of Pink Bollworm), organized at University of Agriculture, Faisalabad, Pakistan from December 16-18, 2016.
5. One Day Workshop and Hands on Training on Insect Collection and Preservation (08.09.2022). Department of Entomology, UAF.
6. Biological Control of *Parthenium hysterophorus* (09.09.2022). Department of Entomology, UAF in collaboration with CABI, Pakistan.
7. Recent interventions made in terms of biological control of aflatoxins and MRLs setting across Pakistan (20.12.2022). Department of Entomology, UAF in collaboration with CABI, Pakistan.
8. Capacity building of Scientists and relevant stakeholders on MRLs and Biopesticides (13.02.2023 to 17.02.2023). Department of Entomology, UAF in collaboration with CABI, Pakistan.

TRAININGS ATTENDED

1. Teachers Training Workshop held on December 12, 2002 at UAF
2. Basic Computing Skills Development Program held on June 12-25, 2003 at UAF
3. RWC-PRISM National Workshop held on October 11-13, 2004 at NARC, Islamabad.
4. Project Planning, Formulation and Appraisal held on December 06-10, 2004 at NARC, Islamabad.

5. Awareness Workshop for Familiarization of Teachers on Farmer Field School held on February 07-09 at Lahore by NARC, Islamabad.
6. Workshop on Scientific Presentation held on June 25-30, 2005 at UAF.
7. Integrated Pest Management on Cotton held on May 22-27, 2006 at UAF by HEC.
8. Integrated Pest Management for Plant Protection held on June 08 to September 03, 2010 at Kobe University and Hyogo Prefectural Technology Center for Agriculture, Forestry and Fisheries, JAPAN.
9. Regional Training Course on Use of Information Technology for Small Scale Farming Communities in Rural Areas held on December 13-15, 2011 by COMSTECH and Pakistan National Commission for ISESCO & UNESCO (PNCU)
10. Training Workshop on Advanced Chemical Techniques in Natural and Applied Sciences held on September 2015 at UAF.

REFERENCES

- Dr. Rashid Hamdan Al-Shidi, Director Plant Protection Research Center, Ministry of Agriculture, Fisheries Wealth and Water Resources, Oman.
Cell: 00968-99221805, Email: shidi_rashid@yahoo.com
- Dr. Feza Can Cengiz, Professor, Plant Protection Department, Entomology Section, The Faculty of Agriculture, Mustafa Kemal University, 31034 Antakya- Hatay, Turkey.
Cell: 0090 5324741107, Email: fezacan@mku.edu.tr; cezafan_onurcan@hotmail.com