

CURRICULUM VITAE

Name: **BILQUESS FATIMA**
 Father's Name: ALLAH DITTA KHAN
 Date of Birth: 01-01-1969
 Identity Card #: 33100-0596415-2
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EDUCATION AND QUALIFICATIONS

DEGREE/CLASS	YEAR	UNIVERSITY/BOARD	MAJOR SUBJECTS
Ph.D.	2004	Uni. of Agriculture, Faisalabad	Horticulture (Plant Tissue culture)
M.Sc. (Hons.) Agri.	1995	-do-	Plant Tissue Culture
B.Sc. (Hons.) Agri.	1993	-do-	Horticulture
HSSC	1988	Lahore	Pre-Medical
SSC	1986	Lahore	Science

*First Class throughout Academic Career

RESEARCH TITLES

- **Ph.D.** Morphological and Genetic Characterization of Citrus Polyploids
- **M.Sc. (Hons.)** Explant Effects on the Induction of Microtubers in Potato Varieties

EMPLOYMENT PROFILE

2019 to date	Associate Professor in the Institute of Horticultural Sciences, UAF.
2005 to 2019	Fourteen years as Assistant Professor in the Institute of Horticultural Sciences, UAF.
1999 to 2004	Five years as Lecturer in the Institute of Horticultural Sciences, UAF.
1995-1998	Three years as Research Associate in Research Project entitled "Breeding for Seedless Kinnow: A Biotechnology Approach" run by the Dept. of Horticulture, UAF sponsored by Pakistan Science Foundation (PSF), Islamabad.
1997	6 months as Liaison Officer in Regional Res. Station of Pak. Agri. Res. Council (PARC), based at Dept. of Horticulture, Uni. of Agriculture, Faisalabad.
1993-1994	One year as Research Fellow in Res. Project entitled, "Prod. & Trial Introduction of Virus Free Seed of Indigenous Potato Variety, Number 70" sponsored by Dir. Research, Uni. of Agriculture, Faisalabad.

ACADEMIC DISTINCTIONS

- Won Fatima Jinnah **Gold medal** for delivering Excellence in research work in Horticulture
- HEC approved Ph.D. supervisor.
- **Second position** in Dept. in M.Sc. (Hons) Agriculture

AWARDS AND APPRECIATION LETTERS

2023	Successful HEC project no. 8126 completion letter.
2018	Certificate of appreciation by ORIC, UAF on winning HEC. 2018 project.
2012-13	Certificate of Appreciation to serve as Advisor (female) sports by Dean Faculty of Agriculture.
2004-06	Letter of Appreciation for support of Omani Students study tour to Pakistan by Dean, College of Agricultural and Marine Sciences, Sultan Qaboos University, OMAN
2004	Certificate of Honour in recognition of services and cooperation in <i>Int. Citriculture Conference</i> by Horticultural Foundation of Pakistan held on 28 th -30 th April, 2004.
2003	Awarded Letter of Appreciation and Fatima Jinnah Gold Medal for delivering excellence in research work in the field of Agriculture-Horticulture by Honourable Governor Punjab , supported by UNICEF.
2002	Letter of Appreciation by the Dean, Faculty of Agriculture, UAF , for services and cooperation in organizing co-curricular activities of students in the faculty.

- **GENE SEQUENCES (6)**

- ***Fusarium oxysporum* strains causing Guava Wilt Disease (GWD)**

1. Usman, M., Shah, M.H., Rehman, S.N., Akhtar, K.P. and **Fatima, B.** 2018. *Fusarium oxysporum*. **Genbank Accession # MH368295**
2. Usman, M., Shah, M.H., Nawaz-ul-Rehman, M.S., Akhtar, K.P. and **Fatima, B.** 2018. B5 *Fusarium oxysporum*. **Genbank Accession # MH368297**
3. Usman, M., Shah, M.H., Rehman, S.N., **Fatima, B.** and Akhtar, K.P. 2018. L1Fo *Fusarium oxysporum*. **Genbank Accession # MH378770**

- ***Fusarium solani* strains causing GWD**

4. Usman, M., Shah, M.H., Rehman, S.N., Akhtar, K.P. and **Fatima, B.** 2018. B7Fs *Fusarium solani*. **Genbank Accession # MH368298**
5. Usman, M., Shah, M.H., Rehman, S.N., Akhtar, K.P. and **Fatima, B.** 2018. M2Fs *Fusarium solani*. **Genbank Accession # MH368351**
6. Usman, M., Shah, M.H., Rehman, S.N., Akhtar, K.P. and **Fatima, B.** 2018. M2FsR *Fusarium solani*. **Genbank Accession # MH368352**.

PUBLICATIONS (Impact Factor: 31.92)

Impact Factor	HEC Recognized	Others	Proceedings	Book Chapters	Manuals	Total
44	20	6	5	8	7	90

HEC RECOGNIZED (20)

Sr. No.	PUBLICATION	CATEGORY
1.	Khadija, F., B. Fatima and M. Usman. 2022. Evaluation of cucumber germplasm for yield and its contributing attributes. Journal of Agri. and Food 3(1): 1-9. ISSN 2709-3662	Y
2.	Akram, A., H. Ashraf, A. Younis, S. Ahmad, B. Fatima , A.F. Akbar, A. Farooq and M. Ahsan. 2022. Assessment of nutritional impact on two turfgrass species. Soil Environ. 41(2): 114-120	Y
3.	Shaheen, A., A. Bibi, M. Awais, N. Ahmad, F. Shoaib, Z. Shahbaz, B. Fatima , and I.A. Khan Niazi. 2021. Evaluation of oat (<i>Avena sativa</i> L.) accessions for fodder yield and quality under drought stress. J. Agric. Food. 2:63-78.	Y
4.	Fatima, B. , Z. Nazir, M. Usman, S.A.M Bokhari, Shumaila. 2021. Enhanced Micropropagation in Stevia (<i>Stevia rebaudiana</i> Bertoni). Biologia (Paksitan): 67(1): 33-39.	Y
5.	Rana, M.A. M. Usman, B. Fatima , A. Fatima, I.A. Rana, W. Rehman and D. Shoukat. 2020. Prospects of Mutation Breeding in Grapefruit (<i>Citrus paradisi</i> Macf.). J. Hort. Science and Technology 3(2): 31-35.	Y
6.	Iqbal, M.M., I. Ahmad, S.M.A. Basra, A.B. Ijaz, Z.H. Tarar, M. Ansar, U. Iqbal, T. Naz, B. Fatima , M. Akram, A. Wasaya, A. Iqbal, S.A. Anwar, K.S.U. Khan, A. Khalid, A. Aziz, and R. Mehmood, 2020. Induction of heat tolerance in Maize through exogenous application of salicylic acid, ascorbic acid and hydrogen peroxide in a field study. Pak J. Agri. Res. 33(3):585-593.	Y
7.	Fatima, B. F. Khadija, M.H. Shah and M. Usman. 2014. Indirect Shoot Induction Responses in Elite Chilli (<i>Capsicum annum</i> L.) Cultivars. Biologia (Pakistan) 60(2): 277-280.	Y
8.	Butt, M. M., Usman and B. Fatima . 2013. Enhanced seed germination and callogenesis under long days in leaf disc in Guava cultivars. Biologia (Pakistan) 59(2): 293-298. R Rafique, B Fatima, M Usman, M Sh Iqbal, SZ Ul Hasan, M Rasheed, M Iqbal, S Mushtaq, M Rasheed. 2013. Effect of indole-3-butyric acid (IBA) on <i>in vitro</i> root induction in dendrobium orchid (<i>Dendrobium sabin</i> H.). International Journal of Modern Agriculture. 2 (1) 43-47.	Y
9.	Usman, M., WA. Samad, B. Fatima and MH. Shah. 2013. Pollen parent enhances fruit size and quality in intervarietal crosses in guava (<i>Psidium guajava</i>). Int. J. Agri. Biol. 15(1): 125-129.	Y
10.	Usman, M., M. Butt, B. Fatima . 2012. Enhanced <i>in vitro</i> multiple shoot induction in elite Pakistani Guava cultivars for efficient clonal plant multiplication. Afric. J. Biotech. 11(44): 19182-19187. Rizwan Rafique, Balquees Fatima, Salman Mushtaq, Muhammad Shahid Iqbal, Misbah Rasheed, Muhammad Ali, SZ Ul Hasan. 2012. Effect of indole-3-butyric acid (IBA) on <i>in vitro</i> root induction in dendrobium orchid (<i>Dendrobium sabin</i> H.). African Journal of Biotechnology. 11 (20) 4673-4675.	Y
11.	Anjum, N., Usman, M., B. Fatima and M.H. Shah. 2012. Genotype dependent direct and indirect <i>in vitro</i> regeneration in elite tomato cultivars. Int. J. Biol. & Biotech. 9(4): 347-351. ISSN 1810-2719	Y
12.	Mukhtar, R., Khan, M.M., B. Fatima , Abbas, M. and Shahid, A. 2005. <i>In vitro</i> regeneration and multiple shoots induction in <i>Citrus reticulata</i> (Blanco). Int. J.	Y

13.	Agric. Biol, 7:414-416. Usman, M., M.J. Jaskani, M.Y. Rehman, B. Fatima and I.A. Khan. 2005. <i>In vitro</i> regeneration of monoembryonic mango cultivars. <i>Int. J. Biol. & Biotechnology</i> , 2(1): 23-28.	Y
14.	Fatima, B. , M. Usman, I. Ahmad and I.A. Khan. 2005. Effect of explant and sucrose on Microtuber induction in potato cultivars. <i>Int. J. Agri. Biol.</i> 7(1): 63-66.	Y
15.	Saeed, R., M. Usman, B. Fatima , and I.A. Khan. 2004. <i>In vitro</i> regeneration and multiple shoot induction in upland cotton (<i>Gossypium hirsutum</i> L.). <i>Int. J. Agri. Biol.</i> 6(4): 704-707.	Y
16.	Usman, M., B. Fatima , M.J. Jaskani and M.M. Khan. 2002. Development of a Callogenic protocol in Papaya (<i>Carica papaya</i> L.): 1. <i>In Vivo</i> Grown Vegetative Explants. <i>Int. J. Agri. & Biol.</i> 4(1): 95-98.	Y
17.	Usman, M., B. Fatima , M.J. Jaskani and M.M. Khan. 2002. Development of a Callogenic protocol in Papaya (<i>Carica papaya</i> L.): 1. <i>In Vitro</i> Grown Vegetative Explants. <i>Int. J. Agri. & Biol.</i> 4(1): 95-98.	Y
18.	Usman, M., M. Ramzan, B. Fatima , M.J. Jaskani, and M.M. Khan. 2002. Citrus Germplasm Enhancement by Interploid Hybridization 1: Reciprocal Crosses of Kinnow & Succari. <i>Int. J. Agri. Biol.</i> 4(2): 208-210.	Y
19.	Khan, M.M., K. Thompson, M. Usman and B. Fatima . 2002. Role of Moisture Content and Controlled Atmosphere in <i>Citrus</i> Seed Storage. <i>Int. J. Agri. Biol.</i> 4(2): 259-266	Y
20.	Usman, M., B. Fatima and M.J. Jaskani. 2001. <i>Breeding in Mango</i> . <i>Int. J. Agri. & Biol.</i> 3(4): 522-526.	Y

IMPACT FACTOR (45)

Sr. No.	PUBLICATION	CATEGORY	IF
1.	Joyia, W., M. Usman , B. Fatima, N.N. Memon, M. Shahid, S.A.M. Bokhari and M.A. Rana. 2026. Physico-chemical diversity in Guava (<i>Psidium guajava</i> L.) germplasm of Sindh-Pakistan. <i>Pak. J. Agri. Sci.</i> 63(2): 341-350.	W	1.300
2.	Naseer, M., M. Usman , B. Fatima, S.A.M. Bokhari, M.A. Rana, M. Shahid. 2025. Morpho-chemical profiling and correlations of guava germplasm. <i>SABRAO J. Breed and Genetics</i> 57(2): 2219-2231.	W	1.300
3.	Fatima, A., M. Usman , B. Fatima and I.A. Rana. 2025. Assessing morpho-chemical and genetic diversity in acid limes germplasm using microsatellite markers. <i>NBHA</i> 53(3): 14566 DOI:10.15835/nbha53314566	W	1.700
4.	Rana, M.A., M. Usman , B. Fatima, I.A. Rana and B. Rashid. 2025. Impact of gamma-irradiated pollen on sexual Compatibility, fruit Attributes and seed development in grapefruit varieties. <i>PJAS</i> 62(3): 669-681.	W	1.300
5.	Khadija, F., B. Fatima , M. Usman and M.S. Khan. 2024. Effect of floral bud size and culture conditions on embryogenesis in anther derived calli of cucumber cultivars. <i>SABRAO J. Breed and Genetics</i> 56(5): 2079-2089 http://doi.org/10.54910/sabrao2024.56.5 .	W	1.300
6.	Awan, B.A., M. Usman, B. Fatima , Faiz-ur-Rahman and O. Masood. 2024. Efficient clonal propagation of guava cultivars by mini softwood cuttings. <i>JAPS</i> 34(3): 689-695.	W	1.300
7.	Rahman, F., M. Usman, K.P. Akhtar, B. Fatima and M.H. Shah. 2023. Effectiveness of potting media steaming in constraining growth of soil borne pathogenic fungi. <i>PJAS</i> 60(4): 547-554.	W	1.300
8.	Bokhari, S.A.M., B. Fatima , M. Usman, M.S. Khan and B. Rashid. 2023. Embryogenic responses in anther derived calli of white and pink flesh guava cultivars. <i>PJAS</i> 60(4): 537-546.	W	1.300
9.	Aslam, M.M., M. Usman, B. Fatima , M.A. Rana and M. Shahid. 2023. Impact of gamma irradiated pollens on sexual compatibility, seed setting and fruit attributes in	W	0.900

	guava (<i>Psidium guajava</i> L.) cultivars. Pak. J. Botany 55(4): 1335-1345.		
10.	Usman, M., S.A.M. Bokhari, B. Fatima , B. Rashid, F. Nadeem, M.B. Sarwar, M.S. Nawaz-ul-Rehman, M. Shahid and C.M. Ayub. 2022. Drought mitigating morphological, physiological, biochemical and molecular responses of guava (<i>Psidium guajava</i> L.) cultivars. Frontiers in Plant Science, doi: 10.3389/fpls.2022.878616	W	5.300
11.	Zeba, A., A. Bibi, B. Fatima , M.A. Iqbal, M. Awais, A. Tahir, Q. Shakil, and I. Zahid. 2022. Utilization of multivariate analysis to ascertain selection criteria for enhanced nutritious fodder yield and contributing attributes in Sorghum (<i>Sorghum bicolor</i> L.). Plant Cell Biotech. Mol. Biol. 70-79.	Y	0.200
12.	Bibi, A., S. Akram, M. Awais, Z. Ali, B. Fatima and M.A. Iqbal. 2021. Enhancement of Green Biomass Yield and Nutritional quality Traits in Fodder Sorghum through Ascorbate Priming. Plant Cell Biotech Mol. Bio. 22(71-72): 668-675.	Y	0.200
13.	Naz, M., S.A. Khan, N. Javed and B. Fatima . 2021. Interaction of Meloidogyne Incognita and fungi: A potential threat to cotton crop in Punjab. Pak. J. Agri. Sci. 58(4):1277-1290.	W	1.300
14.	Usman, M., M.H. Shah, B. Fatima and Z. Ahmad. 2021. Genotypic and Seasonal Variability in Guava Fruit Quality and Implications for Breeding. Pak. J. Agri. Sci. 58(3): 937-944.	W	1.300
15.	Usman, M., B. Fatima , M. Usman, I.A. Rana. 2021. Morphological and stomatal diversity in colchiploid germplasm of grapefruit. Pak. J. Agri. Sci. 58(2): 555-560.	W	1.300
16.	Usman, M., W. Rehman, B. Fatima , M. Shahid, A.H. Saggu, M.A. Rana and A. Fatima. 2020. Fruit quality assessment in pigmented grapefruit (<i>Citrus paradisi</i> Macf.) for varietal diversification. Pak. J. Agri. Sci. 57(4): 1029-1034.	W	1.300
17.	Usman, M., Q. Zaman, B. Fatima , Iqrar A. Rana and F.S. Awan. 2020. Morpho-chemical diversity and RAPD fingerprinting in white flesh guava cultivars. JAPS, 30(2): 398-409.	W	0.600
18.	Shah, M.H., M. Usman, B. Fatima , M.S. Rehman. 2019. Assessment of Guava Wilt Disease (GWD) and Varietal Susceptibility in Punjab-Pakistan. Pak. J. Agri. Sci. 56(2): 393-399.	W	1.300
19.	Fatima B. M. Usman, IA Khan, M.S Khan and M.M. Khan. 2015. Identification of citrus polyploids using chromosome count, morphological and SSR markers. Pak J. Agri. Sci. 52(1): 107-114.	W	1.300
20.	Maryam, M. J. Jaskani, B. Fatima , M.S. Haider, S.A. Naqvi, M. Nafees, R. Ahmad and I.A. Khan. 2015. Evaluation of pollen viability in Date palm cultivars under different storage temperatures. Pak. J. Bot. 47 (1):377-381.	W	0.900
21.	Usman, M. K. Bakhsh and B. Fatima . 2015. Exploring embryogenic competence in anthers of bitter melon (<i>Momordica charantia</i> L.) cultivar Faisalabad long. JAPS 25(1): 181-188. (ISSN: 1018-7081)	W	1.300
22.	Hussain, M.M., A. Saeed, A.A. Khan, S. Javid and B. Fatima . 2015. Differential response of one hundred tomato genotypes grown under cadmium stress. GMR 14 (4): 13162-13171.	W	0.900
23.	Usman, M., M. H. Shah, A. Badar, B. Fatima , M. Sabir and Q. Zaman. 2014. Media steaming and Coco-coir enhance growth of Rough lemon (<i>Citrus jambhiri</i> L.) stock. Pak J. Agri Sci. 51(3): 615-623. (ISSN: 0552-9034)	W	1.300
24.	Usman, M., S. Noureen, B. Fatima and Q. Zaman. 2014. Long days foster callogenesis in spinach and lettuce cultivars. JAPS 24(2): 585-591.	W	0.600
25.	Khan, M. A; M. Kashif, J. Ahmad, A.S. Khan, I. Khaliq, B. Fatima , S. Shaukat. 2014. Sadaf-A. Potential donor for enhancing of frequency of doubled haploid in wheat x maize crossing system. Pak. J. Agri. Sci. 51: 363-367	W	1.300
26.	Sadam, S; A. Bibi, H. A. Sadaqat and B.F. Usman . 2014. Comparison of 10 sorghum (<i>Sorghum bicolor</i> L.) genotype under various water stress regimes. J. Am. Plant Sci. 24 (6): 1811-1820.	W	0.600
27.	Karim, A. M. J. Jaskani, B. Fatima and B. Sadia. 2013. Clonal Multiplication of guava through softwood cutting under mist conditions. Pak. J. Agri. Sci., 50 (1): 23-27.		1.300

28.	Bibi, A., H.A. Sadaqat, M.H.N. Tahir. B.F. Usman and M. Ali. 2012. Genetic analysis of forage quality traits in sorghum – sudangrass hybrids under water stress. <i>J. Anim. Plant Sci.</i> 22(4): 1092-1100.	W	0.600
29.	Usman, M., M. Butt, B. Fatima . 2012. Enhanced in vitro multiple shoot induction in elite Pakistani Guava cultivars for efficient clonal plant multiplication. <i>Afric. J. Biotech.</i> 11(44): 19182-19187.	Y	0.560
30.	Usman, M., B. Fatima , M. Usman, W.A. Samad, K. Bakhsh. 2012. Embryo culture to enhance efficiency of induced polyploidization in grapefruit. <i>Pak. J. Bot.</i> , 44(SI-1): 399-405.	W	0.900
31.	Rafique, R., B. Fatima ., S. Mushtaq, M.S. Iqbal., M. Rasheed, M. Ali., S. Zia-ul-Hassan. 2012. Effect of indole-3-butyric acid (IBA) on in vitro root induction in dendrobium orchid (<i>Dendrobium sabin</i> H.). <i>African J. Biotech.</i> 11(20): 4673-4675.	Y	0.560
32.	Usman, M., Z. Hussain and B. Fatima . 2011. Somatic embryogenesis and shoot regeneration induced in cucumber leaves. <i>Pak. J. Bot.</i> , 43(2): 1283-1293.	W	0.900
33.	Fatima, B. , M. Usman, I.A. Khan, M.S. Khan and M.M. Khan. 2010. Exploring Citrus cultivars for underdeveloped and shriveled seeds: A valuable resource for spontaneous polyploidy. <i>Pak. J. Bot.</i> , 42(1): 189-200.	W	0.900
34.	Usman, M., B. Fatima , K.A. Gillani, M.S. Khan and M.M. Khan. 2008. Exploitation of potential target tissues to develop polyploids in citrus. <i>Pak. J. Bot.</i> , 40(4): 1755-1766.	W	0.900
35.	Abbas, M., M.M. Khan, B. Fatima , Y. Iftikhar, S.M. Mughal, M.J. Jaskani, I.A. Khan and H. Abbas. 2008. Elimination of Citrus tristiza virus Closterovirus (CTV) and production of certified citrus plants through shoot tip micrografting. <i>Pak. J. Bot.</i> 40 (3): 1301-1312	W	0.900
36.	Fatima, B. , M. Usman, T. Ashraf, R.Waseem and M.A. Ali. 2007. <i>In vitro</i> shoot regeneration from cotyledon leaf and hypocotyls explants in Dahlia cultivars. <i>Pak. J. Agri. Sci.</i> 44(2): 312-316.	W	0.600
37.	Usman, M., T. Saeed, M.M. Khan and B. Fatima. 2006. Occurrence of spontaneous polyploids in Citrus. <i>Hortic Science</i> , 33 (3): 124–129.	W	1.200
38.	Usman, M., S. Muhammad and B. Fatima . 2005. <i>In vitro</i> multiple shoot induction from nodal explants of <i>Citrus</i> cultivars. <i>J. Cen. European Agriculture</i> , 6(4): 441-448. ISSN: 1332-9094.	W	0.600
39.	Usman, M. B. Fatima , M. M. Khan and M.I. Chaudhary. 2003. Mango in Pakistan: A Chronological Review. <i>Pak. J. Agri. Sci.</i> , 40(3-4): 151-154.	X	
40.	Iqbal, M. J., M. M. Khan, B. Fatima , M. Asif and M. Abbas. 2003. <i>In Vitro</i> propagation of “Hybrid Tea” roses. <i>Pak. J. Agri. Sci.</i> , 40 (3-4): 155-163.	X	
41.	Abbas, M., M. M. Khan, M. J. Iqbal and B. Fatima . 2003. Studies on Jaman (<i>Syzygium cumini</i> L. Skeels) seed storage behavior. <i>Pak. J. Agri. Sci.</i> 40(3-4): 164-169.	X	
42.	Usman, M., B. Fatima , M.M. Khan and I.A. Khan. 2002. Response of reproductive organs of papaya to callogenesis. <i>Pak. J. Agri. Sci.</i> , 39(3): 210-216.	X	
43.	Usman, M., B. Fatima , M.J. Jaskani, M.M. Khan and I.A. Khan. 2002. Somatic embryogenesis in papaya. <i>Pak. J. Agri. Sci.</i> , 39(3): 217-223.	X	
44.	Fatima, B. , M. Usman, M. Ramzan, M.M. Khan and I.A. Khan. 2002. Interploid Hybridization of Kinnow Mandarin and Sweet Lime. <i>Pak. J. Agri. Sci.</i> , 39(2): 132-134.	X	
45.	Asif, M., M. Usman, B. Fatima , M.A. Ali and M.M. Khan. 2002. Fruit Set and Drop Behaviour of Three Commercial Cultivars of Mango. <i>Pak. J. Agri. Sci.</i> , 39(2): 129-131.	X	

• Other Journals (5)

1. Bibi, A., A. Shakir, H.A. Sadaqat, **B.F. Usman** and M. Saqib. 2014. Assessment of genetic association among seedling traits in guar (*Cyamopsis tetragonoloba*) genotypes under water stress conditions. *IJRSB*. 2(8): 20-29.

2. Rafique, R., **B. Fatima**, M. Usman, M.S. Iqbal, S. Zia-ul-Hassan, K. Shabiir, M. Rasheed, M. Iqbal, S. Mushtaq and M. Rasheed. 2013. Effect of sucrose on in vitro callogenesis and organogenesis of *Dendrobium sabin* H. Int. J. Modern Agri; 2(1): 43-47.
3. Bibi, A., A.N. Shehzad, H.A. Sadaqat, M.H.N. Tahir and **B. Fatima**. 2012. Genetic characterization and inheritance studies of oat (*Avena sativa* L.) for green fodder yield. Int. J. Biol. Pharm. All. Sci., 1(4): 450-460.
4. Bibi, A., H. A. Sadaqat, T. M. Khan, **B. Fatima** and Q. Ali. 2012. Combining ability analysis for green forage associated traits in Sorghum Sudangrass hybrids under water stress. IJAVMS 6(2) 1115-137.
5. Bibi, A., H.A. Sadaqat, H.M. Akram, T.M. Khan and **B.F. Usman**. 2010. Physiological and agronomic responses of Sudan grass to Water stress. J. Agri. Res., 48(3): 369-380.

PROCEEDINGS (5)

International (4)

- Usman, M., **B. Fatima**, M.A. Rana, A. Fatima, W. Rehman, S.A.M. Bokhari and D. Shoukat. 2018. Prospects of Mutation Breeding in Grapefruit (*Citrus paradisi* Macf.). 3rd Int. Conf. of Hort. Sci., Dept. of Hort. PMAS-Arid Uni., Rawalpindi (25-27 April, 2018), in press.
- Usman, M., M. Jahangir, M.R. Arif, **B. Fatima**, S.A.M. Bokhari and M.A. Rana. 2018. Potential of Mutation Breeding in Guava Crop Improvement. 3rd Int. Conf. of Hort. Sci., Dept. of Hort. PMAS-Arid Uni., Rawalpindi (25-27 April, 2018), in press.
- Khan, I.A., M.J. Jaskani, M.M. Khan and **B. Fatima**. 2001. Breeding for seedless citrus fruits: A Biotechnology Approach. *Int. Biotech. Conf., Kuwait Institute for Sci. Res.*, 9-11 April, 2001
- Khan, I.A., M.J. Jaskani, M.M. Khan and **B. Fatima**. 1999. Breeding for seedless citrus fruits-A case history of kinnow mandarin. In: Singh (Ed.) *Int. Citrus Symp., Nagpur, India*, Nov. 23-27, 1999.

National (1)

- Usman, M., **B. Fatima** and M.M. Khan. 2007. Application of molecular techniques in Citrus crop improvement. Proc. of workshop on “*Production of Disease-Free Citrus Nursery Plants (Production, Certification and Challenges)*” Sept. 12-17. p. 117-123.

BOOKS (1)

- *Citrus and Guava Nursery Raising: A practical approach*. 2013. ISBN 978-969-8237-64-6. M. Usman and **B. Fatima**. Sponsored by EFS-USDA, Uni. Of Agri. Faisalabad-Pakistan. Pak TM Printers, Faisalabad.

BOOK CHAPTERS (8)

International (6)

- Faisal, M., M. Usman, M.S. Khan, **B. Fatima** and F. Rehman. 2025. **Biotechnological Approaches in Mango Breeding**. In: *Handbook of Research on Mango Production: Post-harvest Science, Production, Nutrition and Processing Technology*. (Eds. S. Hussain, Nahar, K., Rajwana, I.A., Ercisli, S. and S. Ahmad) Pub. **CRC Press, Taylor and Francis Group**, pp. xxx
- Rehman, F., M. Usman, A. Fatima and **B. Fatima**. 2025. **Mango Germplasm Resources: Characterization, Climate Resilience and Conservation Approaches**. In: *Handbook of Research on Mango Production: Post-harvest Science, Production, Nutrition and Processing Technology*. (Eds. S. Hussain, Nahar, K., Rajwana, I.A., Ercisli, S. and S. Ahmad) Pub. **CRC Press**,

Taylor and Francis Group, pp. xxx

- Usman, M., Safdar A. Mirza and **B. Fatima**. 2023. Climate Change Resilience in Jujube (*Ziziphus mauritiana* L.) and other species. In: *Cultivation of Fruit Trees for Enhanced Climate Change Resilience*, Vol. 1 (Ed. A.A. Abul Soad and J.M. Al-Khayri). Pub. CRC Press, Taylor and Francis Group, pp. 241-271. [ISBN 9780367151898]
- Usman, M., I.A. Rana, M.S. Rehman, **B. Fatima** and M. Sarwar Khan. 2023. Citrus Genetic Resources: Molecular Characterization, Omics Approaches and Conservation. In: *Citrus Production: Technological Advancements and Adaptation to Changing Climate* (Eds. S. Hussain, M.F. Khalid, M. A. Ali, N. Ahmad, M. Hassunzzaman and S. Ahmad) Pub. CRC Press, Taylor and Francis Group, pp. 73-94. [ISBN: 9780367634742 hbk; 9781003119852 ebk]
- Usman, M., M. M. Khan, R. Al-Yahyai and **B. Fatima**. 2019. Lime Breeding: a way forward In: *Achieving Sustainable Cultivation of Tropical Fruits* (Ed. Prof. Elhadi Yahia). Pub. Burleigh Dodds Science Publishing, pp. 1-45. <http://dx.doi.org/10.19103/AS.2019.0054.09> [ISBN: 978042926638]
- Usman, M. and **B. Fatima**. 2018. Mandarin (*Citrus reticulata* Blanco) Breeding. In: J. M. Al-Khayri et al. (eds.), *Advances in Plant Breeding Strategies: Fruits*. Springer, Cham Pp. 465-533. [ISBN: 9783319919447]

National (2)

- Khan, R.W., **B. Fatima** and M. J. Jaskani. 2016. **Biotechnology in Horticulture**. In: A.S. Khan and K. Ziaf (Eds.). *Horticultural Sciences and Technology*.
- Usman, M. and **B. Fatima**. 2013. **Nursery sanitation in Citrus and Guava: A way forward**. In: *Citrus and Guava Nursery Raising: A practical approach*. M. Usman and B. Fatima (Eds.). ISBN 978-969-8237-64-6. Sponsored by Endowment Fund Secretariat (EFS-USDA) Uni. Of Agriculture, Faisalabad, Pakistan. Pp. 1-22.

Practical Manuals:

Sr. No	Author(s)	Year	Title	Name of Publisher
1.	Usman, M. and B. Fatima	2022	Fruit Breeding	ISBN: 978-969-2277-20-4 [Print]; 978-969-2277-21-1 [e-book] University of Agriculture, Press publishers. pp: 1-44.
2.	B. Fatima and M. Usman	2022	Rootstocks for Fruit Crops	ISBN 978-969-2277-56-3 [Print]; 978-969-2277-57-0 [e-book] University of Agriculture, Press publishers. pp: 1-58.
3.	Fatima, B. M. J. Jaskani and M. Usman	2022	Plant Tissue Culture	ISBN: 978-969-2277-24-2 [Print]; 978-969-2277-25-9 [e-book] University of Agriculture, Press publishers. pp: 1-44.
4.	Fatima, B. and M. Usman	2022	Basics of Plant Tissue Culture	ISBN 978-969-2277-12-9 [Print]; 978-969-2277-13-6 [e-book] University of Agriculture, Press publishers. pp: 1-33.
5.	Usman, M. B. Fatima and M. Awais Ghani	2022	Breeding of Horticultural Crops	ISBN 978-969-2277-42-6 [Print]; 978-969-2277-43-3 [e-book] University of Agriculture, Press publishers. pp: 1-24.

6.	B. Fatima and K.Y. Abbasi	2022	Horticultural Crop Production	ISBN 978-969-2277-42-6 [Print]; 978-969-2277-43-3 [e-book] University of Agriculture, Press publishers. pp: 1-24.
7.	A. Younis, B. Fatima and A. Akram	2022	Home Gardening	ISBN 978-969-2277-42-6 [Print]; 978-969-2277-43-3 [e-book] University of Agriculture, Press publishers. pp: 1-24.

EXTENSION ARTICLES

English (7)

HortiMag, Pakistan Soc. Hort. Sciences, Inst. of Hort. Sciences, UAF.

- From Lychee to Longan: Expanding Exotic Fruit Farming in Pakistan. HortiMag 2025 pp.10.
- Dynamics of Phenology and Crop Management under Climatic Shifts in Guava. HortiMag. 2025 pp. 14-15.
- Vertical Framing: A Future for Urban Vegetable Production. HortiMag 2025 pp. 17.
- Prospects of Avocado Cultivation in Pakistan. HortiMag 2024 pp. 23-24.
- Jackfruit: A potential nutraceutical fruit crop. HortiMag. 2023 pp. 8-9.
- Potential of in vitro clonal multiplication in Guava. 2015. pp. 12-13.
- Doubled haploidization: A shortcut technology to develop pure lines for hybridization and other crop improvement programs. 2010 pp. 9
- Horticultural Biotechnology: A Potential Horizon Future Horizon in Pakistan. 2008. pp. 8.

News Papers

- Citrus development still a far cry. Economic and Business Review. **Dawn**, March, 14, 2005.
- Enhancing Mango Production. **The Nation**, Feb. 17, 2002.

Urdu (7)

- Desi Ajwain ki Ehmiyat aur Kasht. HortiMag. 2025 pp. 29.
- Garmiyon me Phool Gobi ki Paneeri ki Kasht. HortiMag 2025 pp. 31
- Zeera ki Kasht, HortiMag Pak. Soc. Hort. Sci. 2023 pp. 11-12.

Zarai Digest: Directorate of Extension, University of Agriculture, Faisalabad.

- Turshawa nursery ki kasht key liyey beej ki tiyari aur rootstock ki ahmiyat. Sept. 2005, p.57-8
- Bimarion sey pak podon ki afzaish. Sept. 2005, p.59-60
- Double Haploidy: Podon mein giniati yaksaniat key jald hasool ka mozon tariqa. Dec. 2008, vol. 43(3-4) p.57-8.

Broachers/Extension Articles

- Amrood ki tissue culture nursery: Afaadiat aur Tariqa kar. 2016. Funded by USDA Endowment fund secretariat UAF under Guava clonal propagation project.
- Tarshawa phalon aur amrood ki sehatmand nursery uganey key liyey modle nursery ka kiam. 2011.

- Amrood ki bimariyon se pak nursery uganey key jadid tariquey. 2013. Funded by USDA Endowment fund secretariat UAF under Citrus and Guava Nursery project.

RESEARCH PROJECTS

On Going:

Import of High Value Germplasm and Technologies of Elite Exotic Fruits, Vegetables and Medicinal Crops for Diversification and Sustainable Production in Punjab	2022-2027	Rs. 83.21 M	Team Scientist
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Completed as:

PI (1)

Polyploidization and Morphogenetic characterization in acid lime (*Citrus aurantifolia* L.) cultivars for Germplasm enhancement. 2018. Funded by HEC. Rs. 2.41 Million

Co PI (2)

- **Demonstration of *In Vitro* Clonal Propagation System in Elite Guava Cultivars. 2014-2017.** Endowment Fund Secretariat, UAF. Rs. 1.92 Million
- **Establishment of a Model Fruit Plant Nursery for Demonstration of Container Grown Plant Production in Citrus and Guava. 2011-2013.** Endowment Fund Secretariat, UAF. Rs. 3.02 Million

Research Associate (2)

- **Breeding for Seedless Kinnow: A Biotechnology Approach. 1998.**
(A collaborated Res. project of UAF and Pakistan Science Foundation (PSF), Islamabad.
Dr. Muhammad Mumtaz Khan (P.I./Assoc. Prof.), Dept. of Horticulture, Uni. of Agri., Faisalabad.
Production & Trial Introduction of Virus Free Seed of Indigenous Potato Variety, Number 70. 1995
(Funded by Vice Chancellor's Fund for Promotion of Research, Uni. of Agriculture Faisalabad).
Dr. Iqar Ahmad Khan (P.I/ Assoc. Professor), Dept. of Horticulture, U.A.F.

Submitted Projects as:

Team Leader

- Establishment of disease-free plant nursery for stevia and monitoring of steviol content through SFE. 2018. PARB. **Rs. 16.135 Million.**

P.I

- **Germplasm Screening and Demonstration of Disease-Free Seed Production Technology in Elite Potato Cultivars. 2023.** Institute of Horticultural Sciences, UAF funded by EFS (Endowment Fund Secretariat) UAF. **Rs. 9.231 Million.**

Co P.I

- Strengthening of postharvest and tissue culture at Institute of Horticultural Sciences, UAF. 2017. HEC. Rs. 2.00 Million.

CONFERENCES/TRAINING COURSES/WORKSHOPS, CONVENER AND MEMBER OF ORGANIZING COMMITTEE

POST GRADUATE STUDENT SUPERVISION

	Ph.D.	M.Sc.	Current
Major Supervisor	3	86	5
Committee member	8	75	15
Supervised Research (under-grad)	-	2	2
Total	11	163	22

ABSTRACTS IN INTERNATIONAL (82) and NATIONAL (24) CONFERENCES/SYMPOSIA/WORKSHOPS

Events	Authors	Year	Title	Page No.	Oral/Pos
Int. Symposium on Tropical Fruits (23-25 September 2025)	Usman et al.	2025	Exotic Fruit Crops for Germplasm Diversification and Climate Resilience: Implications for Food Security	p. 23	O
9th Int. Horticultural Conference and Expo (15-17 April, 2025)	Usman et al.	2025	Germplasm Diversification and Unlocking Genetic Potential of Fruit Crops	p.6	O
	Manzoor et al.	2025	Phenotypic Characterization and Clonal Propagation of Avocado Germplasm	p.18	P
	Rehman et al.	2025	Assessment of Morphochemical Diversity in Exotic and Indigenous Potato Germplasm	p.25	P
	Fatima et al.	2025	Physiological and Biochemical Responses of Irradiated Germplasm in Acid Limes	p.57	O
	Arshad et al.	2025	Stomatal and Phenotypic Screening of Colchiploid Germplasm of Guava (<i>Psidium guajava</i> L.) Cultivars	p.60	P
	Usman et al.	2025	Screening of Gamma Irradiated Grapefruit Germplasm for Stability of Physicochemical Attributes	p.67	O
	Bilquees et al.	2025	Proline and Ascorbic Acid Seed Priming to combat Salinity Stress in Carrot	p.163	P

	Aleem et al.	2025	Integrating Cover Crops in Horticultural Systems: Enhancing Soil Health and Biodiversity	p.269	P
Int. Symposium on Scientific and Technological Innovations in the Pummelo/ Grapefruit Industry (17-20 November 2024)	Usman et al.	2024	Mutation Breeding Program for Germplasm Diversification in Grapefruit: An Overview		O
Int. Symp. On Medicinal Plants and Natural Products March 7-8 2024	Abasi et al.	2024	Effect of organic mulches on growth and yield of Garlic (<i>Allium sativum</i>)	p. 37	P
	Shareef et al.	2024	Morphological and anatomical variations in phytoplasma infected Fenugreek plants	p. 65	P
	Siddiq et al.	2024	Effect of proline on Quinoa under salt stress	p. 77	P
BRI 4th Sino-Pak Agri. Forum: "Sustainable Agri. For economic prosperity & food security" (9-10 Nov., 2023) IHS_UAF.	Usman et al.	2023	Introduction of Elite Exotic Horticultural Crops for Germplasm Diversification and Mitigating Climate Change	-	P
	Arooge et al.	2023	Fruit quality attributes in White and Pink Grapefruit germplasm	-	P
	Arooge et al.	2023	Estimation of Phenotypic Variability in Gamma Irradiated Germplasm of Acid Lime Cultivars	-	P
	Latif et al.	2023	Effect of Growth Stimulants on Plant Growth and Yield of Cauliflower	-	P
	Awan et al.	2023	Estimating yearly variability in phenological attributes of guava germplasm	-	P
	Irfan et al.	2023	Effect of Mulching Materials on Growth and Yield of <i>Cuminum cyminum</i> L.	-	P
	Shakeel et al.	2023	Effect of GA3 and NAA on Growth and Yield of Cumin (<i>Cuminum cyminum</i> L.)	-	P
7th Int. Horticulture Conference (16-18 Feb. 2023), Dept. of Hort., MNSUA, Multan.	Usman et al.	2023	Prospects of mutation breeding in crop improvement: A citrus outlook.	xii	O
	Anum et al.	2023	Androgenic responses in Guava (<i>Psidium guajava</i> L.) cultivars	P 26	P
	Arooge et al.	2023	Physiological and Biochemical Responses of Colchiploid Germplasm in Acid Limes	P 81	P
	Awais et al.	2023	Impact of gamma irradiation on leaf biochemical traits of grapefruit germplasm	P 78	P
	Awan et al.	2023	Phenochemical Diversity in Selected Guava Germplasm Across Seasons	P 207	P
	Qurat-ul-Ain et al.	2023	Assessment of Genetic Diversity in Guava Cultivars using SSR Markers	P 208	P
	Din et al.	2023	Optimizing micropropagation and regeneration protocols for mass propagation of <i>Gerbera jamesonii</i>	P 23	P
Int. Hort. Conference May.17-19, 2022 Inst. of Horticultural Sci. Gomal university D.I.	Fatima et al.,	2022	In Vitro and Characterization of Colchiploid Germplasm in Acid Lime Cultivars.	-	O
	Bokhari et al.,	2022	Impact of Irradiated Pollens on Compatibility and fruit traits in Intervarietal Crosses of Guava	-	O
	Rana et al.,	2022	Morphological Variability in Gamma Irradiated Germplasm of Grapefruit.	-	P
	Shah et al.,	2022	Micro-propagation in Cyclamen: Multiple	-	O

Khan, KP, Pakistan	Bokhari et al.,	2022	Shoot induction through Corms Guava Wild Disease (GWD): A Silent Pandemic	-	P
Int. Conf. on “Climate Change: Impacts and Solutions” (7-9 Nov. 2022), UAF.	Awan et al.,	2022	Estimation of variability in phenological responses of guava germplasm across seasons	CCIS-1133	P
7 th Int. Conf. on Climate Smart Agriculture: Innovations and Adaptations (15-17 June 2022), Uni. of Poonch Rawalakot.	Awan et al.,	2022	Screening of guava (<i>Psidium guajava</i> L.) germplasm for plant growth and phenology	CAMH-26	P
	Ahmad et al.,	2021	Potato germplasm characterization for phenotypic diversity and tuber yield.	p. 15	P
	Fatima et al.,	2021	Phenotypic characterization of colchiploid germplasm of Eustis limequat.	p. 21	P
	Bokhari et al.,	2021	Callus induction and embryogenesis responses in anthers of guava (<i>Psidium guajava</i> L.).	p. 21	P
	Rana et al.,	2021	Morphological diversity in colchiploid germplasm of foster pink grapefruit (<i>Citrus paradisi</i> Macf).	p. 22	P
	Fatima et al.,	2021	In vitro regeneration responses in acid limes.	p. 22	P
	Awan et al.,	2021	Effect of pruning on plant growth, reproductive behavior and fruit production in guava varieties.	p. 44	P
Int. Hort. Conf. (Revol. Hort. for secured future) IHC 2020 Inst. of Agri. Sci. Uni. of the Punjab Lahore and PSHS	Hussain et al.,	2020	In vitro callus induction and regeneration of citrus	p. 9	P
	Usman et al.,	2020	Plant response to water stress in guava (<i>Psidium guajava</i> L.)	p.15	O
	Rana et al.,	2020	Effect of pollen sources on fruit size and quality attributes in pink flesh grapefruit	p. 81	P
	Mirbaz et al.,	2020	Micropropagation in potato cultivars	p. 105	P
	Fatima et al.,	2020	Phenotypic characterization of colchiploid germplasm in Mexican lime (<i>Citrus aurantifolia</i> L.)	p. 135	P
	Nazir et al.,	2020	Enhanced micropropagation in stevia (<i>Stevia rebaundiana</i> Bertoni)	p. 138	P
	Tahir et al.,	2020	Morphological characterization of gamma irradiated germplasm in phalsa	p. 138	P
	Bilal et al.,	2020	Enhanced clonal multiplication using cuttings of guava	p. 59	P

CONFERENCES/TRAINING COURSES/WORKSHOPS

1999 to 2025 Served as convenor, committee member and resource person in many conferences, seminars and training workshops.

Evaluation of Thesis

As an external examiner evaluated thesis of Mir Hafiz Muhammad Zeeshan, M.Sc. (Hons), University of Sargodha. 4 Nov. 2021.

Advisory and Administrative services rendered and achievements:

2023-2025	Member of Annual Report Preparation Committee
2025	Member of Self-Assessment Report (SAR)
Jan. 2024 to 2025	Member of Disciplinary Advisory Committee
Aug, 2023	Associate Senior Tutor, UAF.
Oct 2023 to date	Advisor Trainings of UAF Hort- Club Cabinet
Aug. 2023	Member Punjab Public Service Commission, for the Post of Principle Scientist (Hort.-Tissue Culture) in Agriculture research wing.
2023	Member of pomology group of IHS Technology for Exhibition and display and commercialization
2023	Member of “Course review and course file of outcome Based Education (OBE) and Hybrid Learning committee.
2023-to date	Member, annual physical verification committee for stock and stores directorate of CABB, UAF.
2022 to date	Member of pomology group of IHS Technology for Exhibition and display and commercialization
2022 to 2024	Member of “Advisory Board of Zarai Digest” for smooth running of its activities.
2022 to date	Committee member of the Sub-Committee to deal with the use of unfair means in the examination for a period of two years
2021 to date	Convenor, Internship Report Evaluation Committee, IHS, UAF.
2007 to date	Female Advisor of Ph. D and M.Sc. (Hons) Student of IHS
2008 to date	Member of Advisory Board of Agrarian Society of Agriculture Faculty.
Oct 2021 to date	Member of subcommittee on unfair Means
Dec. 2019-2021	Female Hall Warden
2017 to 2018	Superintendent, Zainab Hall
2017 to date	Member of Faculty board, UAF
2016 to 2024	Incharge, Female Common Room, Faculty of Agriculture, UAF.
2016 to date	General Incharge Laboratories and Lecture Rooms
2016 to 2024	Co-Incharge Pomology Lab
2009 to date	Member of Faculty Vigilance/Examination committee.

2008 to 2011	Deputy Director Students Affairs UAF.
2000 to 2023	Tutor TGM 121
2003 to 2005	In-charge, Plant Tissue Culture Cell, Institute of Horticultural Sciences, UAF.

TEACHING AND ADVISING

• Courses offered

Postgraduate

Plant Tissue Culture (Hort-708), Fruit Breeding (Hort-705), Nursery Management in Horticultural Crops, (SST 707), Rootstocks (Hort-701), Special Problem (Hort-719).

Undergraduate

Basics of Plant Tissue Culture (Hort-508), Breeding of Horticultural Crops (Hort-603), Introductory Horticulture (Hort-302), Horticultural Crop Production (Hort-401) and Home Gardening (Hort-403).

MEMBERSHIPS

2002 to date	Horticultural Foundation, Islamabad.
2001 to date	Agrarian Society, Faculty of Agriculture, UAF.
2000 to date	Horticulture Society, Institute of Horticultural Sciences, UAF.
1999 to date	Academic Staff Association, UAF
	Board of Academic Studies, Institute of Horticultural Sciences, UAF.
