

# Dr. Muhammad Sayyar Khan

## Publications

- 1) Fariha, Q., **Khan, M.S.** (2023). Evaluating the performance of genetically engineered *serine acetyltransferase 4 (NtSAT4)* overexpression *Brassica napus* L. lines under xenobiotics exposure. *Sarhad. J. Agric.* 39:765-772. <https://dx.doi.org/10.17582/journal.sja/2023/39.3.765.772>
- 2) Syed, S., **Khan, M.S.**, Jalal, A., Iqbal, Z. (2023). Inoculation of *Serratia sp.* under cadmium stress significantly affected *Brassica juncea* growth attributes and glutathione levels. *Pak. J. Agri. Sci.* 61(1): 75-81.
- 3) **Khan, M.S.**, Soyk, A., Wolf, I., Peter, M., Meyer, A.J., Rausch, T., Wirtz, M., Hell, R. (2022). Discriminative long-distance transport of selenate and selenite triggers glutathione oxidation in specific subcellular compartments of root and shoot cells in *Arabidopsis*. *Front. Plant Sci.* 13: 894479. <https://doi.org/10.3389/fpls.2022.894479>
- 4) **Khan, M.S.**, Lu, Q., Cui, M., Rajab, H., Chai, T., Wu, H-L., Ling, H-Q. (2022). Crosstalk between iron and sulfur homeostasis networks in *Arabidopsis*. *Front. Plant Sci.* 13: 878418. <https://doi.org/10.3389/fpls.2022.878418>
- 5) Khan, A.D., **Khan, M.S.**, Bangash, S.J.A., Naeem, K., Tayyab, M. (2022). Cadmium and arsenic provoke mostly distinct but partly overlapping responses in *Brassica juncea*. *Crop Pasture Sci.*, 73: 160-169. <https://doi.org/10.1071/CP21157>
- 6) Ahmad, D., Zehra, F, Jalal, A., Ali, W., Khan, **M.S.** (2022). Determination of the genetic diversity in populations of halophytic grass *S. ioclados* using PBA markers. *K.J.S.* 49(2): 1-11. <https://doi.org/10.48129/kjs.12893>
- 7) Shah, A.U., Rajab, H., Jalal, A., Ajmal, M., Bangash, S.A.K., Ahmad, D., **Khan, M.S.** (2020). Inoculation of *Brassica napus* L. genotypes with endophytic bacteria promote growth and alleviate cadmium toxicity. *J. Animal Plant Sci.*, 30(5): 1187-1193. <https://doi.org/10.36899/JAPS.2020.5.0136>
- 8) Rajab, H., **Khan. M.S.**, Wirtz, M., Malagoli, M., Qahar, F., Hell, R. (2020). Sulfur metabolic engineering enhances cadmium stress tolerance and roots to shoot iron translocation in *Brassica napus* L. *Plant Physiol. Biochem.*, 152: 32-43 <https://doi.org/10.1016/j.plaphy.2020.04.017>
- 9) Rajab, H., **Khan. M.S.**, Malagoli, M., Hell, R., Wirtz, M. (2019). Sulfate-induced stomata closure requires the canonical ABA-signal transduction machinery. *Plants.* 8(1): 21. <https://doi.org/10.3390/plants8010021>
- 10) Ahmed, U., Ahmed, D., Jalal, A., Rajab, H., Alam, S.S., **Khan, M. S.** (2019). Genetic structure of Pakistani tomato accessions based on morphological traits and RAPD markers. *Songklanakarinn J.*

Sci. Technol., 41(6): 1348-1355.

- 11) Rajab, H., **Khan, M.S.**, Shah, S.H., Shah, S.M.A. (2019). Genetic transformation of tobacco *serine acetyltransferase 4 (NtSAT4)* gene in *Brassica napus* L. for enhanced stress tolerance. Sarhad. J. Agric. 35(4): 1224-1233. <http://dx.doi.org/10.17582/journal.sja/2019/35.4.1224.1233>
- 12) BiBi, Z., Khan, N.U., Khan, Q.U., Khan, M.J., Khan, I. U., Khan, M.J., **Khan, M.S.**, Shah, S.H. (2018). Response of upland cotton genotypes to salinity at early growth stages. Environ. Engg. Manag. J. Bibi\_14 17 (8): 1977-1988. <http://eemj.eu/index.php/EEMJ/article/view/3661>
- 13) Durrani N.J., Ahmad, D., Jalal, A., Rajab, H., **Khan M. S.** (2017). The effect of explant sources and growth regulators on callus induction and regeneration in tomato cultivars. J. Animal Plant Sci. 27 (2): 481-89.
- 14) Shah, M.K., Saddique, U., Ahmad, S., Iqbal. A., Ali, A, Shahzad, W., Khan, **M.S.**, **Khan, H.**, Ur-Rahman, H., Ali, S.S.S., Israr, A. (2017). Molecular Characterization of Local Isolates of *Mycoplasma capricolum* Sub Specie Capripneumoniae in Goats (*Capra hircus*) of Khyber Pakhtunkhwa, Pakistan. Pak. Vet. J. 37(1): 90-94.
- 15) Ahmad, K., Jalal, A., Rajab, H., Ullah, M., **Khan, M.S.** (2016). Screening of promising *Brassica napus* L. genotypes for callus induction and regeneration. Int. J. Biol. Biotech., 13 (2): 203-215.
- 16) Ahmad, B., Ambreen., **Khan, M.S.**, Haider, A., Khan, I. (2015). Agrobacterium mediated transformation of *Brassica juncea* (L.) Czern. with *chitinase* gene conferring resistance against fungal infections. Pak. J. Bot., 47 (1): 211-216.
- 17) Ilyas, M., Khan **M. S.**, **Khan, M.R.**, Ahmad, K., Muhammad, A. (2015). Response of different mutants of *Arabidopsis thaliana* under arsenic stress. J. Agric. Res., 53(3): 375-388.
- 18) Muhammad, A., Khalil, S.A., Zaman, A., Habibullah, **Khan, M. S.** (2014). Growth analysis of Soybean landraces under extended planting dates. Sarhad J. Agric. 30(3): 297-304.
- 19) Wazir, R., Muhammad, A, Subhan, M., Khan, I., Ali, M., **Khan, M.S.** (2014). Morpho-anatomical features of weed flora of rainfed maize field in Mir Ali, North Waziristan agency, Pakistan. Pak. J. Weed Sci. Res., 20 (3): 385-403.
- 20) Bangash, S.A., **Khan, M.S.**, Ambreen., Khattak, S.H., Siddique, A.S. (2013). Genetic transformation of *Brassica juncea* with antimicrobial *Wasabi definsin* gene. Pak. J. Bot., 45(3): 993-998.
- 21) Khan, I., **Khan, M.S.**, Khan, M.I., Rajab, H., Shah, S.H., and Jalal, A. (2013). Genetic transformation of *Brassica napus* with the antifungal *chitinase* gene. Int. J. Agric. Biol., 15(5): 933-938.
- 22) Zamir, R., Khalil, S.A., Shah, S.T., **Khan, M.S.**, Ahmad, K., Shahenshah (2012). Efficient *in vitro* regeneration of sugarcane (*Saccharum officinarum* L.) from bud explants. Biotechnol.

Biotech. Eq., 26: 3094-3099. <https://doi.org/10.5504/BBEQ.2012.0049>

**23)** Hsu, Fu-Chen., Wirtz, M., Heppel, S.C., Bogs, J., Krämer, U., **Khan, M.S.**, Bub, A., Hell, R., Rausch, T. (2011). Generation of Se-fortified broccoli as functional food: Impact of Se-fertilization on S-metabolism. *Plant, Cell and Environ.*, 34: 192-207. <https://doi.org/10.1111/j.1365-3040.2010.02235.x>

**24)** **Khan, M.S.**, Haas, F.H., Allboje Samami, A., Moghaddas Gholami, A., Bauer, A., Fellenberg, K., Reichelt, M., Hansch, R., Mendel, R.R., Meyer, A.J., Wirtz, M., Hell, R. (2010). Sulfite Reductase Defines a Newly Discovered Bottleneck for Assimilatory Sulfate Reduction and Is Essential for Growth and Development in *Arabidopsis thaliana*. *Plant Cell*, 22: 1216-1231. <https://doi.org/10.1105/tpc.110.074088>

**25)** Jalal, A., Rahman, H., **Khan, M.S.**, Maqbool, K., and Khan, S. (2006). Inbreeding depression for reproductive and yield related traits in S1 lines of maize (*Zea mays* L.). *Songklanakarin. J. Sci. Technol.*, 28: 1169-1173.

**26)** Iqbal, A., Khalil, I.H., Ateeq, N., and **Khan, M.S.** (2006). Nutritional quality of improved food legumes. *F. Chem.*, 97: 331-335. <https://doi.org/10.1016/j.foodchem.2005.05.011>

**27)** Ahmad, S., **Khan, M.S.**, Swati, M.S., Khattak, G.S.S., and Khalil, I.H. (2005). A study on heterosis and inbreeding depression in sunflower (*Helianthus annuus* L.). *Songklanakarin. J. Sci. Technol.*, 27: 1-8

**28)** **Khan, M.S.**, Khalil, I.H., and Swati, M.S. (2004). Heterosis for yield components in sunflower (*Helianthus annuus* L.). *Asian J. Plant Sci.*, 3: 207-210.

**29)** Khattak, G.S.S., Ashraf, M., and **Khan, M.S.** (2004). Assessment of genetic variation for yield and yield components in mungbean (*Vigna radiata* L. Wilczek) using generation mean analysis. *Pak. J. Bot.*, 36: 583-588.

**30)** **Khan, M.S.**, Swati, M.S., Khalil, I.H., and Iqbal, A. (2003). Heterotic studies for various characters in sunflower (*Helianthus annuus* L.). *Asian J. Plant Sci.*, 2: 1010-1014.

## Book Chapters

**1)** **Khan, M.S.**, and Hell, R. (2008). A future crop biotechnology view of sulfur and selenium. *In: Sulfur a missing link between soils, crops, and nutrition*, (ed) Joseph, Jez., Agronomy Monograph No. 50. CSA Publ., Madison, USA, 50: 293-311

**2)** Hell, R; **Khan, M.S.**, and M. Wirtz. (2010). Cellular Biology of sulfur and its functions in plants. *In: cell biology of metals and nutrients* (ed) R. Hell and R. Mendel. *Plant Cell Monographs* 17. Springer-Verlag Berlin Heidelberg, Germany, 17: 243-280

**3) Khan, M.S.,** and Hell, R. (2014). Applied Cell Biology of Sulphur and Selenium in Plants. *In: Applied Plant Cell Biology*, (ed.), P. Nick and Z. Opatmy. Plant Cell Monographs 22, Springer-Verlag-Berlin Heidelberg, Germany, 22: 247-272