ZAKIR HUSAIN DELHI COLLEGE
(University of Delhi)

Faculty Details
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Title	**Dr.**	First Name	**MOHAMMAD WAHID**	Last Name	**ANSARI**	Photograph
Designation	**Associate Professor**					
Address	**Department of Botany, Zakir Husain Delhi College (University of Delhi), Jawaharlal Nehru Marg, New Delhi 110002**					
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Educational Qualifications		
Degree	Institution	Year
Ph. D. (Physiology)	**G.B. Pant University of Agriculture and Technology, Pantnagar**	**2005**

Career Profile

- **Associate Professor, Department of Botany, Zakir Husain Delhi College, University of Delhi (21st July 2023- till date)**
- **Assistant Professor: Department of Botany, Zakir Husain Delhi College, University of Delhi (20th July 2015- 20th July 2023)**
- **Research Scientist: Plant Molecular Biology Group, International Centre for Genetic Engineering and Biotechnology, New Delhi (25th June 2013- 19th July 2015)**
- **Assistant Professor: School of Agriculture, Mada Walabu University, Ethiopia (25th December 2009- 27th July 2011)**
- **Research Associate: Plant Molecular Biology Group, International Centre for Genetic Engineering and Biotechnology, New Delhi (2nd July 2007- 3rd August 2009)**
- **Teaching Personnel against Assistant Professor: G.B. Pant University of Agriculture & Technology, Pantnagar (5th January 2006- 20th December 2006)**

Administrative Assignments

- **Teacher In-charge, Department of Botany, 2025**
- **Member Editorial Board, Scientific Reports, 2025**
- **Member Editorial Board, Plant Signaling & Behavior, 2025**
- **Academic Editor, PLosOne, 2025**
- **Life member of Agricultural Technology Development Society (ATDS), 2025**
- **Mentor of B.Sc. (H) and B.Sc. Life Science students under Mentor-mentees scheme, 2025**
- **Member, Spectrum Magazine committee, 2024**
- **Member, E-waste committee, 2024**
- **Member, Life Science Society FUSION, 2022-2023**
- **Academic Supervisory, 2022-2023**
- **Staff requirement committee, 2022-2023**
- **Member, Value Addition Courses committee, 2022-2023**
- **Superintendent Examination, 2021-2022**
- **Member, NAAC, IQAC: Criteria 3- Research. Consultancy and Extension, 2021-2023**
- **Member of Departmental Research Committee (DRC) of University of Delhi, 2020-2021**
- **Member, Library Committee, 2018-2019**
- **Member, Sport Committee, 2018-2021**

- **President, Botanical Society NARGIS, 2017-2018**
- **Member, Academic Supervisory Committee, 2016-2018**
- **Member, College Garden and Greening Committee, 2016-2018**
- **Member, Nature and Environment Society Committee, 2016-2017**
- **Admission Counselling Committee , Zakir Husain Delhi College, 2016-2017**
- **Member of Science SETU programme, NII-DBT, 2015-2017**

Areas of Interest / Specialization (**Plant Physiology and Biotechnology**)

My research focuses on to provide climate smart agriculture in changing environment. The main focus of my research concerns the regulation of plant growth and developmental processes under abiotic stresses involving plant hormones. I believe that plant hormone homeostasis and its cross talk with plant hormones-mediated physiological pathways is crucial to enhance abiotic stress tolerance in plants. The interactions of ethylene and salicylic acid with important primary pathways such as photosynthesis and respiration involving ascorbate, cyanide, alternating oxidase and antioxidants lead to balanced cellular redox system. This could be achieved by regulating expression of various genes of associated pathways under stress. I am interested to find out how the important biomolecules such as betacyanoalanine, succinate, formate, ascorabte and glutathione, and putrescine function as key regulator of cell damage? How ethylene metabolism is essential for normal functioning of wide range of cell developmental and physiological processes leading to normal cell physiology to survive plant under abiotic stress.

Subjects Taught

- **Nitrogen metabolism in plants (Ph.D. Course)**
- **Plant growth and regulations (M.Sc. Course)**
- **Primary metabolism in plants (Ph.D. Course)**
- **Plant physiology and metabolism (UG Course)**
- **Plant metabolism (UG Course)**
- **Plant Physiology (UG Course)**

Research Guidance

Supervision of Ph.D. students

1. **Mr. Yalaga Rama Rao (Ph.D. awarded) (2022)**
2. **Ms. Nit Nayana (Ph.D. awarded) (2024)**
3. **Ms. Priya Yada (Registered) (2022)**
4. **Ms Saurish Sarkar (Registered) (2019)**
5. **Ms. Meheravi Shinde (Registered) (2025)**

Publications Profile (**Total publications = 82**)

Papers published in refereed journals

1. Sahoo RK, Ansari MW*, Tuteja N* (**2025**) Overexpression of rice RDH45, a homologues of pea PDH45, leads to salinity stress tolerance in rice (Oryza sativa L. cv. IR64) by modulating the endogenous Na^+ ion, ROS and plant hormones level and photosynthesis and antioxidant machinery. **Physiology and Molecular Biology of Plant.** (Submitted)

2. Yadav P, Ansari MW*, Gill SS*, Tuteja N (**2024**) Arsenic transport, detoxification, and recent technologies for mitigation: a systemic review. **Plant Physiology and Biochemistry** 213:108848. doi: 10.1016/j.plaphy.2024.108848. (Impact factor: **6.5**) (ISSN No: 1873-2690).

3. Yadav P, Nehra A, Kalwan G, Bhardwaj D, Yasheshwar , Rani V, Agarwala N, Tuteja N, Gill R, **Ansari MW*,** Gill SS* (**2024**) Harnessing jasmonate, salicylate, and microbe synergy for abiotic stress resilience in crop plants. **Journal of Plant Growth and Regulation**. https://doi.org/10.1007/s00344-023-11218-2. (Impact factor: **4.8**) (ISSN No: 1435-8107).

4. Yadav P, Ansari MW, Saini S, Punia S, Kaula BC, Rani V, Gill SS, Tuteja N (**2024**) Review and future prospects on the impact of abiotic stresses and tolerance strategies in medicinal and aromatic plants. **Brazilian Journal of Botany.** https://doi.org/10.1007/s40415-024-

01004-z. (Impact factor: **1.6**) (ISSN No: 1806-9959).

5. Yadav P#, Rao YR#, Yasheshwar#, Kaula BC#, Siddiqui ZH, Meselmani MA, Sahoo RK, **Ansari MW***, Pongiya UD, Rakwal R, Tutja N, Gill SS, (**2023**) Ethylene inhibitors improve crop productivity by modulating gene expression, antioxidant defense machinery and photosynthetic efficiency of *Solanum lycopersicum* L. cv.Pusaruby grown in controlled salinity stress conditions. **South African Journal of Botany** 161: 66-77. (Impact factor: **3.1**) (ISSN No: 1727-9321).

6. Yadav P, **Ansari MW***, Kaula BC, Rao YR, Meselmani MA, Siddiqui ZH, Brajendra, Kumar SB,Rani V, Sarkar A, Rakwal R, Gill SS, Tutja N (**2023**) Regulation of ethylene metabolism in tomato under salinity stress involving linkages with important physiological signaling pathways. **Plant Science** 334: 111736. (Impact factor: **5.2**) (ISSN No: 1873-2259).

7. Rao YR, **Ansari MW***, Sahoo RK, Wattal RK, Tuteja N, Kumar VR (**2021**) Salicylic acid modulates ACS, NHX1, sos1 and HKT1;2 expression to regulate ethylene overproduction and Na+ ions toxicity that leads to improved physiological status and enhanced salinity stress tolerance in tomato plants cv. Pusa Ruby. **Plant Signal Behavior** 16:1950888. (Impact factor: **2.9**) (ISSN No: 1559-2316).

8. A Verma#, **MW Ansari#,** G Kumar, N Tuteja (**2021**) Proteomics for brassinosteroid signalling: understanding brassinosteroids mediated stress responses through advanced proteomics. **Plant Gene** 26:100282. (Impact factor: **3.5**) (ISSN No: 2352-4073).

9. Gupta R, Sharma RD, Rao YR, Siddiqui ZH, Verma A, Ansari MW*, Rakwal R, Tuteja N (**2021**) Acclimation potential of Noni (*Morinda citrifolia* L.) plant to temperature stress is mediated through photosynthetic electron transport rate. **Plant Signal Behavior** 16:1865687. (Impact factor: **3.5**) (ISSN No: 2352-4073).

10. A. Verma, G. Chaudhary, H. Mudila, **M.W. Ansari**, M.K. Chaudhary (**2020**) Antioxidant Metabolism of Tomato (*Lycopersicon esculentum* L.) Seedlings under Polyethylene Glycol (PEG) Induced Drought Stress Condition. **Material International** 2: 0412-0420. (Impact factor: not yet) (ISSN No: 2668-5728).

11. Y.R. Rao, A.K. Singh, N. Bharti, V. Rani, A. Verma, R. Gupta, Z.H. Siddiqui, Z. K. Abbas, G. Bains, Brajendra, S.K. Guru, R. Rakwa, N. Tuteja, V. R. Kumar **M.W. Ansari*** (2020) Ethylene mediated physiological response for in vitro development of salinity tolerant tomato. **Journal of Plant Interactions** 15: 406–416. (Impact factor: **4.2**) (ISSN No: 1742-9153).

12. **M.W. Ansari**, Kaushik K, Bains G, Tula S, Joshi B, Rani V, Wattal, RK, Rakwal R, Shukla A, Pant RC, Tuteja R, Tuteja N (**2019**) Cyanide produced with ethylene by ACS and its incomplete detoxification by β-CAS in mango inflorescence leads to malformation. **Scientific Reports** 9(1):18361. (Impact factor: **4.99**) (ISSN No: 2045-2322).

13. Z.H. Siddiqui, Z.K. Abbas, **M.W. Ansari**, M.N. Khan (**2019**) The role of miRNA in somatic embryogenesis. **Genomics** 111:1026-1033. (Impact factor: **4.4**) (ISSN No: 1089-8646).

14. H. Singh, R. Sharma, Savita, M.P. Singh, M. Kumar, A. Verma, **M.W. Ansari**, M. Negi, S.K. Sharma (**2018**) Adaptive physiological response of *Parthenium hysterophorus* to elevated atmospheric CO_2 concentration. **Indian Forester** 144: 6-19. (Impact factor: **0.67**) (ISSN No: 0019-4816).

15. N. Passricha, S. Saifi, **M.W. Ansari**, N. Tuteja (**2017**) Prediction and validation of cis-regulatory elements in 5' upstream regulatory regions of lectin receptor-like kinase gene family in rice. **Protoplasma** 254: 669-684. (Impact factor: **3.3**) (ISSN No: 1615-6102).

16. Verma A, Singh H, Anwar MS, Kumar S, **Ansari MW,** Agrawal S (**2016**) Production of Thermostable Organic Solvent Tolerant Keratinolytic Protease from Thermoactinomyces sp. RM4: IAA Production and Plant Growth Promotion. **Frontiers In Microbiology** 7:1189.

(Impact factor: **5.2**) (ISSN No: 1664-302X).

17. Pandey V[#], **Ansari MW**[#], Tula S, Yadav S, Sahoo RK, Shukla N, Bains G, Badal S, Chandra S, Gaur AK, Kumar A, Shukla A, Kumar J, Tuteja N (**2016**) Dose-dependent response of *Trichoderma harzianum* in Improving drought tolerance in rice genotypes. **Planta** 243:1251-1264. (Impact factor: **4.8**) (ISSN No: 1432-2048).

18. S.S. Gill, R. Gill, D.K. Trivedi, N.A. Anjum, K.K. Sharma, **M.W. Ansari,** A.K. Johri, R. Prasad, E. Pereira, A. Varma, N. Tuteja (**2016**) *Piriformospora indica*: potential and significance in plant stress tolerance. **Frontiers In Microbiology** 7:332. (Impact factor: **5.2**) (ISSN No: 1664-302X).

19. Pandey V, **Ansari MW**, Tula S, Sahoo RK, Bains G, Kumar J, Tuteja N, Shukla A (**2016**) *Ocimum sanctum* leaf extract induces drought stress tolerance in rice. **Plant Signaling & Behavior** 11(5): e1150400. (Impact factor: **2.9**) (ISSN No: 1559-2316).

20. G Kandpal, MW Ansari, V Pandey, G Bains, SC Shankhdhar, AK Gaur, MK Nautiyal, A Kumar, A Shukla **(2016)** Silicon solubilizer improves morphological and phenological attributes and confers biotic stress tolerance in rice genotypes. **Communicative Integrative Biology. Accepted.** (Impact factor: **0.55**) (ISSN No: 1942-0889).

21. C Kaur, G Kumar, S Kaur, **MW Ansari**, A Pareek, SK Sopory, SL Singla-Pareek. (2015) Molecular cloning and characterization of *Salt Overly Sensitive* gene promoter from *Brassica juncea* (*BjSOS2*). **Molecular Biology Reports** 42:1139–1148. (Impact factor: **2.8**) (ISBN No: 1573-4978).

22. **M.W. Ansari**, G. Bains, A. Shukla, R.C. Pant, N. Tuteja (2013) Low temperature stress ethylene and not *Fusarium* might be responsible for mango malformation. **Plant Physiology and Biochemistry** 69: 34-38. (Impact factor: **6.5**) (ISSN No: 1873-2690).

23. A. Singh, **M.W. Ansari**, C.P. Singh, A. Shukla, R.C. Pant, N. Tuteja, G. Bains (2014) First evidence of putrescine involvement in mitigating floral malformation in mango: a scanning electron microscope study. **Protoplasma** 251(5):1255-1261**.** (Impact factor: **3.3**) (ISSN No: 1615-6102).

24. R.K. Sahoo, **M.W. Ansari**, N. Tuteja (2015) Salt tolerant *SUV3* overexpressing transgenic rice plants conserve physicochemical properties and microbial communities of rhizosphere. **Chemosphere** 119C: 1040-1047. (Impact factor: **8.8**) (ISSN No: 1879-1298).

25. R.K. Sahoo, **M.W. Ansari,** N. Tuteja (2014) *OsSUV3* transgenic rice maintained higher endogenous level of plant hormones to eradicate the adverse effects of salinity on crop productivity. **Rice** 7:1-3. (Impact factor: **5.8**) (ISSN No: 1939-8433).

26. R.K. Sahoo, **M.W. Ansari,** M. Pradhan, T.K. Dangar, S. Mohanty, N. Tuteja (2014) Phenotypic and molecular characterization of efficient native *Azospirillum* strains from rice fields for crop improvement. **Protoplasma.** 251(4):943-53. (Impact factor: **3.3**) (ISSN No: 1615-6102).

27. R.K. Sahoo, **M. W. Ansari**, T.K. Dangar, S. Mohanty, N. Tuteja (2014). Phenotypic and molecular characterisation of efficient nitrogen-fixing *Azotobacter* strains from rice fields for crop improvement. **Protoplasma** 251:511-523. (Impact factor: **3.3**) (ISSN No: 1615-6102).

28. **M.W. Ansari**, A. Shukla, R.C. Pant, N. Tuteja (2013) First evidence of ethylene production by *Fusarium mangiferae* associated with mango malformation. **Plant Signaling & Behavior** 8 (1): e22673. (Impact factor: **2.9**) (ISSN No: 1559-2316).

29. **M.W.Ansari**, S. Tula, A. Shukla, R.C. Pant, N. Tuteja (2013) In vitro response of plant growth regulators and antimalformins on conidia germination of *Fusarium mangiferae* and incidence of mango malformation. **Communicative & Integrative Biology** 6 (6): e25659. (Impact factor:

0.55) (ISSN No: 1942-0889).

30. **M. W. Ansari**, T.K. Nainwal, G. Bains, A. Shukla, U.S. Singh. R.C. Pant (2008) Effect of ethrel on germination of spore of *Fusarium* sp. from *Mangifera indica* L. **Pantnagar Journal of Research (IJSBAR)** 6 (2): 275-278. (Impact factor: not yet, NASS rating: **3.7**) (ISSN No: 0972-8813).

31. **M. W. Ansari**, T.K. Nailwal, A. Gomathi, A.K. Singh, G. Bains, A. Shukla, H.S. Chaube, U.S. Singh, R.C. Pant (2005) Mangiferin (1,3,6,7-tetrahydroxyxanthone-C2-beta-D-glucoside), a phenolic metabolite of mango (*Mangifera indica* L.) affects germination of spore of Fusarium sp. **Journal of Plant Biology** 32 (3): 155-159. (Impact factor: **2.9**) (ISSN No: 1226-9239).

32. A. Singh, **M.W. Ansari**, C.P. Singh, A. Shukla, R.C. Pant, G. Bains (2015) Role of ethrel in causation of floral malformation in mango cv. Amrapali: a scanning electron microscopy study. **Plant Signaling & Behavior** 10:e993264. (Impact factor: **2.9**) (ISSN No: 1559-2316).

33. V.K. Sngh, A.K. Misra, S. Rajan, **M.W. Ansari**** (2007) Protein profile, mangiferin and polyphenol oxidase level in susceptible and tolerant genotypes of mango against malformation. **Indian Journal of Horticulture** 64 (1): 22-24. (Impact factor: **0.24**) (ISSN No: 0972-8538).

34. V. Rani, **M.W. Ansari,** A. Shukla, N. Tuteja, G. Bains (2013) Fused lobed anther and hooked stigma affect pollination, fertilization and fruit set in mango: a scanning electron microscopy study. **Plant Signaling & Behavior** 8 (3):e23167. (Impact factor: **2.9**) (ISSN No: 1559-2316).

35. D.K. Trivedi, **M.W. Ansari**, T. Dutta, P. Singh, N. Tuteja (2013) Molecular characterization of cyclophilin A-like protein from *Piriformospora indica* for its potential role to abiotic stress tolerance in *E. coli* **BMC Research Notes** 6: 555. (Impact factor: **4.0**) (ISSN No: 1756-0500).

36. D.K. Trivedi, **M.W. Ansari**, N. Tuteja (2014) Response of *PiCypA* tobacco T_2 transgenic matured plant to potential tolerance to salinity stress. **Plant Signaling & Behavior** 8(12): e27538. (Impact factor: **2.9**) (ISSN No: 1559-2316).

37. D. Verma, **M.W. Ansari**, G.K. Agrawal, R. Rakwal, A. Shukla, N. Tuteja (2013) In vitro selection and field responses of somaclonal variant plants of rice cv. PR113 for drought tolerance. **Plant Signaling and Behavior** 8 (4):e23519. (Impact factor: **2.9**) (ISSN No: 1559-2316).

38. D.K. Trivedi, **M.W. Ansari,** N. Tuteja (2013) Multiple abiotic stress responsive cyclophilin from rice mediates a wide range of cellular responses. **Communicative & Integrative Biology** 6 (5): e25260. (Impact factor: **0.55**) (ISSN No: 1942-0889).

39. K. Dhyani, **M.W. Ansari,** Y.R. Rao, R.S. Verma, A. Shukla, N. Tuteja (2013) Comparative physiological response of wheat genotypes under terminal heat stress. **Plant Signaling & Behavior** 8(6):e24564. (Impact factor: **2.9**) (ISSN No: 1559-2316).

40. S. Tula#, **M. W. Ansari#**, A.P. Babu, G. Pushpalatha, K. Sreenu, N. Sarla, N. Tuteja, V. Rai (2014) Physiological assessment and allele mining in rice cultivars for salinity and drought stress tolerance. **Vegetos: International Journal of Plant Research** 26 (1): 1-6. (Impact factor: **1.62**) (ISSN No: 2229-4473).

41. J Akhtar, **M.W. Ansari**, R.R. Diwedi (2006) Natural incidence of fungal microflora on the surface of post harvest sorghum grain in tarai region of Uttaranchal. **Advances in Plant Sciences** 19 (I): 175-180. (Impact factor: not yet) (ISSN No: 0970-3586).

42. A K. Singh, V.K. Gupta, T. Khan, **M.W. Ansari,** R.C. Pant (2004) Optimization of micropropagation protocol for sugarcane (*Saccharum officinarum* L.) cultivars. **Plant Cell Biotechnology and Molecular Biology**. 5 (1&2): 21-26. (Impact factor: **0.27**) (ISSN No: 0972-2025).

43. B. Joshi, **M.W. Ansari**, G. Bains, R.C. Pant, A. Shukla, N. Tuteja, J. Kumar (2014) *Fusarium mangiferae* associated with mango malformation in tarai region of Uttarakhand state of India. **Plant Signaling and Behavior. 9:e28715.** (Impact factor: **2.9**) (ISSN No: 1559-2316).

44. R.K. Sahoo, **M.W. Ansari**, N. Tuteja (2014) A novel *Azotobacter vinellandii* (SRIAz3) functions in salinity stress tolerance in rice. **Plant Signaling & Behavior** 9: e29377. (Impact factor: **2.9**) (ISSN No: 1559-2316).

45. M.S. Anwar, M.T. Siddique, A. Verma, Y.R. Rao, T. Nailwal, **M.W. Ansari*,** V. Pande (2014). Multitrait plant growth promoting (PGP) rhizobacteria isolates from *Brassica juncea* rhizosphere: keratine degradation and growth promotion. **Communicative & Integrative Biology** 7 (I): e27683. (Impact factor: **0.55**) (ISSN No: 1942-0889).

46. A. Verma, H. Singh, M.S. Anwar, **M.W. Ansari**, S. Agrawal (2014) Production of Alkaline Protease from a Haloalkaliphilic Soil *Thermoactinomycete* and its application in feather fibril disintegration. **African Journal of Microbiology Research** 8: 2565-2573**.** (Impact factor: **0.5**) (ISSN No: 1996-0808).

47. H. Singh, A. Verma*, M.W. Ansari, A. Shukla (2014) Physiological response of rice (*Oryza sativa* L.) genotypes to elevated nitrogen applied under field conditions. **Plant Signaling & Behavior** 8(6):e24564. (Impact factor: **2.9**) (ISSN No: 1559-2316).

48. R. Gupta*, H. Sutradhar, S.K. Chakrabarty, M.W. Ansari*, Y. Singh (2015) Stigmatic receptivity determines the seed set in Indian mustard, rice and wheat crops. **Communicative & Integrative Biology** 8 (5): e1042630. (Impact factor: **0.55**) (ISSN No: 1996-0808).

49. M.S. Anwar, A. Kapri, V. Chaudhry, A. Mishra, **M.W. Ansari**, Y. Souche, C.S. Nautiyal, M.G.H. Zaidi, R. Goel (2016) Response of indigenously developed bacterial consortia in progressive degradation of polyvinyl chloride. P**rotoplasma** 253(4):1023-1032. (Impact factor: **3.3**) (ISSN No: 1615-6102).

50. A. Verma, **M.W. Ansari***, R. Agrawal, S. Agrawal (2014) Alkaline protease from *Thermoactinomyces* sp. RS1 mitigates industrial pollution. **Protoplasma** 251(3):711-8. (Impact factor: **3.3**) (ISSN No: 1615-6102).

51. Y.R. Rao, A.K. Singh, N. Bharti, V. Rani, A. Verma, R. Gupta, Z.H. Siddiqui, Z. K. Abbas, G. Bains, Brajendra, S.K. Guru, R. Rakwa, N. Tuteja, V. R. Kumar **M.W. Ansari*** (2020) Ethylene mediated physiological response for in vitro development of salinity tolerant tomato. **Journal of Plant Interactions** 15: 406–416. (Impact factor: **4.2**) (ISSN No: 1742-9153).

52. Gill, SS, Gill, R, Trivedi, DK, Anjum, NA, Sharma, KK. **Ansari, MW**, Johri, AK. Prasad, R, Pereira, E, Varma, A, Tuteja, N (**2016**) *Piriformospora indica*: potential and significance in plant stress tolerance. **Frontiers In Microbiology** 7:332. (Impact factor: **5.2**) (ISSN No: 1664-302X).

53. **M. W. Ansari**, R.K. Sahoo, D.K. Trivedi, N. Tuteja (**2013**) A critical review on fungi mediated plant responses with special emphasis to *Piriformospora indica* on improved production and protection of crops. **Plant Physiology and Biochemistry** 70: 403-410. (Impact factor: **6.5**) (ISSN No: 1873-2690).

54. **M.W. Ansari,** N. Tuteja (2014) Postharvest quality risks by stress/ethylene: management to mitigate. **Protoplasma.** 252:21-32. (Impact factor: **3.3**) (ISSN No: 1615-6102).

55. **M.W. Ansari**, V. Rani, A. Shukla, G. Bains, R.C. Pant, N. Tuteja (2015) Mango (*Mangifera indica* L.) malformation: a malady of stress ethylene origin. **Physiology and Molecular Biology of Plants** 21:1-8. (Impact factor: **3.9**) (ISSN No: 0974-0430).

56. **M.W. Ansari**, S.S. Gill, N.Tuteja (2014) *Piriformospora indica* a powerful tool for crop

improvement. **Proceedings of the Indian National Science Academy** 80:317-324. (Impact factor: **0.9**) (ISSN No: 2454-9983).

57. **M. W. Ansari,** N. Tuteja (2013) Stress-induced ethylene in postharvest losses of perishable products. **Stewart Postharvest Review** 9:1-5. (Impact factor: **1.72**) (ISSN No: 1945-9656).

58. D. Bhardwaj#, **M.W. Ansari#,** R.K Sahoo, N. Tuteja (2014) Biofertilizers functions as key player in crop improvement via conserving physicochemical and biological properties of field soil. **Microbial Cell Factories** 13:66. (Impact factor: **6.3**) (ISSN No: 1475-2859).

59. A.K. Singh, **M. W. Ansari**, A. Pareek, S.L. Singla Pareek (2008) Raising salinity tolerant rice: Recent progress and future prospective. **Physiology and Molecular Biology of Plants.** 14 (1): 137-154. (Impact factor: **3.9**) (ISSN No: 0974-0430).

60. S.K. Guru, **M.W. Ansari**, A. Shukla (2012) G.M. faslon duara uttam khetee ke aayaam. **Pantnagar Kisan Diary**. 32: 203-205.

61. S. Anwar, **M.W. Ansari**, A. Shukla (2012) Plant Growth Promoting Bacteria: Worldwide Importance and Acceptance for Agricultural Benefits. **Indian Farmers'Digest** May 2012: 560.

62. **M.W. Ansari**, B. Thakur, G. Bains (2012) Micronutrient enrichment: Breeding and Engineering Perspectives. **Indian Farmers'Digest** May 2012: 359.

63. B. Thakur, **M.W. Ansari,** G. Bains (2012) Alleopathy: a safe alternative for weed control. **Indian Farmers'Digest** May 2012: 558.

64. **M.W. Ansari**, V. Kumar, A.K. Singh, H.S. Chawla (2007) Intellectual Property Rights in Agriculture. **Indian Farmers'Digest** August 2012: 9.

65. V Rani, **M.W. Ansari**, A. Singh, A. Shukla, R.C. Pant, G. Bains (2013) Histological features of healthy and malformed mango (*Mangifera indica* l.) floral bud in relation to malformation: a botanical micro-technique report. *In:* National Conference of Plant Physiology on 'Current Trends in Plant Biology Research', Junagadh Gujarat, 23-16 December, 2013. **Proceedings. Indian Society for Plant Physiology**, New Delhi-110012 pp. 419-420.

66. N. Shrivastava, **M.W. Ansari**, A. Shukla, S.K. Guru, M. Singh (2007) Elementary crop physiology. Lab manual. Department of plant physiology, GBPUA&T, Pantnagar, India. pp 95.

Books authored

67. **M.W. Ansari**, A. Kumar, A.K. Tiwari, A. Kumar, D.N. Singh, V. Rani, R. Kumar, D.P. Bara (**2020**). "Mango malformation: etiology and cure". **Parmar publications**, 854, KG Ashram, Bhuinphod, Govindpur Road, Dhanbad- 828109, Jharkhand. (ISBN: 978-81-941735-7-1)

68. D. Bhardwaj, **M.W. Ansari**. Microorganisms in sustainable agriculture and biotechnology. Publisher: Auris Reference Limited; 1st edition (April 1, 2018). (ISBN- 1788023196)

Books edited

69. **M.W. Ansari**, Anil K Singh and Narendra Tuteja (**2023**) Global Climate Change and Plant Stress Management, John Wiley & Sons publisher, Hoboken, New Jersey, USA, pp 450 (ISBN: 978-1-119-85852-2)

70. **M.W. Ansari**, S. Kumar, B.C. Kaula, R.K. Wattal (**2018**). "Introduction to challenges and strategies to improve crop productivity in changing environment". **Enriched publications**, Pvt. Ltd. S-9, IInd Floor, MLU Pocket, Manish Abhinav Plaza-II, Sector-5, Dwarka, New Delhi, India-110075, 264pp (ISBN: 978-81-934634-9-9)

Chapters Contributed to Book

71. Yadav P, **Ansari MW**, Tuteja N, Meselmani ML (**2023**) Recent Perspectives of Drought Tolerance Traits: Physiology and Biochemistry. In: Global Climate Change and Plant Stress

Management. Ed: M.W. Ansari, Anil K Singh and Narendra Tuteja. John Wiley & Sons publisher, Hoboken, New Jersey, USA, Pp 287-293. (ISBN: 978-1-119-85852-2).

72. Yadav P, **Ansari MW**, Tuteja N, Wattal RK (**2023**) Ethylene Mediates Plant-Beneficial Fungi Interaction That Leads to Increased Nutrient Uptake, Improved Physiological Attributes, and Enhanced Plant Tolerance Under Salinity Stress. In: Global Climate Change and Plant Stress Management. Ed: M.W. Ansari, Anil K Singh and Narendra Tuteja. John Wiley & Sons publisher, Hoboken, New Jersey, USA, Pp 361-376. (ISBN: 978-1-119-85852-2).

73. Yadav P, **Ansari MW**, Tuteja N (**2023**) Role of Chemical Additives in Plant Salinity Stress Mitigation. In: Global Climate Change and Plant Stress Management. Ed: M.W. Ansari, Anil K Singh and Narendra Tuteja. John Wiley & Sons publisher, Hoboken, New Jersey, USA, Pp 371-377. (ISBN: 978-1-119-85852-2).

74. MN Khan, ZH Siddiqui, M Naeem, ZK Abbas, Mohammad Wahid Ansari (**2022**) Nitric oxide and hydrogen sulfide interactions in plants under adverse environmental conditions. In: Emerging Plant Growth Regulators in Agriculture:Roles in Stress Tolerance. Ed: M. Naeem and Tariq Aftab. Academic Press, Elsevier, 125 London Wall, London EC2Y5AS, United Kingdom, Pp 215-244. (ISBN: 978-0-323-91005-7)

75. Z.H. Siddiqui, Z.K. Abbas, **M.W. Ansari**, M.N. Khan (**2021**) Hydrogen sulfide (H2S) on the cross road of regulation, protection, interaction, and signaling in plant systems under different environmental conditions. In: Hydrogen sulfide and plant acclimation to abiotic stresses. Ed: Khan, M. Nasir, Siddiqui, Manzer H., Alamri, Saud and Corpas, Francisco J. Cham -Springer international publishing, Berlin, Germany, pp 1-12. (ISBN: 978-3-030-73678-1)

76. A. Verm, S. Kumar, H.G. Kumar, J.K. Saini, R. Agrawal, A. Satlewal, **M.W. Ansari** (**2018**). Rhizosphere metabolite profiling: An opportunity to understand plant–microbe interactions for crop improvement". In: Crop improvement through microbial biotechnology: New and future developments in microbial biotechnology and bioengineering. Ed: Ram Prasad, Sarvajeet S. Gill and Narendra Tuteja. **Elsevier publication**, 25 B Street, Suite 1800, San Diego, California. Pp 341-361. (ISBN: 978-0-444-63987-5)

77. K. Bisht, V. Sirohi, A. Sajeev, Y. Rama-Rao, M. Nath, A. Verma, M.W. Ansari (2017). Potential Uses of weeds in medicinal and pharmaceutical industry. In: scope of phytochemically unexplored medicinal plants". Ed: S. Kumar, M. Bhargava, R.K. Wattal, T. Jehan. Enriched publication, New Delhi, pp 187-193. (ISBN: 978-81-934634-9-9)

78. Ansari MW (**2017)** Spread of malformation from India to western counterparts: a major threat to mango industries. *In*: Indian and western aspects of identity. Ed: G. Singh. Shree Kala Prakshan. Delhi, Pp 129-133. (ISBN: 978-93-85329-22-7).

79. A. Bhardwaj, M. Devi, W. Hasan, M. Ansar, R. Gupta, M. Nath, M.S. Anwar, G. Bains, M.W. Ansari (2017) "Production of secondary metabolites from medicinal plants by biotech-based technology". In: scope of phytochemically unexplored medicinal plants. Ed: S. Kumar, M. Bhargava, R.K. Wattal, T. Jehan. Enriched publication, New Delhi, pp 181-185. (ISBN: 978-81-934634-9-9).

80. M.S. Anwar, A. Pandey, M.K. Singh, N. Firdous, A. Verma, M.W. Ansari, T. K. Nailwal1 (2017) Ethno-botanical potential of *Prunella vulgaris* and human health. In: scope of phytochemically unexplored medicinal plants. Ed: S. Kumar, M. Bhargava, R.K. Wattal, T. Jehan. Enriched publication, New Delhi, pp 61-72. (ISBN: 978-81-934634-9-9).

81. **M.W. Ansari**, R. Srivastava, V. Tevari, A.K. Sharma (2005) Perception of elicitors of arbuscular mycorrhiza and nitrogen fixation: signal transduction. In: Recent Mycological Research. Ed: S.C. Sati. I.K. International, pp., 318-328. (ISBN No: 8188237809).

82. Rao YR, Ravikumar V and **Ansari MW*** (2020) Elucidating Naturally Occurring Antioxidants,

ANTOX Expression, and its Functioning with Plant Hormones to Mediate Abiotic Stress Response in Medicinal Plants. In: 2nd Annual Convention of North East (India) Academy of Science and Technology (NEAST) & International Seminar on Recent Advances in Science and Technology (ISRAST) from 16th -18th November 2020. (Abstract)

83. Rao YR, **Ansari MW** and Ravikumar V (2019) *In vitro* Production of Salt Tolerant Tomato (*Lycopersicum esulentum* L. cv. pusa ruby). In: 13th Annual Convention of ABAP and International Conference on " Environmental Sustainability, Human Health and Development", Organized by Department of Biotechnology, Vignan University,Vadlamudi, Andhra Pradesh from 20th-22nd December, 2019. Pp152. (Abstract)

Conference Organization/ Presentations (in the last five years)

Conference/symposium/workshop/webinar organized

- ***Organizing Convener (2024)****:* National conference on "Farmers orientation towards climate change and upgradation to sustainable agriculture (FOCUS)", organized by Green Agri Profesional Society, Birsa Agriculture University, 23rd-24th December 2024.
- ***Managing Chairman (2021)***: 3rd International Conference on "Global Initiative in Agricultural, Forestry and Applied Sciences for Food Security, Environmental Safety and Sustainable Development (GIAFAS-2021)", Organized by Agricultural & Environmental Technology Development Society (AETDS), U.S. Nagar, Uttarakhand, India in collaboration with Shri Guru Ram Rai University, Dehradun, Uttarakhand, India; Department of Agronomy, Sher-e-Bangla Agricultural University, Dhaka, Bangladesh; Soil and Water Research Institute (SWRI), Karaj, Iran; Department of Soil Science, Faculty of Agro-Based Industry, UMK, Malaysia; College of Horticulture and Gardening, Yangtze University, P.R. China and Corteva agriscience at Shri Guru Ram Rai University, Dehradun, Uttarakhand, India on October 17-18, 2021.
- ***Coordinator (2020):*** Webinar on Intellectual Property Rights : An Overview, organized by Department of Botany, Zakir Husain Delhi College, University of Delhi on October 7 2020.
- ***Co-Convener (2019):***3rd National conference on promoting and reinvigorating AGRI-HORTI technological innovations (PRAGATI), organized by Green Agri Professional Society, Jharkhand from 14th-15th December 2019.
- ***Organizing Coordinator (2018):*** 2nd International conference on "Advances in Agricultural, Biological and Applied Sciences (ABAS 2018), organized by Agricultural Technology Development Society (ATDS), India; Swami Vivekanand Subharti University, Meerut, India and Faculty of Agriculture Cairo University, Egypt from 20th October to 22nd October 2018.
- ***Convener (2018):*** National conference on "Challenges and strategies to improve crop productivity in changing environment: An integrated approach", Department of Botany, Zakir Husain Delhi College in January 12, 2018
- ***Co-convenor (2016):*** Workshop on "Basic techniques in plant tissue culture", Department of Botany, Zakir Husain Delhi College from July 4, 2016 to July 13, 2016.

Oral presentation

- Hands on training on plant tissue culture in two days workshop on PTC from 8-9 March 2019, organized by Department of Botany, ZHDC, University of Delhi
- Overload of ethylene and cyanide in mango inflorescence by modulated expression of ACS and β-CAS in changing environment cause malformation, in 3rd INPPO World Congress 2018, organized by University of Padova, Italy from 8-12 September, 2018.
- Cumulative effect of *Fusarium mangiferae* infection and ethylene content in mango flower bud in relation to malformation under low temperature stress condition, International conference on Advances in Agriculture and Biodiversity Conservation for Sustainable Development, CCS University, Meerut, 27-28 October 2017.
- "Risk reduction of reactive oxygen species mediated cellular impairment by naturally occurring antioxidants from medicinal plants" in the national conference on Pharmacognosy: Scope of Phytochemically Unexplored Medicinal Plants, Department of Botany, ZHDC, University of Delhi, 12 January 2017
- "Plant tissue culture: a key to produce plants of superior quality" in PTC workshop, ZHDC, University of Delhi, from July 4, 2016 July 13, 2016.

Research Projects (Major Grants/Research Collaboration)

Characterization of ethylene induced through *Fusarium* sp. (*mangiferae*) in mango malformation
Principal Investigator (PI)
Duration: 3 Years
Funding agency: Department of Science and Technology, Government of India
Total cost: 25,66,000/-
Status: Completed

Awards and Distinctions

- BDT-CTEP Travel Award, 30th August 2018
- 'Best Teacher Award' by Agricultural Technology Development Society, 27th October 2017
- Best Research Paper Award by Govt. of Uttarakhand on 12th August 2016
- Best Research Paper Award by Govt. of Uttarakhand in 2015

Association With Professional Bodies

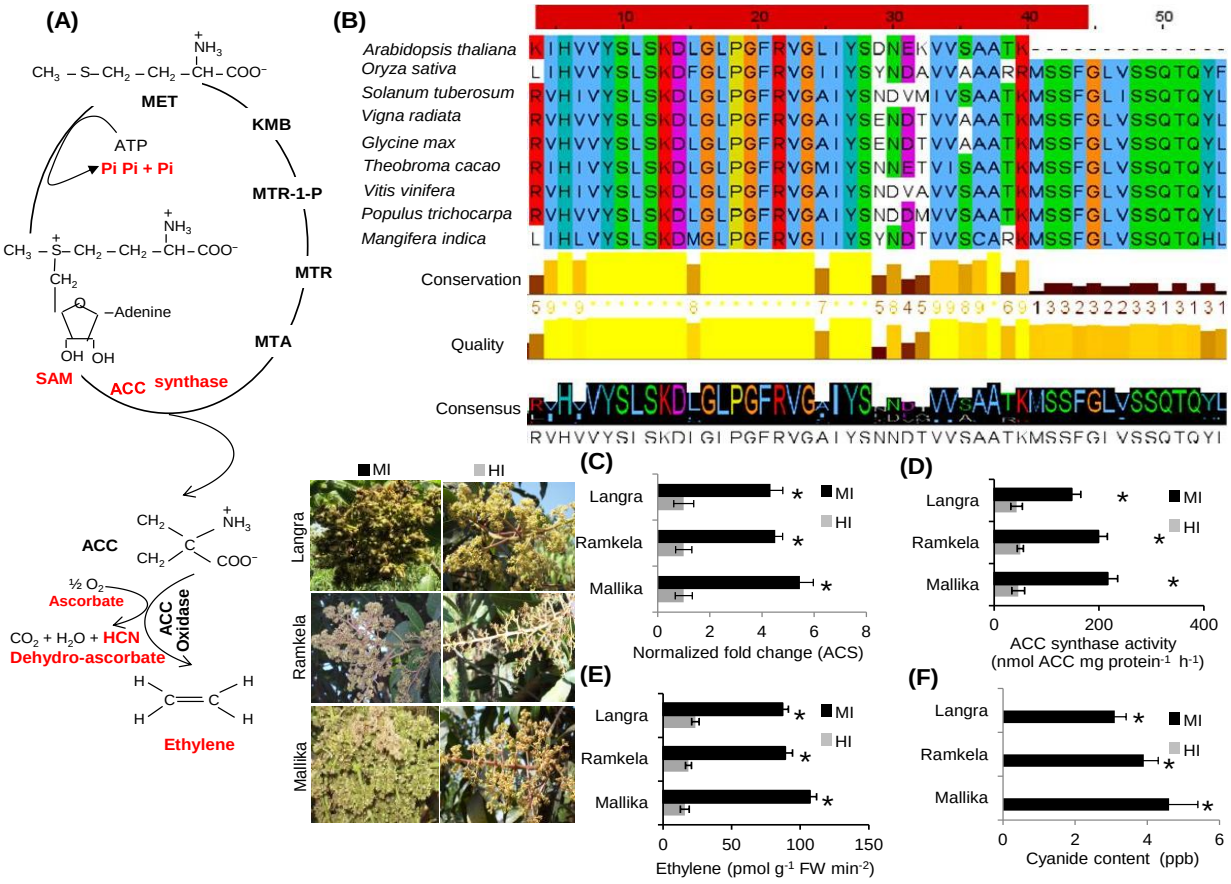
- Member of Departmental Research Committee (DRC) of University of Delhi
- Life member of Agricultural Technology Development Society (ATDS)
- Member of Science-Setu programme of NII and DBT

Other Activities

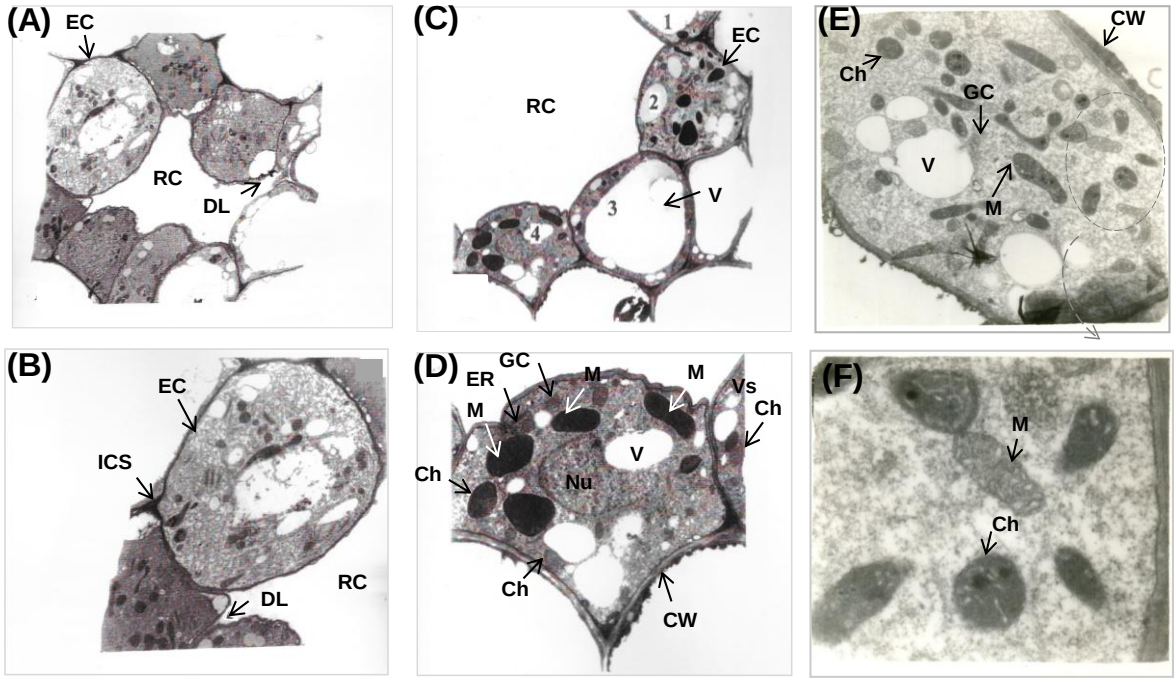
Five most significant contributions to the field of 'science'

- Implicated for the first time a role of cyanide in mango malformation system.
- Reported for the first time from India that *Fusarium mangiferae*, associated with mango malformation, has a capacity to produce ethylene itself
- Discovered a dose-dependent response of *Trichoderma harzianum* Th-56 in improving drought tolerance in rice
- First report that "Low temperature induced stress ethylene and not *Fusarium* might be responsib for causing the mango malformation.
- Provided the first evidence that putrescine spray on mango inflorescence reduces the malformatic

Research Highlights

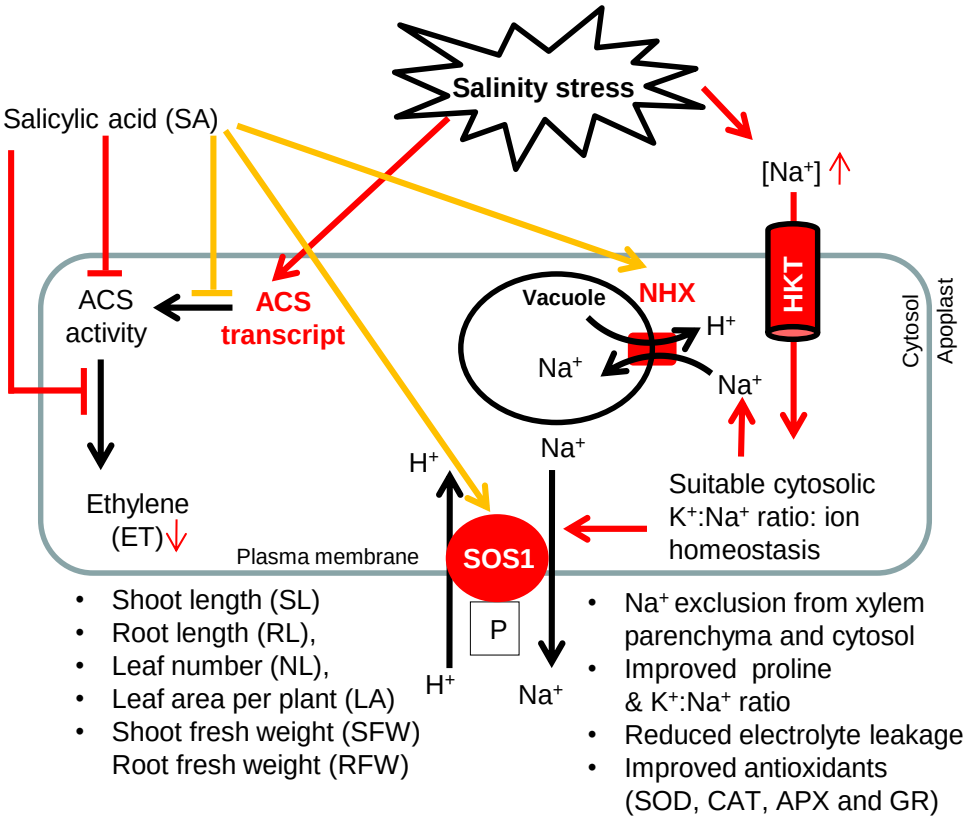


Exploring ethylene metabolism in mango malformation. The amino acid sequence alignment of 1-aminocyclopropane-1-carboxylic acid (*ACS*) gene of plant species (A). The endogenous transcript levels of *ACS* (B), ACC synthase enzyme activity (nmol ACC mg protein^{-1} h^{-1}) (C) and ethylene content (pmol g^{-1} FW min^{-2}) (D) in the malformed and healthy inflorescence of mango cultivars.
Scientific Reports (2019) 9(1):18361



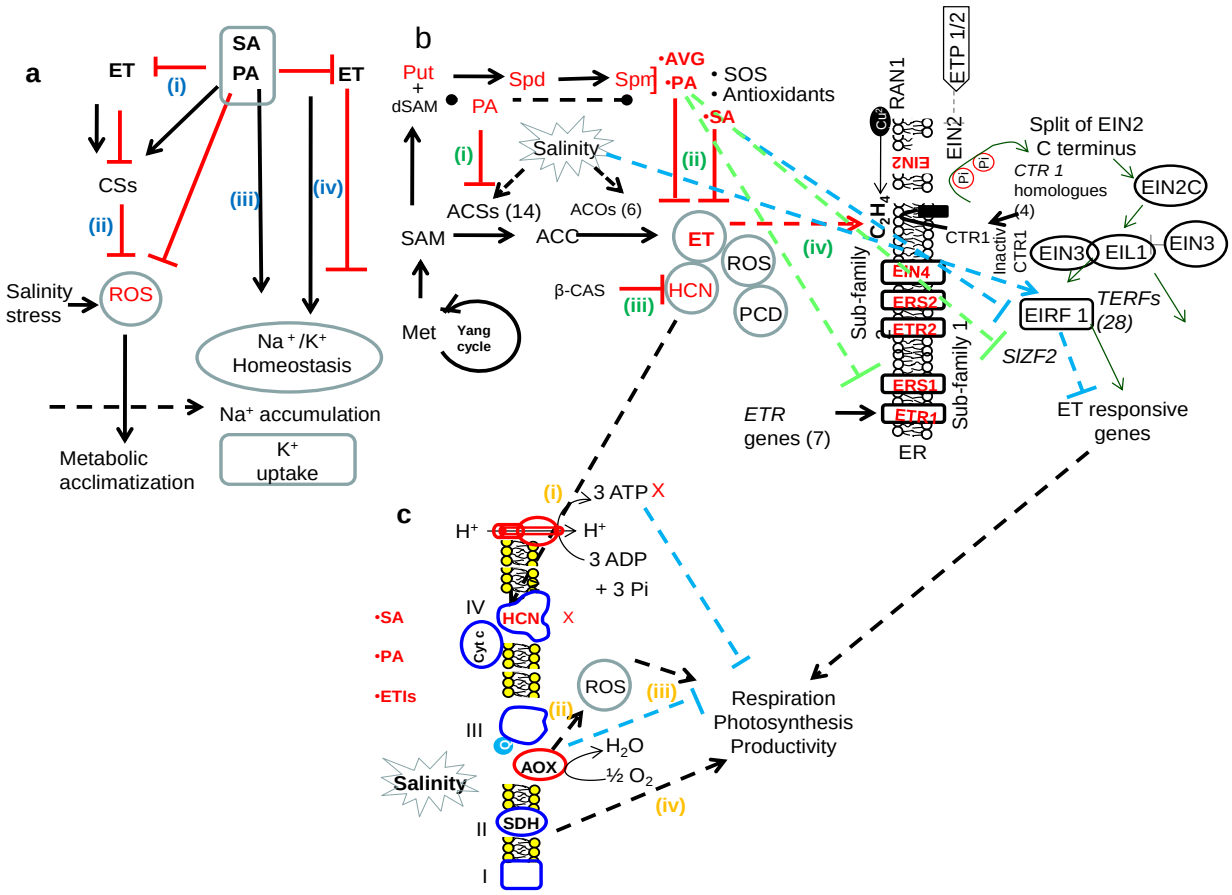
The cross-section of malformed floral tissues shows epithelial cells at various stages of differentiation. Cells possess dark cytoplasm and intact cell organelles while mitochondria appear black and oddly shaped in the section (Transmission electron micrograph of malformed and healthy floral tissues of mango cultivar)

Scientific Reports (2019) 9(1):18361

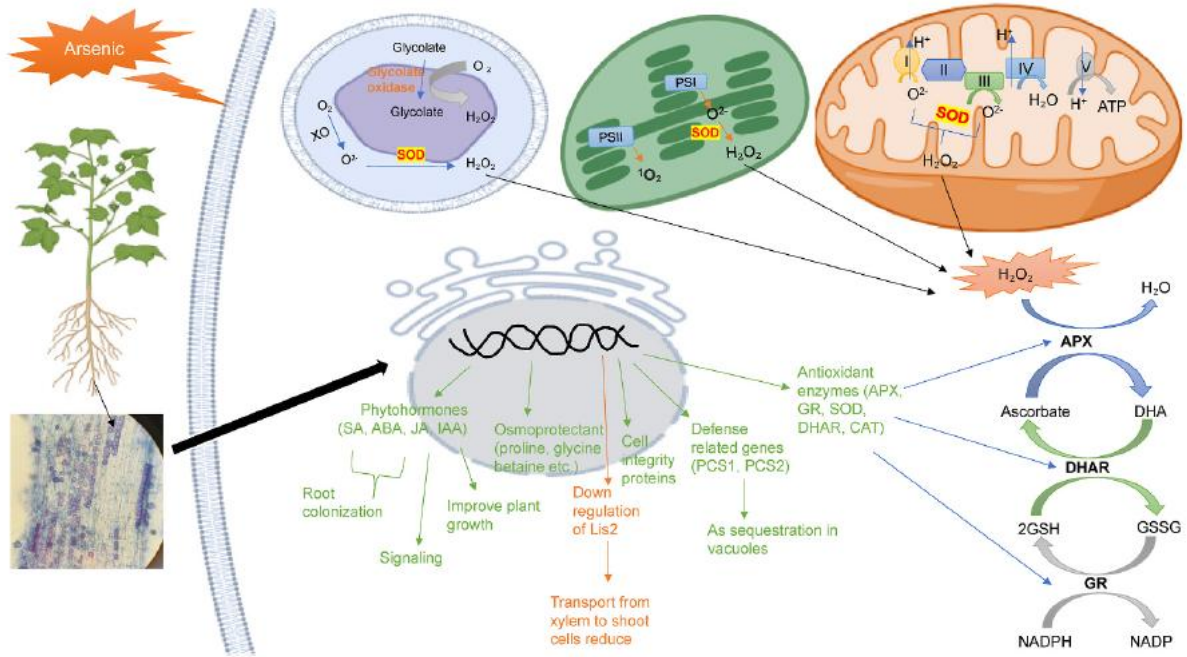


Salicylic acid mediated SOS pathway that regulates adverse effect of ethylene and Na^+ ions toxicity that leads to improve salinity stress tolerance in tomato plants.

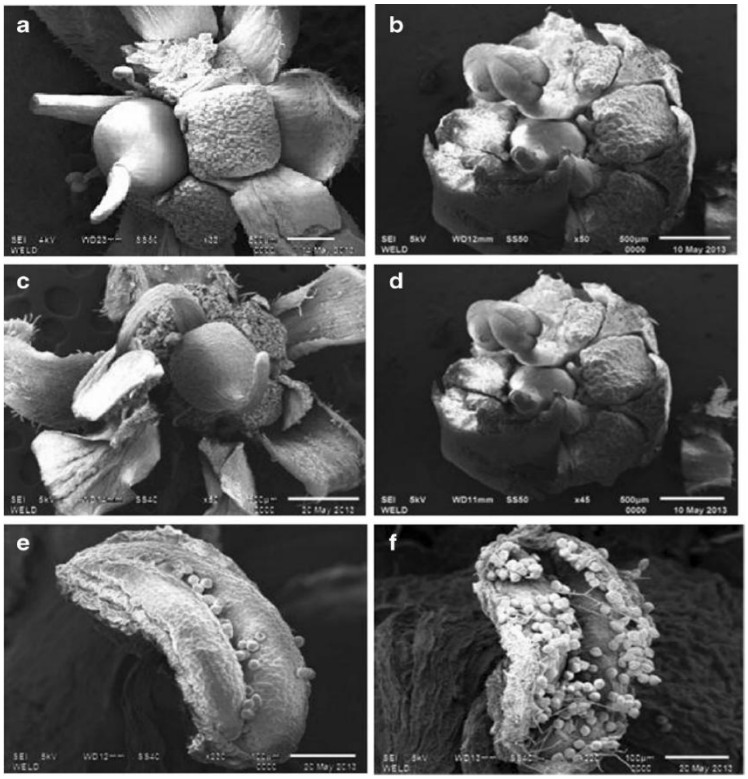
***Plant Signal Behavior** (2021) 16:1950888.*



Interaction of ET, SA and PAs with SOS pathways in salinity stress tolerance mechanism.
Plant Science (2023) 334: 111736

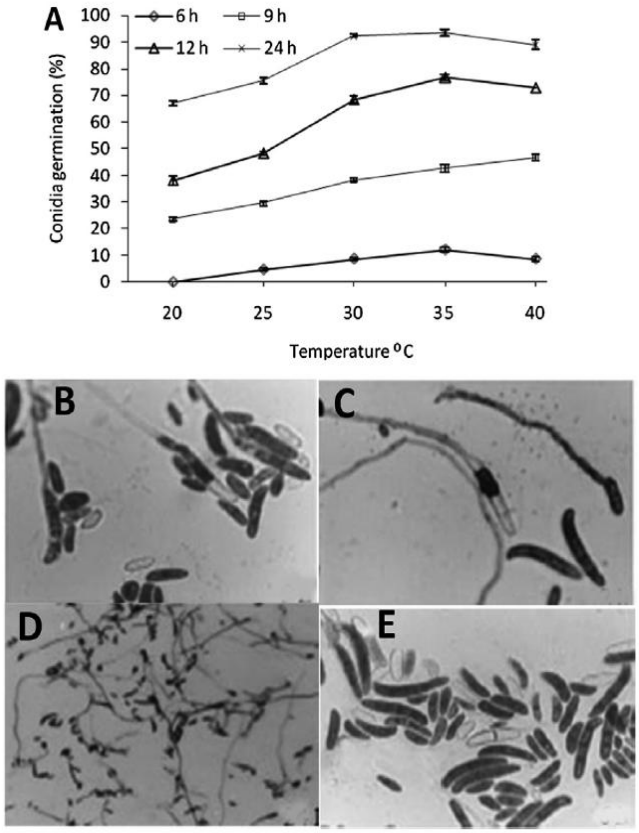


***S. indica* symbiotic association-mediated As stress tolerance.** The parameters in green indicate a higher level and upregulation of genes, while the orange color indicates a lower level and downregulation of genes in response to *S. indica*.
Plant Physiology and Biochemistry (2024) 213:108848



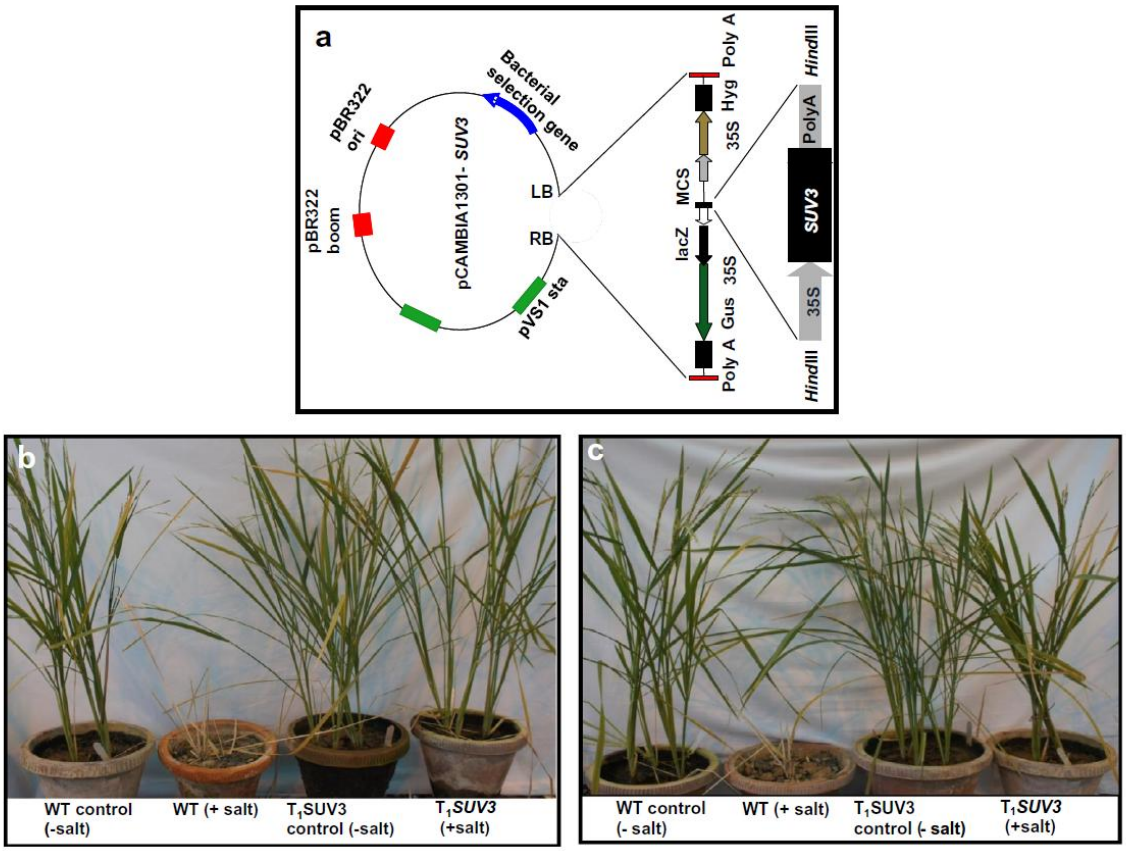
Scanning electron micrographs of putrescine-treated and untreated bisexual flowers of healthy and malformed panicles.

Protoplasma 251(5):1255-1261

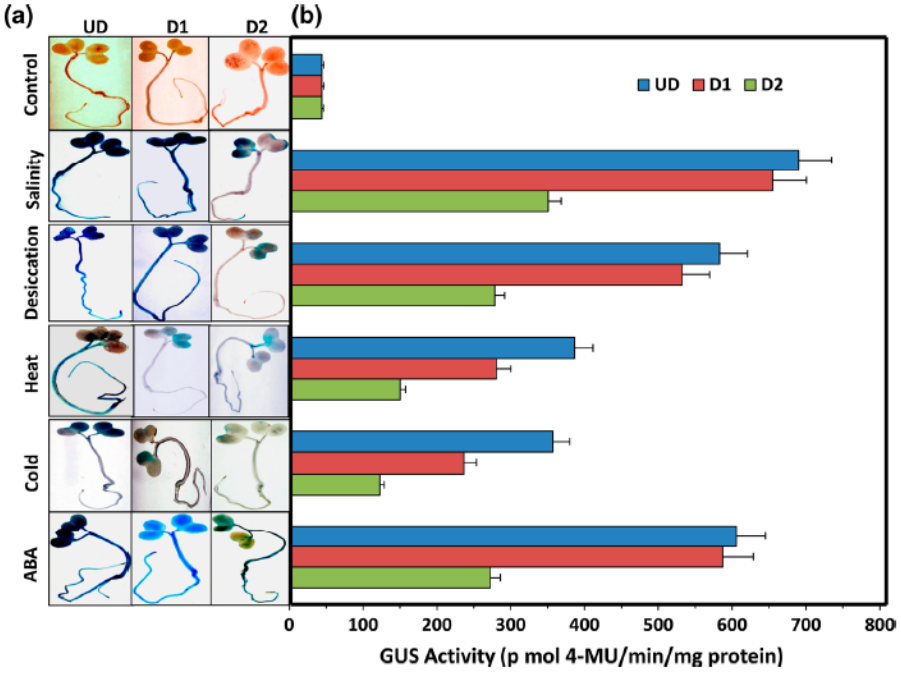


In vitro* germination of conidia of *F. mangiferae isolated from mango cultivars *viz.,* Amrapa Bombay green, Chausa, Dashehri and Mallika at eight different temperatures 5°, 10°, 15°, 20°, 25°, 30°, 3 and 40°C.

Plant Physiology and Biochemistry 69: 34-38



Salt tolerant *SUV3* overexpressing transgenic rice plants conserve physicochemical properties and microbial communities of rhizosphere. **Chemosphere**



Molecular cloning and characterization of *Salt Overly Sensitive* gene promoter from *Brassica juncea* (*BjSOS2*).

Molecular Biology Reports 42:1139–1148.