

Mukesh Kumar

Professor

Department of Floriculture and Landscaping

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Experience

- Assistant Professor, Department of Horticulture, SVPUAT, Meerut from 25th July 2003 to 24th July 2015
- Associate Professor, Department of Horticulture, SVPUAT, Meerut from 25th July 2015 to 24th July 2018
- Professor, Department of Horticulture, SVPUAT, Meerut from 25th July 2018 to continue
- HOD, Department of Floriculture and Landscaping, College of Horticulture, SVPUAT, Meerut from 1st September 2022 to continue
- Worked as Visiting Scholar at Michigan State University, East Lansing, USA in the year 2010

Education

- Ph.D in Horticulture, Chaudhary Charan Singh University, Meerut, UP, India, 1998
- M.Phil in Horticulture, Chaudhary Charan Singh University, Meerut, UP, India, 1995, 2011
- M.Sc in Horticulture, Chaudhary Charan Singh University, Meerut, UP, India, 1994 1998

Research Interests

My research interests are in the following areas:

- Production technology of floriculture crops;
- Genomics applications in floricultural crops
- Post-harvest technology of floriculture crops

Awards and Honors

- **Fellowship award**, Awarded in International conference on global warming and biodiversity conservation (ICGB, 2015) held at 9-12 February Hotel Grand Fortune, Diera, Dubai, UAE by Hi-Tech Horticulture Society, Meerut, UP, India
- **.Dr. Ram Kripal Pathak Vishisht Vaigyanik Award (Fruits)** awarded by UP Academy of Agricultural Sciences (UPAAS), A society developed by UPCAR, Lucknow, UP
- **SERS Excellence in Research Award-2017** for outstanding contribution in the field of floriculture at Nanyang Technological University, Singapore

- **Distinguished Scientist award-2017** by Agriculture Technology Development Society, Ghaziabad , UP, India

Ph.D guided: 10

M.Sc Guided: 18

Books/Monographs

- i. **Editor:** Fundamental of Horticulture published by Pragati Prakashan, Meerut **ISBN987-93-5531-510-6**
- ii. **Editor:** Temperate Fruit Crops: Theory and Practical published by Jaya Publishing House, New Delhi
- iii. **Editing book:** Valorization of Biomass Wastes for Environmental Sustainability: Green Practices for Rural Circular Economy to be published by Springer Nature Switzerland

Book Chapters

- I. Chauhan, C., Rani, V., **Kumar, M.**, & Motla, R. (2024). Utilising Biomass-Derived Composites in 3D Printing to Develop Eco-Friendly Environment. In *Valorization of Biomass Wastes for Environmental Sustainability: Green Practices for the Rural Circular Economy* (pp. 153-170). Cham: **Springer Nature Switzerland.**
- II. Bagul, V. D., & **Kumar, M.** (2024). Unveiling the future of sustainable agriculture: introduction to molecular markers. *Sustainable Agriculture: Nanotechnology, Biotechnology, Management and Food Security*, 91. Walter de Gruyter GmbH, Berlin/Boston Book
- III. Chauhan, C., Rani, V., & **Kumar, M.** (2025). Advance remote sensing technologies for crop disease and pest detection. In *Hyperautomation in Precision Agriculture* (pp. 181-190). Academic Press. Elsevier Book

Journals

1. Kumar, V., Sharma, S., Kero, S., Sharma, S., Sharma, A.K., **Kumar, M** and Bhat, K.V.(2008) Assessment of genetic diversity in common bean (*Phaseolus vulgaris* L) germplasm using amplified fragment length polymorphism (AFLP) *Scientia Horticulturae*. 116: 138-143. ISSN0304-4238
2. Kumar V., Sharma S, Sharma A.K, **Kumar M** Sharma S., Malik S., Singh K.P., Sanger R.S., and Bhat K.V., (2008) Genetic diversity in Indian common bean (*Phaseolus vulgaris* L.) using random amplified polymorphic DNA markers. *Physiol. Mol. Biol. Plants* 14(4): 383-387
3. Chaudhary V., **Kumar M.**, Sharma M., and Yadav B.S. (2009) Fluoride, boron and nitrate

- toxicity in ground water of northwestern Rajasthan, India. *Environ. Monit. And Assess.* 161(1-4):343-348,
4. Singh, P., Singh, M.K., Kumar, V., **Kumar, M** and Malik, S. (2012) Effect of physico-chemical treatments on ripening behavior and post harvest quality of Amrapali mango (*Mangifera indica* L.) during storage. *J. of Environmental Biology*, 33,:227-232
 5. Baliyan; D., Siroh, A; **Kumar ;M.**, Kumar; V. Malik; S., Sharma S. and Sharma, S. (2014) Comparative genetic diversity analysis in chrysanthemum: A pilot study based on morphoagronomic traits and ISSR markers. *Scientia Hort.* **167: 164-168**
 6. Kumar, S., **Kumar, M.**, Yadav, H.K., Sharma, S. and Kumar, S. (2017) Genetic diversity and population structure analysis of chrysanthemum (*Dendranthema grandiflora* Tzvelev) germplasm based on RAPD markers. *Journal of Environmental Biology* 38: 457-464
 7. Chaudhary, V., **Kumar, M.**, Sharma, S., Kumar, N., Kumar, V., Yadava, H.K., Sharma, S. and Sirohi, U. (2018). Assessment of genetic diversity and population structure in gladiolus (*Gladiolus hybridus* Hort.) by ISSR markers. *Physiology and Molecular Biology of Plants*, 24 (3): 493-501
 8. Dixit, P., Kumar, A., Prakash, S., **Kumar, M.**, Kumar, V., Shukla, S., Kumar, M. and Kumar, U. (2019). Effect of time, techniques and environment of propagation on performance of guava (*Psidium guajava*). *Indian Journal of Agricultural Sciences*, **89** (3): 415–419
 9. **Kumar, M.**, Sharma, V.R, Kumar, V., Sirohi, U. Chaudhary, V., Sharma, S., Saripalli, G., Naresh, R.K., Yadava, H.K. and Sharma, S., and (2019). Genetic diversity and population structure analysis of Indian garlic (*Allium sativum* L.) collection using SSR markers. *Physiology and Molecular Biology of Plants*, 25(2): 377-386
 10. Singh, S., Sharma, V.R., Singh, B. and **Kumar, M.** (2019). Genetic variability, heritability and genetic advance studies in pea (*Pisum sativum* L.) for quantitative characters. *Indian Journal of Agricultural Research*, 53(5): 542-547
 11. Maurya, R.L., Sharma, M.K., Yadav, M.K., Kumar, G and **Kumar, M** (2019). *In vitro* high-frequency callus induction in carnation (*Dianthus caryophyllus* L.) cultivar “Irene”. *Plant Cell Biotechnology and Molecular Biology*, 20(23&24):1363–1368
 12. Singh, S., Sharma, V.R., Nannuru, V.K.R., Singh, B. and Kumar, M. (2021). Phenotypic diversity of pea genotypes (*Pisum sativum* L.) based on multivariate analysis. *Legume Research*, 44(8): 875-881.
 13. Maurya, R.L., Kumar, M., Sirohi, U., Priya, Chaudhary, V., Sharma, V.R., Datta, S.K. and Yadav, M.K. (2022). An effective micropropagation protocol and determination of the clonal fidelity of *in vitro* developed microshoots of carnation (*Dianthus caryophyllus* L.) using SSR markers.

Nucleus, 65:49–55

14. Singh, S., Sharma, V. R., Singh, B. and **Kumar, M.** (2022) Assessment of genetic diversity and population structure in Pea (*Pisum sativum* L.) germplasm based on morphological traits and SSR markers” *Legume Research*, 45(6): 683-688
15. Prajapati, M.R.; Manav, A.; Singhal, P.; Sidharthan, V.K.; Sirohi, U.; **Kumar, M.**; Bharti, M.K.; Singh, J.; Kumar, P.; Kumar, R.; et al. (2022). Complete Genomic RNA Sequence of Tuberose Mild Mosaic Virus and Tuberose Mild Mottle Virus Acquired by High-Throughput Sequencing. *Pathogens*, 11, 861. <https://doi.org/10.3390/pathogens11080861>
16. **Kumar, M.**, Sirohi, U., Malik, S., Kumar, S. et al. (2022). Methods and factors influencing in vitro propagation efficiency of ornamental tuberose (*Polianthes species*): A systematic review of recent developments and future prospects. *Horticulturae*, 8, 998
17. Sirohi, U., Kumar, M., Sharma, V.R. et al. (2022). CRISPR/Cas9 System: A potential tool for genetic improvement in floricultural crops. *Mol Biotechnol.*, 64, 1303–1318
18. Maurya, R.L., **Kumar, M.**, Sirohi, U., Priya, Chaudhary, V., Sharma, V.R., Yadav, D. and Yadav, M.K. (2023). Effect of silver nitrate and thidiazuron on shoot proliferation, hyperhydricity and assessment of genetic fidelity of microplants in carnation (*Dianthus caryophyllus* L). *Cytology and Genetics*, 57(1): 87-94
19. Kumar, M., Chaudhary, V., Sirohi, U. and Srivastava, AL. (2023). Economically viable flower drying techniques to sustain flower industry amid COVID-19 pandemic. *Environment, Development and Sustainability*, <https://doi.org/10.1007/s10668-023-03376-w>
20. Kumar, M., Chaudhary, V., Sirohi, U., Singh, J., Yadav, M. K., Prakash, S., ... & Malik, S. (2024). In Vitro Propagation Journey of Ornamental Gladiolus (*Gladiolus* Species): A Systematic Review Analysis Based on More Than 50 Years Research. *Horticulturae*, 10(2), 148.
21. Chaudhary, V., Kumar, M., Chauhan, C., Sirohi, U., Srivastav, A. L., & Rani, L. (2024). Strategies for mitigation of pesticides from the environment through alternative approaches: A review of recent developments and future prospects. *Journal of Environmental Management*, 354, 120326.
22. Gupta, A., Singh, B., Kumar, M., Sirohi, U., Yadav, S. K., & Sharma, V. R. (2024). Identification of SSR Markers Linked to Powdery Mildew Resistance in Table Pea (*Pisum sativum* var. Hortense L.). *Legume Research-An International Journal*, 1, 7.
23. Gupta, A., Singh, B., Kumar, M., & Sharma, V. R. (2024) Combining Ability and Heterosis Analysis for Seed Yield and Yield Related Traits in Table Pea [*Pisum sativum* (L.) var. hortense]. *Legume Research-An International Journal*, 1, 6.

24. **Kumar, M.**, Panwar, V., Chaudhary, V., & Kumar, R. (2024). Artificial miRNAs: A potential tool for genetic improvement of horticultural crops. *Scientia Horticulturae*, 331, 113160.
25. **Kumar, M.**, Sirohi, U., Yadav, M.K. *et al.* (2024). In Vitro Culture Technology and Advanced Biotechnology Tools Toward Improvement in Gladiolus (*Gladiolus species*): Present Scenario and Future Prospects. *Mol Biotechnol* **66**, 1806–1835. <https://doi.org/10.1007/s12033-023-00818-8>
26. Kumar, R., Shanker, R., Singh, P., Yadav, M. K., Chaudhary, V., & **Kumar, M.** (2024). Genome editing towards pests and disease management in agricultural crops: Recent developments, challenges and future prospects. *Physiological and Molecular Plant Pathology*, 102402.
27. Chauhan, C., **Kumar, M.**, Rani, V., & Singh, R. (2024). Efficacy of postharvest treatments with sodium nitroprusside and gibberellic acid on physio-biochemical modifications and vase life of dahlia cut flower. *South African Journal of Botany*, 174, 580-592.
28. Kumar, M., Chaudhary, V., Chaudhary, V., Srivastav, A. L., & Madhav, S. (2024). Impacts of microplastics on ecosystem services and their microbial degradation: a systematic review of the recent state of the art and future prospects. *Environ Sci Pollut Res* **31**, 63524–63575. <https://doi.org/10.1007/s11356-024-35472-3>
29. Rangu, T.; Rout, S., Gupta, A.; Chauhan, C.; Thakur, V.; Kumar, M.; Yadav, S.K.; Narayan, G.B.; and Kaur, H. (2024) Optimizing cabbage (*Brassica oleracea* var.capitata) production through integrated nutrient management: Enhancing yield, quality, and sustainability. *Plant Science Today*, 11(4): 226-233. <https://doi.org/10.14719/pst.3298>
30. Pal, D., Kumar, M., Yadav, M.K., Chauhan, C., Rani, V., Pal, A. and Pandey, V. (2024). Development of an efficient protocol and assessment of clonal fidelity of in vitro raised microshoots of Pomegranate (*Punica granatum* L.) cv. Bhagwa. *Plant Science Today*, 11(4): 1632-1644.: <https://doi.org/10.14719/pst.3125>
31. Singh, R., Singh, B., Prakash, S., Kumar, M., Kumar, A., Kumar, M., Singh, S.K. and Singh, M. (2025). Estimation of combining ability and heterosis in bottle gourd (*Lagenaria siceraria* L.) for yield and Attributes Character for using Line × Tester Design. *Plant Science Today*, 12 (1): 1-8. <https://doi.org/10.14719/pst.4175>.
32. Pal, D., Kumar, M., Yadav, M. K., Chauhan, C., Kumar, A., Sirohi, U., ... & Chaudhary, V. (2024). Effect of various chemical solutions on micropropagation efficiency, antioxidant activities and clonal fidelity analysis of in vitro developed plantlets in pomegranate (*Punica granatum* L.) using SSR markers. *Vegetos*, 1-10. doi.org/10.1007/s42535-024-00846-y
33. Kumar, M., Chaudhary, V., Yadav, M.K. *et al.* (2024). RNAi: A Potent Biotechnological Tool for Improvement of Ornamental Crops. *Plant Mol Biol Rep* (2024). <https://doi.org/10.1007/s11105-024-01475-0>

34. Kumar, R., Yadav, M.K., Sharma, A.K., Vaishali, Kumar, M., Sirohi, U., Chauhan, C. (2024). *In-silico* characterization and expression profiling of cut flower vase life-related genes of Tuberose (*Polianthes tuberosa* L.). Plant Science Today (accepted) <https://doi.org/10.14719/pst.4970>

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