

Scientific publications

1. Padi, M., Santhoshini, C. N. R., Gunjalwar, H., Rashi, J., Navyashree, R., Shivaraj, K. V., Bolagam, R., Agnivesh, C. V., Deepika, C., & Rahul, P. (2026). Optimisation of auxin concentration and exposure duration for enhanced adventitious rooting and survival in *Nerium oleander* L. stem cuttings. *Plant Science Today*, 13(sp2). <https://doi.org/10.14719/pst.13240>. (NAAS rating: 6.8, Scopus Indexed-Q3).
2. Vamshi, J., Uma Devi, G., Vishwas Gowda, Ningaraj Belagalla, Navyashree, R., Karthika Vishnu Priya, K., Hari Kishan Sudini. (2025). Evaluation of current biological and chemical control methods under climate change to better manage stem rot disease in groundnut. *Legume Research*. 1-9. (NAAS rating: 6.8, Scopus Indexed-Q2). Doi: 10.18805/LR-5442.
3. Vamshi, J., Uma Devi, G., Gireesha, D. Navyashree, R. Ningaraj Belagalla, Yamuna Hanamasagar and Hari Kishan Sudini. (2025). Effect of carbon dioxide levels on virulence and physiological parameters in association with stem rot disease of groundnut. *Legume Research*. 1-8. (NAAS rating: 6.8, Scopus Indexed-Q2). Doi. 10.18805/LR-5446
4. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Evaluating sorghum genotypes for tolerance to osmotic stress during germination and early seedling development. *Journal Plant Archives*. 24(2):891-898. (NAAS rating: 5.59). DOI: <https://doi.org/10.51470/PLANTARCHIVES.2024.v24.no.2.125>
5. Sachin Tawarkhed, Ashvathma, V.H., Navyashree, R., Patil, M.D. and Mummigatti, U.V. (2024). Exploring the variation in physiological parameters among different field pea genotypes. *Journal Plant Archives*. 24(2):2338-2344. (NAAS rating: 5.59). DOI: <https://doi.org/10.51470/PLANTARCHIVES.2024.v24.no.2.334>
6. Sachin Tawarkhed, Ashvathma, V.H., Navyashree, R., Patil, M.D. and Mummigatti, U.V. (2024). Evaluation of growth parameters and yield variation in field pea genotypes. *International Journal of Advanced Biochemistry Research*. 8(8): 709-713. (NAAS rating: 5.29). DOI: <https://www.doi.org/10.33545/26174693.2024.v8.i8i.1831>
7. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Effects of water stress on flowering phenology and yield-attributing characteristics of sorghum genotypes. *Journal Plant Archives*. 24(2):2465-2472. (NAAS rating: 5.59). DOI: <https://doi.org/10.51470/PLANTARCHIVES.2024.v24.no.2.352>
8. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Evaluation of Genetic Diversity in Sorghum genotypes via Simple Sequence Repeat (SSR) Markers. *Plant Cell Biotechnology and Molecular Biology journal*. 25(11):1-9. (NAAS rating: 5.20). DOI: 10.56557/pcbmb/2024/v25i11-128833
9. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Evaluation of Genetic Diversity in Sorghum Genotypes for Drought Tolerance Using Mahalanobis' D2 Analysis. *Journal of Advances in Biology & Biotechnology*. 27(9): 90-97. (NAAS rating: 5.30). DOI: 10.9734/jabb/2024/v27i91277

10. Navyashree, R., Ashvathma, V.H., Patil, M.D. and Mummigatti, U.V. (2024). Evaluation of salinity tolerance in chickpea (*Cicer arietinum*): Physiological, biochemical, and yield correlations under variable salinity conditions. *International Journal of Advanced Biochemistry Research*. 8(8):187-191. (NAAS rating: 5.29). DOI: <https://www.doi.org/10.33545/26174693.2024.v8.i8c.1734>
11. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Effect of drought stress on physiological parameters in sorghum: Adaptive changes and correlations with yield under water stress conditions. *International Journal of Advanced Biochemistry Research*. 8(8):125-132. (NAAS rating: 5.29). DOI: <https://www.doi.org/10.33545/26174693.2024.v8.i8b.1711>
12. Sachin Tawarkhed, Ashvathma, V.H., Navyashree, R., Patil, M.D. and Mummigatti, U.V. (2024). Genotypic variation in plant height, branching, and yield components of field pea: implications for crop improvement. *Journal of Advances in Biology & Biotechnology*. 27(9): 715-723. (NAAS rating: 5.30). DOI: [10.9734/jabb/2024/v27i91344](https://doi.org/10.9734/jabb/2024/v27i91344)
13. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Assessment of Drought Tolerance in Rabi Sorghum Genotypes under Polyethylene Glycol-induced Osmotic Stress. *Journal of Experimental Agriculture International*. 46(8): 577-584. (NAAS rating: 5.14). DOI: [10.9734/jeai/2024/v46i82738](https://doi.org/10.9734/jeai/2024/v46i82738)
14. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Effect of drought stress on Morho-phenological and yield parameters in sorghum genotypes. *Journal of Geography, Environment and Earth Science International*. 28(6):12-22. (NAAS rating: 5.1). DOI: [10.9734/jgeesi/2024/v28i6775](https://doi.org/10.9734/jgeesi/2024/v28i6775)
15. Navyashree, R., Mummigatti, U.V., Nethra, P., Basavaraj, B. and Hanamaratti, N.G. (2024). Evaluating the effects of drought stress on biomass and yield traits in sorghum genotypes. *International Journal of Environment and Climate Change*. 14(5):79-87. (NAAS rating: 5.16). DOI: [10.9734/ijecc/2024/v14i54172](https://doi.org/10.9734/ijecc/2024/v14i54172)
16. Navyashree, R., Ashvathma, V.H., Patil, M.D., Mummigatti, U.V., and Kiran, B.O. (2023). Effect of salinity stress on morpho- physiological traits in chickpea genotypes. *International Journal of Research in Agronomy*. 7(1): 258-262. (NAAS rating: 5.20)
17. Navyashree, R., & Ashvathama, V. H. (2022). Biochemical Response on Three Growth Phases of Chickpea under Graduated Salt Stress. *International Journal of Environment and Climate Change*. 1795–1811 (NAAS rating: 5.13). DOI: [10.9734/ijecc/2022/v12i121627](https://doi.org/10.9734/ijecc/2022/v12i121627)
18. R.S. Venkatesha, B.O. Kiran, B. R. Brahmesh Reddy, V.H. Ashvathama, C. Vinutha, R. Navyashree, V.C. Spoorthy, S.S. Karabanthanal and R.B. Jolli (2023). Thermal Indices and Phenological response of Sorghum (*Sorghum bicolor* L.) Genotypes for drought tolerance Under Varied Moisture Regimes. *International Journal of Tropical Agriculture*. 41(1-2): 55-61. (NAAS rating: 4.35)
19. Navyashree, R., Ashvathma, V.H., Patil, M.D. (2021). Effect of salinity stress on morphological, phonological and yield parameters in chickpea. *Journal of Farm science*. 34(2):186-191. (NAAS rating: 4.42)

REVIEW PAPERS

20. Asha Kushwah, Ambika Bhandari, Vikas Chandra, Monika Sindhu, Navyashree R, Seema Devi, Periyanna Thangavelu Sharavanan, Ramakrushna Bastia and Vikas Kumar. (2025). Robotic Pollination in greenhouse farming: current innovations, challenges, and future prospects. *Oriental Journal Of Chemistry*. 41(4):1-10. (NAAS rating: 6.30). DOI: 10.13005/ojc/410439
21. Lopamudra Singha¹, R.S., Jaikishan Singh, B., Priyadharshini, Kailash Malode, Rishabh Kumar Singh, Navyashree R, Devendra Kumar, Parul Narwal. (2025). Heavy metal stress in plants: mechanisms, impacts, and mitigation strategies- a comprehensive review. *International Journal of Environmental Sciences*. 11(18):2968-2977. (Scopus Indexed-Q3). DOI: <https://doi.org/10.64252/yjv3t467>

CONFERENCE PROCEEDINGS

22. T. Illakiya, R. Navyashree, A. Aleeswari, G. BhupalRaj, P. Balaji and B. Muni. Deep Learning Models for Predictive Crop Water Stress Management using Real-Time Environmental Data (2025). Third International Conference on Emerging Applications of Material Science and Technology (ICEAMST), Bengaluru, India, 2025, pp. 1647-1654, doi: 10.1109/ICEAMST67459.2025.11335817.

DESIGN PATENTS GRANTED

1. IoT Powered Smart Agriculture Field Parameter Measuring Device

Design Registration No.: 444524-001, The Patent Office, Government of India

Date of Registration: 17 Jan 2025 / Date of Issue: 25 Apr 2025

Co-inventors: Yarragunta Pedababu, Krishan Kumar Singh, Seema Devi, Namitha Krishna S, Navyashree R, Deepak Birla, Praveen Kumar B, Minakshi Neware, Shabnam Pangtu, Sabna Khan

2. Agriculture Robot for Crop Health Monitoring and Spraying Pesticides and Fertilizers

Design Registration No.: 443716-001

The Patent Office, Government of India

Date of Registration: 10 Jan 2025 / Date of Issue: 27 Mar 2025

Co-inventors: Manpreet Kaur, Samir Pratap Singh, Prakash Singh, Prashant Kumar Singh, Aman Kr Tiwari, Navyashree R, Ayushi Rana, Md. Reyaz Ahmad, Navdeep Gandhi, Kunal Pratap Singh

BOOK CHAPTERS:

1. Navyashree R. (2024). Transcription Factors as Tools to Engineer Enhanced Drought Stress Tolerance. In: Taria, S. (Ed.), *Recent Advances in Molecular Biology and Plant Physiology*, Vol. 5 (Chapter 1, pp. 01–30). AkiNik Publications, New Delhi, India. ISBN: 978-93-6135-587-5. DOI: 10.22271/ed.book.2963.
2. Navyashree R. (2024). Physiological and Biochemical Effects of Drought Stress on Plant Growth and Development. In: Chaudhary, A.K., Rajput, V.D., Kumar, S., & Pal, R. (Eds.), *Agriculture 1.0* (Chapter 12, pp. 103–110). S.R. Scientific Publications, Agra, India. ISBN: 978-93-93483-47-8.

3. Navyashree R. (2024). Plant Photosynthesis. In: Das, S.K. (Ed.), An Introduction to Plant Biology, Vol. 4 (Chapter 2, pp. 31–57). AkiNik Publications, New Delhi, India. ISBN: 978-93-6135-896-8. DOI: 10.22271/ed.book.2884.
4. Navyashree R. (2024). Antioxidants in Plants. In: Aglave, H.R. & Baruah, S. (Eds.), Advanced Botany, Vol. 5 (Chapter 1, pp. 01–34). AkiNik Publications, New Delhi, India. ISBN: 978-81-968391-7-8. DOI: 10.22271/ed.book.2647.
5. Navyashree R. (2024). Climate Change: Impacts and Mitigation Strategies. In: Sah, D. & Yadav, S. (Eds.), Natural Resource Management and Environmental Security, Vol. 5 (Chapter 1, pp. 01–27). Integrated Publications, New Delhi, India. ISBN: 978-93-5834-190-4. DOI: 10.62778/int.book.411.
6. Navyashree R. (2024). Water Relations and Uptake in Crops. In: Mohanty, A., Surekha S., Afsanabanu Manik, & Deepa Lal (Eds.), Crop Physiology: A Collaborative Insights, Vol. 1 (Chapter 3, pp. 46–86). Stella International Publication, Kurukshetra, Haryana, India. ISBN: 978-81-969203-7-1.
7. Navyashree R. (2023). Water Relations in Crop Plants: Balancing Transpiration and Water Uptake. In: Sojitra A., Kumari G., Chintey R., Ambadas S., & Saikia K. (Eds.), Plant Physiology (Chapter 12, pp. 165–180). Elite Publishing House, New Delhi. ISBN: 978-93-58990-36-2.
8. Navyashree R. (2023). Calcium: A Signalling Molecule for Salt Tolerance in Plants. In: Singh, Y.V. (Ed.), Research and Review in Agriculture Sciences, Vol. 7 (Chapter 5, pp. 71–101). Bright Sky Publications, New Delhi, India. ISBN: 978-93-92804-80-9.

BOOK EDITOR/ AUTHOR

1. Mahendra pratap, Ram Nath Mourya, Navyashree R, Smiriti Hansda and Anil Kumar. (2025). Agronomy for the Future: Sustainable Techniques and Climate Resilience. ISBN No. : 978-93-91900-36-6
2. Navyashree R, Debarati Das, Manish V Chavhan, Somuthirapandi Subburaj. (2024). Plant Physiology Exploring Foundations of Plant Life. ISBN No. 978-93-48909-66-4
3. Shweta, Navyashree R, Anuradha Arun Watane, bhumit Lakra and Rohit Gill. (2024). Comprehensive insights into Environmental science. ISBN No. 978-81-980103-0-8
4. Navyashree R, Snehalata Yadav, Sonu Swami, Geethanjali K, Shweta. (2024). Insights into Crop Physiology: Advances and Applications. ISBN No. 978-81-973762-0-7
5. Andonissamy Daniel G, K.S. Vidhya Bharathi, Dr. Karunya Nallaiyan, Dr. Navyashree R and Dr. Akanksha Singh Yadav (2025). Photosynthesis & Beyond: The Science of Plant Life. ISBN No. 978-93-48909-80-0

POPULAR ARTICLES PUBLISHED IN MAGAZINE

1. Navyashree R., Zubay Gohar Ansari, S. Vijaya, Shalini Mishra and Nirjharnee Nandeha. Advances in Understanding Photosynthesis Efficiency. E-ISSN: 2583-1755, Volume 4, Issue 4, December 2024, pp. 63–66.
2. Navyashree R., Suchismita Dwibedi and Gautam Veer Chauhan. Climate-Smart Agronomy: Adapting Crop Management to a Changing Climate. Agri Articles (e-Magazine for Agricultural Articles), ISSN: 2582-9882, Volume 04, Issue 06, November–December 2024, pp. 511–513.
3. Navyashree R., Panchal Sangmesh, Ediga Amala, Priyanka Dubey and Saket Dubey. Physiological Responses of Crops to Climate Change. Agri Articles (e-Magazine for

Agricultural Articles), ISSN: 2582-9882, Volume 04, Issue 06, November–December 2024, pp. 546–548.

4. Navyashree R., Vivek Bhanwala, Panchal Sangmesh, Priyanka Dubey and Nirjharnee Nandeha. Enhancing Crop Yields through Stress-Resilient Varieties. Agri Articles (e-Magazine for Agricultural Articles), ISSN: 2582-9882, Volume 04, Issue 06, November–December 2024, pp. 549–551.
5. Navyashree R., S. Vijaya, Zubay Gohari Ansari, Nity Sharma and Saket Dubey. Role of Plant Hormones in Crop Growth and Development. Agri Magazine (International E-Magazine for Agricultural Articles), ISSN: 3048-8656, Volume 01, Issue 05, December 2024, pp. 19–22.
6. Navyashree R., Panchal Sangmesh, Ediga Amala, Krishnaveni Anbalagan and Ayushi Trivedi. Mechanisms of Drought Tolerance in Crops. Agri Magazine (International E-Magazine for Agricultural Articles), ISSN: 3048-8656, Volume 01, Issue 05, December 2024, pp. 30–33.
7. Smriti Hansda, Navyashree R. and Anil Kumar. Agrivoltaics: Integrating Solar Energy with Crop Production. Agriculture & Food: E-Newsletter, E-ISSN: 2581-8317, Volume 07, Issue 01, January 2025, Article ID: 60749, pp. 160–162.
8. Navyashree R. When the Climate Turns Hot: How El Niño Rewires Plant Physiology. Agriculture & Food: E-Newsletter (AgriFood Magazine), Vol. 8, Issue 9, September 2026, Article ID: 74439, pp. 137–139.