Dr. Soumya P.R.

Assistant Professor (Plant Physiology)
RARS(SZ), Vellayani

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Summary

My research interest in the abiotic stress response of plants started with my M.Sc. program wherein I worked on a project entitled " Role of paclobutrazol in amelioration of water deficit stress in chickpea (*Cicer arietinum* L.)" at the Division of Plant Physiology, Indian Agricultural Research Institute, New Delhi, one of the premier institutes of agricultural education. During Ph.D. program I worked on a project entitled " Study of genetic variation for improved phosphorus efficiency and associated physiological traits in wheat" at the Division of Plant Physiology, Indian Agricultural Research Institute, New Delhi. I have been working on the broad area of " Abiotic stress response of plants" with special emphasis on the drought tolerance in crops. My current research interest is to identify the donors with efficient traits for abiotic stress tolerance.

Experience

Joined Kerala Agricultural University as Assistant Professor (Plant Physiology) in the year 2019.

Education

- Graduated in Agricultural Science from Kerala Agricultural University (2012)
- Post Graduation in Plant Physiology from Indian Agricultural Research Institute, New Delhi (2014)
- Ph.D in Plant Physiology from Indian Agricultural Research Institute, New Delhi (2021)

Area of Specialization

Abiotic stress response of plants, Mineral nutrition, Plant growth regulators

Awards & Recognitions

- 1st Rank in M.Sc.Plant Physiology from Indian Agricultural Research Institute

- IARI Junior fellowship for doing M.Sc. Plant Physiology
- IARI Junior fellowship for doing Ph.D Plant Physiology
- Cleared ASRB-National Eligibility Test (2015)
- Cleared CSIR – UGC National Eligibility Test (2016)
- Qualified ICAR's AICE-SRF (PGS) –Plant Physiology (2015)
- Cleared Agricultural Research Service (ARS-2016)
- Best Poster award on " Genome-wide association study for phosphorus efficiency traits in bread wheat (*Triticum aestivum* L.)" presented in the International Plant Physiology Virtual Symposium on "Physiological Interventions for Climate Smart Agriculture (IPPVS 2021)"

Research Projects

Completed

1. Screening of rice genotypes for drought tolerance. Funded by State Plan-Station wise funding 2022-23.

Publications

Journal Articles

1. Soumya, P. R., Sharma, S., Meena, M. K., & Pandey, R. (2021). Response of diverse bread wheat genotypes in terms of root architectural traits at seedling stage in response to low phosphorus stress. *Plant Physiology Reports*, *26*(1), 152-161.
2. Soumya, P. R., Singh, D., Sharma, S., Singh, A. M., & Pandey, R. (2021). Evaluation of diverse wheat (*Triticum aestivum*) and triticale (× Triticosecale) genotypes for low phosphorus stress tolerance in soil and hydroponic conditions. *Journal of Soil Science and Plant Nutrition*, *21*(2), 1236-1251.
3. Soumya, P. R., Burridge, A. J., Singh, N., Batra, R., Pandey, R., Kalia, S., Rai, V.,& Edwards, K. J. (2021). Population structure and genome-wide association studies in bread wheat for phosphorus efficiency traits using 35 K Wheat Breeder's Affymetrix array. *Scientific reports*, *11*(1), 1-17.
4. Vengavasi, K., Pandey, R., Soumya, P. R., Hawkesford, M. J., & Siddique, K. H. (2021). Below-ground physiological processes enhancing phosphorus acquisition in plants. *Plant Physiology Reports*, *26*(4), 600-613.
5. Soumya, P. R., Vengavasi, K., & Pandey, R. (2022). Adaptive strategies of plants to conserve internal phosphorus under P deficient condition to improve P utilization efficiency. *Physiology and Molecular Biology of Plants*, *28*(11-12), 1981-1993.

Popular Articles

1. Ajith, K.K., Sameera, K., Preetha, R., & Soumya P.R. Puliyoorum madhuravumayi strawberry pera Kerala Karshakan, 66 (5).

Books/Chapters in Books

1. Soumya, P.R., Das, M., Kumar, R.,& Singh, P. (2019). Physiological mechanisms for multiple stress tolerance – status and emerging opportunities. In: Rao, C.S., Vinayagam, S.S.,& Meena, P.C. (eds) Challenges and emerging opportunities in Indian agriculture. ICAR-National Academy of Agricultural Research Management, Hyderabad, India, pp 321.

Membership in Professional Associations

1. Life time member of Indian Society for Plant Physiology