

Profile of Scientist



- 1. Name** : M. Swapna
- 2. Designation** : Principal Scientist
- 3. Division** : Crop Improvement
- 4. Research area** : (i) Sugarcane classical and molecular genetics and breeding
(ii) Population improvement and Pre-breeding for sugar content and biomass in sugarcane

4. Publications :

- S. Solomon and M. Swapna. 2022. Indian sugar industry : Towards self-reliance for sustainability. Sugar Tech 24 (3) : 630-650.
- **M. Swapna**, Kapur,R and Pandey DK 2020. Recurrent selection cycles for pre-breeding in sugarcane: enhancing the sugar-accumulation potential in selection cycles International Sugar Journal. 122 (1459): 496-502.
- **M. Swapna**, R. Kapur , Sanjeev Kumar, D. Kumar, J. Singh, P.K. Singh, D.K. Pandey , Sanjeev Kumar, T.K. Srivastava, D. Singh and A.D. Pathak (2020) CoLk 12209 (*Ikshu-7*): A new mid-late maturing sugarcane variety for north central and north east zone of sub-tropical India. Journal of Sugarcane Research, 10 : 43-53.
- Banerjee N., Khan, MS, **Swapna, M.**, Singh RK and Kumar, S (2020) Progress and Prospects of Association Mapping in Sugarcane (*Saccharum* Species Hybrid), a Complex Polyploid Crop. Sugar Tech. 22 (6) : 939-953. <https://doi.org/10.1007/s12355-020-00852-9>
- Raman Kapur, Sanjeev Kumar, J. Singh, P.K Singh, M. Swapna, DK Pandey et al., 2020 . Variety Notification : Sugarcane : Variety CoLk 12209 (*Ikshu-7*) . Indian J. Genet. 80(1): 120.
- S.Solomon, Rao, GP and M. Swapna. 2020. Impact of COVID 19 on Indian Sugar Industry. Sugar Tech 22(4): 547-551. <https://doi.org/10.1007/s12355-020-00846-7>
- Raman Kapur, J. Singh, M. Swapna, D.K Pandey et al., 2019. CoLk 11203 (*Ikshu-5*) : A high sugar early maturing sugarcane variety. Indian J. Genet. 79(2): 517
- M. Swapna, Kapur,R, Singh,J, Kumar S and Singh PK. CoLk 11203 (*Ikshu-5*) : A new high sugar early maturing sugarcane variety for North West Zone of sub-tropical India. 2018. Indian J. Sugar Technol. 33 (2): 58-63
- **Swapna, M** and Kumar, S. 2017. microRNAs and their regulatory role in sugarcane. Front. Plant Sci. 8 : 997. doi: 10.3389/fpls.2017.009
- Singh RK, Jena SN, Khan MS, Yadav S, Banarjee N, Raghuvanshi S, Bhardwaj V, Duttamajuder SK, Kapur R, Soloman S, **Swapna M**, Srivastava S, Tyagi AK. (2013) Development of cross-species/genera transferability of novel EST-SSR markers and their utility in revealing population structure and genetic diversit in sugarcane. **Gene**. doi:pii: S0378-1119(13)00420 4.10.1016/j.gene.2013.03.125.
- **M.Swapna**, K. Sivaraju, R.K. Sharma, N.K. Singh, T.Mohapatra 2011. Single Strand Conformation Polymorphism: A potential tool for diversity analysis and varietal identification in sugarcane. Plant Molecular Biology Reporter 29 : 505-51.
- M. Suhail Khan, Sonia Yadav, Sangeeta Srivastava, **M. Swapna**, A. Chandra and RamK. Singh 2011 Development and utilisation of conserved-intron scanning marker insugarcane . Australian J. Bot. 59 (1) : 38-45

- Swapna, M and P.K.Singh. 2008 Shoot apex development at various stages of flowering insugarcane (*Saccharum* spp. hybrid). Cytologia. 73 (2): 173-177

Books/Book chapters published :

- Swapna, M and Sangeeta Srivastava. 2012 Molecular marker applications for Sugar Content in Sugarcane. Springer Brief Series, Springer Heidelberg, ISBN 978-1-4614-2256-3
- M. Swapna 2022. Augmenting sugar accumulation potential in sugarcane: Conventional and molecular approaches. In Gaur RK (ed). Omics Approaches for Sugarcane Improvement. doi.org/10.1201/9781003292425
- Swapna M. (2017). Mapping population: Options and utilization in sugarcane. In. Training Manual, ICAR sponsored Short Course on 'Modern Genomic Tools and Breeding Strategies for Biotic and Abiotic Stress Management in Sugarcane (Kumar S., Holkar S.K. and Singh J., Eds.) (Oct. 25-Nov. 03, 2017), IISR, Lucknow, pp. 33-43.

5. Other relevant activities of Scientist:

- Was selected as the the event organizer for the *Vritika* Internship under the Accelerate *Vigyan* programme of SERB-DST, New Delhi for two events (*Vritika* 2020 and *Vritika* 2022 winter)
- Served as **resource person/supervisor for training of undergraduate and postgraduate students** for partial fulfillment of their course requirement.
- Member of Editorial board and referee for peer-reviewed journals