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**Designation** : Scientist (Senior Scale) (Horticulture  
- Fruit Science)  
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**Name of Institute from where obtained M.Sc. degree:**

University of Agricultural Sciences, Dharwad, Karnataka

**Name of Institute from where obtained Ph.D. degree:**

Indian Agricultural Research Institute, New Delhi

**Joining date in ICAR** : 1/1/2013

**Publications (Top 10 Publications with first or corresponding author only):**

1. P. Barman, S.K. Singh, V.B. Patel and Lata Nain (2015) Synergistic interaction of arbuscular mycorrhizal fungi and mycorrhizal helper bacteria improving antioxidant activities in Troyer citrange and Cleopatra mandarin under low moisture stress. Indian Journal of Horticulture, 72 (1): 33-37.
2. P. Barman, A. Rekha, and A.K. Pandey (2015) Effect of pre-sowing treatments with chemical mutagens on seed germination and growth performance of jamun (*Syzygium cumini* L. Skeels) under different potting substrates. Fruits, 70 (4): 239-248.
3. P. Barman and D. Mishra (2018). Tip pruning for synchronized vegetative growth and controlling alternate bearing in mango (*Mangifera indica*). Indian Journal of Agricultural Sciences 88(4): 621-627.
4. P. Barman, R. Kumar, A.K. Pandey, C. Bishnoi, J.S. Gora, M.K. Berwal , S. Dhaka, D.K Sarolia , M. Kumar , Pratibha, Akshay and D. Kumar (2021). Can canopy management increase quality fruit production in *Syzygium cumini* (L.) Skeels? Eur. J. Hortic. Sci. 86(4), 371–383. <https://doi.org/10.17660/eJHS.2021/86.4.4>
5. Pranath Barman and Sanjay Kumar Singh (2021). Microbial inoculants modulate physiological behavior of Troyer Citrange under drought stress. Bangladesh Journal of Botany, 50(3), 467–474. <https://doi.org/10.3329/bjb.v50i3.55824>

**Patent / Technologies / Varieties / Methodologies / System etc.:**

1. Double hedgerow system (5 m x 5 m x 10 m with 266 plants ha<sup>-1</sup>) is better over square system in Dashehari mango for maximum fruit yield under Lucknow condition.

2. Whole tree tip pruning of terminal shoots from the apex upto 1.8 inch, immediately after harvest of 'on' year fruits, followed by soil drenching with paclobutrazol (3.2 ml m<sup>-1</sup> canopy diameter), a month before flower bud differentiation, induces synchronized flowering and improves fruit yield and quality, thereby regulating flowering during 'off' year in 10-12 years old orchard of mango cv. Dashehari.
3. Dashehari trees significantly exhibited highest canopy yield (11.65 kg tree<sup>-1</sup>) after 5 years of rejuvenation at 2.0 m height while yield efficiency was more in trees rejuvenated at 1.5 m height (1.05 kg fruits m<sup>-3</sup> canopy).
4. Precise use of inputs (Drip irrigation along with fertigation, mulching and spray of zinc sulphate and boric acid @ 0.2%) improved water use efficiency and reduced fertilizer application to 75% RDF, without compromising on yield and quality in Lalit guava.
5. Canopy architecture design was developed for young orchards of mango cv. Dashehari spaced at 5 m × 5 and plants trained to 3 primary and secondary branches had harnessed maximum solar radiation inside the canopy, which led to improved photosynthetic rate and chlorophyll content thereby enhancing production of 'A' grade fruits.

**No. of Students Guided (M.Sc.) :**

**No. of Students Guided (Ph.D.) :**

**Awards / Recognitions / Fellowship:**

1. Awarded with best Research Paper Award for research paper entitled "Synergistic interaction of arbuscular mycorrhizal fungi and mycorrhiza helper bacteria in improving antioxidant activities in Troyer citrange and Cleopatra mandarin under low moisture stress in 2016 by The Horticultural Society of India, New Delhi.
2. Awarded with best Oral presentation Award for oral presentation on "Response of guava cv. Lalit to plastic mulch, fertigation and micro-nutrient spray under raised bed" in 2017 by Mahima Research Foundation and Social Welfare committee, Banaras Hindu University, Varanasi.
3. Awarded with "Young Scientist Award" in 2018 by The Society of Tropical Agriculture, New Delhi.
4. Recognized as reviewer for Fruits Journal for manuscript entitled "Macro-propagation of banana (Musa AAA): Responses to hormonal and mechanical corm manipulation" and "Influence of environmental factors and cropping practices on passion fruit productivity in Eastern Africa (Burundi, Kenya and Rwanda): A review and synthesis of recent research" during 2019 by International Society for Horticultural Science, Belgium.
5. Nominated as Evaluator of Thesis of PhD Scholar and appointed as External Examiner for final viva voce examination of PhD scholar in 2019 by University of Horticultural Sciences, Bagalkot, Karnataka.