

Research Center , Ranchi

Personal Details



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Research Interest

- Value addition of fruits and vegetables
- Post harvest management of fruits and vegetables
- Traditional processing of minor and underutilized fruits and vegetables
- Extraction of color/principle compounds

Research Highlights

- Processing and value addition of aonla
- Development of fruit bars
- Color extraction from fruits and vegetables waste and byproduct utilization
- Post harvest management of fruits and vegetables (grapes, ker and sangri, black carrots etc.)

Memberships / Fellowships

- Life time member of Association of Food Scientists & Technologists (INDIA)
- Life time member of Indian Journal of Horticulture

Technology Developed

- Technology for quality green raisins
- Process for color extraction from black carrot and its byproducts
- Black carrot color fortified breads
- Black carrot color fortified potato chips
- Process for development of soft aonla candy
- Development of technology for destalking and packaging of dried chilli
- Process technology for roasted sangri seeds
- Process technology for mineral rich ker fortified baked mathris
- Process technology developed for steeped ker and sangri for long term storage and off-season availability
- Developed technology for reducing astringency in ker fruits
- Refractive window dryer for fruit bar drying
- Optimized process technology for refractive window dried mango bar, guava bar and jamun bar

Publication Details

Glimpse of Recent Publications

1. **Perna Nath**, Ajinath Dukare, Sunil Kumar, Sakharam Kale, Pankaj Kannaujia. **(2021)**. Black carrot (*Daucus carota* subsp. *sativus*) anthocyanin infused potato chips: Effect on bioactive composition, color attributes, cooking quality, and microbial stability. *Journal of Food Processing and Preservation*. 46(1): e16180
2. Kannaujia, P.K., Kale, S., Dukare, A., Meena, V.S., **Nath, P.**, Jalgaonkar, K., Mahawar, M., Indore, N. and Singh, R.K. **(2021)**. Variation in Postharvest Quality Attributes of Fresh Cowpea (*Vigna unguiculata* L.) Beans Harvested from Different Crop Mulching Regime. *Legume Research*. DOI: 10.18805/LR
3. Kale SJ, **Nath Perna**, Kannaujia Pankaj, Dukare Ajinath. **(2021)**. Hydrogen Peroxide Washing Induced Changes in Postharvest Quality of Button Mushrooms (*Agaricus bisporus*) during Storage. *Journal of Food and Agriculture Research*, 1(1): 119-130.
4. **Perna Nath**, S. J. Kale and A. K. Sharma. **(2019)**. Efficacy of ascorbic acid treatments in the production of green raisins. *Current Science*. 116(6):943-951
5. **Perna Nath**, Kale SJ, Charanjit Kaur, Chauhan OP. **(2018)**. Phytonutrient Composition, Antioxidant Activity and Acceptability of muffins Incorporated with red capsicum pomace powder. *Journal of Food Science and Technology*. 55 (6): 2208-2219
6. **Nath Perna**, Kale SJ, Meena VS. **(2019)**. Influence of packaging material and storage temperature on color quality and shelf life of red chilli powder. *Indian Journal of Horticulture*. 76 (3): 508-515.
7. Kale SJ, Jha SK, **Nath Perna**. **(2019)**. Determination of optimum degrees of milling for raw and parboiled basmati (PB1121) rice using principal component analysis. *Journal of Agricultural Engineering*, 56 (4): 235-248.
8. Kale SJ, **Perna Nath**, Charanjit Kaur. **(2018)**. Potentiality of Freeze-Thaw Treatment to Produce Soft Textured Aonla (*Emblia officinalis*) Candies. *Journal of Food Science and Technology*. 56(6): 3157–3163.
9. Sakharam Kale, **Perna Nath**, Meena VS, Singh RK. **(2018)**. Innovative polyhouse for production of button mushrooms (*Agaricus bisporus*) in hot regions. *Journal of Experimental Biology and Agricultural Science*, 6(6): 903 – 911.
10. Kale SJ, **Perna Nath**, Meena VS, Singh RK. **(2018)**. Semi-permanent shadenet house for reducing the sunburn in pomegranates (*Punica granatum*). *International Journal of Chemical Studies*, 6(5): 2053-2057.
11. Kale SJ, **Perna Nath**. **(2018)**. Kinetics of quality changes in tomatoes stored in evaporative cooled room in hot region. *International Journal of Current Microbiology and Applied Science*, 7(6): 1-9. doi: <https://doi.org/10.20546/ijcmas.2018.706.xx>
12. Jalgaonkar Kirti, Manoj Kumar Mahawar, Sakharam Kale, **Perna Nath Kale**, Bhushan Bibwe, Ajinath Dukare, Pankaj Kannaujia and Vijay Singh Meena.

- (2018)**. Response surface optimization for development of Dragon fruit based ready to serve drink. *Journal of Applied and Natural Science*, 10(1): 272 – 278
13. Kale SJ, Jha SK, **Nath Prerna**. **(2017)**. Effects of Variable steaming on chemical composition, starch characteristics, and glycemic index of basmati (Pusa Basmati 1121) rice. *Journal of Food Process Engineering*. DOI:10.1111/jfpe.12567
14. Kale SJ, Jha SK, **Nath Prerna**. **(2017)**. Soaking Effects on Physical Characteristics of Basmati (Pusa Basmati 1121) Rice. *CIGR-Agricultural Engineering International*, 14(9): 114-123.
15. Kale SJ, **Kale PN**, Jha SK. **(2017)**. Effects of parboiling steps on starch characteristics and glycemic index of basmati (PB1121) rice. *International Journal of Agriculture Sciences*, 9 (49): 4826-4831.
16. Kale SJ, **Nath Prerna**, Jalgaonkar KR, Mahawar MK. **(2016)**. Low cost storage structures for fruits and vegetables handling in Indian conditions. *Indian Horticulture Journal*. 6(3):376-379.
17. **Nath Prerna**, Kale SJ, Chauhan OP, Gupta RK. **(2016)**. High pressure processing induced changes in bioactive compounds, antioxidant activity, microbial safety and color attributes of coriander paste. *Agricultural Research*. 5(2): 182-192.
18. **Nath Prerna**, Kaur Charanjit, Gaur Shalini, Varghese Eldho. **(2016)**. Enzyme-assisted extraction of carotenoid-rich extract from red capsicum (*Capsicum annum* L.). *Agricultural Research*, 5(2):193-204.
19. Shalini Gaur Rudra, **Nath Prerna**, Charanjit Kaur, Santanu Basu. **(2016)**. Rheological, storage stability and sensory profiling of low fat yoghurt fortified with red capsicum carotenoids and inulin. *Journal of Food Processing and preservation*. 10.1111/jfpp.13067, 41(4):1-9
20. **Nath Prerna**, Varghese Eldho, Kaur Charanjit. **(2015)**. Optimization of enzymatic maceration for extraction of carotenoids and total phenolics from sweet pepper using response surface methodology. *Indian Journal of Horticulture*, 72(4):547-552.