

Résumé of Dr. Sushil Kumar Purbey



1. Personal Details

Name	:	Dr. Sushil Kumar Purbey
Designation & Discipline	:	Sr. Scientist (Hort.)
Correspondence address (preferably official)	:	National Research Centre for Litchi (ICAR)
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2. Qualifications (Highest degree)

	Year	Institute /University	Subject (Specialization)
Ph.D.	2004	MPUa&T, Udaipur, Rajasthan	Horticulture
M.Sc.	1994	Institute of Agricultural Science, BHU, Varanasi	Horticulture

3. Research Projects (Ongoing projects)

Details such as Title, PI/Co-PI, Allocation, Duration etc.	Research experiments
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<p>4.1 “Integrated Pre and Post Harvest Management of Litchi Fruits” as PI.</p> <p>2.3.2 “Effect of PGR on Yield, Maturity and Quality of Litchi Fruits” as Co PI.</p>	<p>4.1.1: Study of pre harvest spray of various chemicals on maturity and quality of litchi fruits.</p> <p>4.1.2: Post harvest treatments to enhance the shelf life of litchi fruits</p> <p>4.1.3: Effects of different shade nets on maturity and quality of litchi fruits.</p> <p>4.1.4: Standardization of maturity indices in litchi</p> <p>4.1.5: Effect of different packaging & lining materials and other treatments on shelf life of litchi fruits</p> <p>4.1.6: Development of modified atmospheric packaging technologies for extending the shelf life of litchi fruits</p> <p>2.3.3: Effect of bagging on maturity, yield and quality of litchi fruit</p>
<p>4.2 Study the post harvest losses in litchi</p> <p>4.2 “Processing and Value Addition in Litchi (<i>Litchi chinensis</i> Sonn)” as PI.</p>	<p>4.2.1: Quantification of losses at different stages of fruits handling</p> <p>4.2.2: Investigation of losses due to disease and their management</p> <p>4.3.1: Standardization of techniques for preparation of litchi wine:</p> <p>4.3.2: Standardization of drying techniques for preparation of litchi nut</p> <p>4.3.3: Techniques for preservation of concentrated litchi pulp:</p>
<p>NHB funded project</p> <p>“Assessment and Refinement of Technology for Improving Productivity of Litchi by Enhancing Pollination and Honey production with Processing for Employment and Income Generation” as Co PI.</p> <p>TCP/IND/3202:</p> <p>“Improving productivity and quality of litchi in Bihar”</p> <p>FAO project on Litchi as Co PI.</p>	<p>Honey processing component of the project is being carried out by me. Under this project equipments related to honey processing unit were procured and installed.</p> <p>Development of modified atmospheric packaging technologies for extending the shelf life of litchi fruits</p> <p>Extension of shelf life is the ultimate goal of post harvest research and this is achieved by retarding deteriorative process. Temperature, relative humidity and atmospheric composition are the environmental factors, which can be manipulated to lower the respiration rate and minimize the microbial spoilage if proper sanitation procedures are adopted.</p>

4. Publications (Important publications of last six years)

- (i) **Purbey, S.K.** and Sen, N.L. (2005).Effect of bioinoculants and bioregulators on productivity and quality of fenugreek (*Trigonella foenum-graecum* L.)Indian J. of Agl. Sciences 75(9):608-611.
- (ii) **Purbey, S.K.** and Sen, N.L. (2005). Response of fenugreek (*Trigonella foenum-graecum* L) to bioinoculation and plant bioregulators.Indian J. of Hort. Science 62):416-418.
- (iii) **Purbey, S.K.** and Sen, N.L. (2005). Effect of bioinoculants and plant bioregulators on yield, nutrient content and uptake by fenugreek (*Trigonella foenum-graecum* L.). Indian Journal of Agl. Research 2(V):65-67

- (v) **Purbey S. K.**, Kumar K. K., Pandey S. D. and Kumar, A. 2007. Value addition in litchi, Abstract pp 288, 2nd Indian Horticulture Congress, 18-21 April, 2007, Barapani.
- (vi). **Purbey, S. K.**, Kumar K. K. and ray, R. C. 2008. Standardization of process for preparation of litchi wine. In National Seminar on “Production, Processing, Marketing, and Export of Litchi for Economic Prosperity” during 8-11th June, 2008 at NRC Litchi, Mushari, Muzaffarpur, p-76.
- (vii). **Purbey, S. K.**, Kumar K. K., Kumar Rajesh and Kumar Amrendra. 2008. Product Diversification in Litchi. In National Seminar on “Production, Processing, Marketing, and Export of Litchi for Economic Prosperity” during 8-11th June, 2008 at NRC Litchi, Mushari, Muzaffarpur, p-79.
- (viii). **Purbey, S. K.** and Kumar K. K. 2008. Role of PGR in Litchi. In Training manual “Litchi Utpadan ki Unnat Taknik”, Pb. NRC for Litchi, Mushari, Muzaffarpur, p 49-52.
- (ix). Ray, R. C., **Purbey, S.K.** and Kumar, K.K. (2008). Enjoy juicy and luscious delicacies of litchi. *Indian Horticulture*, 53(3):27-30.
- (x). **Purbey, S. K.** and Kumar K. K. 2009. Production of wine from litchi fruits, Abstract pp p-165, XX Indian Convention of Food Scientists and Technologists, 21-23 December, 2009, Bangalore.
- (xi). **Purbey, S.K.**, Kumar, Amrendra and Pandey, S.D. (2010). Effect of Bagging on Maturity and Fruit Quality of Litchi (*Litchi chinensis* Sonn.). In 4th Indian Horticulture Congress-2010, *The Horticultural Society of India*, New Delhi, 18-21 November, 2010. Abst. pp 275.
- (xii). **Purbey, S.K.** & Kumar, K K. (2010). Standardisation of drying technique for preparation of Litchi Nut. In 4th Indian Horticulture Congress-2010, *The Horticultural Society of India*, New Delhi, 18-21 November, 2010. Abst. Pp 424.
- (xiii). Amrendra Kumar, S.D. Pandey and **S.K. Purbey** (2011). *Litchi Utpadan: Samsyayen Ewam Samadhan. Khalihan Men Vigyan Sangosthi* pp 35-37

5. Important Research Contributions in Brief

- A long term trial to identify the promising variety of ber (*zyzhiphus jujube*) under rainfed condition reveals that cv. Gola consistently produced the highest yield and quality fruits followed by cv. Seb.
- Henna was introduced in Kachchh region and produced 682.0, 182.9 and 2274.9 Kg/hac dry leaves under normal, bad and rainfed conditions respectively.
- Physico chemical analysis of Litchi fruits were done this year also and same trends of results were found that is there was increasing trend of size, weight, pulp-stone ratio, pH and TSS upto 28th of May. Afterward, there was no significant changes upto 3rd of June except TSS and acidity.
- A wine from litchi (*Litchi chinensis* Sonn. Var. Sahi) fruits having high nutritional value were prepared by fermentation using wine yeast (*Saccharomyces cerevisiae var. bayamus*). Physico chemical analysis of litchi wine revealed that wine prepared by fermentation was light yellow in colour, acidic in test [titratable acidity (0.59 g tartaric acid/100m.), rose-flavoured and with quite acceptable as an alcoholic beverage containing 10.7 percent alcohol.
- A process technology for preparation of litchi nut is being standardized and it was found that fruits treated with KMS (0.1%) followed by citric acid (2%) and dried alternatively in

shade - oven-sun for different period gave good quality litchi nuts.

6. Membership of Professional Societies

- Life member of Arid Zone Research Association of India, Jodhpur-342 003, since 1996.
- Life member of Horticulture society of India, New Delhi, since 1998.
- Life member of the Horticulture Society of Rajasthan, Udaipur, Rajasthan, Since 2004
- Life member of the Indian Society For Arid Horticulture, CIAH, Bikaner, Rajasthan, Since 2004

Research Interests

My primary research interest lies in the area of post harvest handling of litchi fruits. Within post harvest handling enhancing the shelf life of litchi fruits using various chemical, packaging treatments and storage conditions is my major area of research. I also deal with value addition and processing of litchi fruits. Utilization of litchi fruit waste for production of value added products through bioprocessing is another area that I deal with. All these efforts are geared towards assuring commercial sterility of a product by microbiological validation. Identifying the optimum processing conditions that yields a safe and high quality product is another aspect of food processing that comes under the realms of my research interests.

