


RESUME OF DR. DEV RAJ

Dr DEV RAJ Professor and Head (Horticulture – Post Harvest Technology), Department of Post Harvest Technology, ASPEE College of Horticulture and Forestry, NAU Navsari Mobile : No. +91 99137 53252 Tel. No : +91 2637 282144 E-mail ID: drdpandir@yahoo.co.in	
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Personal Information		
Father's Name	:	Sh. BAKASHI RAM
Mother's Name	:	Smt. KIRPI DEVI
Parmanenet Adreess	:	Vill Kasaru, PO Badhaghat, The. Ghumarwin, Distt Bilaspur, HP 174029
Date of Birth	:	29/07/1973
Gender	:	Male
Nationality	:	Indian
Marital Status	:	Married
Religion	:	Hindu

Professional Qualification				
Degree/ Diploma	University/ Board	Month / Year of Passing	Class/ Grade Obtained	Specialization
B.Sc Horticultre	Dr. YS Parmar, UHF, Solan (HP)	1998	First, 6.6	Horticultre
M.Sc Horticultre (Post Harvest Technology)	UAS, Bangalore	2000	First, 8.5	Post Harvest Technology
PhD Horticultre (Post Harvest Technology)	Dr. YS Parmar, UHF, Solan (HP)	2004	First, 7.4	Post Harvest Technology

Other Professional Qualification				
NET	ASRB	2004		Horticulture -Vegetable Science
CCC+	SPIPA GoG Gujarat	2012		Information Technology

Professional Experience: ~ 15 Years experience of teaching, research and extension at different capacities			
Designation / Position Held	Instutute / Univeristy	Period	
		From	To
Professor (Hort.- PHT)	ASPEE College of Horticulture and Forestry, NAU, Navsari	24-8-2019	Till today (6-1-2020) contd.
Associate Professor (PHT)	ASPEE College of Horticulture and Forestry, NAU, Navsari	17-2-2012	23-8-2019
Scientist (Food Technology)	Dr. Y.S. Parmar U.H.F., Nauni Solan (H.P.)	15 -7-2006	15-2-2012
Sr. Research Fellow	NRC for Mushroom (ICAR)	Nov 2004	June 2006
Sr. Research Fellow	Dr. Y.S. Parmar U.H.F., Nauni Solan (H.P.)	19 July 2004	31 Oct 2004

PG Students Recognition and Guiding				
Subject recognition	Post Harvest Technology			
Students Guided	MSc		PhD	
	Completed	Ongoing	Completed	Ongoing
No of students	6	1	3	4

Research Topic Of Students Thesis			
Sr. No	Title of Thesis	Student Name	Year
1.	Development of technology for processing and value addition of watermelon(<i>Citrullus lanatus</i>) - MSc	Chethan Prasad HP	2015
2.	Study on preparation of health drink by blending Aloe vera, Bitter gourd, Aonla and Guava - MSc	Vaghashiya M Jaysukhbhai	2015
3.	Studies on feasibility of blending custard apple with banana for preparation of nectar - MSc	Mistry Riddhi Atulbhai	2015
4.	Optimization of blend for the preparation of nectar using Aloe vera (<i>Aloe barbandensis</i> Miller), guava (<i>Psidium guajava</i> L) and jamun (<i>Syzigium cumini</i> L) - MSc	Lavanaya Tahasildar	2016
5.	Evaluation of UV light effect for preservation of <i>Aloe vera</i> , bitter gourd, aonla and guava blended nectar - MSc	Zinzala Paresh Bhikhabhai	2016
6.	Evaluation of sweet potato (<i>Ipomoea batatas</i> (L) Lam) varieties and pre-treatments for dehydration into flour - MSc	Ashuqullah	2017
7.	Utilization of mango (<i>Mangifera indica</i> L.) processing industry waste for value addition - PhD	Tanveer Ahmad	2017
8.	Studies on processing and value addition of <i>Aloe vera</i> (<i>Aloe barbadensis</i> Miller) - PhD	Vaghashiya M Jaysukhbhai	2018
9.	Processing and value addition of bael (<i>Aegle marmelos</i> L.) - PhD	Zinzala Paresh Bhikhabhai	2020
10.	Studies on preparation of protein enriched pre-biotic carambola-guava blended beverage - PhD	Sangani Sandeepkumar Labhubhai	Contd.
11.	Processing and value addition of sapota fruits (<i>Manilkara achras</i> (Mill) Fosberg) - PhD	Bharai Rambhai Boghabhai	Contd.
12.	Preservation techniques for value addition of carrot (<i>Daucus carota</i> L.),by drying and juice extraction - PhD	Ashuqullah	Contd.
13.	Processing and value addition of carrot (<i>Daucus carota</i> L.) into fresh-cut pieces, candy and instant <i>Halwa</i> powder - PhD	Pooja Naik	Contd.
14.	Utilization of banana (<i>Musa paradisiaca</i> L.) peel for value addition into 'sev'. - MSc	Gohil Maganbhai Mehulbhai	Contd.

Fellowship / Award / Recognitions received etc				
SN	Name of the Award	Awarding Agency	Year	
1.	Best Oral Paper Presentation	HSG and NAU, Navsari	2018	
2.	Best Poster Paper Presentation	HSG and NAU, Navsari	2018	
3.	Excellence in Teaching Award	Science and Tech Soc., Telangana	2017	
4.	Rastriya Gaurav Award	IIFS, New Delhi	2016	
5.	Best Oral Paper Presentation	ISTS and NAU, Navsari	2016	
6.	Best Poster Paper Presentation	ISTS and NAU, Navsari	2016	
7.	Best Poster Paper Presentation	CAFRI, Jhansi (U.P.) India,	2016	
8.	Best Poster Paper Presentation	CHAI, New Delhi and HSG, Navsari	2014	
9.	Best Poster Paper Presentation	CHAI, New Delhi and HSG, Navsari	2014	
10.	Best Oral Paper Presentation	NAU and HSG, Navsari	2013	

11.	Dr J S Pruthi Memorial award	AIFPA, New Delhi, India	2010
12.	Kejriwal Award	AIFPA, New Delhi, India	2008
13.	Best Performing PHT centre	ICAR recognition	2009
14.	ICAR JRF for MSc	ICAR	1998

SCHEMES / PROJECT HANDLED/ HANDLING			
Sr. No.	Name of Research Project	Type of Scheme/ ICAR/Other agency	Position
1.	Center of Excellence on Post Harvest Technology	Govt. of Gujarat (Plan)	Principal Investigator
2.	Strengthening of P.G. Programme of Post Harvest Technology of Horticultural Crops (Phase-II)	Govt. of Gujarat (Plan)	Principal Investigator
3.	Establishment of Fruits and Vegetable Packaging Research Station Including Seeds	Govt. of Gujarat (Plan)	Principal Investigator
4.	Establishment of secondary Agriculture Unit of Skill Development in Students and Farmers	ICAR	Co- Principal Investigator
5.	All India Co-ordinated Research Project on Post Harvest Technology*	ICAR	Co- Principal Investigator
6.	Development of Post Harvest Equipments and Refinement of Technology for Extraction and value addition of wild apricot oil for commercial adoption	NOVOD board, Gurgaon HR	Co- Principal Investigator
7.	Refinement in technologies for preparation of the different value added products from processable grade potatoes and their commercialization	Govt. of HP (Institutional)	Principal Investigator

RESEARCH EXPERIMENTS

RESEARCH EXPERIMENTS HANDLED (As PI and Co-PI)

1. Processing and value addition of Aloe vera
2. Processing and value addition of Watermelon
3. Standardization of formulation of preparation of Instant Mango Milk Shake Power
4. Standardization of process for preservation of nectars by UV light
5. Processing and value addition of Noni fruit juice
6. Processing and value addition of ripe banana peel
7. Development of formulations for preparation of instant milk shake powder
8. Development of technology for dehydration of Onion for adoption at commercial scale.
9. Development of technology for dehydration of Cauliflower for adoption at commercial scale.
10. Development of technology for dehydration of Okra for adoption at commercial scale.
11. Development of technology for utilization of Noni fruits for value addition
12. Development of technology for preparation of banana powder
13. Development of Post Harvest Equipments and Refinement of Technology for Extraction and value addition of wild apricot oil for commercial adoption
14. Development of protocol for post harvest management and processing of apples.
15. Refinement of technology for post harvest handling and processing of apricots including wild apricots.
16. Development of protocol for post harvest management and processing of kiwi fruits for value addition
17. Utilization of sand pear (*Pyrus pyrifolia* L) for value addition
18. Development of protocol for post harvest management and value addition of mushrooms (*Agaricus bisporus*)
19. Utilization of plum (*Prunus domestica* L) for value addition Assessment of post harvest losses in horticultural crops (apple, green peas potatoes)
20. Establishment of Agro-processing centres training and demonstration of technologies.
21. Preparation of compendium on proven post harvest technologies from R&D institution as well as those commercially available.
22. Compilation of status of agro processing industries in Himachal Pradesh state.

23. Refinement in technologies for preparation of the different value added products from processable grade potatoes and their commercialization

RESEARCH EXPERIMENTS ONGOING

1. Standardization of technology for preparation of the mango and sapota powder by foam mat dehydration
2. Minimal processing of potato and capsicum
3. Development of formulation for preparation of the tablets from Noni pomace and its juice
4. Development of technology for preparation of Aloe vera based vermicelli
5. Development of technology of freeze dehydration of tomato for powder preparation
6. To study the effect of UV light and preservative on quality of fresh-cut cauliflower (*Brassica oleracea* var. botrytis L.).
7. Studies on quality evaluation of processed Oyster mushroom (*Pleurotus sp.*) during storage
8. Standardization of process parameters for microwave assisted convective drying of bell peeper
9. Standardization of method for extraction of jackfruit (*Artocarpus heterophyllus* Lam.) juice
10. Standardization the process for preparation of IMF (Intermediate Moisture Food) from Jackfruit (*Artocarpus heterophyllus* Lam.).
11. Standardization of suitable treatments for preparation of intermediate moisture food (IMF) from mango (*Mangifera indica* L.) cvs. Kesar and Alphonso

RESEARCH RECOMMENDATIONS

1. Standardized method for extraction of noni (*Morinda citrifolia*) fruit juice
2. Standardized formulation for preparation of noni-mango nectar from noni juice
3. Developed technology for utilization of banana peel for preparation of sevia
4. Evaluation and modification of banana (*Musa paradisiaca* L.) comb cutter.
5. Hot Water Dip Treatment on the quality of mangoes for export purpose (cv. Kesar and Alphonso)
6. Developed technology for dehydration of Onion for adoption at commercial scale.
7. Developed technology for dehydration of Cauliflower for adoption at commercial scale.
8. Developed technology for dehydration of Okra for adoption at commercial scale.
9. Standardized Pre-treatments dehydration of Green Chilli Powder.
10. Standardized technology for preparation of unripe banana (*Musa paradisiaca* L.) powder
11. Standardized suitable formulation for preparation of instant mango milk shake powder
12. Standardized protocol for extension of shelf life of fresh sapota fruit
13. Standardized technology for removal of the bitter compound 'aloin' from the *Aloe vera* juice
14. Standardized technology for preparation of *Aloe vera* juice
15. Standardized formulation for processing of Watermelon juice
16. Standardized formulation for processing of Watermelon nectar
17. Standardized process for the preparation of Watermelon albedo candy

PROFESSIONAL TRAININGS ATTENDED

- 5 days Workshop on "Organizational behaviour" at Extension education Institute, CCS Haryana Agricultural University, Nilokheri – 132 117 (Haryana) at Dr YS Parmar UHF, Nauni (Solani)
- 21 days Winter School on "Designer and functional foods through Extrusion cooking technology" at Central Institute of Post Harvest Engineering and Technology, Ludhiana.
- 10 days NAIP sponsored National Training on Non-Thermal, Non Chemical and membrane Technology in food systems. at Central Institute of Agricultural Engineering (ICAR), Bhopal
- 10 days Short Course on "Processing machineries, Product Diversification, and Entrepreneurship Development in Tuber crops" at Central Tuber Crops research Institute Shreekaryam, Thiruvanthapuram, 695017, Kerala
- 14 days training programme National Training Programme on Entrepreneurship Development & Management at EDII, Ahmedabad Gujarat

SUMMARY OF THE PUBLICATIONS		
1	Research Papers (8 Papers > 7.0 and 8 >5.0 NAAS Rating)	54
2	Popular Articles	32
3	Practical manual	08
4	Books	10
5	Booklets	03

6	Book Chapters	17
7	Proceedings articles	13
8	Extension Bulletin/Leaflets/Folders/articles	25
9	Abstracts	64

PUBLICATIONS DETAILS:		
IMPORTANT RESEARCH PUBLICATIONS in NAAS rated Journal (>4)	NAAS rating	Citation
1. Dev Raj, Tanveer Ahmad, Y. N. Tandel, Apeksha Patel 2018. Standardization of formulation for preparation of mango peel and kernel based biscuit (Nankhatai). <i>Multilogic in science</i> , 7(25): 190-193.	5.20	
2. Ashuqullah Atif, Dev Raj, KD Desai, VM Thumar and Tanveer Ahmad 2018. Effect of varieties, blanching and sulphitation on yield, rehydration ratio, carotene content, NEB and sensory quality of sweet potato { <i>Ipomoea batatas</i> (L.) Lam} powder. <i>International Journal of Chemical Studies</i> , 6(5): 118-123	5.31	
3. Tanveer Ahmad, Dev Raj, JM Mayani, SL Sangani and Apeksha Patel 2018. Standardize suitable pre-treatment for drying of mango peel into powder. <i>International Journal of Chemical Studies</i> , 6(1): 1260-1264.	5.31	
4. JM Vaghashiya, Dev Raj, HG Suthar, PB Zinzala and RB Bharai 2018. Impact of <i>Aloe vera</i> juice and isabgol husk on microbial quality of wheat flour vermicelli. <i>International Journal of Chemical Studies</i> , 2018; 6(4): 393-397.	5.31	
5. JM Vaghashiya, Dev Raj, SJ Patil, VM Thumar and VD Kalariya 2018. Effect of <i>Aloe barbadensis</i> and Psyllium husk on sensory quality of vermicelli. <i>International Journal of Chemical Studies</i> , 2018; 6(4): 782-788.	5.31	
6. Dev Raj, Chethan HP, Vaghashiya JM, Mayani JM and Thumar VM 2018. Effect of different osmotic dehydration treatments on quality parameters of water melon rind candy during storage. <i>International Journal of Chemical Studies</i> , 2018; 6(4): 1722-1730.	5.31	
7. Lavanya T, Dev Raj and Vaghashiya JM 2018. Standardization of formulation for preparation of health drink by blending <i>Aloe vera</i> , Guava and Jamun. <i>International Journal of Chemical Studies</i> 2018; 6(4): 1715-1721.	5.31	
8. Himani B. Patel, S. N. Saravaiya, S. J. Patil, Dev Raj, Harish Suthar and D. R. Bhandari 2018. Response of Cluster Bean to Foliar Application of PGRs on Biochemical Parameters. <i>Int. J. Pure App. Biosci.</i> 6 (2): 1494-1498.	4.71	
9. Chethan HP, Dev Raj, Vaghashiya JM, Sanjeev Kumar and Thumar VM 2018. Evaluation of osmotic treatments for preparation of water melon (<i>Citrullus lanatus</i>) rind candy. <i>International Journal of Chemical Studies</i> , 2018; 6(4): 1705-1714.	5.31	
10. Sanjeev Kumar, Chaudhari VI, Saravaiya SN and Dev Raj 2017. Potentiality of greenhouse cucumber cultivars for economic and nutritional realization. <i>International Journal of Farm Sciences</i> 7(1): 1-7, 2017.	4.01	
11. Mayani JM, Patel NL, Dev Raj, Padhiar BV, Tandel YN and Chhatrola HN 2017. Effect of hot water dip treatment on physico-chemical and sensory quality of mango (cv Kesar). <i>International Journal of Chemical Studies</i> , 5(6):220-227.	5.31	
12. Jaysukh M Vaghashiya, Dev Raj, and Harish Suthar 2016. Quality evaluation of blended Nectar prepared using <i>Aloe vera</i> , Bitter gourd, Aonla and Guava. <i>Journal of Hill Agriculture</i> 7(1): 129-134.	4.94	
13. Jaysukh M Vaghashiya, Dev Raj, Bhandari D.R., Desai, C.S. and Patel	4.38	

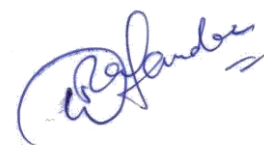
J.M. 2016. Health drink preparation using <i>Aloe vera</i> , bitter gourd <i>aonla</i> and guava. <i>Green Farming</i> Vol. 7 (6) : 1486-1490		
14. Dev Raj, Sharma PC and Sharera S 2015. Studies on osmo-air dehydration of different Indian apricot (<i>Prunus armeniaca</i> L.) cultivars. <i>J. Food Sci. Tech.</i> 52(6): 3794-3802.	7.80	5
15. Dev Raj, Sharma PC and Vaidya D 2011. Effect of blending and storage on quality characteristics of blended sand pear – apple juice (SP-AJ) beverage. <i>J. Food Sci. Tech.</i> 48: 99-104.	7.80	5
16. O.P. Ahlawat, Dev Raj, C. Indurani, M.P. Sagar, Pardeep Gupta, and B. Vijay 2009. Effect of spent mushroom substrate recomposted by different methods and of different age on vegetative growth, yield and quality of tomato. <i>Indian J. Hort.</i> 66(2):208-214.	6.10	1
17. Sagar MP, Ahlawat OP, Dev Raj, B. Vijay, and C Indurani 2009. Indigenous technical knowledge about the use of spent mushroom substrate. <i>Indian Journal of Traditional Knowledge</i> , 8(2):242-248.	7.06	2
18. Dev Raj and Lal, B. B. 2008. Effect of cultivars, cold storage and frying media on yield and processing qualities of potatoes. <i>J. Food Sci. Tech.</i> 45(1): 20-27.	7.80	3
19. Dev Raj 2008. Effect of reconditioning on qualities of cold stored potatoes (<i>Solanum tuberosum</i> L.) for preparation of French fries. <i>Ind. J. Agric. Sci.</i> 78(6):45-48	6.23	-
20. Dev Raj, Lal BB, Sharma PC and Vaidya D. 2008. Development of ready – to - use <i>instant custard powder</i> from unmarketable potatoes. <i>J. Food Sci. Tech.</i> 45(4): 361-363.	7.80	-
21. Dev Raj, Lal, B. B., Sharma, P.C. and Ahlawat O.P. 2007. Utilization of unmarketable potatoes for preparation of ready – to - serve <i>instant halwa powder</i> : a better way of processing. <i>J. Food Sci. Tech.</i> 44(1): 40-43	7.80	3
22. O.P. Ahlawat, M.P. Sagar, Dev Raj, C. Indu Rani, Pardeep Gupta, and B. Vijay 2007. Effect of spent mushroom substrate on yield and quality of capsicum. <i>Indian J. Hort.</i> 64(4):430-434.	6.10	
23. Sharma, P.C., Prasant Kamboj, Rakesh Sharma and Dev Raj 2006. Storage behavior of stone fruit kernel oils in different packages. <i>J. Food Sci. Tech.</i> 43(3): 297-300.	7.80	2
24. Dev Raj, V.C. Subanna, Ahlawat O.P., Pardeep Gupta and A.G. Huddar 2006. Effect of pre-treatments on the quality characteristics of dehydrated onion rings during storage. <i>J. Food Sci. Tech.</i> 43 (6): 571-574.	7.80	6

OTHER SIGNIFICANT CONTRIBUTIONS

1. Developed complete technology for extraction of apricot and chulli seeds consisting of mechanical decortications of apricot/chulli stone, kernel separation, oil extraction in table oil expeller followed filtration and packing for its use at commercial scale has been developed. The technology has been well adopted by the farming community.
2. Developed and fabricated mechanical decorticator with separator for decortication of apricot stones with crushing efficiency of 120-140 kg apricot stones per hour against manual crushing of 3.2-4.6 kg stones per hour with decortication cost of only Re 0.11-0.13 per kg against manual decortication of Rs.1.92-2.30 per kg.
3. Developed specific gravity separation method for separation of kernels from the crushed apricot, peach and plum stones. Decorted stones are immersed in salt solution (1.888 specific gravity)
4. Optimised packaging material for increasing storage stability of apricot, peach and plum kernels oil.
5. Standardized method for removal of HCN from apricot kernels. The method consists of immersion of kernels in 25% salt solution for 50 min.
6. Evaluated and optimize the use of Table oil expeller for extraction of oil from apricot kernels with an oil yield of 42-45%.
7. Develpoed method for utilization of press cake left after oil extraction from apricot kernels. Cake utilized for extraction of essential oil for use as flavourant in food industry.

8. Standardized method for osmo-air dehydration of wild apricot fruits.
9. Evaluated mechanical fruit graders for grading of apples with the grading efficiency of 88-90% with less damage and bruising injury.
10. Standardized methods for extraction of kiwi fruit juice. Method comprise of enzymatic treatment of kiwi fruit pulp with macerating enzymes (pectinase @ 0.025%, amylase @ 0.025% and mash enzyme @ 0.060%) for 2 hrs at room temperature followed by extraction through hydraulic press.
11. Standardized pre-treatments and temperatures for dehydration of onions.
12. Developed technologies for processing and value addition of the potatoes.
13. Standardized the pre-treatments for prevention of enzymatic and non-enzymatic browning during preparation of potato products.
14. Selected suitable frying media along with optimum conc. of anti-oxidant for preparation of chips and French fries.
15. Utilized spent mushroom substrate for bioremediation of pesticides and heavy metals from soil thus improving the post harvest quality of various vegetable crops like Pea, Tomato, Wheat, Capsicum, Cauliflower, Brinjal, Onion and Ginger.
16. Standardized the pre-treatments for quality production of dehydrated paddy straw mushroom. Paddy straw mushroom is very perishable having shelf life of hardly one day in refrigerated condition.
17. Standardized technology for preparation of sand pear candy and standardized recipe for blending of sand pear and apple juice. Sand pear fruits is a wild type of fruits having gritty texture and astringent taste.
18. Standardized pretreatments for packaging of the white button mushrooms.
19. Standardized technology for osmo-air dehydration of plum fruits of cultivar Santa Rosa which other wise difficult to dry and unacceptable when dried.
20. Optimized Technology for Preparation of Mushroom Candy (*Agaricus Bisporus*).

I hereby declare that the statements made in the achievement and biodata are true.



Date and Place: 8.1.2020, Navsari

Candidate's Signature