

## CURRICULUM VITAE - DR. V.B. KUDACHIKAR

- 1. Name:** Dr. VITHAL. BALAVANT KUDACHIKAR,
- 2. Date of Birth:** 06.06.1964 (Sixth June, Nineteen hundred Sixty Four)
- 3. Current position and Address:** Principal Scientist(Postharvest Technology), and  
Associate Professor, Academy of Scientific and Innovative Research  
Dept. of Fruit and Vegetable Technology,  
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#### 4. Academic Qualifications:

Degree	University	Class (%)	Year of passing	Specialization
PhD (Agri. Sci.)	University of Agril.Sciences. Dharwad, Karnataka, India	First (82.0)	1995	Plant Physiology
M.Sc. (Agri.Sci.)	University of Agril.Sciences. Dharwad, Karnataka, India	First (83.0)	1989	Plant Physiology
B.Sc. (Agri.Sci.)	University of Agril.Sciences. Dharwad, Karnataka, India	First (71.0)	1987	Agricultural Science and allied subjects

#### 5. Awards / Honours / Citations --: (Refer: Annexure – I).

#### 6. Details of employment: --: (Refer: Annexure – II).

#### 7. Research Experience: 22 Years with 33 publications (Refer: Annexure – III ).

1. List of research papers: 33
2. Invited book chapter: 2
3. List of Processes developed: 6
4. List of Patents filed/Emerged: 3(1-filed; 2 ready to file)
5. List of products developed: 2(Bio formulations).
6. List of research Papers/Posters presented at the International Conferences: 16
7. List of research papers/posters presented at the National Conferences: 19.
8. Number of Ph.d.Scholars guided and supervised : 2
9. Number of M.Sc.FT/FSc.Tech) guided and supervised: 21
- 10.Number of B.Tech(BioTech)Sudents guided and supervised : 3

#### 7. HRD, TEACHING AND RELATED EXPERIENCE:19 years and 8 months.

1. As “Associate Professor”, of Academy of Scientific and Innovative Research, New Delhi, regularly participating in the Ph.d degree courses to Ph.d scholars (Biological sciences).
2. As a Faculty: regularly participating in the postgraduate degree courses to M.Sc (Food Sci.&Tech.) Students.
3. As a Faculty: regularly participating in various “short term courses on “Postharvest technology of fruits and vegetables: Postharvest handling, storage, processing and

value addition, to food entrepreneurs, Food Processing personnel, Exporters, traders & fruit growers.

4. **As a Research Guide and Advisor:** regularly guiding the M.Sc (Food Sci. and Tech.) degree students in their Dissertation/Investigation Project work.

#### 8. Guide to Students:

1. **As Research Guide & Advisor:** Guiding and supervising **2 Ph.D.(Biological Sciences)** Students in their research Investigation work.
2. **As Research Guide & Advisor:** Guided and supervised **21, M.Sc (Food Sci & Tech.)** Students in their research Project Investigation work.
3. **As Research Guide & Advisor:** Guided and supervised **3 B.Tech (Biotech)** Students in their research Project Investigation work.

#### 9. Experience in Management of CFTRI Institute: Institution's Organizational Committees in its efficient functioning.

1. -As a member of **Process development Utilization Committee (PDRU), Technical Advisory Group to Director, CFTRI**, participated in critical assessment of Technologies developed demonstrations of processes critically reviewed & evaluated > **22** Technologies developed/ processes and technically cleared /released processes for commercial end users (Jan, 20014-Dec.2016)
2. **Member**, "M.Sc (FT) Entrance Exam Committee "for selection of candidates for M.Sc. (FT.), 2014-16 and 2015-17 Batches.
- 3.-**Member**, Management Council of CFTRI Institute (2001-2003).
- 4.-**Member**, Estate Management & Agri-Horticulture committee of CFTRI Institute (1998-99).

#### 10. Contributions to S and T image:

1. **As "External referee/Reviewer to International Journals-**
  1. Australian J.Agric.Research;
  2. Journal. Agric. & Food Chemistry;
  3. Journal of Food Science & Technology (India),
  4. Innovative Food Science and Emerging Technologies
  5. Journal of Food Science and Technology".
  6. J. Horticultural Sciences; Focusing on Modern Food Industry.
2. **As "External Examiner"** -for Ph.D / M.Sc (PHT) Thesis Evaluation for various Agricultural Universities, India, Defence Food Laboratory (DFRL) Mysore., India.
3. **As "Internal Referee"**-for the research papers of R & D areas of CFTRI, M.Sc. (Food Tech.) & M.Sc. (Food Sci.) Mysore, India.

#### PRESENT JOB PROFILE:

Present employer **Central Food Technological Research Institute (CFTRI)**, is a Premier Research Laboratory under the CSIR setup in India. The Institute has a dominant presence in the field of Food Science and Technology and plays an important role in the development of Food Processing Industry in India. The institute is in the forefront of the CSIR's initiative towards corporatization and is a leading example of Self-Financed R&D in the country.

**Present R & D activities:** - Present Position of Principal Scientist in the Fruit and Vegetable Technology Dept. reports directly to the Head of the Dept. and participating in various R&D activities in the "Basic and applied research in the above specific areas of Post-harvest Technology of fruits and vegetables" under various major lab projects, grant in aid & sponsored projects.

My major research activities in the department of fruit and vegetable technology, at CSIR-CFTRI,

Mysore, India, are mainly focused in the field of post-harvest technology of commercially important major, minor and underutilized fruits and vegetables that encompasses **“Fruit development and maturity, technologies of modified atmosphere packaging, low temperature storage, evaporative cool storage, low and controlled atmosphere storage, combined/Hurdle preservation techniques for whole/cut fruits & vegetables. Artificial induced fruit ripening and compositional changes associated with it. Value addition to fresh fruits (after effective shelf life) by processing for appropriate processed products development and utilization of fruit peel wastes for better recovery of natural pigments, antioxidants and bioactive molecules by biotechnological approaches using specific enzyme system, defined conditions and irradiation technology for control of fruit ripening, nutritional and microbiological safety of the processed products, Inhibition of lipase inactivation in wheat germs by gamma irradiation as inhibiting treatment.** Studies in above areas are also evident from our publications and patents.

**Research on Fruit Development and Fruit Maturity:** Our activities in this area have direct impact on the postharvest quality maintenance and the shelf life extension. The studies comprises assessment and evaluation of fruit compositional changes at critical stages of fruit development and maturation mainly to identify and select the specific fruit characteristics as the most reliable maturity indices for harvest of specific fruits(varieties of Mango, banana, papaya, sapota, grapes, guava, fig).These studies are also evident from our list of publications.

**Research on selection and optimization of pretreatments and low temperature Storage conditions for shelf life extension and postharvest quality maintenance:** Our activities are focused on selection and optimization of appropriate pretreatments that include a range of food grade chemicals used as ant sprouting agents, antibrowning agents, antioxidants, antitranspirants, fruit surface hardening agents, Inhibitors and inducers of fruit ripening and senescence, chemical agents for chlorophyll pigments degradation of various fruits(Mango, banana, papaya, sapota, grapes, guava, Fig, Litchi, aonla, cashew apple) These studies are also evident from our list of publications.

**Research on development of preharvest and postharvest technology protocols:** Our studies are focused on development of set of packages for major varieties of mango and banana that includes improved both pre and postharvest practices-preharvest spray treatments to control major pests and diseases, methods for harvesting, sorting, grading, postharvest treatments, packaging and storage conditions and artificial ripening method. These studies are also evident from our best poster awards for research papers at national and International conferences (IFCON-1998 ICFOST-2000).

**Research on Modified atmosphere Packaging System:** These studies are concentrated towards selection of the polymeric films for specific film characteristics (HDPE, LDPE, PP), with active packaging materials Green keepers, guards for the fruits (varieties of mango, banana, guava, litchi, tomato, plantains) with MAP and MAP for shelf life extension and the postharvest quality maintenance of these fruits, when kept under various storage conditions. These studies are also evident from the list of publications.

**Research on Controlled atmosphere Storage System:** These studies are confined to selection of optimally matured fruits and development of an improved method for storage and long distance transportation of commercially valued fruits (varieties of mango, banana, capsicum).These studies are also yielded one patent on banana (*Indian Patent No.254908;(600/DEL/2006); An improved method for storage and long distance transportation of Banana, CSIR, India. Filed on 08-03-2006, Granted on 03-01-2013, 1.Kudachikar V.B., 2. Keshava Prakash M.N., 3. Kulkarni S.G.,).*

**Research on Evaporative Cool Storage System:** These studies are concentrated towards

selection of the polyfilms for the fruits (banana, plantains) with MAP (Green keepers) for shelf life extension and the postharvest quality maintenance of these fruits, when kept under various storage conditions. These studies are also evident from our publications.

**Research on artificially induced fruit ripening and their fruit compositional changes:** These studies are mainly focused on fruit compositional changes during ripening of tropical fruits (varieties of Mango and Banana) under the influence of artificial fruit ripening inducers. These studies are also evident from our publications.

**Research on Combined/Hurdle preservation techniques for whole/cut fruits and vegetables:** Effect of combined preservation techniques (antibrowning and antioxidants and chemical agents, MAP with poly films, gamma irradiation, low temperature) on the storage stability, microbiological quality and retention of natural pigments (anthocyanins in grape pomace) and also effect of these combined preservation techniques on the shelf-life and quality characteristics of minimally processed vegetables (potato cubes) and the fruits (banana, tomato) at low temperature.

**Research on Value Addition to fresh fruit wastes by Biotechnological approaches:** Studies on optimization of conditions for effective recovery of natural pigments (anthocyanins from grape pomace, carotenoids from mango peel wastes) using specific enzyme system and favorable conditions.

**Research on Food Irradiation Technology of fresh fruits and vegetables and Lipase inactivation in wheat germs:** Radiation induced aroma/pungency profiling / fruit compositional changes associated with preservation of fruits (Grapes, Banana, Papaya, and Cashew apple) and vegetables (Shallots, onions, tomato and spinach) for improvement in value added quality attributes during subsequent storage. Lipase inactivation in wheat germs by gamma irradiation as inhibiting treatment.

**Research on postharvest technology of underutilized minor fruits:** Effect of fruit hardening chemical agents on improvement of quality attributes and on shelf life extension of fruits (Cashew apple, Sapota, Fig.).

**Research on use of fruit hardening chemical agents on postharvest quality maintenance and shelf life extension and the processed product development from them:** Studies were focused on improvement of fruit texture and other fruit quality attributes and on shelf life extension in fresh form and suitable processed product development from them after effective storage life (Sapota, Table grapes). **The processed product development:** 1. Sapota marmalade with shelf stability up to 4 months at  $4 \pm 1^\circ\text{C}$ . 2. Dehydrated sapota slices with shelf stability up to 6 months at  $22 \pm 2^\circ\text{C}$ . 3. Grape raisins developed from grapes pretreated with fruit hardening chemical agents. 4. Papaya fruit bars.

**Research on development of new preharvest and postharvest technology protocols:** Studies are focused on development of set of packages for major mango varieties that includes improved pre and postharvest practices-preharvest spray treatments with new generation of systemic fungicides and insecticides to control major pests and diseases, methods for harvesting, sorting, grading, postharvest treatments, packaging and storage conditions and artificial ripening methods.

**Ongoing R & D work on long term lab.projects:**

**MAJOR ACCOMPLISHMENT IN PRESENT POSITION:** Presently serving as Principal Investigator of the Fruit and Vegetable Technology Component, of Long term Network project-“Extension of

shelf life of fresh fruits vegetables". New initiatives to boost agriculture productivity through maximizing pre and postharvest yields, funded by CSIR, New Delhi, (Duration: April, 2013 to March 2017; funding: Rs.352 Lakhs). Objective: To develop bio formulation(s) from plant based sources to control fungal fruit spoilages and to maintain postharvest quality and to extend storage life in mango and tomato. Research on screening and identification of plant based aroma bioactive molecules characterized for fungicidal properties against major diseases (Anthracnose, fruit rot) in fruits and vegetables as alternative to synthetic chemical fungicides: In vitro and In vivo studies on screening, identification, optimization of MIC on specific pathogens of Anthracnose in Mango and tomato are completed. Lead results are obtained for development of bio formulations for effective control of Anthracnose in Mango and tomato. Developed two bio formulations successfully and Testing and evaluation of these bio formulations for their efficacies in both In vitro and In vivo conditions are under progress.

#### **Future Plan:**

**Research on Identification of plant bioactive molecules known for biofungicidal/bactericidal properties, from plant sources that controls fungal and bacterial fruit spoilages:** Identification of bioactive molecules from fruit and vegetable sources for control of major fungal and bacterial diseases. The secondary metabolites from various plant sources known to have antifungal and antibacterial properties to completely inhibit and check the growth of specific pathogens. The compounds responsible for these activities are known in some cases and partially known in others, which require thorough exploration. Even in the well-known plant spices. However, the detailed invitro and in vivo studies of such bioactive compounds against specific pathogens causing heavy pre and postharvest losses in major fruits and vegetables are yet needs to be addressed and explored for sustainable production through increasing both pre and postharvest yields and productivity of these crops.

**Research on Controlled atmosphere storage of subtropical and temperate fruits and vegetables :** These studies needs to be confined to selection of optimally matured fruits and development of an improved method for bulk handling, storage and long distance transportation of commercially valued fruits(Indian varieties of pomegranate, citrus, pineapple, apple, grapes, litchi,Guava,Strawberry, Avocado,) and vegetables(peas, cole crops).

**Research on underutilized fruits for nutritionally valuable processed products development:** These studies needs to be confined to selection of matured fruits and development of suitable processed products which are nutritionally valued from human health and nutrition point of view, from unexplored commercially valued minor/exotic fruits (Cape Goose berry, Rose apple, Java apple etc.)

**Research on Identification of bioactive molecules from plant sources that controls/delays fruit ripening:** Identification of bioactive molecules from fruit and vegetable sources for shelf life extension and postharvest quality maintenance by delaying /controlling fruit ripening.

### Annexure – I: Awards / Recognitions / Honours / Citations

Year	Awards/Recognitions	Host Institute	Technical courses
2015-16	External Examiner, Question paper setter” for the course “Postharvest Management of Fruits and vegetables.”	University of Agri. Sciences, Bengaluru,	B.Sc.(Agri.sci)
2015-16	“Course Coordinator of “Principles of food processing”	Mysore University Karnataka, India.	M.Sc.(Food Tech.)
2014-15	As a Member of “Board of Paper Setter and Examiners” in Food Science and Technology	Mysore University Karnataka, India.	M.Sc(FoodTech.),M.Sc(FoodSci&Tech),Ph.D.(FSci),Preadmission/Entrance test for M.Sc.(FSc) PG Diploma in Food analysis and quality assurance.
2010-11 till date	Associate Professor in the Faculty of “Biological Sciences”	Academy of Scientific Innovative Research, New Delhi, India.	Ph.D in Biological Sciences.
2014-16	Member, Board of Examiner& Question paper setter(Food Sci & Tech),	Mysore University Karnataka, India.	M.Sc(Food Sci & Tech),
2014	Member, Board of Examiner& Question paper setter(Food Sci & Tech),	Mysore University Karnataka, India.	M.Sc(Food Sci & Tech),
2012-13	Research Guide	Mysore University Karnataka, India.	Ph.D(Food Sci)
2012	External member, Advisory Committee for Postgraduate students	University of Hort.Sciences, Bagalkot, Karnataka, India.	M.Sc (Hort)
2005-Till date	Member, Board of Examiner& Question paper setter	Calicut University Kerala, India.	M.Sc (Food Sci & Tech),B.Sc (Food Sci) Degree Courses.
2004-05	Research Guide	Mysore University Karnataka, India.	Ph.D(Biotechnology)
1989-92	University Merit Scholarship	University of Agril. Sciences. Dharwad, Karnataka, India	Ph.D(Plant physiology)
1987-89	-Jindal Seva Trust Scholarship, – awarded sponsorship Student research project	Karnataka State Council for S&T, Indian Institute of Science,Bangaluru India	M.Sc (Agri)

1. **Two**-Best Research Poster Awards- at International Food Convention of Food Scientist &Technologists.
2. **Five**-Best Research Poster Awards-at Indian Food Convention of Food Scientist &Technologists.

**Annexure – II : Details of employment: --:**

<b>Sl. No.</b>	<b>Period (Years)</b>	<b>Designation</b>	<b>Institute/Organization</b>	<b>Field of Specialization /Research Activities</b>
1.	Jan 2011-till date	Principal Scientist	Fruit & Vegetable Technology Dept. CFTRI, Mysore, India	1. Development of Bio formulations from plant sources to control anthracnose fruit spoilages. 2. Processed product development. 3. Post-harvest Technology of fruits & vegetables
1.	Jan 2005-Dec.2010	Scientist-E1	Fruit & Vegetable Technology Dept. CFTRI, Mysore, India	1. Post harvest Technology of fruits & vegetables 2. Food irradiation of fruits & vegetables 3. Value addition to fresh Fruit waste.
2.	Jan 2001-To Dec 2005	Scientist–C	Fruit & Vegetable Technology Dept. CFTRI, Mysore, India	1. Food irradiation of fruits & Vegetables. 2. Postharvest Technology of fruits & vegetables
3.	1997-2000	Scientist–B	Dept. of Fruit & Vegetable Technology, CFTRI, Mysore, India	1. Postharvest Technology of fruits and vegetables
4.	1996-97	Research Officer	Bharatiya Agro-Industries Foundation, Institute for Rural Development (BAIF), Tiptur, Karnataka, India	Horticulture, Agriculture and Agro-forestry research activities and conducting training cum demonstration on Rural Development Programmes
5.	1989-1995	Ph.D Scholar	University of Agri Sciences, Dharwad, India.	Cotton physiology and cotton germ plasm screening for ideotype for water limited conditions.
6.	1987-1989	Post Graduate Student	University of Agri Sciences, Dharwad, India.	Sugarcane plant nutrition– Diagnosis & Correction of Lime induced Iron chlorosis

**I. In the Area of “Post harvest Technology of Fruits and Vegetables”--- 23.**

1. Salman Subiki.C<sup>1</sup>, Ravi R<sup>2</sup> and **Kudachikar V B<sup>1\*</sup>2016**.Influence of pretreatments and low temperature on postharvest quality characteristics and the shelf life extension of cashew apple with and without nut.**International Journal of Scientific and Engineering Research, USA, I.D.No:1080489(accepted for publication on 5-4-2016.)**
2. Amarjeet kumar, Chauhan, A.S., Ravi, R and **Kudachikar, V.B, 2016**. Effect of pretreatments and storage conditions on shelf life extension of Sapota (*Achras Zapota*) fruit and on quality of osmo-dehydrated slices.**International Journal of Current Research and Academic Review**.(DOI No: <http://dx.doi.org/10.20546/ijcrar.2016,404.019>(IF:2.5).
3. Suresh Kallai, Ravi, R, and **Kudachikar, V B<sup>\*</sup> 2015**.Assessment of bulb pungency level in Indian onion cultivars under influence of low doses of Ionizing radiation and short term storage.2015, **International Journal of Scientific and Engineering Research, USA, 6(10):38-49**.(DOI No: 10.14299/000000),Oct,2015, (Impact factor:3.8).
4. Amarjeet kumar, Chauhan, A.S, Ravi, R, **Kudachikar, V B<sup>\*</sup> 2016**, Influence of pretreatments and storage condition on the quality of Sapota (*Achras Zapota*) fruit and on its processed product marmalade. **International Journal of Current Science, USA, 19(1):133-145. ISSN2250-1770(IF:4.109)**
5. Renu Rahel, Chauhan, A.S, Srinivasulu, K, Ravi, R, and **Kudachikar, V B<sup>\*</sup>** Quality attributes of various spray dried pulp powder prepared from low temperature stored calcium salts pre-treated Guava fruits. 2015, **International Journal of Biological, Biomolecular, Agricultural, Food and Biotechnological Engineering. Las Vegas, USA, 9(7):802-813.DOI:Scholar.Waset.org/1999.1/10003870 (IF: 3.05).**
6. Irfan,P.K. Vanajakshi, V. Keshava Prakash MN, Ravi,R. and **Kudachikar VB, 2013**,Calcium chloride extends the keeping quality of fig(*Fiscus carica* L.)during storage and shelf life. **Postharvest Biology and Technology,82: 70-75.(IF:2.223)**
7. Shiema Augustine, **Kudachikar, V.B**, Ravi, R. **2011**-Effect of combined preservation techniques on the storage stability, microbiological quality and retention of anthocyanins in grape pomace stored at low temperature. **Journal of Food Science & Technology**
8. S.G. Kulkarni, **V.B.Kudachikar** and M. N. Keshava Prakash, **2010**, Studies on Physico-chemical changes during ripening of banana variety ‘Robusta’.**Journal of Food Scienc and Technology (48(6):730-734.**
9. **Kudachikar V.B.**, Kulkarni S.G., Keshava Prakash M.N.(2011),-Effect of MAP on the fruit quality & shelf life of ‘Robusta’ banana (*Musa cavendishii*) stored at low temperature conditions. **Journal of Food Science & Technology, 48(3):319-324.**
10. Amruthraj, **Kudachikar V B<sup>\*</sup>**,Kulkarni S G, Keshava Prakash, MN,(2009), **Oral presentation** of the paper entitled “Retention of native ascorbic acid content during extension of storage life of fresh amla (*Embllica officinalis* gaerth) fruits through pretreatment with calcium salts” at **International Conference on Horticulture (ICH 2009)**, held on 9-1<sup>2th</sup> Nov., 2009, B’lore, India. pp-314.
11. Aneesh Mathew, **Kudachikar, V.B**, and Ravi, R. (2008)- Effect of gamma irradiation treatments and MAP on fruit colour and textural characteristics of tomato (*Lycopersicon esculentum*)at low temperature conditions. **Journal of Food Science and Technology, 45(6):644-648.**



12. Aneesh Mathew, **Kudachikar, V.B.**, and Ravi, R. (2007)-Effect of ionizing irradiation and modified atmosphere packaging on the shelf life and quality of tomato stored at low temperature. **Journal of Food Science and Technology**, **44(6):633-635**.
13. Revathybaskaran, Ushadevi, A, Chetan A.Nayak, **Kudachikar,V.B.**, Keshava Prakash M.N, Mayaprakash, and Ramana. K.V.R. (2007)-Effect of low dose gamma irradiation on the shelf-life and quality characteristics of minimally processed potato cubes under modified atmosphere packaging. **Radiation Physics and Chemistry**, **76: 1042-1049**.
14. **Kudachikar, V.B.**, Kulkarni, S. G.,Vasanth, M.S., Aravind prasad B and Aradhya SM (2007)-Effect of Modified Atmosphere Packaging on the shelf life and fruit quality of banana stored at low temperature. **Journal of Food Science and Technology**, **44(1):74-78**.
15. Semeerbabu, M.T.Kudachikar, V.B, Revathybaskaran, Ushadevi, A, Matche .S. and Ramana. K.V.R (2007)-Effect of post harvest treatments on the shelf life and quality of litchi fruit stored under modified atmosphere packaging at low temperature. **Journal of Food Science and Technology**, **44(1):106-109**.
16. **Kudachikar V.B.**, Kulkarni S.G., Keshava Prakash M.N. Vasanth M.S., Aravind prasad B and Ramana K.V.R. (2007) - Establishment of optimum fruit maturity of banana var. 'Robusta' through physico-chemical changes. **Journal of Food Science and Technology**, **44(1):112-114**.
17. Isaak, GP, **Kudachikar V.B.**, Kulkarni S.G., Vasanth M.S., Keshava Prakash M.N. and Ramana K.V.R. (2006) Effect of Modified Atmosphere Packaging on the shelf life of Plantains (*Musa paradisiaca*) under low temperature storage conditions. **Journal of Food Science and Technology**, **43(6):671-676**.
18. Pue Aisak, Goliath, **Kudachikar V.B.**, Kulkarni S.G., Vasanth M.S., Keshava Prakash M.N. and Ramana K.V.R.(2004) Effect of Modified Atmosphere Packaging on the shelf life of Plantains (*Musa paradisiaca*) under evaporative cool(EC)storage conditions.**Journal of Food Science and Technology**, **41(6):646-651**.
19. **Kudachikar, V.B.**, Kulkarni, S.G., Keshava Prakash, M.N., Vasanth, M.S., Aravinda Prasad B, and Ramana K.V.R., (2004) : Development physiology and maturation studies of banana (*Musa spp.*) var. Elakkibale. **Journal of Food Science and Technology**,**41(2):115-123**.
20. Kulkarni, S.G., **Kudachikar, V.B.**, Vasanth, M.S., Keshava Prakash, M.N., Aravinda Prasad B.and Ramana, K.V.R., (2004) Studies on effect of ethrel dip treatment on Ripening behaviour of mango (*Mangifera indica L*) var. Neelum. **Journal of Food Science and Technology**,**41(2):216- 219**.
21. **Kudachikar, V.B.**, Kulkarni, S.G., Aradhya, S.M., Aravinda Prasad B. and RamanaK.V.R.– (2003), Physico-chemical changes in Mango (*Mangifera indica L*) varieties During fruit Development and maturation. **Journal of Food Science and Technology**, **40(3): 285 - 289**.
22. **Kudachikar, V.B.**, Kulkarni, S.G., Keshava Prakash, M.N., Vasanth, M.S., Aravinda Prasad B. and Ramana, K.V.R., (2001) : Physico-chemical changes during maturity of Mango (*Mangifera indica L*) variety Neelum **Journal of Food Science and Technology**, **38(5) : 540-542**.
23. **Kudachikar, V.B.**, Ramana, K.V.R and Eipeson, W.E. (2000) : Pre and postharvest factors Influencing the shelflife of ber (*Zizyphus mauritiana Lamk.*)- A Review. **Indian Food Packer**. **54(1): 81-90**.

## II. In the Area of “Plant Germplasm Screening for water limited conditions”: 4

1. **Kudachikar, V.B.** and Janagoudar, B.S. (1998) : Physiological basis for higher productivity in upland cotton under rainfed conditions. **Maha. Journal . Agril. Universities, 23(2): 187-188.**
2. **Kudachikar, V. B.** and Janagoudar, B. S. (1999) : Evaluation of rainfed hirsutum cotton genotypes for higher productivity. **Annals of Plant Physiology, 13(2) : 165-169.**
3. **Kudachikar, V.B.** and Janagoudar, B.S. (1999): Physiological analysis of growth parameters and yield attributes in rainfed hirsutum cottons. **Madras. Agric. Journal, 85(7-9): 360-362.**
4. **Kudachikar, V. B.** and Janagoudar, B. S. (1999) : Physiological investigations for higher productivity of rainfed hirsutum cotton. **Annals of Plant Physiology, 13(1): 16-20.**

### III. In the Area of “ Plant Nutrition”.: 6

1. Kudachikar, V. B., **Panchal, Y.C., Chetti, M.B. and Basarkar, P.W.** (1992): **Effect of micronutrients spray on growth and yield in Sugarcane.** Annals of Plant Physiology, 6(2): 297-300.
2. Kudachikar, V.B., **Chetti, M.B. and Basarkar, P.W.** (1997) : **Changes in the mineral constituents and chlorophyll contents during chlorosis in Sugarcane.** Annals of Plant Physiology, 11(2): 111-116.
3. **Kudachikar, V.B.,** Panchal, Y.C., Chetti, M.B. and Basarkar, P.W. (1991) :Prediction of iron chlorosis in sugarcane(*Saccharum officinarum* L.) cv.CO-740 at different stages of growth from plant analysis. **Annals of Plant Physiology, 5(2):166-170.**
4. **Kudachikar, V.B.,** Panchal, Y.C., Chetti, M.B. and Basarkar, P.W. (1992): Effect of foliar application of micronutrients on enzyme activity and quality of sugarcane grown on calcareous soil. **Annals of Plant Physiology, 6(1): 92-97.**
5. **Kudachikar, V.B.,** Panchal, Y.C., Chetti, M.B. and Basarkar, P.W. (1989) : Influence of foliar spray of micronutrients on cane yield and quality in sugarcane cv.CO-740. Research paper presented at **National Seminar on Strategies in Physiological Regulation** of Plant Productivity held at Bombay, India, pp.18.
6. Manjunath, H.M., **Kudachikar, V.B.** and Math, K.K. (1991): Management of micronutrients in sugarcane crop. Research Paper presented in the **Seminar on Sugarcane** held at ARS, Bidar, UAS, Dharwad, and P.31-35.

### IV. List of Papers/Posters of research papers presented at International conferences: 16

1. Supriya.A, **Kudachikar,VB\***Amarjeetkumar, and Ravi, R, Chemical composition and the aroma profile of selected essential oils using GC-MS and E-nose techniques. March 17-19, 2016, **International Conference on Recent Trends In Engineering and Material Sciences (ICEMS-2016)**, Jaipur national University, Jaipur, Rajasthan, pp.383-384.
2. Amarjeet kumar, Srikanth KS, Chauhan, AS, Negi PS, Ravi R and **Kudachikar V B\*** 2013, Poster presentation of the paper entitled “Influence of pretreatments on the quality of fresh sapota (*Acharas zapota* L.) cv.Cricket ball and it's suitability for marmalade preparation.” **7<sup>th</sup> International Food Convention**, held at CSIR-CFTRI, Mysore, India, on **18-21, Dec., 2013.C-120: PP.275-276.**
3. Srikanth KS, Amarjeet kumar, Chauhan, AS, Negi PS, Ravi R and **Kudachikar V B\*** 2013, Poster presentation of the paper entitled “Studies on effect of pretreatments and storage conditions on shelf life extension and postharvest quality maintenance of sapota fruits fresh sapota (*achras zapota*) cv.cricket ball and it's suitability for dehydrated product development.” **7<sup>th</sup> International Food Convention**, held at CSIR-CFTRI, Mysore, India, on **18-21, Dec., 2013.C-127 : PP.278.**
4. Sayyed Ahmmmed Thangal, K.V. **Kudachikar V B\***, Vanajakshi, V. Keshava Prakash, MN, and Ravi.R. **2010, Poster presentation** of the paper entitled “Effect of pretreatments on the microbiological quality, fruit quality & shelf life of cashew apple (*Anacardium occidentale* L.))with nut stored at low temperature. **International Conference on Traditional Foods (ICTF 2010)**, held on **1-3<sup>rd</sup> Dec., 2010, Pondicherry Univ., Puducherry, India.FPC-114, pp-299-300.**

5. Muhammed Asif, C.C.**Kudachikar V B\***, Vanajakshi, V. Keshava Prakash, MN, and Ravi.R., **2010, Poster presentation** of the paper entitled "Effect of fruit hardening treatments on the post harvest quality maintenance & shelf life of Fig (*Ficus carica* L) fruits stored at low temperature. **International Conference on Traditional Foods (ICTF 2010)**, held on **1-3<sup>rd</sup> Dec., 2010, Pondicherry Univ., Puducherry, India. FPC-115,pp-300.**
6. Shivarajkumar, **Kudachikar V B\***, Sravankumar, B. Chauhan A.S. Rekha, M.N.Keshava Prakash, M.N. and Ravi.R., **2010, Poster presentation** of the paper entitled "Influence of pretreatments and storage conditions on the quality of processed products from white flesh guava (*Psidium guajava* L.) fruits. **International Conference on Traditional Foods (ICTF 2010)**, held on **1-3<sup>rd</sup> Dec., 2010, Pondicherry Univ., Puducherry, India. FPC-554,pp-302-303.**
7. Sravankumar, B. **Kudachikar V B\***, Shivarajkumar, Keshava Prakash, MN, and Ravi.R, **2010, Poster presentation** of the paper entitled "Effect of pretreatments on the storage life and post harvest quality of white flesh guava (*Psidium guajava* L.) fruits stored at low temperature". **International Conference on Traditional Foods (ICTF 2010)**, held on **1-3<sup>rd</sup> Dec., 2010, Pondicherry Univ., Puducherry, India. FPC-334,pp-301.**
8. Amruthraj, **Kudachikar V B\***,Kulkarni S G, Keshava Prakash, MN, **Oral presentation** of the paper entitled "Retention of native ascorbic acid content during extension of storage life of fresh amla(*Embllica officinalis* gaerth)fruits through pretreatment with calcium salts" at **International Conference on Horticulture (ICH 2009)**, held on **9-12<sup>th</sup> Nov., 2009, B'lore, India. pp-314.**
9. Sunil,KK, **Kudachikar V B\***,Kulkarni S G, Keshava Prakash, MN," **Poster presentation** of the paper entitled "Effect of combined preservation techniques on the storage stability and recovery of pigments and antioxidants from spinach(*Spinacia oleracea*)and ripe tomato(*Lycopersicon esculantum.*) " at **International Conference on Horticulture -2009, 9-12<sup>th</sup> Nov., 2009, B'lore, India. pp-316-317.**
10. Sunil,KK, **Kudachikar VB.**, Keshava Prakash M.N. and Sathish,HS.(2008) Response of climacteric type pink flesh guava(p.gujava.L)fruit to different packaging films and low temperature storage conditions.**6<sup>th</sup>International Food Convention, IFCON-2008, held at CFTRI,Mysore,on 15-19<sup>th</sup> Dec.2008, FV-29: pp-33.**
11. **Kudachikar V.B., (2004)**, Role of CFTRI in pos harvest handling and processing of fruits and vegetables in India. **International workshop on progress evaluation of Indo-Vietnam Collaborative Programme on Litchi storage** held on 25<sup>th</sup> June 2004, at RIFAV, Hanoi, Vietnam.at RIFAV,Vietnam.,Organised by RIFAV & DST, Hanoi, Vietnam.
12. **Kudachikar, V.B.,,** Keshava Prakash, M.N., Revathy, B., and Ramana K.V.R. **(2003)**, Effect of gamma irradiation on the shelf life and quality of papaya (*Carica Papaya* L)fruits under ambient storage conditions. **5<sup>th</sup> International Food Convention**, held on 5-8<sup>th</sup> Dec,2003, at Mysore, India, pp.269.
13. Kulkarni, S.G, Aravinda Prasad B. **Kudachikar, V.B.,,** Keshava Prakash, M.N., Vasantha M.S.,andRamana K.V.R. **(2003)**, Development of technology protocols for export of banana var.Robusta by ship, **.5<sup>th</sup> International Food Convention**, held on 5-8<sup>th</sup> Dec,2003, at Mysore, India, pp.258.
14. Kulkarni, S.G, **Kudachikar, V.B.,** Revathy, B., Keshava Prakash, M.N., Aravinda Prasad B.and Ramana K.V.R. **(2002)**, Studies on the effect of evaporative cooling of potato (*Solanum tuberosum* L)cv Kufri jyothi on the storage life. **International Conference on post harvest management in vegetable crops** held on 11-14<sup>th</sup> Nov, 2002, at Bangalore, India, pp.294.
15. Aradhya, S.M., Kulkarni, S.G., Vasantha, M.S., **Kudachikar V.B.** and Ramana K.V.R. **(1998)**,Development of Pre and Post harvest Technology Protocols for Export of Fresh

Mangoes var. Totapuri by Ship. **4<sup>th</sup> International Food Convention** held on Nov. 1998, at Mysore, India. pp.151.

16. Kulkarni, S.G., Aradhya, S.M., Vasantha, M.S., **Kudachikar, V.B.** and Ramana, K.V.R. (1998) : Pre and Post harvest technology protocols for export of banana var. Poovan by ship. **4<sup>th</sup> International Food Convention** held on Nov. 1998 at Mysore, India. pp. 159.

#### **V. List of Posters of research papers presented at the National Conferences: 19**

1. Irfan,P.K. **Kudachikar VB**, Vanajakshi, V. Keshava Prakash MN, and Ravi,R.(2009),Effect of postharvest dip. Treatments on improving fruit texture, shelf life extension and the microbial quality of fresh figs stored at low temperature.**20<sup>th</sup>Indian Convention of Food Scientists & Technologists, 21-23, Dec. 2009**, held at NIMANS, Bangalore, India, (FV-53,pp-160).
2. Salman subiki, C. **Kudachikar VB**, Keshava Prakash MN, Ravi,R. and Sathish HS, (2009),Effect of postharvest dip. treatments with calcium salts on the shelf life stability and postharvest fruit quality of Cashew apples stored under low temperature conditions.**20<sup>th</sup>Indian Convention of Food Scientists & Technologists, 21-23, Dec. 2009**, held at NIMANS, Bangalore, India,(FV-54,pp-160-161).
3. Shiema Augustine, **Kudachikar, V.B**, Vanajakshi, V. and Ravi, R.(2008)-Effect of gamma irradiation alone or in combination with sodium benzoate on the microbial quality,anthocyanins stability in grape pomace stored under modified atmosphere packaging.**National Seminar on Food security through Innovations in Food Processing & Entrepreneurship development, held on 29-30<sup>th</sup> Sept,2008**, at Kerala Agri.Univ.,Thrissur,Kerala,
4. **Kudachikar V.B.**, Kulkarni S.G., Keshava Prakash M.N. Vanajashi, V. and Aravind prasad B(2007) Effect of Post harvest treatments on the storability and microbial quality of Amla fruits.**19<sup>th</sup>Indian Convention of Food Scientists & Technologists, 2007, 31<sup>st</sup> Dec,2007 - 2<sup>nd</sup> Jan, 2008**, held at IIT,Kharagpur, FV-06 : pp-50.
5. **Kudachikar V.B.**, Keshava Prakash M.N. Kulkarni S.G., Vasantha M.S and Aravind prasad B(2006) Effect of Controlled Atmosphere Storage(CA)on the shelf life and quality of Banana.**18<sup>th</sup>Indian Convention of Food Scientists & Technologists, 2006, 16-17<sup>th</sup> Nov, 2006**, held at Hyderabad, FV-53: pp-72.
6. Keshava Prakash M.N. Kulkarni S.G., **Kudachikar V.B.**, Vasantha M.S and Aravind prasad B(2006).Effect of Controlled Atmosphere Storage(CA)on the shelf life and quality of Sapota.**18<sup>th</sup>Indian Convention of Food Scientists & Technologists,2006, 16-17<sup>th</sup> Nov, 2006**, held at Hyderabad, FV-51: pp-71.
7. Abdul Riyaz, **Kudachikar, V.B**, and Ravi,R.(2006)-Response of stage of maturity to ionizing irradiation in relation to the shelf-life and quality characteristics of tomatoes stored at ambient and low temperature.**18<sup>th</sup>Indian Convention of Food Scientists & Technologists, 2006, 16-17<sup>th</sup> Nov, 2006**,held at Hyderabad,FV-54: pp-72.
8. Shiema Augustine, **Kudachikar, V.B.**(2006)-Fruit colour and textural characteristics of gamma irradiated grapes stored at ambient conditions for quality maintenance and shelf life extension.**National Symposium on Sensors and Instrumentation for Food Processing,, 20-21<sup>st</sup>, Jan, 2006**, held at CFTRI, Mysore, India,pp.104.
9. **Kudachikar, V.B**, Aneesh Mathew, and Ravi,R.(2005)-Effect of ionizing irradiation treatments and MAP on the shelf life and quality of tomato stored at low temperature conditions.**17<sup>th</sup>Indian Convention of Food Scientists & Technologists, 9-10, Dec.2005**, held at NIMHANS, B'lore, India, FV-12: pp-49.
10. Aneesh Mathew **Kudachikar,V.B**, and Ravi,R.(2005)-Effect of ionizing irradiation treatments on fruit textural and colour characteristics and the shelf life of MA packed tomatoes stored at low temperature conditions.**17<sup>th</sup>Indian Convention of Food Scientists & Technologists, 9-10, Dec. 2005**, held at NIMHANS, B'lore, India, FV- 37: pp-56.
11. Semeer babu, M., **Kudachikar, V.B.**, Revathy, B., Ushadevi, A., Matche R.S. and Ramana, K.V.R. (2004). Effect of post harvest treatments & MAP on the shelf life & quality of litchi fruits. **16<sup>th</sup>Indian Convention of Food Scientists & Technologists-2004, 9-10<sup>th</sup> Dec. 2004**, Mysore, India, pp.101.
12. Keshava Prakash M.N, **Kudachikar, V.B**,Kulkarni, S.G, Aravinda Prasad, B, Vasantha,M.S and Ramana, K.V.R (2004). Technology protocols for export of Mango

- var. Neelum under CA storage conditions. **16<sup>th</sup> Indian Convention of Food Scientists & Technologists– 2004, 9-10<sup>th</sup> Dec. 2004, Mysore, India, pp.104.**
13. Revathy, B., Ushadevi, A., **Kudachikar, V.B.**, Keshava Prakash M.N., Rastogi, N.K. and Ramana, K.V.R. (2004). Potential Application of low dose of gamma irradiation to improve the shelf life and quality characteristics of mini-processed ready to use potatoes. **16<sup>th</sup> Indian Convention of Food Scientists & Technologists - 2004, 9-10<sup>th</sup> Dec. 2004, Mysore, India, pp.104.**
  14. Kudachikar, V.B., Keshava Prakash M.N., Kulkarni, S.G., Vasantha, M.S., Aravinda Prasad, B., and Ramana, K.V.R. (2002). Influence of controlled atmospheres on the shelf life and quality of banana. **15<sup>th</sup> Indian Convention of Food Scientists & Technologists - 2002, 12-13<sup>th</sup> Dec, 2002, Mysore, India, pp.53.**
  15. Keshava Prakash M.N., **Kudachikar, V.B.**, Vasantha, M.S., Madhu, M., Aravinda Prasad, B., Kulkarni, S.G., and Ramana, K.V.R. (2002). Storage of bell Peppers (*Capsicum annum* L) under CA conditions. **15<sup>th</sup> Indian Convention of Food Scientists & Technologists, 2002, 12-13<sup>th</sup> Dec, 2002, Mysore, India, pp.53.**
  16. Kulkarni, S.G., Aravindaprasad, B., Keshava Prakash M.N., **Kudachikar, V.B.**, Vasantha, M.S., Madhu, M., and Ramana, K.V.R. (2002). Effect of CA storage on the shelf life and quality of Mango. **15<sup>th</sup> Indian Convention of Food Scientists & Technologists, 2002, 12-13<sup>th</sup> Dec, 2002, Mysore, India, pp.53.**
  17. Aravinda Prasad, B., Kulkarni, S.G., **Kudachikar, V.B.**, Keshav Prakash, M.N., Vasantha, M.S. and Ramana, K.V.R. (2000). Development of Pre and Post-harvest Technology protocols for export of fresh Mango Variety Neelum by Ship. **14<sup>th</sup> Indian Convention of Food Scientists and Technologists, 2000, held on 22-24 Nov. 2000 at Mysore, India, pp.177-178.**
  18. **Kudachikar, V.B.**, Kulkarni, S.G., Keshav Prakash, M.N., Vasantha, M.S., Aravinda Prasad, B. and Ramana, K.V.R. (2000) : Physico - chemical and physiological changes in Banana Variety Elakkibale during fruit growth and maturation. **14<sup>th</sup> Indian Convention of Food Scientists and Technologists, 2000, held on 22-24 Nov. 2000 at Mysore, India. pp.175.**
  19. Kulkarni, S.G., **Kudachikar, V.B.**, Vasantha, M.S., Keshav Prakash, M.N., Aravinda Prasad, B. and Ramana, K.V.R. (2000): Pre and Post-harvest Technology protocols for export of Banana Variety Elakkibale by Ship. **14<sup>th</sup> Indian Convention of Food Scientists and Technologists, 2000 held on 22-24 Nov. 2000 at Mysore, India. pp. 174.**

## VI. LIST OF INVITED BOOK CHAPTERS: 2

1. **Kudachikar, V.B., 2011, –“Radiation preservation of fruits and vegetables”** published in the book entitled –“Advances in Fruit and Vegetable Technologies; Basic and Applied, -Edited by New India Publishing Agency (NIPA), New Delhi, India. **pp-73-123.**
2. **Kudachikar, V.B., (2002) : A Invited book chapter on –“Detection of non- nutritional factors in plant products”** published in the Book entitled –“Principles and Techniques for plant scientists”, P.P. **307-322.** Edited by A.M. Dhopte and M. Manuel Livera, Published by Agrobios (India). Jodhapur, India.

## VII. List of processes/Technologies developed: Six

1. “A process knowhow for “CA Storage technology protocols for Banana var. Robusta by ship”
2. “Technology protocols for post harvest handling storage and transportation of litchi fruits for internal and export trade”
3. Development of bio-fungicide bio formulation as Emulsion Concentrate (EC1) from plant volatile bioactive molecules that control Anthracnose disease in Mango and Tomato.
4. Development of bio-fungicide bio formulation as Emulsifiable Concentrate (EC2) from plant volatile bioactive molecules that control Anthracnose disease in Mango and Tomato.
5. “A process for shelf-life extension and post-harvest quality maintenance of Amla

fruits”

6. “A method for recovery of Anthocyanins from grape pomace”.

## VII. LIST OF PATENTS SUBMITTED/FILED: THREE

1. An improved method for storage and long distance transportation of banana.- **V.B.Kudachikar**, M.N. Keshava Prakash, S.G.Kulkarni,. M.S. Vasantha, B. Aravinda Prasad and K.V.R.Ramana (**Submitted to CSIR,-NF.No.25 NF06**).(*Indian Patent No.254908;(600/DEL/2006); An improved method for storage and long distance transportation of Banana, CSIR, India. Filed on 08-03-2006, Granted on 03-01-2013, 1.Kudachikar V.B.,2. Keshava Prakash M.N.,3. Kulkarni S.G.,).*
2. **Patents Emerged from ongoing R and D Work : 2 patents(under process of filing at Institute level,2016-17)**
  - i).Development of bio-fungicide bio formulation as Emulsion Concentrate (EC1) from plant volatile bioactive molecules that control Anthracnose disease in Mango and Tomato.
  - ii) Development of bio-fungicide bio formulation as Emulsifiable Concentrate (EC2) from plant volatile bioactive molecules that control Anthracnose disease in Mango and Tomato.

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