

## **Information for website update**

### **Department of Post Harvest Technology**

The Department of Post Harvest Technology was established in the year with the inception of the University i.e., March, 2010 to meet the increasing demand of developing appropriate technologies for post-harvest management and processing of horticultural crops. Since then the Department was fully operational in the fields of teaching of UG students and extension activities till 2018. After the enrolment of first post graduate batch in year 2018 and first Ph. D. batch in year 2020 the department is fully engaged in field of research too. At present, faculty members of the department are engaged in teaching and guiding under graduate (UG), PG and Ph. D. Programs running at College of Horticulture and other constituent colleges of the university.

The teaching and research programs of the department are designed in such a way that the students exposed to the recent trends and challenges in the field.

The funding for infrastructural development and research is mainly through RKVY, ICAR and university fund. The department is involved in conduction research on all aspects of food science and technology with special emphasis on the post harvest management and value addition of fresh horticultural produce.

The department has highly qualified faculty members with research experience in the different areas of post harvest technology of horticultural crops.

### **Strengths**

- The UG and PG Laboratories in the department are well equipped and fully functional with all necessary facilities.
- Modern laboratory facilities are available at the department and Central Laboratory Facility of the university for estimation of nutritional and quality components of food which include latest equipment like water activity meter, moisture analyzer, headspace gas analyzer, advance UV-VIS spectrophotometer, fermenter, KjellTRON, SoxTRON, FibroTRON, texture analyzer, LC-MS/MS, GC-MS/MS, ICP-MS, viscometer, Hunter Lab (Colourflex EZ) etc.
- Different food processing equipment like spray dryer, baking oven, freeze dryer, extruder, etc are available for processing of fruits, vegetables and cereals.
- Equipped with Fruit Processing Unit where in-plant trainings are being provided to Students, FPO's, NGO's and others.
- Commercial production of value added products from horticultural produce and other food products on demand basis.
- Provision of trainings and demonstrations to various stakeholders on postharvest management of horticultural crops and other processed foods

### **Academics**

The department offers degree program for following courses:

## Course Contents

### Course Title with Credit Load

#### M.Sc. (Hort.) in Post-Harvest Management

Course Code	Course Title	Credits Hours	Offered in semester
PHM 501 *	Postharvest Management of Horticultural Produce	2+1	I
PHM 502*	Postharvest Physiology and Biochemistry of Perishables	2+1	I
PHM 503	Packaging and Storage of Fresh Horticultural Produce	1+1	III
PHM 504	Packaging and Storage of Processed Horticultural Produce	1+1	III
PHM 505*	Principles and Methods of Fruit And Vegetable Preservation	2+1	I
PHM 506	Laboratory Techniques in Postharvest Management	1+2	II
PHM 507*	Processing of Horticultural Produce	2+2	II
PHM 508	Quality Assurance, Safety and Sensory Evaluation of	2+1	III
	Fresh and Processed Horticultural Produce		
PHM 509	Functional Foods from Horticultural Produce	2+0	III
PHM 510	Marketing and Entrepreneurship in Postharvest Horticulture	1+1	III
	Minor Courses (08 credits)	08	
	Supporting Courses (06 credits)	06	
	Common compulsory courses (05 credits)	05	
PHM 591	Seminar	0+1	
PHM 599	Research	0+30	
	<b>Total</b>	<b>70</b>	

\*Compulsory among major courses

## **Ph.D. (Hort.) in Post-harvest Technology**

### **Course Title with Credit Load Ph.D. (Hort.) in Post-harvest Management**

<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Offered in Semester</b>
PHM 601**	Ripening and Senescence of Fruits and Vegetables	1+1	I
PHM 602**	Recent Trends in Food Preservation	1+1	I
PHM 603	Management and Utilization of Horticultural Processing Waste	3+0	I
PHM604**	Supply Chain Management of Perishables	2+0	I
PHM 605	Export Oriented Horticulture	1+0	II
PHM 606	Food Additives	1+1	II
PHM 607	Advances in Processing of Plantation, Spices, Medicinal and Aromatic Plants	3+0	II
PHM 608	Value Addition in Ornamental Crops	1+1	II
	Minor courses	06	
	Supporting courses	05	
PHM 691	Seminar I	0+1	
PHM 692	Seminar II	0+1	
PHM 699	Research	0+75	
	Total	100	

\*Compulsory among major courses

## **Research**

### **Thrust Areas**

- Development of value added products from underutilized and unexploited horticultural crops of Bundelkhand region.
- Development of minimally processed fruit and vegetable products.
- Development of functional foods/ health drinks from fruits and vegetables.
- Storage studies of different fruits and vegetable in Bundelkhand region.

### **Major ongoing projects:**

- Establishment of Post Harvest Management Facility for Quality Research and Effective Dissemination of Technologies (2021-22) worth Rs. 1.8725 Crore funded by RKVY-RAFTAAR
- In house project “Conservation, nutritional profiling and utilization pattern of underutilized traditional vegetable crops of Bundelkhand” worth Rs. 17.62 Lakh funded by BUAT, Banda

## **Research Achievements**

Following technologies has been developed at the department:

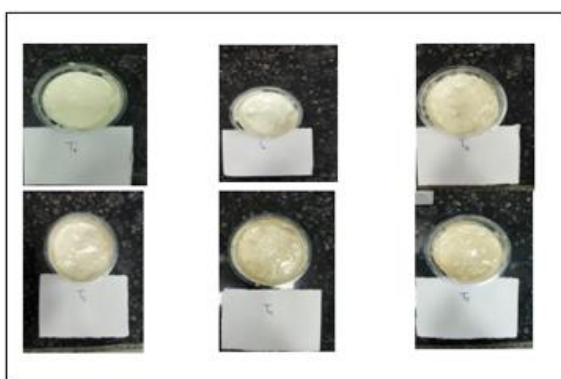
- Technique for Wood Apple- Aonla Ready to Serve Beverage
- Development of low calorie herbal fruit nectar from Kinnow
- Application of Different Edible Coatings to Minimally Processed Pomegranate Arils for Shelf life Enhancement
- Development of guava-ginger ready to serve
- Development of protein enriched leathers from fruits and vegetables.
- Development of value added convenience products from Moringa ( *Moringa oleifera*) leaves
- Effect of different packaging materials on quality and shelf life of Kinnow Mandarin
- Standardization of techniques for ashwagandha enriched nutritional laddu
- Standardization of techniques for purslane (*Portulaca oleracea*) enriched fruit yoghurt
- Development of instant wood-apple chutney mix
- Optimization of Dargon fruit Jam
- Standardization of Protocol for Flavoured Karonda Aloe -vera Ready-to-Serve Health Drink
- Standardization of Pre-treatments for Osmotically Dehydrated Pineapple (*Ananas comosus* L.) Candy



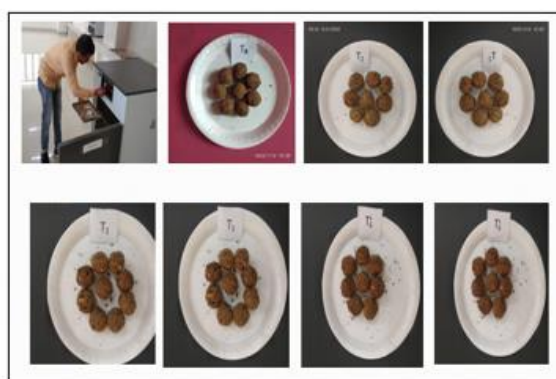
**Spiced Karonda Squash**



**Instant wood apple chutney mix**



**Fruit yoghurt**



**Ashwagandha enriched Laddu**

**Fig. Students research trail under the Department of Post Harvest Technology**

## Extension

To disseminate various technologies on postharvest management, processing, value addition and preservation by different communication means for better adoption among the farmers in the field and enhance income of farmers, stakeholders and entrepreneurs.

## Achievements

- Organized 03 seven days training programmes on various aspects of post harvest management and value addition
- Organized 02 entrepreneurship awareness programmes
- Organized 02 one day awareness programs on processing and value addition of fruits and vegetables
- Delivered more than 20 lectures and conducted practical demonstrations in different training programmes
- Demonstration of technology by means of transfer of technology, exposure visits, exhibitions etc.



## Awards

Sr. No.	Name of Award	Awarding Agency	Name of awardee	Year
1.	Best poster award	International Conference on “Sustainability and Smallholder Agriculture in Developing Countries in Changing Climate Scenario during 14 <sup>th</sup> -17 <sup>th</sup> February, 2018 at CSAUA & T, Kanpur	Dr. Vigya Mishra	2018
2.	Second prize in oral presentation	International Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences held on 28-30 Oct,2018 at RARI ., Jaipur (Rajasthan).	Dr. Priya Awasthi	2018
3.	Third award in poster presentation	International Conference on Sustainability of Small Holder Agriculture in Developing Countries Under Changing Climate Scenario held on 14-17 Feb,2018 at CSAUA&T.,Kanpur (U.P.).	Dr. Priya Awasthi	2018
5.	Innovative article award	Agriculture and Food e Magazine, 2019,Vol I (2)	Dr. Priya Awasthi	2019

6.	Appreciation Certificate for rendering best services in University	BUAT, Banda	Er. H. M. Mandge	2019
7.	Best Article Award	Agriculture and Food e Magazine, 2020, Vol I (2)	Dr. Priya Awasthi	2020
10.	Best poster paper award	9 <sup>th</sup> Indian Horticulture Congress - 2021, held at Chandra Shekhar Azad University of Agriculture and Technology. Kanpur, Uttar Pradesh.	Dr. Balaji Vikram	2021
	Excellance in Research Award	Samagra Vikas Welfare Society,Lucknow,U.P.	Dr. Priya Awasthi	2021
11.	Research Excellence Award	Society for Conservation of Natural Resources (SCNR), Kolkata, West Bengal	Dr. Amit Kumar Singh	2022
12.	Best Oral Presentation Award	Progressive Horticulture Conclave-2023 held at GBPUA&T, Pantnagar	Dr. Vigya Mishra	2023
13.	Best Poster Award	Progressive Horticulture Conclave-2023 held at GBPUA&T, Pantnagar	Dr. Vigya Mishra	2023

### Recognitions

1.	Chairman of the technical session in two days workshop on Natural, Organic and dryland farming in Bundelkhand Region: Scope, Issues & Strategies	KVK, Banda, Directorate of Extension, BUAT ,Banda (U.P.)	Dr. Priya Awasthi	19-20/03/2021
2.	Co-convener in the technical session of “Post Harvest Technology and Value addition”.	International Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences held on 28-30 Oct,2018 at RARI ., Jaipur (Rajasthan).	Dr. Priya Awasthi	28-30 Oct,2018
3.	Appreciation certificate for contributing to the course content on the topic “Innovations in Food Packaging” in the Online certificate course on Smart Farming Technologies and Secondary Agriculture Key to	Navsari Agriculture Universit under NAHEP-CAAST sub-project on Secondary Agriculture.	Dr. Vigya Mishra	2020



	Making Indian Agriculture Remunerative”			
4.	Appreciation Certificate for rendering best services in the area of research	BUAT, Banda	Dr. Vigya Mishra	2020

### Facilities

- PG classrooms (02)
- Seminar hall (01)
- U.G. laboratory (01)
- P.G. laboratory (01)
- Post harvest management facility with processing unit and analytical laboratories (funded by RKVY-RAFTAAR and under establishment) (01)
- Common room (01)



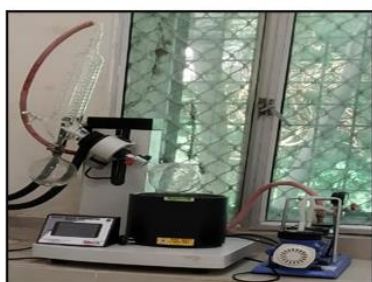
**PG Lab**



**Freeze Drier**



**Water Activity Meter**



**Rotary Evaporator**



**Moisture Analyzer**



**Spray Dryer**



## Gallery



Mawai Buzurg, Uttar Pradesh, India  
G8GQ+X36, Mawai Buzurg, Uttar Pradesh 210001, India  
Lat 25.527469° Long 80.337484°  
19/05/23 01:24 PM



