

**SGT UNIVERSITY (GURUGRAM)**  
**FACULTY OF AGRICULTURAL SCIENCES**

**Certificate course on Post-Harvest Management of Horticultural Crops**

**Description:** Under changing global scenario and conscious approach, the quality, competitive pricing and the environmental sustainability are the key elements of the agricultural production system. Scientific efforts need be made to develop technologies for horticultural crops to focus the attention on handling and processing; and to tackle specific areas to arrive at practical recommendations. There is a need to develop a protocol for post-harvest handling of those crops, including harvesting, sorting, grading, packaging etc., which could be very remunerative. Several by-products are very popular from those horticultural crops but need to be explored commercially. Strengthening, handling and processing research and establishing a processing unit at different locations will serve the training purpose. It will encourage the youth to come forward to be an entrepreneur in the processing industries.

**Objectives:**

1.	To provide knowledge of advanced food processing technologies.
2.	To impart knowledge about the global food processing scenario and value addition industries.
3.	To generate understanding about global food safety and quality standards.
4.	To expose the participants for advanced processing, packaging methods, marketing strategies and export systems.
5.	To encourage the participants for establishing processing unit

**Overview:**

Post-harvest technologies constitute an inter-disciplinary science and techniques applied to agricultural commodities after harvest for the purpose of preservation, conservation, quality control, processing, packaging, storage, distribution, marketing and utilization to meet the food and nutritional requirements of consumers in relation to their needs.

**Advantages:**

1.	It prevents post-harvest losses.
2.	It adds values to agricultural products. The crops along with its nutrients are properly conserved.
3.	It supports in the poverty issues of the economy as it generates employment opportunities for the locals.

**Eligibility of Course:**

1.	Undergraduate & Postgraduate Students of Agriculture
2.	Faculty Members of State Agriculture Universities & Agriculture Based NGOs, Progressive Farmers.

**Certificates:**

Qualifying students will be given certificates based on their involvement and performance. Participation certificate and Competency certificate will be issued by the FASC, SGT University, Gurugram, NCR-Delhi, India.

**Duration of course:** 3 weeks

**Course structure:**

Paper I	Theory
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Paper II	Practical
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**Level:** Certificate

**Subject:** Post-Harvest Management of Horticultural Crops

**Attendance:** 85%

**Lecture/practical timing:** As per time table.

**Target Group:** Academicians, Employees, General Users, Others, Researchers, Scholars, Scientist, Students, Subject Experts

**Skeleton of the course:**

S. No	Paper	Contact hrs	Maximum marks allotted (%)			Passing marks (%)		
			External	Internal	Total	External	Internal	Total
1	Theory (Paper I)	6	50	50	100	40	40	50
2	Practical (Paper II)	12	50	50	100	40	40	50

### COURSE LAYOUT:

#### Paper I: Theory:

##### Unit 1:

1	Importance and recent advances of post-harvest technology in horticultural crops,
2	Scope of preservation in India.
3	Maturity and ripening process.
4	Pre harvest factors affecting quality on post-harvest shelf life of fruits and vegetables.
5	Maturity indices of fruits and vegetables, Harvesting and post-harvest handling of Vegetables.
6	Maturity indices of fruits and vegetables, Harvesting and post-harvest handling of Fruit
7	Pre-cooling and pre-storage treatments.

##### Unit 2:

#### 2.1. Site selection and unit layout for fruit and vegetable processing plant

1	Layout of post -harvest processing unit and hygienic conditions of the unit
2	Principles of preservation, Food Preservation by Fermentation
3	Canning and bottling
4	Drying and dehydration
5	Chemical Preservation of Foods
6	Cold Preservation and Processing
7	Heat Preservation and Processing
8	Ultraviolet and Ionization radiation

##### Unit 3:

1	Preparation of processed products of fruits and vegetables-I
2	Preparation of processed products of fruits and vegetables-II (Fruit Beverages)
3	Alcoholic fruit beverages, Tomato processing
4	Quality control in food processing industry



5	Sauces and chutneys Ketchup (tomato)
6	Squashes (lemon squash, orange squash, pineapple squash)
7	Syrups (rose syrup and almond syrup)
8	Jams (apple jam and mixed fruit jam)
9	Pickles (green chilli, lemon, mixed vegetable), Preserve (carrot)

**Paper II: Practical:**

1.	Practice in judging the maturity of various horticultural produce.
2.	Determination of physiological loss in weight and quality.
3.	Grading of horticultural produce.
4.	Post-harvest treatment of horticultural crops, physical and chemical methods.
5.	Packaging studies in fruits, vegetables, plantation crops, spices and cut flowers by using different packaging materials.
6.	Methods of storage, post-harvest disorders in horticultural produce. Identification of storage pests and diseases in spices.
7.	Visit to markets, packing houses and cold storage units.

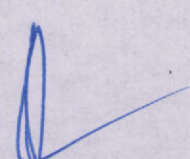
**Course Outcomes:**

1. It prevents post-harvest losses of fruits and vegetables which is enormous in our country and thus will increase availability of the produce and help in stabilizing market prices.
2. The course will increase employment opportunities of participants in food industry.
3. The participants will learn to establish their own units for income generation.

**Suggested Readings:**

1. Chadha, K.L. & Pareek, O.P. (Eds.). 1996: Advances in Horticulture, Vol. IV. Malhotra Publ. House, Kirti Nagar, Delhi.
2. Giridhari, Lal, Siddappa, G.S., & Tandon, G.L. 1998: Preservation of Fruits and Vegetables, Publication and Information Division, ICAR.
3. Neetu Sharma and Mashkoo Alam, M. 1998. Post-Harvest Diseases of Horticultural Perishables. International Book Distributing Co., Lucknow.
4. Srivastava, R.P., Sanjeev, Kumar. 2006: Fruits and Vegetable Preservation, International book distributing Co Lucknow.
5. Stanley, J. K. 1998. Post-Harvest Physiology of Perishable Plant Products. CBS, New Delhi.
6. Sudheer, K. P. Indira, V. 2007: Postharvest Technology of Horticultural Crops, New India Publishing, Delhi.
7. Verma, L. R & Joshi, V. K. 2000: Postharvest Technology of Fruits and Vegetables, Indus Publishing House, Delhi.

Course Coordinator	Dean (FASC)
Dr. A. K. Yadav, Assoc. Prof. & HOS Dr. Pooja Pant, Asstt. Prof., Hort., FASC	Prof. (Dr.) Ashok Kumar

  
**Registrar**  
 SGT University,  
 Budhera, Gurugram



SGT UNIVERSITY (GURUGRAM NCR)				
FACULTY OF AGRICULTURAL SCIENCES				
Course Title: Post-Harvest Management of Horticultural Crops				
Faculty: Dr. A. K. Yadav, Assoc. Prof. (Hort.) & HOS & Dr. Pooja Pant, Asstt. Prof. (Hort.)				
Session 2020-21 (2nd Sem.)				
S.No.	Name	Registration No.	Year/ Sem	Certificate No.
1	Vikram Sehrawat	171101019	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2814
2	Rahul Sahrawat	171101007	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2815
3	Rohan Soni	171101011	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2816
4	Sourabh Sharma	171101017	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2817
5	Madhu Sangwan	171101016	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2818
6	Tapasiya	171101006	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2819
7	Sahreem	171101029	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2820
8	Naveen	171101025	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2821
9	Akhlaq	171101014	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2822
10	S. Menaka	171101024	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2823
11	Rajguru Shokeen	161101038	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2824
12	Sunny Shokhanda	161101066	B.Sc. (Hons.) Ag 4 <sup>th</sup> year	2825

  
**Registrar**  
 SGT University,  
 Budhera, Gurugram

# Certificate of Completion

This certificate is awarded to

**Vikram Sehrawat**

*(Enrolment No. 171101019)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

*(computer generated record does not need a signature)*





# Certificate of Completion

This certificate is awarded to

**Rahul Sahrawat**

*(Enrolment No. 171101007)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

*(computer generated record does not need a signature)*



# Certificate of Completion

This certificate is awarded to

**Rohan Soni**

*(Enrolment No. 171101011)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

*(computer generated record does not need a signature)*



# Certificate of Completion

This certificate is awarded to

**Sourabh Sharma**

*(Enrolment No. 171101017)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

*(computer generated record does not need a signature)*





# Certificate of Completion

This certificate is awarded to

**Madhu Sangwan**

*(Enrolment No. 171101016)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

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# Certificate of Completion

This certificate is awarded to

**Tapasiya**

*(Enrolment No. 171101006)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

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# Certificate of Completion

This certificate is awarded to

**Sahreem**

*(Enrolment No. 171101029)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

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# Certificate of Completion

This certificate is awarded to

**Naveen**

*(Enrolment No. 171101025)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

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# Certificate of Completion

This certificate is awarded to

**Akhlaq**

*(Enrolment No. 171101014)*

for successful completion of short term course on

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# Certificate of Completion

This certificate is awarded to

**S. Menaka**

*(Enrolment No. 171101024)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

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# Certificate of Completion

This certificate is awarded to

**Rajguru Shokeen**

*(Enrolment No. 161101038)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

*(computer generated record does not need a signature)*



# Certificate of Completion

This certificate is awarded to

**Sunny Shokhanda**

*(Enrolment No. 161101066)*

for successful completion of short term course on

**Post-Harvest Management of Horticultural Crops**

*Certificate issued on 29th May 2021*

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