

**Five days Training on “Processing Technology of Fruit and Vegetables” conducted in the scheme NAHEP- IDP held from January 27-31, 2023 at COA, Bawal**

A five-day practical training programme was organized at CCS Haryana Agricultural University College of Agriculture, Bawal under NAHEP-IDP Scheme from 27th January to 31st January on the Topic “Processing Technology of Fruits and Vegetables”. The Training was provided to UG students of CCS HAU, Hisar with the practical knowledge of post-harvest processing of fruits and vegetables and their value addition. The trainees themselves prepared various processing products from the locally available fruits and vegetables which included products like Apple Jam, ketchup, Guava juice, toffee, guava cheese, candy, jelly, Orange Squash, Lemon Pickle etc. which provided students a in depth knowledge of technical know-how and their cost analysis. Various experienced speakers were invited from reputed universities and institutes who trained the trainees on various aspects and taught different processing technology. The training started on 27<sup>th</sup> of January with the inaugural session of Dr. Naresh Kaushik and Dr. R.K. Sharma. Dr. Naresh Kaushik, Principal COA, Bawal welcomed the participants and other teaching staff from Bawal campus. They briefed the Trainees students about the training and motivated the students to grasp as much as possible from this practical training. The teaching staff of COA, RRS and KVK, Bawal also attended the inaugural session. Dr. R.K. Sharma, Retired Professor (Horticulture), CCSHAU, Hisar started the session and told about the importance and scope of processing industry in India. It was a theoretical lecture which briefed the students about the composition of various beverages like RTS (Ready to Serve) Drinks, Nectar, Cordial, Syrup, Squash etc. The trainees prepared the Orange Squash under the supervision of Dr. R.K. Sharma CCSHAU, Hisar he also told about the TSS of these liquids and how to preserve them for longer shelf life. Dr. R.K. Sharma demonstrated the fruit beverages like Guava juice, Orange Squash etc. Second Day of the Training was an educational visit to the two successfully running processing enterprises namely Richa Food Industries, Dhankot (Gurugram), owned and operated by Richa Gupta and ZingNZest, Chandu village (Gurugram) which is operated by Pooja Sharma(MD,SHG). Trainees visited the Richa Food Industry which is a Pickle processing Industry managed by Ms. Richa Gupta. The trainees learnt about the process of pickle making, cold press oil expulsion machine, candy making process etc. The trainees asked the business owners about the sales composition, profit margin, product formulation etc. The Business owner Richa Gupta told the trainees about the precautions which should be undertaken during the

process of pickle making. She also mentioned the importance of hygiene during the process and mentioned that each and every ingredient of the pickle has its own importance in the process. After that trainees visited the SHG in Chandu village, Gurugram which is operated by Ms. Pooja Sharma. She briefed the trainees about the business opportunities in the value addition industry and gave examples of some of the famous business owners who are running their business very successfully in this domain. It was a theoretical lecture with some deep insights to look upon. She highly recommended all the Trainees to consume millets in their daily life. Later on, Mrs. Pooja Sharma explained the trainees' various recipes which she uses to make the products in her enterprise. She made Bajra cookies using Jaggery, Ragi Products etc. She also prepared namkeen products like soyanuts etc. which were a very healthy snacking alternative. Dr. Shashi Vashisth, Retired Professor (Home Science), CCSHAU Hisar (29th January, 2023) explained the trainees about various pickles and mix pickles. She told the benefits of pickles on the economic side and explained the recipes of various pickles which could be prepared at home with minimal ingredients and efforts. Later on, Dr. Shashi Vashisth, Retired Professor (Home Science), CCSHAU Hisar, explained the trainees about various products which could be prepared at home using basic ingredients available at home like Bajra Dates cake, Mango Jam etc. She also shared the recipes of the products which she taught the trainees. In the afternoon Session, Dr. Neeraj, Assoc. Prof. (Horticulture), NIFTEM, Murthal gave a presentation on Entrepreneurship Development in processing of fruits and vegetables. He explained the trainees about various business models which could be opted in post-harvest technology of fruits and vegetables. Later on, Dr. Neeraj explained the Mechanization on processing of fruits and vegetables and the economics behind this process. He also explained different methods to reduce post-harvest losses and to improve profit in longer run. It was a theoretical lecture with great insights. Professor Aradhita Barmanray, Prof. Food Technology, GJUS&T, Hisar (30<sup>th</sup> January, 2023) explained about recent advances in post-harvest technology of fruits and vegetables. She told the trainees about the current status of fruit and vegetable production in the country and also mentioned about the post-harvest losses of fruits and vegetables and how we can reduce them using various processing techniques. It was a theoretical lecture which covered almost all the processing technologies. Professor Aradhita Barmanray took a practical session in which she told the trainees about the process and technique of making jellies from various fruits and she also guided the trainees to make the guava jelly by themselves. With the preparation, she also told the

trainees about the pectin content of different fruits and how to select fruits during jelly making. In the Evening Session, Dr. Mukesh Kumar, Asst. Prof. (Horticulture), CCS HAU COA Bawal took a practical training session in which he demonstrated the methods of preparing lemon pickle and Tomato Ketchup. He also mentioned how to maintain hygiene during the preparation of value-added products and how to select proper raw material for enhanced taste of the products. Dr. Mukesh Kumar also mentioned how to preserve the products without using chemical preservatives. Dr. Mukesh Kumar, Asst. Prof. (Horticulture), CCS HAU COA (31<sup>th</sup> January, 2023) Bawal demonstrated the methods of making products like Jam, Toffee, Guava Cheese etc. Trainees themselves created the products with their own hands so that they can deeply understand the process. Dr. Mukesh supervised each and every step of the process so that no process gets skipped. With the method demonstration, he also mentioned about the composition of related products which were created by students.

Later on, Dr. Mukesh Kumar, Asst. Prof. (Horticulture), CCS HAU COA Bawal told the students about the Principles of processing of fruits and vegetables. He told the basic principles that must be followed before or during the processing of these products. He also mentioned the techniques to increase the shelf life of the products without using any chemical preservatives.

Dr. Naresh Kaushik, Principal, CCS HAU COA Bawal explained the Challenges in post harvesting and processing which are prevalent in the country and at the global level. Dr. Naresh Kaushik also mentioned about the current status of fruit and vegetable wastage in the country and also told about the techniques which can be used in India to reduce these wastes as much as possible. Feedback was taken after completion of training from each participant. The aim of the feedback was to invite the valuable suggestions from the participants for improvement and incorporation in the trainings to be conducted infuture. The repetition of expert also depends on the feedback of the participants. The Valedictory programme of the training held in the presence of chief guests Dr. R.K. Malik, Consultant faculty, CIMMYT, Mixico. Dr. Naresh Kaushik Principal College of Agriculture, Bawal and Dr. Mukesh Kumar, Training coordinator and all teaching faculty college, RRS and KVK, Bawal also attended this valedictory function. Students presented the highlight of this training. Dr. Malik tasted different products prepared during the training and appreciated the efforts of students, Principal, training coordinator and also emphasized to organize such types of trainings. All the guests congratulated the trainees on the successful completion of the training and hoped that the trainees must have learnt a lot from this

5-day training. All the guest also tasted the products made by trainees during the training with utmost hygiene and scientific formulation.



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