

## Introduction

Indian economy is profoundly dependent on the agriculture and this is projected to continue in the near future as well. The agriculture and allied sectors contribute approximately 13.9% of Indian GDP. India is in the midst of a veritable horticulture boom producing wide variety of fruits, vegetables, ornamentals, spices and medicinal plants. Over the last decade, the area under horticulture grew by about 3% per annum and annual production increased by 5.4% and our country has become the second largest producer of vegetables and flowers next to china. But it is estimated that 30-40% post-harvest losses of vegetables and flowers occurs during handling, storage, transportation and improper supply chain management. This is because of their highly perishable nature due to higher moisture content and rapid respiration and transpiration rates. Hence, to reduce these losses appropriate postharvest management practices for different horticultural crops need to be followed. Secondly, post-harvest losses are also caused due to gaps in the supply chain such as mishandling of produce, improper storage and transportation facilities, poor marketing channels and seasonal over production. This results in instability in prices and farmers are not getting remunerative returns resulting in farmer's frustrations and suicides. Hence, growers, wholesalers, exporters and retailers must all be aware of the specific needs of a product if the postharvest shelf life and quality is to be maximized. Besides this, enough attention has been paid at the pre-harvest stage for boosting the level of production, but post-harvest issues have not been addressed inadequately. Supply chain management plays an integral role in keeping business costs minimum and profitability as high as possible. Therefore, it is felt necessary to set up proper supply chain management along with better marketing and cold chain to tackle this problem.

## Objectives

- To provide advance training to the state agricultural/horticultural officers and scientists of ICAR/SAUs/KVKs for improving their skills on supply chain management of vegetables and flowers.
- To aware the trainees about advanced and successful concepts, research and demonstrations of supply chain management issues in perishable horticultural crops.
- To provide an opportunity to discuss and exchange ideas/knowledge sharing between the academicians and experts/resource persons who have made notable contributions in this area.

## Course content

The course will broadly cover the topics such as importance and scope of supply chain management in flowers and vegetables for domestic and export markets, advances in use of horticultural waste into value added products for generating livelihood opportunities, cool chain and transportation of cut flowers and pot plants, recent advances in packaging of cut and loose flowers for domestic and export markets, technological interventions in floriculture and vegetables for doubling farmer's income, challenges related to supply chain management of horticultural produce in India, strategies for change in model of vegetable and flower supply chain in India for livelihood security, visits to local vegetable mandis and commercial floriculture units, insect-pest and disease management during supply chain, value addition through extraction of essential oils and nutraceuticals from flowers, role of information technology in marketing, preparation of fresh flowers and vegetables for domestic and foreign markets etc.

Information Brochure

## Model Training Course

on

## Advances in Vegetable and Flower Supply Chain Management for livelihood security

(12-19 March, 2019)

Sponsored by

Directorate of Extension  
Ministry of Agriculture & Farmers Welfare  
(Department of Agriculture, Cooperation & Framers Welfare), GOI



## Course Director

Dr. Mast Ram Dhiman (Principal Scientist)

## Course Coordinators

Dr. Chander Parkash (Principal Scientist & Head)

Dr. Sandeep Kumar (Scientist)

Dr. Achintya Pramanik (Scientist)

**ICAR–Indian Agricultural Research Institute  
Regional Station, Katrain, Kullu-valley  
Himachal Pradesh-175129**

### **Travel, Boarding and Lodging**

The boarding, lodging, and travelling allowance expenses of the selected participants from the State Departments of Agriculture/Horticulture and others will be met from the funds provided by the Ministry of Agriculture as per norms and operational guidelines for organization of Model Training Course. Participants will be paid to and-fro fare for the journey by train as per their entitlement or bus or other means of transport in vogue as the case may be and GOI norms. Actual TA will be paid on production of tickets/certificates by the participants. However, the participants coming from ICAR /SAUs/KVKs etc., the TA and DA expenditure will have to be borne by their nominating organization/institute and the boarding and lodging will be provided by the organizers. The participants will be provided shared accommodation in the ICAR-IARI, Regional Station training guest house. No accompanying family members are allowed to stay during training period.

### **About ICAR-IARI, Regional Station, Katrain**

Regional station, Katrain is a historical station involved in seed production and improvement of temperate vegetables since 1949. After the partition of India, the government of India set up a Central Vegetable Breeding Station at Kullu Valley. The station was transferred to the IARI, New Delhi in 1955 with a view to intensify the improvement work on temperate vegetables and flower crops. Since then, the station has been making steady progress in the area of vegetable and flower improvement and seed production. This station is pioneer in developing F<sub>1</sub> hybrids in vegetable crops since the development of cucumber hybrid, Pusa Sanyog and summer squash hybrid, Pusa Alankar in 1973. This station is the only research institute in India involved in improvement of temperate vegetables and bulbous flower crops through application of modern breeding tools. The station is also credited with development of F<sub>1</sub> hybrids for the first time in cabbage, snowball cauliflower and temperate carrot in the country.

### **Who can participate?**

This Model Training Course is meant for the state extension/developmental officers of agriculture and horticulture; NGOs, and scientists/teachers/researchers in SAUs /ICAR Institutes in the area of Agricultural/Horticultural Sciences or any other related disciplines. The total number of participants shall be limited to 20.

### **How to apply?**

Application for participation in the training programme may be made in the prescribed format as given herewith and forwarded by the competent authority where the candidate is employed. Applications may be send as an advance copy through email if there is any delay in forwarding through proper channel. However, the final selection will be made only if the application duly recommended by the competent authority is received, which must not be later than one week after the closing date. **The closing date for receipt of applications is 28.02.2019.** The selected candidates will be intimated within 3 working days of the receipt of their application. After the candidates are intimated of their selection, they should immediately confirm their participation.

### **How to reach ICAR-IARI, RS, Katrain**

Katrain is 296 km away from Chandigarh and located on National Highway 21 between Kullu and Manali about 20 km from either side. It is well connected by road from Delhi, Chandigarh and Shimla.

### **Applications may be sent to:**

Dr. Mast Ram Dhiman, Principal Scientist  
Course Director

**ICAR–Indian Agricultural Research Institute  
Regional Station, Katrain, Kullu-valley  
Himachal Pradesh-175129**

Email: [mrarjun01@gmail.com](mailto:mrarjun01@gmail.com)

Mobile: +91-9418506133

### **Application form for Participation in Model Training Course**

(To be sent to the Course Director of MTC)

1. Full name.....
2. Designation.....
3. Present employer and address:
4. Address for correspondence (Give E-mail, Tel. /Mobile No.):
5. Permanent address:
6. Sex: Male/Female.....
7. Marital status: Married/unmarried
8. Academic record: (Indicate in tabular form- Examinations passed from B.Sc. degree onwards, Main subjects, Year of passing, University/Institution, Other information):
9. Signature of applicant with date.....
10. Recommendation of the forwarding Institute

It is certified that the above information was furnished as per the office record and was found correct.

**(Signature and Designation of the sponsoring authority)**