

## **Postharvest Technology 3(2-1)**

### **Theory**

Postharvest technology: introduction, production, losses, causes, trade. Fruit ripening: changes during ripening, recommended conditions, commercial practices, water loss, respiration activity. Harvesting and handling methods. Maturity assessment of different fruits and vegetables. Ripening process: respiration, climacteric and non-climacteric patterns, pectic substances, ripening conditions. Postharvest physiology of fruits and vegetables. Postharvest treatments: coatings, curing, vapor heat treatment, hot water treatment, degreening. Storage: refrigerated, CA, hypobaric, MAS. Packaging: types, design, modified atmospheric packaging, recycling. Cold chain: packing house operations, transportation. Safety and quality of fruits and vegetables. Postharvest technology of cereals: harvesting, threshing, drying, storage and handling. New developments in postharvest technology.

### **Practical**

Determining harvest maturity of different fruits and vegetables. Grading and sorting. Applications of different postharvest techniques. Changes in physical and chemical quality parameters of fruits during storage - weight loss, acidity, TSS, vitamin C degradation, firmness, color changes. Effect of packaging materials on stored fruits and vegetables. Effect of different chemicals - anti-sprouting, anti-ripening.

### **Books Recommended**

1. Chakraverty, A., Mujumdar, A.S., Raghavan, G.S.V., Ramaswamy, H.S. 2003. Handbook of postharvest technology: cereals, fruits, vegetables, tea, and spices, Marcel Dekker, Inc., New York, USA.
2. Thompson, A.K. 2003. Fruit and vegetables harvesting, handling and storage. Blackwell Science Pub., Cambridge, UK.
3. Wim, J. (ed.) 2002. Fruit and vegetable processing: Improving quality. Woodhead Publishing Ltd., Abington, Cambridge, UK.

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