

**6th SEMESTER
HORTICULTURE TECHNOLOGY
SKILL ENHANCEMENT COURSE (SEC)**

TFP620S TEMPERATE FRUIT PRODUCTION (TFP) III: PRODUCTION TECHNOLOGY IN SELECTED TEMPERATE FRUIT CROPS

**CREDITS: THEORY: 2, PRACTICAL: 2
MAX MARKS: THEORY: 30, PRACTICAL: 30
MIN MARKS: THEORY: 12, PRACTICAL: 12**

Objectives: To develop understanding of students about production practice of apple, pear and kiwi orchard

APPLE (OPTION 1)

THEORY (2 CREDITS)

UNIT I

Set up an apple orchard: Agro-climatic condition for apple farming, apple cultivations or varieties, land selection and its preparation, soil requirement, apple planting season, irrigation requirement, pollination; types of planting densities such as Ultra High Density (UHD) method of planting, high density (HD) method of planting

UNIT II

Maintain an apple orchard: Application of manure and fertilizers in apple farming. Irrigation scheduling, Management of various insect, pest and diseases, apple plant disorders.

Harvest an apple orchard: Apple harvesting schedule and process, sorting and grading procedures, packing, storing and transporting

PRACTICALS (2 CREDITS):

- Enlist and identify different varieties of apple grown in Kashmir
- Layout and orchard planting
- Layout different apple planting systems such as hexagonal planting system or the counter planting method in sloppy areas.
- Propagate the apple plants using tongue grafting and budding methods.
- Visit to different apple orchards to understand different orcharding systems.
- Spray schedule adopted during the growing period, care to be taken and methodology.
- Identification and recording of harvest indices in apple
- Visit to storage and packaging facility
- Different phonological stages in apple identification and recording the dates
- Identification of diseases and disorders during the growing period

PEAR AND KIWI (OPTION 2)

THEORY (2 CREDITS)

UNIT I

Setup a pear and Kiwi orchard: Agro-climatic condition, cultivation systems or varieties, land selection and its preparation, soil requirement, planting season, irrigation requirement, propagation methods, pollination.

Application of manure and fertilizers. Irrigation scheduling; Management of various insects, pests and diseases affecting Pear and Kiwi.

UNIT II

Harvest a pear and kiwi orchard: Harvesting schedule and process, sorting and grading procedures, packing, storing and transporting

PRACTICALS (2 CREDITS):

- Enlist and identify different varieties of pear, plum and Kiwi grown in Kashmir.
- Layout and orchard planting.
- Identification of diseases and disorders during the growing period.
- Layout different planting systems adopted in pear and Kiwi.
- Practice different propagation methods adopted in pear, plum and Kiwi.
- Visit to different orchards to understand different orcharding systems.
- Identify different training and pruning systems adopted in pear, plum and Kiwi.
- Spray schedule adopted during the growing period.
- Harvest indices adopted in pear and Kiwi.
- Visit to storage and packaging facility.
- Different phonological stages in apple identification and recording the dates.

SUGGESTIVE READINGS:

1. Chattopadhyay T.K. 1997. A text book on Pomology Fundamentals (Vol I)
2. Evans K. 2017. Innovative Techniques in Cultivation of Apples by Amandine Cornille, Excetic Press. Achieving sustainable cultivation of Apples (Ed. Kate Evans)
3. Hand book of Horticulture (Vol I): Indian Council of Agricultural Research.
4. Sharma R. M. and Pandey S.N. 2009. Pear: Production post-harvest management and protection 2010 edition by IBDC publishers.
5. Sharma, A. K., Srivastava, K. K., Singh, S. R. and Das, B. 2010. Climate. In: The Pears: production, post harvest management and protection. Eds.: R. M. Sharma, S. N. Pandey and V. Pandey. IBDC, Lucknow. 201-207.
6. Singh, S. R.; Sharma, A. K.; Sharma, M. K., and Das, B. 2004. Kiwifruit- a promising crop for diversification in Kashmir valley. In: Plant resource management for entrepreneurship development, Ed.: M. A. A. Siddique, Communication and Publication Centre, SKUAST-K, Shalimar Srinagar. pp: 203-208.
7. Srivastava, K. K., Sharma, A. K., Singh, S. R. and Sharma; M. K. 2010. Canopy Management. In: The Pears: production, post harvest management and protection. Eds.: R. M. Sharma, S. N. Pandey and V. Pandey. IBDC, Lucknow. 305-310.