Indian Farmer
Volume 8, Issue 06, 2021, Pp. 414-418.
Available online at: www.indianfarmer.net
ISSN: 2394-1227 (Online)

POPULAR ARTICLE OPEN ACCESS

Summer pruning: practice to improve quality apple production

Zahid Rehman[1]*, Dr Suneeta Singh[2] and Dr Anil Kumar Saxena[3]

*[1]*Research Scholar, [2]Assistant Professor & HOD, Department of Horticulture*
[3]Associate Professor, Department of Soil Science,
School of Agricultural Sciences, SGRR University, Dehradun, Uttarakhand, India.

**Corresponding author: zahidrehmanmir@gmail.com*

***Article Received**: 13 June 2021* ***Published:** 18 June 2021*

Abstract

Apple is a very important temperate fruit and its cultivation sites fall geographically between 25-52° latitude. Apple the king of temperate fruits is one of the most important fruit consuming in the world. Jammu and Kashmir is the leading apple producer in India. A village 'Kotgarh' in district Shimla of Himachal Pradesh is considered as the apple bowl of India. This area is one of the wealthiest in Shimla due to production of its high quality of apple and cherry cultivation. While 'Shopian' region in Jammu and Kashmir is known as the apple bowl of Kashmir. Kashmir produces about two million tonnes of apples per year.The apple productivity depends on canopy management, scion and rootstock behaviour, fertilization, disease control measures and nutrigation. Among all, canopy management techniques play very vital role in production function. Summer pruning can restrict vegetative growth, improve productivity and fruit quality in apple. There are two pruning's made in apple one is called as dormancy period pruning and second one is famous as summer pruning.

Key words: Temperate fruit, pruning, dormancy, rootstock, canopy management

INTRODUCTION

Summer pruning has been reported to reduce vegetative growth, improve canopy light penetration, re-exposes spur leaves and fruits of the interior canopy of apple trees, enhance fruit quality, concentrate fruit maturation and increase the number of flower buds (Rom and Ferree, 1984). The relationship between vegetative and reproductive growth influences the amount and quality of fruits produced by an apple tree. The

summer pruning is a pruning that is done after the mid of June, in summer when there is competition between the fruits and the water shoots (sprouts). So in order to minimize this competition we made a cut in some shoots of apple plant just above the ring. In summer pruning many water shoots are removed, this pruning is done in two ways. In some shoots where there is a big gap between two fruit buds we made a cut above the ring in shoot, so that it activates the sleeping buds. While in another pruning we made a cut of two to three inches in water sprouts, so that these water sprouts change into fruit buds next year. One of the main purposes of pruning is to facilitate light penetration into the bearing area of the tree. It also helps in maintenance of optimum C: N ratio crucial for apple development.

The difference between dormant pruning and summer pruning is that, in dormancy period pruning the dead and redundant branches are removed and a cut is made on the terminal end of the shoots. While in summer pruning some water shoots are removed from the base that means thinning out and in some shoots a heading back is left, so that some fruit buds will appear and simply vegetative growth is converted into reproductive growth. Summer pruning has been regarded as less invigorating than dormant pruning (Utermark 1977). Pruning intensity, time and method have varying effects on apple quality at harvest and during storage (Wertheim 2005). Summer pruning has been shown to improve the light distribution within the canopy and, as a result, increase percent blush on red blushed cultivars (Porpiglia and Barden, 1981; Autio and Greene, 1990).

ADVANTAGES OF SUMMER PRUNING

- ✓ The aim of the summer pruning is to activate the sleeping buds in apple plant.
- ✓ Summer pruning allows sunlight to ripen the fruit and ensures good cropping.
- ✓ To reduce the possibility of secondary growth.
- ✓ It provides good aeration and proper sunlight to the apple plant, and thus reduces the possibility of fungal disease.
- ✓ It helps farmers to minimize the quantity of pesticides use.
- ✓ It also helps to increase the number of fruit buds and hence increase the production of apples in coming next year.
- ✓ It allows for easier picking of fruits during harvesting.
- ✓ To stop excessive growth in plants while active season.
- ✓ To convert vegetative growth into spur formation because in apple tree our motive is to produce more apple fruits not wood.

WHEN TO PRUNE

The summer prune is done when the bottom third of the new shoots is stiff and woody. Generally, this is done from mid of the July. To reduce the possibility of secondary growth it can be left until late August.

HOW TO PRUNE

Summer pruning involves cutting back new shoots to allow light to reach the fruit.

- Cut back new shoots (laterals) more than 25cm (9 inch) long growing from the main stem to three leaves above the basal cluster of leaves.
- Any shoots under 9 inches (23 cm) can be ignored because this shorter growth is likely to carry fruit buds naturally.
- Remove all upright, vigorous growth completely.
- If secondary growth occurs after summer pruning, remove that in September.
- In shoots where a cut is made, always made a cut on the upper side of ring, as this ring works like a speed breaker it not allows the easy flow of sap from the plant.

SUMMER PRUNING

DORMANCY PERIOD PRUNING

APPLE PRODUCTION AFTER SUMMER PRUNING

SUITABILITY

Summer pruning is mainly suitable for apples and pears trained as restricted forms like cordon, espalier, fan, pyramid, spindle bush. Trees grown as standards or bushes are managed with winter pruning.

PROBLEMS

Although this summer pruning does not causes any particular problems for the plant.

DORMANT PRUNING VS. SUMMER PRUNING

1. Dormant pruning is an invigorating process.
2. Dormant period pruning is limited to cuts particularly dead, defunct and diseased branches.
3. Dormant pruning is done when the fruits are not present on the tree that means after harvesting of fruits.
4. Dormant pruning is done in late winter as possible to avoid winter injury.
5. Summer pruning is done in the active season and limited to removal of upright growing shoots and vigorously growing current's season shoot.
6. Summer pruning is particularly done to reduce the excessive vegetative growth.
7. Summer pruning is done to balance the vegetative and reproductive growth in apple trees.
8. Summer pruning is doneto activate the sleeping buds so that number of spurs increases per branch.

CONCLUSION

Summer pruning in apple is thus the key to have a good quality of fruits, also to aerate all the branches of a plant to lower the fungal infection and alterneria in apple. Farmers now a day are very aware about this summer pruning as lots of farmers have already benefitted with this pruning. So to increase the fruit production one should go for this pruning to increase the number of fruit buds and to remove some shoots that are competitors to the fruit.

REFRENCES

1. Autio, W. R., & Greene, D. W. (1990). Summer pruning affects yield and improves fruit quality of 'McIntosh' apples. Journal of the American Society for Horticultural Science 115(3), 356-359.
2. Bose T.K., Mitra S.K. and Rathore D.S. (Eds.). (1988). Temperate Fruits –Horticulture. Allied Publ.
3. Chadha K.L. 2001. Handbook of Horticulture. ICAR.
4. Porpiglia, P. J. and Barden, J. A. (1981). Effects of pruning on penetration of photosynthetically active radiation and leaf physiology in apples trees. Journal of the American Society for Horticultural Science, 106(6), 752-754.

5. Rom C.M., Ferree D.C. (1984). The influence of summer pruning current season shoots on growth, floral bud development and winter injury of mature peach trees. Hort Science 19: 543-545
6. Wertheim S.J. (2005). Pruning, Pp. 176–185. In: Tromp J, Webster AD, Wertheim SJ (eds) Fundamentals of temperate zone tree fruit production. Backhuys Publishers, Leiden, The Netherlands.
7. Utermark H. (1977). Summer pruning to control growth and maintain fruiting in mature apple trees. Compact Fruit Trees 10: 86-90.