OliveCulture

Holistic and Multi-professional Mechanism for a Pakistani Olive Oil Value Chain

OLIVE TREE PRUNING

ITALIAN AGENCY FOR DEVELOPMENT COOPERATION

CIHEAM BARI

PRUNING

TRAINING SYSTEM

The training system has the purpose of combining the natural vegetative and productive habits of the cultivated olive tree to the requirements of the farmer in order to obtain an abundant and constant production of high quality in a short time at the lowest possible cost. The most advisable training systems to apply in Pakistan are the vase and the globe systems.

ATTENTION: An olive tree bear fruits on one year old shoots.

MAIN TYPES OF PRUNING

In relation to the time and the purpose of execution, it is possible to distinguish the following kinds of pruning:

1. Training pruning (young trees)
2. Production pruning (adult trees)
3. Rejuvenating/regenerating/reshaping pruning (it represents an exceptional intervention, not an ordinary one).

1. TRAINING PRUNING

OBJECTIVES

- To build a solid and functional scaffold.
- To complete the scaffold of the tree in the shortest possible time (this also allows an early beginning of production).

RECOMMENDATIONS

DURING THE TRAINING PERIOD:

- Thinning has to be reduced a minimum, in order to accelerate the growth of the trees.
- Trees have to be trained with a single vertical trunk 1.0-1.2 m high in order to make possible the use of a trunk shaker to harvest olives (even when the harvest is now executed manually because in the future mechanization may become a target).
- The number of main branches should be 3-4 in the vase training system, and up to 4 -5 in the globe training system
- The main branches have to be inserted at distances of about 10 cm the one to the other.

2. PRODUCTION PRUNING

OBJECTIVES

- To maintain the shape given to trees with training pruning.
- To maintain/to reach a good balance between vegetative and reproductive activities in order to obtain abundant, high-quality, and constant production.
- To allow good lightening and aeration of the canopy (useful also to reduce the susceptibility to parasites).
- To eliminate parts attacked by parasites.
- To facilitate the execution of cultural practices, mainly pruning, and harvesting.

WHERE OLIVE MAKES FRUITS?

- The olive makes flowers and fruits in the shoots grown in the year before (1-year-old shoots) and the portion grown this year will produce flowers and olives next year.
- Productive olive shoots are usually 20-50 cm long (the length depends on the cultivar, climatic factors, and cultural practices), and shorter or longer shoots are often less fertile.

WHEN TO PRUNE?

- In warm environments, pruning can be performed during the period of rest starting after harvesting.
- In relatively cold environments, it is better to delay pruning to the last part of the rest period, because pruned trees are more sensitive to frosting temperatures.
- Suckers inside the canopy and at the base of the tree can also be removed in summer.

ANNUAL PRUNING

The annual pruning if well executed, above all in terms of intensity, is the best. It allows:

- To maintain a good density of vegetation that permits a more constant production (lower alternate bearing) in terms of both quantity and quality;
- To have a canopy well-lighted and ventilated and so very efficient and fewer susceptible disease attacks.
- To have easier harvesting, especially when machines are used.

BIENNIAL PRUNING

In this case, it is advised to eliminate the vigorous suckers growing inside the canopy in the year when pruning is not performed.

POLIENNAL PRUNING

- The execution of pruning every 3-5 years is not advised, especially in cultivars that are sensitive to the disease.
- It could only be considered in very particular cases, such as traditional olive orchards with trees of very large size.

HOW TO EXECUTE THE PRODUCTION PRUNING

- Always execute the biggest cuts first and then the smallest ones.
- Eliminate the suckers growing at the base of the trees and the vigorous ones growing in the central part of the canopy.
- Check the height of the main branches and the length of secondary ones and shorten the ones too high or long ones, by heading back pruning in correspondence with a lateral ramification, in order to maintain the right dimensions of the canopy.
- Do not keep the canopy of the trees too low, because in this way the production is reduced by the too low volume of the canopy. It is advisable to train trees up to about 4 m in height.
- The length of secondary branches should progressively reduced from the bottom to the apical part of the main branches.
- Thin the vegetation in zones where it is very thick, by eliminating branches that intercross or that are too close.

- Utilize weak suckers inserted in lateral positions of the branches to replace exhausted branches or to fill up empty spaces.
- In the external parts of the canopy, release some weak suckers inserted on lateral branches because by ramifying they bend becoming fruiting branches that replace the ones that have already been produced and are exhausted.
- When you thin the vegetation, in order to reduce at minimum, the time to execute pruning, do not eliminate single shoots but only entire secondary/tertiary branches or a part of them (do not cut wood less than 2 years old).
- Eliminate the exhausted parts of vegetation that are mainly concentrated in the internal and lower parts of the canopy.

PRUNING INTENSITY

For good and constant production, it is very important to apply the right pruning intensity:

- The intensity you applied is right when you have good production, good development of new shoots (20-50 cm long) and the number of suckers is limited.
- If the production is high (with fruits relatively small and with a reduced oil content), but the new shoots (that are the base of the production the following year) are very short, the intensity of pruning was too low.
- If the production is relatively low, the shoots are long and numerous suckers have developed, the intensity of pruning was excessive.
- These evaluations must be done also considering other factors that may affect the vegetative and productive performances of the trees (i.e. irrigation, fertilization).

HOW TO EXECUTE THE ELIMINATION OF A BRANCH OR OF A VIGOROUS SUCKER?

The elimination has to be performed by saving the ring at the base of the part that has to be eliminated, but without leaving a too-long portion. The cut has to be inclined in order to avoid water stagnation.

3. REJUVENATING PRUNING

OBJECTIVES

This type of pruning is used to rejuvenate old trees that have canopies with too much wood and that have become too high.

In the case of trees that were abandoned for several years, there are two main ways to do it:

- If the canopy has not become excessively high, has not accumulated too much wood, and still presents some vegetation in the lower parts, the tree can be reshaped/rejuvenated by lowering down the main branches, by adjusting their number, by removing the suckers inside the canopy and by shortening the secondary branches that often are very long.
- If the canopy has become very high and has accumulated a lot of wood (main branches with large diameter and very high), the tree can be reshaped/rejuvenated by drastically shortening the main branches.

TOOLS USED IN PRUNING

- Tools used in pruning include scissors, saws, and cutters.
- It is necessary to clean the tools used in the pruning process with disinfectants to protect the plants from diseases and after cutting each tree, tools, and equipment should be thoroughly washed with fungicide solution before moving to another tree, with solution of 3 to 4% (30 to 40 grams of per oxychloride per liter of water).

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