

HARVESTING OF OLIVE FRUITS



ITALIAN AGENCY
FOR DEVELOPMENT
COOPERATION



CIHEAM
BARI

HARVEST

Harvesting is one of the most important cultural practices in the cultivation of olives. The choice of time and modality for its execution can strongly affect:

- The quantity and quality of the oil
- The production of the following year
- The economical convenience of its execution



1. TIME FOR OLIVE PICKING

- The optimal period to perform the harvesting is theoretically represented by the time in which you have the maximum quantity and quality of the oil.
- Olives are harvested in autumn and winter when the fruit become hard.
- Olive maturity and cultivar are the main determinants of olive oil flavor and quality.
- On ripening color changes from yellowish green – reddish purple – finally black.
- In most cases, the best quality is obtained by harvesting the fruits when their pigmentation regards about 50% of the epicarp (surface pigmentation); indeed, with the starting of deep pigmentation (pulp pigmentation), usually, there is a decrease in the quality level of the extracted oil (i.e. reduction in volatile compounds, pigments, and polyphenols contents).



2. HARVESTING TECHNIQUES

MANUAL HARVESTING:

- It is normally done by using nets under the trees, ladders, and manual combs in the case of cultivars for the production of oil.
- It is a system that allows obtaining high-quality oils, because, with this system, damages to the fruits during the harvesting operations are minimized.
- The productivity of workers is relatively low: 5- 10 kg/h.
- It is dangerous to use ladders for fruit picking.
- To improve the efficiency of manual harvesting it is important to limit the height development of the trees.



ATTENTION:

The maximum quantity and maximum quality of the oil do not always match; in this case, you have to choose what to privilege: quantity or quality. - The prolonged period of mature olive fruits on the tree reduces the oil quality level and increases the risk of diseases and pest attacks. Dropped olives have not to be harvested, because the quality of the oil obtained from them is very bad however if olives are harvested from the ground, they have to be kept and processed separately.

AIDED (WITH HAND-HELD MACHINES) AND MECHANICAL (WITH TRUNK SHAKERS) HARVESTING

- If well performed and if olives are processed soon after harvesting, they do not have significant negative effects on olive oil quality and on tree integrity.
- With respect to manual harvesting, aided harvesting systems can have positive effects on olive oil quality since fruit pickling is concentrated in the chosen period.
- In large farms with very productive olive trees, machines allow to reduce the need for manpower and reduce production costs.



3. TO DO OR NOT TO DO:

- Use the net under the trees to avoid fruit contact with the ground.
- Use ventilated plastic boxes for olive transport and storage.
- Separate the fruit from shoots and leaves.
- Do not use the stick because it will lead to:
 - A decrease in production in the next season, because of damages caused to shoots
 - A possible high incidence of some diseases.
 - Fruit injuries and consequently a worsening of oil quality
 - Do not use nylon bags for the transport and storage of olives because they create conditions (heating and fermentations) that lead to a worsening of oil quality.



4. POST-HARVEST HANDLING OF OLIVES

The storage of olives usually worsens the quality of the oil, especially if it is done in unsuitable conditions (i.e. into sacks or in piles, at relatively high temperatures, etc.). During the storage, fermentations can occur with strong negative effects on the sensory characteristics of the extracted oils.

- Send olives every day to the mill according to an appointment and process them within 24 hours, a maximum of 48 hours.
- Keep olives in plastic boxes or spread in a 10 cm layer, in a clean, dry, odourless, cool, in the shadow and well-ventilated area.





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