

Technological Evolution of Extra Virgin Olive Oil for the Best Quality Product Ever

New York, NY

Olive oil extraction technologies are now infinitely more efficient than traditional ones. Production is cleaner, more efficient and faster, thus delivering higher quality oils.

After harvesting, many mills today pass the olives over a vibrating screen and blower that removes leaves and other debris. The olives are then washed. Next, the olives are crushed to break the cells and release the oil for extraction. Two primary types of machines are used to crush olives: the stone mill and the more modern, hammer mill. Hammer mills generally consist of a metal body that rotates at high speed, hurling the olives against a metal screen. The major advantage of hammer mills is their speed and continuous operation, which translate into high output, compact size, and higher quality.

Next, malaxation (mixing the olive paste) prepares the paste for separation of the oil. Today's scientific advancements of olive oil production include ultrasound waves or microwaves. These are applied to the olive paste, before or during malaxation, to reduce processing time with a thermal and mechanical effect, which delivers increased yields.

Another technological advancement in processing is excluding oxygen from the paste, which can be done by either flooding the surface of the mixing tanks with nitrogen, or partial exclusion of oxygen in special malaxation tanks. Limiting oxygen exposure is believed to reduce enzyme activity that can break down polyphenols, which are major flavor compounds of olive oil.

Next, the oil is extracted from the paste. Today's modern technology involves vertical centrifuges that spin at two times the velocity of a decanter on a vertical axis and provide four times the separation force for the solid, water, and oil phases. The additional separation of the three phases further removes solid particles and water from the oil. Premium-quality oils today are stored in stainless steel and maintained at a constant temperature of between 45 to 65 °F (7.2–18.3 °C).

These processes have evolved over hundreds of years resulting in the best every available product today.