

Processing olives with water (water-cured)

Traditional processing methods involve subjecting raw olives to many water changes (or weak brines) over 10–14 days until they debitter. Green-ripe, turning colour or naturally black-ripe olives can be processed in this way. The bitter glycoside oleuropein is leached out of the olives and removed from the tank/container when soaking solutions are discarded. Generally no fermentation occurs using this method. Once debittered, after the last wash 10% w/v sodium chloride (salt) is added. Over time, when the brine equilibrates with the olives, final brine concentrations fall to approximately 6–7% w/v salt.

This method is popular with home processors because the olives are ready to eat within a few weeks from the start of processing (Fig. 5.5), but is unsuitable for serious commercial olive processing.

Disadvantages of this method are the large amounts of water required that need to be disposed of, and the increased risk of spoilage through microbial contamination.

With water and low salt brines, proteolytic enzymes break down protein in the flesh to amino acids that further degrade to ammonia and hydrogen sulphide (H₂S). The resulting olives may have a urine (ammonia) and/or faecal or rotten egg odour (hydrogen sulphide) if not processed carefully.

Over-soaking leads to soft olives with a 'washed out' taste. Naturally black-ripe *Kalamata* olives that have been debittered by this method and embellished with olive oil, lemon and red wine vinegar gives the traditional Kalamata-style olive.

However, in modern processing establishments a simple fermentation in brine (8–10% w/v salt) is used as the preferred method, rather than prolonged water soaking steps (see later for more detail on processing Kalamata-style olives). With some traditional recipes, for example Ligurian (Benedictine-style), *Taggiasca* olives are soaked in water for weeks to months to debitter the olives.

Salt, herbs and spices are then added to the debittered olives. Today, most Ligurian-style olives are prepared by placing them in brine where they undergo a weak fermentation.

Step-by-step procedure for water-cured olives

- (a) Use/accept quality raw olives (green-ripe, turning colour, naturally black-ripe).
- (b) Store raw olives correctly before processing.
- (c) Wash olives with potable water.
- (d) Size grade and sort raw olives; remove damaged olives.
- (e) Use whole, slit or cracked olives.
- (f) Pack olives into containers with water; make sure olives are submerged and held in place with a grate or a Plate with a weight on top to keep Olives under the solution.
- (g) Remove and replace water daily for 10–14 days.
- (h) After last water soaking step add brine 10% w/v sodium chloride (salt) to the brim.
- (i) Monitor brine levels to achieve final levels of 6–7% w/v.
- (j) Size grade and sort processed olives (optional).
- (k) Pack the processed olives in a 6–7% w/v salt brine or alternatively in brine made with 3 parts 10% w/v salt + 1 part vinegar.

To make 10% brine add 100gm of Table Salt to 1 Litre of water.

Heat brine and vinegar and add to sterilised jars filled with olives, Top with a little olive oil to seal the surface, you can also use a bay leaf or rosemary to hold the olives down.