

## All about olives

How chemistry takes these fruits from bitter to delicious

### The bitter truth

An Olive, ripe and freshly plucked off the tree, may look appealing-but don't take a bite. Olives are chock-full of a bitter compound called oleuropein.

Even before they hit the shelves, olives display a range of colors. Moving from early to late right Ness, Olive shift through green, yellow- green, rows, red- Brown and purplish black colors.

### From tree to table

To transition from tree to table, olives need to be “cured.” This process removes bitter oleuropein from their flesh. There are three main options for tasty olives:

- Soak and sodium hydroxide (NaOH)
- Soak in water
- Ferment in salt brine

These olives take weeks to cure and can still have a hint of bitterness. But the flavors don't necessarily stop after curing: olives can also be brined in various salty solutions to impart other flavors.

By soaking olives and sodium hydroxide, or lye, the caustic chemical reacts with oleuropein to form compounds with a less-bitter-taste, including hydroxytyrosol.

Olive-makers have a say about the color of their final product: Mixing air in during the lye treatment causes a reaction between oxygen and hydroxytyrosol that produces black and brown pigments. Add in ferrous gluconate as a color fixative, and voila! Shiny, beautiful black olives. Keeping oxygen out keeps the olives green.

\* What are “California style” olives?

### Sources:

<https://anrcatalog.ucanr.edu/pdf/8267.pdf>

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