

Olive fruit has 66-85 percent flesh. Until the time of harvest the percentage of flesh of the fruit increases, after a certain level of maturity, the percentage of the flesh starts to decrease.

Oleuropein is the key ingredient which provides the defence mechanism to olive trees. Oleuropein is found on olive leaves by 60-90mg/gr ratio. Oleuropein is a polyphenolic antioxidant and its compound the elenoic acid is a proven antibacterial, antifungal and antiviral. This compound works like **onion and garlic** in immune system.

Oleuropein keeps the bacteria and pests away from the trees with its glycoside's bitter flavor. Oleuropein keeps the olive tree healthy and long living.

Phenolic compounds can be measured at these levels:

Flesh of black olive in brine: 16.40g/kg

Flesh of green olive in brine: 4.48g/kg

Brine of black olive: 0.93g/L

Brine of green olive: 1.36g/L

Olive oil: 100-800mg/kg

Residue of olive oil: 2-10g/kg

Olive fruit's physical and chemical characteristic range:

Fruit mass range: 2-12gr

Kernel to whole mass ratio: 13-30%

Flesh/pulp to whole mass ratio: 66-85%

Peel/skin to whole mass ratio: 1.5/3.5%

Water ratio: 50-70%

Sugar: 2-6%

Fatty acid: 15-30%

Cellulose: 5.8%

Protein: 1-2%

Fiber: 1-3%

Ash: 1-5%

Carotene: 0.15-0.2mg/100g

Vitamin C: 12.9-19.1mg/100g

Thiamin: 0.54-1.1microgram/100g

### **Comparison between black olive with green olive:**

Black olive characteristics per 100gr

Energy: 207 cal

Oil: 21 g

Carbohydrates: 1.1 g

Protein: 1.8 gr

Calcium: 77mg  
Vitamin A: 60 IU  
Iron: 1.6mg  
Vitamin B1: 0.02mg  
Vitamin B2: 0.02mg  
Vitamin B3: 0.02mg  
Water: 71.8%  
Cellulose: 1.5gr

Green olive characteristics per 100gr:

Energy: 144 cal  
Oil: 13.5 g  
Carbohydrates: 2.8 g  
Protein: 1.5 gr  
Calcium: 90mg  
Vitamin A: 30 IU  
Iron: 2mg  
Vitamin B1: 0.02mg  
Vitamin B2: 0.02mg  
Vitamin B3: 0.01mg  
Water: 75.2%  
Cellulose: 1.2gr  
Omega-3 oil acid: 92mg/100g  
Omega-6 oil acid: 1215mg/100g

### Unripened to ripe olive fruit



After these characteristics

- Oleuropein in olive leaves is crucial for skin treatment, as olive trees would produce more oil to save themselves from the sun's rays, higher the sun or scorching sun higher the output of olive oil to self preservation. Olive oil would work as antibacterial and skin treatment agent
- An olive fruit would contain 15% of oil, which would be immediately available to enter into cooking. 100grams of olive fruit would deliver 15grams of oil, we can use olive oil directly for the snack bar.
- Olive and snack is possible if we use a light bread such as rice cake and garlic.