

Studies of Carbohydrate, Antioxidant, Nutrient and Genomic DNA Characterization of Fresh Olive Treated with Alkaline and Acidic Solvent: An Innovation

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Abstract : Fresh ripen olive cannot be consumed immediately after harvest due to the excessive bitterness having polyphenol as antioxidant. Industrial processing needs to be edible the fruit. The laboratory processing technique has been used to make it edible by using acid (vinegar, 5% acetic acid) and alkaline solvent (NaOH). Based on the treatment and consequence, innovative data have been found in this regard. The experiment was conducted to investigate biochemical content, nutritional and DNA characterization of olive fruit treated with alkaline (Sodium chloride anhydrous) and acidic solvent (5% acetic acid, vinegar). The treatments were used as control (no water), water control, 10% sodium chloride anhydrous (NaOH), vinegar (5% acetic acid), vinegar + NaOH and vinegar + NaOH + hot water treatment. Our results showed that inverted sugar and glucose content were higher in the vinegar and NaOH treated olive than in other treatments. Fructose content was the highest in vinegar + NaOH treated fruit. Nutrient contents NO₃ K, Ca and Na were found higher in the treated fruit than the control fruit. Moreover, maximum K content was observed in the case of all treatments compared to the other nutrient content. The highest acidic (lower pH) condition (sour) was found in treated fruit. DNA yield was found higher in water control than acid and alkaline treated olives. DNA band was wider in the olive treated water control compared to the NaOH, vinegar, vinegar + NaOH and vinegar + NaOH + Hot water treatment. Finally, results suggest that vinegar + NaOH treated olive fruit was the best for fresh olive homemade processing after harvesting for edible purpose.

Keywords : olive, vinegar, sugars, DNA band, bioprocess biotechnology

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