

**EFFECT OF BLANCHING TREATMENTS ON PHYSICOCHEMICAL AND  
 SENSORY CHARACTERISTICS OF CANNED ARTICHOKE  
 BY**

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**ABSTRACT**

**Two** blanching treatments were used for artichoke before canned. Artichoke was blanched with bracts for 15- 20 min according to their size hearts but artichoke without bracts for 5 min in acidified media by citric acid solution (0.3%) at the boiling temperature. The effect of blanching treatments on the physicochemical and organoleptic characteristics of the artichoke were studied. Blanching the artichoke heads with their bracts and the removal of bracts before canning improved the chemical constituents and organoleptic properties even after canning and storage for six months at room temperature. The canned artichoke had a good taste with excellent flavor and white yellowish color. Sucrose decreased but fructose increased due to hydrolysis of sucrose and inuline in acid media.

Firmness was improved by adding  $\text{CaCl}_2$  at (0.1%) level to the brine. Artichoke hearts were analyzed for chemical constituents before and after being blanched, canned and storage for six months at room temperature. Also pH and total soluble solids of the brine were determined. In addition, cations were determined in fresh and canned artichoke to estimate the loss rate as a result of blanching and canning process which slightly decreased according to their solubilities. Color was determined by Minolta colorimeter for artichokes hearts before and after blanching and canning. Color differences were calculated and compared to fresh artichoke. The color was satisfactory especially when blanched artichoke hearts with their bracts.

**INTRODUCTION**

Artichoke is a unique plant of medicinal values is considered a healthy vegetable recommended to people of all age groups because it stimulates the liver function, sheathes coughs helps to purify the blood and dissolves stones, however it is tedious to be prepared since the peeling process is quite difficult. Beside fast browning may occur for artichoke results from the oxidation of phenolic compounds by polyphenoloxidases into quinone substances (Lattanzio *et al.*, 1994). Quinone substances may be a complex with amino compounds which can undergo condensation and polymerization to produce highly colored products. However the application of antioxidants (ascorbic acid, cysteine, sodium bisulphate, and flavonoid glycoside) retard darkening of the tissues (Bae and lee,

1990). Blanching with hot water steam or electromagnetic energy are widely used in eliminating the enzymatic activity responsible for flavor alteration and tissue softening (Rejano *et al.*, 1997).

Beside texture in general is very important in determining consumer acceptability. The texture of vegetables is affected by the biochemical constituents, water content and cell wall composition. Thus any external factor affecting these traits can modify texture and therefore can lead to changes in the final product quality (Van Buren, 1979; Seymour and Gross, 1996, Harker *et al.*, 1997). However, a decrease in firmness is desirable like asparagus and or artichoke, since a lower fibrosity is preferred. Accordingly, artichoke