

Research Note

PROCESSING, CANNING AND EVALUATION OF PUMMELO RINDS^{1, 2}

The pummelo, *Citrus grandis* (L.) Osbeck, is a fruit that offers industrial potential for the elaboration of different products. The fruit is of commercial importance in several Asian countries.³ In Puerto Rico pummelos are grown in the central mountain region, where citrus fruits are an important crop.

Several clones of pummelo have been evaluated with regard to their adaptability to soil and climate conditions in Puerto Rico.³ The present preliminary study was conducted to determine the canning characteristics of pummelo rinds in heavy syrup. Methods developed by Benero et al.⁴ and Cruz⁵ for processing chironjas were adapted.

Fresh fruits were lye-peeled by dipping them in a boiling 10% sodium hydroxide solution for 30 s, washing them in a rotary vegetable washing machine and finishing by hand with paring knives. The peeled pummelos were cut in four sections and the rinds removed from each portion. The rinds were cut in 16 triangular pieces. Because of their bitter taste, the rinds were placed in three times their weight of boiling water successively for 10, 5 and 3 minutes, changing the water after each immersion period.

Various product formulations were made. The one here described was considered as the most acceptable: A 30° Brix

heavy sucrose syrup was prepared; pH was adjusted to 3.0 with food grade citric acid and 0.06% cinnamon sticks was added for flavor. The amount of syrup used was six times the rind weight. The mixture was then cooked in a steam jacket kettle until the syrup reached a concentration of 55° Brix. We used 303 × 406 plain tin cans. The cans were hot-filled at a temperature of no less than 190° F. The sealed cans were inverted for 3 min for lid sterilization, then cooled in running tap water and stored at room temperature.

The finished product was submitted to duplicate sensory evaluations by a taste panel with a 6-point hedonic scale as described by Larmond.⁶ With this scale, ratings ≥ 4.0 are considered acceptable. The average values obtained from the two evaluations were 5.18 in appearance, 4.44 in flavor, 4.65 in texture and 4.78 in general quality. The panel considered the canned rinds acceptable, a finding which shows it is possible to prepare a product of acceptable quality from the rinds of pummelo fruits.

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³Cedeño Maldonado, A., Wigmar González and Eleanor Fontanet, 1990. Performance of pummelo clones in the central mountain region of Puerto Rico. *J. Agric. Univ. P. R.* 74: 299-305.

⁴Benero, J. R. and L. A. Carlo, 1965. Canning chironja sections. *J. Agric. Univ. P. R.* 49: 388.

⁵Cruz Cay, J. R., 1972. Processing chironja. *J. Agric. Univ. P. R.* 56: 183-84.

⁶Larmond, E., 1977. Laboratory methods for sensory evaluation of food. *Can. Dep. Agric. Publ.* 1637. Ottawa, Canada.