

CANNING CHIRONJA SECTIONS

The chironja is a new citrus fruit that was found growing wild in Puerto Rico. It has been described by Moscoso^{1,2} as globose to pyriform in shape, with the bore or stem end slightly to prominently collared and depressed. The inner white pulp or rind does not have the bitter quality of the grapefruit, but rather the pleasing sweetness of the orange. It has a combination of orange and grapefruit flavors.

A preliminary study was conducted to determine the canning characteristics of this new fruit. The fruit was processed like grapefruit by a method similar to that described by Campbell³. The peel was scored with a paring knife and removed by hand. The peeled fruit was treated in boiling 2-percent NaOH solution for 10 seconds to remove the white membrane covering the fruit. The excess lye was removed by washing with water sprays. The sections were removed by hand and packed in plain tin 8-ounce cans to which 35° Brix syrup, made acid to pH 3.5 with citric acid, was added at 160°F. The cans were exhausted for 7 minutes in a water bath at 180°F. They were processed in hot water at 180°F. for 25 minutes, cooled in running water, and stored at 85°F. When submitted to organoleptic appraisal to a taste panel using a 9-point hedonic scale as described by Peryam⁴, the product received a rating of 8, which corresponds to "Like very much" in the hedonic scale. Shelf-life studies showed that the product keeps very well on storage at 85°F. for well over a year.

The fruit was found to be extremely sensitive to high temperature. Treatment of the fruit in hot water prior to peeling, addition of very hot syrup, or prolonged blanching, were found to affect the flavor. The addition of citric acid to pH 3.5 was found necessary to improve the flavor of the canned product, since the fruit used was too sweet, resulting in an unbalanced product from the flavor standpoint.

Chironjas were found easy to process. No difficulties were experienced in removing the peel or in separating the sections. With fruit with an average weight of 1.36 pounds, a yield of sections of 58.29 percent by weight was obtained.

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¹ Moscoso, C. G., The Puerto Rican Chironja—New All-Purpose Citrus Fruit, *Econ. Bot.* 12: 87-94, 1958.

² —, La Chironja Puertorriqueña—Nueva Fruta que Posee Características Intermedias entre la China y la Toronja, *Rev. del Café* 19 (12): 7-12, 1964.

³ Campbell, Clyde H., Campbell Book, p. 17, 3d. ed. 1959, Vance Publishing Corp., New York, N.Y.

⁴ Peryam, D. R., and Pilgrim, F. J., p. 11, Hedonic Scale Method of Measuring Food Preferences, Institute of Food Technology, Chicago, Ill., 1957.