Research Note

EVALUATION OF THE RUBY MANGO CULTIVAR FOR THE MANUFACTURE OF NECTAR, MARMALADE, AND CANNED SLICES IN HEAVY SYRUP

Recent works[1,2] have evaluated four mango cultivars, namely, Edward, Keitt, Irwin and Palmer, for the manufacture of nectar, marmalade, and canned slices.

In this study, the cv. Ruby was used. It is a high yielder, but with fruits too small (ave. weight 177.1 g) for the fresh market[3].

The handling of the fruits before processing and the procedures used in the manufacture of the products from this variety have already been described[1,2]. Also followed were the same specifications for storage of the products and for the organoleptic evaluations and laboratory analyses.

Table 1 shows the pulp recoveries obtained, according to the product to be manufactured. The largest recovery is in the manufacture of nectar, since the pulp is extracted mechanically in a pulper.

TABLE 1.—*Fruit pulp yields according to the product to be prepared*

Product to be prepared	Pulp	Peels	Seeds
	%	%	%
Nectar	70.27	13.63	16.10
Slices	50.56	14.61	38.83[1]
Marmalades	65.28	13.89	20.83[2]

[1] Seeds with remaining pulp after two sides removed.
[2] Seeds with remaining pulp after removing four sides.

Since the Ruby mango is very small, only two slices can be removed for the manufacture of slices in heavy syrup. This leaves the seeds with a large amount of pulp. In the case of the marmalade, more pulp can be cut from the seeds, even if it is in a crushed form. This extra pulp can also be used for mango puree.

Table 2 shows the chemical and physical composition of the Ruby mango. Some outstanding findings in this variety are the high acidity (low pH) and the low vitamin C content. These compare somewhat with those of the Keitt variety, which gave values of 0.55% (pH 3.90) and 6.76

[1] R. de Hernández, E. and Benero, J. R., 1982. Evaluation of four mango cultivars for nectar, J. Agric. Univ. P.R. 66 (3): 153–58.

[2] R. de Hernández, E., Guadalupe-Luna, R., and B. de Caloni, I., 1982. Acceptability and keeping quality of marmalades and canned slices in heavy syrup of Mango Cultivars, J. Agric. Univ. P.R. 66 (3): 159–67.

[3] Mattern, F., Pennock, W. and Valle Lamboy, S., 1972. Supplying the New York market with high-quality Puerto Rican mangos, J. Agric. Univ. P.R. 56 (1): 1–10.

mg/100 g, respectively. Ruby cultivar also gave a soluble solids content of 16.6° Brix, comparable to that of the Irwin with 16.0° Brix, but lower than those of the other three varieties. It was found that Ruby mango has a higher fiber content (85.6 mg/100 g) than that of the other four cultivars.

The behaviour of these products during a 10-month storage period followed the same pattern as for the other varieties: no marked changes occurred in the characteristics measured, except in reducing sugars.

TABLE 2.—*Chemical and physical composition of the Ruby variety fruit pulp*

Moisture	Total solids	pH	° Brix	Total acidity	Reducing sugars	Total sugars	Ascorbic acid	Fiber
%	%			%	%	%	*mg/100 g*	*mg/100 g*
82.17	17.83	3.98	16.6	.42	4.05	13.60	8.06	85.6

TABLE 3.—*Quality of mango marmalade and slices in heavy syrup when fresh and after 10 months in storage*

Product	Days in storage	Appearance		Taste		Texture		General acceptability	
		Score	Rating	Score	Rating	Score	Rating	Score	Rating
Marmalade	Fresh	5.3[1]	Like	4.5	Like	4.8	Like	4.6	Like
	300	4.7	Like	4.4	L.M.[2]	4.7	Like	4.6	Like
Slices in heavy syrup	Fresh	5.2	Like	5.0	Like	4.2	L.M.[2]	4.8	Like
	300	5.3	Like	5.0	Like	4.6	Like	4.9	Like

[1] Six-point hedonic scale: 6, like very much; 5, like; 4, like moderately; 3, neither like nor dislike; 2, dislike a bit; 1, dislike.

[2] Like moderately.

TABLE 4.—*Quality of mango nectar when fresh and after 10 months in storage*

Days in storage	General acceptability[1]	Rating
Fresh	1.13	Acceptable
300	1.25	Acceptable

[1] +2, −2 scale, +2, very acceptable; +1, acceptable; 0, questionable; −1, slightly unacceptable; −2, not acceptable.

Good quality marmalade, nectar and slices in heavy syrup were obtained from the Ruby mango. Tables 3 and 4 show that acceptability of these products was maintained for a period of up to 10 months, which was the period covered in the study.

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