Research Note

ELABORATION, SHELF-LIFE AND QUALITY OF SWEET-SOUR SAUCES[1]

Sauces are used to complement the taste of the food they accompany, to contrast with it, or to add variety to its mode of presentation. Another useful function of sauces is to make an interesting dish out of something simple and economical such as eggs, cheese, pasta, side dishes, appetizers or hors d'oeuvres.

Different kinds of sauces are prepared for specific purposes. White, brown and tomato sauces enhance fish, poultry, meat and vegetable dishes.[2,3,4] Soy sauces are manufactured on a commercial scale in the Orient as well as in many western countries and are consumed around the world.[5,6,7] Sweet-sour sauces are also popular among consumers. However, information for their elaboration is limited. Published data comes mostly from European countries.[8]

This paper presents the results of a feasibility study on the development of native flavored sweet-sour sauces using tropical fruit marmalades. Mango marmalade and pineapple marmalade developed and elaborated at our Food Technology Laboratory[9] were used to prepare two different sweet-sour sauces (table 1).

The one with mango was prepared by mixing cider vinegar with the marmalade and heating until the mixture boiled. All other ingredients were then added, and the mixture was brought to a second boil and cooked for 2 minutes.

The pineapple sweet-sour sauce was prepared by frying onions and peppers at medium heat, adding pineapple juice, soy sauce, vinegar, and marmalade. The mixture was brought to the boiling point and cooked for 3 minutes.

Heat sterilized glass containers were filled with the sweet-sour sauce and capped while hot (above 87.8° C). The glass containers were inverted to sterilize the lids and allowed to cool before being stored at room temperature. The final pH of the sauce was 3.06 for mango and 3.48 for pineapple.

After a 2-week storage, the sweet-sour sauces were initially assayed for quality. This holding period is important for full flavor development. The quality of each stored sauce was evaluated after 2 weeks and then every other month for up to 4 months. The evaluating taste panel consisted of from 8 to 13 members. The +2,

[1] Manuscript submitted to Editorial Board 1 November 1989.

[2] Anonymous, 1983. Continuous manufacture of mayonnaise, mayonnaise products and ketchup by the combinator process. *Lebensmitteltech.* 15 (5): 238, 240, 242-3.

[3] Heuss, A., 1983. Modern methods for manufacture of mayonnaise and emulsified sauces. *Lebensmitteltech.* 75 (4): 148-50.

[4] Petrizzelli, G., 1988. The basis of sauces. *Ind. Aliment. Agric.* 105 (4): 327-30.

[5] Beauchat, L. R., 1984. Fermented soybean foods. *Food Technol.* 38 (6): 64-70.

[6] Shinho, E., 1983. Soy sauce imported from Hong Kong, *J. Jn. Soy Sauce Res. Inst.* 9 (2): 71-2.

[7] Yamasa, S., 1982. Japanese Examined Patent JP 57 53 066 B2.

[8] Benk, E. 1986. Composition and evaluation of prepared viscous sweet sauces. *Susswaren* 30 (5): 176-78.

[9] Unpublished Data.

TABLE 1.—*Ingredients to prepare sweet-sour sauces*

	Sweet-sour + mango	Sweet-sour + pineapple
Mango marmalade	470.00[1]	
Cider vinegar	334.0	
Raisins, ground	82.5	
Lemon juice	9.8	4.5
Ginger	3.0	
Salt	6.0	
Mustard	5.0	
Pepper	1.0 g	
Vegetable oil	22.0	33.0
Onion, dehydrated		21.5
Fresh green pepper, ground		96.0
Fresh red pepper, ground		96.0
Pineapple marmalade		550.0
Pineapple juice		243.0
Soy sauce		28.0
White vinegar		3.0

[1] All ingr···ents are in grams.

−2 scale (+2 = like very much; −2 = do not like) was used to measure general acceptability according to the following evaluation:[10]

Days in storage	Sweet-sour pineapple	Sweet-sour mango
0	1.40	1.10
60	1.43	1.00
120	1.40	1.21

Chicken nuggets were served with the sauces to aid in their evaluation.

In general, good acceptability of the sauces was observed up to 4 months of storage.

Isabel Beauchamp de Caloni
Food Researcher
Laboratory of Food Technology

[10] +2, −2 scale: +2 = very acceptable; +1 = acceptable; 0 = questionable; −1 = slightly unacceptable; −2 = not acceptable.