

Research Note

FEASIBILITY STUDY FOR THE CANNING OF HOME MADE STYLE CHICKEN BROTH¹

By-products of a large poultry industry are liver, gizzard, neck and carcasses of fowls. Major outlets have been the sale of these parts for home preparation of broths and soups.^{2,3} Soup is the first course in most meals, and its quality may make or mar a whole meal. In these days of high cost food for main dishes, many a scratch meal is made to look more attractive and lavish by a simple addition of a bowl of soup. It is believed that soup can possibly play a role in breaking the chain links of overeating, obesity and disease, by slowing the dietary pace. Individuals consume fewer calories the days they eat soup, according to a recently presented Nutrition Symposium. This fact could explain why soup sales have increased during the past years.⁴

The possibility of producing quality canned broths and soups has been widely studied.^{5,6,7} Retention of volatile compounds during the manufacture of broths is an important factor; thus a better quality product is obtained by cooking in closed systems. Recommended procedure for canning soups is boiling meat, vegetables and condiments so that soluble proteins as well as minerals pass into the broth.⁷ Canned soups still represent the best method of preservation, and it is generally agreed that the basis of a good soup is a good broth.

To explore the feasibility of canning a quality single strength chicken broth containing gizzard, liver and small pieces of chicken, we conducted a preliminary study in our food processing pilot plant.

A batch of canned home-made style chicken broth cooked at the pilot plant was subjected to storage tests. Chicken visceras (liver, gizzard) and small pieces of meat, chicken with bones, were steam cooked; 113 g was

¹ Manuscript submitted to Editorial Board on September 11, 1984.

² George, A.; K. C. De, and M. G. Anderson, 1972. Experimental recipes for canned soups, *Food Packer* 26 (1): 38-41.

³ Lachhramina, R. S., 1979. Utilization of chicken shanks in chicken soups, *Poultry Guide* 16 (3): 23-25.

⁴ Przybyla, A., 1982. New soups key-in on a healthy image. *Processed Prepared Foods* 151 (6): 102-03.

⁵ Hall, J. C. and J. E. Reichert, 1974. Rational methods for the manufacture of canned prepared foods (Lecture) *Fleischerei* 25 (11): 38-40.

⁶ Prendergast, K., 1980. The new way with soups and sauces, *Food Flavorings, Ingredients, Packaging, and Processing* 2 (3): 26-7.

⁷ Binsted, R. and J. D. Dervey, 1960. *Soup Manufacture-Canning, Dehydration & Quick Freezing*. 2nd ed, Food Trade Press Ltd., London.

weighed for each 303 enameled tin can used. Ground vegetables, herbs and spices (green and sweet peppers, onion, garlic, oregano, coriander, cilantrillo⁸ leaves and salt) were simmered in a stainless steel jacketed kettle for 10 minutes. The hot broth was poured into the cans, steam exhausted for 10.5 minutes, and sealed. Cans were sterilized at 250° F for 27 minutes in a still retort.

Monthly sensory evaluations of the canned chicken broth were done by a 10-12 member panel based on the +2, -2 scale for overall acceptability as shown below:

<i>Days in Storage</i>	<i>Mean Values</i> ⁹
0	1.43
30	1.75
60	1.67
90	1.83
120	1.60
150	1.57
180	1.50

The data completed during 6-month storage of the product shows high acceptability by the panelists. This broth can be useful as a base in the elaboration of dishes with native flavors such as stews, soups and chicken with rice.

Microbiological analyses were performed after a 1-month incubation at 37° C. No thermophillic or mesophillic bacteria were found. Thus, confirmation of an appropriate thermal process was evident.

Isabel Beauchamp de Caloni

José R. Cruz Cay

Fred Fernández Coll

Food Technology Laboratory

⁸ *Eryngium foetidum* L.

⁹ +2, -2 scale—were +2 = very acceptable; +1 = acceptable; 0 = questionable; -1 = slightly unacceptable; -2 = not acceptable.