

Shrimp Industry Standards of Quality

LAWRENCE W. STRASBURGER

Food Technologist and Consultant, New Orleans, Louisiana

When a new industry is born, the people involved in its development ordinarily give little thought to its future. They do not attempt to make long range plans for development and expansion; they are concerned chiefly with the present, in a trial to see if the enterprise can be made commercially successful.

The men involved in the origin of the shrimp industry thought mainly of catch methods; the marketing of their product was purely a local matter. Shrimp caught during the day were sold the next morning, and could be purchased only in the immediate producing area.

Thus the shrimp industry remained a minute segment of our fishery until commercial canning was successful, first in 1875. The industry grew, until there were 93 canneries operating in 1924. Today, there are approximately 40. Economics was the main reason for the demise of many of the shrimp canneries, but underlying their economic failure was a complete lack of quality control.

The first steps towards quality control were introduced in the shrimp canning industry in 1934, when voluntary government inspection was initiated by the United States Food and Drug Administration. The number of plants having such inspection grew rapidly until a maximum of 48 were operating under its service.

Then, with the war years, came the diversion of shrimp from the canneries to the fresh and frozen trade. Since that time canning has seen a resurgence, but the number of canneries operating under government inspection has dwindled to nine. Many of the canners who have discontinued the service feel that because of their education while under government regulation, they can produce quality merchandise without government supervision, with its inherent high cost. To further their ends, the canners adopted Industry Grade Standards.

These grade standards, adopted at an industry-wide meeting held under the auspices of the National Shrimp Canners Association in January, 1954, set the sizes for shrimp under the following designations, these grade sizes to be based on the cut-out weight per ounce after processing.

Colossal	less than 2.5 per ounce
Jumbo	less than 3.5 per ounce
Large	3.5 to 5 per ounce
Medium	more than 5 but not more than 9 per ounce
Small	more than 9 but not more than 17 per ounce
Tiny	more than 17 per ounce

A weight tolerance of 8 per cent was adopted for the differential in loss between the regular pack and the cleaned or deveined pack. Usage of such terms as "broken", or "whole and broken", was defined. A tolerance of not more than 5 per cent of broken shrimp in a pack of whole shrimp was to be allowed.

The adoption of these standards was a forward step for the canned shrimp industry, but there is no method of enforcement save that which is exercised

by the buyers. As a consequence, we have heard rumors that in certain instances confusion exists as to size designations. This is especially true in the labeling of "tiny" as "small".

Historically, practically all shrimp produced on the Atlantic Seaboard have been shipped to market in the fresh stage, but the picture is changing. More and more of the production is being processed as frozen, or as breaded shrimp. Chemical, bacteriological and organoleptic analyses of market samples made over a period of several years by an independent laboratory show clearly that quality control standards should be set up by the breaded shrimp industry, not only on the Atlantic Seaboard but in all other areas where shrimp are breaded. Some individuals have heeded the warning of these laboratory findings, and are exercising certain methods of control, but the industry as a whole has responded little or not at all.

One segment of the fresh shrimp industry deserves commendation. The Tampa Shrimp Producers Association of Tampa, Florida, and The United Shrimp Producers Association, Inc., of Fort Myers, Florida, have been attempting to set up and enforce their own quality control program, against considerable opposition from outside their membership. These programs, conceived and promulgated by the members of the two associations without outside help, is certainly a progressive move. Four quality grades have been established, namely: "pearls", "good", "fair" and "pick-outs". Standards are based mainly on melanosis or blackening. Considerable latitude is given the inspectors of these associations, and their decisions, when questioned, are either substantiated or altered by a Quality Control Board constituted of any two members or stockholders of the corporation in good standing, other than the member whose products are being graded. Much effort has been expended by these associations to educate the fishermen in proper methods of catching, handling, and sanitation, with the result that a radical improvement in the quality of shrimp reaching port has been noted by the members. Boat crews are paid on the basis of the quality of the shrimp they produce; thus they, too, benefit from good practice and sound operation.

The frozen shrimp industry prior to 1937 was small. A few shrimp were frozen, but these were mainly the overflow from glutted fresh markets. It was not until 1942 that this branch of the industry really began to grow, together with the rest of the frozen food industry. Today, far more shrimp is handled in the frozen state than in any other form.

In August, 1951, with the formation of the Shrimp Association of the Americas, a Quality Control Committee and a Scientific Advisory Committee were appointed. For a period of time the members of the Shrimp Association of the Americas were sent information sheets describing quality control and plant sanitation procedures. While this device was useful, it was not felt to be adequate. At its Miami meeting last year, the board of directors instructed the chairman of the Quality Control Committee to draft and have ready for discussion at its Cleveland meeting in the spring, a complete set of regulations and standards for the quality control of frozen shrimp.

Tentative standards were prepared and submitted at the Cleveland meeting in April; these were revised as the result of suggestions from various members.

In July, at its regular annual meeting in Mexico City, the Shrimp Association adopted these proposed standards. At that time, the board of directors requested all members to attempt adherence to these standards on their own

initiative. The board of directors also requested the Quality Control Committee to investigate measures to implement the standards, in order that a quality seal could be developed and utilized, to show that the shrimp so marked had been produced, packed and frozen under the "Standards for Quality Control of the Shrimp Association of the Americas."

The adopted standards were prepared and drafted by the Scientific Advisory Committee after consultation with members of the Quality Control Committee. They are predicated on sound biological, bacteriological, physical and practical bases. They are not difficult to apply. When put into use, they will assure that a superior product will reach the market, one of which no producer will ever be ashamed — one which can be advertised as capable of fulfilling all demands of a gourmet, or of satisfying the most exacting requirements of food inspectors or buyers.

These standards, for working purposes, may be divided into three categories:

- A. Boats and boat operations
- B. General plant facilities and equipment
- C. Plant operations

Under section A, specific sanitation and handling methods are outlined. Maximum trawling and exposure times are designated; proper methods of washing and icing the shrimp are specified.

Under section B, proper plant facilities are described. Buildings must be well lighted, ventilated, screened, and insect and rodent-proofed. Building designs shall be such that all equipment, which must be of metal or other non-porous material, is readily accessible for cleaning. Floors must be tight and properly drained into a closed drainage system. Water supplies must be unpolluted. Adequate sanitary facilities must be provided for all employees. Wash basins supplied with soap and a hand sanitizing agent must be so placed in the plant that they are easily observable by supervisory personnel. Devices for washing inspection belts and conveyors for shrimp must be installed. Metal containers, flumes, chutes, or conveyors are to be provided for removal of debris. Provision for proper maintenance of glaze water temperatures must be made unless shrimp are overwrapped. Recording thermometers are recommended for freezer and storage rooms.

Section C, covering plant operations, is quite detailed. All equipment in the plant and all equipment utilized in transporting shrimp shall be thoroughly washed and sanitized after each use. Shrimp shall be properly iced at all times. On delivery to the plant, the shrimp must be washed, inspected, and culled. Decomposed shrimp, which are strictly defined, shall be discarded and not further processed for human consumption. Shrimp shall be handled only on clean surfaces and in an expeditious manner in order to prevent contamination and spoilage. Grade size classifications are set up with necessary tolerances. Broken shrimp, or pieces of shrimp are defined and tolerances allowed in each grade size are specified. A standard method is promulgated for determining the thawed, drained weight of the packaged shrimp, such weight to meet the declared weight on the package. Provision is made for proper packaging, glazing, and for overwrapping. Maximum freezing times are stipulated. Sanitary personal habits must be observed by all employees.

The "Industry Standards for Quality Control" adopted by the Shrimp Association of the Americas, and the Canned Shrimp Industry, have been published.

Study of these standards should convince a qualified reader that they are sensible and workable. However, any industry standards are completely valueless unless they are implemented by industry policing and enforcement. Enforcement methods may be many and varied, and it is hoped that industry leaders will soon work out the means for practical implementation of the standards which have been adopted.

Standards de Calidad en la Industria de Camarones

LAWRENCE W. STRASBURGER

Food Technologist and Consultant, New Orleans, Louisiana

Abstracto

Plantas de enlatado de camarones fueron puestas bajo inspección voluntaria del U. S. Food and Drug Administration en 1934. En la actualidad pocas plantas se aprovechan de este servicio en la creencia de que ellos pueden producir productos de alta calidad sin necesidad de supervisión. In 1954 los enlatadores adoptaron standards de grado para el tamaño.

Análisis sobre la calidad de camarones empanizados han demostrado la necesidad por standards para este producto.

Dos Asociaciones de la Florida han instituido standards los cuales han levantado la calidad del camarón fresco producido en ese estado. La calidad se juzga mayormente sobre la mancha negra.

La Asociación Camaronera de las Américas ha adoptado standards voluntarios de calidad para camarones frescos. Estos standards cubren el manejo de los camarones en los botes pesqueros, así como la calidad de los camarones. Es necesario ahora para la industria el poner en efecto estos standards.

Voluntary Federal Grade Standards for Fish Sticks

CHARLES BUTLER

*Chief, Technological Section, Branch of Commercial Fisheries,
U. S. Fish and Wildlife Service, Washington, D. C.*

The phenomenal success of fish sticks in the market place is well known to the fisheries industry. Within the past few years, sales have zoomed from the market test level to an estimated 50 million pounds for this current year. As further evidence of this fish stick popularity, we note that other competing protein foods are climbing aboard the band wagon. Chicken sticks and ham sticks are among the products either on the market or being readied for a sales promotion campaign. If these agricultural products follow the pattern set by that industry in the past, voluntary federal standards and inspection will be an integral part of its production and distribution system. The advantages of food products properly graded and inspected for wholesomeness and accepted as such by the consuming public are rather well established for many