

PHILIPPINE NATIONAL STANDARD

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Dried danggit



BUREAU OF PRODUCT STANDARDS

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Foreword

The Philippine National Standards (PNS) for Dried Danggit was prepared as part of the project of the Bureau of Agriculture and Fisheries Products Standards (BAFPS) with the Bureau of Agricultural Research (BAR) entitled "Quality Standardization on Selected Fishery Products". A technical working group (TWG) was created through Special Order Number 100 Series of 2006 identifying members and experts that shall be involved in the formulation the draft standards for fishery products.

In collaboration with the industry and the regional offices of the Bureau of Fisheries and Aquatic Resources (BFAR), the TWG presented the draft standards for public consultation in Aklan, Bantayan (Cebu) and General Santos City.

The PNS for Dried Danggit aims to provide common understanding on the scope of the standard, product description, classifications, essential composition and quality factors, hygiene and handling, packaging labeling requirements, methods of sampling and analyses, and definition of defectives. A code of practice for the processing and handling of dried fish was also developed for this particular standard.

Dried danggit

1 Scope

This standard prescribes quality specifications and safety requirements, and methods for determining these for all commercial dried split *danggit* (*Siganus spp.*).

2 References

The titles of the standards publications referred to in this standard are listed on the inside back cover.

3 Definition of terms

For the purpose of this standard, the following terms shall mean:

3.1**artificial drying**

is the process of removing moisture from the fish in an enclosed chamber under controlled temperature, airflow and humidity

3.2**brine salting**

is the process of soaking fish in salt solution of specific salt concentration for a particular period of time

3.3**container**

means any form of packaging material, which completely or partially encloses the food (including wrappers). A container may enclose the food as a single item or as several units or types of prepackaged food when such is presented for sale to the consumer

3.4**contaminants**

are any biological or chemical agent, foreign matter, or other substances that are not intentionally added to food, which may compromise food safety or suitability

3.5**dry salting**

is the process of mixing fish with salt and stacking the fish into layers one on top of the other

3.6**dried split fish**

is dried fish prepared by cutting the fish along the dorsal side from the base of the tail to the tip of the head with the internal organs and gills removed prior to salting and drying

3.7

food

is any substance, whether processed or semi-processed or raw which is intended for human consumption and including beverages, chewing gum and any substance, which has been used as an ingredient on the manufacture, preparation or treatment of food

3.8

food additive

means any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including sensory evaluation) purpose in the manufacturing, processing, preparation, treatment, packaging, transport or holding of such food results or maybe reasonably expected to result (directly or indirectly) in its or its by – product becoming a component of (or otherwise affecting the characteristic of) such food

3.9

food standard

is a regulatory guideline that defines the identity of a given food product (i.e. its name and the ingredients used for its preparation) and specifies the minimum quality factors and, when necessary, the required fill of container. It may also include specific labeling requirements other than or in addition to the labeling requirements generally applicable to all prepackaged foods

3.10

good manufacturing practices (GMP)

is a quality assurance system aimed at ensuring that products are consistently manufactured, packed, repacked or held to a quality appropriate for the intended use. It is thus concerned with both manufacturing and quality control procedures

3.11

ingredient

is any substance including food additive, used as a component in the manufacture or preparation of a food and present in the final product in its original or modified form

3.12

label

includes any tag, brand, mark, pictorial, or other descriptive matter, written printed, marked, embossed or impressed on, or attached to a container of food

3.13

labeling

means any written, printed or graphic matter (1) upon any article or any of its container or wrappers or (2) accompanying the packaged food

3.14

lot

is food produced during a period of time and under more or less the same manufacturing condition indicated by a specific code

3.15**packaging**

is the process of packing that is part of the production cycle applied to a bulk product to obtain the finished product. Any material, including painted material, employed in the packaging of a product including any outer packaging used for transportation or shipment. Packaging materials are referred to as primary or secondary according whether or not they are intended to be in direct contact with the product

3.16**processed food**

shall refer to food that has been subjected to some degree of processing (e.g. milling, drying, concentration and canning, etc.), which partially or completely change the physico-chemical and/or sensory characteristics of the raw material

3.17**sun or solar drying**

is the exposure of fish to open air under the heat of the sun

3.18**water activity (a_w)**

is the ratio of water vapor pressure of the substance to the vapor pressure of pure water at the same temperature

4 Description**4.1 Product definition**

The product shall be prepared from fresh fish of the family *Siganidae*, which have been split, gutted, washed and dried with or without the addition of salt. The heads, bones and tails maybe removed.

4.2 Process definition

The product shall be prepared in one of the salting processes in 3.2.1, if salted and dried by one or a combination of the methods defined in 3.2.2.

4.2.1 Salting methods

- a) Brine salting is the process of soaking fish in salt solution of specific salt concentration for a particular period of time.
- b) Dry salting is the process of mixing fish with salt and stacking the fish into layers one on top of the other.

4.2.2 Drying methods

- a) Sun or solar drying is the exposure of fish to open air under the heat of the sun.
- b) Artificial drying is the process of removing moisture from the fish in an enclosed chamber under controlled temperature, airflow and humidity.

5 Essential composition and quality factors

5.1 Ingredients

5.1.1 Fish

The fish shall be fresh, and wholesome, fit for human consumption.

5.1.2 Salt

Salt shall be of food grade quality and meets the purity requirements of standards for iodized salt as per R.A. No. 8172 *An Act Promoting Salt Iodization Nationwide and for Related Purposes*.

5.2 Final product

5.2.1 The final product shall conform to the physico-chemical requirements in Table 1.

Table 1 – Physico-chemical requirements of dried danggit

Characteristic	Requirement
Water activity (a_w) maximum at 25 °C	0.75
Salt content percent sodium chloride (NaCl), (recommended level)	12.0*
Histamine content (ppm edible portion, maximum)	20.0 mg/100 g
* Salt content may vary provided that the prescribed water activity is not exceeded.	

5.2.2 The final product shall conform to the following type and size classifications:

5.2.2.1 Type

- a) Split, washed and rinsed with fresh water;
- b) Split, washed and soaked in sea water; and
- c) Split, washed and brined.

5.2.2.2 Size classification

Table 2 – Size of the product as determined by the length of the product (Whole fish)

Size designation	Length
Small	6.1 cm to 7.0 cm
Medium	7.1 to 8.0 cm
Large	8.1 to 10 cm

6 Hygiene and handling

6.1 The product shall be prepared in accordance with the Bureau of Food and Drug's AO 153 s. 2004, Revised Guidelines on Current Good Manufacturing Practice in Manufacturing, Packing, Repacking or Holding Food and the Recommended code of practice for the processing and handling of dried fish, PNS/BFAD 05:2006.

6.2 The final product shall conform to the microbiological requirements in Table 3.

Table 3 – Microbiological specifications for dried danggit

Analyses	n	c	m	M
Aerobic plate count (cfu/g)	5	2	100,000	500,000
Yeasts and molds counts (cfu/g)	5	2	1,000	10,000
Total coliforms (MPN/g)	5	2	10	100
<i>Escherichia coli</i> (MPN/g)	5	2	--	11
<i>Staphylococcus aureus</i> (MPN/g)	5	2	--	1,000

where:

n is the number of samples to be analyzed per volume product;
c is the number of samples that may exceed m but not M;

m is the maximum count achievable under GMP; and
M is the maximum count beyond which product safety/quality may be affected.

7 Presentation, packaging and labelling

7.1 Presentation

7.1.1 The products shall be presented as dried split fish, with or without bones.

7.1.2 The product shall be free from any objectionable odor, color, and flavor; and, any evidence of insect infestation and mold growth.

7.1.3 Individual retail or bulk container shall contain only one species of fish, which are relatively uniform in size.

7.1.4 The average net weight of the sample unit is not less than the declared net weight provided no individual container shall be less than 95% of the declared net weight.

7.2 Packaging

7.2.1 Retail packaging

The product shall be packed in pre-formed bags made of suitable films or laminates and suitable containers.

7.2.2 Bulk packaging

The product shall be packed in carton or corrugated boxes or suitable containers lined with plastic films.

7.3 Labeling

7.3.1 Labeling of retail packages/container

Each retail container shall be labeled and marked with the following information in accordance with BFAD Administrative Order Series of 1984.

- (i) The name of the product. The word “dried” or “dried split” shall be followed by the common names in accordance with the customs or practices of the country in which the product is distributed. The species of fish from which the product is derived shall also be declared;
- (ii) The name and the address of the manufacturer, packer, distributor, importer or exporter or vendor of the food;
- (iii) Specify whether the product is salted or unsalted or has low salt content;

- (iv) The net content by weight in the metric system. Other systems of measurement required by importing countries shall appear in parenthesis after the metric system unit;
- (v) The words “best before” followed by the date, month and year indicating end of the period at which the product shall retain its optimum quality attributes at a stated storage condition;
- (vi) Lot identification marked in code identifying product lot; and
- (vii) The words “Product of the Philippines.”

7.3.2 Labeling of non-retail containers

The name of the product, lot identification and the name and address of the manufacturer or packer shall appear in the container. However, the name and address of the manufacturer may be replaced by identification marks provided that such mark is clearly identified with accompanying documents.

8 Methods of sampling and analyses

8.1 Method of sampling

Sampling of lots for physico-chemical examination of the products shall be in accordance with sampling plans provided in Annex E based on FAO/WHO Codex Alimentarius Commission Sampling Plans for Pre-packaged Foods (AQL=6.5) (CAC/RM42 – 1969). A sample lot (N) shall be the quantity of the product under similar conditions. A sample unit shall be the primary container where the product is in bulk; while the individual fish is the sample unit for retail packaged products.

For microbiological analyses, the ICMSF (1978) suggested Case 2, 3-Class Sampling Plan is recommended.

8.2 Methods of analyses

8.2.1 Determination of moisture content

According to the method of AOAC (1995, 16th Edition) using the Oven Method.

8.2.2 Determination of water activity

According to the AOAC (1995, 16th Edition) Methods.

8.2.3 Determination of salt content

According to the modified Volhard Method based on AOAC (1995, 16th Edition) Method.

8.2.4 Determination of histamine content

According to the Fluorometric Method or AOAC (1995, 16th Edition) Method.

8.2.5 Determination of aerobic plate count, yeasts and molds

According to the USFDA Bacteriological Analytical Manual (1995, 8th Edition) using the Pour Plate Method.

8.2.6 Determination of coliform and *Escherichia coli* organisms

According to the procedure described by ICMSF, 1978.

8.2.7 Determination of *Staphylococcus aureus*

According to the procedure described by ICMSF, 1978.

9 Definitions of defectives

The sample unit shall be considered defective when it exhibits any of the properties defined below.

9.1 Foreign matters

The presence in the sample unit of any matter which has not been derived from the species of fish, does not pose a threat to human health and can be recognized either without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

9.2 Appearance

9.2.1 Presence of liver and blood stains, and traces of internal organs;

9.2.2 Excessive cracks, bruises, punctures and crumbling texture; and

9.2.3 Detaching of fish parts (head, tail etc.).

References

PNS/BAFPS 68:2008

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BFAD, 2004. Administrative Order No. 153. The Revised Guidelines on the Current Good Manufacturing Practice (cGMP) in Manufacturing, Packing, Repacking or Holding Food. Alabang, Muntinlupa City. Bureau of Food and Drugs

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Small Scale Processing of Fish. Technical Memorandum No. 3. Technology Series International Labor Office. Geneva. 1982.

**Department of Agriculture
Bureau of Agriculture and Fisheries Product Standards
Technical Working Group for the Development of
Philippine National Standard of Dried Danggit**

Chair

Director Gilberto F. Layese
Bureau of Agriculture and Fisheries Product
Standards (BAFPS)
Department of Agriculture (DA)

Members

Ms. Norma C. Borja
Bureau of Fisheries and Aquatic Resources (BFAR)

Ms. Dolor L. Villaseñor
Industrial Technology Development Institute (ITDI)
Department of Science and Technology (DOST)

Ms. Teresita S. Palomares
Industrial Technology Development Institute (ITDI)
Department of Science and Technology (DOST)

Ms. Almueda David
Bureau of Food and Drugs (BFAD)
Department of Health (DOH)

Ms. Charina May Tandas
Bureau of Food and Drugs (BFAD)
Department of Health (DOH)

Co-chair

Ms. Lilia Pelayo
Bureau of Fisheries and Aquatic
Resources (BFAR)
Department of Agriculture (DA)

Experts Involved:

Mr. Basilio M. Rodriguez, Jr.
Philippine Tilapia Inc. (PTI)

Mr. Pete Borja
Seaweed Industry Association of the
Philippines (SIAP)

Mr. Alvin Gimelo
Bangus Association of the Philippines (BAPI)

Technical Secretariat:

Ms. Lara G. Vivas
Bureau of Agriculture and Fisheries Product
Standards (BAFPS)

Ms. Mary Grace Mandigma
Bureau of Agriculture and Fisheries Product
Standards (BAFPS)

your partner in product quality and safety



BUREAU OF PRODUCT STANDARDS

3F Trade and Industry Building
361 Sen. Gil J. Puyat Avenue, Makati City 1200, Metro Manila, Philippines
T/ (632) 751.3125 / 751.3123 / 751.4735
F/ (632) 751.4706 / 751.4731
E-mail : bps@dti.gov.ph
www.dti.gov.ph