

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
PHILIPPINE COCONUT AUTHORITY
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ADMINISTRATIVE ORDER NO. 01
Series of 2005

TO: ALL PERSONS FIRMS, COMPANIES, ASSOCIATIONS, ENGAGED IN THE MANUFACTURING, PROCESSING, TRADING, AND EXPORTATION OF VIRGIN COCONUT OIL AND RELATED ACTIVITIES.

SUBJECT: IMPLEMENTING RULES AND REGULATIONS TO ENFORCE STANDARDS IN THE PRODUCTION AND MARKETING OF VIRGIN COCONUT OIL (VCO).

I. Legal Basis.

These rules and regulations are issued pursuant to Presidential Decree No. 1468, as amended by Presidential Decree 1644, granting the Philippine Coconut Authority full power to regulate the marketing and export of coconut products and by-products for purposes, among others, of ensuring the quality of such products based on adopted standards.

II. Rationale.

It is the objective of these rules to promote the viability of the virgin coconut oil sector of the coconut industry through the enforcement of a mandatory minimum standards in the processing and fair marketing of this high value commodity, to ensure its competitiveness and afford the consumers a reasonable level of protection.

III. Standard for Philippine Virgin Coconut Oil.

Henceforth, all coconut oil products described, labeled, claimed or represented as Virgin Coconut Oil produced or sold domestically or for export shall be processed in conformity with the mandatory standard for Philippine Virgin Coconut Oil herein adopted by the Philippine Coconut Authority and registered with the Philippine National Standards as **PNS / BAFPS 22:2004, ICS 67.200.10 / Amendment 1:2005**, the full text of which is hereto attached as Annex "A" and made an integral part of this Order.

IV. Registration and Clearance.

Producers, processors, traders and exporters of virgin coconut oil dealing business in the Philippines shall:

(a) Register annually with the Philippine Coconut Authority in accordance with PCA Administrative Order No. 003, Series of 1981, as amended by Administrative Orders Nos. 1 and 2, both series of 2004;

(b) Obtain a License to Operate with the Bureau of Food and Drugs if the virgin coconut oil is intended for human consumption, dietary/food supplement, or therapeutic application;

(b) Apply and obtain a commodity clearance from PCA if the virgin coconut oil is intended for export. The commodity clearance shall be issued by PCA based on the inspection and sampling drawn by an authorized PCA representative from the lot intended for export and the complete analysis be the PCA Product Quality Control Research Laboratory of the chemical, microbial and Physical characteristics of the virgin coconut oil as provided in the National Standard.

V. Production Process.

Producers/processors shall state in their product label sufficient information to identify the process used in the production of virgin coconut oil, such as the traditional process (latik), fermentation with heat, fermentation without heat, centrifuge process, expelling process(with or without cooling system), or equivalent process which ensures that the product conforms with the definition and the physical characteristics of the virgin coconut oil characteristics in the Philippine Virgin Coconut Oil Standards herein adopted.

VI. Good Manufacturing Practice.

Producers of virgin coconut oil shall adopt a suitable manufacturing practice or a "kitchen-clean" plan in the processing of the product, sanitation controls, use of facilities, handling of raw materials, storage, packaging and repackaging of finished or semi-finished products and waste disposal to avoid or minimize the introduction, generation, retention or multiplication of particulates, microbial organisms and other contaminants which may compromise the quality and safety of the final product.

For this purpose, producers shall be guided by the principles and guidelines on current Good Manufacturing Practices in manufacturing, packing, repacking, or food handling developed by the Bureau of Food and Drugs Department of Health Administrative Order No. 153, s. 2004.

VII. Plant Inspection.

In consonance with the preceding Section, all virgin coconut oil manufacturing or processing plant shall be inspected by the PCA Coconut Production and Regulation Officer upon application for registration as provided under Paragraph IV (a) of this Order, to ascertain that the applicant producer has complied with the good manufacturing practices herein prescribed.

On-site inspections shall include not only the plants and its peripheries but also the adjacent sites, taking into consideration the following:

1. Adequate location of the plant or enclosure thereof away from the presence of domesticated animals (pigpens, poultry farms), or entry of stray or similar animals or pets into the processing premises;

2. Plants should be amply isolated from dumpsites, open sewerage or esteros, open canals, or drainage within or outside of the plant;

3. Plants should be located distant enough from any other industrial, manufacturing or processing plants, which can likely contaminate or cause a cross-contamination of virgin coconut oil products.

4. Plants should be provided with adequate lighting, ventilation and running faucet water and lavatories; adequately constructed and tiled toilets, washrooms and dressing rooms. The plants' premises must be totally free from pests and disease carrying insects and animals like flies, cockroaches, rodents, birds, larvae, etc.;

5. Processing plants shall be designed that is conducive to good housekeeping and maintenance of sanitary operation including the construction of water-proof, non-absorbent, washable and non-slip tiled floor areas with adequate liquid drains and trapped outlets;

6. Containers and utensils used in contact with food materials should be of food grade quality;

7. Work tables, panels and walls coming in contact with the virgin coconut oil product or its raw materials, shall be constructed with plan surface, preferably made of stainless steel sheet, white ceramic tiles, or other non-porous and non-absorbent surface like marble or granite table tops;

8. Workers in direct contact with the product should be free from any communicable diseases. They must strictly observe personal hygienic practices to the extent necessary to protect the products against contamination, such as but not limited to wearing of outer garments and working shoes, through washing of hands, removal of jewelries or other objects that might cause cross contamination, wearing of surgical mask, gloves, and hairnet/head cap;

To optimize the quality and sanitary conditions in the processing of virgin coconut oil, the processor, whenever practicable, shall be guided by the step and details prescribed in the Guidelines on Current Good Manufacturing Practice promulgated by the Bureau of Food and Drugs as provided in Paragraph V of this Circular.

VIII. Monitoring of Production Process.

The PCA, through its authorized Coconut Production and Regulation Officer, shall inspect and monitor the production process of any registered virgin coconut oil producer periodically at least once a year, or anytime upon receipt of a verified report, information, or complaint of non-compliance with the National Standard or any violation of this Order.

IX. Administrative Sanctions.

Any violation of this Circular shall be subject to the administrative sanctions for the cancellation, revocation or suspension of the Certificate of Registration and non-issuance of necessary export commodity clearance, including the institution of other legal and administrative action with the Bureau of Food and Drugs, the Department of Trade and Industry, or the National Consumers Council under existing laws rules and regulations.

X. Supplemental Rules.

This order may be amended or supplemented with the inclusion of such other standards and practices that may further be developed by the Authority or other related government agencies or international bodies recognized or accredited by the Philippine government, to be adopted and promulgated by the Authority through proper amendments or supplementary issuances.

XI. Effectivity. This Order shall take effect fifteen days after its publication in a newspaper of general publication.

ISSUED this 8th August, 2005, in Quezon City, Philippines.

Original Signed
JESUS EMMANUEL M. PARAS
Administrator

Foreword

The development of Philippine National Standard for Virgin Coconut Oil was initially undertaken by the Center for International Trade Expositions and Missions (CITEM) of the Department of Trade and Industry (DTI) in view of the increasing demand of commodity for domestic and export markets. After which, an interim technical committee spearheaded by the Philippines Coconut Authority (PCA) was created.

In close coordination with the members of the interim committee of PCA, the Bureau of Agriculture and Fisheries Product Standards (BAFPS) Sub-Committee on Crops created through Special Order No. 411 convened series of technical reviews and public consultation on the draft standard for virgin coconut oil.

BAFPS deemed it necessary to adopt a standard providing common understanding on the definition of virgin coconut oil, essential composition and quality factors, labeling and methods of analysis and sampling.

Provision of the standard may be revised upon recommendation of stakeholders as long as these are supported by published scientific studies.

1. Scope

This standard applies to virgin coconut oil in a state for human consumption.

2. References

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

3. Definitions

For the purpose of this standard, the following definitions apply:

3.1 General**3.1.1 free fatty acids (FFA)**

a specified fatty acid liberated by hydrolysis from naturally occurring fats

3.1.2

glyceride

an ester formed by the combination of glycerol and fatty acid. Glycerides occur naturally in oils and fats.

3.1.3

iodine number

measure of the degree of unsaturation of oils and fats

3.1.4

virgin coconut oil (VCO)

oil obtained from the fresh, mature kernel of the coconut by mechanical or natural means, with or without the use of heat, without undergoing chemical refining, bleaching or deodorizing, and which does not lead to the alteration of the nature oil. Virgin coconut oil is an oil which is suitable for consumption without the need for further processing.

Virgin coconut oil (VCO) consists mainly of medium triglycerides, which are resistant to peroxidation. The saturated fatty acid in VCO are distinct from animal fats, the latter consisting mainly of long chain saturated fatty acids.

4. Essential Composition and Quality Factors

4.1 Identity characteristics

4.1.1 Gas Liquid chromatography (GLC) ranges of fatty acid composition shall be in accordance with Table 1.

Table 1 - Gas Liquid chromatography range of fatty acid composition

Common Name	Composition	(%)
Caproic acid	C 6:0	ND-0.7
Caprylic acid	C 8:0	4.6-10.0
Capric acid	C 10:0	5.9-8.0
Lauric acid	C 12:0	45.1-53.2
Myristic acid	C 14:0	16.8-21
Palmitic acid	C 16:0	7.5-10.2
Stearic acid	C 18:0	2.0-4.0
Oleic acid	C 18:1	5.0-10.0
Linoleic acid	C 18:2	1.0-2.5
Linolenic acid	C 18:3	ND-0.2

Note: ND means non-detectable

4.2 Quality Characteristics

4.2.1 Colour, odour and taste

Virgin coconut oil shall be colorless, sediment free, with natural fresh coconut scent, free from rancid odors or tastes.

4.2.2 Virgin coconut oil shall conform to the requirements specified in Table 2.

Table 2 - Virgin Coconut oil Property requirements

Properties	Specification
Moisture and volatile content, % max	0.20
Free fatty acids(expressed as lauric acid), acid %, max	0.20
Peroxide value, meq/kg oil, max	3.0
Food additives	Non Permitted
Contaminants	
Matter volatile at 105C,% max	0.20
Heavy metal, mg/kg, max	
Iron (Fe)	5.0
Copper (Cu)	0.4
Lead (Pb)	0.1
Arsenic (As)	0.1

5. Hygiene

It is recommended that the product covered by the provisions of this Standard be prepared in accordance with the appropriate Sections of the General Principle of Food Hygiene by the Codex Alimentarius Commission (CAC/RCP 1-1969, Rev.3-1997).

6. Labeling

The label of each package shall have the following information:

1. Name of product: "Virgin Coconut Oil"
2. Brand name or trade name
3. Net content
4. Lot identification
5. Name and address of the manufacturer and/or packer, or distributor
6. The Phrase "Product of the Philippines"
7. Type of Process
8. Date manufactured and "Best Before"
9. BFAD registration no. and bar code (optional)

7. Methods of Analysis and Sampling

7.1 Determination of fatty acid composition

According to IUPAC 2.301, 2.302 and 2.304 or ISO 5508:5509:1999

7.2 Determination of iodine value

According to IUPAC 2.205/1, Wijs method or ISO 3961:1996, Hanus Method, AOAC 920.158 Results are expressed as % m/m absorbed iodine

8. Compliance and Specification

When found to comply with the requirements specified in this Philippine Standard Specification, the lot, the branch, or the consignment from which the samples have been drawn, shall be deemed to comply with this Philippine National Standard Specification.

References

Codex Alimentarius Commission. Recommended International Code of Practice General Principles of Food Hygiene.
CAC/RCP 1-1969 (Rev. 4-2003 1)

Codex Standard for Olive Oil, Virgin and Refined, and for Refined Olive-Pomace Oil.

Codex Stan 33-1981 (Rev. 1-1989)

Codex Standard for Edible Fats and Oils Not Covered by Individual Standards.

Codex Stan 19-1981 (Rev. 2-1999)

Codex Standard for Named Vegetable Oils. Codex Stan 210-1999

CYB Group Plc: Glossary of Terms. <http://www.cybgroup.co.uk>

Fennema O.R Food Chemistry 2nd Edition; Revised and Expanded.

Marcel Dekker, Inc.: New York

Gonzales, L.A 2004. Assessment and Development of Quality Standards for Virgin Coconut Oil Produced From Different Processes, PQCRD: Philippine Coconut Authority

ISO 3961:1996 Animal and vegetables fats and oils-Determination of iodine value

ISO 5508:1999 Anima and vegetables fats and oils-Preparation of methyl esters of fatty acids

Kokonut Pacific: Oil composition and Quality factors. <http://www.kokonutpacific.com.au>

Nielsen, S.S. Introduction to the Chemical Analysis of Foods Jones and Barlett

- 1. Copy of AO may be obtained at PCA or download at http://bfad.gov.ph/AO/ao%20153_2004.htm**
- 2. Percent fatty acid composition is based on Codex Stan 210-1999**

MARKETS
Virgin Coconut Oil
Exports by Destination

	2001		2002		2003		2004	
	MT	\$	MT	\$	MT	\$	MT	\$
USA	1.6	16,610	19.11	91,618	101.83	402,580	169.53	520,896.00
Hawaii	0.2	3,200			*			
Norway					1	4,000		
Korea							1.9	2,615.00
Japan							1.44	8,672.00
Netherlands							0.54	3,528.00
Singapore							0.65	3,750.00
Malaysia							0.015	113.00
South Africa							1.93	10,295.00
Australia							0.6	3,600.00
TOTAL	1.80	19,810	19.11	91,618	102.83	406,580	176.605	553,469.00

2005 **In boxes/cases/drums/bottles**

VIRGIN COCONUT OIL: ANNUAL EXPORT PERFORMANCE

Year	Volume 1/ (In MT)	% Change	Value (FOB S\$)	% Change	Unit Price (\$/MT)
2001	1.80		19,810		11,005.56
2002	19.11	961.67	91,618	362.48	4,794.24
2003	102.83	438.1	391,420	327.23	3,806.48
	*		15,160		
2004	176.6	71.74	553,469	41.40	3,134.03

2005 **in boxes/cases/drums/bottles**

FN: VCOannualexports B

**VIRGIN COCONUT OIL: MONTHLY EXPORT PERFORMANCE
2005 VS. 2004
(Volume in MT, Value in US\$ FOB)**

MONTH	2005		2004		% Change	
	Volume	Value	Volume	Value	Volume	Value
January	26.49	116,947	2.24	4,092	1,083	2,758
February	47.44	115,456	15.28	55,006	210	110
March	85.39	271,974	0	0		
April	65.39	239,565	0.75	2,299	8,619	10,320
May	58.44	369,094	15.79	56,733	270	551
June	39.08	160,302	0	0		
July	27.22	88,872	30.71	106,132	(11)	(16)
Total	349.5	1,362,210	64.77	224,262	440	507

Source: Bureau of Customs

VIRGIN COCONUT OIL (VCO)

PRODUCT INFORMATION

VIRGIN COCONUT OIL is a kind of oil obtained from the fresh, matured kernel of the coconut by natural or mechanical means, with or without the use of heat, without undergoing chemical refining, bleaching or deodorizing and which does not lead to the alteration of the nature of the oil. It is an oil which is suitable for consumption without the need for further processing.

It consists mainly of medium-chain triglycerides which are resistant to peroxidation. The saturated fatty acids in virgin coconut oil are distinct from animal fats, the latter consisting mainly of long-chain saturated fatty acids.

PROPERTIES/CHARACTERISTICS

- Richest source of medium-chain triglycerides
- Has anti-viral, anti-microbial, anti-protozoal and anti-fungal activity
- Has anti-cancer activity
- Cholesterol-free
- Chemical-free
- Additive-free
- Has low peroxide value which makes it less prone to rancidity
- Loaded with anti-oxidant properties which strengthens the immune system

GENERAL USES

Medicinal Applications

- Actively builds and strengthens the body's immune system due to high lauric acid content.
- Protect the body from degenerative diseases.
- High energy food supplement.
- Easily convert foods into energy.
- Eases constipation.
- Improves digestion and nutrient absorption.
- Can be used as antiseptic because of its microbial and anti-bacterial properties.
- Effective remedy for skin ailments such as psoriasis, eczema, skin rashes, and other skin diseases.

Beauty & Personal Care Products

- Promotes healthy scalp and aids in the growth of strong and silky hair. Ideal as hot oil treatment and conditioner for the hair.
- Heals damaged tissues of the skin and prevents wrinkles, sagging and premature aging. Ideal as body oil, massage and moisturizing cream and as sun tan lotion.
- Moisturizes dry, flaky and itchy scalp.

PACKAGING

Retail: Clear bottles of 1 liter, 500 ml.,300 ml.,250 ml.,100 ml.

Bulk: Carbuoy (20 liters)

STORAGE

Should be stored in a cool, dry, clean place, away from direct sunlight.

No need to refrigerate or store in freezer.

PHILIPPINE NATIONAL STANDARD FOR VIRGIN COCONUT OIL

Color - Water white, 1Y, 0.1 R on Lovibond Tintometer

FFA (as oleic) - 0.25% maximum

Moisture - 0.1% maximum

Peroxide value - 1

Iodine value - 4.5 to 15

Vit. E content (as tocopherol) - 4mg/kg.min.

Aroma - Fresh coconut scent

Lauric Acid content - 45% minimum

Microbiological Quality

Total plate count - <10 cfu/ml

Coliform - 0

Molds & yeast - 0

Absence of heavy & toxic metals such as lead & arsenic