



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME
FAO/WHO COORDINATING COMMITTEE FOR NORTH AMERICA AND
THE SOUTH WEST PACIFIC**

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DISCUSSION PAPER ON THE DEVELOPMENT OF A STANDARD FOR NONI PRODUCTS

(prepared by Tonga from an electronic Working Group with Australia, Canada, Fiji, Papua New Guinea, New Zealand, Samoa, Solomon Islands, USA and Vanuatu)

Background

1. At the 11th session of the Coordinating Committee for North America and the South West Pacific (CCNASWP) held in Tonga in 2010, the Coordinator (Tonga) presented the discussion paper on a proposal for new work on the development of an international standard for noni products¹.
2. The Coordinating Committee discussed the proposal and concluded that it needs further work and thereby agreed to establish an electronic Working Group, led by Tonga, to revise the discussion paper, including the project document, for consideration at its next session².
3. The electronic working group was held and supports Tonga to present the reviewed discussion paper as new work to develop a regional standard for noni products. However, one member did suggest that more scientific evidence is needed for the safety of noni products and therefore still premature to develop the noni standard.

Rationale for development of a standard for noni

4. The noni plant, *Morinda citrifolia*, L. of the Rubiaceae family, commonly known as great morinda, beach mulberry, nonu and noni, is native to all the Pacific countries including Australia. The majority of the production in the region is from existing natural vegetations, with a lesser but an increasing proportions of production from cultivated noni plantation. The noni fruits and leaves are used traditionally by the people of the Pacific countries for food and medicine for thousands of years.
5. The trend of production and trade of noni products in the region is growing annually, with numerous companies producing and trading numerous noni products, but with a huge range and diverse level of quality and safety. The total value of noni products traded is estimated at more than US \$10 million annually. Hence the urgent needs to establish a regional standard on safety and quality of noni species, production, plant parts, harvest, processing and hygiene to assure the protection of health of consumers and the also ensure fair trade.

Recommendation on proposed work

6. It is recommended to request the Codex Alimentarius Commission to initiate work to develop a Codex standard for Noni.
7. The 12th Session of the FAO/WHO Coordinating Committee for North America and the South West Pacific is invited to consider the document provided in the attachment and to forward the request for new work to the 36th Session of the Codex Alimentarius Commission for its consideration.

¹ CRD5

² REP11/NASWP, para. 103

DRAFT PROJECT DOCUMENT

Proposal to develop a Codex Standard for Noni products

1. The Purpose and Scope of the Standard:

The purpose of this regional Codex standard for noni products, intended for human consumption, is to protect the health of consumers and to ensure fair trade in accordance with the codex definition³. The scope of the standard applies to noni products as define in (2). This proposal intended to cover noni products used as food or food ingredient and does not apply to products used for medicinal purposes.

1.1. Product definition of Noni

The noni (*Morinda citrifolia* L.) fruits and leaves are process into noni puree, fermented noni juice and dried noni leaves suitable for human consumption. Noni products are packaged to safeguard the hygienic, nutritional, technological and organoleptic quality of the products that are free from adulteration.

i. Noni Fruit Puree

Fresh noni fruit puree is manufactured when fresh noni fruits are hand-picked fresh and are processed. Seeds and skin are separated from the pureed fruits. The juice is separated from the pulp, pasteurized and then packaged in aseptic containers. The product will be free of roots, bark, flowers, seeds, stems and leaves.

ii. Fermented Noni Fruit Juice

Fermented noni fruit juice is manufactured when noni fruits are picked fresh and stored in closed drums, lined with sterile plastics, and are further stored in the sun for a period of 8 weeks. Then it is poured into a strainer where the juices are drained into sterile containers. The resulting juice is pasteurized.

iii. Dried Noni Leaves

Dried noni leaves are manufactured from semi-matured and matured fresh noni leaves that are carefully hand-picked, inspected, sorted, cleansed, sanitized and rinsed with water. After cutting, the leaves are subjected to drying.

1.2. Safety of Noni Products

The safety of noni products is based on the long term traditional use of noni fruits and leaves for food and medicinal purposes by the people of the Pacific countries. However, the safety of noni fruit juice products^{4,5,6} and noni leaves products⁷ have been scientifically assessed and approved by the European Food Safety Authority as “novel food” ingredient in a variety of food products and for making infusions in various food products. The approval stated that no adverse effect in the sub-acute and sub-chronic toxicity, genotoxicity and allergenicity was found from the acceptable daily intake of 30 milliliter per day of “noni fruit juice product”.

In 2006, safety concerns were raised to the potential presence of “anthraquinones” in noni products. Previous studies⁸ have indicated that anthraquinones mainly exist in the roots, with trace levels in the fruits and the leaves. The European Food Safety Authority assessment in 2006 concluded that the anthraquinones potential presence in commercial noni juice fruit products, is very unlikely to cause any ill

³ Codex Alimentarius Commission (FAO/WHO): Procedural Manual, 17th Edition, Rome 2007, p.41

⁴ European Commission (2002): Opinion of the scientific committee on food on Tahitian noni juice (SCF/CS/NF/DOS/18 ADD 2 Final)

⁵ European Commission, 2003. Commission decision of 5 June 2003 authorising the placing on the market of "noni juice" (juice of the fruit of *Morinda citrifolia* L.) as a novel food ingredient under regulation (EC) No 258/97 of the European parliament and of the council. Official J. Eur. Union L. 144, 46: 12.

⁶ European Commission, 2010 b. Commission Decision of 21 April 2010 authorising the placing on the market of puree and concentrate of the fruits of *Morinda citrifolia* as a novel food ingredient under Regulation (EC) No 258/97 of the European Parliament and of the Council. Official J. Eur. Union L 102, 51: 49-51.

⁷ European Commission, 2008. Commission Decision of 15 December 2008 authorising the placing on the market of leaves of *Morinda citrifolia* as a novel food ingredient under Regulation (EC) No 258/97 of the European Parliament and of the Council. Official J. Eur. Union L. 352, 51: 46-47.

⁸ Deng et al. 2009. Food Chemistry, 505-508

adverse human liver effects, the level of consumer's intake of noni juice products.⁹ Therefore, the safety of noni products was re-affirmed by the European Food Safety Authority in 2006.

2. Its Relevance and Timeliness:

A significant volume of noni products of approximately 23,000 tons is produced and traded within the Pacific region. French Polynesia supply and exported about 84 percent, and 9 percent from Samoa, 4 percent from Cook Island and the Tonga, Fiji and Vanuatu shared the rest (Table 2). The average export market price for noni products is average at about US\$ 3600 per ton, with the lowest in 2009 to the highest in 2007 (Table 1). The majority of the noni product exported from the region is noni puree from the French Polynesia.

The USA is the highest importing country of noni products of about 81 percent, and about 7 percent for the other Pacific countries in the region making the region as the major producer and also the major importer (Table 3). Therefore, the proposal for a regional Codex standard for noni products is well justified. In addition are the diverse range of noni fruit juice products and noni leaves products currently traded in the market, justify the urgency and the common needs for a regional noni standard to protect consumers and ensure consistent quality to promote fair trade.

Table 1. Total value of export of noni products from Vanuatu, Fiji, Tonga and Samoa in US dollars

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Value of Noni Export in US \$</i>										
French Polynesia^a	3,612,780	8,398,068	9,495,392	8,886,797	11,957,346	13,179,957	6,636,795	2,735,384		
Vanuatu	-	11,605	7,785	1,564	753	83	-	3,484	214	79,136
Fiji	180,254	79,200	128,256	260,748	322,085	198,075	216,566	233,808	176,210	248,717
Samoa	-	-	110,716	200,642	2,061,844	2,736,286	1,204,025	1,349,073	838,128	
Cook Island						1,273,518				
Tonga					205,953	132,833	351,742	91,462	45,088	5,834
TOTAL	3,793,034	8,488,873	9,742,149	9,349,751	14,547,981	17,520,752	9,315,969	5,138,657	1,839,879	333,687
US\$/ton	3,406	3,451	3,599	3,710	3,753	3,676	3,877	3,814	3,230	3,198

Source: Secretariat of Pacific Community Trade Statistic database ([// www.pacifictradestatics.com](http://www.pacifictradestatics.com))

^a Institut de la Statistique/SCE

Table 2. Total volume of kava products exported from Vanuatu, Fiji, Tonga and Samoa in metric tons.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Volume of Noni Export in metric tons</i>										
French Polynesia^a	1,048	2,440	2,626	2,427	3,216	3,473	1,764	742		
Vanuatu	-	2	8	4	4	0.03	-	-	0.02	19
Fiji	65	18	31	52	79	59	44	69	87	78
Samoa	-	-	42	37	450	785	183	310	260	
Cook Island						352	241	186	203	
Tonga					128	96	171	40	20	8
Total	1,114	2,460	2,707	2,520	3,877	4,767	2,403	1,347	570	104

Source: Secretariat of Pacific Community Trade Statistic database ([// www.pacifictradestatics.com](http://www.pacifictradestatics.com))

^a Institut de la Statistique/SCE

⁹ European Food Safety Authority 2006. EFSA Journal, 376, 1-12

Table 3. The volume and countries importing noni products during the 2000 to 2009 period.

Country	Amount (tons)	Amount (%)
USA	18491.1	80.609
Japan	2118.1	9.234
American Samoa	809.6	3.529
New Zealand	601.1	2.620
Germany	170.5	0.743
Netherlands	121.5	0.530
Austria	113.5	0.495
Australia	111.9	0.488
Republic of Korea	70.4	0.307
Canada	58.7	0.256
Tonga	52.4	0.228
China	35.6	0.155
Belgium	35.4	0.154
Taiwan Province of China	23.3	0.101
Tuvalu	22.8	0.099
Samoa	17.7	0.077
French Polynesia	16.0	0.070
Hong Kong, Special Administrative Region	11.2	0.049
Norway	10.7	0.047
France	6.2	0.027
Hungary	6.0	0.026
Vanuatu	4.9	0.021
Chile	4.7	0.020
Poland	4.3	0.019
Futuna	3.7	0.016
Kiribati	2.7	0.012
Spain	2.1	0.009
Finland	1.9	0.008
Brazil	1.9	0.008
Czech	1.6	0.007
UK	1.0	0.004
Switzerland	1.0	0.004
Sweden	1.0	0.004
PNG	0.9	0.004
Singapore	0.7	0.003
Turkey	0.7	0.003
New Caledonia	0.6	0.003
Swaziland	0.6	0.003
Solomon	0.5	0.002
Unspecified	0.4	0.002
Jamaica	0.2	0.001

Source: Secretariat of Pacific Community Trade Statistic database (www.pacifictradestatics.com)

^a Institut de la Statistique/SCE

3. The Main Aspects to be covered:

New work should be initiated to develop a Codex Standard for Noni (noni), which will be drafted in accordance with the Codex standard layout for food products and will cover noni products as defined above. This should build on existing industry standards and guidelines.

4. An Assessment against the *Criteria for the Establishment of Work Priorities*:

The proposal for drafting a Codex Standard for noni is consistent with the *Criteria for the Establishment of Work Priorities*, in particular the criterion:

- i. The major producer of noni products is French Polynesia and the countries of the region and the major importer of about 88 percent is also USA and the countries of the region. It is envisaged that with a regional Codex noni standard, the consumer level of confidence will increase simultaneously with the market demand and ultimately to the supply and production of noni products.
- ii. There is currently no international, regional or national standard on noni products, but only industrial standards for the manufacturing of noni products from noni fruits and leaves. There are hundredths of noni products in the market today, with a huge range of diverse levels of quality and safety. Therefore, the importance of protecting the consumers and promotion of fair trade by establishing a regional Codex standard.
- iii. While noni is grown in almost all PICs, the varieties used for human consumption have not been identified. It is also noted that various parts (fruits, leaves) are processed and exported. A recent study by USP also found that processing methods also vary widely between different countries and producers.
- iv. The proposed standard would aim to promote standardization of the processing methods, with a view to enhancing quality control/assurance and application of HACCP.

5. Relevance to the Codex Strategic Objectives:

The proposed standard meets the criteria outlined in Objectives 1, 2 and 5 of the Codex Strategic goals.¹⁰

Goal 1: It will contribute goal 1 by providing a sound regulatory framework harmonized across growing and processing countries;

Goal 2: It will promote wide and consistent application of scientific principles and risk analysis, including promoting the collection of data from developing countries and from all regions of the world so that the risk analysis is based on global conditions and requirements. The standard will be based upon existing industry guidelines and standard operating procedures, emphasizing HACCP principles.

Goal 5: It will promote maximum and effective participation of members, Pacific producers are actively collaborating through the Pacific Islands Noni Associations and it is expected that this collaboration will continue during the development of a noni (noni) standard.

6. Information on the Relation between the Proposal and Other Existing Codex

Documents:

This proposal is an initiative of PICs to promote safe production of noni, as there is currently no such existing standard within Codex. It will refer as much as possible to other general Codex standards (e.g. hygiene, labeling, food additive and contaminants, etc).

Since the noni products involve both fruit juice and leaves will therefore be exceptional and different with respect to the Codex fruit juice standards.

7. Identification of Any Requirement for and Availability of Expert Scientific Advice:

Scientific advice is required on the following:

- Mapping/Identification of noni varieties suitable for human consumption.
- Identifying key pre and post harvest moulds and mycotoxin (if any) on the fruits that affect noni (noni) products.
- Identification of the bacteria that promote fermentation.
- Numerous health claims made in noni (noni) juice marketing are not supported by scientific research and in human clinical trials. As such findings need to be confirmed by laboratory experiments or demonstrated in expert-reviewed human clinical trials, so inference can be made about whether noni has anti-cancer properties, as claimed.

¹⁰ CODEX ALIMENTARIUS COMMISSION STRATEGIC Plan 2008–2013

8. Identification of Any Need for Technical Input to the Standard From External Bodies so That This Can Be Planned For:

Technical assistance by WHO and/or FAO to substantiate scientific advice in Section 7 above, as appropriate.

9. The Proposed Time-line for Completion the New Work, Including the Start Date, the Proposed Date for Adoption at Step 5, and the Proposed Date for Adoption by the Commission”

Start Date: 2013

Proposed Date for Adoption at Step 5: 2014

Proposed Date for Adoption by the Commission: 2016