

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
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WORLD
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Agenda Item 9(b)

CX/LAC 08/16/1
September 2008

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

FAO/WHO COORDINATING COMMITTEE FOR LATIN AMERICA AND THE CARIBBEAN

16th Session

Acapulco, Mexico, 10-14 November 2008

PROPOSAL FOR THE DEVELOPMENT OF A REGIONAL STANDARD FOR LUCUMA

BACKGROUND

1. The 14th Session of the Committee on Fresh Fruits and Vegetables noted proposals for new work on chilli peppers, garlic, durian, passion fruit, tree tomato, table grapes (revision), lucuma, avocado (revision), pomegranate and black pepper as well as their justifications. In this regard, a Delegation observed that some of the commodities proposed for new work appeared to be traded mainly within regions and proposed that these commodities should be standardized as regional standards in relevant FAO/WHO Regional Coordinating Committees. Noting that procedures existed to convert regional standards into worldwide standards at a later stage, this proposal was supported by many delegations and the Delegation of Peru agreed to bring the proposal for new work on lúcumá to the FAO/WHO Coordinating Committee for Latin America and the Caribbean.¹

2. The project document containing the justification for the development of a Regional Standard for Lucuma and other relevant information related to this commodity is attached to this document. The Committee is invited to consider the opportunity to develop a regional standard for such product.

¹ ALINORM 08/31/35 paras 94 and 98.

Project Document

Proposed new work on Codex Regional Standard for Lucuma (Peru)

Proposals for Amendments to the Priority List for the Standardization of Fresh Fruits and Vegetables

LUCUMA

Introduction

Lucuma (*Pouteria Lucuma* R & P) is a fruit from the inter-Andean valleys of South America, mainly Peru, Chile and Ecuador. It has many biotypes, many of them wild.

Chroniclers and historians have reported its abundance in Peru, with representations of the lucuma found on ceramics and fabrics in pre-Inca burial sites along the Peruvian coast, testifying that the fruit has been used for centuries as food.



It is mainly consumed directly as fresh fruit or in the preparation of juices, food dishes and desserts. However, it now also exists as lucuma flour, frozen pulp and dehydrated lucuma used for ice-creams and desserts on the national and international markets.

Studies in Ecuador, Peru and Chile reveal that Peru has the broadest genetic variation of lucuma, estimated at more than 100 biotypes.

THE PLANT

The lucuma tree reaches about 10 metres in height. When not pruned, it has a single, cylindrical and straight stem, a strong trunk, and can be used as a spindle or support in indigenous weaving. The wood is pale, compact and durable and can be used in construction and in the manufacture of utility goods.

The lucuma grows well in the inter-Andean and coastal valleys of Peru in uniform temperatures of 20 to 22°C. It is vulnerable to frost and takes root in dry, well-drained soil with artificial irrigation. It is also highly sensitive to flooding and does not grow well in very hot climates. Although more frequently found in the coastal valleys, it is also successfully grown in Andean areas up to 2 500 metres above sea level.



The tree propagates by seed which is planted in nurseries after breaking or removing its hard surrounding husk. Seedlings can be transplanted at 5 metre intervals and take well to grafting with varieties of proven quality. When grown for commercial or industrial use, it is best to guide the final shape of the tree with careful pruning.

THE FRUIT

The fruit is a berry or drupe that is round, ovoid, conical, flattened or in the shape of a spinning top, approximately 4 to 9 cm in diameter and with a characteristic odour and colour. It is generally asymmetrical with a pointed apex usually with a brown to light green areola. The exocarp or skin is very thin and delicate, hairless or somewhat scaly. The mesocarp or pulp is of variable thickness, floury to mealy in texture and soft to hard. The seed is round and flattish, 2 to 4 cm in diameter and covered with a thick light or dark brown episperm. It has an oblong whitish hilum and is covered with a thin light yellow endocarp.



BOTANICAL DESCRIPTIONOrder: *Ebenaceae*Family: *Sapotaceae*Common name: *Pouteria Lucuma* (R & P)**JUSTIFICATION FOR ELABORATION OF A CODEX STANDARD FOR LUCUMA****1. The purposes and scope of the standard**

The proposal is to establish requirements for all commercial varieties of lucuma obtained from *Pouteria Lucuma* (R & P) of the *Sapotaceae* family. They will be supplied fresh to consumers after treatment and packaging. It excludes lucuma intended for industrial processing.

2. The relevance and timeliness

Trade in lucuma and its derivatives has grown in recent years as global markets seek new flavours. Lucuma is a new option because of its flavour and nutritional properties.

Hence the importance of having a Codex standard setting out requirements for quality, size, uniformity, hygiene, labelling, contaminants and tolerances for fresh lucuma.

Peru currently has Peruvian Technical Standard **NTP 011.041:2007 FRESH LUCUMA. Requirements**, which was proposed as a Draft Andean Standard by the National Institute for the Defence of Competition and Protection of Intellectual Property (INDECOPI), approved this year as Andean Standard **NA 0045:2008 FRESH LUCUMA. Requirements** and currently being finalized for publication in the Official Gazette of the Andean Community.

3. The main aspects to be covered

The Codex standard for lucuma needs to address quality, size, tolerances, presentation, labelling, maximum contaminant limits, hygiene and sampling to ensure food safety.

4. Assessment against the *Criteria for the establishment of work priorities***4.1. Volume of trade between countries**

The following tables report the development of Peruvian lucuma production and export in its various presentations between 2000 and December 2007.

They show that exports increased considerably between 2000 and 2002, but then fluctuated mainly because of climatic factors.

Table 1: Evolution of Lucuma exports by presentation (US\$ FOB) - 2000 to 2007

Description	2000	2001	2002	2003	2004	2005	2006	2007	Total
CHOCOLATE	44,147.77	4,965.46	0.72	0.11	0.00	2.00		16,264.40	65,380.46
FROZEN	2,184.20	37,136.87	13,605.22	22,762.47	132,106.01	53,546.05	95,379.47	80,578.51	356,720.29
FLAN	150.00		400.50	1,000.20	3,878.90	11,891.36	4,952.80		22,273.76
FRESH	1,219.68	560.44	4,911.75	45,097.65	13,165.35	3,540.73	17,577.49	5,536.06	86,073.09
BISCUIT	21,225.85	78,229.07	122,985.35	25,580.09	8,827.65	21,586.16	6,410.64		284,844.81
FLOUR	8,153.00	5,987.40	7,906.54	18,322.16	4,186.08	19,300.25	20,484.38	48,209.12	132,548.93
ICE-CREAM	623.68	2.00	6.00	104.40	3,401.60	7,397.10	5,823.00		17,357.78
JUICE				624.00			3.00		627.00
JAM		48.07	2,500.08		2,357.30	21.60	11,580.36		16,507.41
OTHER		30.16		1,008.00	982.92	2,019.15	2,409.95	3,578.20	6,450.18
PASTRY		1,059.68	36.10	544.87	1,082.40	406.00	73.50	131.50	3,334.05
POWDER			74.00						74.00
General Total	77,704.18	128,019.15	152,426.26	115,043.95	169,988.21	119,710.40	164,694.59	154,297.79	992,191.76

Source:

SUNAT

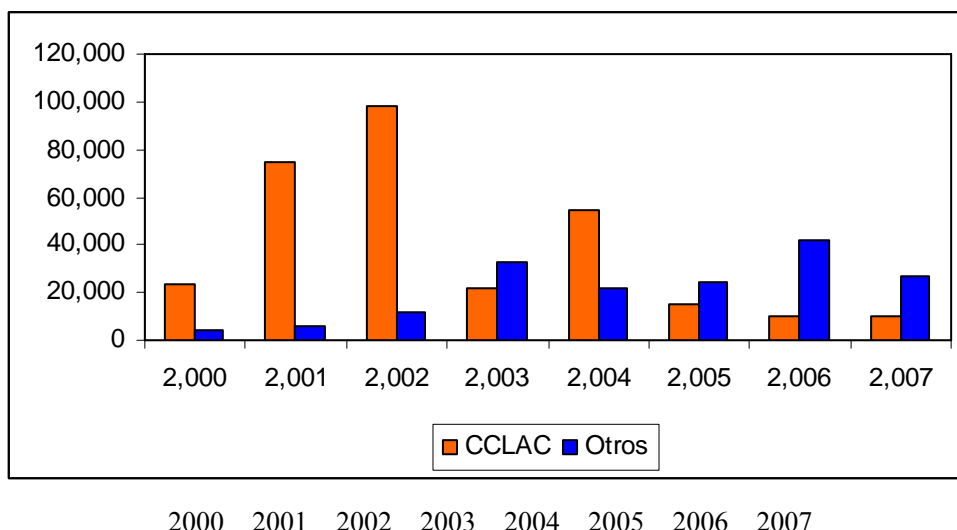
Produced by: PROLUCUMA

Table 2. National Annual Production of Lucuma 1987-2005

YEAR	NATIONAL PRODUCTION (tonnes)	HARVESTED AREA (Hectares)	YIELD (t/ha)
1987	1629	246	6.62
1988	1716	259	6.63
1989	1818	264	6.89
1990	1971	265	7.44
1991	2058	275	7.48
1992	2016	268	7.52
1993	2082	287	7.25
1994	2156	288	7.49
1995	2540	326	7.79
1996	4123	502	8.21
1997	3010	376	8.01
1998	2614	395	6.62
1999	3654	440	8.30
2000	4629	545	8.49
2001	4214	571	7.38
2002	6117	659	9.28
2003	6626	773.55	8.57
2004	8114	966	8.40
2005	8706	975	8.93

Source: Ministry of Agriculture

Chart 1. Exports to CCLAC member countries (kg)



■ CCLAC ■ Others

The main lucuma importing countries of the CCLAC have been Chile, Bolivia, Colombia and Costa Rica. While the chart indicates that 90 percent of lucuma exports between 2000 and 2002 went to CCLAC member countries, the US and EU have shown growing interest in this product in subsequent years, because of its flavour and nutritional properties that are increasingly sought in international cuisine.

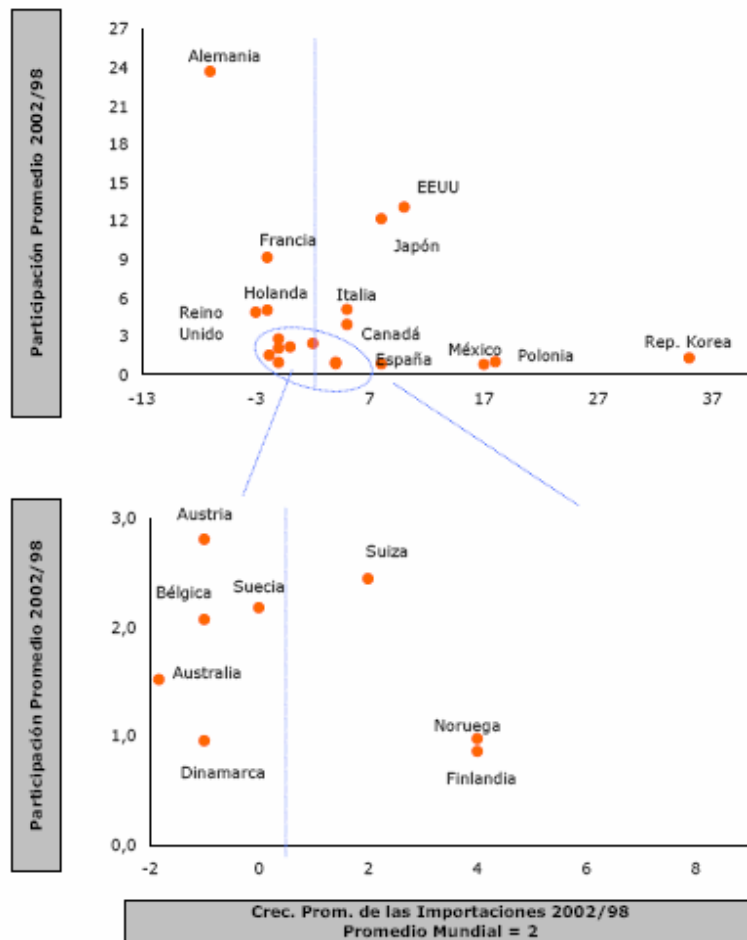
4.2 International market potential

Opportunities for lucuma pulp in the frozen fruit market

World demand was valued at US\$ 572 million in 2002. There was an average annual growth of 2 percent for this item in 1998-2002. South Korea had the world’s highest growth in demand for “Other Frozen Fruits”, with an annual growth rate of 35%. Germany’s demand fell while the demand and participation of Japan and the United States rose. The US can increase its demand for lucuma as there are North American companies interested in introducing this Peruvian flavour. The same applies to Japan and New Zealand. Italy, Switzerland and Germany could also become potential buyers, depending on how their markets accept this new flavour, particularly the ice-cream industry.

**Dynamic of main global demand for “Other Frozen Fruits”
(Item 081190)**

Dinámica de los Principales Demandantes Mundiales de Otras Frutas Congelada (Partida 081190)



1/ Crec. Prom de los últimos 2002/98

Fuente: CCI

Elaboración: MAXIMIXE

(T.N. Left vertical)

Average share 2002/98

Average share 2002/98

(T.N. Bottom horizontal)

Average growth of imports 2002/98

World Average = 2

1/ Average growth of the lowest 2002/98

Source: CCI

Production: MAXIMIXE

Countries: Australia; Austria; Belgium (Bélgica); Canada (Canadá); China; Denmark (Dinamarca); Finland (Finlandia); France (Francia); Croatia (Croacia); Germany (Alemania); Greece (Grecia); Hong Kong; Italy (Italia); Japan (Japón); Malaysia (Malasia); Mexico (México); Norway (Noruega); Poland (Polonia); Republic of Korea (República de Corea); Saudi Arabia (Arabia Saudita); Singapore (Singapur); Spain (España); Sweden (Suecia); Switzerland (Suiza); The Netherlands (Holanda); Turkey (Turquía); United Kingdom (Reino Unido); United States of America (EE.UU.).

The main countries with demand for item 081190 account for over 50% of world demand, with Canada the main supplier for the first four countries. Chile also stands out, not as a main supplier but because with a larger share than Peru of the first three markets detailed in the following tables.

Main Import Market

Country	2002 US\$ '000	Annual % growth between 1998-2002	Average share (%)	Main supplier countries
Germany	83 673*	-7.0	23.7	Poland (40%), Canada (12%), Holland (11%)
USA	92 319	10.0	13.1	Canada (45%), Mexico (11%), Costa Rica (10%)
Japan	72 217	14.0	12.2	Canada (24%), USA (20%), China (19%)
France	54 464	-2.0	9.2	Italy (22%), Canada (9%), Poland (9%)
Italy	30 750	.0	5.1	Sweden (20%), Austria (19%), Germany (9%)

(T.N. Please check figure)

Emerging Import Market

Country	2002 US\$ '000	Annual % growth between 1998-2002	Average share (%)	Main supplier countries
Rep. of Korea	13 457	35.0	1.3	China (88%), Thailand (8%), USA (3%)
Poland	8 893	18.0	1.0	Ukraine (33%), Greece (21%), Belarus (17%)
Mexico	5 052	17.0	0.8	USA (68%), Chile (19%), Greece (7%)

Source: CCI

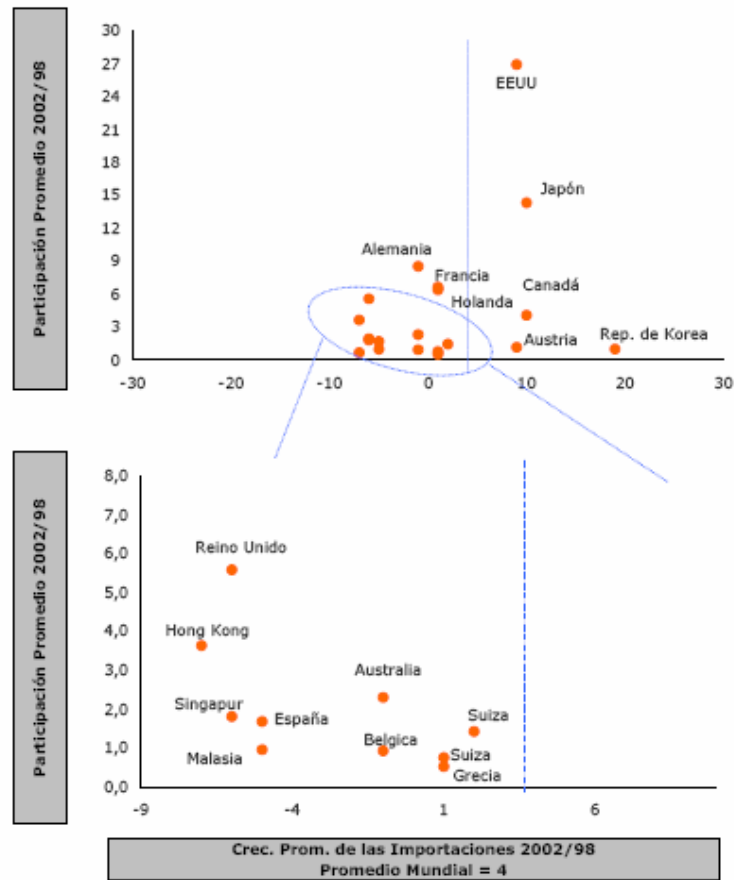
Production: MAXIMIXE

Potential for lucuma pulp in the fruit pulp market

Global demand for fruit pulp under item 200899 was valued at 865 million dollars in 2002. The US accounted for a high share and South Korea increased strongly with an average annual growth of 19%. This sector had an annual growth of 4% in 1998-2002.

**Dynamic of main global demand for “Other Prepared or Preserved Fruits”
(Item 200899)**

Dinámica de los Principales Demandantes Mundiales de Demás Frutas Preparadas o en Conserva (Partida 200899)



1/ Crec. Prom de los últimos 2002/98

Fuente: CCI

Elaboración: MAXIMIXE

(T.N. Left vertical)

Average share 2002/98

Average share 2002/98

(T.N. Bottom horizontal)

Average growth of imports 2002/98

World average = 4

1/ Average growth of the lowest 2002/98

Source: CCI

Production: MAXIMIXE

Countries: Australia; Austria; Belgium (Bélgica); Canada (Canadá); China; Denmark (Dinamarca); Finland (Finlandia); France (Francia); Croatia (Croacia); Germany (Alemania); Greece (Grecia); Hong Kong; Italy (Italia); Japan (Japón); Malaysia (Malasia); Mexico (México); Norway (Noruega); Poland (Polonia); Republic of Korea (República de Corea); Saudi Arabia (Arabia Saudita); Singapore (Singapur); Spain (España); Sweden (Suecia); Switzerland (Suiza); The Netherlands (Holanda); Turkey (Turquía); United Kingdom (Reino Unido); United States of America (EE.UU.).

Main Import Market

Country	US\$ '000	Annual % growth between 1998-2002	Average share (%)	Main supplier countries
USA	253 933	9.0	26.9	Mexico (24%), China (12%), Thailand (11%), Ecuador (3%), Colombia (2%), Peru (1%)
Japan	139 903	10.0	14.3	China (48%), Thailand (21%), USA (13%)
Germany	51 523	-1.0	8.5	Italy (33%), Holland (20%), Austria (17%)

Emerging Import Market

Country	2002 US\$ '000	Annual % growth between 1998-2002	Average share (%)	Main supplier countries
Rep. of Korea	8 847	19.0	1.0	USA (44%), China (28%) and Philippines (12%)
Canada	39 936	10.0	4.1	USA (55%), Thailand (7%), India (5%), Chile (1%), Peru (1%)
Austria	11 570	9.0	1.2	Germany (30%), Italy (14%), USA (11%), USA (11%), Ecuador (11%)

Source: CCI

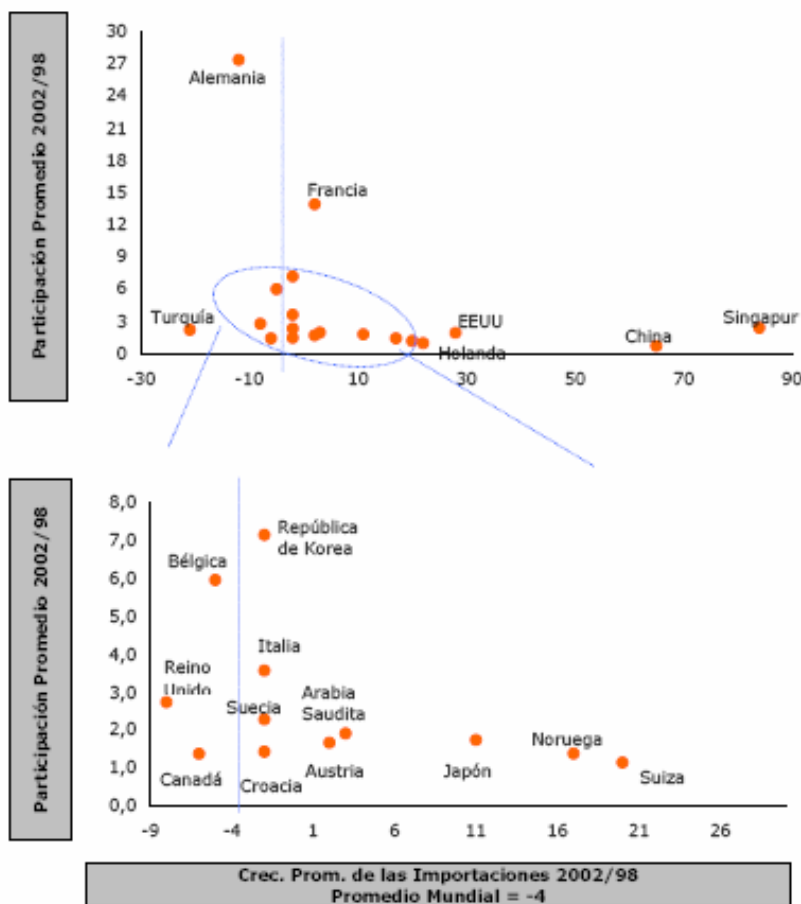
Production: MAXIMIXE

Potential for lucuma flour in the fruit flour market

Global demand in 2002 for Chapter 08 flour, meal or powder products (Item 110630) valued at 72 million dollars was essentially divided by Germany and France. There was a global fall in demand for this item in 1998-2002, with an annual reduction of 4 percent.

Dynamic of main global demand for flour, meal and powder products under Chapter 08 (Item 110630)

Dinámica de los Principales Demandantes Mundiales de Harina, Sémola y Polvo de los Productos del Capítulo 08 (Partida 110630)



1/ Crec. Prom de los últimos 2002/98

Fuente: CCI

Elaboración: MAXIMIXE

(T.N. Left vertical)

Average share 2002/98

Average share 2002/98

(T.N. Bottom horizontal)

Average growth of imports 2002/98

World average = -4

1/Average growth of the lowest 2002/98

Source: CCI

Production: MAXIMIXE

Countries: Australia; Austria; Belgium (Bélgica); Canada (Canadá); China; Denmark (Dinamarca); Finland (Finlandia); France (Francia); Croatia (Croacia); Germany (Alemania); Greece (Grecia); Hong Kong; Italy (Italia); Japan (Japón); Malaysia (Malasia); Mexico (México); Norway (Noruega); Poland (Polonia); Republic of Korea (República de Corea); Saudi Arabia (Arabia Saudita); Singapore (Singapur); Spain (España); Sweden (Suecia); Switzerland (Suiza); The Netherlands (Holanda); Turkey (Turquía); United Kingdom (Reino Unido); United States of America (EE.UU.).

Main Import Market

Country	2002 US\$ '000	Annual % growth between 1998-2002	Average share (%)	Main supplier countries
Germany	19 448	-12.0	27.0	Turkey (61%), Spain (20%), Italy (12%)
France	15 915	2.0	14.0	Spain (71%), USA (15%), Italy (4%)

Emerging Import Market

Country	2002 US\$ '000	Annual % growth between 1998-2002	Average share (%)	Main supplier countries
Singapore	3 368	84.0	2.4	China (73%), USA (10%), Malaysia (8%)
China	728	65.0	0.7	France (28%), USA (20%), Malaysia (18%)
USA	1 502	28.0	1.9	Mexico (24%), Canada (11%), Thailand (11%)

Source: CCI

Production: MAXIMIXE

4.3 Consumer protection

Aspects relating to consumer health are crucially important in international food trade. It is therefore important to have a Codex standard that determines safety requirements for fruits, such as lucuma, that are consumed traditionally in South American countries and have potential for global consumption.

4.4 Work already undertaken by other international organizations in this field

Peru has Peruvian Technical Standard *NTP 011.041:2007 FRESH LUCUMA. Requirements*, which was proposed as a Draft Andean Standard by the National Institute for the Defence of Competition and the Protection of Intellectual Property (INDECOPI), approved as Andean Standard *NA 0045:2008 FRESH LUCUMA. Requirements* this year and currently under finalization for publication in the Official Gazette of the Andean Community.

5 Relevance to the Codex strategic objectives

The proposed revision meets the criteria of Objectives 2 and 6 of the Codex Strategic Objectives:

Objective 2: to promote the broadest and most coherent application possible of scientific principles and risk analysis, including the promotion of the compilation of data from developing countries and all the regions of the world so that risk analysis is based on global conditions and needs; and

Objective 6: to promote the maximum application of Codex standards for national regulation and international trade.

6. Information on the relation between the proposal and other existing Codex documents

The proposal complies with the Terms of Reference of the FAO/WHO Coordinating Committee for Latin America and the Caribbean (CCLAC) as follows:

c) Recommends to the Commission the development of worldwide standards for products of interest to the region, including products considered by the Committee to have an international market potential in the future.

d) Develops regional standards for food products moving exclusively or almost exclusively in intra-regional trade.

The proposal also complies with the Terms of Reference of the Codex Committee on Fresh Fruits and Vegetables (CCFFV):

a) To elaborate worldwide standards and codes of practice as may be appropriate for fresh fruits and vegetables;

- b) To consult with the UNECE Working Party on Agricultural Quality Standards in the elaboration of worldwide standards and codes of practice with particular regard to ensuring there is no duplication of standards or codes of practice and that they follow the same broad format; and
- c) To consult, as necessary, with other international organizations which are active in the area of standardization of fresh fruits and vegetables.

7. Identification of any requirement for and availability of expert scientific advice

Input will be needed from the Joint FAO/WHO Meetings on Pesticide Residues (JMPR) as there is no MRL for pesticides for lucuma (*Pouteria lucuma* R & P of the *Sapotaceae* family).

8. Identification of any need for technical input to the standard from external bodies

Technical assistance from the JMPR, WHO and FAO to consolidate the scientific advice mentioned above in Section 7, as appropriate.

9. Proposed time-line for completion of work

DATE	PROGRESS AND STEP
November 2008 CCLAC	Peru – Presentation of the proposal. CCLAC – Agreement to initiate new work on formulation of a standard for lucuma (proposed draft Codex standard for lucuma)
June/July 2009 CCEXEC/CAC	CCEXEC – Critical review: Recommendation to begin new work on the lucuma standard (proposed draft Codex standard for lucuma) CAC – Approval of new work. Circulation of proposed draft for comments at Step 3.
November 2010 CCLAC	CCFFV – Review of proposed draft standard at Step 4.
June/July 2011 CCEXEC/CAC	CCEXEC – Critical review: Recommendation to adopt proposed draft standard at Step 5. CAC – Adoption of proposed draft standard at Step 5. Circulation of draft standard for comments at Step 6.
November 2012 CCLAC	CCLAC – Consideration of draft standard at Step 7.
June/July 2013 CCEXEC/CAC	CCEXEC – Critical review: Recommendation to adopt draft standard at Step 8. CAC – Adoption of draft standard at Step 8 = Codex Regional Standard for Lucuma