CODEX ALIMENTARIUS COMMISSION E



Food and Agriculture Organization of the United Nations



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Agenda Item 9

CX/SCH 15/02/9-Add.1

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON SPICES AND CULINARY HERBS Second Session Goa, India, 14 – 18 September 2015 PROPOSAL FOR NEW WORK

Replies to CL 2013/22-SCH by Argentina

Background

This CX/SCH 15/02/9-Add.1 document compiles an updated proposal for new work on paprika¹ that CCSCH1 agreed to hold due to the need to clarify with CCFFV and CCPFV as to whether paprika was in their work plan. CCSCH1 also agreed to reconsider the proposal at its next session in light of the clarification provided by CCFFV and CCPFV. The response to this question is provided in document CX/SCH 15/02/02.

¹ CX/SCH 14/1/6, REP14/SCH, para 60

ANNEX1

PROJECT DOCUMENT

PROPOSAL FOR NEW WORK ON A CODEX STANDARD FOR PAPRIKA [Capsicum annuum L.]

Proposal submitted by Argentina

1. Purpose and scope of the standard

The scope of the work is to develop a worldwide standard for paprika [*Capsicum annuum* L.] of the *Solanaceae* family to be supplied as ground paprika to consumers after appropriate processing.

The purpose of the standard is to consider the identity and quality characteristics of paprika, to be consumed as ground paprika, in the framework of international trade.

2. Relevance and timeliness

The globalization of the economy, the increase in migratory flows and international tourism, and the growth of world food trade have increased the trade in spices and aromatics. The ethnic consumption has not only facilitated trade in new spices and aromatics that accompany traditional dishes but also has boosted trade in the most known ones.

Therefore, in view of the growing production and global trade of paprika, there is a need to determine standards concerning its identity and quality, essential composition, moisture content, particle size, color, pungency, ash, foreign bodies, etc., thus providing a worldwide frame of reference agreed among countries that produce, market and consume this commodity. Moreover, the development of a Codex standard for paprika will help protect consumer health and promote fair trade practices in accordance with current international agreements.

Capsicum annuum L. comes from the American continent, more specifically Mexico, Bolivia and Peru, and today is grown in all five continents, although the main producers are India and China, which account for approximately 50% of global output.

The countries with demand for paprika are mainly in the American and European continents, accounting for 66% of global imports, led by the United States, Malaysia, Spain, Germany, Japan, Sri Lanka and Mexico.

In Argentina, capsicum for paprika have almost all been grown and processed for more than 70 years in the region of the Valles Calchaquíes. These valleys run from North to South through the provinces of Salta, Tucumán and Catamarca. Their northern limit lies near the boundary of Salta with Jujuy, where they connect with the Quebrada de Humahuaca through the Valle de Lerma. This is a very important crop for regional economies and for the domestic economy of small farmers.

Within the valleys, cultivation and processing of paprika occur almost exclusively in the departments of Cachi, Molinos and San Carlos in Salta; Santa María and Belén in Catamarca; and Amaicha del Valle in Tucumán. There are virtually no paprika farms in other provinces. The country has some 1,500 producers mostly operating in small areas.

The cultivation zone offers excellent agro-ecological conditions for paprika production, including appropriate difference between day and night temperatures to avoid flower drop, luminosity and ambient relative humidity favorable to natural drying, characteristic smell and sweet taste and visual and extractable deep red color, prolonged frost-free period, high daily temperature range, low number of pests which permits wholesome healthy products, clearly differentiated areas with appropriate edaphological conditions and loose soil textures. Water for irrigation comes from melt-water rivers and streams, the subsoil or embankments and reservoirs.

3. Main aspects to be covered

The standard will cover characteristics relating to identity and quality in all aspects, including wholesomeness, hygiene, composition, moisture content, particle size, extractable color, pungency, ash, foreign bodies and labeling, in order to supply a product with the proper characteristics that facilitate consumer protection and fair trade practices. The standard will therefore:

- Establish the minimum requirements for paprika, including quality parameters and other requirements, regardless of class.
- Define classes to classify paprika according to its characteristics.
- Establish quality tolerances.
- Classification
- Include provisions on the marking and labeling of the produce in accordance with the Codex General Standard on the Labeling of Prepackaged Foods.
- Include provisions on contaminants that refer to the Codex General Standard for Contaminants and Toxins in Food and Feed.
- Include hygiene provisions that refer to the Recommended International Code of Practice General Principles of Food Hygiene.
- Methods of Analysis and Sampling

4. Assessment against the criteria for the establishment of work priorities

General criterion

Consumer protection from the point of view of health and food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries.

The new proposed standard will meet this criterion:

- Promoting consumer protection and preventing fraudulent practices,
- Providing greater guarantees of the quality of the product to meet the needs of consumers and the minimum food safety requirements,
- Reaching levels of standardization based on the properties of different varieties, in order to meet the needs of the industry and consumers with accuracy and credibility.

Criteria applicable to commodities

<u>a) Volume of production and consumption in individual countries and volume and pattern of trade between countries</u>

There are no exact figures for production and consumption volumes in individual countries, but there is sufficient evidence to show that the *Capsicum* complex (paprika and chili peppers) ranks third in importance in terms of world production and trade of aromatic spices, after pepper and mustard.

Existing information does however indicate that global trade in paprika has shown sustained growth in the last years, perhaps in relation to an increasing trend towards the consumption of natural foods and the mix of tastes and gastronomic knowledge.

In the international exchange of spices, the first place is taken by peppers, followed by mustard and the complex *Capsicum*, which includes paprika and chili, with a 4% annual growth rate. (Global trade in - 090420 NCM 2011 and 090421/090422 NCM 2012 - Fruits of the *Capsicum* or *Pepper*, dried, crushed or ground, as of 2008: 860 million dollars/year and a 4% annual increase. Source: http://www.smartexport.com.)

In world exports, the complex *Capsicum* has had an average annual growth rate of 5% between 2009-2013, accounting for an average of 1.121 billion dollars a year. (Global exports of - 090420 NCM 2011 and 090421/090422 NCM 2012 - Fruits of the *Capsicum* or *Pimentón* genera, dried, crushed or ground. Source: Comtrade).

On the development of trade, the following data are observed²:

Table 1: Major countries importing fruits of the *Capsicum* or *Pimenta* genera, dried, crushed or ground - In USD millions (Source: <u>http://comtrade.un.org/data/</u>)

Ranking	Importing Country	2009	2010	2011	2012	2013	2009 / 2013 Average	Straight- through Rate
1	United States	202	224	278	305	287	259	42%
2	Malaysia	95	123	136	101	85	108	-10%
3	Spain	68	63	95	85	73	77	8%
4	Germany	63	65	79	66	71	69	12%
5	Japan	46	50	60	56	61	55	31%
6	Sri Lanka	43	44	82	38	49	51	15%
7	Mexico	63	55	55	27	45	49	-29%
	Grand total	915	1,023	1,278	1,151	1,106	1,094	21%

² COMTRADE is a statistical basis consisting of the contributions that each country makes. To date many countries have not updated their 2014 information, therefore data are updated as of 2013, which is the last available year that is complete.

Table 2: Major countries exporting fruits of the *Capsicum* or *Pimenta* genera, dried, crushed or ground (Source: http:// comtrade.un.org/data/)

Ranking	Exporting Country	2009	2010	2011	2012	2013	2009 / 2013 Addition	2009 / 2013 Average	Straight- through Rate
1	India	250	348	496	532	349	1,976	395	40%
2	China	213	191	283	264	249	1,200	240	17%
3	Spain	105	90	116	130	120	562	112	14%
4	Peru	103	97	131	111	91	534	107	-12%
5	Germany	22	28	39	33	40	161	32	78%
6	Mexico	15	23	35	22	46	141	28	195%
	Grand total	928	973	1,308	1,286	1,114	5,608	1,122	20%

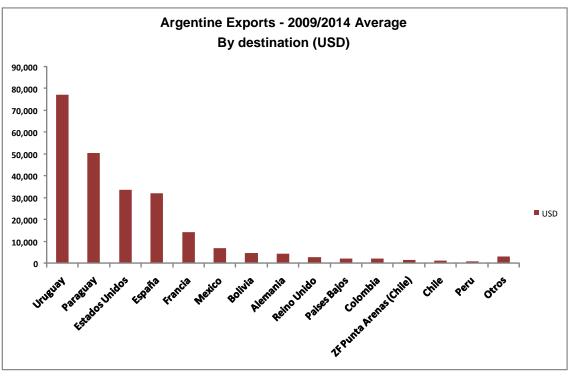
Table 3: Yields of countries exporting fruits of the *Capsicum* or *Pimentón* genera, dried, crushed or ground - In USD millions (Source: <u>http://www.smartexport.com</u>)

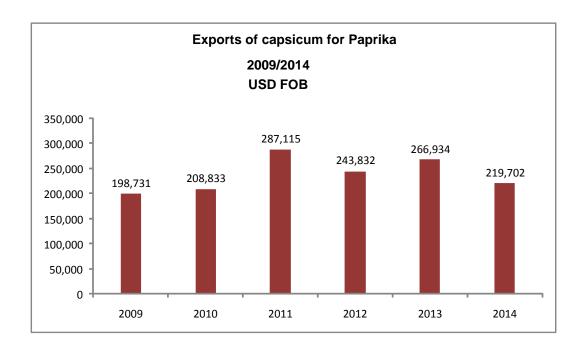
Exporting Country	2009/2013 Average	Share in Total Exports	Average Annual Growth Rate	Straight-through Growth Rate
Grand total	1,122	100%	5%	20%
India	395	35%	9%	40%
China	240	21%	4%	17%
Spain	112	10%	3%	14%

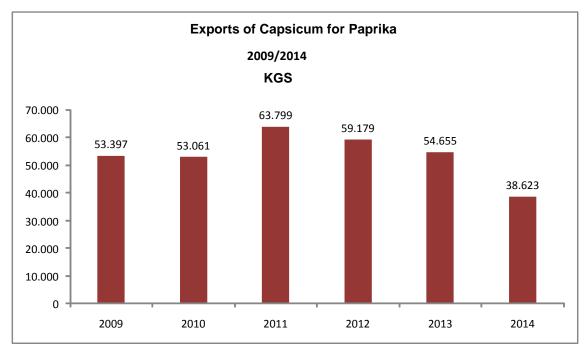
Exports of capsicum for paprika and paprika correspond to subheading 09.04.2 "Fruits of the genus *Capsicum* dried, crushed or ground" of the 2011 Mercosur Common Nomenclature and subheadings 09.04.21 "- Dried, not crushed or ground", 09.04.22 "Crushed or ground" of the 2012 Mercosur Common Nomenclature.

Data on Argentine exports of peppers for paprika and paprika in 2014 indicate a volume of 38.6 tons with an FOB value of USD 219.702. Source: INDEC.

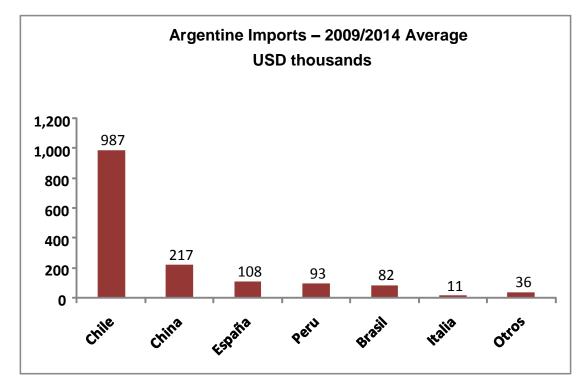
The primary destinations (2009/2013 average) for the Argentine market are the countries of MERCOSUR: Uruguay accounts for 32% of the exported volume, whereas Paraguay holds a 21% share. However, Argentine paprika is also exported to other 20 countries, including Spain, the United States, Cuba, France and Mexico.

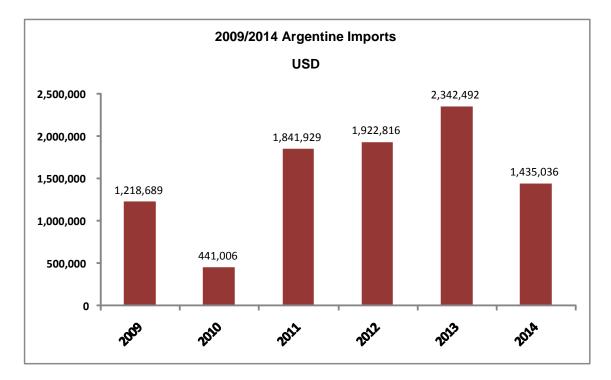






Imports for the 2009-2014 period amounted to 463 tons with a CIF value of USD 1,5 million.





b) Diversification of national legislations and resultant or potential impediments to international trade

At the moment there are no known impediments to trade in paprika, although there are increasing requirements concerning quality and safety parameters for all foods. However, this work would provide recognized specific standards to boost the international trade in this commodity which originates in South America.

The interest shown by countries in seminars and other events in obtaining genuine products of good quality in terms of smell, taste and other characteristics and the resulting benefits to nutrition and health indicates a strong future increase in their consumption and trade.

Given that there exists an international standard for chili peppers as well as work undertaken by other organizations [International Standard ISO/FDIS 7540 Ground paprika (*Capsicum annuum* L.)], a Codex standard is considered necessary and timely in order to integrate criteria into a single internationally acceptable standard. This would reduce possible barriers to trade and would provide a comprehensive legal framework stipulating the minimum internationally acceptable requirements for paprika.

c) International or regional market potential

There has been a noticeable trade increase in international markets in recent years, as illustrated in Tables 1, 2 and 3 above.

International demand for paprika has grown, as a result of the demand from both the food industry and non-food sectors. Paprika oleoresin will continue to grow for a wide range of foods and for the processed food industry, because of the advantages it offers in terms of shipping, storage and longer lifespan.

d) Amenability of the commodity to standardization

The characteristics of paprika from cultivation to harvest, the characteristics of peppers for paprika (its raw material), the varieties of cultivars, composition, quality and packing are conducive to the establishment of appropriate parameters for standardization of the commodity. The standard will include a definition of the product in terms of classes, smell, taste, extractable color, moisture, ash, ether extract, fiber, particle size, foreign matter, contaminants, packaging and presentation.

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards

There is no general standard specifically covering paprika. The new work will strengthen consumer protection and will facilitate trade in paprika by establishing an internationally agreed and recognized quality standard.

f) Number of commodities which would need separate standards including whether raw, semi-processed or processed.

A single standard for ground paprika will cover all varieties traded worldwide.

g) Work already undertaken by other international organizations in this field

There are national standards for paprika and also the International Standard ISO/FDIS 7540 Ground Paprika (*Capsicum annuum* L.).

5. Relevance to the Codex strategic objectives

The development of a Codex standard for paprika reflects the strategic objective of promoting the maximum application of Codex standards by countries in their national legislations, and of facilitating international trade. This proposal is based on scientific considerations and helps stipulate minimum quality requirements for paprika (*Capsicum annuum* L.) intended for human consumption, with the intention of protecting consumer health and ensuring fair practices in food trade. The proposal corresponds to activity 1.2.2 (Review and develop Codex Standards and related texts for food quality) of the 2014-2019 Strategic Plan.

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

This proposal is for a new international standard and has no relation to any other existing Codex text on this issue, except that this standard will make reference to relevant standards and related texts developed by general subject committees. In fact, there is no comparable standard for paprika developed by any global body.

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

For the preparation of this project document, the information generated by the research working group charged at national level with the characterization of paprika has been used as reference. Should additional information be required during the course of drafting this standard, this group or other groups of experts could be consulted.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for

No technical input from external bodies on this matter is expected to be needed.

9. Proposed timeline

DATE	ADVANCE AND PROCEDURES
2 nd CCSCH (September 2015)	Consideration of new work by the 2 nd session of CCSCH
July 2016	Critical review of the new work proposals by the Executive Committee. Approval of the work proposals by CAC39.
3 rd CCSCH	Committee considers draft standard at Step 3.
July 2017	Adoption at Step 5 by CAC40
4 th CCSCH	Consideration at Step 6 by the 4 th Session of CCSCH
July 2019	Adoption of the standard at Step 8 by CAC42

PROPOSED DRAFT STANDARD FOR GROUND PAPRIKA (Capsicum annuum L)

1 SCOPE

This standard apply to the dried fruits of the varieties and cultivars of the plant species *Capsicum annum L.* from the *Solanaceae* family, offered for industrial food production and for directs consumption including for catering purpose or for repacking if required. It does not apply to ground chillies and capsicums.

2 DESCRIPTION

2.1 PRODUCT DEFINITION

Ground paprika is the product:

- a) obtained by grinding the ripe dried fruits of the different varieties of Capsicum annum L of the solanaceae family, haven reached appropriate development for processing.
- b) Processed in an appropriated manner, having undergone operations such as:
 - Washing
 - Cleaning
 - Selection
 - Drying
 - Crushed
 - Grinding
 - Cooled
 - Classification
 - Packing
- c) Ground paprika is prepared from the pericarp and seeds of the paprika fruits. It may contain a variable amount of other parts of the fruits, such as placenta, calyx and stalk.

2.2 STYLES

It may be offered in powder.

2.3 VARIETAL TYPES

Any commercially cultivated variety (cultivar) of Capsicum annum L.. suitable for processing.

3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

Product as defined in Section 2.

3.2 QUALITY FACTORS

3.2.1. INFESTATION:

Ground paprika shall be free from living insects, and practically free from dead insects, insects fragments, rodent contamination and moulds visible to the naked eye.

3.2.2. Odour, flavor and color:

Ground paprika can have pungency or free from pungency; its odour shall be pleasantly aromatic.

It shall be free of any off-taste and off-odours, in particular musty or rancid ones, and from any foreign tastes and odours.

The colour of ground paprika varies according to its quality, from vivid brilliant red through yellowish and brownish-red to pale reddish-brown.

3.2.3. Classification

In according to the Chemical and Physical characteristics (Table 1); to the colour (extractable colour expressed in ASTA colours units) and of the degree of pungency, the ground paprika are classified into the following grades:

Extra

Grade I/Cat I

Grade II/Class II

3.2.4 Chemicals and physical characteristics:

Table 1 – Physical and chemical Characteristics & Requirement of ground paprika

Characteristics	Extra	Grade I/Cat I	Grade II/Cat II	Test methods
Humedad (% máximo)	12	12	12	A 50°C y al vacío
Cenizas totales	8	9	10	ISO 928
(% máximo)				Cenizas a 500-550 Cº, sobre sustancia seca
Cenizas	0,7	1	2	En HCl al 10%
insolubles (% máximo)				ISO 930
Extracto etéreo	15	18	20	Sobre sustancia seca
(% máximo	náximo		ISO 1108	
Fibra bruta (% máximo	23	26	31	Sobre sustancia seca
Color ASTA	120	90	70	ISO 7541
³ (mínimo)				ASTA methods
Materias extrañas (% máximo)	1	1	1	m/m
Partes foraneas (% maxino)	0,1	0,1	0,1	m/m
Capsaicin content/	30	30	30	ASTA 21.3
Scoville value	450	450	450	

3.2.5. Pungency

The ground paprika classifies in four degrees as specified in Table 2:)

Table 2. Clasification of degree of pungency

Degrees of	Capsaicin content,	Scoville value
pungency (1)	μg/g (maximun values)	(µg/g x15)
Sweet	< 30	< 450
Sligtly pungent	30-50	450-750
pungent	50-80	750-1200
Very pungent	>80	>1200

(1) Pungency measurement can be performed in Scoville units being fifteen (15) equivalent to a Scoville units (1) microgram per gram of paprika capsaicin.

3.3 CLASSIFICATION OF "DEFECTIVES"

The lot sample that fails to meet one or more of the applicable quality requirements, as set out in Section 3.2 (except those based on sample averages), should be considered as "defective lot".

3.4 LOT ACCEPTANCE

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.2 when the number of "defectives", as defined in Section 3.3, does not exceed the acceptance number (c) of the appropriate sampling plan, as described in Section 11. For factors evaluated on a sample average, a lot will be considered acceptable if the average meets the specified tolerance, and no individual sample is excessively out of tolerance.

³ Estos valores de color ASTA se refieren al pimentón de molienda reciente.

4 FOOD ADDITIVES

"No flavourings and colouring are permitted in the products covered by this standard.

5 CONTAMINANTS

- 5.1 The products covered by this Standard shall comply with the maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995).
- 5.2 The products covered by this Standard shall comply with the maximum residue limits for pesticides and/or veterinary drugs established by the Codex Alimentarius Commission.

6 FOOD HYGIENE

- 6.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice General Principles of Food Hygiene (CAC/RCP 1-1969), the Code of Hygienic Practice for Spices and Dried Aromatic Herbs (CAC/RCP 42-1995) and other relevant Codex texts.
- 6.2 The products should comply with all microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7 WEIGHTS AND MEASURES

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

8 MARKING OR LABELLING

8.1 The products covered by the provisions of this Standard shall be labelled in accordance with the Codex General Standard for the Labelling of Pre-packaged Foods (CODEX STAN 1-1985). In addition, the following specific provisions apply:

8.2 NAME OF THE PRODUCT

- 8.2.1 The name of the product shall be "Ground Paprika".
- 8.2.2 The nature of the product may include an indication of the style as described in Section 2.2.
- 8.2.3 Commercial Identification
 - Grade
 - Size
 - Variety
 - Net weight
- 8.2.4 Inspection mark (optional)

8.3 LABELLING OF NON-RETAIL CONTAINERS

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, distributor or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9 PACKAGING AND STORAGE

The materials used inside the package must be new, clean, food-grade quality and to avoid causing any external or internal damage to the produce. It must protect the product quality and safety during transport and storage. To avoid condensation, a container that is permeable to air shall be used for packing and storing bulk material. Bulk materials should be stored in a clean dry, ventilated room, free from infestation and not exposed to direct sunlight.

10 METHODS OF ANALYSIS AND SAMPLING

Table 8			
Provision	Method	Principle	Туре
Moisture content, % (m/m) max.	AOAC Official methods-986.21/ ISO 939:1980	Distillation	I
Total ash % (m/m) max. on dry basis.	AOAC Official methods-941.12/ ISO 928:1997	Gravimetry	I
Volatile oils % (ml/100 g) min, on dry basis.	AOAC Official methods-962.17/ ISO 6571:2008	Distillation	I
Non-volatile ether extract (m/m) % min., on dry basis.	ISO 1108 AOAC Official methods-940.29	Soxhlet extraction	I
Acid-insoluble ash, % (m/m) max on dry basis.	AOAC Official methods-941.12/ ISO 930:1997	Gravimetry	Ι
Crude fiber, insoluble index % (m/m) max on dry basis.	AOAC Official methods-920.169/ISO 5498	Gravimetry	I
Natural colouring matter, ASTA colour units (minimum values)	ISO 7541		
Scoville determination	ISO 3513:77		
Capsaicin content	Asta 21.3		
Foreign matter	ISO 927:2009	Visual examination	
Extraneous matter, % (m/m) max	ISO 927:2009	Visual examination	IV

SAMPLING PLAN

The appropriate level of inspection is selected as follows :

- Inspection Level I Normal Sampling
- Inspection Level II Disputes (sample size for the purposes of Codex reference), application or need for better lot estimate.

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Lot Size (N)	Sample size (n)	Acceptance number (c)
4.800 or less	6	1
4.801 - 24.000	13	2
24.001 - 48.000	21	3
48.001 - 84.000	29	4
84.001 - 144.000	38	5
144.001 - 240.000	48	6
more than 240.000	60	7
NET WEIGHT GREATER THAN 1	KG (2.2 pounds) but not more th	nan 4.5 kg (10 lb)
Lot Size (N)	Sample size (n)	Acceptance number (c)
2.400 or less	6	1
2.401 - 15.000	13	2
15.001 - 24.000	21	3
24.001 - 42.000	29	4
42.001 - 72.000	38	5
72.001 - 120.000	48	6
More than 120.000	60	7
NET WEIGHT GREATER THAN 4	.5 KG (10 pounds)	
Lot Size (N)	Sample size (n)	Acceptance number (c)
600 or less than	6	1
601 - 2.000	13	2
2.001 - 7.200	21	3
7.201 - 15.000	29	4
15.001 - 24.000	38	5
24.001 - 42.000	48	6
more than 42.000	60	7

Sampling Plan 2 (Inspection	Level II, AQL = 6.5)	
NET WEIGHT IS EQUAL TO	O OR LESS THAN 1 KG (2.2lbs)	
Lot Size (N)	Sample size (n)	Acceptance number (c)
4.800 or less than	13	2
4.801 - 24.000	21	3
24.001 - 48.000	29	4
48.001 - 84.000	38	5
84.001 - 144.000	48	6
144.001 - 240.000	60	7
more than 240.000	72	8

NET WEIGHT GREATER T	HAN 1 KG (2.2 pounds) but not mo	re than 4.5 kg (10 lb)
Lot Size (N)	Sample size (n)	Acceptance number (c)
2.400 or less than	13	2
2.401 - 15.000	21	3
15.001 - 24.000	29	4
24.001 - 42.000	38	5
42.001 - 72.000	48	6
72.001 - 120.000	60	7
more than 120.000	72	8
HIGHER NET WEIGHT 4.5	kg (10 lb)	
Lot Size (N)	Sample size (n)	Acceptance number (c)
600 or less than	13	2
601 - 2.000	21	3
2.001 - 7.200	29	4
7.201 - 15.000	38	5
15.001 - 24.000	48	6
24.001 - 42.000	60	7
More than 42.000	72	8