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DISCUSSION PAPER ON PEANUT OIL FATTY ACID COMPOSITION AND OTHER QUALITY FACTORS

(Prepared by Argentina)

INTRODUCTION AND BACKGROUND

1. Argentina submits this document with the purpose of discussing the revision of the limits of some fatty acid composition profiles of peanut oil and other related quality factors, so the adjustment of these parameters help represent reliably the worldwide variability of peanut oils currently traded.
2. At present, the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) sets some fatty acid composition values for Arachis oil (peanut oil; ground oil), which do not reflect the situation of the oils currently produced in Argentina. Considering that Argentina is one of the leading exporters of crude peanut oil, we believe it pertinent to make a revision of the parameters of fatty acids and, therefore, of iodine value and relative density, since current parameters do not take into account the variability of Argentina peanut oil production, and consequently, fail to reflect the reality of international trade.
3. Argentina considers that the revision and subsequent amendment of the parameters being questioned will enable Codex Members, the food industry and processors to classify as "peanut oil" those oils whose quality and composition values currently fall outside the Codex Standard and, as a result, to trade them properly and in a facilitated manner, thus fulfilling the goal 1.6 of the Codex Strategic Plan, which establishes that standards should be developed taking into account global variability.
4. In Argentina, about 418,000 hectares of peanuts are sown and most of this production is exported, consolidating our country as one of the leading exporters of top-quality peanuts, which are demanded by the world's major markets. In 2013, Argentina exported some 518,000 tons of peanuts, out of which 40,804 tons corresponded to peanut oil.
5. At present, peanut varieties with high content of oleic acid are used in approximately 60% of the total sown area in Argentina, and it is expected that, in the coming years, this percentage will increase, due to the tendency to obtain a better quality product with recognized health benefits resulting from higher monounsaturated levels.
6. In this way, higher quality oils are obtained and this is reflected in the fatty acid composition. Consequently, this generates some quality and authenticity parameters for peanut oils which do not fall within the scope of the Standard, thus hindering international trade in this product.
7. This has been proved by studies conducted by the National Institute of Agricultural Technology (INTA), the Argentina Peanut Foundation and the Argentina Peanut Board in "Characterization of the Quality of the Argentina Confectionery Peanut. Chemical and Nutritional Composition. Fatty Acid Profile. Crop Years 2007, 2008 and 2010", and by the study published in *Revista Aceites y Grasas (Fats and Oils Journal)*, 2008: "An Overview of the Different Denominations from their Acidic Composition in Dissimilar Species of Vegetable Oils. Sunflower and Peanut Oil."² In these studies, the variability in terms of the fatty acid composition of the varieties used in Argentina is proved, showing that a large proportion of the oils produced is not covered by the *Standard for Named Vegetable Oils*.
8. Also, different importers, having recognized the quality of Argentina oils and expressed their interest, admitted this situation and suggested, through their representative institutions, the use of ranges similar to those proposed in this document.

¹ <http://www.alimentosargentinos.gov.ar/contenido/sectores/aceites/documentos/031.pdf>

² <http://www.alimentosargentinos.gov.ar/contenido/sectores/aceites/documentos/032.pdf>

9. It should be borne in mind that Codex Alimentarius Standards constitute the international reference for the WTO in the field of food and, therefore, should be revised to ensure that the parameters applied are consistent with global variability; without a scientific basis, current parameters are discriminating Argentina peanut oils unreasonably.

10. One of the Codex Alimentarius mandates is the commitment to revise, where appropriate, the standards and related texts in the light of new scientific knowledge and other relevant information, in order to represent the global variability of foodstuffs and avoid further restrictions on trade than necessary.

11. It should be stressed that, in the coming years, this problem is expected to be considerably magnified due to the increase in the use of varieties with high oleic acid content, which will cause technical barriers to trade in peanut oil.

12. In this regard, Argentina believes that this legitimate concern should be addressed in the context of the Codex Alimentarius, in order to amend the parameters of the fatty acid profiles and other quality factors, always on a scientific basis and supported by serious studies, such as those conducted by Argentina in this regard.

PARAMETERS CONCERNED

13. In particular, Argentina suggests the revision of the following parameters, which currently differ from the *Standard for Named Vegetable Oils* :

Fatty acids:

C16:0 (Palmitic acid), C18:1 (Oleic acid), C18:2 (Linoleic acid), C20:0 (Arachidonic acid), C20:1 (Eicosenoic acid) and C22:1 (Erucic acid).

Other quality factors:

Iodine value

Relative density at 20°C

14. The following is the comparison between Argentina's proposal and the Codex Standard (modified limits are in bold):

Fatty Acid Composition Profile of the Peanut Oil

Fatty acids	Argentina's proposal	CODEX-STAN 210
C16:0 (palmitic acid)	5.0-14.0	8.0-14.0
C16:1	ND-0.2	ND-0.2
C18:0	1.0-4.5	1.0-4.5
C18:1 (oleic acid)	35.0-80	35.0-69.0
C18:2 (linoleic acid)	4.0-43.0	12.0-43.0
C18:3	ND-0.3	ND-0.3
C20:0 (arachidic acid)	0.7-2.0	1.0-2.0
C20:1 (Eicosanoic acid)	0.7-3.2	0.7-1.7
C22:0	1.5-4.5	1.5-4.5
C22:1 (erúsic acid)	ND-0.55	ND-0.3
C24:0	0.5-2.5	0.5-2.5
C24:1	ND-0.3	ND-0.3

Other quality parameters:

Iodine value

Codex: 86-107

Argentina's proposal: 77-107

Relative density

Codex: 0.912-0.920 $x=20^{\circ}\text{C}$

Argentina's proposal: 0.909-0.920 $x=20^{\circ}\text{C}$

CONCLUSIONS

15. Argentina has developed this proposal to amend the *Standard for Named Vegetable Oils* because, at present, there is a production of peanut oil whose national and global variability in terms of fatty acid composition is not reflected in the current Standard.

16. Argentina is one of the world's leading exporters of peanut oil and believes it important to address this issue in the CCFO, in view of the oils derived from new peanut varieties grown in Argentina.

17. To this end, and based on supporting scientific studies on the acid composition profile, Argentina suggests amending the *Standard for Named Vegetable Oils*.

APPENDIX I

**PROJECT DOCUMENT FOR AMENDING
FATTY ACID COMPOSITION AND OTHER QUALITY FACTORS OF PEANUT OIL IN
THE STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999)**

1. Purpose and scope of the standard

The purpose of this new work is to revise the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999), in order to modify some acid composition profiles of peanut oil and the corresponding quality factors, with the aim of supporting, through the introduction of such adjustments, the variability of peanut oils currently traded that fall outside the standard.

Argentina, as one of the world's main exporters of crude peanut oil, has noticed that there are genuine Argentine peanut oils in the market that are not covered by the *Standard for Named Vegetable Oils* and, consequently, cannot be classified, even when they come from certified peanut seeds.

In particular, deviations are noticed in the following fatty acids: C16:0 (Palmitic acid), C18:1 (Oleic acid), C18:2 (Linoleic acid), C20:0 (Arachidonic acid), C20:1 (Eicosenoic acid) and C22:1 (Erucic acid).

In addition, the authenticity parameters should be adjusted:

- Iodine value
- Relative density

The aim of this new work is to revise the composition and quality parameters that define peanut oil, proposing the characterization of the fatty acids mentioned, as well as their respective values of physical and chemical characteristics.

2. Relevance and timeliness:

Argentina is one of the few countries in the world that produce high quality peanuts for human consumption and, consequently, a peanut oil of great quality and taste, whose properties as food are highly beneficial and which is an important input for the food industry of snacks and confectionery.

An important aspect of Argentine peanut oils in terms of their nutritional quality is that, in recent years, the use of varieties with higher oleic acid content has increased, with a strong tendency to rise in subsequent crop seasons. This makes the resulting oil have an acid profile not currently covered in the Codex Standard.

In order to ensure a regional and/or international trade that is fair, dynamic and transparent, it is essential that Codex consider amending the parameters related to the content of fatty acids, with a view to providing a framework adapted to the peanut oils currently traded and consistent from the stoichiometric calculation point of view, thus supporting the concept of genuineness and associated quality factors.

3. Main aspects to be covered

The proposed new work to amend parameters of Arachis oil in the *Standard for Named Vegetable Oils* will be conducted under the existing procedures for Codex standards and will include, among others, the following:

- Essential composition and quality factors;
- Tables with the characteristic fatty acid composition;
- Other quality and composition factors.

Profile of fatty acid composition for peanut oil

Fatty acids	Argentina's proposal	CODEX-STAN 210
C16:0	5.0-14.0	8.0-14.0
C16:1	ND-0.2	ND-0.2
C18:0	1.0-4.5	1.0-4.5
C18:1	35.0-80	35.0-69.0
C18:2	4.0-43.0	12.0-43.0
C18:3	ND-0.3	ND-0.3
C20:0	0.7-2.0	1.0-2.0
C20:1	0.7-3.2	0.7-1.7

Fatty acids	Argentina's proposal	CODEX-STAN 210
C22:0	1.5-4.5	1.5-4.5
C22:1	ND-0.55	ND-0.3
C24:0	0.5-2.5	0.5-2.5
C24:1	ND-0.3	ND-0.3

Other quality parameters

Iodine value

Codex: 86-107

Argentina's proposal: 77-107

Relative density

Codex: 0.912-0.920 x=20°C

Argentina's proposal: 0.909-0.920 x=20°C

4. An Assessment against the Criteria for the establishment of work priorities

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

This proposal is intended to revise the values detailed in item 3) with a view to providing proper information about the composition of the genuine product, taking into account world variability.

a) Volume of production and consumption in individual countries, and volume and pattern of trade between countries.

Argentina exports most of its total production of peanuts. The total area planted is about 418,000 hectares. In 2013, Argentina exported about 518,000 tons of peanuts and some 40,804 tons of peanut oil to major markets worldwide.

About 60% of Argentine peanut exports go to the European Union (mainly the Netherlands, Germany, United Kingdom, Spain, Italy, Greece and France), and the rest is divided between the United State of America, United Arab Emirates, South Africa, Australia, Chile, Russian Federation, Algeria, Ukraine, China, Vietnam, Turkey, Israel, China (Hong Kong SAR) and other countries.

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

In recent years, due to the use of new peanut varieties, the genuine peanut oil obtained has presented a fatty acid composition and quality parameters that do not fall within the values set by the Codex Standard. Several countries base their legislation on the Codex standard, which could become a barrier to the trade in Argentine peanut oil.

The proposed amendment to the *Standard for Named Vegetable Oils* will help provide a harmonized international approach to quality and compositional factors and will facilitate world trade in peanut oil.

c) International or regional market potential

There is a peanut oil market highly valued at regional and international levels that is affected by problems arising from the formal classification of the the *Standard for Named Vegetable Oils*, which leads to difficulties in trade.

The following are statistics of peanut oil in tons:

Global production, imports and exports of peanut oil

(thousands of tons, January/February)

	2.009	2010*	2011	2012*	2013*
Production					
China	1,903.9	2,034.3	2,015.0	2,029.0	1,955.0
India	819.7	650.0	646.0	447.0	348.0
Nigeria	276.0	291.4	273.0	300.0	316.0
Sudan	161.8	178.5	158.0	154.0	158.0

	2.009	2010*	2011	2012*	2013*
Production					
Senegal	125.4	164.0	211.0	112.0	121.0
USA	65.2	73.0	86.0	91.0	96.0
Argentina	80.6	53.0	38.0	58.0	57.0
Myanmar	221.5	236.7	244.0	234.0	225.0
Vietnam	31.0	28.3	47.0	na	na
Other	565.2	549.6	469.0	605.0	632.0
Total	4,250.3	4,258.8	4,187.0	4,030.0	3,908.0
Importers					
EU	83.6	83.5	79.0	62.0	68.0
USA	33.6	26.2	15.0	9.0	19.0
China	20.7	68.5	61.0	64.0	61.0
China (Hong-Kong SAR)	11.9	16.3	12.0	8.0	8.0
Other	27.3	32.3	29.0	27.0	36.0
Total	177.1	226.8	196.0	170.0	192.0
Exporters					
Senegal	30.9	57	58	14	12
Argentina	82.1	60.4	37	57	55
Brazil	31.1	23.5	23	38	63
China	9.8	7.8	9	8	7
India	2	0.4	7	18	5
Other	49.9	60.4	56	54	54
Total	205.8	209.5	190	189	196

* Estimated

Source: OilWorld / United Nations Commodity Trade Statistics Database (Comtrade) / FAOSTAT

Main destinations of Argentine exports

% of total	2010	2011	2012	2013
China	39	50	61	43
Netherlands	30	9	12	30
USA	22	27	6	24
China (Hong Kong SAR)	2	6	5	2,0
Spain	-	-	-	0,3
Others	7	9	16	0,7
Total	100	100	100	100

Source: INDEC

d) Amenability of the commodity to standardization

The commodity is already standardized by the CCFO. It is proposed to amend the fatty acid profiles with the aim of covering the peanut oil currently traded. It is also proposed to revise the quality parameters of the iodine value and relative density at 20°C.

The proposed amendments are based on solid scientific studies and analytical data, which support the justification for amendment to the *Standard for Named Vegetable*. The following studies are available:

- *Characterization of the Chemical and Sensory Properties of Argentine Confectionery Peanuts for the Determination of the Designation of Origin. National Institute of Agricultural Technology (INTA), 2007.*
- *Phyto-biological Characterization of Peanuts Produced in the Province of Córdoba - Chemical Composition and Nutritional Attributes of the Product with the Designation of Origin "Córdoba Peanuts" - Second Phase. INTA, 2009.*
- An overview of the different "denominations", from their acidic composition in dissimilar species of vegetable oils. Sunflower and peanut oil. A&G 72, Volume XVIII, No. 3, 676-687, 2008.
- Characterization of the Quality of Argentine Confectionery Peanuts. Chemical and Nutritional Composition. Fatty Acid Profile. INTA - Argentine Peanut Board - Argentine Peanut Foundation³.

³ <http://www.alimentosargentinos.gov.ar/contenido/sectores/aceites/documentos/031.pdf>

These studies specifically show that, in the characterization of the composition and quality parameters of peanut oil, it is noted that, in many cases, the value ranges of the different parameters fall outside Codex Standards, thus supporting the proposed request for amendment.

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

As mentioned above, the amendment to parameter of Archis Oil in the *Standard for Named Vegetable Oils* will improve the information available to consumers, in addition to ensuring fair practices in the trade of these oils.

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

Not relevant.

g) Work already undertaken by other international organizations in this field and/or suggested by

None known.

5. Relevance in relation to Codex strategic objectives

The proposed amendment to the *Standard for Named Vegetable Oils* is relevant to Goal 1, Promoting Sound Regulatory Frameworks.

It states that "the CAC will provide essential guidance for its members through the continued development of international standards and guidelines relating to food safety and hygiene, nutrition, labelling, and import/export inspection and certification and quality of the food stuff."

The Goal stresses that "Codex standards and related texts for food safety and quality, including labelling aspects, should be carefully prepared to reflect global variations. Codex standards for food quality should focus on essential characteristics of products to ensure that they are not overly prescriptive and that the standards are not more trade restrictive than necessary."

The proposed amendment to the *Standard for Named Vegetable Oils* will facilitate fair trade in peanut oil, preventing genuine oils from being left out of the Standard.

6. Information on the relationship between the proposal and existing Codex documents

Codex has developed standards for almost all edible fats and oils, including:

- *General Standard for Edible Fats and Oils not Covered by Individual Standards* (CODEX STAN 19-1981).
- *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981]
- *Standard for Named Animal Fats* (CODEX STAN 211-1999)

7. Identification of any Requirement for and Availability of Expert Scientific Advice

None identified.

8. Identification of any Need for Technical Input to the Standard from External Bodies so that this can be Planned for

None identified.

9. Proposed Timeline for Completion of the New Work, Including the Start Date, the Proposed Date for Adoption at Step 5/8, and the Proposed Date for Adoption by the Commission

- Approved as new work by the CAC38 in 2015
- Proposed draft amendments considered at step 4 by the CCFO25 in 2017
- Adopted at Step 5/8 in the CAC40 in 2017.