


TRADUCCIÓN PÚBLICA (TRANSLATION)

[The following heading appears in the following fourteen pages of the original document].-

There is a logotype: “Argentine Food” – A Natural Choice”. [According to its Spanish version: “Alimentos Argentinos, Una Elección Natural”] -----

Secretariat of Agriculture, Livestock, Fishing and Food. Undersecretariat of Agricultural Policy and Food. National Food Administration.	QUALITY PROTOCOL PREMIUM PRODUCTS	
Code: SAA010	Version: 07	08.05.2007

QUALITY PROTOCOL FOR FRESH ASPARAGUS [According to its Spanish version] **PROTOCOLO DE CALIDAD PARA ESPÁRRAGO FRESCO** -----

DATE OF MAKING IT OFFICIAL: 22nd of October, 2007. -----

SAGPYA RESOLUTION: 249/2007. -----

INTRODUCTION -----

1.Scope -----

This protocol defines the quality attributes of asparagus that want to use the Seal “Argentine Food” – A Natural Choice”. -----

The purpose of this document is to provide Argentinian asparagus’ manufacturers an additional tool for obtaining products of a special quality.-----

As this document is dynamic, this protocol will be able to be periodically reviewed based on the needs coming from the state or private field. -----

The producers having the ambition to apply this protocol should take into account that the fulfillment of these regulations in force on Good Manufacturing Practice for packaging room is implicit, conditions for fresh vegetables and packages, being understood that they are the ones described in the Argentinian Food Code (Código Alimentario Argentino) (according to its initials in Spanish) (Chapter I “General Provisions”- GMC Resolution N°080/96 included in the Code for MSyAS Resolution N°587/97; Chapter XI “Vegetable

Food"- section 845, Section 845bis and Section 930; Chapter IV "Elements, vessels, packages, wrapping, apparatus and devices; Chapter V "Rules for the labeling and advertising of food"). -----

2.General criteria -----

The differentiating attributes for asparagus come from the information given by the company that presented the first file on this product, in order to obtain the Seal "*Argentine Food*" – *A Natural Choice*", from the information collected and resulting from the investigation issued by different institutions, of the Ruling (EC) N°2377/1999, Codex Rule STAN 225-2001, Emd. 1-2005, Mexican Rule NMX-FF-0092-1982 Non industrial food products for human use –Fresh Vegetables– Asparagus, PC-036-2005 List of conditions for the use of the Mexican official trademark supreme quality in asparagus.-----

The companies marketing asparagus deal with the product attributes adapted to each buyer market, but the same criteria have been used so that the requirements defining an extra quality for this vegetable are considered in this document. The destiny markets whose requirements have been included in this protocol are U.S.A., United Kingdom, Canada, Holland, Brazil, Italy, Spain, France and Germany. -----

3.Foundation of the differentiating attributes -----

Product attributes -----

The characteristics that the product should have to be considered differentiated are included in this document, so that it is preserved from harvest and the best sanitary and organoleptic conditions of fresh asparagus are reached. -----

In order to obtain this, these attributes are based on the technical knowledge related to the field, manufacturing companies and the requirements of the Argentinian destiny markets based on the classification "extra category". Special references to physical, biological and chemical parameters have been considered, establishing the maximum ranges and tolerances per attribute according to the case. -----

Process attributes -----

Quality attributes are defined as regards the asparagus production, the application of Agriculture Good Practice (AGP) and Good Manufacturing Practice (GMP), from its production to its commercialization. -----

On the other side, the conditioning, storage and transportation characteristics should be observed to guarantee their function as regards the shelf life of the product. -----

Package attributes -----

Pursuant to the rules in force for packages in general, as regards this product, the characteristics that assure the integrity and the conditions of humidity of the product necessary for its optimum preservation are considered. -----

PRODUCT DIFFERENTIATING ATTRIBUTES -----

1- Cultivation -----

This protocol shall be applied to *Asparagus officinale* L. turions, from the Asparagaceae family corresponding to green asparagus. -----

Some varieties, recommended to appropriately fulfill the requirements that follow this protocol, are the following: -----

UC157F-1 -----

Atlas -----

Apolo -----

Big -----

Jersey Knight -----

Jersey King -----

2- General requirements -----

Characteristics of the fruits to consider: -----

- Well developed: so that it resists handling and transportation to get to their destination in good condition -----
- Firm consistency -----
- Shape, colour, taste and odour according to variety -----
- Fresh -----
- Whole, clean and healthy -----
- Compact head and well closed -----
- Free of rotting -----
- Free of mechanical damages -----
- Free of spots or frost traces -----
- Free of ruined stalk and without any flowering -----
- Free of damages caused by plagues, alive insects and diseases -----
- Free of foreign material (powder, chemical residues, etc.) -----
- Of uniform size and caliper -----

3- Specific Requirements -----

3.1 Ripeness -----

The asparagus should have a degree of minimum ripeness. The degree of physiological ripeness is obtained when the product presents: variety typical of the variety, taste from medium to strong, turion characteristic flavor and texture. -----

The asparagus should be harvested when they reach the appropriate state for its commercialization characterized by the following parameters: -----

- 17 cm minimum length -----

- Compact turion head -----

3.2 Shape -----

The shape should be typical to variety, the turions should be straight, and no curvature of the apex shall be admitted.-----

3.3 Structure -----

The turions shall present terminal buds and bracts completely closed, and are free of lignification signs.-----

3.4 Color -----

The maximum tolerance for green asparagus as regards the white color is of 4 cm from the bottom. -----

3.5 Size specifications -----

The size of the asparagus is determined by its turion equatorial length and/or diameter. This will allow its classification in different possible calipers. -----

Calipers: (2 cm diameter from the bottom)-----

1. **S:** 6 - 9 mm. -----

2. **M:** 9- 12 mm. -----

3. **L:** 12 – 16 mm. -----

4. **XL:** 16 - 18 mm. -----

5. **Jumbo:** > 18 mm. -----

With reference to caliper, allowed quality tolerance shall be of 10% of the weight or amount of the bundle, being accepted a maximum difference of 2 mm. -----

Length-----

1- Long asparagus: shall be between 17 and 23 cm. -----

2- Asparagus ends: shall be between 12 and 17 cm. -----

With reference to length, allowed quality tolerance shall be of 10% of the weight or amount of the bundle, being accepted a maximum difference of 1cm. -----

3.6 Dessication -----

No dessication traits are admitted in the asparagus bundles. It is visually determined.-----

3.7 Diseases -----

Disease symptoms of the product are not accepted. It is visually determined.-----

3.8 Mechanical damage -----

No mechanical damage is admitted on the surface since the lesions may compromise the shelf life of the product. It is visually determined. -----

3.9 Rotting damage -----

No rotting is admitted in the surface of the product. It is visually determined. -----

3.10 Frost damage -----

No spots produced by frosts. They are visually determined. -----

4. Chemical contaminants -----

In relation with chemical contaminants authorized agrochemical control for this product are required, pursuant to the following maximum limits of residues (MLR): -----

ACTIVE INGREDIENT	USAGE	MLR (mg/Kg.)
BENTAZON -----	Herbicide -----	0.1 -----
CARBENDAZIM -----	Fungicide -----	0.1 -----
ENDOSULFÁN -----	Insecticide -----	0.05 -----
ZINEB -----	Fungicide -----	0.05 -----

Reference Methodology: AOAC 59-1020, 1975. -----

Note: The mentioned plaguicides are authorized for asparagus either in our country or in the European Union (main destiny market). -----

Important: -----

In case of performing other determinations due to external demands or due to internal controls of the company that are not mentioned in this protocol, a photocopy of the related records (internal and/or external) shall be attached when the audit corresponding to the system “Seal Argentine Food, A Natural Choice” is being carried out. Furthermore, the trademark requesting party shall present the documents giving information about the analyses and supporting the sampling method that was used. In all cases recognized official techniques shall be used. -----

PROCESS DIFFERENTIATING ATTRIBUTES -----

Innocuity assurance systems -----

The producers of asparagus having the ambition to use the Seal “Argentine Food” – A Natural Choice” should take into account the fulfillment of Good Agricultural Practice¹ in a farm and Good Manufacturing Practice (GMP) in the packing site. -----

Conditioning characteristics -----

- Harvest: transversal and net cut -----

The cut at the bottom of the turions shall be appropriate to avoid the erosion at the bottom or the presence of fibrous threads. -----

However, to improve the way they are supplied when the asparagus are packed in bundles, those that are placed in the external part they shall have to be lightly beveled, unless the beveling shall not be superior than 1 cm. -----

- Washing -----
- Quality and caliper selection -----
- Bundle formation -----
- Packaging -----
- Hydrocooling -----
- Palleting -----

It is recommended that the above mentioned conditioning processes are carried out during a period not longer than 24 hs, since it would imply an accelerated loss of the product quality. -----

Transport and Storage Characteristics -----

- **Relative Humidity (RH%):** greater than 95% -----
- **Temperature:** 2-4°C -----
- **Shelf life:** Once this process is finished, product shelf life is guaranteed from 10 to 15 days (harvest-consumption). -----

¹Reference rules: SAGPyA Resolution N° 71/1999, EurepGAP, etc.-----

The storage should not be performed together with fruits and/or vegetables producers of ethylene, since this storage damages the asparagus quality. -----

It is of great importance to keep the cold chain of trucks cooled up to their arrival at the departure chambers and to use thermal blankets during the air travel, in case the product shall be exported. -----

Records shall be carried out to control the temperature of the chambers where the product is stored and of the thermal trucks during its transport. -----

Important: The product mentioned in this protocol and the SAGPyA Resolution N° 392/05 shall be correctly separated and identified from the lots and loads, so that they guarantee the handling of the products separated from the rest of the products without the protection of the Seal shall be guaranteed. In order to obtain this, the company shall need to have the documents and records that support the goods bearing the label of the trademark. -----

PACKAGE DIFFERENTIATING ATTRIBUTES -----

- **Package characteristics** -----

The packages used for the packaging should be free of foreign materials and odors and should satisfy the quality, sanitation, ventilation and resistance characteristics required for assuring appropriate handling and distribution, keeping its original properties. -----

The asparagus may be supplied in primary packages placed in lines or in bundles firmly wrapped with two elastic strips¹ (bromatologically appropriate), packed in small polyethylene bags and ordered in ordinary lines. -----

The secondary packages may be corrugated plastic or wood boxes, or recyclable plastic packages (Apool or IFCO type) of different shapes and they may be made of an appropriate material to keep the humidity (for example: Pad – cellulose triple paper - or foamy rubber bottom, etc.). -----

The product should not be seen at the upper level of the package. It should be packed so that the product will be appropriately protected. -----

- **Uniformity** -----

The content of each package should be uniform as regards the product caliper, coloration and characteristics. It shall contain only asparagus of the same variety and quality. -----

- **Bundle size** -----

1. 500 gr domestic market -----
2. 454 gr -----
3. 420 gr -----
4. 250 gr -----

The admitted tolerance for weight variation per bundle shall not exceed +/- 5%. -----

- **Labelling** -----

The labelling shall be able to be performed on the product primary and/or secondary package. Likewise, the seal shall be able to appear on both kinds of packages. -----

GLOSSARY -----

- **Storage**: the product is kept in a facility conditioned for this purpose. It should have an appropriate cooling system to keep the asparagus at the adequate temperature from 2 to 4°C for its conservation. -----
- **Well Developed**: it is the asparagus that presents the physical and chemical characteristics corresponding to its species and variety. -----
- **Damage** : it is a defect or alteration in the asparagus, produced by physical, physiological or mechanical actions that devoid of merit the turion appearance, or commercial and eatable quality. -----
- **Defect**: it is any impairment that affect the appearance or usefulness of the product. --
- **Packaging**: it is the activity through which the product is adequately placed in the appropriate package. -----
- **Whole**: the asparagus free of any mutilation, damage or injury that affect its integrity. -
- **Asparagus**: juicy vegetable, of the *Asparagaceae* Family of the species *officinalis*. A perennial plant, forming a layer or crown that produces several underground stalks or rhizomes with roots and buds from which surges emerge. The last ones are the eatable part of the product. When they reach a determined length, they are called asparagus, surges, turions, stalks and tips. -----
- **Green asparagus**: those having a terminal bud and an all green turion. -----
- **Fresh**: it means that the stalk is neither soft nor weak or has not been submitted to any process that changes its natural characteristics. -----
- **Lignification**: it refers to the turion change from herbal to ligneous consistency, thus increasing the fiber content and decreasing the turion quality.-----
- **Clean**: it is an asparagus free of land, branches, leaves or any type of foreign material. -----
- **Length**: it means the total length of the stalk measured from the bottom end up to the turion tip. -----
- **Physiological maturity**: part of the physiological maturity period of the asparagus during which the appropriate variety of shape, strong median taste, turion texture and characteristic flavor are observed.-----

- **Malformation:** it means that the stalk is flattened, bent or deformed and its appearance is seriously affected.-----
- **Healthy:** it is the asparagus free of illnesses, injuries, rotting, damage produced by insects or other plagues, free of alive or dead insects. -----
- **Ruined stalk:** it is a hollow turion in the middle part or in all its length.-----
- **Turion:** the turions or asparagus stalks come from an underground crown of roots and they are harvested when coming to the surface. -----
- **Uniform:** it is the term used to describe that the asparagus presents very similar characteristics of shape, size and color. -----

EXHIBIT I -----

List of plaguicides allowed for Asparagus, pursuant to SENASA Resolution N° 256/2003 (Exhibit I) "Tolerance or residues maximum limit of plaguicides in farming and animal husbandry products and subproducts". -----


ACTIVE INGREDIENT	USAGE	RML
BENTAZON -----	Herbicide -----	0.1 -----
CARBENDAZIM -----	Funguicida -----	0.1 -----
ENDOSULFÁN -----	Insecticida -----	1 -----
LINURON -----	Herbicide -----	0.2 -----
METRIBUZIN -----	Herbicide -----	0.05 -----
NAPTALAM -----	Herbicide -----	0.1 -----
SETHOXYDIM -----	Herbicide -----	0.5 -----
ZINEB -----	Funguicide -----	0.1 -----

Institutions that have helped to the drawing-up of this protocol: -----

- Instituto Nacional de Tecnología Agropecuaria (INTA). (National Institute of Farming and Animal Husbandry). -----
- Iceberg Agrícola S.A. -----
- Corporación del Mercado Central de Buenos Aires. (Trade Association of Companies of Central Market of Buenos Aires) -----
- Engineer Ana María Castagnino - Universidad Nacional del Centro de la Provincia de Buenos Aires (UNCPBA) -. -----

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