

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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Agenda item 8.2

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON SPICES AND CULINARY HERBS

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PROPOSED DRAFT STANDARD FOR DRIED SAFFRON Comments at Step 3

Comments of European Union

*Mixed Competence.
Member States Vote*

1 SCOPE

This Standard applies to saffron (~~dried floral parts~~) commonly sold in commerce as defined in section 2.1 below, offered for direct human consumption, **as an ingredient** in food processing **or for repackaging if required**. ~~The exact species bought / sold may be defined by contractual specifications.~~ **It excludes the product for industrial processing.**

Comment:

The standard should cover only *Crocus Sativus* species. The possibility to contractually define traded species seems to suggest that the standard apply to species other than *Crocus sativus*, which counters section 2.1. The text emphasizes that it concerns a stand-alone standard, and is aligned with the standard text of the template.

2 DESCRIPTION

2.1 PRODUCT DEFINITION

Dried floral parts - {saffron} belonging to the plant varieties listed in Table 1.

Table 1: Dried Floral Parts covered by this standard

General Name	Specific Name	Scientific Name
Saffron	Saffron	<i>Crocus sativus</i> L.

Saffron is obtained from portion of the pistils (~~i.e. stigmas with part of style~~) of *Crocus sativus* L. flower belonging to the *Iridaceae* family.

“Stigma” is the upper section of the aerial part of the pistil. ~~“Style” is the part of the pistil between stigma and the ovary.~~ The stigma is **dark red color**, trumpet shaped, serrated or indented at the top and joined to the style at the end.

Comment:

Saffron is made out of the stigma only and allowing for inclusion of a part of the style would seriously affect the quality of the spice. It is suggested to add that the stigmas are of dark red color in the definition to ensure the quality of the spice.

2.2 Styles/forms

Saffron may be offered in one of the following styles:

- Filaments
- Cut filaments
- Ground /powdered, or
- ~~Other styles distinctly different for those three are allowed, provided they are labeled accordingly~~

Comment:

It is not clear which other styles could be allowed. Allowing for other styles could mislead consumers.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

Dried floral parts as described in Section 2. ~~Product~~ Description.

3.2 QUALITY CRITERIA

3.2.1 Infestation

Saffron shall be free from live insects and ~~practically~~ free from dead insects, insects fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision) odour, flavour and colour.

3.2.2 Adulteration

Dried floral parts shall be free from any adulteration.

3.2.3 Odour, flavour and colour

Saffron shall be free from any foreign odour or flavour and especially from mustiness. They should have a characteristic odour and flavour depending on geo-climatic factors/conditions/varieties. ~~and the chemical strain of the main components of the volatile oil indicated in Annex 1.~~

3.2.4 Classification

~~Specific classes/grades of saffron may be set by contractual agreement between buyer and seller.~~

~~When unclassified/ungraded minimum requirements have to apply in accordance with this standard.~~

Comment: It is proposed to amend § section 3.2.4 – Classification, as follows:

“Saffron is classified in three classes according to the parameters specified in Annex 2”.

3.2.5 Chemical and physical characteristics

Saffron shall comply with the minimum chemical and physical properties in ~~Table 1 and Table 2~~ in Annexes 4 **I and II**.

4 FOOD ADDITIVES

~~No food additives particularly flavorings or colorants are permitted in the products covered by this standard.~~

Where applicable, only anticaking agents listed in Table III of the General Standard for Food Additives (CODEX-STAN 192-1995) may be used in saffron in ground/powdered form.

5 CONTAMINANTS

5.1 The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

5.2 The products covered by this Standard shall comply with the maximum residue limits for pesticides 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 *General Principles of Food Hygiene* (CXP 1-1969), *Code of Hygienic Practice for low moisture foods* (CXP 75-2015), Annex III, and other relevant Codex texts such as codes of hygienic practice and codes of practice.

6.2 The products should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

6.3 Packaging

The packaging must not be a source of contamination or migration, shall be food grade and must protect the product quality during transportation and storage. It must be free from off odours.

7 WEIGHTS AND MEASURES

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

8 LABELING

8.1 The products covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CXS 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 "saffron" as described in Section 2.1

8.2.2 The name of the product may include an indication of the style as described in Section 2.2.

~~8.2.3 Variety or cultivar may be listed on the label.~~

8.3 Country of origin/country of harvest

8.4 Commercial Identification

- Class/Grade, if applicable

8.5 Inspection mark (optional)

8.6 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, country of origin, 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, country of origin, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF ANALYSIS AND SAMPLING

9.1 Methods of Analysis¹

Parameter	Method	Principle
Moisture	AOAC 934.06 ISO 3623-2	Gravimetry
Total Ash	AOAC 941.12 ISO 928 ISO 3632-2	Gravimetry
Acid Insoluble Ash	AOAC 941.12 ISO 930 ISO 3632-2	Gravimetry
Soluble extract in cold water	ISO 941 ISO 3632-2	Solubility
Taste strength (expressed as picrocrocin) $A^{1\%}_{1\text{ cm } 257\text{ nm}}$	ISO 3632-2	Absorbance
Aroma strength (expressed as safranal) $A^{1\%}_{1\text{ cm } 330\text{ nm}}$	ISO 3632-2	Absorbance
Coloring strength (expressed as crocin) $A^{1\%}_{1\text{ cm } 440\text{ nm}}$	ISO 3632-2	Absorbance
Artificial colorants	ISO 3632-2	Chromatography
Extraneous Matter	ISO 927 ISO 3632-2	Visual Examination
Foreign Matter	ISO 927 ISO 3632-2	Visual Examination
Insect Damage	ISO 927	Visual Examination
Insects/Excreta/Insect Fragments	ISO 927	Visual Examination
Note: The minimum laboratory sample according to ISO 3632-2 (Table 1) for duplicate analysis is: filament saffron: 11.5 g x 2 = 23 g powdered saffron: 6.75 g x 2 = 13.5 g		

¹ Latest edition or version of the approved method should be used

9.2 SAMPLING PLAN

(To be developed. It is suggested as follows :)

<u>Sampling Plans</u>	
The appropriate inspection level is selected as follows:	
Inspection level I -	Normal Sampling
Inspection level II -	Disputes, (Codex referee purposes sample size), Enforcement or need for better lot estimate

SAMPLING PLAN 1
(Inspection Level I, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
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 IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 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

Chemical and Physical Specifications Dried Floral Parts- Saffron

Table 1: Chemical characteristics (The requirements of the last column have been removed to Annex II)

General name	Form	Moisture content %w/w (max)	Total ash % w/w (max)	Acid insoluble ash %w/w	volatile oils mL/100 gm	Non-volatile ether extract %w/w	Water soluble extract cold On dry matter % max
Saffron	Whole/ filament	12.0	8.0	1.0	NA*	NA	65
	Pieces/Chopped/ cut filaments	12.0	8.0	1.0	NA	NA	65
	Ground/Powdered	10.0	8.0	[1.0]	NA	NA	65

NA*: Not Applicable

Table 2: Physical Characteristics for Dried Floral Parts- Saffron

Product	Style/ form	Extraneous Matter % w/w (max)	Foreign Matter % w/w (max)	Insect fragments max. / 10 gm	Rodent filth Max. number of hairs /10 gm	Mold damaged % w/w (max)	Dead Whole insects, Count/ 100gm (max)	Mammalian excreta mg/Kg (max)	Other Excreta mg/kg	Insect defiled/ infested % w/w (max)	Other defects/ Comments
Saffron	filament	5.0	1.0	--	--	----	----	----	----	----	---
	cut filaments	[5.0]	[1.0]	---	---	----	----	----	----	----	
	ground	1.0	1.0	---	---	----	----	----	----	----	

ANNEX II

~~Specifications of quality classes beyond those referred to Table 1 and 2~~

Saffron is classified as follows:

Parameter	Category I	Category II	Category III
Taste strength (expressed as picrocrocine) A 1% 1 cm 257 nm, on dry matter, min. (at this wavelength it has a maximum absorbance of picrocrocine)	70	60	50
Aroma strength (expressed as safranal) A 1% 1 cm 330 nm, on dry matter, min. max. (at this wavelength it has a maximum absorbance of safranal)	20 50	20 50	20 50
Colouring strength (expressed as crocin) A 1% 1 cm 440 nm, on dry matter, min. (at this wavelength it has a maximum absorbance of crocin)	210	180	150

The content of the last column of Table 1 is suggested to be deleted to avoid repetitions. The minimum requirement for crocin is increased in class III from 120 to 150, to minimize the risk of addition of artificial colours in saffron