

CODEx ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

Agenda Item 2

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

Seventh Session

Kochi Kerala, India

29 January - 02 February 2024

METHODS OF ANALYSIS IN SCH STANDARDS AND DRAFT STANDARDS SUBMITTED TO CCMAS FOR THEIR ENDORSEMENT

(prepared by Codex Secretariat)

STANDARD FOR DRIED ROOTS, RHIZOMES AND BULBS: DRIED OR DEHYDRATED GINGER

CXS 343-2021

Parameter	Method	Principle	Type ¹
Moisture	ISO 939	Distillation	I
Total Ash on dry basis	ISO 939 and ISO 928	Distillation and Gravimetry	I
Acid Insoluble Ash on dry basis	ISO 939 and ISO 930	Distillation and Gravimetry	I
Volatile Oil on dry basis	ISO 939 and ISO 6571	Distillation followed by Volumetry	I
Extraneous Matter	ISO 927	Visual Examination followed by Gravimetry	I
Foreign Matter	ISO 927	Visual Examination followed by Gravimetry	I
Insect Damage	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual) MPM: V-8. Spices	Visual Examination	IV
Whole dead insect	ISO 927	Visual examination	I
Mammalian/ Other Excreta	MPM V-8 Spices, Condiments, Flavours and Crude Drugs (Macroanalytical Procedure Manual) MPM: V-8. Spices (For whole)	Visual Examination followed by Gravimetry	IV
Mould visible	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual) MPM: V-8. Spices	Visual examination	IV
Live Insect	ISO 927 AOAC 960.51	Visual Examination Visual Examination	IV IV
Calcium (as oxide) on dry basis	ISO 1003, Annex A	Chemical reaction followed by gravimetry	IV
SO ₂	AOAC 963.20	Colorimeter	II

¹ According to the definition of “types of method of analysis” as per Codex Procedural Manual Section II

STANDARD FOR DRIED FLORAL PARTS: CLOVES

CXS 344-2021

Parameter	Method*	Principle	Type ¹
Moisture	ASTA 2.0	Distillation	I
Volatile oil	ISO 6571	Distillation Volumetry	I
Total ash (dry basis)	ISO 928	Gravimetry	I
Acid Insoluble Ash	ISO 930	Gravimetry	I
Extraneous matter	ISO 927	Visual Gravimetry	I
Foreign matter	ISO 927	Visual Gravimetry	I
Insect damage	ISO 927	Visual Examination	IV
	Method V-8 Spices, Condiments, Flavors and Crude Drugs	Visual Examination	IV
Insects/Excreta/Insect fragments	ISO 927	Visual Examination	IV
Crude fibre	ISO 5498	Gravimetry	I
Mold visible	Method V-8 Spices, Condiments, Flavours and Crude Drugs	Visual Examination	IV
Live insect	ISO 927	Visual Examination	IV
Mammalian or/and Other excreta	Method V-8 Spices, Condiments, Flavours and Crude Drugs	Visual Examination	IV

¹ According to the definition of “types of method of analysis” as per Codex Procedural Manual Section II

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

STANDARD FOR DRIED BASIL

CXS 345-2021

9.1 Methods of Analysis*

Parameter	Method	Principle	Type ¹
Moisture	ISO 939	Distillation	I
Total Ash	ISO 928	Gravimetry	I
Acid Insoluble Ash	ISO 928 and ISO 930	Gravimetry	I
Volatile Oil	ISO 6571	Distillation Volumetry	I
Extraneous Matter	ISO 927	Visual Examination followed by Volumetry	I
Foreign Matter	ISO 927	Visual Examination followed by Volumetry	I
Insect Damage	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5)	Visual Examination	IV
Insects/Excreta/Insect Fragments	Method appropriate for particular spice from AOAC Chapter 16, subchapter 14	Visual Examination	IV
Mould damage	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, FDA Technical Bulletin Number 5)	Visual examination (for whole)	IV
Mammalian Excreta, And Other Excreta	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macroanalytical Procedure Manual, USFDA, Technical Bulletin V.39 B) (For whole)	Visual Examination	I

* Latest edition or version of the approved method should be used.

² According to the definition of "types of method of analysis" as per Codex Procedural Manual Section II.

STANDARD FOR DRIED SEEDS – NUTMEG

CXS 352-2022

Provision	Method	Principle	Type
Moisture content	ISO 939	Distillation	I
Total ash	ISO 928	Gravimetry	I
Acid-insoluble ash	ISO 930	Gravimetry	I
Water-insoluble ash	ISO 929	Gravimetry	I
Volatile oils content	ISO 6571	Distillation	I
Calcium content expressed as CaO	ISO 1003	Titration	I
Extraneous matter	ISO 927	Visual examination/ Gravimetry	I
Foreign matter	ISO 927	Visual examination/ Gravimetry	I
Mould visible	ISO 927	Visual examination	IV
Dead insect, insect fragments, rodent contamination	ISO 927	Visual examination	IV
Live insect	ISO 927	Visual examination	IV
Mammalian and or other excreta	Macroanalytical Procedure Manual (MPM) USFDA technical bulletin V.41	Visual examination	IV
Piece of mace	ISO 927	Visual examination	IV

*Latest edition or version of the approved methods should be used

STANDARD FOR DRIED OR DEHYDRATED CHILLI PEPPER AND PAPRIKA

CXS 353-2022

Provision	Method ¹	Principles	Type ²
Moisture	ISO 939	Distillation	I
Total Ash	ISO 939 and ISO 928	Distillation Gravimetry	I
Acid-insoluble ash	ISO 939 and ISO 930	Distillation Gravimetry	I
Pungency Scoville Heat units	ASTA 21.3	Chromatography	IV
	ISO 3513	Sensory evaluation	I
Colour value	ISO 7541	Spectrophotometry	IV
Mammalian excreta	ISO 927	Visual examination followed by Gravimetry (whole)	I
Mould damage	MPM V-8 Spices, Condiments, Flavours and Crude Drugs A. General methods for spices herbs and botanicals (V 32)	Visual Examination (for whole)	I
	AOAC 945.94	Visual Examination (for Ground)	I
Insect Damage	MPM V-8 Spices, Condiments, Flavours and Crude Drugs A. General methods for spices herbs and botanicals (V 32)	Visual Examination followed by Gravimetry	I
Extraneous matter ³	ISO 927	Visual Examination followed by Gravimetry	I
Foreign matter ⁴	ISO 927	Visual Examination followed by Gravimetry	I
Live insect	ISO 927 / AOAC 960.51	Visual Examination	I
Insect filth	ISO 927	Visual Examination	I
Insect fragments	ISO 927	Visual examination counting	I
Rodent hair	AOAC 978.22 (Ground chilli)	Microscopic examination	I
	AOAC 977.25 B (Ground paprika)	Microscopic examination	I

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

²According to the definition of "types of method of analysis" as per Codex Procedural Manual Section II

³Vegetative matter associated with the plant from which the product originates but not accepted as part of the final product.

⁴Any visible/detectable objectionable foreign matter or material not usually associated with the natural components of the spice plant, such as sticks, stones, burlap bagging, metal, etc.

The methods of analysis will be included in CXS 234-1999 after endorsement by CCMAS and the following text shall replace the Table

"For checking the compliance with this standard, the methods of analysis and sampling contained in the Recommended Methods of Analysis and Sampling (CXS 234-1999) relevant to the provisions in this standard, shall be used".

DRAFT STANDARD FOR DRIED FLORAL PARTS – SAFFRON

9.1 Methods of analysis^{1,2}

Provision	Method	Principle	Type
Moisture	ISO 3632-2	Gravimetry	I
Total Ash	ISO 3632-2 and ISO 928	Gravimetry	I
Acid Insoluble Ash	ISO 3632-2 and ISO 930	Gravimetry	I
Soluble extract in cold water	ISO 3632-2 and ISO 941	Extraction	I
Taste strength (expressed as picrocrocin) $A_{1cm}^{1\%}$ 257 nm	ISO 3632-2	Absorbance	IV
Aroma strength (expressed as safranal) $A_{1cm}^{1\%}$ 330 nm	ISO 3632-2	Absorbance	IV
Coloring strength (expressed as crocin) $A_{1cm}^{1\%}$ 440 nm	ISO 3632-2	Absorbance	IV
Extraneous Matter	ISO 3632-2	Visual Examination followed by Gravimetry	I
Foreign Matter	ISO 3632-2	Visual Examination followed by Gravimetry	I
Insect Damage	ISO 927	Visual Examination followed by Gravimetry	I
Whole dead Insects /Insect Fragments	ISO 927	Visual Examination	I
Visible mould	Method V-8 Spices, Condiments, Flavors and Crude Drugs (Macro analytical Procedure Manual, FDA Technical Bulletin Number 5) http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm084394.htm#v-32	Visual Examination followed by Gravimetry	I
Mammalian Excreta	Macro analytical Procedure Manual, USFDA, Technical Bulletin V.39 B (For whole)	Visual Examination followed by Gravimetry	I
Other Excreta	AOAC 993.27 (For Ground)	Enzymatic Detection Method	IV
Rodent filth	ISO 927	Visual Examination	I

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

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DRAFT STANDARD FOR SPICES DERIVED FROM DRIED FRUITS AND BERRIES

(PART A – ALLSPICE, JUNIPER BERRY AND STAR ANISE)

Sl. No	Spices	Provision	Method ^{1,2}	Principles	Type
1	Dried Allspice Dried Juniper Berries Dried Star Anise	Moisture	ISO 939	Distillation	I
		Total ash	ISO 939 and ISO 928	Distillation followed by gravimetry.	I
		Acid- insoluble	ISO 939 and ISO 930	Distillation followed by gravimetry.	I
		Volatile oils	ISO 939 and ISO 6571	Distillation followed by gravimetry.	I
		Extraneous matter	ISO 927	Visual examination followed by	I
		Foreign matter	ISO 927	Visual examination followed by	I
		Mould visible	ISO 927	Visual examination followed by	I
		Mammalian excreta	MPM V-8 Spices, Condiments, Flavors and Crude Drugs A. General methods for spices herbs and botanicals (V 32) https://www.fda.gov/food/laboratory-methods-food/mpm-v-8-spices-condiments-flavors-and-crude-drugs (Applicable to whole form of the spices)	Visual examination followed by gravimetry	I
		Whole dead insect	ISO 927	Visual examination	I
			AOAC 969.44	Flotation method	IV
		Insect fragments	ISO 927	Visual examination on counting	I
AOAC 975.49	Flotation method		IV		
		Insect damage	MPM V-8 Spices, Condiments, Flavours and Crude Drugs General methods for spices herbs and botanicals (V 32) (Applicable to whole form of the spices)	Visual examination followed by gravimetry or counting	I
		Mould damage	MPM V-8 Spices, Condiments, Flavours and Crude Drugs General methods for spices herbs and botanicals (V 32) (Applicable to whole form of the spices)	Visual examination followed by gravimetry or counting	I

2	Allspice (whole, cracked/pieces)	Filth (list all the filth here-for example - mammalian excreta)	AOAC 965.40	Flotation	I
	Allspice (Ground/powdered)	Light filth (list all the filth here-for example- mammalian excreta)	AOAC 981.21	Flotation	I
3	Juniper Berries, Star Anise, (cut/broken, ground/powdered)	Light filth (list all the filth here-for example- mammalian excreta)	AOAC 975.49	Flotation	I

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

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