CODEX ALIMENTARIUS COMMISSION E

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World Health Organization

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

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DRAFT REGIONAL STANDARD FOR MIXED ZAATAR

(Prepared by Lebanon)

1. BACKGROUND

1.1. CCNE9 (2017) had considered the proposed draft Standard for mixed Zaatar, agreed some changes to the text and noted that some further the session and that the section on sampling needed to be revised pending the CCMAS advice on templates. Based on the progress made CCNE9 agreed to forward the proposed draft Regional Standard to the Commission for adoption at Step 5 at CCNE9. The committee further agreed to establish an Electronic Working Group chaired by Lebanon address the outstanding issues[1].

1.2. As well as adopting the proposed draft Regional Standard at Step 5, CAC40 (2017) also endorsed the proposals of CCEXEC73 (2017) to amend the target year for completion of work to 2019[2].

2. EWG AND ISSUES CONSIDERED

2.1. Due to communication issues it was not feasible to convene the EWG. Lebanon however reviewed the draft standards and issues raised at CCNE9 and prepared further explanations on these issues for consideration by CCNE10. Some changes have been proposed to the draft standard based on these.

2.2. CCNE9 requested clarifications on the possible inconsistency between the maximum limit (ML) specified for citric acid in Section 4 and the proportion of malic acid/citric acid in Section 3; and a discrepancy between the level of citric acid specified in Section 4 and that proposed at CCNE8 (2 - 4 %) and that such an increase could lead to fraudulent practices.

2.3. In this regards data analysis of a pilot study undertaken by the United Nations Economic and Social Commission for Western Africa (ESCWA) on sumac (20 samples)[3] showed that malic and citric acids were the major organic acids in sumac. Accordingly, it was considered that the ratio of malic acid to citric acid in mixed zaatar could be an indicative index with regard to the use of sumac and/or citric acid as an acidification agent. The data illustrated that for the first two categories of mixed zaatar (**the premium and extra mixed zaatar)** where no synthetic citric acid is allowed, the minimum ratio of all sumac samples analyzed was 9.64 (approximately 10). So 10 was taken as a minimum threshold (Table 1). Concerning the third category **regular mixed zaatar** (which contains at least 5% sumac and the addition of a maximum of 4% synthetic citric acid is permitted), the addition of citric acid will reduce the malic acid/citric acid ratio. The minimum malic/citric acid ratio (0.14) included in the standard was calculated based on the following:

- Mixed Zaatar containing 5% sumac gives 0.08% natural citric acid and 0.55% malic acid
- Mixed Zaatar containing 4% synthetic citric acid gives 3.8% pure citric acid (assuming that citric acid is of 95% purity).
- Accordingly, the ratio of malic acid/ citric acid = 0.55 / (0.08+3.8) = 0.14 %. So in order to be sure that at least 5% of natural sumac is added, the ratio Malic/citric acid should be higher than 0.14

2.4. Since sumac is added to zaatar mixes to give a strong acid taste, in some cases, it can be substituted by synthetic citric acid in addition to coloring agents to make it looks like sumac. Since natural sumac contains more malic acid than citric acid (ratio>10), the addition of citric acid will reduce this ratio. Accordingly, the ratio malic/citric acid permits the detection of the fraudulent practices by the addition of citric acid coupled with coloring agents in the premium and the extra mixed zaatar or the addition of more than 4% of citric acid in the

1 REP17/NE, paras. 66ff.
2 REP17/CAC, para. 153 (vii)
3 Study undertaken between 2009 and 2011.

regular zaatar mix. If the ratio of malic/citric acid is lower than 0.14 then there is a possible fraud by the addition of more than 4% citric acid. For clarity proportion has been replaced by ratio in composition table

Table 1: Results of analysis of samples of sumac (20) for malic and citric acid

Samples	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Malic Acid (g/Kg)	184	110	143	236	190	178	208	212	199	183	214	194	180	196	199	201	166	391	170	207
Citric Acid (g/Kg)	14.2	4.4	14.8	11.7	10.1	12.4	9.8	9.5	12.3	4.4	16.1	12.4	14.9	14.9	4.2	10.1	3.7	14.4	1.2	2.8
Malic/Citric ratio	13	25	9.64	20.2	18.8	14.4	21.2	22.3	16.2	41.5	13.3	15.7	12.1	13.2	47.3	19.9	44.9	27.2	141	73.8

2.5 As noted by CCNE9 for premium and extra mixed zaatar, no food additives are allowed. For regular mixed zaatar, citric acid is the only acidity regulator allowed. It is permitted as some sumac varieties from some specific origins have lower acidity levels than others (having a lower production volume and a much higher price), that is why citric acid is sometimes added. This is the common practice in Lebanon . Foour percent is equivalent to 40 g citric acid per Kg of regular mixed Zaatar (40 000mg per Kg). The standard has been revised to reflect this.

2.6. As the work in CCMAS on the development of templates for sampling is ongoing this Section 8 cannot be completed at this time.

2.7. In addition some edits have been made to the draft standard for clarity. All changes are indicated in track changes in Appendix 1.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1. Lebanon recommends that CCNE10 consider the Draft Standard for Mixed Zaatar as presented in Appendix I.

APPENDIX I

PROPOSED DRAFT REGIONAL STANDARD FOR MIXED ZAATAR

1. SCOPE

This Standard determines the requirements and characteristics that shall be present in mixed zaatar intended for direct human consumption and used in many food preparations such as Lebanese mankoushe, etc.

2. DESCRIPTION

2.1 DEFINITION

2.1.1 Mixed Zaatar

It is the mix consisting of raw zaatar and broadleaf zaatar, as defined below, and the husk of sumac and sesame seeds, to which other ingredients may be added. The classification of zaatar shall be as shown in Section 2.2.

2.1.2 Raw Zaatar

It is the blossoms and/or leaves of the following wild and cultivated plants, which are manually or mechanically crumbled ~~provided they are~~but not powdered.

- *Origanum* spp.
- *Thymbra* spp.
- *Thymus* spp.
- *Satureja* spp.

2.1.2.1 *Raw Broadleaf Zaatar*

Raw zaatar is called raw broadleaf zaatar when it is composed of the blossoms and/or leaves of the wild or cultivated broadleaf zaatar, namely *Organicum syriacum* (~~by~~ at least 75%) or constitutes a mix (~~by~~ 25% maximum) of the blossoms and leaves of the following varieties, which are manually or mechanically crumbled ~~provided they are~~but not powdered.

- *Origanum ehrenbergii*
- *Thymbra spicata*
- *Coridothymus capitatus*
- *Thymus syriacus*
- *Satureia thymbra*

2.2 CLASSIFICATION

Mixed zaatar is classified as follows:

2.2.1 "Premium" Mixed Zaatar

It shall consist of at least 25% ~~of~~ raw broadleaf zaatar mixed exclusively with~~:~~ sesame seeds and sumac husk, with the possibility of adding salt ~~by 6%~~ to a maximum level of 6%.

2.2.2 "Extra" Mixed Zaatar

It shall consist of at least 20% ~~of~~ raw zaatar or raw broadleaf zaatar mixed with~~:~~ sesame seeds and sumac husk, with the possibility of adding grains, nuts, spices and condiments, as well as salt ~~by~~ to a ~~6%~~ maximum level of 6%.

2.2.3 "Regular" Mixed Zaatar

It shall consist of at least 15% ~~of~~ raw broadleaf zaatar or raw zaatar, mixed with sesame seeds and sumac husk which should be added ~~by~~ to a level of at least 5%, in addition to the following possible ingredients: legumes, aromatic grains and herbs, ~~,~~ spices, condiments (e.g. cumin…), pomegranate molasses, vegetable oil, nuts, wheat bran and sesame seed hull, provided they all meet the good manufacturing practices, with the possibility of adding salt ~~by~~ to a ~~7%~~ maximum level of 7% and citric acid ~~by~~ to a ~~4%~~ maximum of 4%, provided they are indicated on the label.

2.2.4 Forms

Any form of the product should be permissible provided it meets the related requirements in this standard, and an adequate description of the product is provided on the label to ensure that consumers are not misled or confused.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

3.1.1 Basic Ingredients

Raw zaatar shall be as defined in Section 2.1.2 above.

3.1.2 Optional Ingredients

- Legumes
- Grains
- Volatile herbs
- Spices and condiments (e.g. cumin, …)
- Pomegranate molasses
- Vegetable oil
- Nuts
- Wheat bran

3.2 QUALITY FACTORS

3.2.1 Taste and Colour

- Zaatar contained in the product must have a special flavour and smell and be free of any extraneous odours and flavours, including rancidity and mouldiness, as well as of any extraneous substances.
- The product must have a normal colour and a consistency that is typical of such kind of products.

3.2.2 Chemical and Physical Characteristics

3.2.2.1 *Requirements and Characteristics*

3.2.2.1.1 General Requirements

The following characteristics shall be observed in mixed zaatar:

- All the ingredients used in the preparation of the mixed zaatar shall be in conformity with their corresponding Codex Alimentarius standards.
- It shall be free of living insects and spiders, practically free of any visible moldiness, dead insects and parts thereof, contamination by rodents, birds and snails waste (~~and~~ magnification might be used for detection in some cases, ~~provided~~ and the magnifying power used should be~~is determined if it exceeds 10 folds, which shall be~~ indicated in the test results report).
- The final product shall not be in a powder form in order to ensure its main ingredients are recognizable by microscopic inspection (leaves, blossoms, straws…) or visible to the naked eye, to avoid fraud and concealing of impurities therein, and to ensure that higher levels of volatile oils are maintained. The straws, if any, must not be longer than 10 mm and more than 2 mm in diameter, and must not make up more than 5% (mass/mass) of the product.
- Any extraneous substances of non-vegetable origin found in the product, such as pebbles, soil, sand, dust, etc. or of non-food vegetable origin, such as wood, dry leaves, must not make up more than 1% (mass/mass) of the product.

3.2.2.1.2 Chemical Requirements

The following chemical requirements, as stated in table 1, shall be observed in ~~the~~ zaatar and ~~the~~ mixed zaatar:

Table (1): Chemical Requirements

Characteristics		Requirements		
		Premium Mixed Zaatar	**Extra Mixed Zaatar**	**Regular Mixed Zaatar**
moisture % (m/m) maximum		12	12	12
Total table salt % (m/m based on the dry matter) maximum		6	6	7
Total ash, excluding salt % (m/m based on the dry matter) maximum*		7	7	7
Total ash % (m/m based on the dry matter) maximum		14	14	15
Acid insoluble ash % (m/m based on the dry matter) maximum		1	1	1
Raw fibers % (m/m based on the dry matter) maximum		16	15	37
Volatile oils % (ml/100g based on the dry matter) minimum		0.37	0.13	0.1
Maximum superoxide number		-	-	10 ml of superoxide oxygen/kg of oil
Malic acid/citric acid ~~proportion~~ratio, minimum		10	10	0.14
Basic Components Volatile Oils	Carvacrol+Thymol	More than 70%	More than 85%	More than 85%
	Cymene, gamma-terpinene and other volatile oils	Less than 30%		

4. FOOD ADDITIVES

4.1 RAW ZAATAR, "PREMIUM" MIXED ZAATAR AND "EXTRA" MIXED ZAATAR

No food additives are permitted.

4.2 "REGULAR" MIXED ZAATAR

Only the following food additive is permitted:

INS No.	Name of Additive	Maximum Level
Acidity Regulators		
330	Citric acid	40 ~~m~~g/kg

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* (CODEX STAN 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. 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* (CAC/RCP 1-1969) and other relevant Codex texts such as codes of hygienic practice and codes of practice.

6.2 The product should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CAC/GL 21-1997).

7. LABELLING

The products covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985). Any health claims shall be in conformity with the *Guidelines for Use of Nutrition and Health Claims* (CAC/GL 23-1973) when necessary. In addition, the following specific provisions apply:

7.1 NAME OF PRODUCT

7.1.1 Mixed zaatar or mixed thyme

7.1.2 The classification shall be indicated according to Section 2.2 next to the product name.

7.1.3 The word “baladi (local)” may appear next to the name if the mixed zaatar is made of varieties of raw zaatar - wild or cultivated - that have the same country of origin.

7.2 LABELLING OF NON-RETAIL PACKAGES

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.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 METHODS OF ANALYSIS

Provision	**Method**
Acidity	AOAC 935.57
Added citric acid	The content of the added citric acid shall be determined by testing the following organic acids: Malic acid and citric acid by applying HPLC method and calculating the malic acid/citric acid proportion which must not fall below 10/1 (Malic acid ten times the citric acid). The malic acid is extracted from the sumac husk and by comparing the result to the proportion, the quantity of the added citric acid can be calculated.
Sodium chloride	AOAC Official Method 960.29
Moisture	AOAC 925.10
Total ash	AOAC 923.03
Acid insoluble ash	AOAC 941.12
Raw fibers	AOAC 962.09
Volatile oils	ISO 1984:6571
Water insoluble ash	ISO 929:1980
Superoxide number	AOAC 965.33

8.2 SAMPLİNG PLANS

To be developed