Food Regulatory Science

WEBINAR

2024 Series

GFORSS
Global Food Regulatory Science Society

In collaboration with

AIDSMO · GSO هيئة التقييس GCC Standardization Organization · UNIVERSITÉ LAVAL · parera · IUFoST

Supporting the Development of Camel-Derived Products

WHY A PROPOSED STANDARD FOR CAMEL MILK ?

In conjunction with the 47th Session of the Codex Alimentarius Commission - CAC47

26th of November
12:00 PM (GMT)

Scan the QR-Code
to register your participation

KEYNOTE SPEAKERS:

Eng. Sonia Garbi [1]
Dr. Amine Kassouf [2]
1 ADAFSA (UAE), 2 GFoRSS


MODERATED BY:

Dr. Ruba Goussous
Member of GFoRSS and Food Safety Expert at the Jordan Food and Drug Administration (JFDA)

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STAY CONNECTED
@gforss2020

CAMEL MILK STANDARD DEVELOPMENT

The efforts deployed by United Arab Emirates in Developing a New Proposal on Camel Milk Products

26 November 2024

Engineer. Sonia Baldi

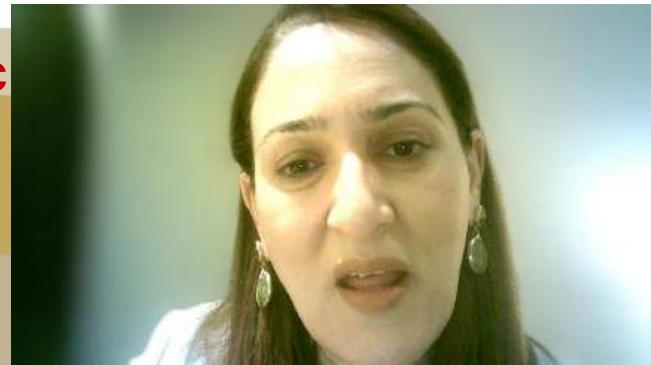
Plant Policies and Regulation Expert

Member of United Arab Emirates Codex Committee

***Member of the National Expert Working Group on Pestic**

Residues ADAFSA-

United Arab Emirates



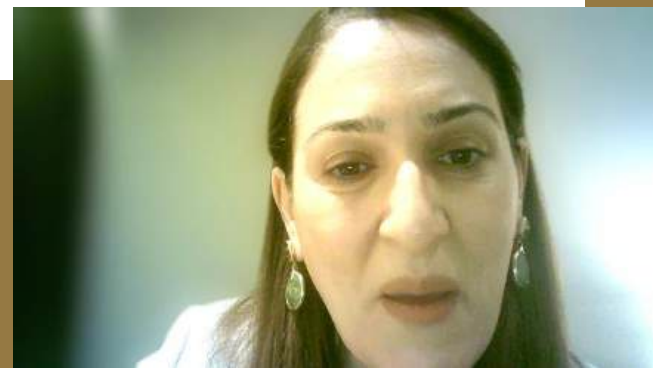
OUTLINE

1- Codex Step Procedure
2-Standard Development criteria according to Codex
3- Worklfow: from CCNE 11 to CAC47
4-Stakeholders Consultations
5- New Proposal on Camel Milk Products by UAE
4- Steps forward

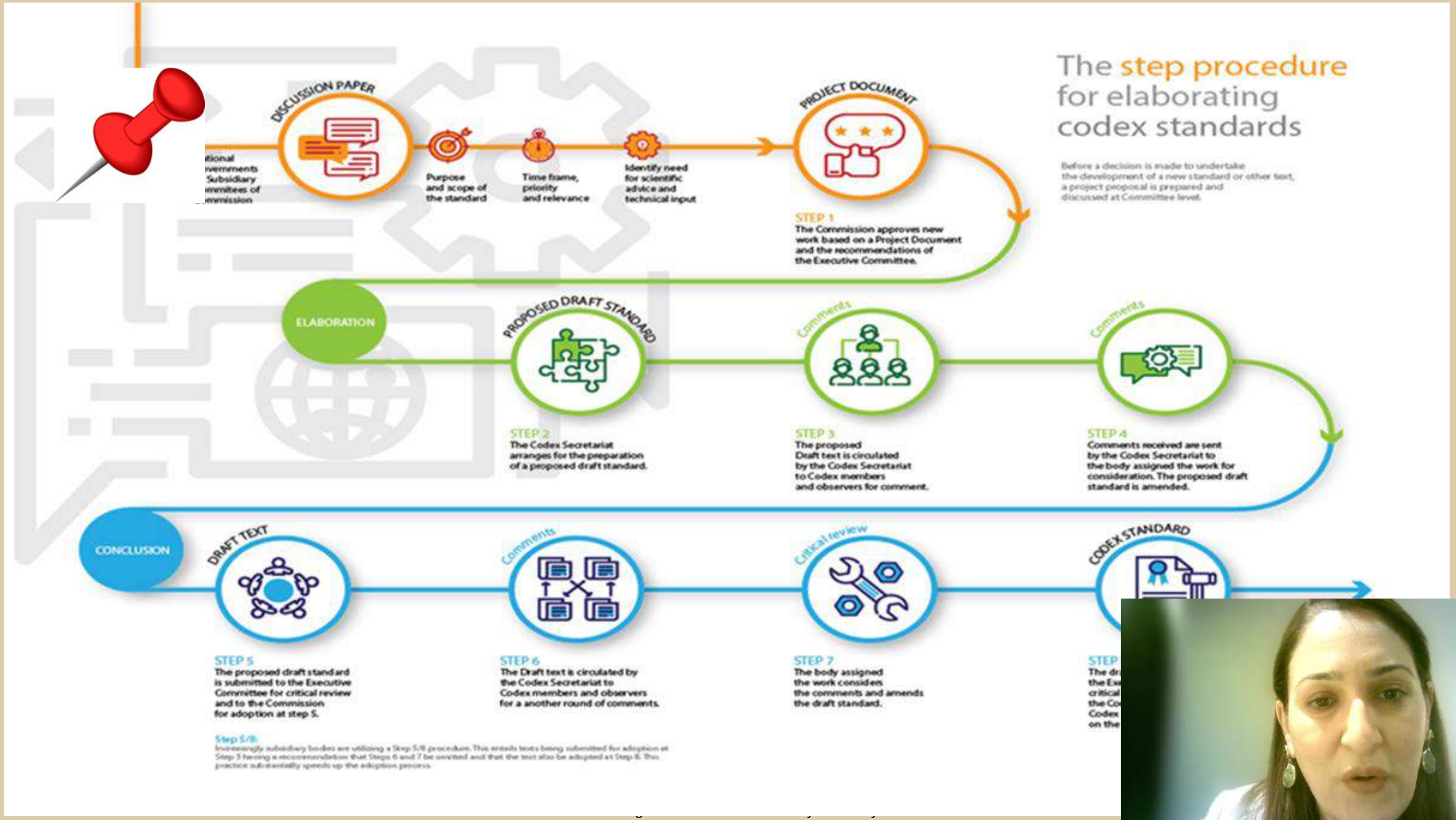
CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations

World Health Organization



Codex Step Procedure



Process to Develop/Revise Codex Text

1. Criteria for the Establishment of Work Priorities

01

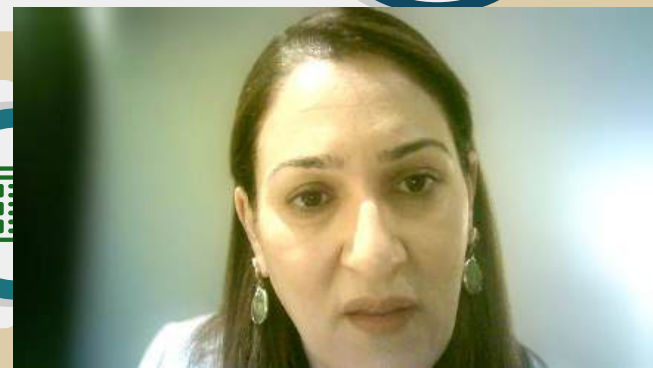
1. Consumer protection from the point of view of health, food safety and fair practices in food trade
2. Consideration of the global magnitude of the problem/issue
3. Work already undertaken by other international organizations
4. Volume of production and consumption in individual countries and volume/pattern of trade between countries
5. Justification for new work proposals (potential or real barriers to trade)

Process to Develop/Revise Codex Text

2. Project Document Must Include

02

1. The Purpose and Scope of the Standard
2. Its relevance and timeliness
3. The main aspects to be covered
4. An assessment against the Criteria for the Establishment of Work Priorities
5. Information on relation between the proposal and other Codex documents
6. The identification of requirement for expert scientific advice
7. The identification of need for technical Input from external bodies
8. Its relevance to the Codex Strategic Objectives
9. The proposed time-line for completion of the work



Pathway Towards a Standard Development

CCNE 11 1

Undertake further work on camel milk standard development

National Level 2

Data gathering Benchmarking Literature review

Consultation 3

Engagement guidance Discuss Adjust

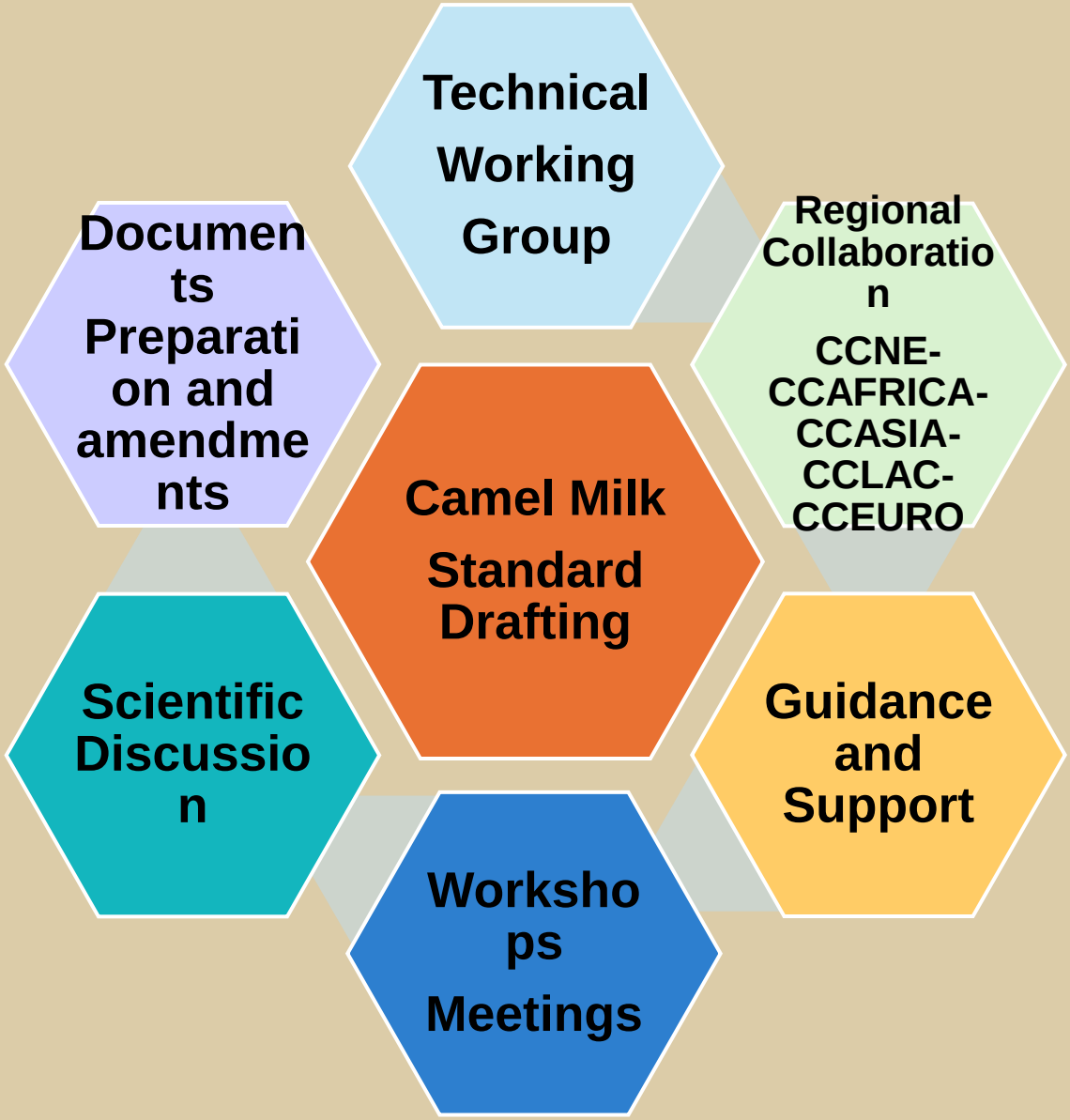
CCEXC86 4

Informed about the new proposal

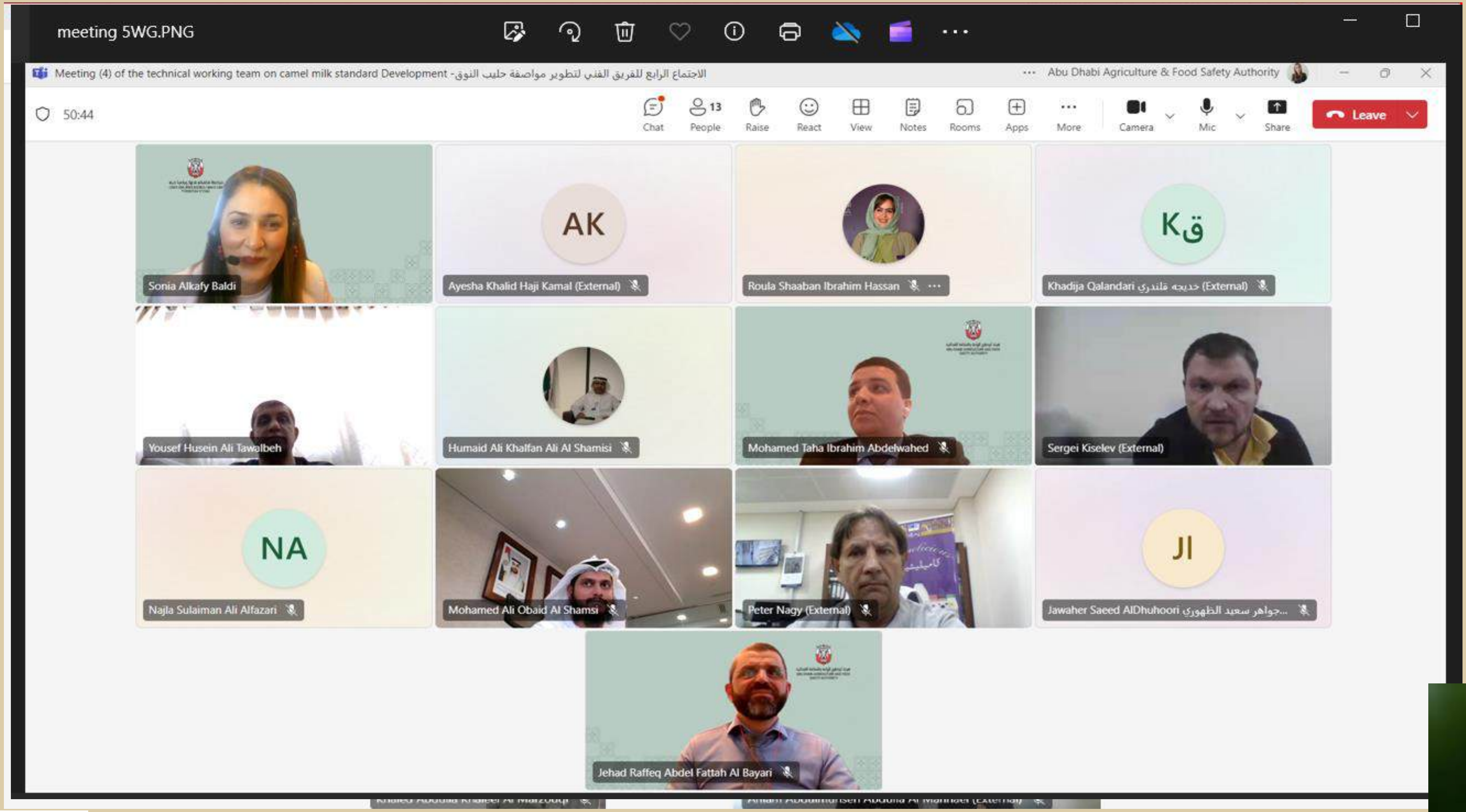
CAC47 5

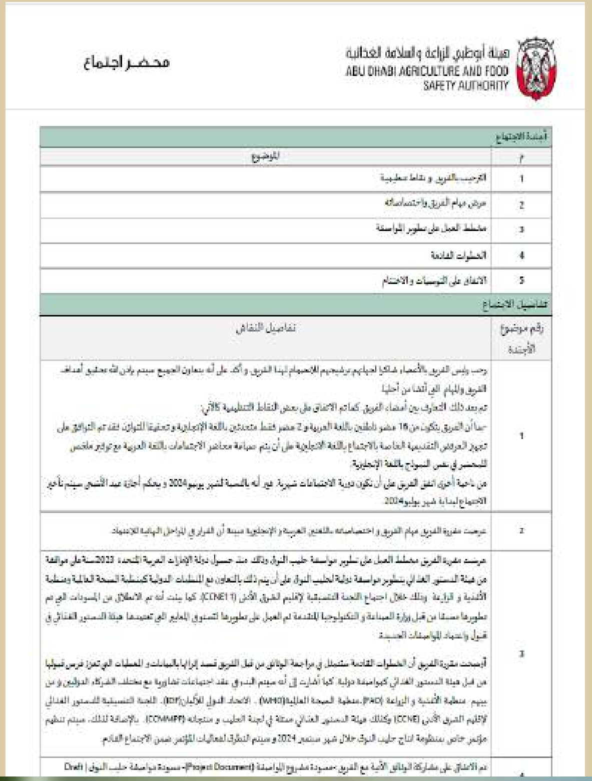
New Work

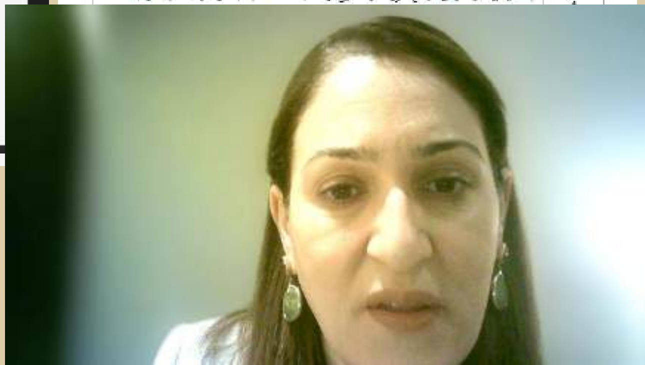
Standard Development Requirements: global work (Multi-stakeholders)



Technical Working Group: 4 Meetings




محضر اجتماع
هيئة أبوظبي للزراعة والسلامة الغذائية
ABU DHABI AGRICULTURE AND FOOD SAFETY AUTHORITY
أجندة الاجتماع
تفاصيل الاجتماع



Data Gathering

حكومة دبي GOVERNMENT OF DUBAI	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	بلدية دبي DUBAI MUNICIPALITY
	Document Title:	Food And Environment Laboratories Section TEST REPORT	عنوان الوثيقة:	
	Doc Ref.	DM-DCLD-F-FE-4096	رقم الوثيقة :	

Report ID: 592584

REQUEST NO.: FITR-2023-0003357

Report Issue Date: 11/05/2023

Customer	Name: Al Ain Farms For Livestock Production
	Address and Location: NA
Sample Description: chilled raw camel liquid milk	

Risk-based regulatory programme for the control of contaminants in food

Country	United Arab Emirates	DATE
Year of plan implementation	2024	
Animal species or product	Raw milk (other) Camel Milk	
Planned number of samples	20	

Groups of contaminants to be controlled (cf. Annex I to Regulation (EU) 2022/931)	Planned number of SAMPLES	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	Validated (Y/N)	CONFIRMATORY METHOD	Validated (Y/N)	SCREEN.METH. DETECTION LIMIT [µg/kg]	CONFIR.METH. DETECTION LIMIT [µg/kg]
Halogenated persistent organic pollutants	20	PCB-28	Camel milk			GC-MS/MS	Y		0.3
		PCB-52	Camel milk			GC-MS/MS	Y		0.3
		PCB-101	Camel milk			GC-MS/MS	Y		0.3
		PCB-118	Camel milk			GC-MS/MS	Y		0.3
		PCB-138	Camel milk			GC-MS/MS	Y		0.3
		PCB-153	Camel milk			GC-MS/MS	Y		0.3
		PCB-180	Camel milk			GC-MS/MS	Y		0.3
Metals	4	Lead	Camel milk			ICP/MS	Y	_	5
	4	Arsenic	Camel milk			ICP/MS	Y	_	5
	4	Cadmium	Camel milk			ICP/MS	Y	_	5
	4	Mercury	Camel milk			ICP/MS	Y	_	5
Mycotoxins	20	Aflatoxin M1	Camel milk			HPLC/FLD	Y		0.01
Others	0								

Ipronidazole (IPZ)	DM-DCLD-SOP-FE-2366	µg/kg	0.03	NOT DETECTED
Chloramphenicol	DM-DCLD-SOP-FE-2375*	µg/kg	0.2	NOT DETECTED
Florfenicol	DM-DCLD-SOP-FE-2375*	µg/kg	2	NOT DETECTED
Thiamphenicol	DM-DCLD-SOP-FE-2375*	µg/kg	3.4	NOT DETECTED
Nitrofurantoin (AHD)	DM-DCLD-SOP-FE-2375*	µg/kg	0.2	NOT DETECTED
Furaltadone (AMOZ)	DM-DCLD-SOP-FE-2375*	µg/kg	0.2	NOT DETECTED
Furazolidone (AOZ)	DM-DCLD-SOP-FE-2375*	µg/kg	0.2	NOT DETECTED

Date of Issue :	12/12/2021	Rev No. : 6
General / ple	Level of Confidentiality / درجة السرية	Page 1 of 3

PO Box 67, Dubai, UAE - Tel: (+971 4) 3027126 / 3027092 - Fax: (+971 4)3358448

IDENTIFICATION:

Specification No.	S/5/07
Ref no	GSO 174/2021
Product Name	Raw Camel Milk

INGREDIENTS

N/A

PHYSICAL PROPERTIES:

	Date	Product Category	Sample Category	Product Name	Pack Size	Filler Code	Gross Wt (gm)	Batch Code	Prod Date	Expiry Date	Filling Time	Temp (°C)	Seal Quality (Cap/Foil/Bag) & Pack Appearance	pH	Acidity (N.A)	Fat %	Protien (%)
3	627	30-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	29	29-Jan-24	-	0:00	-	OK	6.44	0.11	27.3	-
4	628	30-Jan-24	Pasteurized Camel Milk	Random Sample	Low Fat Camel Milk	1 Lit	C1	1080	30	31-Jan-24	05-Feb-24	7:57	6.1	OK	6.65	0.12	1.36	2.65
5	629	30-Jan-24	Pasteurized Camel Milk	Random Sample	Low Fat Camel Milk	500 ml	C1	548	30	31-Jan-24	05-Feb-24	7:47	5.4	OK	6.65	0.12	1.36	2.65
6	630	30-Jan-24	Pasteurized Camel Milk	Random Sample	Full Cream Camel Milk	1 Lit	C1	1078	30	31-Jan-24	05-Feb-24	8:41	5.3	OK	6.66	0.12	2.84	2.73
7	631	30-Jan-24	Pasteurized Camel Milk	Random Sample	Full Cream Camel Milk	500 ml	C1	551	30	31-Jan-24	05-Feb-24	9:10	5.8	OK	6.66	0.12	2.84	2.73
8	632	30-Jan-24	Pasteurized Camel Milk	Random Sample	Full Cream Camel Milk	250 ml	C1	287	30	31-Jan-24	05-Feb-24	9:02	5.4	OK	6.66	0.12	2.84	2.73
9	633	30-Jan-24	Lactose Free Cow Laban	Random Sample	Lactose Free Cow Laban	500 ml	C1	558	30	31-Jan-24	09-Feb-24	9:45	5.3	OK	4.58	0.68	3.1	-
10	634	30-Jan-24	Organic Laban	Random Sample	Organic Laban	500 ml	C1	555	30	01-Feb-24	10-Feb-24	10:29	5.5	OK	4.59	0.69	3.3	-
11	635	30-Jan-24	Flavored Laban	Random Sample	Strawberry Flavored Laban	200 ml	C1	-	30	-	-	-	-	OK	-	-	-	-
12	636	30-Jan-24	Flavored Laban	Random Sample	Strawberry Flavored Laban	200 ml	C1	242	30	31-Jan-24	09-Feb-24	11:39	6.3	OK	4.4	0.62	1.2	-
13	637	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	12:30	-	OK	6.42	0.11	26	-
14	638	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	13:30	-	OK	6.42	0.11	26	-
15	639	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	14:30	-	OK	6.42	0.11	26	-
16	640	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	15:30	-	OK	6.42	0.11	26	-
17	641	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	16:30	-	OK	6.42	0.11	26	-
18	642	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	17:30	-	OK	6.42	0.11	26	-
19	643	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	18:30	-	OK	6.42	0.11	26	-
20	644	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	19:30	-	OK	6.42	0.11	26	-
21	645	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	20:30	-	OK	6.42	0.11	26	-
22	646	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	21:30	-	OK	6.42	0.11	26	-
23	647	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	22:30	-	OK	6.42	0.11	26	-
24	648	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	23:30	-	OK	6.42	0.11	26	-
25	649	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	SPX	-	30	30-Jan-24	-	0:00	-	OK	6.42	0.11	26	-
26	650	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	GEA	-	30	30-Jan-24	-	19:30	-	OK	6.37	0.11	28	-
27	651	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	GEA	-	30	30-Jan-24	-	21:30	-	OK	6.37	0.11	28	-
28	652	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	GEA	-	30	30-Jan-24	-	23:30	-	OK	6.37	0.11	28	-
29	653	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	GEA	-	30	30-Jan-24	-	1:30	-	OK	6.37	0.11	28	-
30	654	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	GEA	-	30	30-Jan-24	-	3:30	-	OK	6.37	0.11	28	-
31	655	31-Jan-24	Camel Milk Powder	Random Sample	Camel Milk Powder	25 kg	GEA	-	30	30-Jan-24	-	5:00	-	OK	6.37	0.11	28	-
32	656	31-Jan-24	Pasteurized Camel Milk	Random Sample	Low Fat Camel Milk	1 Lit	C1	1077	31	01-Feb-24	06-Feb-24	9:27	5.1	OK	6.59	0.12	1.33	2.73
33	657	31-Jan-24	Pasteurized Camel Milk	Random Sample	Low Fat Camel Milk	500 ml	C1	-	-	-	-	-	-	-	-	-	-	-

Prepared BY:	Approved By:	Doc. No.:
Team Leader NPD	NPD Manager	RM/NPD/01 Gr

Field visits

-Practices in camel farming and milk processing
-Challenges facing the industrials in both research or innovat
regulation levels

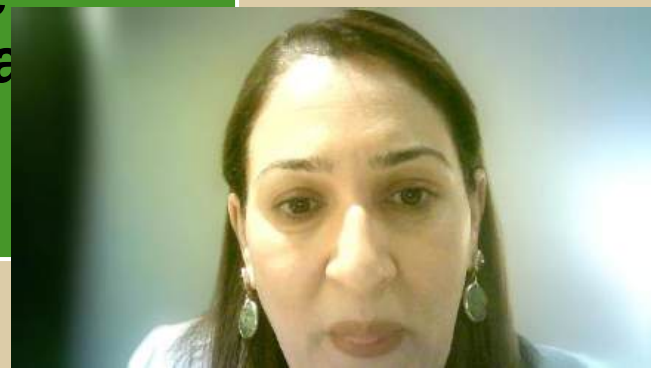
Standard Development Workflow: main milestones

Literature Review on Characteristics of Camel Milk: identification of nutritional distinctive criteria

Documenting conditions of production of Camel Milk, with emphasis on items included in the MMP standards

Review of existing Standards established at regional and international level

Gather data supporting the project document: Trade and other economic aspects related to Ca Milk

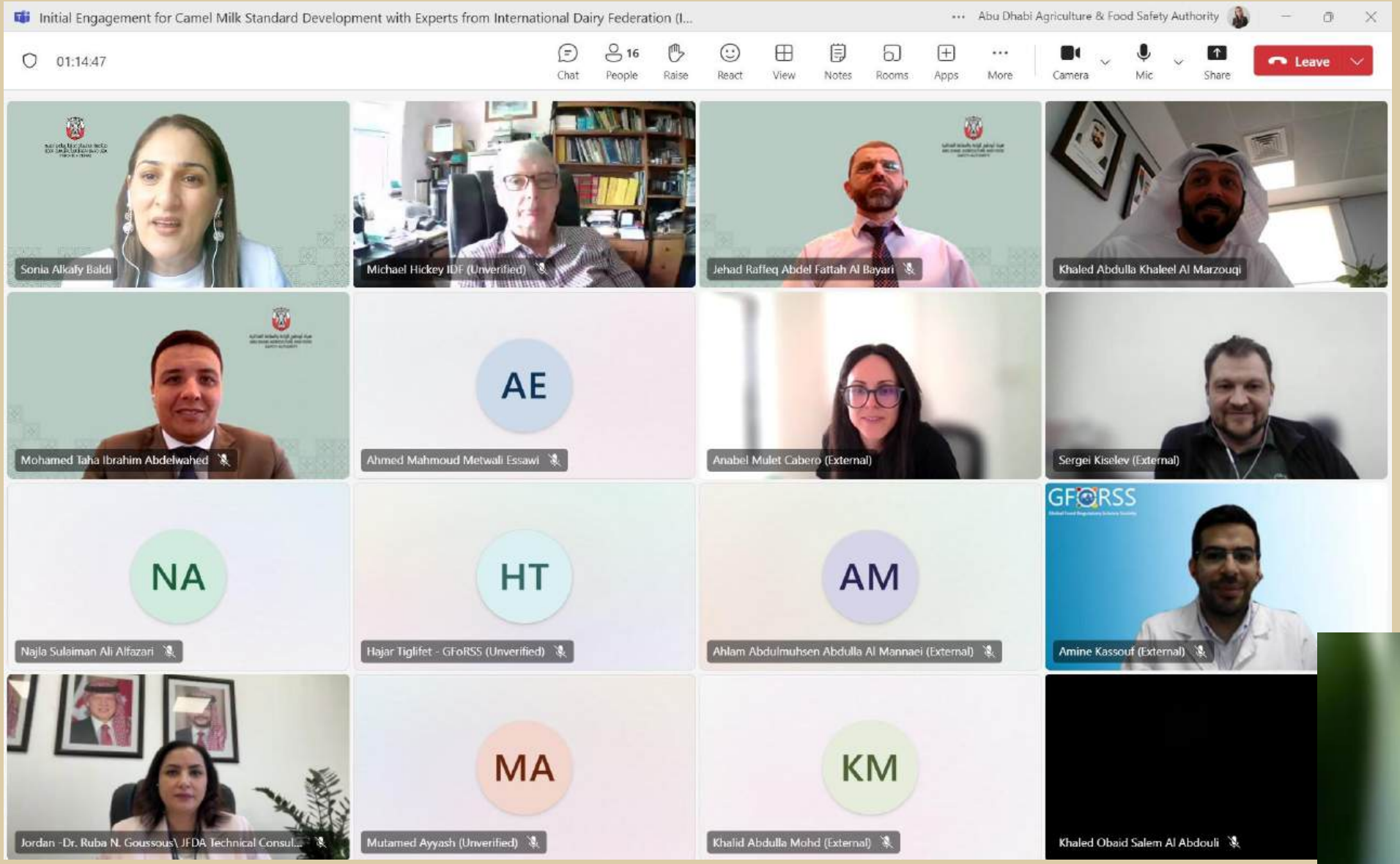


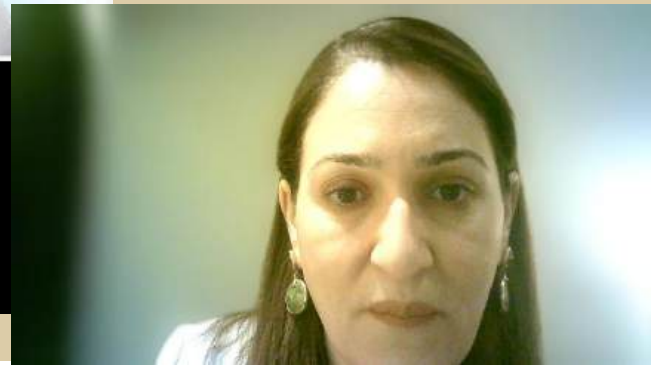
International Consultations

Codex Secretariat

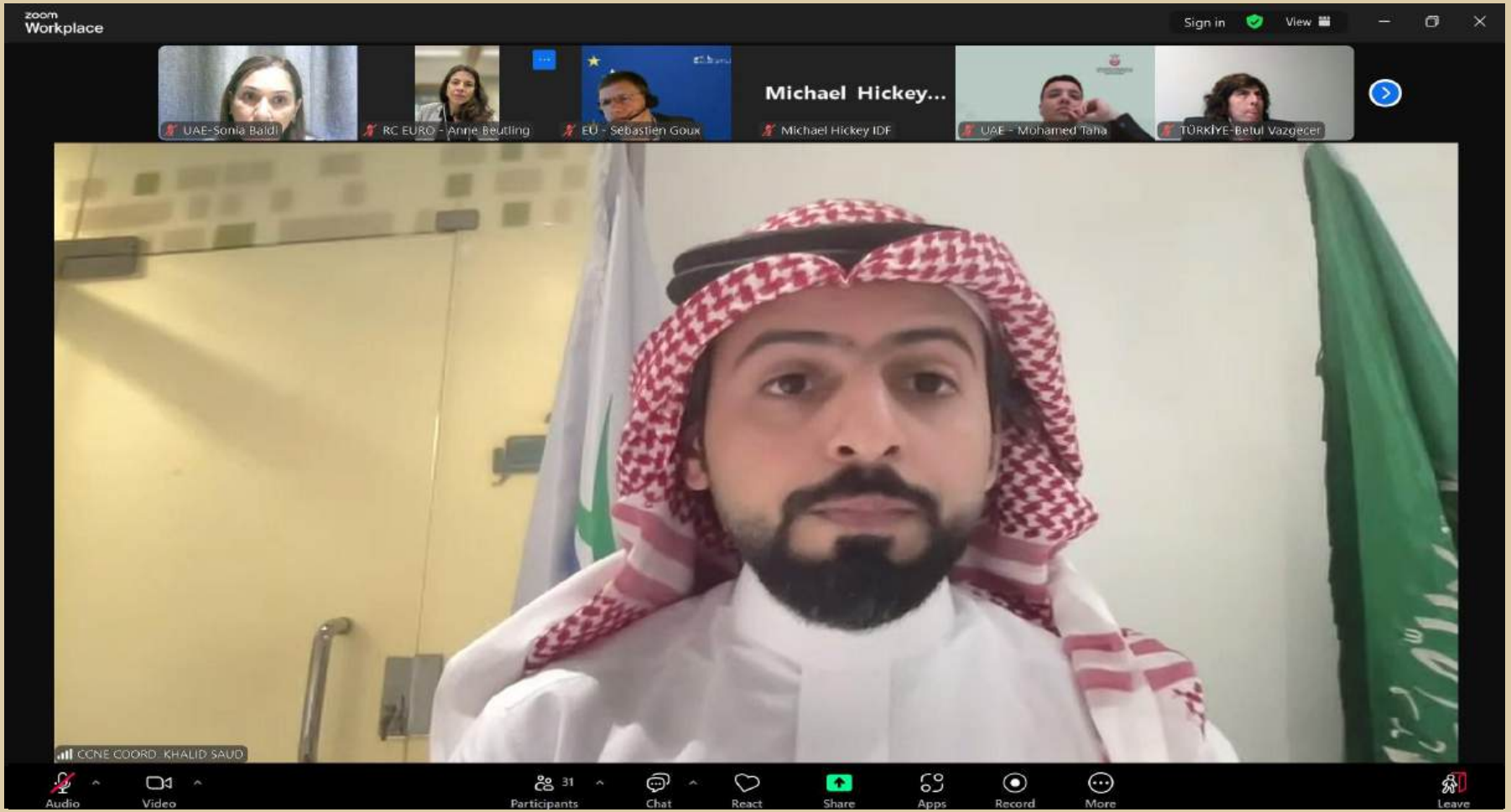
CCMMP

IDF





Collaboration Meetings with Codex Regional Committees



- CCNE
- CCAFRICA
- CCASIA
- CCLAC
- CCEURO

OUTPUT OF International Consultations

1- Highlight the efforts done by UAE in seeking guidance and support

2- Support the proposal on Camel Milk products standard that will promote the trade on this commodity

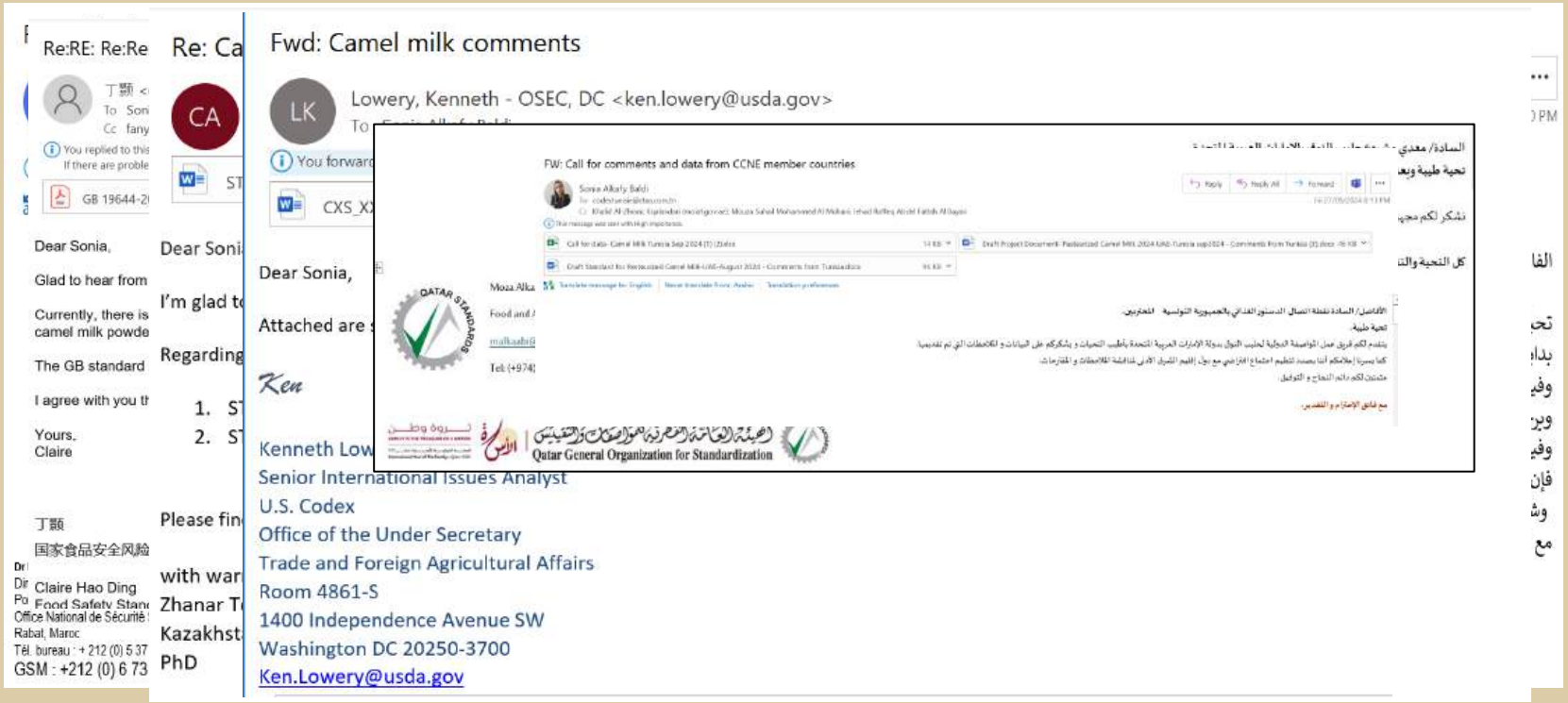
3- Provide comments on the drafts

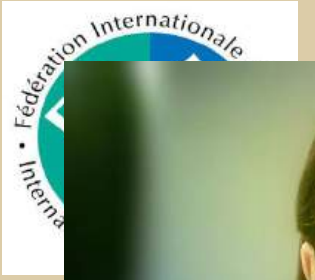
4- Participate in the co-authoring

5- Contribute actively in promoting the proposal

Country:	Sultanete of Oman				
Organization:	Ministry of Agricultural Wealth, Fisheries and Water Resources				
Date	31/10/2024				
Data Source: Link or reference	ali.alghafri@mafwr.gov.om				
Herd details (official statistics)					
Number of Camels (Unit= Millions)	0.296				
Number of milking Camels(Unit= Millions)	0.4				
Types of Herd (If known)	one humped				
Average Age of the Camels	40 - 50				
Main diseas and corresponding vaccines	Prucellosis (vaccine Rv1) , Trepansomasis (treatment) , Jhons (paratuperclosis vaccine)				
Production					
Item (Unit= Tons)	2020	2021	2022	2023	(1- 9) 2024
Production of Raw Camel Milk	0	0	1149.7	2367.15	3755
Production of pasteurized Camel Milk	0	0	1149.7	2367.15	3755
Production of Powder Camel Milk	0	0	0	0	0
Production of ice cream	0	0	0	0	0
Production of ghee	0	0	0	0	0
Production of other camel milk products	0	0	0	0	0
Export					
Item (Unit= Tons)	2019	2020	2021	2022	2023
Quantity of Camel Milk Exported	0	0	0	0	2367
Country Exporter	0	0	0	0	KSA
Camel Milk Properties (as per standard)	**Full cream**	**low fat**	**skimmed**		
Protein content %	0	2.65	0		
lactose	0	3.2 - 3.6	0		
total ash	0	0	0		
Total solids %	0	MIN 10	0		
total non -fat solids (%)	0				
Fatty acid profile	0				
Casein (%)	0				

Correspondance





DRAFTS

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON MILK AND MILK PRODUCTS

Discussion Paper on the Development of New Work on

A Camel Milk Commodity Standard

Author: United Arab Emirates,

Co-authors: Kenya, Chad, Mali, Niger, Somalia, China, Oman, Tunisia, Morocco Kazakhstan, Qatar, Iraq, Iran, Jordan, Egypt and the International Union of Food Science and Technology[1] (IUFoST)

1. Background

The United Nations has designated 2024 as the International Year of Camelids (IYC 2024) to spotlight the overlooked potential of camelids.

Raising awareness and encouraging increased investment in the camelid sector aligns with the objectives of this year, with added support to research, capacity development, and the adoption of innovative practices and technologies in the food production sector. Camelids, through the provision of milk and meat, contribute significantly to the advancement of Sustainable Development Goals (SDGs), specifically those addressing hunger, the elimination of extreme poverty, the empowerment of women, and the sustainable utilization of terrestrial ecosystems.

Furthermore and during the 11th session of the Codex Committee for the Near East (CCNE11), which was held at FAO Headquarters, Rome, Italy, from 18 September to 22 September 2023, the United Arab Emirates (UAE) introduced a proposal to develop a regional standard for pasteurized Camel Milk of the species *Camelus dromedarius* (one-humped camel), highlighting the increase in Camel Milk production and trade, at regional

[1] Through the contribution of IUFoST's disciplinary group on food regulatory science: the Global Food Regulatory Science Society (GFoRSS).

JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON MILK AND MILK PRODUCTS

Project Document on the Development of a Standard on on Camel Milk Products

1. Purpose and scope of the standard

The purpose of this work is to develop an international standard for Camel Milk products, to account for their specificities as dairy products, with emphasis on developing a standard of **authenticity** to **prevent adulteration** of products derived from Camel Milk.

The proposed Standard would also include **guidance on conditions of production** of Camel Milk products, that are applicable to these products by **referring to** the relevant Codex texts such as those developed by CCMMP (e.g., STANDARD FOR MILK POWDERS AND CREAM POWDER CXS 207-1999) and those developed by other horizontal committees (e.g., Code of Hygienic Practice for Milk and Milk Products CXC 57-2004).

The proposed standard would **identify any important deviations** from the current guidance included in the referred Codex standards as a result of the **distinct characteristics** of Camel Milk products, in comparison with other dairy products.

The Standard would apply to Camel Milk products intended for human consumption, i.e., ready for their intended use as human food for direct consumption or for further processing. The Standard would apply to the most traded products, such as Powder Camel Milk or Pasteurized Camel Milk or any other products offering an important development potential.

The standard will aim to address Camel Milk products derived from the species Camelus *dromedarius* (one-humped) or *Camelus bactrianus* (two-humped) camels.

One of the objectives pursued from this standard is to have a **single "Codex reference standard"** for Camel Milk products, referring to or based upon Codex texts with the relevant changes that encompasses:

Camel Milk Composition

1- The unique attributes of Camel Milk products mainly the absence of **β-lactoglobulin**, one of the main milk allergens and a highly prevalent protein found in whey products, **is naturally absent from Camel Milk**.

2-This feature makes Camel Milk and its products closer to human milk, with a lower allergenic potential, and places such products in high market demand.

The abundance of β-casein is similar to what is found in human milk and is known to contribute to easier digestibility, as these proteins are less resistant to peptide hydrolysis than αS-casein (Ho et al., 2022).

2- The increased interest and trade opportunities make these
subject to illicit manufacturing and false representation
leading to consumer deception and fraud; thus, threate
integrity of this valuable commodity's supply chain.

Current Environment of Camel Milk

Increased production and demand

Produced in different geographical regions

Traditional Methods of Production

Large portion of the production is NOT included in the FORMAL trade

Several Camel Milk Products

Benefits of An International Standard on Camel Milk Products

An international standard under the auspices of the Codex Alimentarius Commission, would support:
▪ Maintaining the integrity of the Camel Milk Products supply chain by enabling a standard of authenticity
▪ Better dissemination of the knowledge about Camel Milk products supporting their broader uptake in various markets
▪ Enabling improved guidance to producers about the specificities of Camel Milk product requirements that must be considered when applying the Codex dairy standards already in place, including any new set of conditions that would be specific to Camel Milk due to its unique attributes.

Steps Forward: Formation of an EWG under the CCMMP to:

- ❑ **Review Current Codex Standards under CCMMP** that may be applicable to Camel Milk products and identify areas that should be updated or enhanced.
- ❑ **Review and make recommendations for updates of other Codex standards developed by horizontal** committees with possible implications on Camel Milk Products including:
  - The Code of Hygienic Practice for Milk and Milk Products (CXC 57-2004),
  - Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods (CXG 21-1997),
  - General Standard for Contaminants and Toxins in Foods and Feeds (CXS 193- 1995), and
  - General Principles of Food Hygiene (CXC 1-1969)
  - Recommended methods of Analysis and Sampling (CXS 234-1999)
- ❑ **Develop a new standard for Camel Milk products, where relevant, to account for their specificities with emphasis on the most traded products,** such as Camel Milk Powder and other products offering an important development potential, for example: Liquid Pasteurized Camel Milk. The focus should be on developing a standard of authenticity enabling attes legitimacy of products derived from Camel Milk.

STEPS FORWARD

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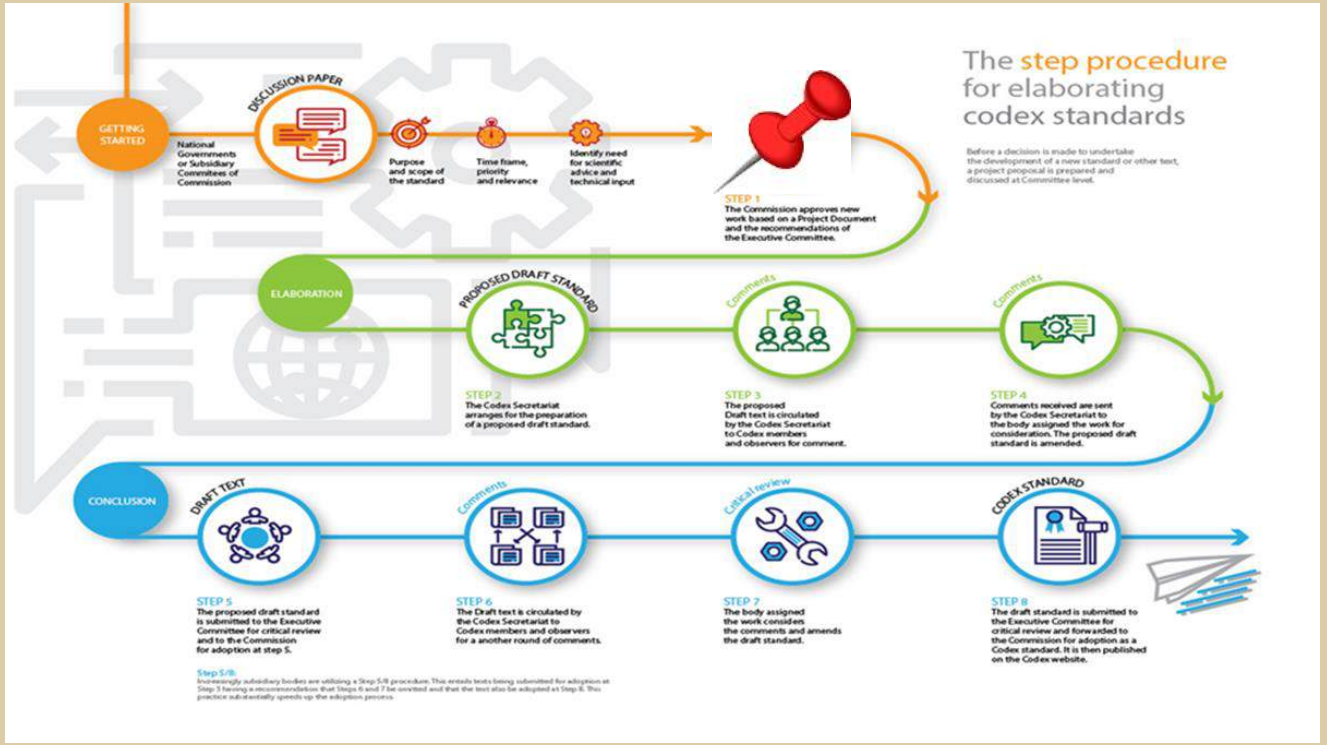

203	Item 16: Discussion paper on the development of new work on a camel milk commodity standard (Prepared by United Arab Emirates)	21/11/2024	CAC47/CRD03

Thank you

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Thank You!