



GLOBAL FOOD REGULATORY
SCIENCE SOCIETY

Arab Gluten Free Initiative

Third Arab Codex Colloquium

Amman, Jordan • 12 June 2024

The Issue: Celiac Disease

- ❑ Celiac disease is a lifelong medical condition observed in genetically susceptible individuals.
- ❑ Symptoms are related to the ingestion of the **gluten protein** found in **wheat and related grains**.
- ❑ Exposure to gluten can lead to a series of **immune-mediated adverse reactions**.
- ❑ **Progressive deterioration** of the lining of the small intestine can also occur.
- ❑ Individuals with celiac disease have an increased risk of developing other diseases, including:
 - Osteoporosis.
 - lymphoma and type I diabetes mellitus.
 - increased risk of reproductive problems.
 - growth failure and delayed puberty in Children.
- ❑ **It is estimated that Celiac disease affects approximately 1% of the population worldwide.**



Prevalence in Arab Countries is Suspected to be HIGHER



Interventions

- ❑ **A life-long gluten-free diet** is the only way to avoid the symptoms and the complications of celiac disease
- ❑ Individuals with celiac disease are advised to avoid the consumption of wheat, rye, barley, oats and triticale, as well as their hybridized strains.
- ❑ Gluten can be present in a food as a result of its manufacture using ingredients that **are gluten sources themselves**, such as wheat or barley.
- ❑ **Gluten can also be present in a food due to cross-contamination**

Labelling Can be Used to Help **Celiac Individuals Identify Foods Suitable for Their Conditions**



Expectation

- ❑ Measures taken by Industry to remove Gluten and its sources from the foods called Gluten Free.
- ❑ Regulation has to consider Threshold values:
 - 10 mg/day seems acceptable based on latest scientific evidence
 - “a daily gluten intake of less than 10 mg is **unlikely to cause significant histological abnormalities.**” In other words, it is anticipated that the majority of people with Celiac disease will not be negatively affected if they limit their gluten intake to less than 10 mg per day.



Catassi, C. Response to P.Collin et al, AmJ Clin Nutr, 2007; 86:260-9

- ❑ To Promote Safe Food Alternatives for Celiac Individuals and their Families

- ❑ To Support Robust Regulatory Approach for Gluten Free Foods
 - Develop Enablers of Food Regulatory Interventions



Useful Codex Guidance

Gluten Free Labelling Standard

STANDARD FOR FOODS FOR SPECIAL DIETARY USE FOR PERSONS INTOLERANT TO GLUTEN

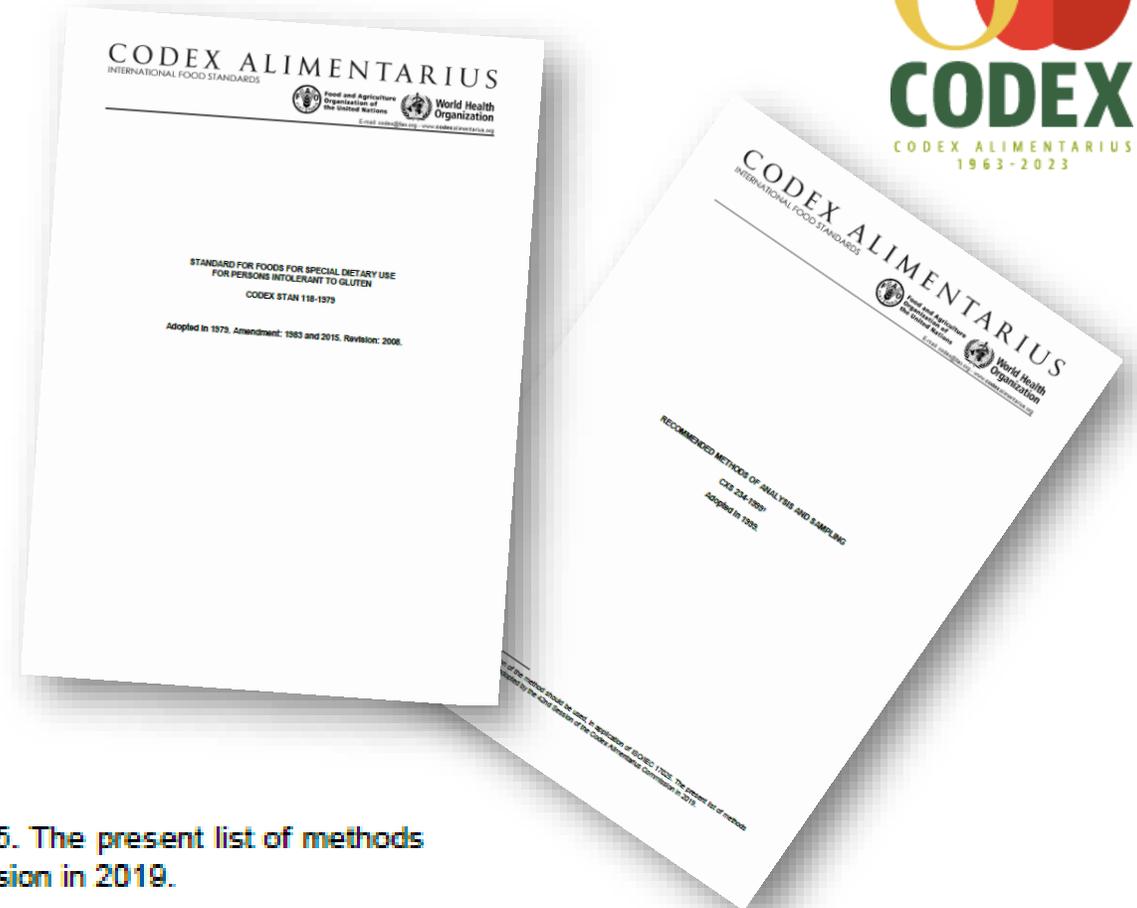
CODEX STAN 118-1979

Adopted in 1979. Amendment: 1983 and 2015. Revision: 2008.

RECOMMENDED METHODS OF ANALYSIS AND SAMPLING

CXS 234-1999¹

Adopted in 1999.



¹ The most updated version of the method should be used, in application of ISO/IEC 17025. The present list of methods reflects the amendments adopted by the 42nd Session of the Codex Alimentarius Commission in 2019.

Codex Stan 118-1979: Amendment in 2015

2.1.1 *Gluten-free foods*

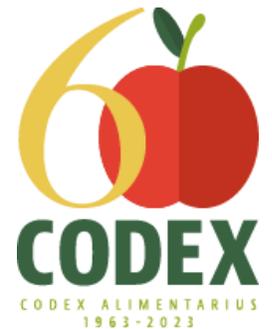
Gluten-free foods are dietary foods

- a) consisting of or made only from one or more ingredients which do not contain wheat (i.e. all *Triticum* species, such as durum wheat, spelt, and khorasan wheat, which is also marketed under different trademarks such as KAMUT), rye, barley, oats¹ or their crossbred varieties, and the gluten level does not exceed 20 mg/kg in total, based on the food as sold or distributed to the consumer, and/or
- b) consisting of one or more ingredients from wheat (i.e. all *Triticum* species, such as durum wheat, spelt, and khorasan wheat, which is also marketed under different trademarks such as KAMUT), rye, barley, oats¹ or their crossbred varieties, which have been specially processed to remove gluten, and the gluten level does not exceed 20 mg/kg in total, based on the food as sold or distributed to the consumer.

2.2.2 *Prolamins*

Prolamins are defined as the fraction from gluten that can be extracted by 40 - 70% of ethanol. The prolamin from wheat is gliadin, from rye is secalin, from barley hordein and from oats¹ avenin.

It is however an established custom to speak of gluten sensitivity. The prolamin content of gluten is generally taken as 50%.



Codex Stan 118-1979

5.2 Method for determination of gluten

Enzyme-linked Immunoassay (ELISA) R5 Mendez Method.

CSX 234-1999

PART A – METHODS OF ANALYSIS BY COMMODITY CATEGORIES AND NAMES

| Commodity Category | Substance | Method | Reference | Method Type | Section |
|--------------------|-----------|--|--|-------------|---------|
| Gluten-free foods | Gluten | Enzyme-Linked Immunoassay R5 Mendez (ELISA) Method | <i>Eur J Gastroenterol Hepatol</i> 2003; 15: 465-474 | Immunoassay | I |



Gluten Analysis in Codex Alimentarius

**Codex Alimentarius Type 1 method for
gluten analysis in food**

Standard CXS 234-1999 (adoption from 2019)

R5 ELISA

Gliadin

**Need to have a method
that works on complex
food matrices: e.g.,
processed foods**



□ Data Gathering to Support Application of Codex Guidance

- What is the Level of Exposure to Gluten, following a Gluten Free Diet in Arab Countries?
- Is the Codex Standard : 20 ppm cut-off Protective Enough?
- Is there enough supply of Alternatives to Gluten-containing foods



□ Promote Availability of Safe and Innovative Gluten Free Food Alternatives

Initiatives Underway

- ❑ Standardize Analytical Methods for Gluten Free Testing:
 - AOAC International Driven Approach (guided by Codex)
 - Arab Official Gluten Free Methods

- ❑ Data Supporting Food Consumption Information of Celiac Individuals and their Facilities

- ❑ Surveys of Gluten Occurrence in Gluten Free Foods
 - Either labelled or considered / assumed as such



Evidence Based Decision Making on Gluten Free Requirements in the Arab Region



