



Food and Agriculture
Organization of the
United Nations



World Health
Organization

CODEX
ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

FAO/WHO workshop on risk assessment of food allergens

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Food and Agriculture
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INTERNATIONAL FOOD STANDARDS



19-20 September 2025, Nanning, China

(22-26 September 2025, Nanning, China, CCASIA)

over 60 participants from 11 countries across Asia,
Africa and Latin America:

- Brunei Darussalam
- Brazil
- China
- Lao People's Democratic Republic
- Malaysia
- Maldives
- Nigeria
- Singapore
- Tanzania
- Thailand
- the Netherlands



A3.1.3 Homework 3, cashew particle



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- **Size / Mass** × **Composition** = **Exposure**
- 70 mg cashew particle × _____ % protein = _____ mg cashew protein

- **Where did your protein estimate for cashew come from?**

- **Personal notes:**

Homework

A3.2.3 Homework 3, cashew particle

- **Size / Mass** × **Composition** = **Exposure**
- 70 mg cashew particle × 17.4 % protein = 12.2 mg cashew protein

- **Where did your protein estimate for cashew come from?**

The United States Department of Agriculture (USDA) FoodData Central nutritional information database, which compared protein estimates for raw cashew (17.4 percent), dry roasted cashew (15.3 percent), and oil roasted cashew (16.8 percent), and we used the most conservative value as we were not given more specific information about cashew on the form.

(Other protein databases are available, and if a company is performing this exposure assessment then they should have the food composition data [nutrient compositional data] from their ingredient specification information).

- **Personal notes:**

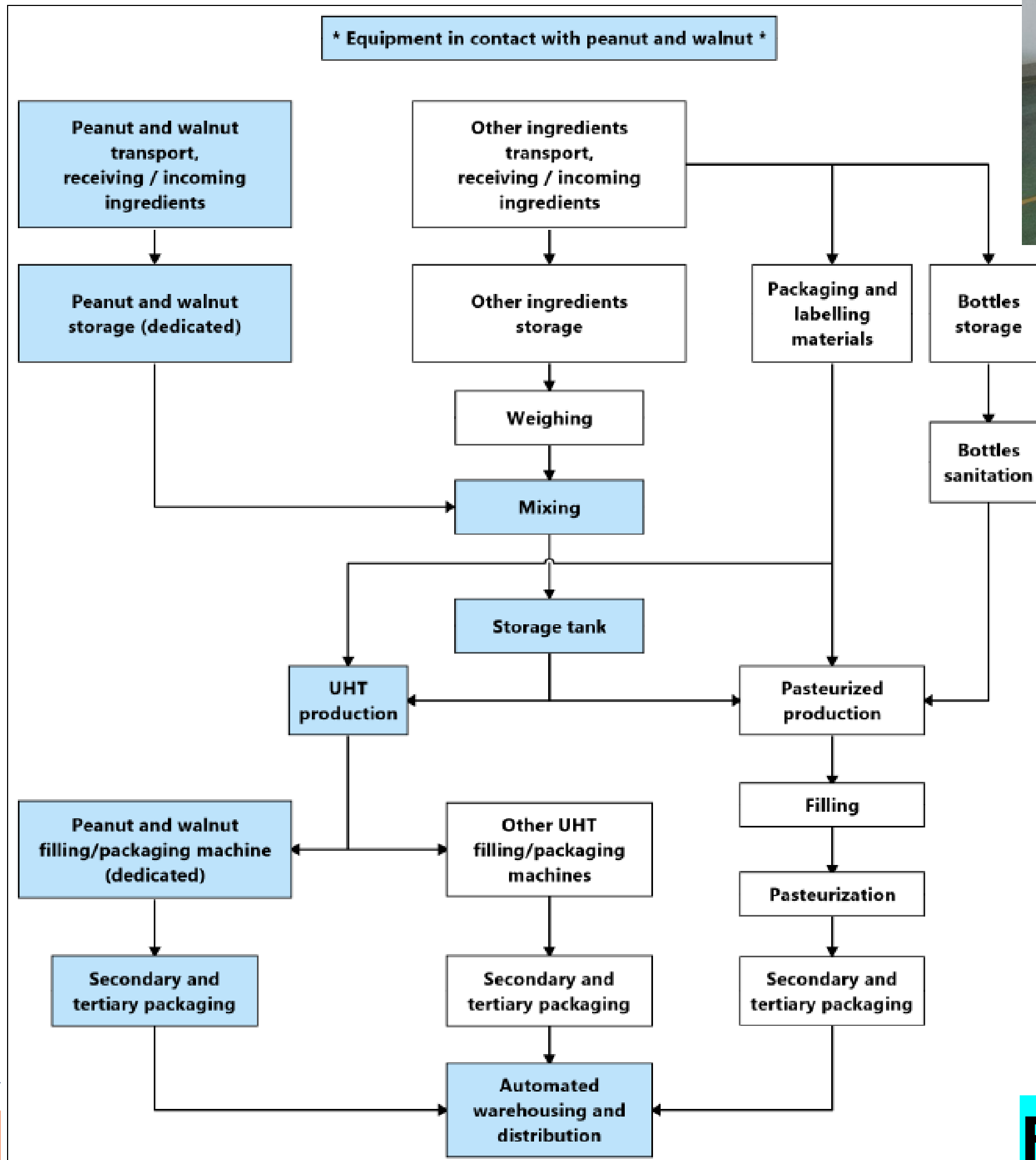
Exposure of 12.2 is greater than the FAO/WHO RfD of 1.0 mg cashew protein. If the context of this exposure assessment was part of a larger risk assessment to apply PAL or not apply PAL, and all reasonable risk mitigation practices have been explored/implemented and there is still residual UAP due to cross contact, my recommendation would be to apply PAL for cashew to this product.

Field visit

* Equipment in contact with peanut and walnut *

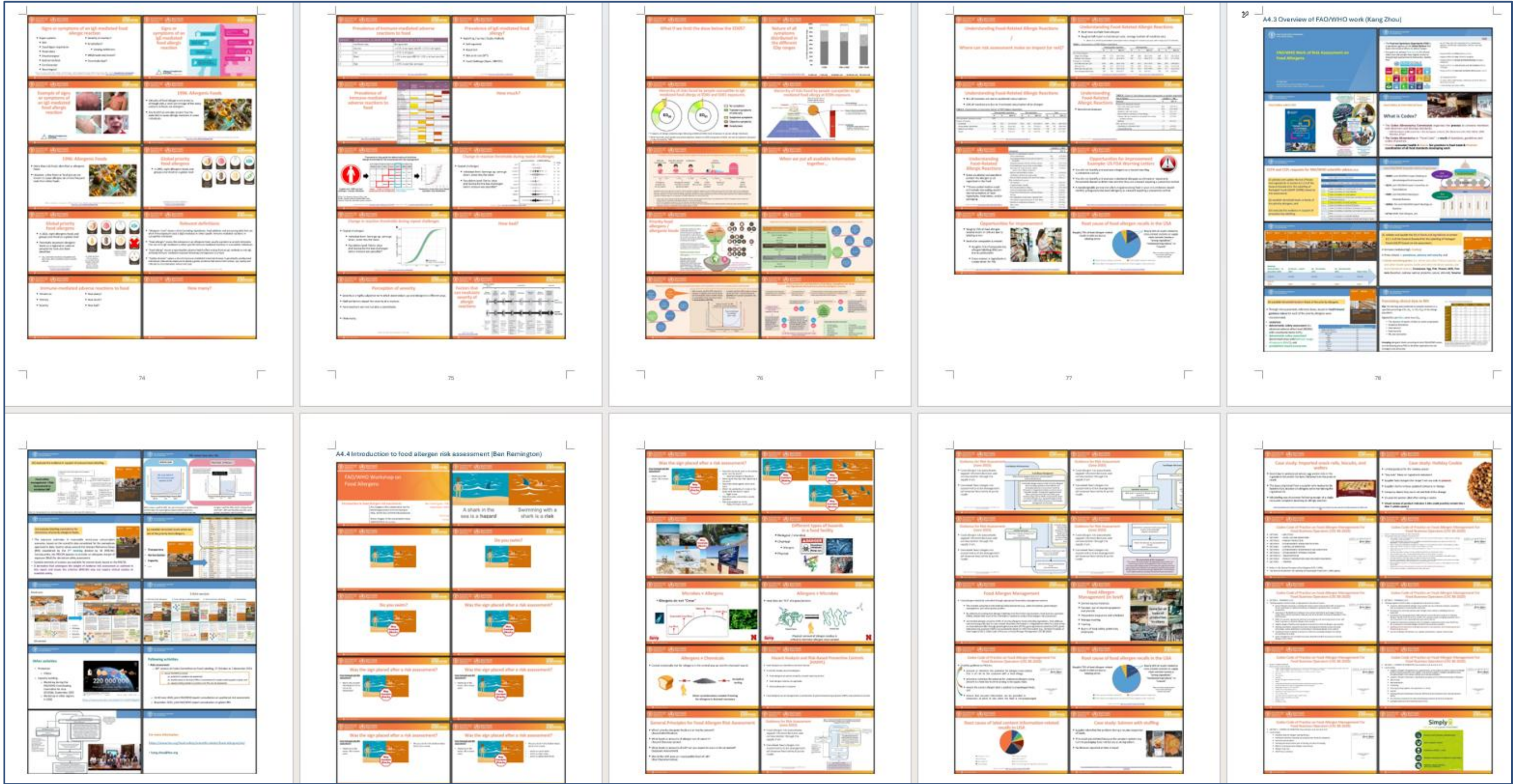


Food allergen map of the factory





Report and resource



FAO/WHO workshop on risk
assessment of food allergens

Workshop report

Nanning, China 19–20 September 2025

- gained the **necessary knowledge and tools** to identify, evaluate, and manage food allergen-related risks in food supply chains.

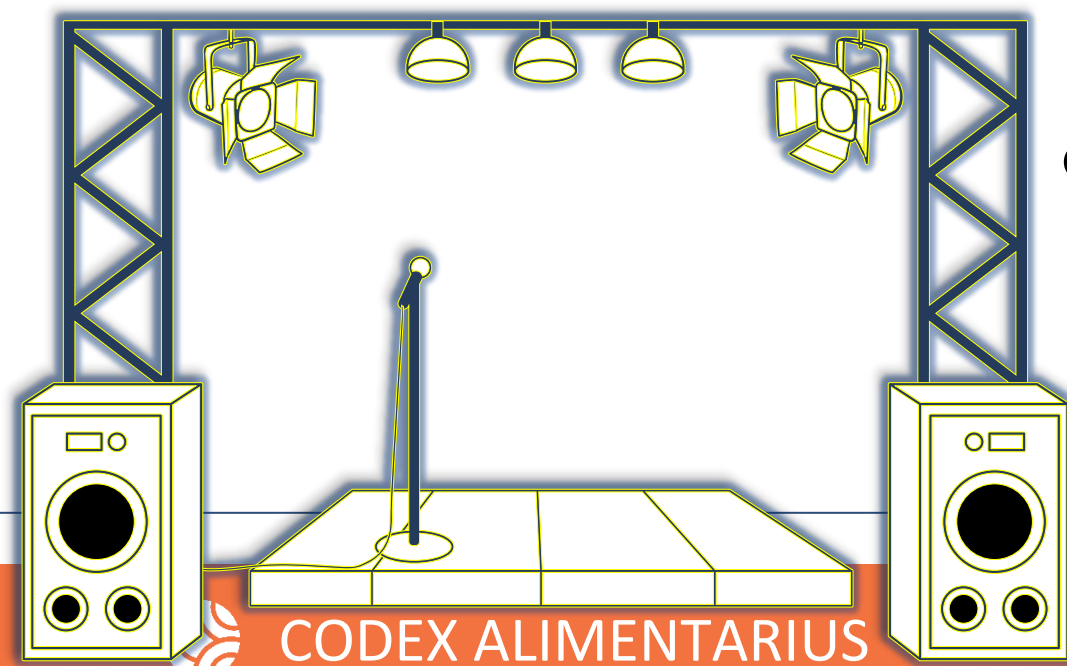


- served as a **platform** to facilitate the implementation of updated international regulations and policies on food allergens.

- managed to strengthen national food safety **frameworks** to better address food allergen risks, improve **compliance** and control **requirements**, support harmonization of **regulatory approaches**.



- participants recommended **similar events** should be convened in different regions to strengthen the capacity on managing food allergens risk.



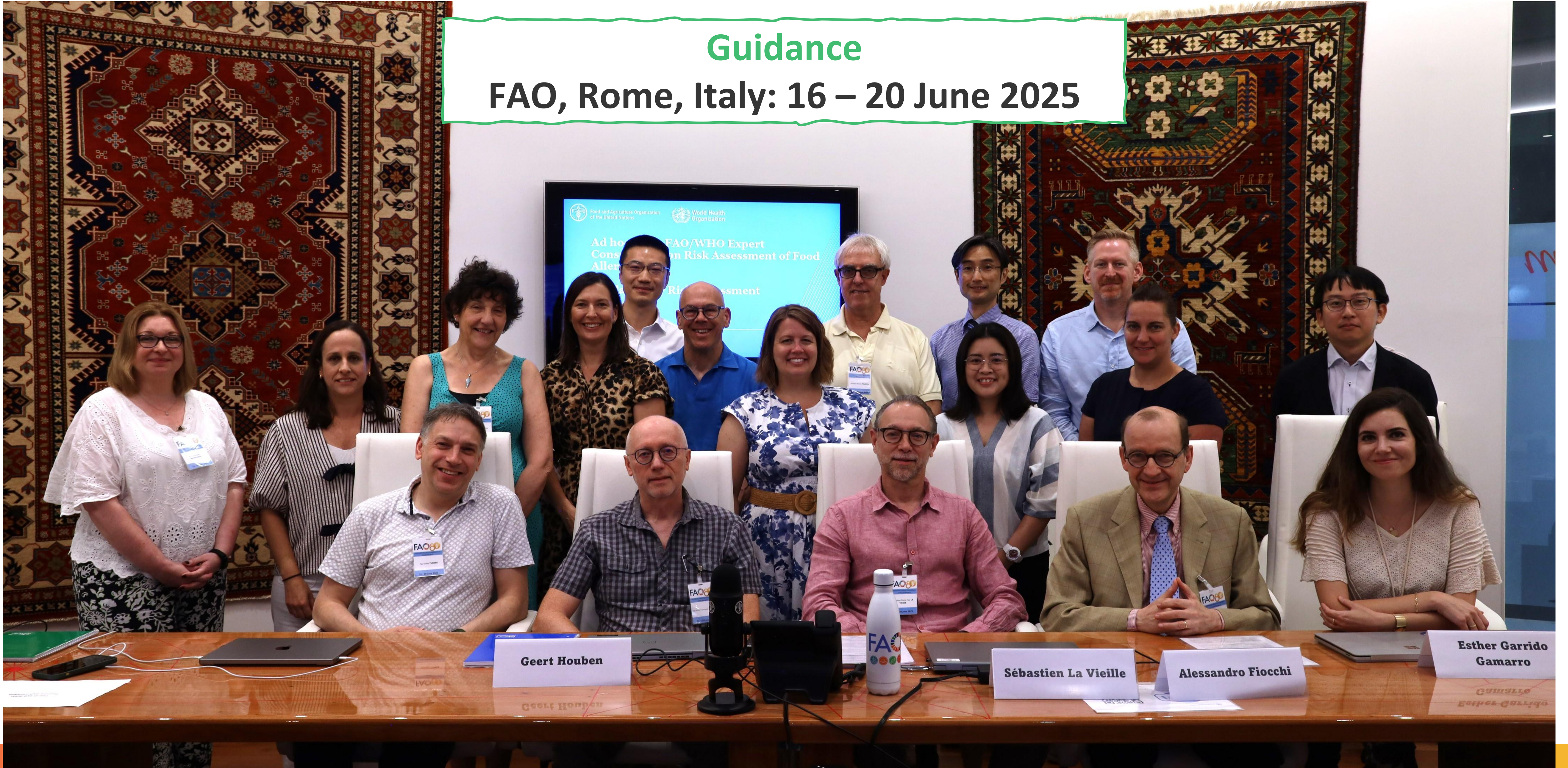


- guidance for risk assessment
- reference dose(s) for cereals containing gluten or gluten



Guidance

FAO, Rome, Italy: 16 – 20 June 2025



Geert Houben

Sébastien La Vieille

Alessandro Fiocchi

Esther Garrido
Gamarro



1. Guidance for risk assessment

- Food allergens were a unique category of food safety hazards, requiring distinct risk assessment and management approaches.
- Risk assessment is applicable to all food business operators, regardless of size, and is essential for justifying precautionary allergen labelling (PAL).
 - The **initial steps** of any food allergen risk assessment are common for all FBOs and primary producers, types of products, and manufacturing processes.
 - Information required for such risk assessment is **qualitative** and, depending on the situation, may need to be supplemented with **quantitative** information.
 - Often, a completed risk assessment may **solely** rely on qualitative information obtained in the initial steps.
 - When needed, quantitative information mainly concerns estimation of the possible level or amount of UAP. Such estimation may be based on **product formulation, volumes or sizes of observed allergenic material, volumes or sizes of production equipment, and/or appropriate analytical results.**

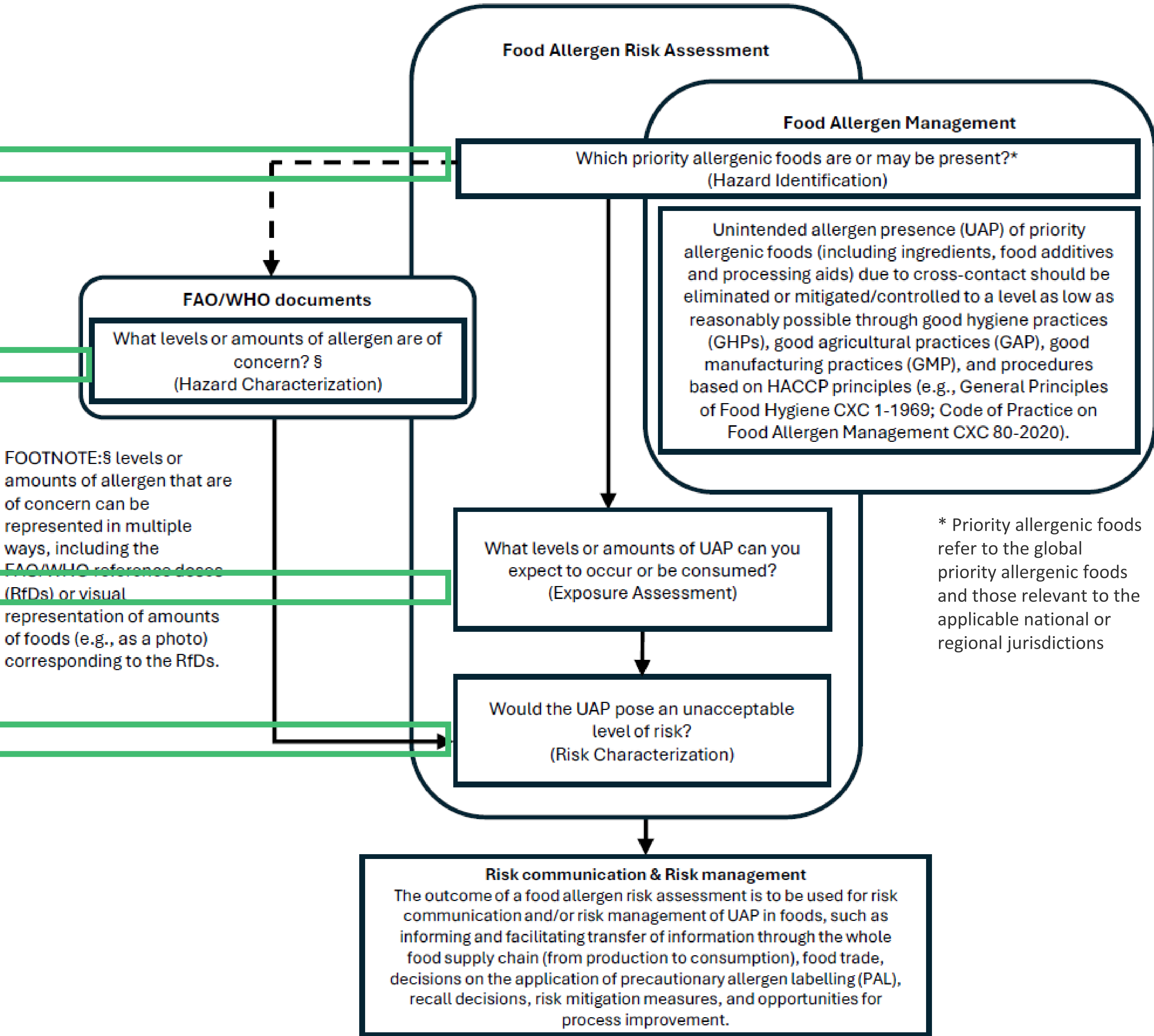


Hazard identification
(Priority allergenic foods)

Hazard characterization
([visual] FAO/WHO RfDs)

Exposure assessment
(UAP occur or consume)

Risk characterization
(Level of risk poses by UAP)





- The detailed framework with explanatory notes will be included in the **full report**.
- The proposed framework does not differentiate between exclusively qualitative and quantitative approaches, rather it utilizes qualitative information and, where required, the combination of **qualitative and quantitative** information.
- The potential combination of qualitative and quantitative information within a risk assessment is not unique to food allergens and is **common in other fields of risk assessment for food**.
- Most or all information needed to conduct a food allergen risk assessment **is available** within a producer's own facility, which includes supply chain-related information.
- The framework will include **visual representation** of amounts of foods (e.g., as a photo) corresponding to the FAO/WHO reference doses (RfDs).



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Gluten

FAO, Rome, Italy: 3 – 7 November 2025



2. Reference dose(s) for cereals containing gluten or gluten

Coeliac disease

- In 2008, Codex Alimentarius Commission established that **gluten-free** foods should contain levels of gluten no higher than **20 mg/kg** [CXS-118]. With a daily intake of 500 g of food with levels of gluten no higher than 20 mg/kg, this would equate to an intake of no more than 10 mg of gluten per day.
- While the data for establishing a tolerable daily intake of 10 mg gluten are limited, they **remain relevant** and the implementation of a definition of gluten-free at levels of gluten no higher than 20 mg/kg has been **successful in improving the availability and safety of foods** for individuals with coeliac disease.
- The experts agreed that **RfDs for gluten for the PAL framework** should **not** be used as the basis for defining **gluten-free labelling**.

Reference dose(s)

- The analyses indicated that maximum limits even with acute **RfDs above 5 mg gluten** could protect individuals with coeliac disease from chronic exposures exceeding **10 mg per day**.
- **Recommendation:** A **RfD of 4 mg gluten** is recommended by the experts for risk assessment of unintended presence of gluten and cereals containing gluten in food products as the basis for deciding whether or not PAL for cereals containing gluten should be applied.
- **Recommendation:** The experts recommend that for guidance on PAL, the previously established RfD of 5 mg **total protein** for wheat should be replaced with a RfD of 4 mg gluten.



Risk assessment and communication

- Applying a risk-based approach to PAL for cereals containing gluten, based on the 4 mg gluten RfD will result in **increased food availability** for products that currently may not meet the gluten-free requirements but would meet the safety objective for acute and cumulative exposure.
- For comparison of an expected exposure expressed in units of total protein from the source to the gluten RfD, a **conversion** to mg gluten would be required.
- PAL for cereals containing gluten should only be applied when the RfD for gluten may be **exceeded**.
- Additionally, the RfD could be used for **risk-assessment and management decisions**, including for recalls, compliance purposes and process improvements.



- The ultimate result of these approaches is that individuals with coeliac disease can have **greater confidence** that products without a gluten-free claim have undergone risk assessment and provide accurate information on the label.

Conclusion

- Adopting a **4 mg gluten RfD in a risk-based PAL framework** will enhance safety and labelling clarity, reduce unnecessary PAL statements, and expand safe food options for people with coeliac disease and IgE-mediated wheat allergy. This will support better quality of life and consumer confidence.

CCFL49 side event

**From Science to Practice: Implementing Food
Allergen Risk Assessment in Real-World Settings**

Akio Hasegawa

Department of Nutrition and Food Safety
World Health Organization

12 May 2026 - Ottawa

Canada

Current challenges

- Public awareness of food allergens
- National data on allergy prevalence, food allergens?
- Food allergens may be different for different countries or different age groups, and communities - Unique food allergens may exist
- Globalization of food trade
- Informal food production and distribution system
- Cross-contamination of food while producing, processing, and cooking food
- Confusion between food allergy and food intolerance.

International Food Safety Authorities Network (INFOSAN)

Voluntary network of national authorities involved in food safety from around the world (187 WHO Member States with 800+ members) managed jointly by FAO and WHO



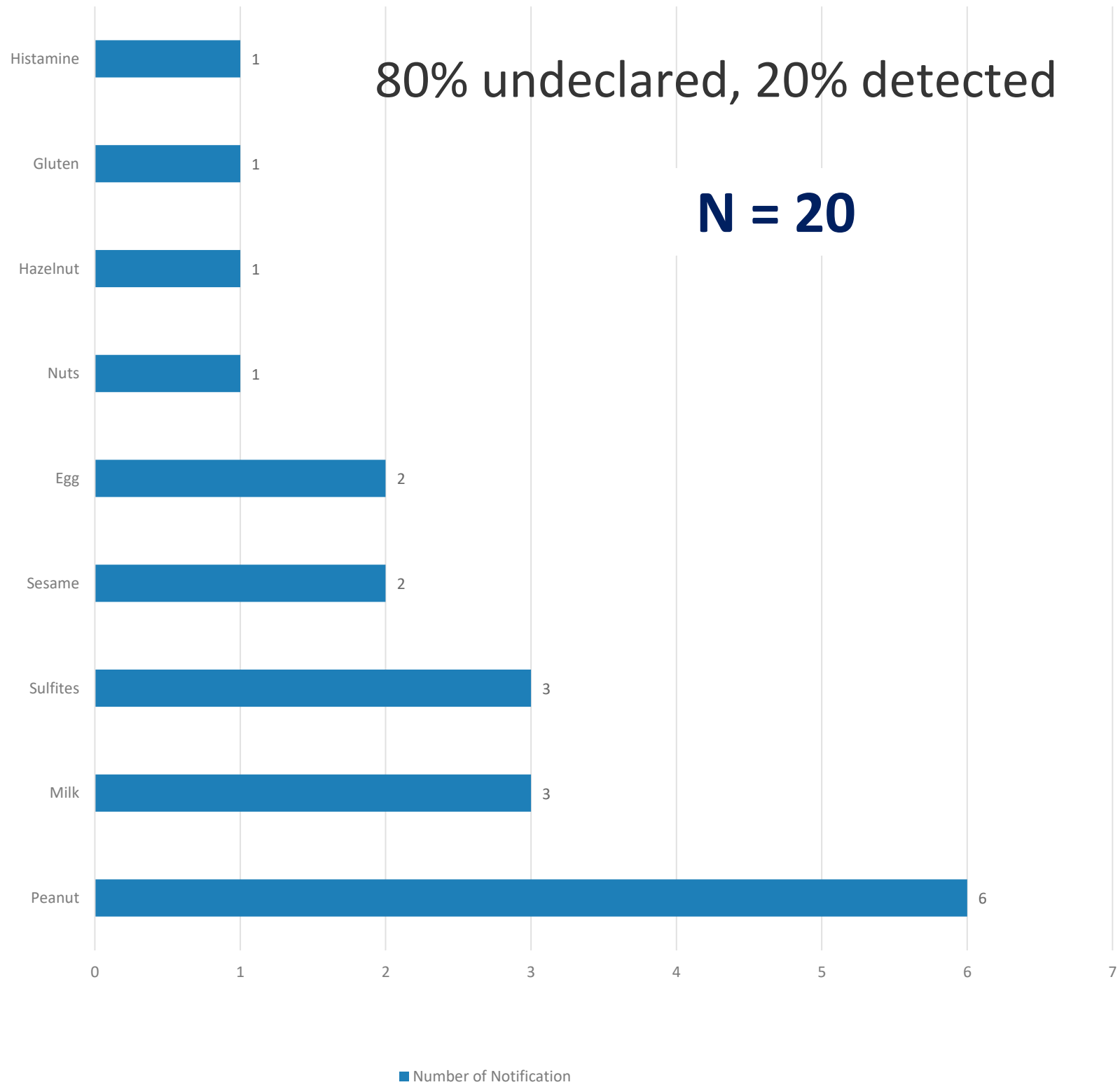
- INFOSAN community website
- Webinars for introducing the work of INFOSAN
- Workshops for capacity building activities in regions





INFOSAN notifications on export rejection/recall due to undeclared or detected allergens (Jan – April 2025)

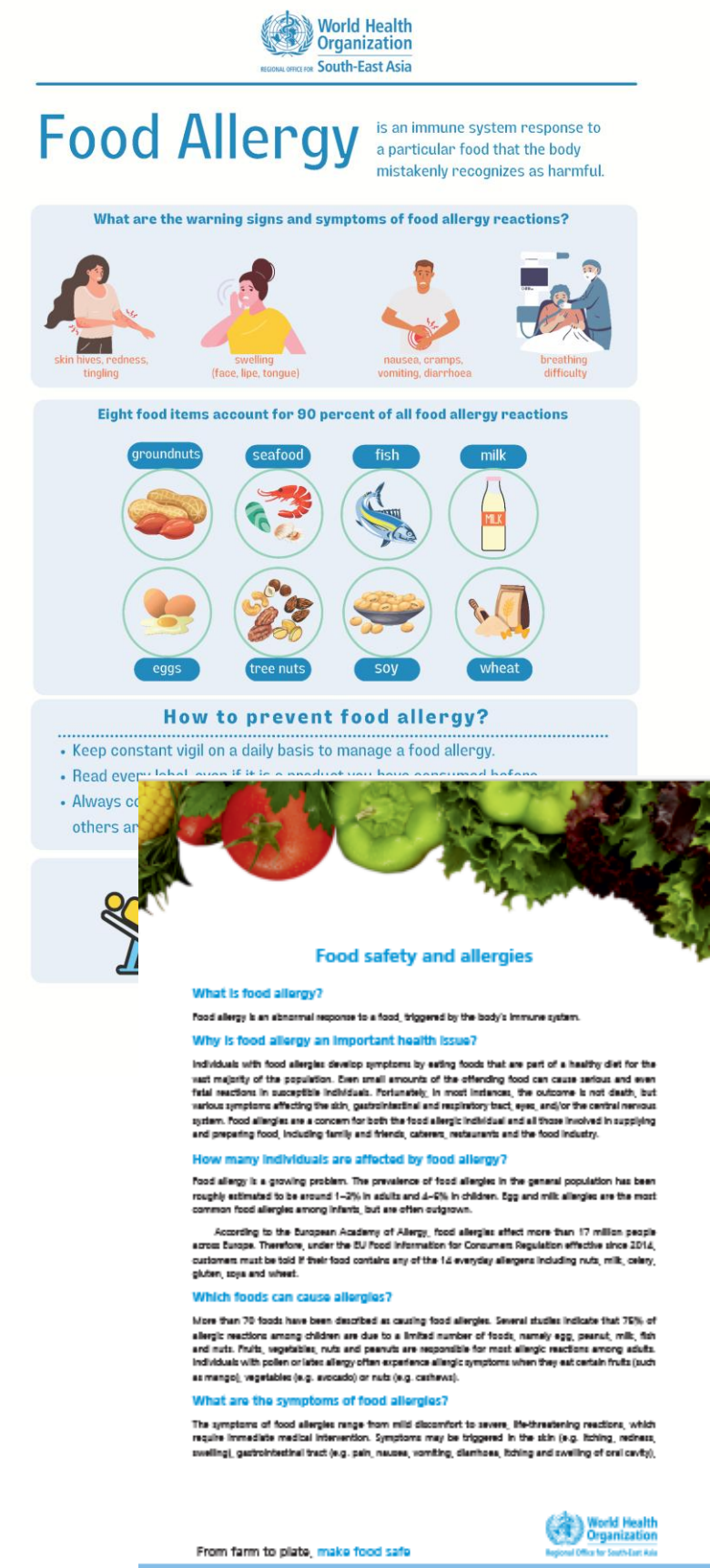
Allergens	Contaminated Foods
Histamine	fresh tuna skinless loin
Gluten	ground cumin
Hazelnut	ice cream ingredients
Nuts	poppy seed paste
Egg	chicken and mushroom sauce, frozen breaded shrimps,
Sesame	chocolate, poppy seed paste
Sulfites	coconut milk, pickled garlic, dried apricots
Milk	vegan cake, chocolate, oat milk cookies
Peanut	garlic powder, mustard powder, yellow mustard seeds





Actions for the future: Strengthening INFOSAN and Collaboration at the regional and national levels

- Strengthen regional and national INFOSAN networks
- Improve multisectoral coordination for food safety emergencies
- Build members' capacity on INFOSAN operations, roles, and responsibilities
- Raise awareness of food allergen risks and emerging challenges
- Promote collaboration at the regional and national levels



THANK YOU FOR YOUR ATTENTION