



## DISCUSSION PAPER

### Evidence-Based Food Classification Underpinning Standard Setting and Policy Consideration – The Discourse about “Ultra-Processed” and the Possible Role of Codex

*Prepared by the International Union of Food Science and Technology (IUFOST)*

#### 1. Background

In recent years, the growing discourse on so-called “ultra-processed foods” (UPFs) has significantly shaped public debate, influencing dietary guidelines in some countries, fueling widespread media attention, and in some cases casting doubt on the role of food processing as a legitimate and beneficial intervention in the food system. This narrative has, in several instances, shifted the focus from the overall nutritional value and safety of foods toward the extent or type of processing as a single determinant of food healthfulness.

Food classification systems that rely primarily on processing level as the defining parameter—such as those used in the UPF concept within the NOVA framework—raise important questions for public health policy, trade, and consumer understanding. While the public and scientific interest in understanding processing levels is valid, framing processing as inherently negative can lead to unintended consequences, including the misclassification of safe, nutritious foods and the discouragement of beneficial technologies.

This discussion paper presents the issue of food classification approaches, including the one leading to what was identified in the recent public discourse as “Ultra-Processed” foods and discusses approaches aiming for sound, evidence-based classification systems, that may be needed to underpin standard setting or policy considerations associated with the management of food and diet. Such classification systems would be anchored in Codex principles related to nutrition labelling (e.g. front of pack labelling) and would be supported by the relevant agreed-upon methodologies and scientific evidence. These classification systems would also integrate multiple measurable food attributes—such as nutritional composition, safety, affordability, sustainability, and palatability.

This discussion paper also presents the perspective developed by scientists of the International Union of Food Science and Technology (IUFOST, 2024) on the limitations of the proposed 'ultra-processed food' (UPF) concept as applied in systems like NOVA (Monteiro, et al. (2019) and the consideration of alternate scientific methodologies applicable to food classification.

## 2. Relevance to Codex

At the 44<sup>th</sup> Session of the Codex Committee on Nutrition and Food for Special Dietary Uses (CCNFSDU44), the Committee discussed the concept of ultra-processed foods (UPFs), noting the absence of a global definition and the risks of basing classification solely on processing level. Members pointed to Codex tools such as the **Guidelines on Nutrient Profiling and Front-of-Pack Nutrition Labelling** as more comprehensive approaches, and agreed to monitor developments rather than begin new work.

The Committee also reviewed a proposal from Canada and the United States to develop guidelines on the *nutritional composition of foods with protein from non-animal sources*. While acknowledging its potential relevance, the Committee decided to postpone further consideration until after FAO completes and publishes its technical work on the topic.

Finally, the Committee noted **WHO’s planned expert consultation on ultra-processed foods**, which will assess the evidence on their relationship with diet quality and health outcomes. The results are expected to inform WHO guidance and could be relevant for future Codex discussions.

## 3. Relevance to CCASIA Countries

For the CCASIA region, where a significant proportion of foods produced, marketed, and exported may be classified as “ultra-processed” under the NOVA system, any policy developments arising from this work could have substantial implications for market access, consumer perception, and trade competitiveness, underscoring the importance of ensuring that any classification approach is evidence-based and fit for purpose in diverse production and dietary contexts.

## 4. Food Classification Systems and UPF

### 4.1 Introduction of the notion of UPF and the Impacts on Food Processing

The NOVA classification system (Monteiro, et al. (2019)) divides foods into four groups based on the extent and purpose of processing: 1) Group 1 – Unprocessed or minimally processed foods: edible parts of plants or animals, fungi, algae, and water, subjected to cleaning, removal of inedible parts, grinding, refrigeration, pasteurization, fermentation, or other processes that do not add new substances; 2) Group 2 – Processed culinary ingredients: substances extracted from Group 1 foods or from nature, such as oils, fats, sugar, and salt, used in cooking and seasoning; 3) Group 3 – Processed foods: products made by adding salt, sugar, or other Group 2 substances to Group 1 foods, using preservation or cooking methods such as canning, bottling, or baking; 4) Group 4 – Ultra-processed foods (UPFs): industrial formulations typically containing five or more ingredients, including additives not commonly used in home cooking (e.g., flavour enhancers, colors, emulsifiers), often designed to be convenient, palatable, and ready-to-eat.

The latter terminology of 'ultra-processed foods' has gained visibility in dietary recommendations and public discourse, leading to the assumption that processing is likely to be inherently detrimental to food and health.

One of the key issues lies in conflating 'processing' with 'formulation', and in relying on qualitative, subjective criteria that lead to misclassification informing public policy recommendations.

**Processing** refers to the treatment of food materials to achieve a desired effect—such as improved safety, digestibility, or shelf life. **Formulation** refers to the systematic selection and proportioning of ingredients. While related, these are

separate dimensions. Current **UPF definitions** often use formulation criteria (e.g., added sugar, salt, certain additives) as proxies for processing, which may contribute to ambiguity. Proposed alternatives to NOVA approach call for evaluating each dimension separately and quantitatively.

## 4.2 Recent Codex Discussions

During CCNFSDU44, the Committee engaged in a discussion on the concept of ultra-processed foods (UPFs), as used in the NOVA classification system. Delegations noted that the term does not have a clear, internationally agreed definition, and that Codex currently has no formal guidance on food classification based solely on processing level. Concerns were raised that reliance on processing as the primary classification parameter can lead to misclassification of safe, nutritious foods, potentially discouraging beneficial food technologies. While some participants acknowledged public and scientific interest in understanding processing levels, many stressed that processing per se should not be assumed to indicate poor nutritional quality. Several delegations underlined that Codex already has useful tools in this regard, such as the **Guidelines on Nutrient Profiling and work on Front-of-Pack Nutrition Labelling (FoPNL)**. Although a few member states considered the UPF concept useful for public health communication, the prevailing view pointed to its limitations, the lack of global consensus, and the risk of inconsistent national application. The Committee decided not to initiate new work on UPF at this time, but to keep the matter under review and invite members to share scientific updates and national experiences that could guide any future consideration.

The Committee also considered a proposal from Canada and the United States to develop *General Guidelines and Principles for the nutritional composition of foods formulated with protein from non-animal sources*. While recognizing the growing diversity of plant-based, algal, fungal, and lab-grown protein products and the potential importance of this work for ensuring nutritional adequacy and accurate labelling, the Committee decided to postpone further discussion of the proposal. It agreed to revisit the matter once the Food and Agriculture Organization (FAO) has completed its planned work and issued a technical report on the topic, which would provide a sound basis for Codex deliberations.

In addition, the Committee took note of the World Health Organization’s (WHO) plan to convene an expert consultation on diet quality and ultra-processed foods. The consultation will assess the current scientific evidence linking UPF consumption with diet quality and health outcomes, critically reviewing the robustness of available data and identifying key methodological gaps. The outcome of this process is expected to be a technical report that will summarize the evidence base, highlight research needs, and inform potential WHO recommendations on the role of processing in dietary guidance. This work could also serve as an important resource for Codex in any future deliberations related to processing-based classification and its application in nutrition policy.

## 4.3 Considerations

Framing foods as 'ultra-processed' based solely on “Processing Level” risks:

- Misclassifying nutrient-rich, culturally important foods as unhealthy.
- Overlooking nutrient-poor foods that do not meet the additive-heavy profile.
- Disincentivizing safe, beneficial technologies such as pasteurization or fortification.
- Confusing consumers and undermining dietary guidance.

Such issues can undermine Codex’s principles of accurate, non-misleading information and evidence-based food and nutrition labelling.

Codex guidelines on nutrition labelling (CAC/GL 2-1985) (CAC, 1985) and front-of-pack labelling (CAC, 2020) provide a tested framework for classifying foods based on nutrient content and established health evidence. Nutrient profiling models, already in use globally, target nutrients to limit and encourage, offering a science-based, implementable basis for dietary guidance.

Scientists of the International Union of Food Science and Technology (IUFoST) proposed to complement and refine existing approaches, with the development of a two-parameter model, which scores separately formulation (nutrient profile) and processing (impact on nutritional value), allowing for nuanced classification and avoiding the assumption that processing itself is negative. For consumer applications, the two scores can be combined into a single, simplified indicator, preserving clarity while maintaining scientific rigour.

This approach was developed in a recently published report (Aharne, 2024) and is being further discussed jointly by the Food Science and Nutrition Science Community (e.g., at the upcoming Meeting of the International Union of Nutrition Science, August 2025).

In the meantime, it is recommended to further discuss the opportunity of continued use of the term “UPF” to qualify food and to underpin any possible associated decision.

It would also be beneficial to further promote the dissemination of the Codex guidance on nutrition labelling such nutrient profiling which underpin front-of-pack systems as possible primary classification tools. It would also be important to further research and international collaboration to validate multi-attribute classification models and continue to ensure that processing is recognised for its role in delivering safe, nutritious, and accessible food.

By framing processing as one of several measurable attributes, rather than an inherent negative, Codex and member states can encourage innovation, preserve public trust, and focus on evidence-based determinants of healthy diets.

## 5. References

Aharne L. et al, (2024), Defining the role of processing in food classification systems—the IUFoST formulation & processing approach, *Science of Food, Nature*, <https://doi.org/10.1038/s41538-025-00395-x>

Codex Alimentarius Commission – CAC (1985). Guidelines on Nutrition Labelling (CAC/GL 2-1985). Rome: FAO/WHO.

Codex Alimentarius Commission (2020) – CAC (2020). Guidelines on Front-of-Pack Nutrition Labelling (CAC/GL 2-1985, as revised). Rome: FAO/WHO.

Monteiro, C.A., et al. (2019). Ultra-processed foods: what they are and how to identify them. *Public Health Nutrition*, 22(5), 936–941.

## **Annex 1: Excerpts from CCNFSDU44 on UPF**

### **1. On the ongoing WHO work related to UPF**

“The Representative of WHO noted that work on ultra-processed foods (UPF) was ongoing, including the development of a technical document to support Member States in developing and implementing policies related to UPF. The work was being informed by the existing scientific evidence on UPF and health outcomes and aimed to provide definitions and examples of UPF, as well as policy options for consideration.”

### **2. On proposals for new work related to UPF**

“Several delegations and observers expressed concern about the use of the term ‘ultra-processed food’ and the potential negative perception it could create towards processed foods in general. It was noted that processing is an important tool for ensuring food safety, extending shelf life, and improving nutritional quality. There was agreement that Codex work should be based on sound science and avoid terminology that could lead to unintended consequences or trade barriers.”

### **3. On the link to nutrient profiling and labelling discussions**

“Some Members suggested that issues related to UPF could be addressed within the context of nutrient profiling and front-of-pack nutrition labelling rather than as a standalone classification system. It was emphasized that Codex should consider existing guidance and the need for an evidence-based, fit-for-purpose approach.”