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Comments on Docket No. FDA-2025-N-1793 "Ultra-Processed Foods; Request for Information"

Dear Department of Health and Human Services and Food and Drug Administration,

The Institute of Food Technologists (IFT) is thankful for the opportunity to provide information on the Ultra-Processed Foods Request for Information. IFT is a global organization of more than 11,000 members who are committed to advancing the science of food. We believe science is essential to ensure the global food system is equitable, sustainable, safe, and nutritious.

We commend the US Department of Health and Human Services (HHS) and the Food and Drug Administration (FDA) and the US Department of Agriculture (USDA) for issuing this Request for Information (RFI) on ultra-processed foods (UPFs). This term is utilized frequently in scientific literature, the media, and public discourse without a consensus, standardized definition for what constitutes an "ultra-processed" food. This lack of clarity has posed challenges for international regulatory agencies and scientific advisory bodies attempting to evaluate the evidence to develop recommendations around UPFs (1-3). We appreciate this commitment to gathering robust, multidisciplinary input to develop a more precise definition of UPFs.

About IFT's Input and Process

To support our response to this important RFI, IFT sought input from our scientific membership to ensure our response reflects a wide range of expertise and practical experience in food processing. We convened a series of focused meetings with several of our technical divisions, including the Dairy Division, Carbohydrate Division, Food Engineering Division, Nutrition Division, Sensory & Consumer Science Division, Toxicology and Safety Evaluation Division, as well as our Codex Advisory Committee and Science and Policy Initiatives team. These groups represent a variety of scientific expertise from academia, regulatory science, industry and public health.

Each division was invited to respond to the questions posed directly in the RFI and participants contributed their perspectives based on their specific knowledge area including any specific case studies or examples. In addition to these insights, we also reviewed recent scholarly publications in IFT's peer reviewed journals – Journal of Food Science and Comprehensive Reviews in Food Science and Food Safety – both of which have recently curated special issues on UPFs and food additives. Several papers from these issues, as well as other seminal publications on UPFs, have helped shape the comments presented in the following responses.

Question 1: What, if any, existing classification systems or policies should we consider in defining UPFs? What are the advantages and challenges in applying these systems (or aspects of them) to classify a food as ultra-processed? What are characteristics that would or would not make a given system (or aspect of the system) particularly suitable for the U.S. food supply?

We recognize that creation of the terminology and development of classification systems for UPFs sparked important discussion and research on the relationship between food processing and health. At the same time, we believe the current systems have limitations that make them challenging to apply practically and in the U.S. policy context. Some of these limitations include:

- Broad Categorization: Current systems group foods by perceived processing intensity rather than their nutritional composition or functional role. As a result, foods such as whole grain bread, yogurt, cheese, infant formula, foods for people with allergies, and medical nutrition products may be classified as "ultra-processed," even though these foods can help meet nutrient needs, support health, and provide consumers with flexibility in their dietary patterns (4, 5). Recent research has confirmed that not all foods that would be considered ultra-processed are associated with chronic health conditions and mortality, and that more nutritionally dense foods such as ready-to-eat cereals, whole grain breads, yogurt and dairy foods were inversely related to disease risk (6-8). A recent publication (Bernstein et al. 2025) of guiding principles for science-based food classification systems also noted in principle 5 that "The impact of formulation on the final composition and structure of the food in terms of a putative effect on a health-related endpoint should be considered."
- Terminology Concerns: The term ultra-processed is increasingly used in scientific and public discussions and can be perceived as stigmatizing or confusing for consumers, particularly those that may rely on certain foods to meet dietary needs that would be considered by most definitions as ultra-processed. The term "ultra" also lacks scientific precision. The term ultra-processed also does not always correlate with the amount or number of processing steps. For example, some foods

that are often classified as minimally processed, such as oils, flours, and milk, undergo many processing steps.

- Lack of Alignment with Current US Dietary Guidelines for Americans: Most classification systems do not take nutrient composition into account, even though the U.S. Dietary Guidelines for Americans are built around nutrient intake and dietary patterns. While there is some overlap between ultra-processed categorizations and foods high in saturated fat, sodium, or added sugars, the ultra-processed classification extends beyond to include foods with positive nutritional and health benefits that are currently recommended by the dietary guidelines. This lack of alignment could undermine decades of evidence-based nutrition guidance and public health messaging and highlights the need for a more nuanced approach than current UPF classification systems.
- Conflation of Processing and Formulation: One of the challenges with most definitions and classification systems for UPF is the conflation of food processing with food formulation (9, 10). Processing is the physical and chemical steps applied to food (much like the cooking steps in a home kitchen) while formulation is the amount and type of ingredients used to make foods (much like a recipe in a home kitchen). Because food packages do not describe the processing steps used, most UPF classification systems use ingredient lists, or the formulation, to define UPF. Yet, these are distinct attributes with different impacts on the nutritional value of the food and any potential definitions should clearly differentiate formulation from processing.
- Policy Application and Equity: Because UPF classification systems were designed primarily for research purposes, their direct use in policy could unintentionally impact the inclusion of affordable, nutrient-dense products in programs such as school meals, SNAP, or WIC. Additionally, it could stigmatize affordable, nutrient-dense foods that certain vulnerable and/or low-income populations rely upon to meet nutrient needs.

Defining foods by processing is problematic because food processing serves a variety of critical roles in the current food system, including:

- Ensuring foods that would otherwise be inedible become edible (e.g., milling and cooking of grains).
- Making foods safe to eat by eliminating pathogens (e.g., pasteurization, antimicrobials).
- Preserving and retaining nutrient quality while extending shelf life (e.g., freezing, canning).
- Modifying nutrient composition or bioavailability to improve nutrient intakes and health outcomes (e.g., reformulation to reduce sodium or saturated fat, or fortification with micronutrients).

- Enhancing consumer acceptance through taste and texture.
- Increasing convenience, accessibility, and affordability for diverse populations.
- Minimizing waste by maximizing use of more parts of plants and animals and extending the length of time food is safely edible (shelf life).
- Ensuring food security by providing safe, nutritious and stable foods that can be accessible when unprocessed foods or the infrastructure to store and distribute unprocessed foods may be unavailable (e.g., natural disasters, times of conflict, etc.).

Because of the critical importance of food processing for human health and food and nutrition security, we recommend that future efforts to define or classify foods:

- Place greater emphasis on nutrient content and alignment with the Dietary Guidelines for Americans, which are updated every five years through a rigorous scientific review.
- Recognize the essential and beneficial role of processing in ensuring food safety, quality, and accessibility.
- Avoid discouraging consumption of foods that have been shown to support positive health outcomes, even if they involve some level of processing.
- Avoid terminology that is stigmatizing and confusing. Alternatives to UPF that emphasize nutritional imbalances, such as HFSS (high in fat, sugar, and salt) foods or other terms that highlight nutritional composition rather than processing alone, may provide clearer, more constructive guidance for policymakers and consumers and prevent further exacerbation of inequalities in food availability and affordability.

Question 2: Ingredient List

(a) In considering ingredients that appear toward the beginning of an ingredient list (that is, ingredients that likely form most of a finished food by weight), what types of ingredients (*e.g.,* ingredients that may share a similar composition, function, or purpose) might be used to characterize a food as ultra-processed?

(b) Ingredients that appear toward the end of an ingredient list may contribute minimally to the overall composition and weight of a finished food (for example, ingredients may sometimes be listed as containing 2% or less by weight of the finished food (21 CFR 101.4(a)(2))). What types of these less prominent ingredients (*e.g.,* ingredients that may share a similar composition, function, or purpose) might be used to characterize a food as ultra-processed? Ingredients that function as flavorings are either natural flavors or artificial flavors; colorings are either certified (for instance, "FD&C Red No. 40") or non-certified (for instance, "colored with beet juice") (21 CFR 101.22). Should these various types of flavors and colors be considered separately when characterizing a food as ultra-processed?

(c) To what extent, if any, should the relative amount of an ingredient used in a food influence whether the food should be characterized as ultra-processed?

(d) What, if any, other ingredients or ingredient-related criteria not discussed previously should or should not be used to characterize a food as ultra-processed?

Many researchers and health professionals have proposed using certain added ingredients, such as added sugars, emulsifiers, colors and flavors, as indicators of UPFs. Some of these ingredients, such as added sugars, have been associated with poor dietary patterns and health outcomes, but not all. Multiple experts within the IFT membership emphasized that when it comes to ingredients in foods **context matters**. Many of the ingredients suggested to indicate UPFs play appropriate and beneficial roles in food production, formulation, and safety. Ingredients should not be evaluated in isolation but rather considered within the nutritional profile and intended function of the final product.

For example, foods with added fibers are commonly considered UPFs in many classification systems. However, under current FDA regulations, added fibers must demonstrate a physiological benefit to human health to be labeled as dietary fiber. This creates a confusing contradiction: ingredients intentionally added to improve public health outcomes, such as fibers to address the national shortfall in dietary fiber intake, may also be labeled as negative markers of UPFs. The same applies to added vitamins and minerals used for micronutrient fortification, which is a core strategy in US and global nutrition policy and dietary guidance to prevent deficiency and ensure nutrient adequacy. If the presence of ingredients that help address recognized public health concerns becomes a criterion for defining foods to be limited or avoided, this could undermine important nutrition interventions, particularly in populations that rely on fortified or functional foods to meet dietary needs.

Some definitions of UPFs have also included ingredients with “cosmetic functions” or those used to make foods more palatable, such as flavors, colors, or texturizers (11). However, this distinction is arbitrary and not evidence-based, as most of these ingredients have not been shown to be detrimental to health and have important functional roles in food that could be considered more than “cosmetic.” Common formulation tools like emulsifiers or stabilizers can support food texture, safety, or shelf stability without diminishing the overall nutritional value of the product. For example, most dairy products without emulsifiers would result in the fat separating from the liquids leading to lumps of fat or a layer of fat on top of the food. This is likely to be unacceptable to a consumer as they would associate lumps in dairy products with spoilage. Therefore, this is not just an issue of the cosmetic appearance of the food, but consumer acceptance and trust in the safety of the food. Acceptability is a key driver of consumption, and if a safe ingredient

increases the likelihood that consumers will choose a nutrient-dense food, its inclusion should be viewed as a positive contribution, not a negative marker of processing. Encouraging the enjoyment of healthier foods is consistent with public health goals.

The amount of an ingredient in a food should also not be used to classify foods as UPFs as the quantity of an ingredient in a formulation does not reliably reflect nutritional quality or health impact. What matters is not how much of an ingredient is present, but how it contributes to the safety, nutrient composition, and overall role of the food in the diet. Some ingredients are needed only in very small amounts to serve an essential purpose—such as preservatives to maintain food safety, or leavening agents to provide structure in baked goods. Other ingredients, such as vitamins and minerals, are used at low levels for fortification and have a substantial positive impact on public health. Alternatively, small amounts of spices and flavorings contribute to sensory acceptance but have no impact on nutritional quality. The importance of these ingredients is not determined by their proportion in the recipe but by their function and effect on the finished product. Conversely, some foods may contain high proportions of added sugars, sodium, or saturated fats. These ingredients can have negative implications for health when consumed in excess, but these concerns and recommended limitations are currently addressed within the dietary guidelines.

Approved food ingredients, including flavors and colors, while often included in discussion of UPFs should not be used as defining markers as there is no evidence of their harm to health. These ingredients undergo rigorous safety evaluations, and when used within approved limits, they have not been shown to be harmful to health. Their primary function is to support consumer acceptance, product consistency, and accessibility. However, some experts in our discussions expressed concern about the use of artificial colors in foods that are not nutritionally dense and targeted to children. While it was acknowledged that there is not strong evidence that the colors are harmful, their use in energy dense/nutrient poor foods may encourage consumption of foods higher in added sugars, sodium, and/or fat. This emphasizes the importance of considering overall nutritional profile of the food rather than the ingredient in isolation. Flavoring or coloring nutrient-dense products, such as yogurts, can improve consumer acceptance and encourage healthier choices which aligns with the broader goal of making health-promoting foods both appealing and accessible.

Based on this information, we encourage a balanced, evidence-informed approach that considers context and accounts for both ingredient function and the nutritional quality of the finished product. We recommend:

- Evaluating ingredients in context, considering their function, contribution to the food's nutritional value, and role in consumer acceptability—not in isolation.
- Continue to address nutrients of concern (added sugars, saturated fat, sodium) within the dietary guidelines and in the context of dietary patterns rather than ingredient-based classifications.
- Ensure alignment with public health strategies and regulatory policies, such as the use of added fibers or vitamin and mineral fortification to address nutrient shortfalls.
- Avoid using the presence, amount or proportion of an ingredient as a proxy for processing, especially when small amounts of functional ingredients, such as flavors, leavening agents, emulsifiers, etc. have no impact on nutritional quality.
- Do not classify safe "cosmetic ingredients" (e.g., flavors, colors, texturizers) as negative markers of processing unless there is compelling evidence of harm to health. When such ingredients make nutrient-dense foods more acceptable to consumers, their use should be considered supportive of public health goals.
- Monitor ongoing scientific evidence, particularly regarding uses of colors in foods for children, while avoiding blanket categorization that could misrepresent safety.

Question 3: Processing methods

Processing a food through physical means may include cutting, extracting juice by an application of force, heating, freezing, extrusion, and other physical manipulations. What physical processes might be used to characterize a food as ultra-processed? Processing a food through biological means may include non-alcoholic fermentations of the food by microorganisms (for example, bacteria and yeasts), enzymatic treatment, and other biological manipulations. What biological processes might be used to characterize a food as ultra-processed? Processing a food through chemical means may include pH adjustment and other chemical manipulations. What chemical processes might be used to characterize a food as ultra-processed? What, if any, other processing-related techniques should or should not be used to characterize a food as ultra-processed?

Physical processing is an integral part of modern food production and has long served to support food safety, nutrient preservation, quality, and accessibility. We do not recommend using physical processing methods alone to define UPFs, as the type of processing does not reliably predict the nutritional value or health impact of the final food. Additionally, regulatory classifications according to physical processing would be difficult to enforce as the processing steps used to make a food is not typically included on a label or available in a database and would require considerable documentation from manufacturers (12).

Common physical processes such as cutting, heating, freezing, pasteurization, and canning are essential for preparing safe, shelf-stable, and accessible food. These methods are also widely used in home cooking, which demonstrates their role as basic food preparation techniques. Thermal processing can also reduce toxins and allergens. Some industrial-scale physical processing methods, such as extrusion, have been debated. While extrusion can alter the structure of food, it also plays a positive role in ensuring microbial safety, producing shelf-stable foods, increasing resistant starch content, and reducing anti-nutrients such as phytates (13-15). Whether extrusion has a positive, negative or neutral impact on health depends also on the nutritional composition of the final product, not only the process itself.

Some processing methods can also enhance the nutritional profile of the food. For example, lycopene, a natural antioxidant in tomatoes, is more bioavailable in processed tomatoes than fresh tomatoes (16). Ultrafiltration and centrifugation technologies have enabled the production of milk and Greek yogurt that is higher in protein, lower in sugars and shelf stable for longer, thereby improving nutritional quality and minimizing consumer's food waste (17-19). Specialized packaging can enable foods, such as seafood, to be processed with less heat and retain a fresher taste while also providing a more cost affordable option for consumers with less waste from spoilage (20). Thermal processing can also reduce the need for chemical preservatives in some foods. These examples demonstrate that processing is not in and of itself harmful but can increase the nutritional value and safety of foods as well as make foods more affordable and reduce waste. Excluding foods based on these processes could limit access to safe, high-quality products without clear evidence of harm.

Biological processes such as fermentation, culturing, and enzymatic treatment should also not be considered markers of UPF. These processing techniques are long-standing, traditional practices that can enhance food safety, digestibility, nutrient bioavailability, flavor, and shelf life. The scaling of the production of fermented foods has provided consistency in product quality and improved food safety (21, 22). Additionally, enzymatic treatments can reduce allergenicity (23). Many fermented foods are considered cultural staples in different diets (e.g., sauerkraut, kimchi, sourdough bread, miso, etc.) being used in artisanal and industrial settings. Most research has linked fermented and cultured foods to positive health benefits for gut health and nutrient metabolism.

Chemical processing methods should also not be used as a marker to define UPFs. Instead, chemical processes should be evaluated based on the purpose of their use, the safety of the final product, and its contribution to nutritional value. Many chemical processes—such as acid hydrolysis or pH adjustment—are widely used in food production to improve efficiency, safety, and ingredient functionality. For example, acid hydrolysis can

be used to modify proteins or carbohydrates for desired functional properties in both food and medical nutrition products. Agents to control pH, such as citric acid or sodium bicarbonate, are used to prevent microbial growth and maintain product stability. Their inclusion in food processing does indicate that a food is nutritionally poor or associated with adverse health outcomes. Further, all of these ingredients are subject to regulatory oversight and safety evaluation by the FDA.

Overall, no single processing technique should be considered a defining marker of UPFs. Across the food system, a wide variety of processing methods, physical, biological, and chemical, are used to ensure safety, extend shelf life, improve quality, or enhance nutritional value. Regulatory classifications according to processing would be difficult to enforce as the processing steps used to make foods are not currently available and would require considerable documentation from manufacturers, the development of comprehensive databases, and potential access to proprietary manufacturing information (12). Regardless of the process used, the focus should remain on the safety, nutritional content, and health impact of the final food, not the specific methods used to create it.

Question 4:

Is the term "ultra-processed" the best term to use, or is there other terminology that would better capture the concerns associated with these products?

As mentioned in question 1, the term "ultra-processed" is increasingly used in scientific and public discussions and can be perceived as stigmatizing or confusing for consumers, particularly those that may rely on certain foods to meet dietary needs that would be considered by most definitions as ultra-processed. The term "ultra" also lacks scientific precision. The term ultra-processed also does not always correlate with the amount or number of processing steps and is often conflated with formulation, as previously discussed. For example, some foods that are often classified as minimally processed, such as oils, flours, and milk, undergo many processing steps.

A more constructive approach would be to consider terminology that focuses on nutritional quality and dietary impact, rather than on processing. Alternatives such as high fat, salt or sugar foods (HFSS) has already been used in policies in other countries (2, 3) and recent research suggests considerable overlap between foods categorized as UPF and HFSS. In fact, several foods that are considered UPF but not HFSS are foods that provide important nutritional value, such as yogurts, whole grain breads, and high fiber breakfast cereals (24). Alternatively, some experts suggest considering "formulation" instead of "processing" terminology. Similar to a recipe, the formulation includes the ingredients chosen to be prepare the foods, which have a bigger impact on nutritional value than processing. For example, the process of extrusion can be used to make a high fiber cereal or a puffed chip

from refined grains but the difference in the nutritional value is in the formulation rather than the processing.

Ultimately, the terminology should support clear communication with consumers, be grounded in evidence, and align with existing US dietary guidance.

Question 5:

In considering nutritional attributes (such as information presented on the Nutrition Facts label), to what extent, if any, and how, should nutritional composition or the presence of certain nutrients be incorporated in a definition of UPFs? What other attributes, such as energy density or palatability, might be used to characterize a food as ultra-processed? Please provide supporting data and explain your rationale in your response. If relevant to your answer, please also provide suggestions on how these attributes can be measured and/or potentially be incorporated into a definition of UPFs, if they are not readily apparent on the food labeling.

We agree that nutritional attributes should be the primary consideration in defining or classifying foods for dietary guidance and policy purposes. Nutrient content and nutrient density have been the foundation of U.S. dietary guidance for decades, and they remain the most scientifically valid and policy-relevant criteria for linking foods to health outcomes. However, the nutritional attributes are independent from the processing steps taken to make the foods, as described previously, thus it would be confusing to continue to use the term UPF. Furthermore, the addition of nutrients of public health concern, such as fiber or vitamin D, to foods would render them as UPF according to most classification systems, creating confusion for consumers who may be looking to increase their intake of these nutrients.

Characteristics of foods such as energy density and palatability as well as consumption differences, such as chewing or eating rate have all been proposed as potential mechanisms contributing to some of the associations of UPFs and chronic health outcomes, particularly obesity. Recent research suggests these food characteristics and eating patterns may be involved in higher consumption of calories (25-27) and there are several ongoing trials that will continue to contribute to this understanding (https://clinicaltrials.gov/search?term=ultra%20processed) (28).

However, there are also several nutrient-dense foods that are also higher in energy, such as whole milk, nuts and seeds, which should be encouraged in the diet. Thus, energy density should not be the only way to categorize foods, but nutrient density should also be considered.

Similarly, foods that are enjoyable to eat are not inherently problematic. In fact, enjoyment and acceptance are essential drivers of food choice and play a positive role in encouraging the consumption of nutrient-dense foods (29-32). Ingredients or techniques that improve the sensory qualities of foods should not be used to classify foods unless there is clear evidence of harm to health.

By focusing on nutritional attributes, classification systems can better reflect public health priorities and avoid stigmatizing foods that are safe, affordable, and pleasurable. Alignment with the Dietary Guidelines for Americans ensures that classification frameworks are evidence-based and updated regularly by independent expert review.

Question 6:

FDA and USDA are exploring whether and how to incorporate various factors, such as the ones discussed in the questions above, into a uniform definition of UPFs. How might these factors be integrated in the classification of a food as ultra-processed in a way that can be systematically measured and applied to foods sold in the U.S.? And what considerations should be taken into account in incorporating such a classification in food and nutrition policies and programs?

We believe that any definition or classification system for foods should be science-based, flexible, and aligned with existing US nutrition policy frameworks, including the DGAs. The DGA is updated every five years through a rigorous, evidence-driven process and already emphasizes both nutrients of concern and overall dietary patterns. Building on this established framework will ensure consistency, clarity, and public trust.

As described previously, many foods currently encouraged by the DGAs would qualify as UPFs by several classification schemes, yet are nutritionally dense foods that provide nutrients of need to the American population. Processing-based criteria risk misclassifying foods that are safe, affordable, and nutrient-dense, including fortified foods and products important for public health. Such misclassifications could have unintended consequences for nutrition security, especially among populations that rely on these programs to meet dietary needs.

Integration into policy must also consider the cultural, behavioral, and economic context of the US food system. Issues such as food access, affordability, waste reduction, and consumer understanding are essential to ensure that guidance is practical and equitable.

Overall, definitions and policies should focus on nutritional quality and health outcomes, not on processing methods alone. This approach will ensure that U.S. dietary policy

continues to promote nutrient-dense foods, address nutrients of concern, and support equitable access to healthy diets.

IFT appreciates the opportunity to respond to this request for information, and we support the HHS, FDA, and USDA in their efforts to gather multidisciplinary, science-based input to develop a more precise classification of foods to promote the health of American consumers. Thank you for considering our input. Please contact Anna Rosales, Senior Director Government Affairs and Nutrition (arosales@ift.org) if IFT may be of further assistance.

Sincerely,

Anna Rosales
Senior Director Nutrition and Government Affairs
Institute of Food Technologists

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