IAFNS' Guiding Principles for Food Classification

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ILLINOIS INSTITUTE OF TECHNOLOGY
Food Science and Nutrition

Institute for the Advancement of Food and Nutrition Sciences

Disclosures

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- **Funding**

  research *grant, travel reimbursement, speaker honoraria**
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  - U.S. Food and Drug Administration
  - California Strawberry Commission*
  - Hass Avocado Board
  - National Mango Board*
  - Washington Red Raspberry Council
  - California Fig Advisory Board*
  - Watermelon Promotion Board*
  - University of Indiana / Foundation – Covid Abx
  - Food Industry contracts
- **Advisory Boards and Committees**

  *travel reimbursement, consultant/advisory service compensation**
  - Nutrient Institute*
  - McCormick Science Institute*
  - NutriSciences Innovations*
  - NIH external advisory board
  - Institute for the advancement of Food and Nutrition Sciences

Views are my own and do not necessarily represent the views of my employer or any other organization.
Slides are adapted from the IAFNS Food Classification writing and working group.

Outline

Introduction / Background

IAFNS' Principles

- Process
- The Principles
- Application

Final remarks

Institute for the Advancement of Food and Nutrition Sciences

- IAFNS convenes government, industry, and academia to drive, fund and lead actionable science - food safety and nutrition - to advance public health
- IAFNS catalyzes the creation of scientific knowledge by funding external researchers and bringing together experts to support positive change
- IAFNS collaborative and inclusive structure empowers members to bring forward the diverse perspectives of the entire food and beverage ecosystem

www.iafns.org

IAFNS
Food Classification Project

IAFNS Working Group and Writing Team Members

Working group Team:

Industry representatives

ADM
Ajinomoto
Cargill
Coca-Cola Company
Conagra Brands
General Mills
Griffith Foods
Hershey's
IFF
Ingredion
Kraft Heinz

Government and Academia

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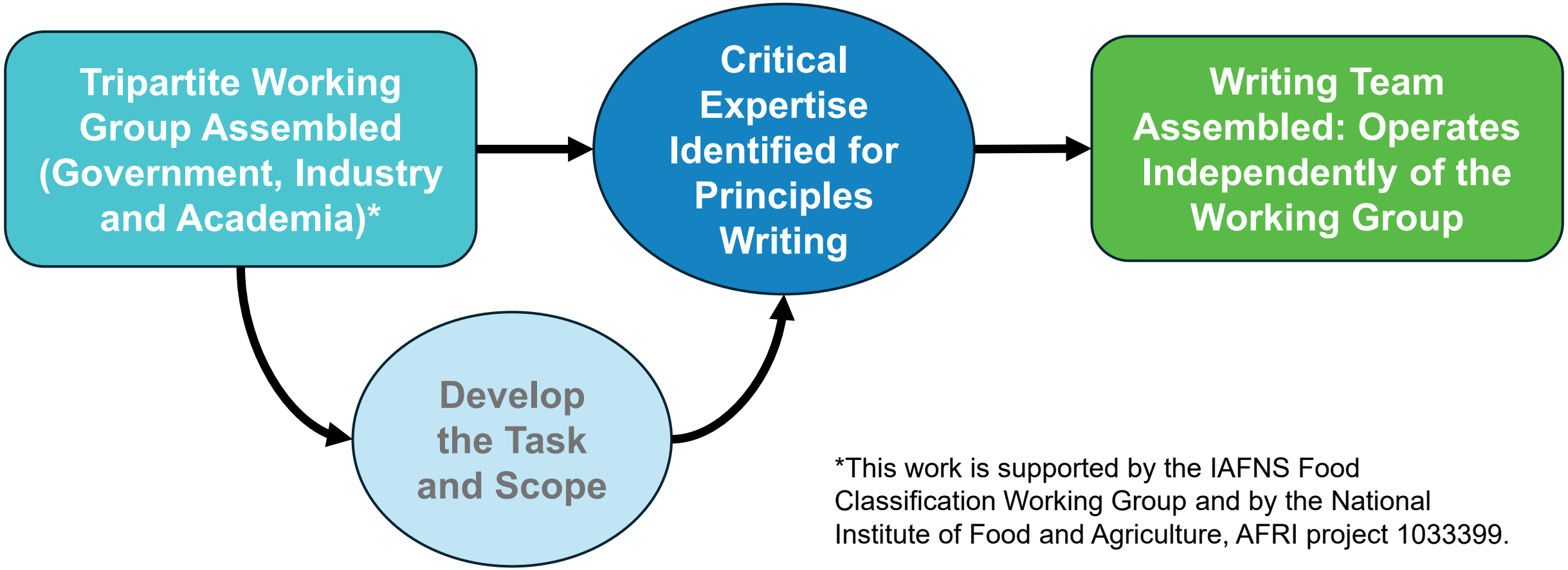
Patrice Hubert, Monell Chemical Senses

https://iafns.org/our-work/nutrition/food-classification/

IAFNS' Principles Development Process: Employing a Multi-Sector Approach



*This work is supported by the IAFNS Food Classification Working Group and by the National Institute of Food and Agriculture, AFRI project 1033399.

Perspective: Guiding Principles for Science-Based Food Classification Systems Focused on Processing and Formulation

Jodi Bernstein, Andrew Brown, Britt Burton-Freeman, Mario Estevez, Julie Hess, Patrice Hubert, Marie Latulippe *

Preprint: https://doi.org/10.20944/preprints202507.1896.v1

Writing Team Task

Deliver a set of "Principles" or statements:

- **Guidance for** approaching the classification of foods based on processing or formulation,
- to **benefit** and **advance public health**,
- Ten or fewer principles with supporting rationale,
- Vetted via cross-sector stakeholder in-person meeting, April 2025, Washington, DC (funded by USDA NIFA),
- Published in a peer-reviewed journal.

Audience for the Principles

The Principles are targeted **primarily to researchers** – who are applying classification schemes and/or interpreting existing science.

Other audiences include:

- Users of research, such as policy-makers and other decision-making bodies
- Developers of classification systems

Principles for Food Classification Focused on Processing and Formulation

1. Documentation and definitions that allow for reproducibility, rigor, and transparency should be provided.
2. Properties for which there is evidence of a biological link with a health-related endpoint should be used to differentiate foods.
3. Associations without robust causal evidence should be considered preliminary.
4. The impact that processing steps have on the final composition and structure of the food in terms of a putative effect on a health-related endpoint should be considered
5. 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.
6. Systems should evolve over time to reflect advancements in science and changes in the food supply, with previous versions of a system being distinguishable from updated versions.
7. Current scientific evaluations from scientific bodies with relevant expertise should be consulted for each iteration.
8. The context(s) in which a system was validated should be considered in its application.
9. The probative value of a research question or proposed food classification system should be considered prior to engaging in analysis or development.

Bernstein et al. 2025 (submitted); https://doi.org/10.20944/preprints202507.1896.v1.

These 9 core principles provide a science-based foundation for consistent, evidence-based decisions for food classification:

1. **Consistency Is Key**
2. **Clarity of Rationale**
3. **Evidence Over Assumptions**
4. **Distinguish Helpful from Harmful**
5. **Context Matters**
6. **Adapt with New Science**
7. **Expert Input is Essential**
8. **Regional Differences Count**
9. **Smart Research Investments**

Modified from Bernstein et al. 2025 (submitted); https://doi.org/10.20944/preprints202507.1896.v1.

Real World Application

Principle 1. Documentation and definitions that allow for reproducibility, rigor, and transparency should be provided.

- **Consistency Is Key:** Different users applying the same food classification system should arrive at the same results.

Case example: The need for clear definitions and transparency

The US Dietary Guidelines Advisory Committee examined how ultra-processed foods affect growth, body composition, and obesity. However, the DGAC categorized the evidence as “limited” because there isn’t a set definition of what counts as an ultra-processed food.

Takeaway: Without clear definitions, it is difficult to draw solid conclusions or make official recommendations when classifying foods. This highlights why science-based and consistent definitions are critical for reliable food classification and health guidance.

Real World Application

Principle 2. Properties for which there is evidence of a biological link with a health-related endpoint should be used to differentiate foods.

- **Clarity of Rationale:** Foods should be classified based on clear criteria related to health.

Case Example: Low- and no-calorie sweeteners are purported to adversely affect the gut microbiome and some caution against consumption given this rationale.

Some studies suggest that low- and no-calorie sweeteners affect gut microbiome composition. While changes in gut microbial communities do occur with many different foods, scientists have not yet agreed on what a “healthy” gut microbiome looks like.

Takeaway: Because of this uncertainty, we cannot confidently draw conclusions on the relationship between these sweeteners, the gut microbiome and health based on current evidence, making health claims or policy decisions premature.

Real World Application

Principle 3. Associations without robust causal evidence should be considered preliminary.

- **Evidence Over Assumptions:** Decision-making on foods requires a high level of scientific evidence.

Case Example: The vast majority of literature on ultra-processed foods is observational.

- Observational (non-intervention) studies are suitable for hypothesis generation but cannot establish causality.

- Observational studies by nature must be interpreted with caution.
  For example, in one study testing a negative control found that overall UPF intake was associated with accidental death.

Takeaway: Observational studies are by nature limited in the evidence they can provide about dietary intake and health. Other types of studies are required, such as randomized controlled trials, to understand cause-and-effect and support strong policy decisions.

Real World Application

Principle 4. The impact that processing steps have on the final composition and structure of the food in terms of a putative effect on a health-related endpoint should be considered.

- **Distinguish Helpful from Harmful:** Both negative and positive effects of various food processing steps on the final product should be considered.

Case Example: Although food classification systems purportedly consider 'processing,' one type of processing can be used to create foods with very different nutrient profiles.

- The processing method of extrusion creates a variety of foods ranging from fiber-rich cereal to puffed snacks.
- Cold-pressed juicing can preserve nutrients longer when refrigerated than using more traditional methods.

Takeaway: A science-based approach considers each processing step, how it changes a food, and how that change impacts human health. For this reason, it is important to ensure classifications reflect real-world effects.

Real World Application

Principle 5. 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.

- **Context Matters:** Both the quantity and the specific nature of ingredients in a food influence its health effects and should be considered.

Case Example: In some food classification systems, foods with added fibers fall into the category for the highest level of processing and are therefore to be avoided.

- Added fibers are typically those with a *physiological effect of benefit to health* as defined by the FDA. Foods containing these fibers range from bars to breakfast cereals to pasta.
- Fiber intake is one of the largest and most consistent nutrient gaps across the US population.

Takeaway: Some ingredients in processed foods are added because they address a specific public health concern.

Real World Application

9 Principles

Food classification should be:

- Transparent
- Reproducible
- Biologically plausible
- Link to health outcomes (nutrition)
- Distinguish processing from formulation
- Evolve with advancing science

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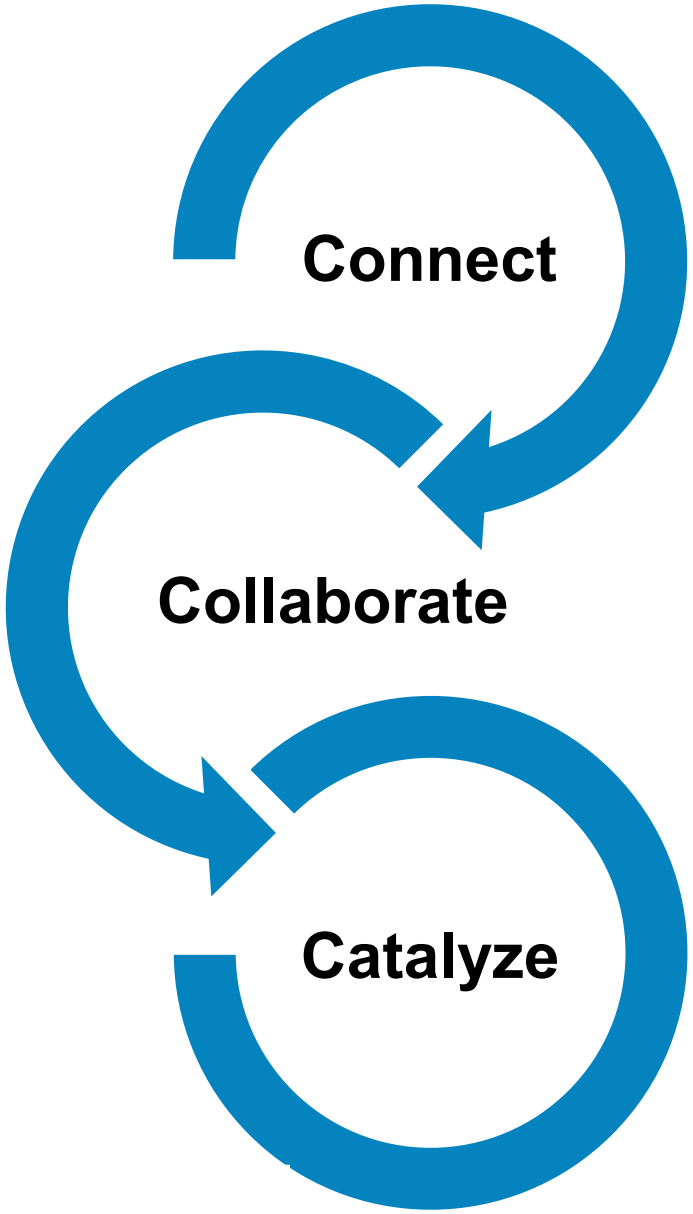
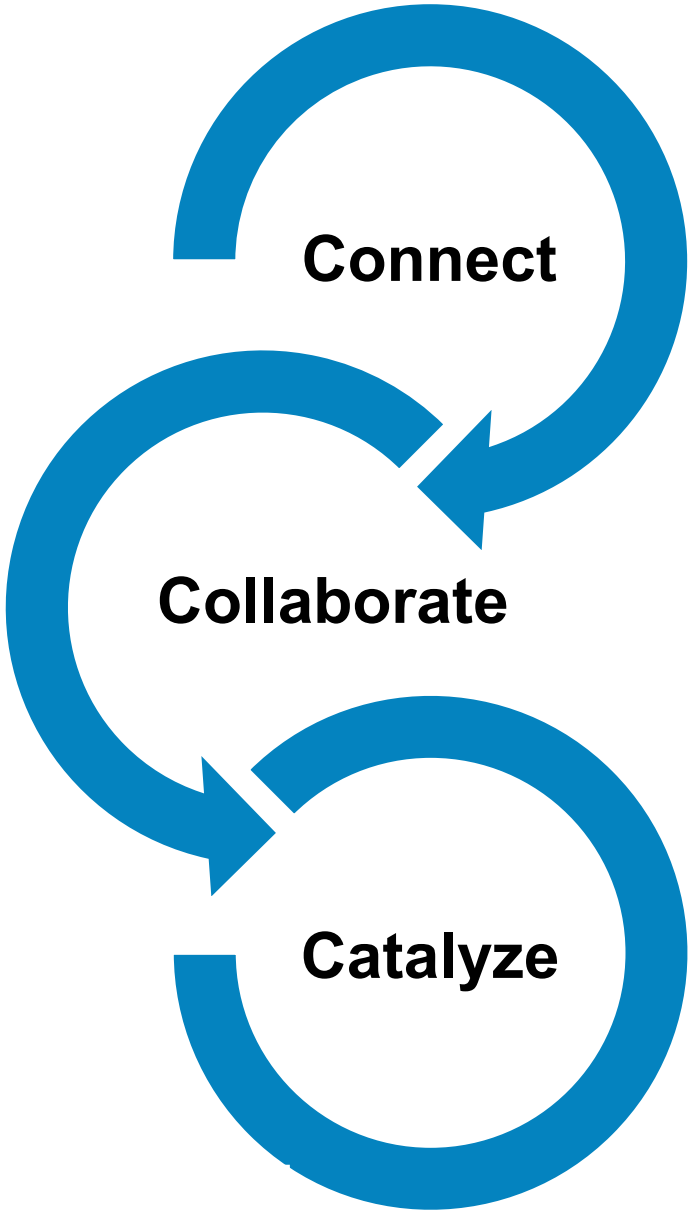


Call to Action

Food is in focus, now is the opportunity

Principles address issues with current food categorization systems focused on processing and formulation and provide a framework for moving forward together across the food system to catalyze science.

Science is crucial to align policies with public health goals



Thank You!

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