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# IAFNS 2025 Annual Meeting

A Unique Gathering of Scientific and Regulatory Experts

**June 10 and 11**  
**Washington, DC**

## Dietary Patterns

### Characteristics and Food Consumption for Current, Previous and Potential Consumers of GLP-1s

Andrew Dilley, Saroj Adhikari, Pratikshya Silwal, Jayson. L. Lusk, Brandon R. McFadden. *Food Qual & Preference*, 25 March 2025, Vol. 129. doi.org/10.1016/j.foodqual.2025.105507. [Article link](#)

Widespread adoption of Glucagon-like peptide-1 (GLP-1) agonists could cause significant changes in food consumption and preferences that disrupt the food industry. In this study, we survey four consumer groups to better understand how GLP-1 s may affect food consumption and preferences. The four groups were: 1) consumers currently using a GLP-1, 2) consumers who have previously used a GLP-1, 3) consumers who haven't used a GLP-1 but plan to in the future, and 4) consumers who haven't used a GLP-1 and don't plan to in the future. Results show that consumers currently taking a GLP-1 consume significantly fewer calories than the other groups surveyed, and calorie reduction while taking a GLP-1 for weight loss could be around 720 to 990 cal. Additionally, those taking GLP-1 s most likely reduce consumption of processed foods, sugar-sweetened beverages, refined grains, and beef. The results of this study will inform potential consumers and food companies of valuable insights into the broader effects of GLP-1 s on caloric intake and food preferences.

### Dietary Guidance, Sensory, Health and Safety Considerations When Choosing Low- and No-Calorie Sweeteners

John L. Sievenpiper, Sidd Purkayastha. Lee Grotz, Margaux Mora, Jing Zhou, Katherine Hennings, Cynthia M. Goody, et. al. *Nutrients* 2025, 17(5), 793, doi.org/10.3390/nu17050793. [Article link](#)

The growing global focus on the adverse health conditions associated with excessive sugar consumption has prompted health and policy organizations as well as the public to take a more mindful approach to health and wellness. In response, food and beverage companies have proactively innovated and reformulated their product portfolios to incorporate low and no-calorie sweeteners (LNCSs) as viable alternatives to sugar. LNCSs offer an effective and safe approach to delivering

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sweetness to foods and beverages and reducing calories and sugar intake while contributing to the enjoyment of eating. The objective of this paper is to enhance the understanding of LNCSs segmentation and definitions, dietary consumption and reduction guidance, front-of-package labeling, taste and sensory perception and physiology, metabolic efficacy and impact, as well as the overall safety of LNCSs and sugar.

## Carbohydrates

### Predicting Carbohydrate Quality in a Global Database of Packaged Foods

Eric Antoine Scuccimarra, Alexandre Arnaud, Marie Tassy, Marie Tassy, Kim-Anne Lê. *Front. Nutr.* 11 March 2025, Vol. 12 – 2025/ doi.org/10.3389/fnut.2025.1530846. [Article link](#)

**Background:** Carbohydrates are the major contributor to the energy intake of worldwide population. There is established evidence of links of carbohydrate quality with human health. Knowledge of specific carbohydrate in packaged food, such as added and free sugars, could help further investigate this link, however this information is generally not available. **Objective:** To develop an algorithm to predict the content of free sugars in a global database of packaged foods and beverages; and test the applicability of the algorithm to assess carbohydrate quality in packaged food products from different countries and monitor the evolution over time. Carbohydrate quality was defined using a 10:1|1:2 ratio for carbohydrate, fibers and free sugar, i.e., for every 10 g of total carbohydrates in a diet or product, there is at least 1 g of dietary fibers, and less than 2 g of free sugars for every 1 g of dietary fibers. **Methods:** We used a machine learning approach to predict added and free sugars, which enabled us to predict the carbohydrate quality of products from a global database of packaged food. Our predictions were tested by splitting the dataset into training, validation, and test sets, using US data. **Results:** We were

able to predict free sugars and carbohydrate quality for 424,543 products in the U.S. and in 14 countries. The overall mean absolute error on the test set was 0.96 g/100 g of product. The predictions generalized with a high accuracy to non-US countries, and we were able to effectively predict the proportion of products meeting the 10:1|1:2 criteria in the food supply of 15 countries. **Conclusion:** Our methodology achieved high accuracy and is fully automated; it may be applied to other databases of packaged products and can be easily applied for continuous monitoring of the carbohydrate quality of the global supply of packaged food.

## Protein

### Repeatability of Pig True Ileal Amino Acid Digestibility Coefficients: Among and Within Laboratories

Suzanne M. Hodgkinson, Natascha Stroebinger, Carlos A. Montoya, Nikkie van der Wielen, Wouter Hendriks, Paul J. Moughan, et. al. *Jrnl of Nutrition*, March 16, 2025, DOI: 10.1016/j.tjnut.2025.03.013, [Article link](#)

**Background:** When determining true ileal amino acid (AA) digestibility values in the growing pig to calculate digestible indispensable AA score (DIAAS) there are aspects of the protocol, both genetic and environmental, that vary between laboratories. **Objective:** The aim was to determine true ileal AA digestibility in nine foods in each of three laboratories (Australasia, Europe and North America) to determine inter-laboratory variability. In each laboratory, three foods were also evaluated twice to determine intra-laboratory variation. **Methods:** Each laboratory followed a standardised protocol to determine true ileal AA digestibility for each food. Growing pigs received each food for 7 days and digesta were collected via a cannula at the terminal ileum on days 6 and 7. True ileal AA digestibility coefficients were determined for each food at each laboratory to evaluate inter-laboratory variability. Three foods were evaluated twice in different cohorts of pigs at each laboratory (intra-laboratory variation). **Results:** There was no statistically significant effect ( $P>0.05$ ) of laboratory on the true ileal AA digestibility coefficients for eight of the foods. Differences in AA digestibility were found for wheat bread. The mean coefficient of variation (CV) between laboratories for digestibility of the indispensable AAs was 5.0% with an overall mean for all AAs of 5.5%. For intra-laboratory variability, there were no statistically significant differences ( $P>0.05$ ) in AA digestibility for any food with mean CVs for each AA within each of the three laboratories for the indispensable AAs of 1.3, 1.1 and 0.9%. **Conclusion:** True ileal AA digestibility values determined in the growing pig for the same foods in different laboratories (inter-laboratory variation) do not vary greatly. When a single food was evaluated a second time in the same laboratory, little variation among digestibility values was found.

## Food Classification

### Existing Food Processing Classifications Overlook the Phytochemical Composition of Processed Plant-Based Protein-Rich Foods

Raita J, Ahmed H, Chen K, Houttu V, Haikonen R, Kårlund A, Kortensniemi M, Yang B, Koistinen V, Hanhineva K. *Nat Food*. 2025 Mar 24. doi: 10.1038/s43016-025-01148-5. [Article link](#)

According to existing food processing classification systems, plant-based protein-rich (PBPR) foods are often considered 'ultra-processed'-and therefore perceived as unhealthy-despite their ability to provide various bioactive compounds beneficial for human health. Here we used a non-targeted metabolomics approach to analyse the impact of processing on the biochemical composition of PBPR foods. Our results show that existing food classification systems may provide questionable categories for PBPR foods without considering their overall biochemical composition, including phytochemicals. An analysis focusing specifically on biochemical compounds of soy-based products manufactured using various technologies showed no clear distinctions between processing groups in the principal component analysis based on the NOVA and Poti classification. However, clear differences were found between soy-based products based on their phytochemical profile. Although food processing classification systems are welcome in their attempt to guide consumers towards healthy choices, they should be improved to more accurately reflect the biochemical composition of PBPR foods.

## Cognitive Health

### Best Practices for Communicating Nutrition and Brain Health Science

Roberson LB, Latulippe ME, Ohlhorst SD, Faye D, Aarts K, Steiber AL, Ferland G, Coetzee T, Chura L, Ho EH. *Nutrition Today*, March 20, 2025. y60(2):p 74-81, DOI: 10.1097/NT.0000000000000744. [Article link](#)



This research was supported by IAFNS [Cognitive Health Committee](#).

The state of the science of nutrition and its relationship to brain health is complex, making dissemination of research findings difficult. One contributing factor is the lack of a consensus on defining brain health. Some organizations emphasize cognitive function (eg, memory, perception, judgment, decline, impairment) and/or the presence of dementia, whereas others use a broader conceptualization to include mood and stress. Regarding nutrition, some studies support specific dietary patterns, such as the MIND (Mediterranean–Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay) diet, for preserving cognitive function. Others find no effect. Public-facing organizations communicate this science in varying ways to meet consumer and patient needs and interest in preserving brain function as they age. Some organizations have standardized communication methods, whereas others communicate based on topics most salient to the consumer or patient, regardless of the strength of the evidence. This conceptual article reflects a roundtable discussion among stakeholders to document processes for communicating the state of the science to inform best practices moving forward. Six best practices are offered to ensure consistent, evidence-based communication, which is vital in the digital age where misinformation is pervasive.

## Low- and No-Calorie Sweeteners

### Cross-Sectional Associations Between Consumption of Non-Nutritive Sweeteners and Diet Quality among United States Adults in the Cancer Prevention Study-3

Allison C Sylvetsky, Ellen L Mitchell, Mariana F Grilo, Rebecca A Hodge, Alpa V Patel, Marjorie L McCullough, et. al. *AJCN*, Vol. 121, Issue 3. DOI: 10.1016/j.ajcnut.2024.11.023. [Article link](#)

**Background:** Non-nutritive sweeteners (NNS) are used to replace added sugar, yet whether NNS consumers have better or worse diet quality compared to nonconsumers is unclear. **Objective:** To investigate cross-sectional associations between NNS consumption and diet quality. **Methods:** Data from participants in the American Cancer Society (ACS) Cancer Prevention Study-3 cohort were used for this analysis. NNS intake was estimated using self-reported consumption of NNS-containing beverages, packets, and yogurt from a validated food frequency questionnaire. Participants were categorized into nonconsumers, <1 serving, 1 to <2 servings and  $\geq 2$  servings per day. Diet quality was assessed using the ACS diet score (2020) and Healthy Eating Index (HEI-2015). Analysis of variance was used to compare diet quality scores across NNS

consumption groups, and multivariable linear regression was used to examine associations between NNS consumption and diet quality. Multivariable logistic regression was used to evaluate the odds of low diet quality across NNS consumption groups. **Results:** Data from 163,679 participants [median age 53 y (IQR 45–60), 78.9% females, mean NNS intake  $1.0 \pm 1.5$  servings/d, mean HEI-2015 score  $75.4 \pm 10.2$ ] were included. NNS consumers had lower diet quality for ACS diet score ( $6.8 \pm 0.03$  among nonconsumers compared with  $6.5 \pm 0.03$ ,  $6.3 \pm 0.03$ , and  $6.1 \pm 0.03$  for consumers of <1 serving, 1 to <2 servings, and  $\geq 2$  servings of NNS per day, respectively, P-trend < 0.0001) and HEI-2015 ( $76.3 \pm 0.1$  among nonconsumers compared with  $76.7 \pm 0.1$ ,  $75.6 \pm 0.2$ , and  $72.7 \pm 0.2$  for consumers of <1 serving, 1 to <2 servings, and  $\geq 2$  servings of NNS per day, respectively, P-trend < 0.0001). Odds of low diet quality were higher among NNS consumers and were higher with higher NNS consumption (3%, 17%, and 43% higher odds of low diet quality among those who consumed <1 serving, 1 to <2 servings and  $\geq 2$  servings of NNS per day). **Conclusions:** NNS consumers have lower diet quality in a large cohort of adults in the United States.

## Lipids

### Butter and Plant-Based Oils Intake and Mortality

Yu Zhang, Katia S. Chadaideh, Yanping Li, Yuhan Li, Xiao Gu, Yuxi Liu, Marta Guasch-Ferré, et. al. *JAMA Intern. Medicine*. March 6, 2025. doi:10.1001/jamainternmed.2025.0205. [Article link](#)

**Objective:** To investigate associations of butter and plant-based oil intakes with risk of total and cause-specific mortality among US adults. **Design, Setting, and Participants:** This prospective population-based cohort study used data from 3 large cohorts: the Nurses' Health Study (1990-2023), the Nurses' Health Study II (1991-2023), and the Health Professionals Follow-up Study (1990-2023). Women and men who were free of cancer, cardiovascular disease (CVD), diabetes, or neurodegenerative disease at baseline were included. **Exposures:** Primary exposures included intakes of butter (butter added at the table and from cooking) and plant-based oil (safflower, soybean, corn, canola, and olive oil). Diet was assessed by validated semiquantitative food frequency questionnaires every 4 years. **Main Outcomes and Measures:** Total mortality was the primary outcome, and mortality due to cancer and CVD were secondary outcomes. Deaths were identified through the National Death Index and other sources. A physician classified the cause of death based on death certificates and medical records. **Results:** During up to 33 years of follow-up among 221 054 adults (mean [SD] age at baseline: 56.1 [7.1] years for Nurses' Health Study, 36.1 [4.7] years for Nurses' Health Study II, and 56.3 [9.3] years for Health Professionals Follow-up Study), 50 932 deaths were documented, with 12 241 due to cancer and 11 240 due to CVD. Participants were categorized into quartiles based on their butter or plant-based oil intake. After adjusting for potential confounders, the highest butter intake was associated with a 15% higher risk of total mortality compared to the lowest intake (hazard ratio [HR], 1.15; 95% CI, 1.08-1.22; P for trend < .001). In contrast, the highest intake of total plant-based oils compared to the lowest intake was associated with a 16% lower total mortality (HR, 0.84; 95% CI, 0.79-0.90; P for trend < .001). There was a statistically significant association between higher intakes of canola, soybean, and olive oils and lower total mortality, with HRs per 5-g/d increment of 0.85 (95% CI, 0.78-0.92), 0.94 (95% CI, 0.91-0.96), and 0.92 (95% CI, 0.91-0.94), respectively (all P for trend < .001). Every 10-g/d increment in plant-based oils intake was associated with an 11% lower risk of cancer mortality (HR, 0.89; 95% CI, 0.85-0.94; P for trend < .001) and a 6% lower risk of CVD mortality (HR, 0.94; 95% CI, 0.89-0.99; P for trend = .03), whereas a higher intake of butter was associated with higher cancer mortality (HR, 1.12; 95% CI, 1.04-1.20; P for trend < .001). Substituting 10-g/d intake of total butter with an equivalent amount of total plant-based oils was associated with an estimated 17% reduction in total mortality (HR, 0.83; 95% CI, 0.79-0.86; P < .001) and a 17% reduction in cancer mortality (HR, 0.83; 95% CI, 0.76-0.90; P < .001). **Conclusions and Relevance:** In this cohort study, higher intake of butter was associated with increased mortality, while higher plant-based oils intake was associated with lower mortality. Substituting butter with plant-based oils may confer substantial benefits for preventing premature deaths.

### Effects of Early, Late and Self-Selected Time-Restricted Eating on Visceral Adipose Tissue and Cardiometabolic Health in Participants with Overweight or Obesity: A Randomized Controlled Trial

Manuel Dote-Montero, Antonio Clavero-Jimeno, Elisa Merchán-Ramírez, Maddi Oses, Jon Echarte, Alba Camacho-Cardenosa, Mara Concepción, et. al. *Nature Medicine*, 31, 524-533 (2025). doi.org/10.1038/s41591-024-03375-y. [Article link](#)

The optimal eating window for time-restricted eating (TRE) remains unclear, particularly its impact on visceral adipose tissue (VAT), which is associated with cardiometabolic morbidity and mortality. We investigated the effects of three TRE schedules

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(8 h windows in the early day, late day and participant-chosen times) combined with usual care (UC, based on education about the Mediterranean diet) versus UC alone over 12 weeks in adults with overweight or obesity. The primary outcome was VAT changes measured by magnetic resonance imaging. A total of 197 participants were randomized to UC (n = 49), early TRE (n = 49), late TRE (n = 52) or self-selected TRE (n = 47). No significant differences were found in VAT changes between early TRE (mean difference (MD): -4%; 95% confidence interval (CI), -12 to 4; P = 0.87), late TRE (MD: -6%; 95% CI, -13 to 2; P = 0.31) and self-selected TRE (MD: -3%; 95% CI, -11 to 5; P ≥ 0.99) compared with UC, nor among the TRE groups (all P ≥ 0.99). No serious adverse events occurred; five participants reported mild adverse events. Adherence was high (85–88%) across TRE groups. These findings suggest that adding TRE, irrespective of eating window timing, offers no additional benefit over a Mediterranean diet alone in reducing VAT. TRE appears to be a safe, well-tolerated and feasible dietary approach for adults with overweight or obesity.

## Sodium

### Launch of the WHO Guideline on the Use of Lower-Sodium Salt Substitutes

Nutrition and Food Safety Guideline, World Health Organization. 27-2025. ISBN: 978-92-4-010559-1. [Article link](#)

This guideline provides evidence-informed guidance on the use of lower-sodium salt substitutes (LSSS). The recommendation in this guideline can be used by policy-makers, programme managers, health professionals and other stakeholders in their efforts to promote reduction of sodium intake and reduce the risk of hypertension and related noncommunicable diseases through a range of public health policy actions and intervention programmes.

## Gut Health

### Gut Microbiota Serves as a Crucial Independent Biomarker in Inflammatory Bowel Disease (IBD)

Bharti Sharma, George Agriantonis, Kate Twelker, Danielle Ebelle, Samantha Kiernan, Maham Siddiqui, Aditi Soni, et. al. *Int J Mol Sci.* 2025 March 11;26(6):2503. doi: 10.3390/ijms26062503. [Article link](#)

Inflammatory bowel disease (IBD), encompassing Crohn's disease (CD), ulcerative colitis (UC), and IBD unclassified (IBD-U), is a complex intestinal disorder influenced by genetic, environmental, and microbial factors. Recent evidence highlights the gut microbiota as a pivotal biomarker and modulator in IBD pathogenesis. Dysbiosis, characterized by reduced microbial diversity and altered composition, is a hallmark of IBD. A consistent decrease in anti-inflammatory bacteria, such as *Faecalibacterium prausnitzii*, and an increase in pro-inflammatory species, including *Escherichia coli*, have been observed. Metabolomic studies reveal decreased short-chain fatty acids (SCFAs) and secondary bile acids, critical for gut homeostasis, alongside elevated pro-inflammatory metabolites. The gut microbiota interacts with host immune pathways, influencing morphogens, glycosylation, and podoplanin (PDPN) expression. The disruption of glycosylation impairs mucosal barriers, while aberrant PDPN activity exacerbates inflammation. Additionally, microbial alterations contribute to oxidative stress, further destabilizing intestinal barriers. These molecular and cellular disruptions underscore the role of the microbiome in IBD pathophysiology. Emerging therapeutic strategies, including probiotics, prebiotics, and dietary interventions, aim to restore microbial balance and mitigate inflammation. Advanced studies on microbiota-targeted therapies reveal their potential to reduce disease severity and improve patient outcomes. Nevertheless, further research is needed to elucidate the bidirectional interactions between the gut microbiome and host immune responses and to translate these insights into clinical applications. This review consolidates current findings on the gut microbiota's role in IBD, emphasizing its diagnostic and therapeutic implications, and advocates for the continued exploration of microbiome-based interventions to combat this debilitating disease.

## Engage with IAFNS

### **Workshop on Science-Based Principles for Food Classification Focused on Processing and Formulation to Support Public Health**

April 15, 2025  
Washington DC and Virtual

The IAFNS Working Group on Food Classification has initiated a project focused on the development of Science-Based Principles for Classifying Foods Based on Processing and Formulation to Support Public Health. The goal of this effort is to deliver statements (Principles) which researchers can agree are representative of the evidence required to classify foods based on processing and formulation.

• We are pleased to offer an opportunity for an expanded audience to participate in the Workshop by supporting remote attendee/online attendee options.

- <https://iafns.org/event/workshop-on-science-based-principles-for-food-classification/>

### **Innovations in Cleaning and Sanitation for Low-Moisture Foods**

April 29, 2025 – April 30, 2025  
Arden Hill, MN

Join us for this joint conference on cleaning and sanitation for low-moisture foods sponsored by IAFNS, IFSH and the Univ. of Wisconsin-Madison Food Research Institute.

- <https://iafns.org/event/innovations-in-cleaning-and-sanitation-for-low-moisture-foods/>

### **A New Era in Reproducibility: The NIST Gut Microbiome Reference Material**

April 29, 2025  
Virtual Event

Challenges with reproducibility and comparability across studies are among the greatest encountered across research fields including in studying gut health.

- <https://iafns.org/event/a-new-era-in-reproducibility-the-nist-gut-microbiome-reference-material/>

### **IAFNS June 10-11, 2025, Annual Meeting – Register Today!**

Washington, DC  
June 10-11, 2025  
National Press Club

- <https://iafns.org/event/iafns-2025-annual-summer-science-symposium/>



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