

## Editorial

# Future Foods in the Face of Hunger and Surplus: From Sustainable Production to Responsible Consumption

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This Editorial refers to the Special Issue “Future Foods in the Face of Hunger and Surplus: From Sustainable Production to Responsible Consumption”. The Special Issue highlights one of the most important issues for human survival—food security. China, one of the world’s most populous developing nations, has a significant influence on both the environment and global food security. One of the main objectives of China’s economic and social development has always been to ensure environmental sustainability and food security. During China’s planned economy era, the public was beset for a protracted period by the problem of food and clothing due to factors such as income level, technological advancements, natural disasters, and policy errors. The introduction of the rural family land contract management system, which is a symbol of China’s economic reform and opening, has sparked the country’s food system’s transformation. Since then, China has implemented several policies aimed at creating a system of food security, which has encouraged a notable rise in the number of agricultural products supplied per person even in the face of a notable decline in the amount of arable land and a notable rise in population. China has taken two thirds of the world’s population out of hunger over the last forty years, making it the first developing nation to accomplish the UN’s Sustainable Development Goal 2 (SDG2, Zero Hunger) [1]. In general, the future domestic food supply may be under pressure due to the combination of trends in food consumption and population mobility between urban and rural areas. China’s agricultural supply chain needs to focus more on producing livestock products, ensuring an adequate supply of feed, and addressing the issue of the import of meat products. The three alternate dietary scenarios will greatly lessen the overall burden of the dietary environment in the future, based on the current impact of the dietary environment in China. An optional dietary scenario that represents the dietary preferences of Chinese residents is called the Chinese Dietary Pagoda. The Chinese Dietary Pagoda scenario predicts that while urban residents’ demand for arable land and water will exceed the benchmark level, their overall dietary carbon emissions will be lower than the benchmark level in the future. The advancement of agricultural technology increased agricultural productivity, the construction of high-quality farmland, the development of grassland and marine agriculture, and the active use of the global market to import feed grains in moderation can all contribute to reducing the environmental impact of future food demand. Simultaneously, encouraging people to minimize food loss and waste helps lessen the effects on the environment.

According to the World Health Organization (WHO), 2.2 billion people worldwide, lack direct access to safe drinking water. Numerous biological, chemical, and physical contaminants may be present in drinking water, but population growth and rising technology are also having a negative impact on the quality of drinking water globally. Accidents involving the direct mixing, contact, runoff, or leaching of hazardous substances and microorganisms from homes and businesses into freshwater, groundwater, and surface waters



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are referred to as “water pollution accidents.” Accidents involving water contamination are a result of both natural and human-caused factors. As a result, two issues of global concern are highlighted: the degree of public awareness regarding the quality of drinking water and the degree of public confidence in government-provided information regarding water pollution incidents. Hence, establishing awareness about these parameters is most significant for protecting the overall wellbeing of humans [2,3]. There were fewer nonrespondents in Guangzhou (China), as it was noted that the people there were comparatively more conscious of their personal social obligations. Compared to respondents in Karachi, Guangzhou respondents had a higher literacy rate and were generally better educated. In both cities, there were more young respondents (18.0–29.0 years old) than middle-aged and elderly respondents. Most respondents in Karachi may not be as aware because there are fewer small-sized households there and monthly income is lower. In Guangzhou, most respondents were comparatively more aware of drinking water quality, current contaminants, sources of drinking water, awareness events, and EPA functions. In both cities, tap water was the primary source of drinking water. In addition, Guangzhou respondents showed greater faith in information from the government regarding the likelihood of water pollution mishaps. Still, there is room for improvement in both cities’ awareness levels and upbeat attitudes.

Over the past ten years, two fascinating areas of research have emerged: the development of the pulsed electric field (PEF) system and the creation of an ideal treatment protocol to guarantee food safety. For continuous operation, a pulse generator needs to be highly reliable and inexpensive for PEF treatment. Orange juice was pasteurized using an IGBT-based Marx generator created by the newly designed coaxial treatment chamber. Orange juice was used to test the pasteurization efficiency of the suggested electroporator system, and the outcomes were compared to those pasteurized using low temperature for long time (LTLT). Like thermal treatment, PEF treatment with static mixers effectively renders the microbial spoilage inactive. Furthermore, PEF processing did not result in the deterioration of orange juice’s quality attributes, specifically its color, appearance, vitamin C content, or Brix value. Unlike thermal processing, PEF processing increased the shelf life of orange juice without adversely affecting the quality parameters. In addition, PEF treatment uses nearly half as much electricity as LTLT thermal treatment. PEF technology is thus a sustainable way to maintain orange juice’s desired qualities and increase its shelf life. However, to design treatment chambers with higher electrical resistance to design power supplies, more research is needed. It will support further PEF research aimed at improving the electroporator. The creation of the suggested electroporator is appropriate for encouraging the effective dissemination of scientific findings regarding PEF effects on fruit juices to the food sector.

Students’ behavior is greatly influenced by their school, and when the environment is conducive to the development and maintenance of healthy habits, it is thought to be beneficial. According to the global strategy for feeding young children, school menus should encourage children and adolescents to eat a sufficient and healthful diet. Therefore, it is advised to use a variety of safe, nutrient-dense, and nutritious foods to encourage eating habits that support students’ academic and personal development. In Brazil, through the National School Feeding Program (Programa Nacional de Alimentação Escolar, or PNAE), students enrolled in public, nonprofit, and community organizations are guaranteed the right to adequate food in collaboration with the government. It is considered one of the largest, most comprehensive, and long-lasting programs in school meals in the world and involves the production and offering of meals at school. In this sense, school food services are essential in offering healthy and nutritious meals to Brazilian children [4–6]. The instruments will be used to identify occupational risks, evaluate food handlers’ perceptions of occupational risks, and gauge their level of knowledge and attitudes about food hygiene. The instruments were developed and thoroughly tested in terms of both content and semantics to identify aspects related to occupational health. Given that comprehension varies with educational attainment, these instruments—which were semantically validated

through focus groups—are more appropriate for the realities faced by this kind of worker. Because there are not many studies in this field, it will be possible to understand the occupational risk that food handlers in food services face better. Food handlers are subject to a variety of workplace hazards that can impair their ability to do their jobs well and limit their useful time.

Understanding cultural differences in terms of beliefs, values, ways of thinking, and perceptions of new technologies in food processing has grown because of the world's rapid globalization. Genetically modified (GM) foods have sparked a lot of discussion since they were first added to the food chain in the 1990s. The impact of social and psychological factors on public attitudes toward genetically modified foods and consumer perceptions of GM food use was identified and discussed. The general acceptance of genetically modified foods is impacted by the perception that they are artificial and unnatural. People anticipate an evaluation of the known or potential risks as well as the proactive management of the risks because they are concerned about the impact they will have on the environment and human health. Enforcing mandatory labeling laws to provide sufficient information about genetically modified foods could be a suitable strategy to raise public awareness and acceptance of GM foods.

Cannabis use is currently a hot topic of discussion everywhere. Cannabis reform laws must be drastically altered considering the growing recreational use of the drug and the favorable public perception of its medical benefits. As a result, legalization of cannabis is spreading throughout the world even though it continues to encounter many obstacles. To support the contextualization and success of cannabis legalization, it is imperative to comprehend the factors influencing public acceptance of cannabis use. The acceptance or rejection of cannabis use is influenced by cultural beliefs, political opinions, and affiliations with subcultures (youth, adult, and adolescent subcultures). In terms of social factors, one of the main determinants of cannabis use is socioeconomic status, which is determined by income, education, and occupation. The negative stigma associated with cannabis use is the reason behind the beliefs that oppose legalization. Nonetheless, there is a rise in support for legalizing cannabis due to growing knowledge of the drug's medicinal and pharmacological properties. Therefore, promoting the health benefits of cannabis use that have been supported by scientific research may be a clever tactic to lessen public opposition to the legalization of cannabis.

Producers must innovate and create new foods to avoid neophobia from consumers and to compete in the increasingly competitive food trends. Social norms, competing eating goals, and the consumption of novel foods are some of the motivational adoption barriers associated with food neophobia. Therefore, considering the introduction of new food trends into the market, appropriate strategies are required to prevent neophobia. The sustainability idea, which gives consumers a variety of foods to choose from to lessen the scarcity of a single food, can also be seen as including efforts to prevent food neophobia. Neophobia collides with the marketing of food products to consumers who are confronted with adoption barriers that are motivated by social norms, eating goals that conflict, or the consumption of novel foods—all of which are factors that have been shown to be obstacles to the purchase of new food trends. One of the most effective ways to guarantee a decrease in neophobia toward new foods and food trends is to taste them. It has also been found that exposure to new foods, taste, money, and education all help to lessen food phobia. Consumer acceptance of novel foods depends in part on the characteristics of the manufacturer, the state of the market, and the nature of food innovation itself. The quality of food produced using cutting-edge technologies can vary based on the manufacturer's brand and the consumers' familiarity with the new products. Furthermore, consumers view food technology more favorably when it comes to natural or plant-based ingredients. It supports the sustainability of food systems in addition to the health benefits. The transparent traceability system that offers sufficient and accurate information about such novel foods is another unintentional component.

Due to the high percentage of spoilage microorganisms, consumers are becoming increasingly concerned about the sustainability of the food supply. The food industry must develop cutting-edge technologies that preserve food's nutritional value, increase the bioavailability of bioactive ingredients, promote economic and environmental sustainability, and satisfy consumers' needs for certain sensory attributes. The nutritional and sensory qualities of food samples are adversely affected by heat treatment because bioactive ingredients are sensitive to processing at high temperatures. Non-thermal methods are required to minimize food loss, and sustainable advancements in food safety, nutritional security, and preservation are essential for the future. Because non-thermal processes improve food quality, use less water, emit fewer emissions, save energy, ensure clean labeling, and make use of leftover food byproducts, they have been approved with success. PEF, cold plasma, sonication, high-pressure processing (HPP), and pulsed light are some of these processes. HPP has been effectively examined to satisfy international standards. A balanced approach to the raw material, water content, energy content, and nutrient content is necessary for a limited worldwide food supply. HPP demonstrated promising outcomes in mitigating microbial spoilage while preserving nutritional value. The fundamental needs for clean labeled and sustainable food production are satisfied by HPP technology. Limited resources are needed to produce foods that are healthfully nutritious for consumers.

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