International Scholars Journals

Frontiers of Agriculture and Food Technology ISSN 2736-1624 Vol. 12 (1), pp. 001-002, March, 2022.
Available online at www.internationalscholarsjournals.com © International Scholars Journals

Commentary

Characterization of food science and technology

Marina Venturini Copetti*

Department of Technology and Food Science, Federal University of Santa Maria-UFSM, Santa Maria, Brazil.

Received: 01-Feb-2022, Manuscript No. FAFT-22-59055; Editor assigned: 04-Feb-2022, PreQC No: FAFT-22-59055 (PQ); Reviewed: 21-Feb-2022, QC No: FAFT-22-59055; Revised: 28-Feb-2022, Manuscript No: FAFT-22-59055 (R). Published: 07-Mar-2022

DESCRIPTION

At both a global and local level, the food chain is crucial to the achievement of several Sustainable Development Goals. The biological sciences' future contribution to agriculture and human health is well acknowledged, but the supporting science and engineering that underpins food processing and distribution has not been investigated as completely. The difficulties that Food Science and Technology face are examined from a global perspective, and answers are stated as Mission Statements that need interdisciplinary collaboration. These include innovative raw material introductions, manufacturing modifications such as process and systems engineering, waste reduction, and product safety and traceability. Approaches to improving health through healthier diets are discussed, including "Hidden Hunger" and low-cost meals for the poor, as well as the growing significance of advanced digital technologies like Machine Learning and Artificial Intelligence. To show the gaps in knowledge and uncertainty in the science of food systems, many instances from food science and technology and at the interfaces of food, environment, and health are offered. Water and nutrient availability, bacteria and human micro biota, food waste, developing technology, food structure, packaging, consumer acceptability, fermentation, and novel raw materials are all highlighted as areas of uncertainty. Future research directions are indicated. Despite tremendous progress, long-term research with well-designed, well-controlled experiments is required to acquire more insights into food systems. The necessity of meeting the needs of local consumers within local food systems is emphasized, as well as the role of food science and technology in humanitarian relief. In humanitarian contexts, ensuring access to safe, nutritious, high-quality, and culturally appropriate food in the right quantity at the right time and place during an emergency or a long-term crisis is a huge challenge, one that is only likely to become more difficult as uncertainties such as climate change, global political and economic instability, and emerging pandemics like COVID-19 become more prevalent. Several international organizations and non-governmental groups have well-established food security emergency response systems. Food science and technology's involvement in humanitarian response, on the other hand, is little understood and rarely regarded in humanitarian circles. Humanitarian food aid programmers place a premium on providing urgent and short-term relief in order to preserve lives. Rather than improving local food systems and guaranteeing resilience, emergency initiatives and projects tend to encourage reliance on handouts. Food science and technology that addresses local food security, provides jobs, and contributes to the local economy must be emphasized as part of transformative transformation across the whole food system. Beyond restoring and boosting agricultural productivity, the entire food system must be addressed in order to link humanitarian aid and longer-term support to sustainable livelihoods and resilience.

Low-Moisture Foods (LMFs) are typically seen as "lower risk" in terms of food safety; yet, the high frequency of foodborne diseases associated with LMF intake has raised public concern. Low aw conditions also provide significant protection against microbes. Meanwhile, the food business faces a dilemma due to the comparatively high risk of mycotoxins contamination in low-moisture foods. Thermal decontamination procedures frequently degrade heat-sensitive nutrients and reduce product quality, and they are ineffective for removing mycotoxins. As a result, both economics and public health are interested in developing non-thermal decontamination technology to increase the safety of LMFs. non-thermal decontamination procedures, such as ultraviolet and pulsed light, ionizing irradiation, cold plasma, and ozone, affect the microbial population and mycotoxin content of LMFs These decontamination systems' operating principles, uses, variables affecting processing efficacy, and limits are also discussed. Further research and commercialization potential are

*Corresponding author. Marina Venturini Copetti, E-mail: marina.copetti@ufsm.br.

found. Non-thermal decontamination methods such as UV and pulsed light, ionizing irradiation, cold plasma, and ozone show a lot of promise for enhancing the safety and quality of LMFs through microbial inactivation and mycotoxin destruction. The treatment's operating parameters, food properties, microbe species, and mycotoxins are the main factors of processing effectiveness. Greater research is needed to assess the degradant toxicity and interactions with food components, and more emphasis should be placed on scaling up the technique for commercial uses.