

Summary

Microwaves are in the spectrum of electromagnetic radiation, and the lengths of microwaves are between infrared and radio waves. The spectrum range is from 0.001 to 1 m, corresponding to frequencies from 300 MHz to 300 GHz, respectively. Through the advantages of using microwaves, they have been used both in households and on an industrial scale. Microwaves are used, among others, for preserving, heating, drying or thawing of food products. Heating of food products using microwaves is a result of the transfer of electricity from the electromagnetic field in the chamber of the device, with the mechanism taking place at the molecular level. In a variable electric field, polar particles rotate and collide with each other. This technology allows you to increase the efficiency of processes while maintaining high quality of food products.

The role of consumers in the food market is significant. Many innovative preservation technologies are an attractive alternative to conventional methods while maintaining safety. However, in the absence of consumer acceptance, the sale of new technologies and their implementation may be limited, which is a serious problem for designers of innovative technologies. Currently, consumer opinions are often shaped by information in the media such as on television or the Internet. This information, however, is not always compatible with scientific evidence. Despite the increasing awareness of consumers, there are still many health and safety concerns regarding novel food preservation and processing technologies. This phenomenon is called food technology neophobia and is connected with the cult of natural or traditional food. The development and scope of using various food preservation methods depends on the level of consumers' acceptance, that is why it is so important to conduct consumer research to get to know their attitudes, fears and expectations. The aims of this study were developed on the basis of the results of the first article, which showed that microwaves are perceived by consumers as one of the most repulsive methods of extending the shelf life of food. This conclusion prompted me to

conduct a more detailed research on the importance of particular attributes of food products for consumers, determining the factors that have a negative impact on the negative perception of unconventional technologies used in the food industry. In addition, the aim was also to identify concerns related to the use of microwave ovens and to confront them with the recent scientific reports.

Consumer research was conducted using surveys and an analysis of opinions about microwaves based on the content available on the Internet. The respondents showed that the method of food preservation is one of the most important attributes for them when making purchasing choices. Although in most cases microwaves can be a completely safe method of food processing, still many consumers are reluctant to use this technology. Concerns were related to undesirable changes in nutritional value, migration of toxic compounds from packaging to food, and the possibility of leakage from oven. Consumers who declared verification of food preservation method on the label of products may show greater knowledge in this regard, which translates into higher acceptance of individual methods. The same trend was found in people with higher education level and residents of larger towns. An analysis of the preference assessment for alternative names for microwave technologies showed that consumers presented a similar aversion to "wave" methods as they did to preservatives.

The obtained results constitute the basis for understanding consumer attitudes and may be a guide for producers and processors to correctly label food products. The obtained research results constitute the basis for understanding consumer attitudes and may be a guide for producers and processors to correctly label food products. The implementation of new technologies in the food industry may be conditioned by the target group and the market. In addition, the results of these studies have practical value relating, because may help form targeted educational strategies to mitigate the inappropriate consumer beliefs about the use of microwaves within the food industry.

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