



Microbiological Properties and Preservation Strategy of Innovative Vegetarian Spreads and Dips

Hussein M.A. Mohammed*

Department of Electrical and Electronics Engineering, Ataturk University, Erzurum, Turkey

*Corresponding author: Hussein M.A. Mohammed, Department of Electrical and Electronics Engineering, Ataturk University, Erzurum, Turkey; E-mail: halameri080@gmail.com

Received date: 29 March, 2023, Manuscript No. IDPC-23-93447;

Editor assigned date: 31 March, 2023, PreQC No. IDPC-23-93447 (PQ);

Reviewed date: 14 April, 2023, QC No. IDPC-23-93447;

Revised date: 30 May, 2023, Manuscript No. IDPC-23-93447 (R);

Published date: 06 June, 2023, DOI: 10.4172/idpc.1000130

Introduction

Vegetarian spreads and dips are popular food products that offer a convenient and healthy snack or meal option. These products are typically made from a variety of plant based ingredients such as legumes, nuts, vegetables, and spices. However, like all food products, vegetarian spreads and dips can be susceptible to microbiological spoilage if not preserved properly.

Microbiological properties of vegetarian spreads and dips

pH: The pH of the product is an important factor that can influence the growth of microorganisms. Most bacteria prefer a neutral pH, while yeasts and molds can tolerate a wider range of pH levels.

Water activity: The water activity of the product is another factor that affects the growth of microorganisms. Vegetarian spreads and dips typically have a high water activity, which can provide an ideal environment for the growth of bacteria, yeasts, and molds [1].

Nutrient content: The nutrient content of the product can also affect microbial growth. Nutrient rich products can provide an ideal environment for the growth of microorganisms [2].

Description

Preservation strategies for vegetarian spreads and dips

Heat treatment: Heat treatment is a common method of preservation that involves heating the product to a high temperature for a specific period of time. This can help to kill or inactivate any microorganisms present in the product [3].

pH adjustment: Adjusting the pH of the product can help to inhibit the growth of certain microorganisms. For example, lowering the pH of the product to below 4.6 can help to prevent the growth of bacteria that can cause spoilage [4].

Water activity reduction: Reducing the water activity of the product can also help to inhibit the growth of microorganisms. This can be achieved by adding salt, sugar, or other ingredients that can bind water [5].

Packaging: Proper packaging can also help to preserve the product. Packaging that is airtight and provides a barrier to oxygen can help to prevent the growth of aerobic microorganisms [6].

Refrigeration or freezing: Refrigeration or freezing can help to extend the shelf life of the product by slowing down the growth of microorganisms [7]. Vegetarian spreads and dips should be refrigerated at temperatures below 4°C and consumed within the recommended shelf life [8].

Hummus: This Middle Eastern dip made from chickpeas, tahini, garlic, lemon juice, and olive oil is a classic vegetarian spread that is high in protein and fiber.

Baba ganoush: Another Middle Eastern dip, baba ganoush is made from roasted eggplant, tahini, garlic, lemon juice, and olive oil. It has a smoky flavor and is perfect for dipping vegetables or pita bread [9].

Avocado spread: Mash up a ripe avocado with lime juice, salt, and pepper for a creamy and flavorful spread that's perfect for toast, sandwiches, or as a dip.

Pesto: This Italian sauce is traditionally made with basil, garlic, pine nuts, parmesan cheese, and olive oil, but you can make a vegan version by using nutritional yeast instead of parmesan cheese [10].

Tapenade: This Mediterranean spread is made from olives, capers, garlic, lemon juice, and olive oil. It has a salty and tangy flavor that's perfect for spreading on crackers or bread.

Cashew cheese: Soak raw cashews overnight, blend them with nutritional yeast, lemon juice, garlic, and salt, and you have a delicious and creamy vegan cheese spread.

Red pepper hummus: Add roasted red peppers to your hummus for a sweet and smoky twist on this classic dip.

Sun-dried tomato spread: Blend sun-dried tomatoes, garlic, basil, and olive oil for a rich and flavorful spread that's perfect for sandwiches or as a dip.

Conclusion

In summary, to preserve the microbiological properties of vegetarian spreads and dips, it is important to consider the pH, water activity, nutrient content, and preservation strategies such as heat treatment, pH adjustment, water activity reduction, proper packaging, and refrigeration or freezing.

References

1. Tuytschaever T, Jacxsens L, de Boeck E, Uyttendaele M (2023) Microbiological characteristics and applied preservation method of novel ready-to-eat vegetarian spreads and dips. Food Control 143.
2. Mosso AL, LeBlanc JG, Motta C, Castanheira I, Ribotta P, et al. (2020) Effect of fermentation in nutritional, textural and sensorial parameters of vegan-spread products using a probiotic folate-producing *Lactobacillus sakei* strain. LWT 127.
3. Klump BC, Martin JM, Wild S, Horsch JK, Major RE, et al. (2021) Innovation and geographic spread of a complex foraging culture in an urban parrot. Science 373:456-460.

4. Sahni P, Aggarwal P, Sharma S, Singh B (2019) Nuances of microalgal technology in food and nutraceuticals: A review. *Nutr Food Sci* 49:866-885.
5. Lima MG, Henriques M, Lucia da Mata Silverio Ruivo P, Mota de Oliveira MA, et al. (2019) Shiitake mushroom (*Lentinola edodes*) spread creams. *Euro Food Chem* 90.
6. Lucke FK, Tannhauser K, Sharma A, Fritz V (2019) Development of food products with addition of rapeseed press cake fermented by *Rhizopus*: Sensory properties and consumer acceptance. *Br Food J* 121:2351-2364.
7. Rohr JR, Raffel TR, Romansic JM, McCallum H, Hudson PJ (2008) Evaluating the links between climate, disease spread, and amphibian declines. *Proc Natl Acad Sci* 105:17436-17441.
8. Chung KC (2016) Exploring customers' post-dining behavioral intentions toward green restaurants: An application of theory of planned behavior. *Int J Organ Innov* 9:119-134.
9. Jeppesen LB (2021) Social movements and free innovation. *Res Policy* 50.
10. Lucas MM, Stoddard FL, Annicchiarico P, Frias J, Martinez-Villaluenga C, et al. (2015) The future of lupin as a protein crop in Europe. *Front Plant Sci* 6:705.