

The perfect shred

The science behind vegan mozzarella substitutes

Replicating cheese characteristics in plant-based alternatives is no easy feat, presenting a unique challenge to food scientists and manufacturers alike. FAM STUMABO's research on the shreddability of vegan mozzarella substitutes is a crucial step in this process.

Vegan mozzarella alternatives, in particular, is one product that is anticipated to remain in the ever-increasing market. This segment has seen significant growth in recent years, with many companies stepping up to offer innovative and high-quality products.

The many facets of vegan cheese shreddability

'Shreddability' is a term that refers to several aspects related to shredded cheese. It includes how easily the cheese block can be processed through a shredder, the shape and quality of the cheese shreds, and their tendency to stay separate or clump together after shredding. When making imitation cheese, it's important for

manufacturers to avoid producing fine shreds (small particles) to achieve optimal quality.

The machinability (e.g., shreddability) of any cheese is influenced by two categories of parameters: formulation components, like fat, protein, and moisture, along with textural properties, fall under the first category. The second category, processing parameters, includes factors like cutting technology. Among these, the aging of cheese is a formulation factor that needs to be controlled for a better size reduction process. This is why FAM STUMABO researched how the storage time of vegan cheese influences its shreddability. We have gained interesting results on how the shape of the shred could affect the quality of the shredding.

The role of storage time in shreddability

Most of the plant-based cheese alternatives present in the current market are starch-based. The functional properties of these starch-based cheeses mainly depend on the properties of the starch network within them. FAM STUMABO's research found that storage time can lead to significant changes in the texture of these cheeses due to starch retrogradation, thereby influencing their shreddability. Storing the cheese a few days shorter or longer can lead to considerable changes in the textural properties of the cheese, which in turn affect its shreddability.

The findings of FAM STUMABO have implications for future formulation strategies and can help in enhancing the quality and performance of these cheeses in the food industry.

FAM STUMABO's research found that storage time can lead to significant changes in the texture of plant-based cheeses alternatives (photo: COLOURBOX)

