

Micro plate methods, irrigation strategies in food technology.

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Introduction

The majority of low-water or frozen food products are partially or completely amorphous. On the basis of glass transition temperature values and phenomena associated to glass transition, this review will address the extent to which it is possible to comprehend and forecast their behavior during processing and storage. Provisionally, two basic findings are offered. To begin with, the glass transition cannot be regarded as an absolute limit for molecular mobility [1]. Water and other tiny molecules are transported at a high rate even in the glassy state, resulting in effective water exchange in multi-domain foods or susceptibility to oxidation of encapsulated components.

Description

Nanotechnology has spread its wings across a wide range of fields. From first-generation passive nanomaterials to active nanotechnology (e.g., medication delivery) and nano systems, it has come a long way (e.g., robotics) [2]. Although nano food is still in its infancy, tiny particles are currently being used as carriers of antimicrobial polypeptides in the food sector to prevent microbial deterioration of food quality. Another difficult area is pesticide nano encapsulation, which releases insecticides within the insect's stomach, reducing contamination of crops and vegetables [3]. Assays for Total Phenolic Content (TPC) and Antioxidant Activity (AA) on microplates reduce resources and time, making them a viable alternative to traditional procedures that are time-consuming, labor-intensive, and require huge volumes of reagents [4]. The FolinCiocalteu microplate method for measuring TPC and the 2,2-diphenyl-1-picrylhydrazyl (DPPH) microplate method for measuring AA were both validated in the lab and compared to standard spectrophotometric methods [5].

Conclusion

pH, Total Volatile Bases (TVB), hypoxanthine content, lipid oxidation (TBARS value), superficial counts of aerobic psychrotrophic flora, and sensory analysis were used to compare shelf-lives of filleted rainbow trout (*Oncorhynchus mykiss*) packaged in over-wrap, vacuum, and gas mixture conditions and stored at 1 °C (colour, odour and flavour). By using modified atmospheric packing, sensory quality

deterioration was delayed, and bacterial growth, as well as increases in pH, TVB, and hypoxanthine levels, were minimized (MAP). The impact of controlled deficit irrigation (RDI) tactics on oil yield and composition in olive trees (*Arbequina cv*) during the fruit ripening and harvest seasons was investigated in this study. Oils were tested for fatty acid composition, pigments, colour, polyphenol content, and stability. The findings suggest that managed deficit irrigation promotes fruit ripening; after harvest, oil yield increased when water supply was reduced, most likely due to the olive's lower water content.

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