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Effect of Pre-Treatments and Drying Methods on the Chemical Quality and Microbial Density of Wild Edible Oyster Mushroom

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This study was carried out to evaluate the effect of pre-treatments and drying methods on the chemical quality and microbial density of wild edible oyster mushrooms. The mushroom samples were pre-treated by steeping in 0.5% citric and sodium meta-bisulfite at room temperature for 10 minutes before being subjected to sun and cabinet drying until a constant weight was reached. The dried samples including the control samples (Samples not pre-treated with chemicals) were evaluated for proximate, mineral composition, and microbial density. The proximate analysis (protein, ash, fat, moisture, and fiber) showed that untreated mushroom samples (both sun and cabinet dried) had the overall best results followed by samples pre-treated with 0.5% sodium meta-bisulfite while samples pre-treated with 0.5% citric acid had the lowest values. The mineral analysis (calcium, sodium, magnesium, and potassium) of the mushroom samples followed the same trend as the proximate analysis. The microbial density of the samples showed that samples pre-treated with 0.5% citric acid had the lowest count followed by samples pre-treated with 0.5% sodium meta-bisulfite while the untreated samples had the highest microbial density. This implies that pre-treatment with citric acid and sodium meta-bisulfite reduced the microbial density, which may invariably extend the storage life of the edible oyster mushroom.

Biography

Tesleem Adewale Ibrahim is a distinguished academic and researcher affiliated with the Department of Food Science and Technology at Rufus Giwa Polytechnic in Owo, Nigeria. With a deep-rooted passion for food science, Tesleem has made notable contributions to the field, particularly in food processing, safety, and nutrition. His research explores innovative techniques for enhancing food quality and sustainability, aiming to address local and global food security challenges. Tesleem is dedicated to advancing scientific knowledge and actively engages in academic collaborations, conferences, and workshops, sharing insights and driving development in food technology and related areas.