PROCESS OF PRODUCING UMAMI-RICH OYSTER MUSHROOM (*Pleurotus ostreatus*) POWDER

TECHNICAL FIELD

The present utility model relates to a processing of mushroom powder particularly to a process of producing umami-rich oyster mushroom powder.

BACKGROUND

The mushroom oyster or *Pleurotus ostreatus*, are distributed widely throughout the world and usually found in temperate and subtropical regions. It is cultivated in the Philippines mainly in Luzon and Bicol Region. They are characterized by clustered, fleshy, likeshell or fan-shaped caps, gilled, usually whitish, grayish or tan cap, delicate texture and subtle flavor. They are usually consumed and used in different dishes as fresh mushroom and processed in different products such as chicharon, fried tempura and sisig.

The oyster mushroom is highly nutritious and may provide health benefits, including immune system support, blood sugar control, heart health and anti-oxidant and anti-inflammatory properties.

With growing demand for healthy, organic and functional food products globally umami-rich oyster mushroom represents an important product to be developed specifically in the area of sustainable, health focused seasoning solution.

The umami-rich oyster mushroom powder is crafted from pure, fresh oyster mushrooms, delivering a bold, earthy flavor that enhances the taste of any meal. This finely ground powder is rich in umami, the savory taste that adds depth and complexity to dishes, making it an excellent alternative to meat-based flavors for vegetarians, vegans, and health-conscious consumers. The powder can be easily incorporated into soups, sauces, stir-fries, or even baked goods without altering the consistency of the dish. With a low-calorie and nutrient-dense profile, it offers a healthy way to add flavor while maintaining the nutritional benefits of mushrooms.

SUMMARY OF THE UTILITY MODEL

The present utility model relates to the food processing industry, particularly to the method of producing umami-rich oyster mushroom powder from fresh oyster mushroom.

The primary technical problem addressed by this utility model is the growing demand for pure, natural and earthy flavor enhancers that are free form artificial additives and or excessive salt. A versatile health oriented product that enhances the taste of everyday meals while offering the nutritional benefits of mushroom. Addressing also the need for meat-like ingredient that can be used for commercial food application without compromising flavor and nutrition.

The utility model provides practical solution by offering a process to convert the mushroom into umami-rich mushroom powder. Unlike existing background technologies that focus primarily on fresh mushroom products and other value-added products from oyster mushrooms. The drying process improves texture and shell life by drying the oyster mushroom between 60-80°C which ensures moisture management in mushroom products. The process also ensures safety by maintaining acidity, preventing microbial growth while preserving flavor and nutritional quality.

DETAILED DESCRIPTION

The umami-rich oyster mushroom powder is produced through selection of fresh oyster mushroom, shredding the fresh oyster mushroom by hand, spreading the fresh oyster mushroom in a stainless steel tray, drying the oyster mushroom at 60-80°C for one hour using a dehydrator, grinding the dehydrated oyster mushroom into fine powder using a grinder, and transferring the mushroom powder into a pouch or jar with a tight sealing lid.

The product also maintains a balanced moisture content, ensuring long shelf life and usability in a variety of culinary applications. The production process involves carefully drying oyster mushrooms at optimal temperatures to retain their natural flavors and nutrients. The resulting powder is light beige in color and has a pleasant, mild mushroom aroma that complements its savory taste. It is packaged in convenient, resealable containers, making it easy for consumers to store and use as needed. The product is also free from additives or artificial flavors, ensuring a pure and natural seasoning option for consumers seeking healthier food choices.

Ensuring that the final product retains its rich flavor and nutritional benefits while achieving desirable physicochemical properties. Initial trials evaluated various drying temperatures (60°C to 90°C) and durations (1 to 6 hours) to determine the optimal conditions that preserve the mushroom's natural umami flavor and enhance its quality. Here below are key findings and results of the research conducted for umami-rich oyster mushroom powder.

Optimal Drying Conditions. The research established that drying oyster mushrooms at temperatures between 60-80°C for one hour resulted in a moisture content of approximately 8.5%, which is within the ideal range of 5-10% for stability and shelf life. This finding aligns with the recommendations of Farzana et al. (2017) and Rubina & Aboltins (2021) regarding moisture management in mushroom products.

Physicochemical Properties. The powder produced under these optimal conditions exhibited a pH level of 6.2, ensuring product stability and safety. The consistent pH levels across various trials confirm that the drying method effectively maintains acidity, preventing microbial growth while preserving flavor and nutritional quality (Giri & Prasad, 2007).

Sensory Evaluation. A consumer survey involving 100 respondents rated the organoleptic properties of the mushroom powder using a 5-point scale. The appearance received a mean score of 4.51, aroma 4.48, taste 4.44, and texture 4.42. These results highlight high consumer acceptance and indicate that the product meets expectations for quality and flavor.

Market Viability. The packaging and labeling of the product were also evaluated, scoring a mean of 4.50. Effective packaging not only ensures product protection but also enhances marketability, catering to the growing consumer interest in natural and functional food products.