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ABSTRACTS - Oral Presentations

Key odorants in thermally treated hydrolyzed mushroom protein enhance saltiness perception

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Novel methods for creating healthy foods with appealing flavors are essential to convince consumers to adopt a more nutritious diet. Specifically, there is interest in reducing sodium intake by replacing high sodium foods such as red meat dishes with diets with higher nutritional quality and low sodium. The common white button mushroom, *Agaricus bisporus*, is low in sodium, fat, and is cholesterol-free, making it an appealing replacement to calorically dense foods such as meat. By applying food processing methods to the button mushroom, the flavor can be altered to closely mimic that of beef, chicken, or pork without compromising the nutritional quality of the mushroom. In the past, hydrolysis, the process of breaking down proteins and polysaccharides into amino acids and sugars, has been successfully applied to vegetables and seafood to increase perceived flavor. The objectives of this study were to: 1) treat enzymatically hydrolyzed mushroom protein (eHMP) to produce a meat-like flavor and evaluate the organoleptic properties of eHMP in a low sodium chicken broth using sensory panels; 2) identify and isolate the key odorants in thermally treated eHMP with solvent-assisted flavor evaporation (SAFE) and gas chromatography-olfactometry (GC-O); and 3) quantitate the key odorants in thermally treated eHMP using standard isotope dilution assays (SIDA). This talk will discuss the transformation of white button mushrooms to the meat-like eHMP, the identification and quantitation of key odorants in eHMP, and highlight the salt-reduction potential of eHMP determined through sensory evaluation.