

Abstract:

There is general trend towards a continuous increase in fresh market sales of mushrooms and many methods have been examined to improve quality and extend shelf life during marketing. In order to study the effect of modified atmosphere package type on keeping quality of oyster mushroom (*Pleurotus ostreatus*) whole mushrooms (200 g) were packaged with polyethylene film (PE, 60 mm thickness), ethylene vinyl acetate (EVA, 2%) or ceramic film (containing 5% zeolite) and stored at 0, 5, 10, 20 °C. Weight loss, color, firmness, gas composition (O₂, CO₂) inside the film package, respiration rate, ethanol content in the tissue and sensory evaluation of MA packaged mushrooms were examined. Mushrooms packed unwrapped in a conventional hardboard box (2 kg) lost marketability early in the storage period due to weight loss, shrinkage, browning and spore formation. The shelf life of oyster mushroom was about 8-11 days at 0 °C, about 4-6 days at 5 °C, about 2-3 days at 10 °C and about 1-2 days at 20 °C. During storage, film packaging prevented or retarded the deterioration of mushroom appearance, texture and discoloration. This result was also characterized by a reduced respiration rate resulting from elevated carbon dioxide and reduced oxygen levels in the package. At all storage temperatures, ethanol content in the tissue increased slightly early in the storage period and rose considerably towards the end of the storage period. Ethanol content in oyster mushroom was higher in stipe than in pileus tissues.