Title Effects of modified atmosphere packaging with a silicon gum film as a window for gas exchange on *Agrocybe chaxingu* storage

Author Tiehua Li, Min Zhang and Shaojin Wang

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Abstract

The edible mushroom *Agrocybe chaxingu* was stored in packages with or without silicon gum film windows in three different modified atmosphere systems (5% O_2, with 5%, 10% and 15% CO_2) at a temperature of 3 ± 1 °C. The results showed that there were significant differences between the packages with and without the silicon gum film windows on O_2, CO_2, and ethylene concentrations, respiration rate, ascorbic acid content, electrolyte leakage and sensory characteristics. Compared to the packages without the silicon gum film windows, the packages with the windows were more effective for quality keeping of the stored mushrooms. This window kept the gas compositions of the packages at levels which avoided anaerobic respiration and resulting off-odors. Among three different modified atmosphere systems, the packages with the silicon gum film window with initial gas concentrations of 5% O_2 and 10% CO_2 were the most effective for maintaining mushroom quality.