

**Title** Browning alleviation of straw mushroom under CA conditions

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**Keyword** browning; CA conditions; straw mushroom

### **Abstract**

Straw mushroom, an edible mushroom cultivated throughout East and Southeast Asia, generates rapid browning on the cap after harvest. In the present study, constant gaseous portions of O<sub>2</sub> and CO<sub>2</sub> were applied to straw mushroom at 15°C in order to reduce the cap browning. Respiratory rates of mushroom stored in normal air (control) dramatically declined after 2 days while those of mushroom in CAs gradually decreased throughout storage period. Gaseous combinations of 1%O<sub>2</sub>+10%CO<sub>2</sub> and 15%O<sub>2</sub>+10% or 20%CO<sub>2</sub> effectively decreased the browning symptoms and could delay the stored life to at least 6 days, compared to 2 days of control. However, interestingly, the application of 1%O<sub>2</sub>+20%CO<sub>2</sub>, increasing the activity of polyphenol oxidase (PPO), accelerated the mushroom browning generation to decreasing L\* values.