**Evaluation of storage temperature, packaging system and storage duration on postharvest quality of straw mushroom (Volvariella volvacea)**


ABSTRACT

Volvariella volvacea is an edible mushroom, highly perishable and has a very short shelf life (1-2 days) at room temperature (RT). This research was conducted to determine the postharvest qualities at different storage temperatures (10, 15ºC, and RT) and storage durations (0, 2, 4, 6 and 8 days) in perforated polyethylene (PE) films. V. volvacea stored at 15°C showed lower weight loss, no veil opening and retained higher firmness. Thus, the mushrooms were expanded to examine the optimum packaging systems (perforation, PVC film wrap, vacuum and control) applied to V. volvacea for 0-8 d at 15ºC. PVC film was shown to maintain higher firmness, lower weight loss, browning degree, and PPO enzyme activity compared to other packaging. Minor damages and ultrastructure tissue shrivelling were seen in PVC film packaging. Overall, V. volvacea was best stored at 15°C in PVC film to retain their quality and extend its shelf life.



**Keyword:** Volvariella volvacea; Straw mushroom; Postharvest; Packaging; Storage temperature