

**Title** Quality and shelf life of Wangnumkeaw shiitake (*Lentinula edodes*)  
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### Abstract

**Introduction:** Shiitake mushroom (*Lentinula edodes*) has been eaten since ancient times, and is one of the most popular edible mushrooms in Thailand. Mushrooms are fast respiring and highly perishable, prolonging post harvest storage while preserving their quality would benefit the mushroom industry as well as consumers. The objective of this study was to evaluate the influence of packaging on quality and shelf-life of “Wangnumkeaw” shiitake and to determine the correlation between mushroom deterioration and gas composition in package. **Materials and Methods:** Shiitake mushroom obtained from Wangnumkeaw district, the hub of cool-climate horticulture in the Northeast of Thailand. Respiration rate of the shiitake was measured by flow through system at 10°C under air and low O<sub>2</sub> (2%). Randomly selected “Wangnumkeaw” shiitake was packed in clear PP boxes wrapped with LLDPE film and stored at 10°C. Gas composition, weight loss, color, and firmness were determined daily during storage. **Results and Discussion:** At 10°C, respiration rate of fresh Wangnumkeaw shiitake under air and low O<sub>2</sub> were approx. 160 and 140 mg CO<sub>2</sub>/kg-hr, respectively. L\* value was rapidly decreased after day 2. Shiitake packed in the selected packaging material showed no change in L\* value. Its firmness rapidly decreased in during day 3 and day 4. Wangnumkeaw shiitake could keep for 5 days at 10°C with 8-9% weight loss. Gas composition showed 3.15% CO<sub>2</sub> and 5.80% O<sub>2</sub>