

**Title** Shelf-life of sliced yard long bean (*Vigna sinensis* var. *sesquipedalis* L.) stored under selected modified atmosphere packaging

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### Abstract

**Introduction:** Sliced yard long bean (*Vigna sinensis* var. *sesquipedalis* L.) is commonly used as a raw or cooked vegetable in many Thai dishes such as, Khao-Yam, Khanom-cheen-Nam-Ya, Tord-Man-Pla-Grai (Fried fish cake). Slicing generally causes injury and therefore accelerates quality deterioration of the sliced bean. To prolong its shelf-life, the investigation on the effect of selected modified atmosphere packaging on its fresh-like quality was carried out. **Materials and Methods:** Yard long bean produced by Doctor's Vegetables Co., Ltd. Was purchased from TOPS supermarket. After immediately washed, drained, and kept at 10°C for 30 minute, it was sliced into 1.6-2.6 mm – thick. The sliced bean was stored at 5, 10, and 25°C under air and their respiration rates were measured by the flow through system, PP, LDPE, and HDPE films with 25 µm – thick were selected for packaging the sliced bean based on the respiration rate. Gas composition, weight loss, colour, and firmness were daily determined during storage. **Results and Discussion:** The respiration results showed that the higher the temperature, the higher the rate. O<sub>2</sub> consumption rate of sliced bean at 5, 10, and 25°C were 20-30, 80-90, and 150-160 mg/kg-hr, respectively. 150 g of sliced yard long bean was packed in 460-cm<sup>2</sup> LDPE, HDPE and PP bags and stored at 10°C. It was found that weight losses were 2-5% after stored for 4 days. Hue value slightly decreased while firmness slightly increased and they were not significantly different among films. Gas composition results revealed that %CO<sub>2</sub> in the PP was higher than in LDPE and HDPE. Moreover, alcohol odour was detected when O<sub>2</sub> was < 2% and CO<sub>2</sub> was > 10% PP's gas composition reached that point within one day but it took three days in PE.