



Malays. Appl. Biol. (2018) 47(4): 107–116

**A SHELF LIFE STUDY: AN EVALUATION ON
PHYSICOCHEMICAL PROPERTIES AND MICROBIOLOGICAL
ANALYSIS OF HONEY AND *Nigella sativa* SEED MIXTURE
DURING ACCELERATED STORAGE**

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Accepted 12 September 2018, Published online 25 October 2018

ABSTRACT

Honey and *Nigella sativa* (Black Seeds) mixture is well known as a traditional Islamic medicine with its high health benefits to human. This study attempts to determine the physicochemical properties and presence of microorganisms of honey and black seed along 78 days accelerated storage at 55°C that represent two years shelf life. The physical properties of mixtures were obtained using colourimeter, pH meter and texture analyser while antioxidant properties were studied by total phenolic content (TPC) and 1,1-diphenyl-2-picrylhydrazyl (DPPH) scavenging capacity. Microbiological activities were determined using Total Plate Count and Yeast and Mold Count. Results indicated that the colour of sample turns darker, more acidic and harder in texture across 78 days accelerated shelf life. A fluctuation of total phenolic content (353.36–796.09 mg/L) and a gradual increasing in DPPH free radical-scavenging activity (54.2–85.6%) were obtained. Microorganisms were found $<1.0 \times 10^2$ CFU/g for both Total Plate Count and Yeast and Mold Count on the last day of storage analysis. Overall, honey and black seed mixture can be labelled using “best-before” shelf life dating that can last for at least two years. The mixture still can be consumed after the best before date but might have some losses of quality.

Key words: Shelf life, honey, *Nigella sativa* seeds, accelerated storage