**ABSTRACT.** Non-carbonated ready to serve (RTS) ginger drink made out of unfermented fresh ginger juice is a newly developed product. In using fresh ginger for processing of ginger drinks, the rhizome characteristics are crucial. Mainly the flavour, pungent, and bioactive compounds vary with the variety and maturity of the rhizome. Therefore, this study was conducted to identify the best variety and maturity stage for processing of RTS ginger drink with optimum sensory properties. Gingers from three locally grown varieties (Local, Chinese, and Rangoon) at three maturity stages (6, 7, and 8 months after planting) were used for the study. Physico-chemical, sensory, and microbial studies were performed to find out the best ginger juice percentage, variety and maturity. Recovery of juice decreased with the maturity in all three varieties. Chinese variety showed the highest recovery percentage of juice compared to the rangoon and local varieties. The results revealed that 6% of ginger juice could be recommended as the best ginger juice percentage to be added in the RTS. The best maturity was identified as 7 months for all three varieties. Moreover, local variety was selected as the best variety based on sensory acceptability to process RTS ginger drink at 7 months maturity.

**Key words:** Ginger RTS, Maturity, Sensory Acceptability, Variety.