

**Title** Colorimetric detection of yeast in fresh-cut pineapple based on blue silver nanoparticle  
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#### **Abstract**

Yeasts play a crucial role in the sensory quality of a wide range of fruits. They can also be a major cause of fruit and juice spoilage. Most yeast is more resistant than bacteria to low water activity, low pH, high salinity, and chemical preservatives. Employing the use of yeast contamination as an index for fresh-cut fruits quality monitoring, a simple colorimetric yeast detection method was developed for fresh-cut pineapple based on blue silver nanoparticle. Detection processes were based on an enrichment procedure made directly from fresh cut pineapple to enable DNA amplification without any sample pre-treatment such as DNA extraction and a following step of specific DNA amplification of 26S *rRNA* gene by polymerase chain reaction. DNA signals were measured visually through a colorimetric change of blue silver nanoparticle (850 nm). The method had a limit of detection at 50 copies of yeast DNA per 50 g of specimen. No cross-reactivity was observed from specimens contaminated with other bacteria. Detection could be completed within 8 hours of operation including the enrichment process. Survey on yeast detection on fresh cut pineapple parlours was also demonstrated.