

## **Effect of high pressure processing on the microbiological, physicochemical and enzymatic properties of jackfruit (*Artocarpus heterophyllus* L.) bulb**

### **ABSTRACT**

The effect of high pressure processing (HPP) on the microbiological, physicochemical and enzymatic properties of jackfruit bulbs at different pressures and holding times was studied. The pressure and holding time used in this study were 300, 400, 500 and 600 MPa at 3, 5, 10 and 15 min, respectively. The aforementioned treatments significantly ( $p < 0.05$ ) reduced the microbial load to non-detectable level. However, the HP-treated samples exhibited no significant differences ( $p > 0.05$ ) in terms of the proximate composition and  $\Delta E$  indicator of total colour difference. HPP significantly ( $p < 0.05$ ) increased the hardness and chewiness of the treated samples. In terms of enzymatic property, polygalacturonase (PG) and pectin esterase (PE) contents were significantly ( $p < 0.05$ ) reduced by HPP. These results suggested that HPP had successfully inactivated the vegetative microorganisms and at the same time, retained the physicochemical properties of the jackfruit bulbs.

**Keyword:** High pressure processing; Jackfruit; *Escherichia coli*; Polygalacturonase; Pectin esterase; Texture profile analysis