

## **Effects of temperature and pH on xylitol recovery from oil palm empty fruit bunch hydrolysate by *Candida tropicalis***

### **ABSTRACT**

Oil Palm Empty Fruit Bunch (OPEFB) is composed of pentose that can be used as a raw material for the production of xylitol, a potential application in the food and medical areas. The effects of temperature and pH on xylitol bioconversion by yeast sp. *Candida tropicalis* were investigated. The optimum pH resulted to be in the range of 2-4. The percentage of xylose consumed for xylitol production progressively increased with pH, whereas those associated to both biomass growth and catabolic reaction through the TCA cycle decreased, reaching nearly constant values at pH 4. The optimum temperature range for xylitol production was 30-35°C. Xylitol formation became the most significant activity at 20°C, further increased up to 30-35°C and then decreased over 40°C. The results collected at variable temperature were finally used for estimation of the parameters of the fermentation system.

**Keyword:** Xylose; Xylitol; Oil palm empty fruit bunch; *Candida tropicalis*