

ABSTRACT

Salma Wahyu Utami. 24020220130042. **Isolation of Yeast from Honey Pineapple (*Ananas comosus* (L.) Merr.) Fruit Peel Waste and Test its Potential as an Inulinase Enzyme Producer.** Under the supervision of Wijanarka and Siti Nur Jannah.

Inulinase enzyme is an enzyme that can hydrolyze inulin into fructose and fructooligosaccharide (FOS). This enzyme can be produced by microbes, one of which is by yeast. Yeast can be found in various places, such as in sugar-rich agricultural products, namely honey pineapple (*Ananas comosus* (L.) Merr.). This study aims to obtain and characterize inulinolytic yeast in honey pineapple skin waste, determine its growth curve, and test its inulinase activity. The method used was the spread method for isolation of inulinolytic yeast on *Yeast Extract Peptose Glucose Agar* (YEPGA) media, selected using *Inulinase Selecting Media* (ISM), inulinase production with inulin concentration treatment of 1%, 3%, and 5% and incubation time treatment of 0, 6, 12, 18, and 24 hours. Measurement of inulinase activity using the *3,5-dinitrosalicylic acid* (DNS) method. The results of isolation from honey pineapple peel waste were obtained 3 isolates of yeast namely Y3, Y4, and Y5. The three yeasts are thought to be *Torulaspota* sp. which is reviewed through the results of characterization and assimilation of carbon sources. Yeast Y3 is the best isolate that can produce inulinase. In yeast Y3, inulin concentration of 5% and incubation time of 18th hour incubation time were the best concentration and incubation time in producing inulinase by producing an activity value of 3.075 IU/mL. However, inulin concentration, incubation time, and the interaction of the two factors did not significantly affect ($\alpha=0.05$) the production of inulinase in yeast Y4 and Y5.

Keywords : *Inulinase, Inulinolytic, Isolation, Yeast, Honey Pineapple*