ABSTRACT

Trichoderma asperellum TNC52 and TNJ63 are two Riau Trichoderma sp. biocontrol strain which can protect plants from several pathogen fungi. The analysis of *T. asperellum* TNC52 and TNJ63 protection ability is very important therefore the use of biocontrol more effective, to make sure the fungi activity was inhibit. Beside degradate the β-1,3 and β-1,6 glucan bond, laminarinase also has potential to develop in farmation industry, which was use to modificate the protein-polysaccharide kompleks that nowdays use in cancer therapy.

Laminarinase *T. asperellum* TNC52 and TNJ63 were produce in media contain laminarin 0,2%, pH 5,5, room temperature. the activity of laminarinase was determinate by crude enzim extract incubation on with laminarin 0,02% for hour, in 40^0C temperature, pH 5,5. The research result of *T. asperellum* TNC52 show the activity of laminarinase crude extract was highest on 3-5 days production with mean value (0,0102 ± 0,0005) unit/mL. The highest activity of laminarinase TNJ63 crude extract was in 5 days production (0,0090 ± 0,0064) unit/mL. Spesific activity of commersial *Trichoderma* sp. enzyme was (3,6302 ± 0,8867) unit/mg protein which was significantly higher (p<0,05) than specific activity of crude enzyme laminarinase *T. asperellum* TNC52 and TNJ63 extract, (0,9046 ± 0,1257) unit/mg protein and (0,7480 ± 0,0616) unit/mg protein. While the activity of *T. asperellum* laminarinase TNC52 and TNJ63 not different significantly ($p \geq 0,05$) one another.

Key words: *Trichoderma asperellum* TNJ63, *Trichoderma asperellum* TNC52, β-1,3- glucan, β-1,6-glucan, laminarinase