



AKTIVITAS AMILASE KEDELAI HITAM (*Glycine soja*) VARIETAS MERAPI

INTISARI

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Tujuan dari penelitian untuk mengetahui pengaruh waktu perkecambahan, pH dan suhu terhadap aktivitas amilase kecambah kedelai hitam varietas Merapi serta pengaruh pH dan suhu terhadap stabilitas amilase. Aktivitas amilase diukur pada berbagai pH (3,0 ; 4,0 ; 4,5 ; 5,0 ; 5,5 ; 6,0 ; 6,5 ; 7,0 ; 8,0) dan suhu (30°C, 40°C, 45°C, 50°C, 55°C, 60°C, 70°C, 80°C, 90°C). Stabilitas enzim diujikan pada berbagai pH (4,5 ; 5 ; 5,5) berbagai suhu (30°C, 40°C, 50°C, 55°C, 60°C) dan aktivitasnya diukur selama 180 menit. Berdasarkan hasil penelitian, amilase kasar dari kecambah kedelai hitam varietas Merapi mempunyai aktivitas tertinggi pada pH 5. Secara umum, enzim ini mempunyai aktivitas tinggi pada pH 5,0 – 6,5. Aktivitas enzim tertinggi diperoleh pada suhu 55°C, tetapi pada suhu ini enzim kurang stabil. Enzim ini stabil pada pemanasan pH 5 dan suhu 40°C selama 50 menit, terlihat dari aktivitas sisanya mencapai sekitar 90%.

Kata Kunci : kecambah kedelai hitam, aktivitas amilase, waktu perkecambahan, pH, suhu



ACTIVITY OF AMYLASE FROM BLACK SOYBEAN (*Glycine soja*) VARIETIES MERAPI

ABSTRACT

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The objectives of this study were to investigate the effect of germination period, pH and temperature on the activity of amylase enzyme from black soybean var. Merapi and the effect of pH and temperature on amylase stability. Amylase enzyme was measured at different pH (3.0 ; 4.0 ; 4.5 ; 5.0 ; 5.5 ; 6.0 ; 6.5 ; 7.0 ; 8.0) and temperature (30°C, 40°C, 45°C, 50°C, 55°C, 60°C, 70°C, 80°C, 90°C). The stability of enzyme was maintained at various pH (4.5 ; 5 ; 5.5) and various temperatures (30°C, 40°C, 50°C, 55°C, 60°C) and the retained activity was measured for 180 minute. The endogenous crude amylase showed highest activity at pH 5. This enzyme generally had high activity at pH 5 – 6.5. The highest amylase activity was achieved at 55°C, but at this temperature the amylase enzyme activity was not stable. This enzyme was more stable at pH 5 and 40°C for 50 minutes with the relative enzyme activity was around 90%.

Keywords: black soybean, amylase activity, germination period, pH, temperature