

Determination of α -Amylase Enzyme Activity and Blood Glucose Level in Local Duck

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Abstract	<p>α-amylase is included in hydrolase enzyme (E.C. 3.2.1.3), which catalyzed the breaking down of 1,3-glycosidic bound on amylase chain and produced glucose as end product. In mammalian and poultry, α-amylase enzyme has a function as starch breaking down or changed glycogen to glucose. It was used as energy resource in the body. A α-amylase enzyme is protein that resulted in expression from one or several genes, so that has various characteristics among individual. To study the existence and the characteristic of α-amylase enzyme, therefore it has been conducted a research about the connection of α-amylase enzyme unit number with glucose content in Tegal, Magelang and Mojosari duck blood (each of them consisted of 28 birds). This research used Completely Randomized Design (CRD) with seven replicates for each treatment. The result research showed that either the unit number of α-amylase enzyme activity or glucose content in these local breed of duck has a highly significant different ($P < 0.01$). This result showed that genetic factor (breed of duck) has influenced either enzyme unit number or their catalytic activity on substrate, so the capability to form blood glucose inter breed of duck also different. It was suggested that their enzyme characteristics have strong connection with the sequence of amino acid as α-amylase enzyme protein composer, which was the result of gene expression. From the result, it was concluded that the unit number and catalytic activity of α-amylase enzyme and blood glucose content in the breed of local duck was affected by genetic factor (breed of duck). (Animal Production 5(1): 50-56 (2003))</p> <p>Key words: Enzyme, α-Amylase, Blood, Glucose, Duck</p>
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