Effect of Maturation Stage on the Anti-Amylase Factor in Bitter Gourd *(Momordica charantia)*

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Bitter gourd *(Momordica charantia)* is one of the most nutritive and commercially important cucurbit vegetables, popular due to its medicinal properties. The phenolic compounds containing in the fruits are believed to have an inhibitory effect on amylase activity. It decreases the glucose release during carbohydrate digestion, and therefore considered to exhibit a hypoglycemic effect. This study was carried out to determine the anti-amylase activity of bitter gourd at different stages of maturity and in different parts of the fruit (flesh and seeds). The variety "Thinnavelly white" was used to determine the effect of maturity stage and the composition of fruit (seeds, flesh, seeds and flesh) on anti-amylase activity. Lane-Eynon titration method for reducing sugar quantification was used to quantify the glucose reduction percentage. Precooked white rice was used as the source of starch. According to the results recommended harvesting stage (by the Department of Agriculture) of Thinnavelly white has the highest glucose reduction percentage (5.73%) in comparison to the commercial stage (5.30%). According to the comparison of the parts of the fruit, combination of flesh and seeds has the highest glucose reduction percentage in comparison to the individual components irrespective of the harvesting stage. According to that, a synergistic effect on the glucose reduction percentage of flesh and seeds of bitter gourd can be expected.
Key words: Anti- amylase activity, Hypoglycemic effect, Maturity stages, Harvesting stage, Lane-Eynon titration, Glucose reduction percentage

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