

P-31**OPTIMUM PRE-TREATMENT PROCESS FOR THE PRODUCTION OF LEMONGRASS
EXTRACT AS A FUNCTIONAL FOOD INGREDIENT WITH α -GLUCOSIDASE
INHIBITOR (AGI) AND α -AMYLASE INHIBITOR (AAI) ACTIVITIES**

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ABSTRACT

Previous studies have proven that lemongrass extract can show relatively high ability in inhibiting the activity of α -Glucosidase and α -Amylase enzymes. With the inhibition of these enzymes, the blood glucose level in human body can be lowered, thus lemongrass extract can be very useful in treating type II diabetes mellitus (T2DM) patients. The utilization of lemongrass extract as a treatment for diabetic patients is however not yet widely explored in the herbal industries. Lemongrass is commonly used mostly to obtain its specific aroma and taste, without focusing on the level of AGI and AAI activity in the extract. In order to be able to utilize lemongrass extract as an ingredient for functional food and herbal medicines, a study on how the AGI and AAI activity in lemongrass will be affected through different processing stages is required. In this work, the effect of pre-treatment process on the AGI and AAI level was studied, where a combination between 2 times washing and oven drying at 40°C was found to give optimum AGI activity. The lemongrass extract, whose shelf-life was found to be ± 12 months (at 25°C) and ± 6 months (at 30°C), was then applied into different food products.

Keywords: *lemongrass extract, diabetes treatment, AGI, AAI*