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## Effect of green banana flour level, packgaing and storage time on the *L. acidophilus* Survival in symbiotic banana powder

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The effect of immobilized cells with annealing modification of gross michale green banana flour (AMGMGBF) on physicochemical and microbiological properties of synbiotic powder and to investigate the survival of cells under simulated gastrointestinal conditions. Probiotic *Lactobacillus acidophilus* TISTR 1338 were used while AMGMGBF were used as prebiotic and immobilization support. Immobilization of cells with AMGMGBF was prepared by added of 5, 10, 15 and 20% of AMGMGBF in suspension cells culture with 0.98% sodium alginate in sterized of 0.85% sodium choride solotion (w/v) and than mixed well to soft foam prior freeze dried for 8 hrs and grinded pass through 80 mesh screen before package in chitosan capsule and aluminium foil. The symbiotic banana powder samples were storage at 5oC for 10, 20, 30, 40, 50 and

60 days prior analysis on morphological image, viable cell of number *L. acidophilus* and survivor in simulated gastric and intestinal juices. The results revealed that the capsule synbiotic added with 5, 10, 15 and 20% of AMGMGB was significant higher in the viability of immobilized cells ( $p < 0.05$ ) than the aluminium foil packaged. While, the both storage time was not significant ( $p > 0.05$ ) on the viability of immobilized cells. Moreover, the *L. acidophilus* viable cell number was maintained 8.60 and 8.47 log CFU g<sup>-1</sup> of 10 and 15% of AMGMGBF, respectively. The level of AMGMGBF in synbiotic powder did not significantly influenced on the survival of probiotic cultures ( $p > 0.05$ ) with survived when exposed to simulated gastric and intestinal juices.

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