



***IN VITRO* COLONIC FERMENTATION AND GLYCEMIC RESPONSE OF DIFFERENT KINDS OF UNRIPE BANANA FLOUR.**

ABSTRACT

This work aimed to study the *in vitro* colonic fermentation profile of unavailable carbohydrates of two different kinds of unripe banana flour and to evaluate their postprandial glycemic responses. The unripe banana mass (UBM), obtained from the cooked pulp of unripe bananas (*Musa acuminata*, Nanicão variety), and the unripe banana starch (UBS), obtained from isolated starch of unripe banana, plantain type (*Musa paradisiaca*) *in natura*, were studied. The fermentability of the flours was evaluated by different parameters, using rat inoculum, as well as the glycemic response produced after the ingestion by healthy volunteers. The flours presented high concentration of unavailable carbohydrates, which varied in the content of resistant starch, dietary fiber and indigestible fraction (IF). The *in vitro* colonic fermentation of the flours was high, 98% for the UBS and 75% for the UBM when expressed by the total amount of SCFA such as acetate, butyrate and propionate in relation to lactulose. The increase in the area under the glycemic curve after ingestion of the flours was 90% lower for the UBS and 40% lower for the UBM than the increase produced after bread intake. These characteristics highlight the potential of UBM and UBS as functional ingredients. However, *in vivo* studies are necessary in order to evaluate the possible benefic effects of the fermentation on intestinal health.

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