

IDENTIFICATION OF α -AMYLASE INHIBITORS FROM *Eugenia dysenterica* SEEDS FROM DIFFERENT ECOTYPES WITH ACTIVITY AGAINST COWPEA BRUCHIDS

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Cowpea (*Vigna unguiculata*) plants are important cultivars in Latin America and African, once it is an essential source of food poor population. However, this plant specie is currently attacked by the cowpea weevil *Callosobruchus maculatus*. In this report, we isolated and characterized amylase inhibitors from cagaita seeds (*Eugenia dysenterica*), a typical plant from Cerrado biome. Seeds were collected from 15 different cagaita trees and extracted using a solution with 0.6M NaCl and 0.1% HCl, followed by ammonium precipitation (100%). Rich fractions were assayed toward *C. maculatus* (CMA) and porcine pancreas α -amylases (PPA). Proteins at concentrations varying from 12 to 100 $\mu\text{g}\cdot\text{ml}^{-1}$ were incubated with enzymes for 20 min at 37°C. 1% starch was used as substrate. The reaction was stopped using 3.5 DNS solution and the enzyme activity was evaluated by O.D at 560 nm. It was observed that isolated proteins were able to inhibit 80% of CMA activity at a concentration of 25 $\mu\text{g}\cdot\text{ml}^{-1}$. Furthermore, 25 $\mu\text{g}\cdot\text{ml}^{-1}$ of cagaita proteins were also able to inhibit about 80% of PPA, depending of the plant ecotype. This study indicates that cagaita seeds present usefully amylase inhibitors, which can be used, in a near future, for development of novel bioinsecticides against the cowpea weevil *C. maculatus*.

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