

Physicochemical properties and enzymatic digestibility of starch from edible canna (*Canna edulis*) grown in Vietnam

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Abstract

Edible canna starch and other root starches (cassava, potato and sweet potato) extracted from raw roots grown in Vietnam were used to determine physicochemical properties and enzymatic digestibility. The edible canna starch exhibited significantly higher blue value and amylose content than the other root starches. It also had a wide range of gelatinization temperature and high transition enthalpy. The viscosity of hot paste from edible canna starch was quite low and stable, whereas the cool paste had high viscosity and weak resistance against retrogradation. The paste clarity of edible canna starch was also significantly higher than that of the others. During refrigeration and freeze storage, the paste of edible canna starch released so much expelled and absorbed water, which showed low stability during storage with high net syneresis. In this study, native edible canna starch was also found to resist highly to the hydrolysis of α -amylase like potato starch.

Keywords: Edible canna, Potato, Cassava, Sweet potato, and resistant starch.