



# Optimization of cashew (*Anacardium occidentale* L.) apple juice's clarification process by using cassava and rice starch

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## ABSTRACT

*Objective:* This study aims to optimize cashew apple juice clarification by using cassava and rice starch.

*Material and methods:* Effects of dose of cassava and rice starch, incubation time at 30°C on clarity of cashew apple juice were investigated. Parameters such as, tannins, phenols, colour, vitamin C contents of cashew apple juice were evaluated using response surface methodology (RSM) and the optimum condition for cashew apples juice clarification by using cassava and rice starch was determined.

*Results:* The regressions analysis showed that cassava starch dose and clarification time significantly ( $P < 0.001$ ) influence juice clarity, while only clarification time significantly ( $p < 0.05$ ) influence juice clarity with rice starch. The increase of cassava starch and rice starch dose significantly ( $p < 0.05$ ) decreases the tannins content. Cassava starch at 6.2 ml/l for 300 minutes decreased tannins content at 34.2% with visual clarity of 93.75%, while rice starch at 10 ml/l for 193 minutes decreased tannins content at 42.14% with visual clarity of 94.8%.

*Conclusion:* cassava and rice starch behaviour during cashew apples juice clarification were not similar. Nevertheless, from the results of optimization, cassava and rice starch preparations appeared efficient clarifying agents for cashew apple juice. The use of these efficient and economic natural local clarifying agents could improve the valorization of cashew products in developing countries.

**Keywords:** Cashew, clarification, starch, optimization, Response Surface Methodology.