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## Artisan Oil Extraction Methods for Oleaginous Cultures of the Santarém District, Pará State, Middle Amazon, Brazil

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### Abstract

The western region of the Brazilian federal state of Pará shelters a large amount of unexplored oil crops. Many of them can be used both as vegetable oil source for food production as well as a protein source for live stock feeding or human nutrition. It is expected to use unexplored oil crops as source for Biodiesel production, being part of a programme of the Brazilian Federal Government to increase Biodiesel use in the country. Being part of a larger research project funded by the CNPQ (National Science and Research Council, Brazil) the following work aims to compare oil yield of different traditional oil extraction methods used by local small scale farmers. Oil extraction is done initially from the seeds and fruits of the following surveyed oil crops: Côco-Curuá (*Attalea microcarpa*), babassu (*Attalea speciosa* Mart. ex Spreng.), Pataua (*Oenocarpus bataua* Mart), Buriti (*Mauritia flexuosa* L.) and Andiroba (*Carapa guianensis* Aubl.). Artisan oil extraction methods consist, for Pataua, Buriti and Andiroba in separation of fruit pulp from the seed by cooking or soaking in hot water, extracting the oil mechanically or manually from the pulp material with the aid of manual presses like the “tipiti” in central Amazon. The oil extraction of hard shell nuts like Babassu and Coco-Curua, is done after breaking-up the nuts, separating the endocarp from the endosperm. Further on the endosperm is toasted in a frying pan, crushed in a pillow and cooked with water until fully evaporation of the water, leaving only the crude oil in the cooking recipient. Preliminary results showed oil concentrations of 30 % (Coco-Curuá), 40 % (Babassu), 45 % (Pataua), 25 % (Andiroba) and 10 % (Buriti). Its expected to obtain oil yield of up to 60 % in Coco-Curuá and Babassu, 70 % in Pataua, 30 % in Andiroba and 25 % in Buriti, by improving the oil extraction methods.

**Keywords:** *Attalea* spp., Brazil, *Carapa guianensis*, *Mauritia flexuosa*, *Oenocarpus* spp., oil crop seeds, oil extraction, Santarém, tipiti