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Sacha Inchi (*Plukenetia volubilis*, *Euphorbiaceae*): A Promising Oilseed Crop from Peruvian Amazon

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Abstract

Amazonia is considered the world's most important centre of biodiversity. Several important crops for world agriculture (e.g. cassava, pineapple, cocoa, rubber) were first domesticated in this area. However, numerous underexploited Amazonian plant species with promising economic value still remain little-known and neglected by science. Typical example of such species is 'sacha inchi' (*Plukenetia volubilis*, *Euphorbiaceae*). Sacha inchi is a potential new crop indigenous to the high-altitude rain forests of the Andean region of South America nowadays spreaded to the lowlands of Peruvian Amazon. It is a semi perennial, semi woody twining vine yielding mostly tetra-lobular capsules, with 4 lenticular oleaginous seeds inside. The plant has probably been used by pre-Incas and the Incas 3000 years ago which is evident from the interpretation of the plant on vessels in Inca tombs. Chancas Indians and other tribal groups of the region extract oil from the seeds which is used for the preparation of various meals. Roasted seeds and cooked leaves are also an important component of their diets. The sacha inchi seeds are rich in oil (35–60%) and protein (27%) content. The oil contains high levels of unsaturated fatty acids (linoleic, linolenic) and is rich in vitamins A and E. According to the properties mentioned above 'sacha inchi' is ideal for improving children alimentation and very desirable for recuperation after diseases and especially for aged persons alimentation. Furthermore, the leaves of 'sacha inchi' are considered as excellent forage. Although the composition and properties of 'sacha inchi' seeds are relatively well known, to date there is a lack of detailed information about traditional uses, cultivation, processing, economic potential and genetic diversity within this species. Intensive research on this species can contribute to future implementation of sacha inchi into the agricultural systems of the region as alternative crop which can reduce local farmers' dependence on cultivation of coca. Aim of this paper is to introduce sacha inchi plant and analyse its cultivation potential in Peruvian Amazon.

Keywords: Cultivation, oilseed crops, Peru, *Plukenetia volubilis*, sacha inchi