

AN ECONOMIC AND AGRICULTURAL FEASIBILITY STUDY OF  
SUBSTITUTING SUGAR WITH STEVIOSIDE



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## Abstract

Stevia rebaudiana is a small wild shrub grown in a certain areas of Paraguay. The sweet substance called stevioside can be extracted from its leaves. It was found that stevioside has sweet taste and can be consumed as a substitute for sugar.

Stevia rebaudiana is introduced to farmers in Thailand for growing and exporting back to Japan where it will be processed for consumption. However, there is no evidence of any serious study concerning economical and agricultural feasibility of substitution sugar by stevioside. Therefore, the main purpose of this study is to investigate the feasibility of substitution of sugar by stevioside in terms of agriculture and economics. The effects of chemical fertilizer on the yield of Stevia rebaudiana and the quantity of stevioside, the methodology of stevioside extraction, the potential land suitability for growing Stevia rebaudiana and the comparison of costs and benefits of substitution sugar by stevioside are studied.

The results of the study show that nitrogen fertilizer increases the yield of Stevia rebaudiana as well as the quantity of stevioside. The suitable area in Thailand for Stevia rebaudiana planting is approximately 306,375 rai. The production of stevioside for commercial purpose in Thailand, however, seems not to be feasible due to high investment for processing in comparison with the cost of sugar production.