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A Contribution from Europe”

Dendrobium chrysotoxum – Cultivation, Processing and Marketing of an Endangered Orchid Species

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Abstract

The prefecture of Xishuangbanna in Yunnan Province, occupying a mere 0.2 percent of China's total area, is the home to one fifth of its wild plants. The primary rainforests decreased from 70 percent in 1976 to below 30 percent in 2007. According to Xishuangbanna statistics bureau every year another 150,000 hectares of rainforest disappear, mainly replaced by rubber plantations.

Within the framework of the collaborative project Living Landscapes China (LILAC) and in cooperation with TianZi small-scale farmers should be enabled to get an additional or an alternative income to rubber or tea with the high priced Non Timber Forest Product (NTFP) *Dendrobium chrysotoxum*. A sustainable use whereas the agricultural added value remains in the villages encourages farmers to protect the hot spot of biodiversity and might slow down the loss of natural resources.

Since several years, field research of cultivation, harvesting and processing of *D. chrysotoxum* has been done in Xishuangbanna. To work out optimal market quality various ways of processing have been compared in both field and laboratory trials. A solar tunnel dryer, electrical laboratory dryers, on-floor solar drying and traditional ovens came into operation. Quality parameters were defined according to European marketing conditions, chemical and physical product analyses were made.

Despite of a very short flowering season of three weeks in April the preservation of flowers of *D. chrysotoxum* can afford a supplementary income to farmers. Harvested in the (dark) early morning the transport to the dryer should be short, dark and gentle. Best temperature for drying is about 50°C to avoid a loss of taste or colour. The price of *D. chrysotoxum* is very high: according to the Convention on International Trade in Endangered Species (CITES) the collection of wild flowers is not longer possible, the species is highly endangered due to the loss of intact primary rainforest areas and older trees. But it is possible to cultivate orchids in remained forest areas. Within 10 years a profitable orchid garden could be installed under older trees. So the marketing of this endangered species is not a contradictory to protection of rainforest.

Keywords: China, *Dendrobium chrysotoxum*, NTFP, post-harvest processing, Xishuangbanna