

# Improvement of Cultivation Technique on *Glossogyne* in Penghu Region and Analysis of Its Components, Essential Oil and Antioxidant Activity

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## Abstract

A perennial herbaceous plant, *Glossogyne* in the *Chrysanthemum* family, has been popularly cultivated in Penghu region to be used as tea. This study was conducted to explore the optimal cultivation method and suitable planting time. A mechanical harvesting process was also examined to test its efficacy in yield and increasing labor saving in Penghu region. It was found that *Glossogyne* cultivated in the ridge had better plant characteristics and 22.1% higher yield of dried hay. Comparing with labor harvesting; the harvesting time for machine processing per hectare was reduced by a factor of thirty-fifth and thereby increasing the net profit by NT\$ 17,580. *Glossogyne* exhibits wind-, salt- and poor soil-tolerant characteristics. No significant difference was found between its cultivation in open area and Tamarisk windbreak. The planting of *Glossogyne* in May resulted in better quality and higher production. As shown in results of components, *Glossogyne* was a plant of low caloric, high fiber, high mineral and high vitamin contents. Dried hay contained 0.073-0.077% of essential oil consisting of 30 compounds and showed citrus-like characteristic aroma. In addition, *Glossogyne* was high in antioxidant activity and might serve as a possible protective agent to help human reduce oxidative damage. Overall, *Glossogyne* is therefore a special crop suitable to be planted in Penghu region.

Keywords: Penghu region, *Glossogyne*, Yield, Quality, Planting time

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