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## The newly designed Yanang leaf water distillation machine and its efficiency

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### Abstract

The objective of this project is to design and develop Yanang leaf water distillation machine from the traditional one to improve both efficiency. The new Yanang leaf water distillation machine differs from the traditional one in the condensation system. The new machine uses stainless-steel pipe curled in stainless-steel cylinder resulting in the condensation heat exchange area is larger than the traditional one in which the steam hits the bottom of the pot where the water is on top to form condensation. Furthermore, the newly designed machine's boiler is better. It has larger capacity and heat loss protection system. The new boiler is made of 2 layers of stainless-steel to prevent heat loss from heat conduction and steam leakage. All these improvements are important factors which cause increased the production rate of Yanang leaf water. In an experiment to compare Yanang leaf water production rate between the newly designed machine and the traditional one. The distillation of 70 liters of Yanang leaves and water, the new machine produced 40 liters of Yanang leaf water compared with 30 liters produced by the traditional machine. The distillation time to produce the same amount of water for the new machine is shorter than the traditional one. To produce 40 liters of Yanang leaf water, the new machine took time as less as only 10 hours compared with 58 hours took by the traditional machine.

**Keywords:** Yanang leaf water, Distillation, Distillation machine, Herbal leaf water