

Siwaruk Seedanont 2006: Drying of *Andrographis Paniculata* Crude Extract. Master of Engineering (Chemical Engineering), Major Field: Chemical Engineering, Department of Chemical Engineering. Thesis Advisor: Associate Professor Phungphi Phanwadee, D.Sc. 76 pages.
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Experimental results of the drying process for crude extract from *Andrographis Paniculata* in ethyl alcohol are reported. The extract solution was concentrated by a rotary evaporator to 2-6 percent of solid. Lactose was added to the solution before drying in a vacuum dryer at a pressure of 200 mmHg. The quantity of Andrographolide, a major active ingredient in the product, was determined using a high performance liquid chromatography. This research focused on the weight ratio of lactose to solid in the solution that eased the drying process and did not provide a too low concentration of the active ingredient in the product. It was found that if the height of the solution in the drying tray or the solid content in the solution is increased, the drying of crude extract is more difficult. However, if lactose is well mixed in the solution during drying, the product can be dried using less amount of lactose.

The least weight ratio of lactose to solid in the solution in this study was 2:1. The extract solution of 400 millilitres was used providing a 1.72 centimetres height of the solution in the tray. The percentage solid weight was 4.64. The sample was stirred every 30 minutes during the drying period. After drying at 55 °C for 20 hours, the product had a 5.5 percent moisture content. The product was ground and dried for two more hours. The final product had 4.29 percent of andrographolide by weight and 3.2 percent moisture content.

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Thesis Advisor's signature

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