Wachiraporn Unthreejun 2009: A Decision Support System for Herbal Raw Material Procurement Planning: A Case Study of Abhaibhubejhr's Products. Master of Science (Agro-Industry Technology Management), Major Field: Agro-Industry Technology Management, Department of Agro-Industry Technology. Thesis Advisor: Assistant Professor Parthana Parthanadee, Ph.D. 132 pages.

This research aims to develop a decision support system (DSS) for procurement planning of herbal products. The industrial user of the DSS is Chao Phya Abhaibhubejhr hospital foundation. The need for this system comes from the characteristics of the raw materials (herbs) that some of them have very long lead times and that the availabilities of these herbs are very limited. Twenty-six products, which require thirty-three herbs in different forms, including powder, dried, and fresh herbs, are considered in this study. The DSS is developed as a spreadsheet-based system using Visual Basic for Applications (VBA) in Microsoft Excel 2003. There are two types of input information to the DSS. The first is one-time basic procurement information, which consists of lists of different types of products and raw materials, percent ingredients that map products to raw materials, ratio of dried to powder herb, ratio of fresh to dried herb, plantation lead time, and harvest cycle lead time for each herb. The other type of inputs, which is to be entered for each planning year, are planned production and desired customer service level for each product, and available area ready for harvesting for each herb in each production month. Outputs from the DSS contain required amount of herbal raw materials for all products combined, total area required, additional area in which new plants must be cultivated, and plantation schedule. The DSS is tested and the results show that it is capable of generating effective procurement plans for the industrial user.

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