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Selection of the Sustainable Area for Rubber Plantation of Thailand by Eco-efficiency

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Abstract

The objective of this study was to analyse the suitable area for rubber plantation enlargement in Thailand by eco-efficiency assessment. This research evaluated the eco-efficiency value for rubber plantation in each part areas of Thailand including the north, the center, the northeast, the east and the south in 2010. Five phases of aged rubber trees used in this research were 7-9, 10-12, 13-15, 16-18 and more than 18 years. Material and energy consumptions were used as the key of environmental indicators for assessing the eco-efficiency. The result was found that the northern part showed the best eco-efficiency value for current rubber plantation because the labour cost, main cost of material consumption indicator, in the northern part was cheapest. Nevertheless, the highest eco-efficiency value of rubber plantation based on aged rubber trees in the northern part was 16 – 18 years of aged rubber trees. Regarding snapshot graph analysis of the northern part of Thailand concerning the eco-efficiency of rubber plantation based on aged rubber trees in the northern part located in half eco-efficiency. Therefore, the finding of this research suggested that the suitable part area of Thailand for enlargement of rubber plantation in new area was the northern part, which was contrast with National Strategy for Rubber Plantation of Thailand. Hence, this point should be impact into strategic development for rubber plantation in Thailand.

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