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BOONYANUCH SUKKATO : THE STUDY ON THE LAND POTENTIAL FOR VITICULTURE  
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The first objective of this research is to evaluate Thailand's characteristics such as climate and soil by GIS (Geographic Information System) program ARC/INFO version 3.4 and ARCVIEW version 3.1 to determine suitability for viticulture. The second objective is to compare and analyse data about managing vineyard technology such as selecting varieties, managing plants, soil and water. This research used 7 factors to evaluate climate in Thailand : Average temperature and Differentiation of day and night temperature in the first period of grape ripening (June-July), Average temperature and Differentiation of day and night temperature in the second period of grape ripening (December-January), Average annual rainfall, Average daily rainfall in the first period of grape harvesting (August) and Average daily rainfall in the second period of grape harvesting (February).

The results show that there are 3 class of climate suitability for viticulture in Thailand. The moderately suitable climate area is about 120,290 square-kilometers. The marginally suitable climate area is about 288,529 square-kilometers. The unsuitable climate area is about 111,257 square-kilometers.

Next , physiographic and geomorphic characteristics of 7 area groups selected from the moderately and marginally suitable climate areas, were evaluated. The first area group is Chiangmai and Lamphun province, The second is Tak and Sukhothai province, the third is Kamphaeng Phet and Nakhon Sawan province, the fourth is Nakhon Pathom, Kanchanaburi and Ratchaburi province, The fifth is Loei province, the sixth is Nakhon Ratchasima province and the seventh is Udon Thani and Sakon Nakhon province.

This research didn't found highly suitable areas for viticulture because of climate factor limitation but the most moderately suitable areas were found to be in Loei province (about 1,172 square-kilometers; 29.4 percent), Udon Thani and Sakon Nakhon provinces (about 978 square-kilometers; 24.8 percent), Kamphaeng Phet and Nakhon Sawan provinces (about 956 square-kilometers; 21.6 percent), Chiangmai and Lamphun provinces (about 461 square-kilometers; 10.5 percent), Nakhon Pathom, Kanchanaburi and Ratchaburi provinces (about 152 square-kilometers; 3.4 percent), Tak and Sukhothai provinces (about 135 square-kilometers; 3.06 percent) and Nakhon Ratchasima province (about 12 square-kilometers; 0.3 percent). Other areas are too mountainous or covered in water.

The results of this research show specific areas suitable for expansion viticulture in order to decrease the import of grapes and wine in the future. The adjustments necessary to cultivate grapevines in these particular areas should be the subject of further research, with the goal of creating a Thai viticulture database.