

SMART AGRICULTURE AND TROPICAL FRUIT OF THAILAND

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In Thailand, fruit trees are significant economic crops that provide income to both farmers and the agricultural sector. Important industrially produced fruits in Thailand include durian, mangosteen, longan, mango, young coconut, pomelo, and pineapple. Thailand's fruit production, however, is being adversely affected by climate change, increased pest severity, a labor shortage, a lack of suitable agricultural machinery in the production process, and an aging society. From the aforementioned fundamental issues, the Ministry of Agriculture and Cooperatives, specifically the Department of Agriculture, as the primary research agency for plants and agricultural machinery in Thailand, has integrated academic cooperation in agricultural research, agricultural machinery, and information technology from both government agencies and the private sector. To promote the adoption of smart agricultural technology and enhance the efficiency of fruit production for farmers, a pilot program is being implemented for durian, longan, mango, and pineapple in eight areas, covering soil technology, crop production and plant protection, agricultural machinery, irrigation, satellite technology and unmanned aerial vehicles (UAV), Internet of Things (IoT), big data platform, and decision support system (DSS). These technologies have the potential to significantly increase production efficiency for fruit crop growers by reducing labor requirements and optimizing the appropriate production factors and information necessary for farm management planning. However, it is imperative for both the government and related sectors to prioritize and consistently invest in the research and development of smart agricultural technology in fruit production to increase the production of high-quality fruit, improve the quality of life for farmers, and ensure food security for the global population.

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