

Suppakit Pankate 2013: The Application of Vertical Aeroponics Culture for Architecture.  
Master of Architecture (Building Innovation), Major Field: Building Innovation,  
Department of Technology Building . Thesis Advisor: Associate Professor Pasinee Sunakorn,  
M.Arch. 184 pages.

The objective of this research is to develop Vertical Aeroponics System to apply as building element and to apply the automatic control systems (SCADA) to assist in controlling environment for growing plants. In the study, there are three types of panels: 1) round shape vegetables: Red Oak, Green Oak and Butter Head, 2) ground cover plants: Wandering jew, Water Cress and Joy weed and 3) other shape of vegetable: Green Costa, Finlay and Red Batavia. Data was collected by weighing, photography. The SCADA system help controlling temperature, EC and pH. In addition, data was collected from vegetables grown in NFT (Nutrient Film Technique) in the same period to compare weight and shape.

The results showed that Vertical Aeroponics System can be used in building as home farming unit. It can produce vegetables and grow ground cover though the total weight of experiment was less than NFT System. However, the automatic control system (SCADA) can control the condition that affects the growth of plants work effectively, moreover it and save time and manhour in operating the system.

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Thesis Advisor's signature