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(57) Abstract :

Hydroponic is modern-day agriculture. It does not require soil therefore it is also known as soilless agriculture. This is a method of growing plants using mineral solutions. Although of hydroponic advantages such as reducing the amount of used water by up to 90% and provide a good environment for plants to grow. Water and nutrients must be provided in a balanced ratio while being constantly monitored and adjusted as plants develop. The system was automated using microcontrollers and sensors to keep human intervention at a minimum. The pH measurement results at various points showed that the nutrient (PH) was successfully spread inside the growing area. An Internet of Things (IOT) network is created to improve reliability and allow remote monitoring and control if needed. The user is only required to plant a seedling and set initial parameters. Once done, the system can maintain the parameters and promote healthy plant growth.

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