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**A study on comparison of water usage of automated drip irrigation system in two different growing media**

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**Abstract**

Home gardening in Sri Lanka has faced many difficulties due to the busy lives of the people and the scarcity of water resources. Water would be the main requirement of backyard farming. The purpose of the study was to evaluate the water consumption of an automated drip irrigation system for different types of grow bags for the growing of *Capsicum annum*. This experiment was done in the Faculty of Agriculture, University of Ruhuna. The experiment was carried out with two different growing media according to Randomized Complete Block Design with eight replicates. Two different growing media were included; commercial coco peat grow bag and a multilayer gunny bag. Sensor-based automated drip irrigation system was established to compare the water consumption of two growing media. The automated drip irrigation system was prepared using Arduino mega microcontroller resistive soil moisture sensors, submersible water pumps, water tubes, tanks, and microchip. The yield parameters of two growing media were compared. According to the results multilayer gunny bag showed lower daily water consumption and it was significantly different compared to the commercial coco peat grow bag. Multilayer gunny bag can also be used as successful growing media with higher yield of Chilli in domestic level compared to Commercial coco peat grow bag.

**Keywords:** Automated irrigation system, Chilli, Growing bags

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