

## **Germination table and production of lettuce seedling in an automated system with Arduino Uno R3**

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**Abstract:** The hydroponic cultivation of lettuce presents a great versatility and ways of use. There are several forms of cultivation, however, the NFT (Nutrient Film Technique: Laminar Flow Technique) is the main system used, in which seedlings are transplanted to complete their development. The quality of seedlings is essential for hydroponic cultivation, as it ensures plant homogeneity, health and vigor. In this sense, the objective of this research was to test the germination of two lettuce cultivars in coconut fiber and to propose a system for the production of lettuce seedlings in a low-cost germination table automated with Arduino. For that, curly lettuce cultivars

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Rafaela and Moana were used. In the production of seedlings, the nutritional formulation proposed by Furlani (1998) was used. The automation system was developed with Arduino Uno R3 and the germination table for irrigation by capillary rise. From the results obtained, it was found to be feasible to use the automation system with Arduino Uno in the production of lettuce seedlings in a low-cost germination table with irrigation by capillary rise.

**Keywords:** Arduino. Hydroponics. Cultivation. Sensors.