

ABSTRACT

Title : **Automated Fertigation and Drip Irrigation System for Vegetable Crops**

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This project study presents an MCU-based Fertigation Control System, which will be integrated with the Automatic Drip Irrigation System (ADIS) for vegetable crops. This system consists of a fertilizer container and a water tank for the water and fertilizer solution. It has a main switch for initiating the fertigation process, two push buttons corresponding to the two preset amounts of fertilizer, an electronic valve for controlling the water supply to the tank, another electronic valve which serves as the outlet of the tank, a sediment filter to prevent clogging by sediments and other particles, a submersible pump for mixing the water and fertilizer inside the tank, PVC irrigation pipes and a main control unit. The components of ADIS were incorporated in the design.

The ADIS prototype was made by a previous study and is a system for irrigating vegetable crops, by gradually delivering droplets of water directly to their root zones, through improvised PVC flow pipes tiny holes. It has resistance based probe which detects the soil moisture level of the soil and it waters the crops the according to the detected moisture level.