

**Perancangan Sistem Otomatis pada Pertanian Hidroponik:  
Studi Kasus Kebun Hidroponik di Desa Mojotrisno Kecamatan  
Mojoagung Kabupaten Jombang** (*Design of Automatic Systems in  
Hydroponic Agriculture: Case Study of Hydroponic Garden in  
Mojotrisno Village Mojoagung Subdistrict Jombang Regency*)  
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**ABSTRACT**

*Nutritional levels in water and water levels are very influential on hydroponic agriculture. Accuracy is needed in monitoring nutrient levels in water and water levels. This study applies a control system to adjust nutrient levels in water and water levels using a TDS sensor to measure nutrient levels in water and an ultrasonic sensor to measure the water level. The controller used is the Arduino Uno R3 microcontroller. The microcontroller functions as an information processor that is read by sensors and processed according to the previously given program and regulates the actuakor's operation.*

*The results of this study are the system can work well in regulating nutrient levels in water and water levels based on predetermined conditions. the running of the system starts from checking the water level and continues with checking the nutrient levels in the water. after the data is obtained, the microcontroller will work or give instructions to the actuator according to the program that has been made previously. The results obtained are that the plants can grow well with a relatively good success rate.*

**Kata Kunci:** Hidroponik, Arduino Uno R3, Sensor TDS, Sensor Ultrasonik  
**Key word:** Hydroponics, Arduino Uno R3, TDS Sensor, Ultrasonic Sensor