

***Electronic Design of Portable Sprayer System Using
NodeMCU ESP32 Microcontroller***

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ABSTRACT

The vanilla plant is a plant that belongs to the Orchidaceae family, which is a type of plant that is in the same family as orchids. The role of water is very important for plants. Water is a salt solvent that can be absorbed by plants. Apart from that, water is an important element in the circulation of photosynthesis and balancing the rate of transpiration (evaporation). All human activities today are almost never separated from technology. The agricultural sector is taking advantage of advances in science and technology in terms of automatic watering. The aim of this final research project is to create a tool system using a NodeMcu Esp32 microcontroller, connecting a DHT22 sensor, soil moisture sensor, ultrasonic sensor, 16 X 2 LCD for display, relay as a switch on the water pump. Test the system circuit by finding out how the microcontroller and sensors work by looking at the data display on the 16 x 2 LCD. It says Temperature 580C, Humidity 43,200C, Soil Moisture 51%, and Ultrasonic Sensor 87 cm. Internal testing by knowing the input and output voltages on components using a digital multimeter by knowing the voltage from the 220V AC power source then to the 12V adapter then to the LM2596 input calibrated with output voltage results of 3.31V to 5.42V.

Keywords : *Vanilla Plants, Water, Technology, Systems*