

ABSTRACT

The use of portable tools for measuring nutrient levels in hydroponic plants has become very important. In this study, we introduce a portable nutrient meter that can quickly and accurately measure the concentration of nutrients in hydroponic solutions. This research aims to explore how to develop a nutrient control device for hydroponic plants using a microcontroller. The tool is designed for ease of obtaining information about plant nutrients in the field and providing reliable results in a short amount of time.

In this study, the device is also equipped with features that facilitate the interpretation of results, such as an informative LCD screen and data storage capabilities. Thus, this portable nutrient meter is expected to enhance efficiency and productivity in hydroponic farming practices. The test employs TDS (Total Dissolved Solids), where the sensor detects dissolved particles in water, including both organic and inorganic substances in the form of molecules, ions, or suspended micro-granules, with ppm values.

Keywords: *Nutrient meter, hydroponics, TDS..*