

ABSTRACT

Tea drink is the second largest beverage in Indonesia. Food security of a country is said to be good by all residents of a country to meet their food needs. The high level of tea demand must follow the quality and quantity of tea leaf production. One of the things that affect the quality of production and growth of tea plants is soil fertility and soil acidity. To facilitate farmers in understanding soil that is good for production, it requires a production system that can monitor the hydrogen power (pH) of the soil.

In this paper, the authors provide suggestions in the form of a smart farming system uses a soil pH sensor to obtain soil pH element data and the Global System for Mobile Communications (GSM)/ General Packet Radio Service (GPRS) as the network technology. Using GSM technology, users can get customer service quality (CSQ) values, delay, and can see the latitude and longitude data from which the device retrieves soil pH data.

The results of the design and implementation of this system show that the system can exchange data in real time at a CSQ value greater than 15, the data accuracy rate is 100%, and the average delay value is 228 milliseconds.

Keywords: pH, Tea, GSM