**Abstract**

Accurate measurement of grain moisture content is critical for determining grain quality and processing suitability. This project presents the development of a prototype moisture content meter for grains, utilizing two ESP32 microcontrollers and a capacitive soil moisture sensor. The system is designed to provide an efficient, accurate, and accessible solution by transmitting moisture data from the Master ESP32 (sender) to the Slave ESP32 (receiver) via Wi-Fi. The results are displayed on a serial monitor, allowing real-time tracking of moisture levels. The capacitive sensor is calibrated against a conventional grain moisture meter, with preliminary trials showing an error margin of less than 1%.

In addition to real-time data display, the system is built to be easy to use and requires only a stable Wi-Fi connection for data transmission. The use of a serial monitor ensures easy monitoring of moisture content, replacing the need for an I2C LCD display. The prototype is expected to undergo further testing and refinements, with an emphasis on improving accuracy and reliability. This tool aims to assist farmers, researchers, and industry professionals by providing timely and accurate moisture data, thus enabling more informed decisions in grain processing and quality assessment. This approach offers a modern, low-cost alternative to traditional methods, making grain moisture testing more accessible and efficient.