

**RESPON SENSOR LENGAS TANAH TIPE KAPASITANSI TERHADAP
KONSENTRASI DAN JENIS PUPUK ANORGANIK**

INTISARI

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Prinsip kerja sensor lengas tanah tipe kapasitansi adalah mengukur kapasitas listrik air di dalam tanah sehingga dipengaruhi oleh adanya unsur hara dalam tanah. Tujuan dari penelitian ini adalah mengetahui respon sensor lengas tanah tipe kapasitansi pada berbagai jenis dan dosis pupuk. Perlakuan pupuk yang digunakan yaitu NPK, ZA, dan SP-36 dengan konsentrasi 10%, 20%, dan 30% serta kontrol 0% (tanpa pupuk). Pupuk dilarutkan ke dalam 500 ml air. Dosis pupuk 10% menggunakan massa tanah 8 gram, 20% massa tanah 16 gram, dan 30% massa tanah 24 gram. Tanah 500 gram diayak dan dipadatkan kedalam cup dengan luas penampang $56,75 \text{ cm}^2$. Nilai pembacaan sensor dibaca setiap dua hari dan pengamatan selama 2 minggu. Hasil penelitian menunjukkan bahwa sensor lengas jenis kapasitansi tidak beda nyata terhadap jenis dan dosis NPK, ZA, dan SP-36. Artinya pembacaan sensor lengas tanah tipe kapasitansi tidak dipengaruhi oleh jenis dan konsentrasi pupuk NPK, ZA dan SP-36.

Kata kunci : kapasitansi, pupuk, sensor lengas tanah, konsentrasi, pupuk anorganik

**RESPONSE OF CAPACITANCE SOIL MOISTURE SENSOR ON
DIFFERENT TYPE AND CONCENTRATION OF ANORGANIC
FERTILIZER**

ABSTRACT

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The principle of soil moisture sensor capacitance in detecting soil moisture is measure electrical capacity of water in the soil. So, the presence of nutrient elements in soil may affect sensor performance. The purpose of this study was to explore impact of type and dosage of fertilizers to response of soil moisture sensor capacitance type. This study used fertilizers such as NPK, ZA, and SP-36 with concentration that is 10%, 20%, and 30% as well as control 0% (without fertilizer treatments). Fertilizer was dissolved in water with 500 ml. Dose 10% used 8 g soil mass, 16 g soil mass for 20%, and 24 g of soil for 30%. Five hundred grams of soil were sieved and compacted into a cup with a cross-section of 56.75 cm². Responses of soil moisture sensor were observed every two days during 2 weeks observation. This study proved that soil moisture sensor capacitancy type was not affected by type and dosage of NPK, ZA, and SP-36.

Keywords: capasitance, fertilizer, soil moisture sensor, concentration, anorganic fertilizer