

Intisari

Sorgum (*Sorghum bicolor* (L.) Moench.) merupakan tanaman serealia dalam keluarga Poaceae yang mampu beradaptasi tinggi dibudidayakan dalam berbagai kondisi lahan. Berbagai sumber bahan organik diaplikasikan untuk mendukung pertumbuhan tanaman sorgum. Penelitian ini bertujuan untuk menentukan jenis bahan organik yang efektif terhadap pertumbuhan dan kandungan etanol dua kultivar sorgum. Penelitian dilaksanakan pada bulan Juli - Desember 2024. Lahan pertanaman di Desa Logandeng, Playen, Gunungkidul. Penelitian dirancang dengan rancangan acak kelompok lengkap dua faktor yaitu kultivar dan sumber bahan organik sebanyak 4 blok sebagai ulangan pada jarak tanam 25 x 70 cm. Parameter pengamatan antara lain mikroklimat, kesuburan lahan, pertumbuhan tinggi, jumlah daun, diameter batang, luas daun, panjang akar, luas akar, bobot segar batang, bobot segar daun, bobot segar akar, bobot kering batang, bobot kering daun, bobot kering akar, pH nira, kadar brix, dan kadar etanol dengan metode spektrofotometri. Data dianalisis varian dan uji HSD-Tukey ($P < 0,05$). Hasil menunjukkan tidak ada interaksi antara kultivar sorgum dan sumber bahan organik pada variabel bobot kering total. Wulung Wareng menunjukkan hasil yang berbeda nyata dengan Samurai. Begitu juga perlakuan sumber bahan organik yang berbeda nyata dengan kontrol pada umur 15 mst dan 17 mst. Kualitas kadar etanol pada nira paling tinggi dihasilkan dari kombinasi perlakuan dua kultivar dan pupuk kandang kambing dibuktikan dari masih adanya peningkatan pada umur tanaman 17 mst.

Kata kunci : bahan organik, etanol, pertumbuhan, sorgum

Abstract

Sorghum (Sorghum bicolor (L.) Moench.) is a cereal plant in the Poaceae family that highly adaptable to cultivation in various land conditions. Various sources of organic matter are applied to support the growth of sorghum plants. This study aims to determine the type of organic matter that is effective on the growth and ethanol content of two sorghum cultivars. The research was conducted from July to December 2024. Planting land in Logandeng Village, Playen, Gunungkidul. The research was designed with a randomized complete block design with two factors, cultivars and organic matter sources, which were repeated 4 blocks at a spacing of 25 x 70 cm. Observation parameters included microclimate, land fertility, height growth, number of leaves, stem diameter, leaf area, root length, root area, stem fresh weight, leaf fresh weight, root fresh weight, stem dry weight, leaf dry weight, root dry weight, pH, brix, and ethanol content by spectrophotometric method. Data were analyzed for variance and HSD-Tukey test ($P < 0.05$). The results showed no interaction between sorghum cultivars and organic matter sources on total dry weight variables. Black Wareng showed significantly different results with Samurai. Likewise, the treatment of organic matter sources was significantly different from the control at 15 weeks after planting (wap) and 17 wap. The highest quality of ethanol content in nira was produced from a combination of two cultivars and goat manure treatment as evidenced by the increase at the age of 17 wap.

Keywords: *ethanol, growth, organic matter, sorghum*