

**DROUGHT STRESS ON DIFFERENT VARIETIES OF SORGHUM IN
CRITICAL LAND OF POST BRICKS MINING IN PIYUNGAN DISTRICT,
DAERAH ISTIMEWA YOGYAKARTA**

ABSTRACT

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The land in the post bricks mine industry of the study area has the soil characteristics namely; without top soil, poor aeration, low nutrition, bulk density > 1.4g/cm³, and poor irrigation channels, so it requires plants which have the high resistance to drought stress. This study aims to determine the impact of drought stress on various sorghum strains on degraded land used for brick mining in Ngampon, Sitimulyo Village, Piyungan District, Bantul Regency, Yogyakarta. The study was conducted by experiments arranged in a completely randomized block design (RAKL) split plot and purposive sampling to analyze the physical and chemical properties of the soil. Drought stress treatment was carried out by no irrigation for the plants during the age of 55 day after planting-97 day after planting. Treatment of the main plot by two levels namely; control (R0) and drought stress during the age of 55 – 97 day after planted (R1) and treatment of varieties as sub plots with levels; varieties Numbu (A), Super1 (B), Samurai1 (C), Pahat (D), Kawali (E). Data were analyzed using 5% analysis of variance (ANOVA) and 5% DMRT. The most tolerant varieties to drought stress were Samurai 1 and Kawali with leaf chlorophyll was 8.7%, fresh weight >600 g, panicle weight >75 g, and stem diameter >19mm.

Keywords: degraded land, brick mining, sorghum, drought stress, Samurai 1, Kawali