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Growth of Seedlings Salak Gula Pasir (*Salacca zalacca* Var. *Salacca* Pasir) on Concentration of Atonik and Dosage Npk Fertilizer

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ABSTRACT

The aimed of this research was to know the growth of "Salak Gula Pasir" seedling on a concentration of Atonik and dosage of NPK fertilizer and its interaction. The experiment does in greenhouse Unit Agriculture Department of Plant Crops Horticulture/Seeding Crops and Horticulture Rendang District, Karangasem Regency, which lasted for 4 months from December 2015 until April 2016. The experiment using Randomized Completely Block Design (RCBD) with treatment consisting of two factors, the first factor was concentration of Atonik consists of four levels (0, 1, 2, and 3 cc/liter of water) and the second factor was dosage of NPK fertilizer consists of four levels (0, 7.5, 15, and 22.5 g/polybag). The result showed that concentration of Atonik had a significantly different effect almost to all of the observed variables, except to a number of roots of seedlings. The dosage of NPK fertilizer treatment also had the significantly different effect almost to all of the observed variables except to leaf area, root number and root length of seedlings. However, the interaction between the concentration of Atonik and dosage of NPK fertilizer had not significant different effect to all of the observed variables. The highest of a total dry -oven weight of seedling was obtained at 2 cc/liter Atonik concentration (3.26 g) or increased of 43.61% if compared to a total dry -oven weight of seedling at control (2,27 g). While the highest of a total dry -oven weight of seedling on a dosage of NPK fertilizer treatment was obtained at dosage 15 g/polybag (3.42 g) or increased of 48.05% when compared to control (2,31 g). Regression analysis showed that the optimum dosage of NPK fertilizer was 13.83 g/polybag.

Keyword(s): "Salak Gula Pasir", Seedling, Atonik, NPK Fertilizer



Analysis Of Water Balance To Determine Cropping Patterns Of Food Crop In Sub-Watershed Tenggara, Kutai Kartanegara Regency

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ABSTRACT

Growing periods can be determined using water balance analysis to decrease harvest risk in certain area. Generally, there are two types of land use for crop i.e. irrigated land and non-irrigated land. This research was aimed at determined water input, water use and water loss, consumptive use crop water balance and designing a cropping pattern on rainfed paddy field at Watershed Tenggara. The geographical position of the experiment site was between 116°49' EL-116°57' EL and 0°24' SL-0°28' SL, which cover 315.5 km². The high rainfall depth period was at December and April, therefore the low rainfall depth was at September and November. Determination of field capacity and permanent wilting point using soil texture data as input through Bouyoucus hydrometer method. The calculation of land water balance according to Thornthwaite and Mather (1957) is employed to determine the agroclimate condition, particularly the dynamics of soil moisture content to plan a general cropping patterns was used based on monthly data. The planting time period is the water holding capacity >50% from available water. Water Balance monthly indicated that this area have potential growing season about 9 months, water surplus 8 months (439.6 mm year⁻¹) and water deficits about 3 months (59.7 mm year⁻¹). In these area, paddy could be planted twice a year without irrigation. Whereas when climate anomalies can be cultivated paddy fields on certain land-land (swamps or suburbs of lake/river).

Keyword(s): water balance, growing season, cropping patterns, watershed, rainfall