THE EFFECT OF ORGANIC COW FERTILIZERS AND *Tithonia diversifolia* ON COASTAL SAND SOIL N AVAILABILITY AND TOMATO GROWTH *(Solanum lycopersicum L.)*

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ABSTRACT

This research was aimed to know the effect of giving organic cow fertilizers and green fertilizers using Tithonia diversifolia on N-Availability and Tomato growth in coastal sand soil. Research method that was used in this research was Complete Randomized Design with 2 factors, the first factor was organic cow fertilizers dosage consist of 3 level on 0, 2,5, and 5%. The second factors was Tithonia diversifolia dosage, consist of 4 level, 0, 2,5, 5%, and 7,5%. Parameters that was analyzed before treatments are soil C – Organic, pH (H_2O), N- Available, N-Total, CEC, soil texture. Fertilizers analysis including C-Organic, N-Total, and C/N content. Soil analysis after treatment including C-Organic, pH, N-Available, CEC, and agronomy parameters which was crop height, fresh weight, and dry weight. To analyze the treatment effect, ANOVA was used followed by advanced test using Duncan Multiple Range Test (DMRT) on 5% level. The result of the research showed that by giving organic cow fertilizers could improve pH(H_2O), C-Organic, N-Available, fresh weight, dry weight, and crop height significantly, but non-significantly give effect to improve CEC. By giving 2,5% (S1) of organic cow fertilizers get the best result. Thereffore by giving Tithonia diversifolia could improve pH (H_2O), C-Organic, CEC, and N-Available significantly, but non-significantly give effect on improving fresh weight, dry weight, and crop height. By giving 5% (T2) of Tithonia diversifolia significantly improve pH (H_2O), but non-significantly on C-Organic, CEC, N-Available, fresh weight, dry weight, and crop height. The best result could be found on 2,5% of organic cow fertilizers (S1) and 5% of Tithonia diversifolia (T2) combination.

Keywords : organic cow fertilizers, Tithonia diversifolia, coastal sand soil, tomato

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