

ABSTRACT

SUB-IRRIGATION APPLICATION USING LIQUID WASTE FROM CRUMB RUBBER PRODUCTION ON TOMATO PLANTS

(Lycopersicum esculentum Mill)

By

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The aims of this research was to (1) know and analyze the effect of the use Limcakar (liquid waste from crumb rubber production) as irrigation water on the growth of tomato plants with sub-irrigation system, (2) determine the needs of irrigation water on the growth of tomato plants with sub-irrigation system, (3) knowing which pond the waste water can be used for the growth of tomato plants with sub-irrigation, and (4) recommend the used Limcakar as irrigation water for tomato plants with sub-irrigation system. This research used a completely randomized design, consisting two treatment factors with three repetition. The first factor was the use ordinary water as a control (K_0) and Limcakar (K) consisting of a rubber trap pond (K_1), anaerobic pond (K_2), facultative pond (K_3), and aerobic pond (K_4). The second factor is the provision of organic fertilizers (P) consisting of a $\frac{1}{2}$ dose recommendation (P_1) and full dose recommendation (P_2). The results of research showed that Limcakar give same respons with using water and Limcakar not interfere with the growth of plants, so the limitations of irrigation water can be supplied by using Limcakar. The average yield on the most facultative pond treatment with $\frac{1}{2}$ dose of fertilizer recommendation is 1,188 kg/plant and the needs of irrigation water on the growth of tomato plants as much as 8,49 mm/day

Keywords : Liquid waste from crumb rubber production, Sub-irrigation, Tomato