ABSTRACT

THE ANALYSIS OF SATURATED HYDRAULIC CONDUCTIVITY ON YELLOW BAMBOO (*Bambusa vulgaris schard Es.J.C*) STICK

By

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This research aims to determine the value of saturated hydraulic conductivity (Ks) yellow bamboo in various treatments as a tool for subsurface irrigation purposes. This research has been conducted on March until April 2015. This research was conducted in the Laboratory of Power and Agricultural Machinery, Agricultural Engineering Department, Faculty of Agriculture, University of Lampung. The Ks of yellow bamboo research conducted on 6 treatments, those are the epidermis and endodermis that not scraped (C1); layers of the epidermis and endodermis scraped until 0,5 cm thickness (C2); layers of the epidermis and endodermis scraped up as thick as 0,7 cm (C3); layers of the epidermis and endodermis scraped up as thick as 0,9 cm (C4); layers of the epidermis and endodermis scraped up as thick as 1,1 cm (C5); layers of the epidermis and endodermis scraped up as thick as 1,3 cm (C6), then all treatments is performed in three repetitions and endurance for 5 weeks. Based on the research that has been done , the Ks of yellow bamboo with C1 treatment is 0 cm/sec; C2 was 7,24 x 10^{-8} cm/sec; C3 was 6,87 x 10^{-8} cm/sec; C4 was 8,56 x 10^{-8} cm/sec; C5 was 6,93 x 10^{-8} cm/sec; and C6 was 7,06 x 10^{-8} cm/sec. It can be show that the higher bamboo's water absorbing ability the higher hydrolic conductivity's value that obtained. Whereas, the lower bamboo's water absorbing ability the lower hydrolic conductivity's value that obtained.

Keywords : hydraulic conductivity , endurance , yellow bamboo