

## SUMMARY

**Alnguda Firokhman 105040200111154. The Study of Age Ratoon and Dosage goat Manure on Vegetative Growth of Sugarcane Plant (*Saccharum officinarum* L.). Under the Guidance of Dr. Ir. Setyono Yudo T, MS as first supervisor and Dr. Ir. Agus Suryanto, MS as second supervisor.**

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Sugarcane (*Saccharum officinarum* L.) is an important commodity producer of sugar. From year to year, the consumption of sugar demand in Indonesia has increased due to the increase in population and increase in incomes of the population. In 2009 the production of sugar cane to  $\pm 2,333,885$  tons, while in 2010 the production of sugar cane to  $\pm 2,278,127$  tons (CBS, 2009) and in 2011 the production of sugar reaches  $\pm 2.2$  million tonnes and in 2012 reached 2.7 million tons  $\pm$  . In 2014 or 5 years into the future needs of sugar jumped to 5.70 million tons in 2025 and is projected to reach 8.30 million tons. With fluctuating sugar production in Indonesia one contributing factor is ratoon (keprasan). According to Stump (2013), ratoon only a maximum of 3 to 4 times. The keprasan problems farmers are still many who do not heed advice keprasan government to undertake a maximum of 3 times, but farmers use kepras system reached 11 times as a result of the high cost factor when doing Plantcane or new planting. The results of the study abroad on agronomic aspects indicate that the decline in production ratoon Cane, among others, the decline of the sugar cane caused by the death of shoots (tillers) or clumps of shoots (stubbles) high (Soopramanien 1996). Richard et al., (2010) and Mahajan (2010) adds that the productivity of sugarcane will be dropped if more must be cut. Non-crop factors that can reduce soil fertility RC is less well with the availability of nutrients slightly due to frequent use of inorganic fertilizers. Manure as fertilizer derived from animal waste (Jumin, 2012 and Susetya, 2013). Excess manure as well as a source of nutrients for plants, facilitate the growth of plant roots, preventing root diseases and decrease the activity of soil microorganisms are harmful (Samekto, 2006). The purpose of this study to determine the initial growth of sugarcane as an indicator of the results and to determine the effect dose goat manure is best in the early growth of sugarcane. While the hypothesis proposed in this study is specific goat manure application is able to provide initial growth of sugar cane must be cut despite being 10 times.

Research has been conducted in the village Kademangan, District Exhibition, Malang. Research activities started in June 2014 through December 2014. The instrument used in this study is hoe to take samples of soil and pile (herons), plastics as a place to put a soil sample, marker for land plotting, board labels for identification and treatment replicates, markers for naming board labels, meter for measuring land area, plant height and plant spacing, hand counters to assist in the calculation of the number of samples, the rope to restrict land to be planted. The materials used in the study is sugarcane varieties kepras Bululawang, goat manure, urea, KCL and SP 36. This study uses a nested design (Nested) with three repetitions. The main plot is the number of times ratoon, covering K1 = ratoon 2 times, K2 = ratoon 4 times, K3 = ratoon 6 times and K4 = ratoon 11 times. Subplot that dose goat manure, covering P0 = Without goat manure, P1 =

Manure goat with a dose of  $14 \text{ ton ha}^{-1}$ , P2 = Manure goat at a dose of  $28 \text{ ton ha}^{-1}$  and P3 = Manure at a dose of  $42 \text{ ton ha}^{-1}$ . Manure application 30 days after kepras. Parameter observations include Gap plant, number of tillers, plant height, number of leaves, fresh weight, dry weight and leaf area. Observations were made at 2 months after kepras until 6 months after kepras with intervals of 1 month, namely: 2 BSK, 3 BSK, BSK 4, 5 and 6 BSK BSK. Observational data obtained were analyzed using analysis of variance (F test) at 5% level. F-test was used to test the difference in treatment is tested. If there is a significant difference ( $F_{\text{count}} > F_{\text{Table } 5\%}$ ), then followed with a HSD test at 5% level.

The results showed that the value of the gap before the goat manure treatment showed no significant effect on age of ratoon different. The real effect of small doses of goat manure contained in the ratooncane vegetative growth. In sugarcane kepras 2, 4, 6 and 11 + goat manure  $42 \text{ ton ha}^{-1}$  ages 5 and 6 BSK can significantly improve the parameters of plant height and number of leaves, whereas the real effect on the number of tillers are ratoon 4 + goat manure  $42 \text{ ton ha}^{-1}$  age 2 to 6 BSK. There is also a real influence on the wet weight of leaves, stems wet weight, dry weight of leaf, stem dry weight and leaf area with treatment kepras 2 + goat manure  $42 \text{ ton ha}^{-1}$  as the best.

