

**Penggunaan Zat Pengatur Tumbuh Alami Terhadap Pertumbuhan Mata Tunas Tebu (*Saccharum officinarum* L.) Dengan Sistem Single Bud Chip. *The Use of Natural Plant Growth Regulator on Buds Growth of Sugarcane (*Saccharum officinarum* L.) with Single Bud Chip System. Advisor : Moch. Bintoro, MP. And Dr. Ir. Rahmat Ali Syaban, M.Si.***

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***ABSTRACT***

*This research aimed to observe the effect of natural plant growth regulator by using the number of different concentration on sugarcane buds's growth with single bud chip system. The research conducted in September to November 2015 at Nursery land of State Polytechnic of Jember. Completely Randomized Block Design Factorial was applied for this research which contained 2 factors. The first factor is Natural Growth Regulator which consisted of Red union extract (Z1), Garlic extract (Z2), and green coconut water (Z3). The second factor is the concentration of solution which consisted 25% (K1), 50% (K2), and 75% (K3). In all observation parameters , natural plant growth regulator with green coconut water treatment (Z3) showed the best result. Meanwhile, the use of different concentration (K) of natural plant regulator on sugarcane buds' growth showed non-significant effect to all observation parameters. Beside that, there is no interaction found between natural plant growth regulator and concentration that applied to the observation parameters.*

**Keywords:** *Natural Plant Growth Regulator, Buds Growth, Sugarcane, Single Bud Chip System*