

SUMMARY

Kiki Puspitasari. 0810480051. Application Influence of Herbicide Ametrin and 2,4-D in Controlling Weeds of Sugar Cane (*Saccharum officinarum* L.). Supervisors: Prof. Dr. Ir. Husni Thamrin Sebayang, MS and Prof. Dr. Ir. Bambang Guritno.

Sugar cane (*Saccharum officinarum* L.) is the basic substance for making sugar. One of elements that influence in production component cost is weeds. It can decrease sugar cane product because there is rivalry for getting soil substance, water, and sunshine. Besides, weeds can be destroyer for pest and disease. Then, it makes difficulties as well as improves for felling of threes cost. The impact of weeds compensation is reducing the weight of sugar cane more than 50 percent. Weeds can be controlled by using chemical way. That is herbicide usage. Herbicide that is able to be applied for controlling weeds in sugar cane is Ametrin and 2,4-D. 2,4-D is easier to be reorganized in soil than 2,4,5- triklorofenoksi acetic acid. There are two purposes of this research. Firstly, to find out the influence of herbicide Ametrin usage and 2,4-D in different application for controlling sugar cane weeds. Secondly, to find out the effectiveness of single herbicide usage for controlling weeds. Hypothesis which is proposed in this research is herbicide usage in different application can reduce weeds growth and support sugar cane, if it is compared without weeds controlling. Single herbicide usage produces the reducing of weeds growth which is similar with mixture herbicide usage.

This research had done in June until September 2012 in PG Kebon Agung plantation Sempal Wadak village, Bululawang district, Malang regency. The tools used such as *knapsack sprayer* semi automatic, nozzle, bamboo, scissor, graduated glass, oven, quadrant pair of scale (0,5 x 0,5 m), gage, etc. Materials of the research are sugar cane with PS 881 varieties, Ametrin herbicide, and 2,4-D herbicide. Experiment program which is employed is simple group random program. It consists of 7 treatments and 3 repetitions. H0=control, H1=crossed 2 weeks after planted, H3=Herbicide 2,4-D 2 l ha⁻¹ 1 week before soil treatment and 1 month after planted, H4= Ametrin herbicide 3 l ha⁻¹ 1 week before soil treatment, H5= Ametrin Herbicide 3 l ha⁻¹ 1 week before soil treatment and 1 month after planted, H6= Ametrin Herbicide + 2,4-D (3 l ha⁻¹ + 2 l ha⁻¹) 1 week before soil treatment and 1 month after planted. Weeds monitoring had been done before herbicide application did. That was the analysis of vegetation (taken randomly 7 samples from experimental land) which was done by using quadrant partition and monitored after the application. It took samples for biomass data which was done 21, 35, 49, 63, 77, 91 and 105 hst. Fitotoksitas sugar cane was monitored in 21, 35, 49, 63, 77, 91 and 105 hst based on visual scoring. Data obtained was analyzed by using kinds of F test 5% then it was continued by comparing test among treatments. Truly different treatment would be tested by using truly smallest distinction test 5%.

The result of this research shows that the usage of single herbicide Ametrin (dose 3 l ha⁻¹), 2,4-D (doses 3 l ha⁻¹) as well as mixture herbicide 2,4-D + Ametrin (dose 2 l ha⁻¹ + 3 l ha⁻¹) are applied once or twice is more effective to control weeds and able to improve vegetative sugar cane growth if it compares without weeds controlling. Weed controlling uses single Ametrin herbicide (dose 3 l ha⁻¹) which has similar long efectiveness with weeds controlling by using

mixture herbicide (dose 3 l ha⁻¹) 1 week before land treatment and 1 month after had planted. That produces the growth of vegetative sugar cane which is better seen from the plan high, amount of leaves, stem diameter, and amount of the buds.

