

## SUMMARY

**Dahnar Yudha Puspita 115040201111101. Growth and Yield Response of Cucumber (*Cucumis sativus* L.) Varieties and Lines on Various Levels of Salinity. Supervised by Dr. Ir. Nurul Aini, MS as a main supervisor and Ir. Koesriharti, MS as secondary supervisor.**

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Cucumber (*Cucumis sativus* L.) is include in a vegetable crop that has high benefit in daily life. Cucumber is a type of seasonal crops that have indeterminate characteristic. Fruit of cucumber is usually used as a vegetable and fresh fruit. In aditios used as a vegetable and fresh fruit, cucumbers have other benefits, such as medicine and cosmetics ingredients. Cucumber has high nutrition because the fruit contain high minerals and vitamins. Reduction of cucumber production significantly influenced on the necessary Indonesian people that are increasing every year and requirement of exports to several countries. One of the problem in raising productivity of cucumber plants, that are limited area to cultivation. The utilization of marginal land that included saline land, was seen as a solution to overcome the limited area of cultivation that existed at this time. The purpose To study growth and yield response of cucumber varieties / strains on various levels of salinity. Hypothesis There are different response of each variety / strain on each level of salinity, There are different growth and yield response of cucumber plants in difference levels of salinity, There are different growth and yield response of cucumber plant in difference varieties / strains.

The research has implemented on June – August, 2015 and was carried out at two locations, that are Laboratory of Plant Breeding for germination phase and Grenhouse Kebun Percobaan Universitas Brawijaya, at Jatikerto village, district Kromengan, Malang for growth and yield research. The field research has altitude of 303 masl and temperature about 27-29<sup>0</sup>C. This research arranged in two models design, that are factorial compelety randomized design for germination phase and split plot design for growth and yield. There are 11 treatment, 30 combinations with 3 replications so have 90 unit experiment. This research used two factors that are salinity treat as a first factor with various levels of NaCl such as S1 : 0 ppm = without NaCl, S2 : 2500 ppm = 2,5 g NaCl/ 1 liter water, S3 : 5000 ppm = 5 g NaCl/ 1 liter water, S4 : 7500 ppm = 7,5 g NaCl/ 1 liter water, S5 : 10000 ppm = 10 g NaCl/ 1 liter water and the second factor are 6 varieties that are V1= Mercy Varieties, V2= Metavy Varieties, V3= Monza Varieties, V4=Blitar Local Line, V5=Jember Local Line, V6= Panda Local Varieties. The observation of Laboratory implemented when first germination whith looked in aparently hypocotyl. The observations of field implemented with non destructive method and the variable took from vegetative phase in 1 WAP, 2 WAP, 3WAP, 4 WAP dan 5 WAP. The result analized with annova to know the response of treatment. The data which have significantly effect (F distributions > F table 5%) so the results of the analysis were tested further by using LSD 5%.

The result showed that there are interactions in germinations research is first germinations length of hypocotyl and length of root. Varieties of Mercy, Metavy, Monza and Panda local variety relatively tolerant of saline conditions than the Blitar and Jember local line. Levels of salinity significantly affected

the germination, growth and yield of cucumber. Cucumber plant tolerant to saline condition until 2500 ppm of NaCl concentration in length of plant, diameter of stem, harvest average, length of fruit, dry weight of root average. However, concentration of 2500 ppm fruit has been lowering yields compared with the control.