

ABSTRACT

Aini, Dhika Nurul. 2014. **Effect of Concentration and Immersion Kolkhisin of Old Growth and yield of onion (*Allium ascalonium* L.)**. Thesis. Department of Biology, Faculty of Science and Technology of the State Islamic University of Maulana Malik Ibrahim Malang. Supervisor I: Dr. H. Eko Budi Minarno, M. Pd. Supervisor II: Dr. H. Ahmad Barizi, M.A

Keywords: Kolkhisin, polyploidy, red onion.

The need for onion crop is very high, but production in Indonesia is very limited, even some amount to be imported. To produce red onion on a large scale, plant breeding should be done in order to obtain shallots with attractive conditions, large size, disease resistance, and others. One of the various techniques using mutation breeding is artificial. Mutations can be done through artificial chemical induction using kolkhisin. kolkhisin is a chemical compound that is widely used for chromosome duplication (polyploidy) in some plants. Sensitivity to kolkhisin treatment differs among plant species, therefore conducted a study to produce onions with better growth. The purpose of this study was to determine the effect of the interaction of concentration and immersion time on plant morphology kolkhisin onion (*Allium ascalonicum* L.).

The study was conducted in the Laboratory of Genetics. Department of Biology, Faculty of Science and Technology, UIN Maulana Malik Ibrahim Malang; and planting is done in the rice fields Tawangargo Rural District Karangploso Malang. Time study in October 2013 until December 2013. This study is an experimental study to determine the effect of concentration and time of immersion kolkhisin on growth and yield of onion (*Allium ascalonium* L.) covering parameters plant height, root number, root diameter, and weight fresh crop. Experimental studies in the field using the method Randomized Group (RAK) with 2 treatment that is kolkhisin concentrations of 0%, 0.05%, 0.1% and 0.15% and long immersion kolkhisin 0 hours, 24 hours, 48 hours, and 72 hours each repeated three times. The results are analyzed using analysis of variance (anava) when there are extended to test the influence of duncan.

The results showed that the concentration of kolkhisin 0.05% with 72-hour immersion time can increase the number of tubers and fresh weight of onion significantly different from controls. The number of bulbs are the most optimal concentration of 0.05% on 72-hour soaking time is 20,000. While there is at least the number of tubers in 0.15% concentration and immersion time of 72 hours is 3,333. Fresh weight of onion are optimally kolkhisin at 0.15% concentration and immersion time of 72 hours at 56.523. While most lower fresh weight contained in the 0.15% concentration treatment 72 hours soaking time is 12.820. Kolkhisin with a concentration of 0.05%, 0.10%, 0.15% and dipping time 24 hours, 48 hours, 72 hours have not been able to increase the plant height and diameter of onion bulbs (*Allium ascalonicum* L.)