

**THE EFFECT OF COBALT-60 GAMMA RAY IRRADIATION ON THE  
GROWTH AND YIELD OF ONION (*Allium ascalonicum* L.) TAJUK  
VARIETIES**

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**ABSTRACT**

Shallots (*Allium ascalonicum* L.) are one of the high quality vegetables. The many benefits of shallots have led to high demand for shallots. This shows that shallot productivity must be increased. Efforts to increase shallot production can be done by cultivating superior varieties. Breeding treatment through gamma ray irradiation is one effort to produce new varieties. This research aims to see the effect of induced gamma ray radiation on the growth and yield of shallots. This research used a Complete Randomized Block Design method with a single factor and three replications. The treatments used were gamma irradiation doses of 0 as a control, 2 Gy, 4 Gy, 6 Gy, 8 Gy, 10 Gy, 12 Gy and 14 Gy so that there were 24 experimental units. Each experimental unit contained 12 plants. The data obtained were analyzed using variance (ANOVA), then the test was carried out using Duncan's Multiple Range Test (DMRT) and trend comparison. The results showed that a gamma ray irradiation dose of 2 Gy had the best effect on the variables of plant height, tuber weight per plant and tuber diameter of 11.83 Gy causing the death of 50% of the population (LD50).

**Keyword** : *Shallots, Mutations, Gamma Rays*