

Pengaruh Pemberian Beberapa Dosis Iradiasi Sinar Gamma pada Pertumbuhan dan Perkembangan Genotipe Bunga Lily dengan Metode Kultur Jaringan. *The Effect of Several Doses of Gamma Ray Irradiation on the Growth and Development of Lily Genotype through Tissue Culture Method.* as chief counselour: Dwi 'Rahmawati, SP., MP.

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ABSTRACT

*This research is related to the use of gamma-ray irradiation on lilies (*Lilium longiflorum*) through the tissue culture method. Lilies are bulbous ornamental plants with high economic value and are popular cut flowers. The Netherlands, Japan and the United States, especially Oregon, are the main lily producing countries. The results showed that several genotypes of lilies responded positively to gamma irradiation, especially in plant height. Low doses of radiation increase cell differentiation and plant growth, while high doses cause physiological damage and change the shape and color of flowers. There were significant differences in the parameters of plant height and number of leaves in the genotypic response to gamma irradiation. The use of this mutagenesis method aims to improve various plant properties, such as compatibility, plant height, flowering period, fruit color and ripening, as well as disease and insect resistance. However, care must be taken in choosing the right dose of radiation, because too high a dose can cause detrimental damage. This research provides important insights for plant breeding and increasing the production and quality of lilies as a commodity of high economic value and of high demand for cut flowers. However, further research is needed to understand more deeply the impact of radiation dose and effects on plant growth and development.*

Keyword : Lily, Lilium sp., Irradiation, Gamma Rays,