

Improving the Genetic Diversity of Soybean Seeds and Tolerance to Drought Irradiated with Gamma Rays

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Abstract : To increase the genetic diversity of soybean in order to adapt to agroecology in Indonesia conducted ways including introduction, cross, mutation and genetic transformation. The purpose of this research is to obtain early maturity soybean mutant lines, large seed tolerant to drought with high yield potential. This study consisted of two stages: the first is sensitivity of gamma rays carried out in the Laboratory BATAN. The genetic variety used is Anjasmoro. The method seeds irradiated with gamma rays at a rate of activity with the old ci 1046.16976 irradiation 0-71 minutes. Irradiation doses of 0, 100, 200, 300, 400, 500, 600, 700, 800, 900 and 1000gy. The results indicated all seeds irradiated with doses of 0 - 1000gy, just a dose of 200 and 300gy are able to show the percentage of germination, plant height, number of leaves, number of normal sprouts and green leaves of the best and can be continued for a second trial in order to assemble and to get mutants which is expected. The result of second stage of soybean M2 Population irradiated with diversity Gamma Irradiation performed that in the form of soybean planting, the seed planted is the first derivative of the M2 irradiated seeds. The result after the age of 30ADP has already showing growth and development of plants that vary when compared to its parent, both in terms of plant height, number of leaves, leaf shape and leaf forage level. In the generative phase, a plant that has been irradiated 200 and 300 gy seen some plants flower form packs, but not formed pods, there is also a form packs of flowers, but few pods produce soybean morphological characters such as plant height, number of branches, pods, days to flowering, harvesting, seed weight and seed number.

Keywords : gamma ray, genetic mutation, irradiation, soybean

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