ADAPTABILITY OF MUTANT GENOTYPES OF ARTEMISIA (Artemisia annua L.) AS RESULT OF GAMMA IRRADIATION IN THREE DIFFERENT ALTITUDE LOCATIONS

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ABSTRACT

The objective of this study was to identify the adaptability of twelve artemisia mutant genotypes as a result of gamma irradiation, which were planted in three locations with different altitude. The experimental design used was Randomized Complete Block Design (RCBD) with three replications as blocks. The genotypes were used, namely 1B, 1C, 1D, 2, 3, 4, 5A, 6B, 7A, 8, 14, 15 and two control genotypes as parent genotype from seed and from in vitro. The genotypes were planted in three different locations which included experiment fields of Gunung Putri, Cianjur (1450 m above sea level), Pacet, Cianjur (950 m above sea level) and Cicurug, Sukabumi (540 m above sea level). Based on the method of postdictive success and predictive success, the model used was AMMI2 which was able to explain up to 100% of interaction-influenced variation. The genotypes which were
found stable and being adaptive in these three locations were 1B, 1C, 1D, 6B and 15. Genotypes 3 and 7A were adaptive specifically in Pacet area, 5A was adaptive for Gunung Putri while genotype 4 was for Cicurug only.

Key words: AMMI, Artemisia annua, mutant genotype, adaptability.