

Unique flowers produced from West Indian lemongrass, *Cymbopogon citratus* (DC.) Stapf. through induced mutation

ABSTRACT

West Indian Lemongrass, *Cymbopogon citratus*, is hardly seen to flower which contributes the major obstacle for hybridization. Induced mutation with gamma irradiation has been suggested as the solution to this problem. The objective of this study is to analyse the effect of gamma irradiation dosage on the survival rate of lemongrass prior to mutation. Vegetative stalks of lemongrass were exposed to different doses of gamma rays at doses of 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120 Gy. Results showed that the practical ranges for induced mutation were 40, 60 and 80 Gy with mutation rates were 25.8%, 36.4% and 69.2% respectively. Dose 80 Gy was identified as the dose for LD50. Irradiation caused plants to produce long above ground stem 50 (not stalk) with obvious appearance of nodes and internodes together with unique production of flowers. This phenomenon has created an astonishing opportunity for future studies in this flower of West Indian Lemongrass mutant as another potential source of Halal traditional medicine.

Keyword: Gamma irradiation; Induced flowering; *Cymbopogon citratus*; Lemongrass; Halal medicine