

A Short Review on the Application of Mutation Breeding Techniques Using Physical Mutagen on Tea [*Camellia Sinensis* (L.) O. Kuntze]:An Economically Important Medicinal Herb

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Tea [*Camellia sinensis* (L.) O. Kuntze], is a medicinally important plant species and its leaves are used in herbal medicine due to the presence of bioactive therapeutic compounds which possess human health. It used as a raw material in various kinds of products like green tea and industries like herbal and pharmaceutical for its medicinal properties. There are proven evidences from experiments conducted in living animals using tea products to test the pharmacological and clinical effects confirming the biological and physiological mechanisms of action. Despite this importance, tea industries have been facing many challenges. Therefore, crop improvement with diversified breeding objectives are timely needed and practiced. Tea breeding programs are carried out through conventional techniques assisted by advanced mutation breeding, molecular breeding approaches and tissue culture techniques to accelerate the tea breeding program. In this context, the use and progress of mutation breeding in tea is reviewed briefly. Mutation breeding is conducted to induce the genetic variation in tea plant by altering morphological, biochemical and physiological aspect by treating the planting materials using physical mutagens to produce mutants for developing new cultivars with desirable traits including biochemical properties which bestow the therapeutic potential. An improved lines and cultivars with desirable traits have been developed through mutation breeding indicating the potential of mutation breeding as a practical breeding approach for tea plant.

Key Words: Crop improvement, gamma rays, herbal tea, mutation breeding, tea