

Suchada Sreeboonraung 2007: Induced Mutation of Variegated Weeping Fig (*Ficus benjamina*) Using Gamma Radiation. Master of Science (Agriculture)  
Major Field: Horticulture, Department of Horticulture. Thesis Advisor:  
Associate Professor Thunya Taychasinpitak, M.S. 62 pages.

Mutation breeding of 2 variegated *Ficus benjamina* cultivars, 'greenish-variegated' and 'blotched-variegated' by acute and chronic irradiation was carried out. Completely Randomized Design was used. Stem cuttings of both cultivars were acute irradiated with doses of 0, 20, 40 and 60 Gy. LD<sub>50(45)</sub> of 'greenish-variegated' cultivar was 60 Gy. While the LD<sub>50(45)</sub> of 'blotched-variegated' cultivar was unable to determine irradiation due to the doses used in this experiment were too low. Chronic irradiation with dose of 1.92, 2.86, 3.29, 3.78, 3.83, 4.92, 5.69, 5.72, 5.73, 8.13, 9.28, 9.34, 9.46, 15.93, 18.31, 18.55, 25.77, 44.25, 50.85 and 51.53 krad to the 2 cultivars was also too low to determine the 50% lethal dose. However, the results showed that plant height and canopy width decreased as radiation dose increased.

Regarding mutation, the results revealed that irradiation could induce morphological changes of leaves ,i.e., leaf variegation pattern , leaf shape, leaf color and leaf size. Two solid mutants having consistently asexually propagation were selected. There were white margined leaf mutant was obtained from 'greenish-variegated' cultivar and small leaf with small green blotched was derived from 'blotched-variegated' cultivar.

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