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PHENOTYPIC CHARACTERIZATION OF *CHRYSANTHEMUM CORONARIUM* AND ITS DIFFERENT MUTANTS IN YEAR 2012-13

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ABSTRACT

The study was conducted in phenotypic characterization of *Chrysanthemum coronarium* and its different mutants at Model Floriculture Centre of the University during year 2012 - 2013. Seeds of *Chrysanthemum coronarium* were treated with various doses of gamma rays (Cobalt-60) at National Botanical Research Institute, Lucknow. Immediately after the mutagenic treatment, the nurseries were raised and further transplanted in the field. M_1 population of *Chrysanthemum coronarium* treated with different doses of gamma rays were screened and characterized. The experimental materials selected for the present investigation consisted of 22 mutants (M_2) lines of *Chrysanthemum coronarium*. Data on phenotypic characterization conducted for various vegetative and floral traits revealed that there is a significant variation among different mutants and species *Chrysanthemum coronarium* used for the study of various phenotypic parameters. Result of quantitative analysis revealed that minimum plant height was found in mutant Co_{13} (23). Mutant Co_{8} (11) showed maximum leaf length and leaf area , mutant Co_{7} (88) had maximum leaf width and leaf area, mutant Co_{5} (55) exhibited maximum flower head diameter, ray floret length and width, mutant Co_{11} (131) recorded maximum flower head weight and disc floret weight. Whereas, flower disc diameter and flower head height were found maximum in mutants Co_{10} (26) and Co_{3} (59) however, mutants Co_{3} (63) and Co_{2} (5) had maximum number of ray florets and ray floret weight respectively. Whereas, results of qualitative analysis exhibited that four mutants like Co_{4} (1), Co_{4} (67), Co_{4} (88) and Co_{1} (9) were different from their parents as they had variation in form (semi-double and double) and colour (yellow group) of the flowers.

KEYWORDS: Phenotypic Characterization, *C. Coronarium* and Mutants