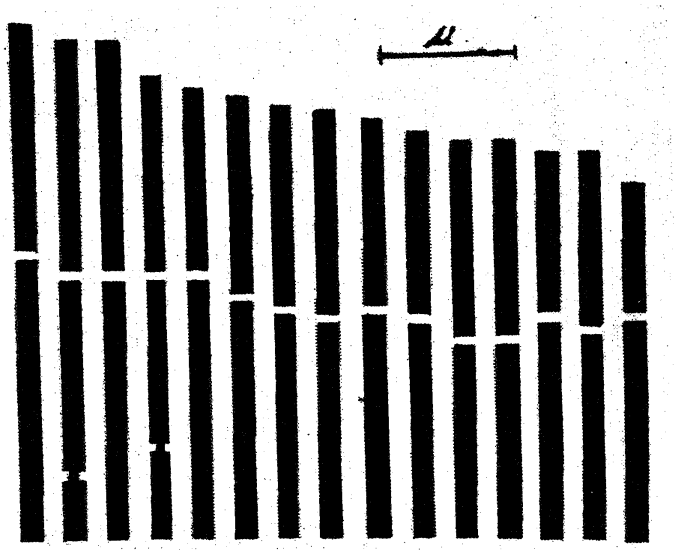

Figure 3. Idiogram of *C. lacryma-jobi* var. *ma-yuen* ($2n=30$).

The somatic chromosome number was consistently found to be $2n=30$ in the root-tip cells (figure 1). Karyotype analysis showed that the length of the chromosomes ranges from 2.66 to 3.91 μm with two pairs of M-type and 13 pairs of m-type and of 1A category[7]. Two pairs of chromosomes possess a secondary constriction in the long arm distal to the centromere (figure 3). It may be noted that the chromosomes of this taxon are similar to the other varieties of *C. lacryma-jobi* in size and karyotype category. Meiosis was found to be markedly disturbed, and at metaphase I, 3–5 quadrivalents were frequently observed along with bivalents (figure 2). Two bivalents or sometimes a single quadrivalent were found commonly associated with the nucleolus. Pollen sterility was found to be about 45%. *C. lacryma-jobi* is presumably of hybrid origin.

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DIFFERENTIAL RADIATION SENSITIVITY IN MOTH BEAN

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MOTH bean, *Vigna aconitifolia* (Jacq.) Marechal, comprises one of the important pulse species of India. Being an extremely drought-resistant crop, it is grown widely in the arid and semiarid zones of Rajasthan, Gujarat, Maharashtra, Haryana and Uttar Pradesh.

Growing only 20–25 cm tall, the plant forms a mat across the soil surface. The stem of each plant radiates horizontal branches, producing an expanding circlet of densely matted, ground-hugging vegetation. A living mulch, moth bean shields soil from the sun's heat and retards soil erosion. Livestock avidly graze on its pods and foliage. The pods when young are used as a table vegetable. They contain tiny beans which are rich in proteins and other nutrients. The plant as a whole is a good source of quality forage under arid and semiarid conditions.

Although the plant has multifaceted importance, it has received only scant attention regarding its genetic improvement. Therefore it was thought worthwhile to look into the possibilities of improving moth bean through induced mutation. The present paper deals with evaluation of varietal radio-response in moth bean based on morphological parameters in R_1 and R_2 generations.

For recording the radio-response, dry seeds of three moth bean varieties, viz. Local, IPCMO 186 and MG-1, of uniform size and moisture content, were irradiated with different doses of gamma rays (5–25 kR). The irradiated seeds were sown in the field in randomized block design with three replications and the R_1 generation was raised. The effect of gamma rays on morphological parameters such as germination, survival of plants, plant height and commencement of flowering was studied. From the seed progeny of the R_1 generation, the R_2 generation