to bisexual flowers (4.57) and number of panicles (flowering shoots) (4.55) were made. Correlation coefficients were worked out between the observed characters.

(i) Between number of panicles and number of flowers (0.0085)

(ii) Between number of panicles and number of bisexual flowers (0.2028)

(iii) Between number of panicles and number of nuts set (0.1661)

(iv) Between number of male flowers and bisexual flowers (0.0810)

(v) Between number of male flowers and number of nuts set (0.0119)

(vi) Between number of bisexual flowers and number of nuts set (0.2301)

The correlation coefficients (i) between number of panicles and bisexual flowers, and (ii) between number of bisexual flowers and number of nuts set were statistically significant.

Study of Microsporogenesis in Cashew

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Six cashew trees growing at the C.P.C.R.I. Kasaragod campus were selected for this study. For meiotic studies, the flower buds were fixed in freshly prepared Carnoy's solution (6:3:1 alcohol: chloroform: acetic acid) between 2 and 3 p.m. and refrigerated for 24 hrs and then transferred to 70 per cent alcohol after treating the buds with ferric acetate. Squash preparations of anthers, with acetocarmine were made for the study of microsporogenesis. Pollen stainability was determined by using 1:1 acetocarmine: glycerine.

The meiotic behaviour was found to be uniform in all the six trees examined. At metaphase I, 63 to 68 per cent of the cells showed 21 bivalents.

The mean chiasmata per cell and the between cell variance (within plant variation) have been analysed. In cashew, the frequency of chiasmata ranged from 39 to 42 per cell and the cell variance within a tree ranged from 0.25 to 1.1. Most of the cells showed 19 ring bivalents and 2 rod bivalents, and two of the bivalents consistently showed unterminalised chiasmata at metaphase I.

Out of the 223 cells observed at metaphase I, 144 were found to be normal possessing 21 bivalents. The rest showed irregularities like chromosome mosaics, suggesting premeiotic irregularities and stickiness of

chromosomes. Among the chromosome mosaic cells, 26 – 28 per cent showed 20 bivalents. Two cells, one each from tree No. 1 and 3 showed 10 bivalents. Sticky association involving all the bivalents were noticed in 1–8 per cent of the cells. These cells behave abnormally in the subsequent stages of meiosis resulting in the formation of irregularities like laggards at anaphase and telophase. Thus up to 11 per cent of the cells at anaphase and up to 10 per cent of the cells at telophase exhibited lagging chromosomes. At sporad stage 2 – 5 per cent cells showed monads and 0 – 1 per cent pentads. Pollen stainability in acetocarmine varied from 78 to 86 per cent. The high percentage of sterile pollen grains (14 to 22 %) indicate that all the meiotic irregularities ultimately result in the formation of sterile pollen grains.