

1. X-ray induced deficiencies and multiple embryo formation.

X-irradiation of the pollen results in an increase in the frequency of multiple seedlings in the F_1 (Jour. of Hered., 1951, pp. 90-93). A comparison of pollen abortion frequencies for plants originating from twin embryos and sibs from monoembryonic kernels suggested that chromosomal aberrations were concerned in the formation of multiple embryos. Ring chromosomes, dicentrics and losses of whole chromosomes were observed in aceto-carmines smears of young leaves of multiple seedlings. Recent preliminary data from marked crosses indicate that deficiencies induced in the sperm frequently result in cleavage of the embryo, leading to the formation of identical multiple embryos.