

colchicine for 12 hours. The seedlings were then thoroughly washed in running water and planted in pots under shade. Out of 30 plants treated, 10 survived to maturity. Of these three are complete autotetraploids ( $4n = 40$ ). The rest of the seven plants showed sectorial autotetraploidy of varying degrees, either limited to a few panicles on the same plant or only to a few meiocytes in an anther. In one of the plants showing sectorial autotetraploidy, meiosis was studied. Chromosome associations were studied in 60 cells at diakinesis. The types of associations observed were quadrivalents, trivalents, bivalents and univalents. Quadrivalents varied in number from 0-6 per cell. Trivalents, not more than one per cell, were observed in four cells. A univalent was observed only when a trivalent was present in a cell. The average frequency of chromosome associations per cell was 2.73iv, 0.07iii, 14.5ii, 0.07i; 27.83% of the chromosomes have gone into the formation of multivalents. The average chiasma frequency per cell in tetraploid was 33.67, which is more than twice the 15.63 in the diploid ( $2n = 20$ ) undoubled sectors of the same plant. Laggards 1-4 and irregular distribution of chromosomes at either pole (19:21) were observed in 18.75% of the cells each; bridges were found in 12.5%, and normal distribution of 20:20 chromosomes was observed in 50.00% of the cells at anaphase I. In the second division, laggards and/or micronuclei (1-4) and bridges were seen in 38.46% of the cells examined. Micronuclei (1-3) were found in 22.28% of the pollen tetrads.

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6. Colchicine induced autotetraploids of Job's tears (*Coix lachryma-jobi*).

Induction of autopolyploidy in Job's tears was reported last year (MNL 40: 165, 1966). This year seedlings raised from seed collected from open pollinated plants of *Coix lachryma-jobi* ( $2n = 20$ ) growing wild in the University campus were treated with colchicine in the manner described for *Chionachne* (item 5 above). Out of 28 plants so treated only three survived and lived to maturity. All three plants exhibited gigas characters and cytological examination of pollen mother cells showed that these are autotetraploids ( $4n = 40$ ). The tetraploid plants, like the diploid ones, produce stem suckers from the basal nodes of the original tillers. Cytological check of the male florets borne on the stem suckers also showed a tetraploid chromosome number and behavior. Seed set is extremely poor in the tetraploids in spite of selfing, intercrossing among tetraploids or crossing tetraploid with diploid plants. For cytogenetical study, besides propagation through seed, it is expected that it should be possible to propagate the tetraploid stock vegetatively by carefully nursing the stem suckers.

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