

Cytological material has been collected to obtain information on the knob numbers and their position at the pachytene stage for each race. However, it was found that most of these races showed a poor spreading of chromosomes at pachytene. Nevertheless, it has been possible to obtain the following frequencies of total number of knobs: 0 knobs, 35.4 per cent; 1 knob, 47.0 per cent; 2 knobs, 13.7 per cent; 3 knobs, 3.9 per cent; 4 or more knobs, 0.0 per cent. The percentage of knobless chromosomes is higher than that reported by Grobman *et al.* (1961) for the races of Peru, probably because the proportion of high-altitude races is larger than in the Peruvian studies.

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3. A preliminary report of meiosis in *Tripsacum lanceolatum*.

Cytological studies are being made on plants of *Tripsacum* from Mexico and Guatemala collected by Wilkes and Chaganti (MNL 39) and now maintained at the Fairchild Tropical Garden in Florida. A study of one of these, originally collected from Penjamo and identified as *T. lanceolatum*, has produced the following data: The pachytene chromosomes are differentiated into proximal deep staining heterochromatic and light staining distal euchromatic regions. The euchromatic regions are terminated by a knob or more often by a deeply stained chromomere. This species is a tetraploid and consequently the chromosomes are often associated in more than pairs. Usually the two sets of homologs that make up a quadrivalent are associated at the centromere. However, in a few cases association and partner exchange was observed in the euchromatic regions also.

At diakinesis and metaphase I, varying numbers of quadrivalents, trivalents, bivalents, and univalents were observed. Of the ten possible types of quadrivalents (Darlington, 1937), types 11, 12, 15, 16, 17, and 18 were encountered. The most frequent types, however, are types 11 (a chain of four) and 17 (a ring of four). The average quadrivalent frequency at diakinesis is 5.8. Both ring and rod types of bivalents are present and the mean number of bivalents per nucleus is 22.5. At metaphase I the chromosomes are pretty much crowded on the plate and the univalents were found scattered outside the plate. Several lagging chromosomes were observed at anaphase but these eventually reach the poles. The second division is quite regular and at the end of the second meiosis normal pollen tetrads are organized.

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