

At leptonema, unpaired strands were clearly evident; the nuclei of cells intermediate in development between leptonema and premeiotic mitosis appeared more granular or chromomeric with strands less obvious. The string of premeiotic cells, squeezed out of young anthers in acetocarmine, was more difficult to disrupt into individual cells than at later stages. In comparison with the rounded appearance of microsporocytes during division I in smear preparations, cells at premeiotic interkinesis were irregular in shape. Nucleolar number was scored at premeiotic interkinesis. A single nucleolus occurred in each of 519 cells; one cell had dual nucleoli. Nuclear and nucleolar sizes were also determined for comparison with a similar study of mitotic interkinesis. Although analysis is incomplete, dual nucleoli occur much more frequently at interkinesis in cells from the terminal part of the meristem of the root tip. A comparison may provide information concerning the spatial distribution of chromosome pair 6 in the nuclei at mitotic and premeiotic interkinesis.

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1. Day-neutral teosinte renamed "northern teosinte".

Because the day-neutral teosinte, as reported in last year's MNL, is not truly insensitive to day length, a better name for it would be northern teosinte. It was developed because of the inconvenience in giving artificial short-day treatment to the Mexican teosintes in order to get them to flower in my cultures. In Massachusetts, the main culm of northern teosinte flowers at about a height of one foot, while the tillers continue to grow for another month until the days are shorter and then flower when they have attained a height of 5 to 6 feet.

A genetic factor causing the preinduction of flowering in the main culm in day-neutral and short-day maize was observed previously by Brawn (MNL 39). This characteristic derived from Gaspé Flint was merely transferred to teosinte in my cultures. Northern teosinte was selected among the progeny from a backcross to teosinte of the hybrid Guerrero teosinte x Gaspé Flint. A similar project using Chalco teosinte rather than Guerrero teosinte did not yield the desired results, probably because of the heavier load of modern maize germplasm borne by Chalco teosinte.

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2. A warning on the possible hazards of northern teosinte.

Distribution of my recently created stock of northern teosinte has been made to a number of agronomists interested in developing a new forage-silage plant and to botanists interested in the maize-teosinte relationship in the United States, in South America and in Africa. Because this teosinte is as resistant to Atrazine as is maize, its escape in areas where this herbicide is the common means of weed control in maize fields may create a problem as it already has in my own corn field. I have not as yet observed it to be spread by birds although if this comes about, we may have a "Frankenstein monster" to contend with. Birds are known to feed on teosinte in Guatemala.

W. C. Galinat

3. A comparison between the chromosome 4 syndrome of Zea and the Q segment of Triticum (wheat).

A considerable length of chromosome 4 in Zea, estimated to include the whole short arm as marked by the Su locus, is known to control a group of floral characteristics which separate maize from teosinte (Mangelsdorf and Reeves, 1958). Although in some respects its action is similar to that of the "Q segment" which separates normal Triticum vulgare from its speltoid mutants, apparently it is much longer in terms of gene linkages or map units. The Q segment is described as a short block of closely linked genes, sometimes called a supergene, which controls the development of several separate floral characters. In both cases there