

With regard to the relationship between the Spm controlling system and the spotted-dilute \underline{R}^r system, the following features should be emphasized.

1. The loss of sensitivity of the structural gene (\underline{R}^r) in the absence of controlling elements is not known in McClintock's Spm system. In this respect, \underline{R}^{ch} resembles more closely \underline{a}_2^{m-1} and \underline{a}_1^{m-1} .
2. The numerous different states of the structural genes reported by McClintock have not been observed at the R locus.

The spotted-dilute \underline{R}^r (#4) resembles #2 in some respects but it does not appear to carry the Dil factor. This stock is under detailed investigation at Leeds. This work was initiated by one of us (G.R.K.S.) at the University of Wisconsin.

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1. Nucleolar number at premeiotic interkinesis.

Although the majority of interkinetic cells in the meristem of the root tip have a single nucleolus due to nucleolar fusion, cells with dual nucleoli are also apparent. Meiotic material of KYS was collected during early developmental phases to determine if dual nucleoli occur at premeiotic interkinesis. Successive early stages were not obtained in side branches of the tassels. Accordingly, to maintain orientation and sequence, leptoneuma was located in the main tassels and progressively younger anthers examined until the mitotic divisions preceding meiosis were encountered.

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.