

ambiguous than that of the plumule in dormant seeds; thus, the recognition of monoploids would be made easier since a more restricted class of seeds would need to be certified cytologically or by other means.

The improved method described here consists of combining a stock with both the Purple Embryo Marker and the scutellum color factors. This will be used as male parent to test several inbred lines. The introduction of  $R^{n_j}$  into a colored scutellum stock is easy and would overcome the limitation imposed by  $s_c$  which is required by the method of colored scutellum used as the male parent. Also, the presence of scutellum color factors will be of considerable help in detecting monoploids where the Purple Embryo Marker alone could be sometimes ineffective.

As Chase designated the Purple Embryo Marker PEM, it is proposed to call such a combined stock PEMS, with addition of an "S" to indicate the presence of scutellum color factors.

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##### 5. The "diffuse stage" in meiotic prophase I of maize PMC.

A microsporocyte sample taken from a plant of an Indian race of maize from Ecuador was found to be knobless. A more intensive study of this sample showed, after a normal pachytene, a stage in which the chromosomes lost their visible individuality, assuming an interphase-like appearance. A brief diplotene stage was also observed, and a perfectly normal diakinesis followed.

This feature, unusual in maize, seems to be comparable to the so-called "diffuse stage" which is common in female meiosis of many species of animals, mainly insects and mammals. However, it has been reported in a few cases in the Plant Kingdom, namely in Hyacinthus by C. D. Darlington (J. Gen., 1929) and more recently in some species of mosses by F. J. Dill under the name of "dictyotene" (Science, 1964). The "diffuse stage" was also reported in tomato by P. B. Moens (Chromosoma, 1964). According to Moens this stage should precede diplotene rather than follow it.

The phenomenon is still not understood. Poor stainability of the chromosomes (the so-called "achromatic stage") which is sometimes observed, but less intensively, in diplotene of maize PMC, does not seem to account for the phenomenon described.

(The sample, kindly furnished by Dr. Bianchi, was obtained from the personal collection of Dr. A. Brandolini, Como, Italy).

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