well as for the perhaps more important study of the permanence of inheritance of this presumed cytoplasmic characteristic. It may be that the relative loss of expression of wsp when ML4 and SK2 genotypes are introduced is due to a permanent modification of the wsp cytoplasm, back to normality. The question of non-uniformity of expression in F_1 is also of importance.

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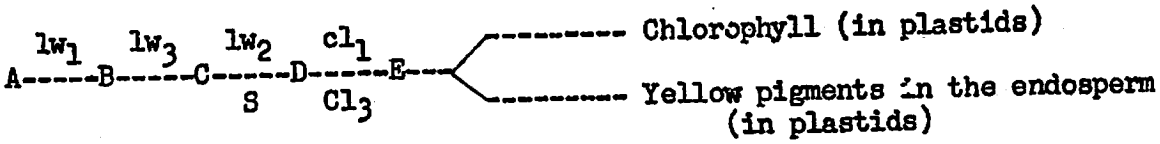
1. Some speculation on the action of lemon-white alleles.

The lemon-white mutants in maize have attracted some attention because of theirpleiotropic effect and the detection of suppressors for one of the two effects. The important features of these mutants are as follows: All the natural mutants (at least four cases involving different chromosomes) show a simultaneous effect on both characters. The suppressor effects are specific for the individual mutants.

One can interpret the pleiotropic effect on the basis of interruption at different steps in a chain reaction which subsequently bifurcates to give rise to different end products.



The influence of supressors on only one of the two effects could be due to a difference in their quantitative action and competition for the substrate at the point of bifurcation.

S. H. Tulpule

2. Pachytene chromosomes treated with paradichlorobenzene.

Pretreatment of root tips with paradichlorobenzene gives well spread metaphase plates with shortened chromosomes. The effect on chromosome length was investigated by a study of its action on maize chromosomes at pachytene. The pretreatment consisted of immersing the cut ends of suitable spikes in a saturated aqueous solution of paradichlorobenzene for a definite period and then fixing them in acetic-alcohol. Preliminary results show that: (1) The treatment does not result in any marked increase in the frequency of well spread pachytene configurations. (2) The cells show globules of various sizes resembling the nucleolus in their staining reaction with carmine.

(3) There may be differential contraction of the arms. (4) Significant distortions occur in the cells with advanced prophase stages including apparent extrusion of material from the chromosomes and disturbance at the site of centromeres.

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1. Aging of pollen and gametic selection in Zea mays, I.

Competition of pollen tube growth is provided by the use of pollen mixtures consisting of equal components from yellow and white sources (M.G.C.N.L. 1958, 1959, 1960). Since the maternal parent is white seeded, as a result of xenia, the ratio of yellow to white seed resulting from the pollination with such mixtures would give an indication which of either Y or y pollen was the most successful in fertilization. In this investigation the effect of aging of pollen mixtures on the relative percentage of yellow and white seed produced was studied. The pollen mixtures used were sufficient to make 20 or more pollinations. The first pollinations were made within an hour of the shedding of the pollen, the balance was then stored for 24 hours in glassine paper bags at room temperature and then the second series of pollinations made. The third series of pollinations followed after 48 hours storage. A perfect set of seed resulted from the first pollination, and although surplus pollen was used, the set of seed after the second pollination was 12% - 30%, whereas after the third pollination only about 30 seeds were produced per ear. This would indicate a high mortality of pollen in the second and third pollinations.

Table 1. Percentage yellow seed on pollinated ears.

Pollen mixture	Immediate pollination	After 24 hours	After 48 hours
1	53	26	16
2	66	32	8
3	57	30	12
4	49	27	9
5	60	27	5
6	78	5	6
7	20	19	2
8	56	3	3
9	79	3	3