Since the T-Sh region is only about 7.25 recombination units in leng the proportion of colorless crossovers is too large to interpret tha the a* in these cases is the usual noncrossover a* which has experie a coincident crossover for the region. If this were the case, recip strands carrying a* would also have occurred. This was not the case all the six cases of crossover a* were recombinants in the same dire Thus, in the case of crossover stable pale, it is felt that crossing results in the separation of a pre-existing null level element locat the right of alpha. Since the postulated null element is situated t tween α and β, it cannot be separated from the A^b:Ec complex in a si cycle. This null element seems to be associated also with noncrosso alpha and it is probable that the crossover stable a* derivatives f these constitute the separation of this element. More conclusive p that we are not separating a mutated β element, β_o in this case, has await further tests.

The colorless cases of noncrossover origin from noncrossover ar crossover stable pales so far tested are not mutable; those from mu pales, as in the case of mutable alphas of A^b:P, belong to both sta mutable types.

M. S. Sarma

UNIVERSITY OF ILLINOIS
Department of Agronomy
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Urbana, Illinois

1. Interaction of fertility-restoring genes.

Full restoration of male-fertility in the presence of Texas st cytoplasm has been shown by various workers to depend on two domina complementary genes. In midwestern dent material, a few inbreds ca both; most other inbreds carry one; WF9 carries neither. This situ can be illustrated as follows:

Ky21, K55, I153 = AABB

K4, N6, L317 = aaBB

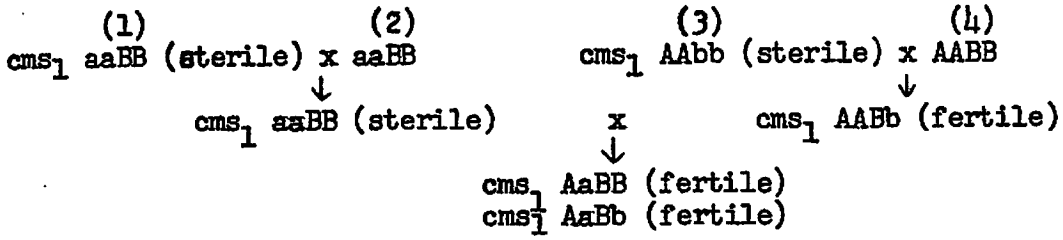
WF9 = aabb

(The gene here shown as A is Rf_1, located near Rg on Chr.

From self-pollinating plants of the pedigree (WF9 x Ky21) WF9, line has been isolated which gave on preliminary test a completely tile progeny with $L317^T$ and a wholly sterile progeny with $WF9^T$; the

fore, it is presumably of the constitution AAbb. This line will be used to study gene "B" and its possible interactions with the various partial fertility-restoring genes.

It is interesting to note that the use of inbreds of the constitution AAbb would permit, without detasseling at any stage, the production of double crosses giving only fertile plants in the farmer's field:



Even if inbred (1) above were replaced by the commonly used seed parent WF9, the proportion of fertiles to steriles in the double cross would be 3:1.

2. Employment of Vestigial-glume in screening for sources of smut resistance.

In the process of backcrossing material carrying the gene Vg to a series of inbred lines, vestigial-glume plants were noted to be strikingly more susceptible to corn smut, and often to ear rots, than normal sibs. If this observation holds generally true, Vg should prove a useful tool to screen for better sources of resistance to smut and perhaps ear rots, as was done by LaRue, using Cg to screen for rust resistance.

Jack B. Beckett

INDIANA UNIVERSITY
Bloomington, Indiana

1. Preliminary biochemical studies on the action of a gene controlling meiosis in maize.

In maize a recessive gene called "ameiotic" has been found (Rhoades, MNL 30) which prevents meiosis and leads to almost complete sterility. Occasionally a few kernels may be produced, but these result from unreduced diploid eggs. Plants of the constitution Am Am and Am am (both called normal plants throughout this discussion) are phenotypically completely indistinguishable from those of the constitution am am (called "ameiotic" throughout) except at the late reproductive stage. In the ameiotic plants tassels and ears appear normal, but the anthers fail to