

2. Lax central spike, primarily distichous arrangement of spikelets
Durango 1,7,9
Florida 4+
Nobogame 4A
Bolivia
Argentina
Paraguay
3. Absence of central spike in some individuals of the F_1 population
Nicaragua

S. M. Sehgal

7. Immunological studies of corn kernel proteins.

The double diffusion agar method (Ouchterlony) has been used to study precipitin reactions of salt-soluble proteins extracted from germs of mature corn kernels. Several precipitin lines, each presumably representing a different protein or group of proteins, have been identified. Two of these lines are most easily produced and have been studied intensively. They are labeled "A" and "B". Most inbred lines contain antigen necessary to produce both lines. However, a few inbred lines (all tracing back to one source) lack the antigen necessary to produce precipitin line "A". One other inbred lacks the antigen necessary to produce precipitin line "B". Single kernel analyses of F_2 and BC_1 populations, and of P_1 , P_2 and reciprocal F_1 crosses show that each antigen is inherited as a dominant, single gene character. The fit to a two-factor ratio was good when a small F_2 population segregating for both "A" and "B" was tested, indicating that they are probably not linked. Variations in intensity of reaction indicate that modifiers probably affect the amount of each antigen produced in a kernel. It is also possible that homozygous recessive individuals do not really lack the antigen, but merely have it in concentrations so low that the test, as employed, does not detect it. Further studies will, it is hoped, answer some of these questions.

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1. Heritability of radiation induced alterations of paramutation.

Last year experiments were described in which the radiosensitivity of R^r and the R^{st} , R^{mb} components of paramutation was investigated (MNL 37:133-134). When R^r is irradiated prior to crossing, about 50% of the time the paramutation expression was altered. The classification can be summarized into two categories: no paramutation and segregating for paramutation. When the R^{st} and R^r components were irradiated, about 25% of the time paramutation expression was altered. An additional category of increased paramutation alteration after R^{mb} irradiation occurred along with the no paramutation and segregating for paramutation classes.