to tester stocks as female had equal proportion and segregation of mutant and normal plants.

Table 4 shows the exact reciprocal crosses between a multiple marker stock and the mutant plant. Mutant plants as either male or female parents showed equal proportions of mutant and wild type plants. Expression of the mutant phenotype in the F_1 generation indicates dominance and the equal proportions and segregation of both types in the reciprocal crosses suggests a monogenic behavior. The mutant gene responsible has been designated curled entangled (Ce).

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4. Silk and pollen treatment.

Paraffin oil is found to be an extremely useful medium in the treatment of corn pollen with chemical mutagens (EMS) (Neuffer MNL 42-124). In view of this, pollen treatment was compared with a new method of treatment, i.e., silk treatment. A 0.1% EMS emulsion was made in paraffin oil. Pollen carrying the dominant markers R^r, A_1, Su_1 and Sh_1 was thoroughly mixed with paraffin oil containing EMS and immediately smeared on the silks of recessive stocks. In another set of experiments, the silks of recessive marker stocks were smeared with the above emulsion and then pollinated with the dominant marker stock. The frequencies of whole and partial losses of R^r, A_1, Sh_1, and Su_1 in the silk treatment were found to be 2, 1, 0.8 and 0.5 percent, whereas in the pollen treatment the frequencies were 2.1, 1.2, 0.8 and 0.6%, respectively. The frequency of marker losses seems to be almost the same in both treatments. Treatment of silks permits easy pollinations and favors good seed set as compared to the pollen treatment where some pollen is killed.

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5. Genetic behavior of induced floury and opaque mutations.

Allelic tests between the standard fl_2 type and two newly obtained floury mutations showed that the new floury mutations are allelic to fl_2. The opaque type, when crossed with standard o_2, did not show allelic

behavior. The opaque type and the wrinkled mutants have also been crossed with a multiple marker stock to study the location of the new mutants.

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BLANDY EXPERIMENTAL FARM
University of Virginia
Boyce, Virginia

1. Blandy Experimental Farm of the University of Virginia reactivated.

The Blandy Farm again became an active research institution with the appointment of a new director on 1 July, 1972. He is Thomas Ewert, who came to Virginia from the Longwood Gardens near Philadelphia. His research will involve plants in the Orland E. White Arboretum, the most extensive in Virginia.

2. Pollen irradiation studies begun.

In 1972, pollen of an inbred strain of maize, B14, was irradiated with 1300 r of gamma rays from a large Co^{60} source (70,000 curies) stored in the pool of the reactor at the University of Virginia. The irradiated pollen was placed on silks of the B14 inbreds growing at Blandy. In 1973, a large number of R_1 plants will be self-pollinated. The resulting seeds will be grown, ear to row, in greenhouses at Blandy and at Charlottesville and seedlings examined for mutations. In seed irradiation experiments conducted previously, it was found that 3 to 4 percent of the populations tested were segregating for some seedling mutation.[i]

[i] Singleton, W. R. 1969. Induced Mutations in Plants, 479-483. International Atomic Energy Agency, Vienna, 748 pp.

W. Ralph Singleton