

treatment 65% of the mutants grew and 52% produced seed.

More discussion on utilization of EMS treatments in maize and its application to plant breeding can be found in last year's Maize News Letter (2).

References:

- (1) Briggs, Robert W. (1968) Mutations in Plant Breeding II, p. 47-55. Intern. Atomic Energy Agency, Vienna.
- (2) Briggs, Robert W. (1969) Maize Genetics News Letter 43:23-31.
- (3) Creech, Roy G. (1965) Genetics 52:1175-1186.
- (4) Kramer, H. H., P. L. Pfahler, and R. L. Whistler. (1958) Agron. Jour. 50:207-210.
- (5) Singleton, W. R. (1965) Genetics 52:475 (Abs.).
- (6) Singleton, W. R. (in press) Proc. of Symp. on Nature, Induction and Utilization of Mutations in Plants, held at Pullman, Wash., 1969.

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1. Dominant ramosa ear character.

A few years ago Ing. Ramón Covarrubias Celis found plants with ramosa ears in the variety Yucatán 85 of the race Nal-Tel while he was a professor of genetics at the Graduate School of Chapingo, Mexico. His preliminary observations showed that this character was a dominant one not previously reported and probably controlled by a single gene.

Ramosa eared plants were crossed with normal plants from Yucatán 7 (Race Nal-Tel) and V520C (Race Tuxpeño). All the  $F_1$  plants had the ramosa ear character showing that the trait is dominant over the normal. By sib pollinations the  $F_2$  was obtained and normal and ramosa plants in the  $F_2$  generation were counted. The results are given in Table 1.

Table 1

Observed and expected number of plants in the  $F_2$  of a cross between ramosa eared and normal plants of Nal-Tel, Yucatán 7 (progeny 1) and Tuxpeño V520C (progeny 2) and the  $\chi^2$  tests.

$F_2$ progeny	Observed		1:3 Expected		Total	d.f.	$\chi^2$	Prob.
	Normal	Ramosa	Normal	Ramosa				
1	39	121	40.00	120.00	160	1	.0333	.9-.8
2	56	191	61.75	185.25	247	1	.7139	.7-.5
Total	95	312	101.75	305.25	407	1	.5970	.7-.5

These results clearly indicate (1) that the character is dominant over the normal and (2) that this new ramosa ear character is monogenic and follows a Mendelian type of inheritance.

An interesting feature of this mutant is that the plants are fully fertile developing kernels inside of the branched part of the ear.

The tassel of the ramosa plant is normal with the exception that the distal end of the main branch frequently becomes bifurcated.

The above information indicates that the new ramosa ear character is different from the  $ra_1$  and  $ra_2$  already reported.

Localization of the gene on the corn chromosomes is underway.

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## 2. Influence of B chromosomes on 4 characters.

In order to find out whether certain variations in morphological or physiological characters are related to the number of B chromosomes in the plants, a preliminary correlation study was carried out.

The variety Nayarit 39 of the race Reventador was planted at Tepalcingo, State of Morelos, during the winter of 1967-68. Microspores were collected from 200 plants and the number of B chromosomes determined. Data were also collected concerning the following 4 characters: days to male and female flowering, plant height, and number of