

## 2. Modification of corn-grass.

The *Tp* (teopod) gene does not act as a + (plus) modifier for the *Cg* (corn-grass) gene as suggested by Singleton. The same + modifiers may reduce the phenotypic expression of either the *Cg* or *Tp* genes. These + modifiers are numerous and recessive. They have some expression on their own in the absence of the *Cg* gene in that they completely inhibit tillering. Genes causing 2 or 3 tillers on typical corn, will cause 25-30 tillers in the presence of the *Cg* gene. This tillering characteristic of corn-grass results in many of its secondary morphological proliferations.

A sufficiently high T modifier level has been accumulated in some experimental lines to reverse the phenotypic expression of the *Cg* gene from that of a dominant to that of a recessive. Even at a low - (minus) modifier level, the dominance of the *Cg* is not complete in that the plants are more extreme than the *Cg*/ + plants in an  $F_2$  segregation.

Some corn-grass hybrids made with + modified *Cg* lines such as  $C_g^m$  A158 and a tillering pop corn inbred C142 give a very prolific hybrid of possible forage value.

Observations on the interaction of the *Cg* gene with several mutant genes affecting corn-morphology have been made.