

7. Pseudopod, a possible allele of vestigial glume.

Pseudopod, Pp, is a new semi-dominant gene isolated from a Peruvian variety which is concerned with the same characters as vestigial glume, Vg, although the effect is in the opposite direction and is confined to the ear. On the ear the gene for pseudopod lengthens the glumes and rachillas instead of reducing them, reduces the diameter of the rachis instead of enlarging it and produces papyraceous glumes and cupules instead of corneous ones. The last feature of pseudopod represents a defective character, for the cob becomes fragile because it lacks the normal encasement of lignified cupules.

The pseudopod character is apparently identical with the "palee sviluppate" of Bonvicini (1932) and the "semi-vestidos" of Andres (1950). It has been confused by Weatherwax (1954) with half-tunicate to which it has a superficial resemblance. But the glumes of various kinds of tunicate maize are herbaceous and are similar to the normal glumes of other grasses. The glumes of pseudopod, on the other hand, are distinctly papyraceous and the character is distinctly a defect which, contrary to the suggestion of Andres, could scarcely have had a role in the evolution of maize.

In view of the opposite effects of Pp and Vg, it is interesting that there is an indication of allelism. Three-point linkage data place the Pp gene at or near the Vg locus on Chromosome 1. Tests for allelism should be completed next summer.

Walton C. Galinat and
Paul C. Mangelsdorf