it does seem that genetic complementation can occur; in the case of
iojap/white deficient heterokaryons the deleted terminal portion of
chromosome 9 is complemented, and the \( w_1 \) and \( w_2 \) genes can be com-
plemented by \( w_9 \). These findings open up the possible use of protoplast
fusion studies in the dissection of gene expression and controlling
gene-structural gene interactions in maize.

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1. Mutant "branched silkless" found in flint inbred P578.

As described by Kempton (1) in 1934, the character "branched silk-
less" in corn was first discovered by E. B. Brown of the Office of Corn
Investigations, USDA. Subsequently, the same character was found in
sweet corn received through A. E. Longley from Nova Scotia, Canada.

The appearance of the present case of the mutant character "branch-
ed silkless" was observed first in 1967-68 in a strain of inbred line
P578 of flint corn. As far as we know, this mutant was not observed
before in corn from Argentina (2 & 3). It is postulated that the char-
acter appeared in inbred P578 by simple Mendelian segregation on con-
tinued selfing in a supposedly uniform and homozygous inbred line, or by
natural spontaneous mutation in its genetic constitution.

This character behaves as a recessive in crosses with normal
plants or supposedly non-branched silkless plants, giving first gener-
ation plants which are all normal. So far, the studies on its genetic
inheritance and allelism are not completed. Its principal genetic
effect is similar to that already described by Kempton (1), in that
there is a characteristic modification in ear branching, florets, glumes
and suppression or non-development of silks, resulting consequently in
female sterility. On the contrary, there is a duplication of spikelets
and florets with normal development in the tassel, giving a thicker and
larger tassel than in normal plants.
References:

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1. Cytoplasmic male sterility research: M₁ generation from streptomycin treatments.

Streptomycin was used in an attempt to induce cytoplasmic male sterility in maize (Briggs, 1973). In this research streptomycin was used in concentrations of .001, .005, .01, .05, .10, .150% and a control. Seeds of an inbred line of corn were germinated for 30 hours at 27°C; at the end of this time some radicles had emerged. Subsets of experiments were performed; in one set the germinated seeds were placed embryo down in Petri dishes on Kimpak that was saturated with the streptomycin solution. In the second set germinated seeds were completely submerged in flasks of the streptomycin solution. In another experiment dry seeds (ungerminated) were placed embryo down in Petri dishes on Kimpak that was saturated with the streptomycin solution. All these experiments were conducted for 24 hours at 25°C. Briggs (1973) can be consulted for further details on this research.

Plants from the streptomycin treated seeds were self-pollinated in the M₁ generation and good seed set was obtained from most plants in the treatments. The material was self-pollinated in order to eliminate any sterile plants that may have been in the population which could have arisen spontaneously or by seed mixtures. Seed from the