1. **Linkage relationships for two mutants detected in Italian populations.**

Further investigations have been accomplished on linkage relationships of two mutants, described in 1967 MNL, with known genetic markers.

For the *ii*-type mutant, *F₂* segregations (repulsion phase) presented the following data (inclusive of 1966 results):

\[
\begin{array}{cccc}
G1 & tt & G1 & ii \\
3882 & 2037 & 1889 & 8
\end{array}
\]

(c.o. 6.5% ± 1.5 st. error).

The data previously reported about close linkage between a shrunken type (*bt*) mutant and *su₁*, have been confirmed by the scoring of ears obtained from backcrossing to the triple recessive, plants of the constitution *Su₁ bt G1₃ / su₁ Bt g1₂*, as follows:

\[
\begin{array}{cccc}
Su₁ Bt & su₁ Bt & Su₁ bt & su₁ bt \\
113 & 4124 & 4157 & 20
\end{array}
\]

All the seedlings from the *su₁ bt* kernels had the *G1* phenotype, while only 26 plants from *Su₁ Bt* seeds turned out to be *g1₂*, indicating that part of them derived from contamination. Consequently, considering the *bt* phenotypes only, the *su-bt* recombination is 0.5% ± 0.1.

The *bt* mutant, then, has to be placed on chromosome 4 (probably allelic to *bt₂*), between *su₁* and *g1₂*, and very close to *su₁*.

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2. **Abnormal segregations (significantly different from a 1:3 ratio) of genetic markers in the *F₂* of lines derived from Italian populations.**

In the analysis of a number of *F₂* progenies derived from crossing lines from Italian populations to some genetic testers bearing recessive mutants, the following abnormal segregations have been observed: