heterozygous for a teosinte segment (derived originally from either Florida or Nobogame teosintes in separate experiments), then the trivalent frequency shot up abruptly to a range of 60 to 70 percent (MNL 45 and 46).

In order to resolve the question as to whether the sudden increase in trivalency involving Tr7 was due to heterozygosity for the fourth chromosome bivalent or due solely to the introduction of the teosinte segment, a control addition monosomic for Tr7 was developed in which the teosinte segment was homozygous, again involving the fourth chromosome segment from Florida teosinte in one family and from Nobogame teosinte in another family.

At pachytene *Tripsacum* chromosome 7 was usually found as a univalent folding back on itself. It showed a very feeble association with the homozygous teosinte bivalent. More often it was found sticking to the terminal region of one or the other of the corn chromosomes. In a few instances it was in close proximity to the long arm of corn chromosome 4 although the common *Su1* locus is in the short arm, but it did not show any chiasmatic association. In one case the *Tripsacum* univalent was found sticking to the terminal knob of chromosome 9 of maize. The trivalent frequency scored at Diakinesis and Metaphase I was about 20 percent in comparison with the 60 to 70 percent rate seen in the triple heterozygote.

On the basis of the preceding cytological observations it appears that Tr7 has not shown sufficiently greater affinity to teosinte chromosome 4 than to maize chromosome 4 to account for the high rate in the triple heterozygote. Perhaps a slightly heteromorphic condition in the maize-teosinte heterozygote releases cryptic affinity for Tr7 that enhances the trivalent frequency, thereby explaining its high rate in the triple heterozygote.

P. Chandravadana
W. C. Galinat

5. **Revision in a tentative identification of an extracted *Tripsacum* chromosome.**

We had previously made a tentative (20 + 1) identification of an extracted *Tripsacum* chromosome (MNL 46:111) that had a partial ability to suppress expression of *bm2* as being Tr3, based on a length of 40.3 μ
and an arm ratio of 3.1:1 in the monosomic condition. Since then, a
change in the maize background and the derivation of the disomic condi-
tion for this Tripsacum chromosome requires a revision in this identifi-
cation.

From the progenies derived by selfing the 20 + 1 plants we have
now obtained three plants showing a 20 + 2 condition (72-445-5; 470-5,
471-8). From 31 observations on these three plants, the Tripsacum
chromosome averaged 32.8 u with an arm ratio of 3.9:1 and, as previously
evident, possessed a terminal knob in the long arm. This chromosome is
more similar to Tr5 than to Tr3 in the idiogram of the original T.
dactyloides prepared by Chandravadana et al. (1971). Because Tr5 had
been assigned by us as the Tripsacum homeolog to maize chromosome 9,
we have intercrossed this new Tr5 (?) to the old Tr5 as well as to the
maize marker gene stock for M9.

In any case, it is clear that the new Tr5 (?) is not a partial
homeolog to M9 as we had tentatively reported. Under the growing condi-
tions of 1973, the expression of bm2 in the presence of the extra Tripsacum
chromosome was undeniable. Some plants carrying this extra Tr chromosome
showed the multiple recessives, ar1, br1 and bm2 loci marking almost the
entire length of M9.

We shall check the synaptic behavior of the new Tr5 (?) with our
original extraction of Tr5 in a hybrid made for this purpose. Also we
shall check the capacity of new Tr5 (?) to cover the M9 markers known to
be present on the old Tr5.

R. V. Tantravahi
P. Chandravadana
W. C. Galinat

6. On the relation of Tr9, a Tripsacum partial homeolog to M2, to
maize M10.

Because Tr9, which carries the ws2, lg2, gl2, b, Sk, fl1 loci in
common with the short arm of M2 occasionally associates with the short
arm of M10 and may even transfer its terminal knob to M10 (MNL 44:117-119),
this Tripsacum chromosome was tested for its capacity to cover the nL and
£1 markers on M10. For this purpose, these chromosome 10 recessives were
added to the multiple recessive marker stock for chromosome 2. Within