arms. The nucleolus organizing chromosome, i.e., the 6th chromosome, has a conspicuous knob in its long arm. The 7th chromosome is heterozygous for the knob and has a heterochromatic region adjacent to the centromere in its long arm. Chromosome 9 has a terminal knob in its short arm, while 10 has a very distinct short arm which has a greater segment of its length heterochromatic (Table 2).

Table 2

Chromosomes at Pachytene of the WMT hybrid

Chromosome	Long arm (microns)	Short arm (microns)	Total length (microns)	Arm ratio	Knob position
1	53.6	36.0	90.0	1.4	-
2	48.9	34.2	84.9	1.3	-
3	53.3	25.9	80.6	2.1	
4	44.3	25.9	72.0	1.7	IK/LA
5	35.3	32.0	68.8	1.6	-
6	42.8	12.6	57.2	3.4	IK/LA
7	37.4	14.8	54.0	2.6	IK/LA
8	39.9	13.3	55.1	3.1	IK/LA
9	32.4	16.6	49.0	2.0	TK/SA
10	30.6	11.2	45.4	2.7	-

IK - Internal knob LA - Long arm N.O. - Nucleolus organizer
TK - Terminal knob SA - Short arm

P. Chandravadana
W. C. Galinat

4. More on affinity of Tripsacum chromosome 7 to maize and teosinte chromosome 4.

We reported previously that when the addition monosomic (20 + 1) for the Tr7 chromosome from Tripsacum marked by Su_1 was on a normal A158 maize background, it had a trivalent frequency of about 6.1 percent from associations with the maize bivalent for chromosome 4 (M4). When the maize background was changed by making the fourth chromosome bivalent

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 Su_1 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 bm_2 as being Tr3, based on a length of 40.3 u