Table 1. Frequencies of cells with univalents at various stages of meiosis in five plants representing different inbred lines.

Inbred line and plant no.	% cells/univalents		% cells/lagging univalents		% quartets with micronuclei
	Diakinesis	Metaphase I	Anaphase - Telophase I	Anaphase - Telophase II	
L289-5	1.5 (400)[1/]	12.8 (117)	6.1 (82)	5.0 (317)	5.5 (201)[2/]
K41-3	19.0 (100)	33.7 (89)	17.5 (114)	7.3 (246)	5.1 (217)
SA24-3	10.9 (46)	24.2 (251)	4.0 (50)	10.1 (128)	4.1 (295)
M14-2	22.2 (99)	4.7 (107)	2.0 (150)	6.1 (147)	4.5 (133)
KYS-2	2.6 (76)	23.6 (351)	12.5 (88)	8.4 (155)	10.7 (93)

1/ Number of cells observed.

2/ Number of quartets observed.

Rosalind Morris
Mustafa H. Isikan

3. Location and phenotypic expression of Hs (Hairy sheath).

Previous studies have placed Hs in chromosome 7, with recombination values of 32% between Hs and ra, 43% between Hs and gl_1 (Der Zuchter 3: 333-338. 1931). An Hs stock was crossed with T6-7S.73 also carrying gl_1, and the F_1 Hs semisterile plants were testcrossed to gl_1. From 71 testcross progeny plants classified in 1962, recombination values were obtained as follows: 50.7% for T to Hs, 49.3% for Gl to Hs and 4.2% for T to gl. These data would place Hs in the distal part of the long arm of chromosome 7.

The segregation of the three characters in the testcross progenies (Hs vs. normal, Gl vs. gl and T vs. normal) gave a good fit to a 1:1 ratio in each case although close to the borderline ($.10 > P > .05$). It was noticed that the expression of Hs in the F_1 plants was clear although not as pronounced as in the Hs stock. However, the expression of Hs in the testcross progenies was less distinct than in the F_1. Often careful examination of various parts of the stem, leaf sheaths, and tassel stalks had to be made to decide if extra hairs were present.

Earlier work with Hs in crosses with four inbred lines (N6, L289, Kh1 and N75) had shown that the expression of Hairy sheath was intermediate in the F_1 and became difficult to classify in the first backcross progenies or in their selfed progenies. The Hs stock, grown at the same time as these various crosses, gave consistently good expression. Thus, it would appear that the expression of Hairy sheath is modified considerably by different genetic backgrounds. For this reason its effectiveness as a gene marker is reduced.

Rosalind Morris
Mustafa H. Isikan

THE PENNSYLVANIA STATE UNIVERSITY
University Park, Pennsylvania
Department of Agronomy

1. Pa W 703 and W 703.

As the colorless pericarp yellow endosperm version of Q 703 (or W 703) has proven commercially useful in early (A.E.S. 100 to 300) hybrids, it has been of interest to speculate on the differences between the original and subline. Q 703 has red pericarp, white cob, and fairly strong stalks; Pa W 703 has colorless pericarp, red cob, and stalks that tend to dissolve after physiological maturity. The F_1 hybrid has little or no hybrid vigor.

An attempt was made to collect data on an F_2 population of W 703 x Pa W 703 in 1962. Weather conditions were not conducive to stalk rot, so that data were available only on pericarp and cob color.

Red Pericarp--Red Cob	196
Red Pericarp--White Cob	99
Colorless Pericarp--Red Cob	100
Colorless Pericarp--White Cob	6
Red Pericarp	295
Colorless Pericarp	106
Red Cob	296
White Cob	105
X^2 Pericarp Color (3:1)	.440
X^2 Cob Color (3:1)	.300
X^2 Pericarp and Cob Color (9:3:3:1)	34.107
X^2 Linkage	33.367
Linkage = 20.91 $\pm$ 2.33%	
X^2 Fit with linkage	1.270