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

It thus seems probable that two linked genes are involved in differences between these sublines as was suggested by Braun (N.L. 37, p. 50). Nevertheless, it is difficult to envisage a major change or chance outcross when very little or no heterosis between sublines is manifested.

G. W. Gorsline
W. L. Thomas

THE PENNSYLVANIA STATE UNIVERSITY
University Park, Pennsylvania
Buckhout Laboratory

1. Cyclic hydroxamate content of maize seedlings.

Segregation for the presence or absence of a cyclic hydroxamate or its 2-glucoside in maize seedlings has been reported previously (MNL 36: 71-72). The inheritance pattern of this character is being investigated using the waxy translocation stocks of Dr. Anderson.

In an attempt to find other sources of segregating material, at least 12 seedlings each of 1813 corn plant introductions of the U.S.D.A. collection have been scored visually. The test employed crushing the mesocotyl of 6-day-old dark-grown seedlings in an aqueous 0.1 M $FeCl_3$ solution; presence of the cyclic hydroxamate was indicated by a blue color reaction. Qualitative ratings given to individual seedlings were: 0, no blue color observed; 1, slight blue color; 2, moderate blue color; 3, intense blue color reaction. The following data were obtained:

Visual Rating	Plant Introductions Scored
0 - 1	4
0 - 2	13
0 - 3	13
1	1
1 - 2	206
1 - 3	274
2	290
2 - 3	679
3	333

The low, high and possibly segregating lines have been selected for quantitative determinations and genetic analysis.

Robert H. Hamilton
William D. Bell