water and supplemented with Hoagland's #1 nutrient solution. Leaves were harvested after three weeks of growth. Pigment analyses, carried out according to Arnon (Plant Physiol. 24:1-15, 1949) and von Wettstein (Expt. Cell Res. 12:427-506, 1957) revealed that in the mutant segregants chlorophyll a was reduced to 37%, chlorophyll b to 63% and the carotenoids to 38% of that in the normal segregants.

Free amino acid extractions were made according to Block, Durrum and Zweig (1958) and purified on a Dowex 50-X8 ion exchange column. Total free amino acid concentrations were determined according to the method of Barrolier (Naturwissenschaften 48:554, 1961) using ninhydrin. Spectrophotometric readings were taken at 570 mμ (purple) and at 400 mu (yellow). Separations of free amino acids were carried out on cellulose thin layer chromatograms using both one- and two-dimensional methods.

The total free amino acid concentrations of these three lines are given below in terms of absorbance at the wavelength indicated. Each value represents the mean and standard error at the 5% level, of absorbance values recorded from seven plants.

Line	440 mμ	470 mμ
Normal green segregants	0.154±0.015	0.055±0.003
Pale-green segregants	1.401±0.043	0.455±0.013
Oh51A derivative	0.153±0.007	0.055±0.004

Thin-layer chromatograms indicated that no particular amino acid had accumulated in the pale-green segregants but that the increase involved all amino acids, suggesting a block in the synthesis of one or more major proteins in the leaf.

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2. Amino acid analyses of pale-green-11, -12 and oil yellow.

Two pale-green maize mutants, pale-green-11, pale-green-12 ($\underline{pg}_{11}\underline{pg}_{12}$) and oil yellow (oy), along with a control, a normal green derivative of Oh51A, were analyzed for pigment and free amino acid

content. Seedlings were grown for three weeks at 27±3°C under approximately 1000 ftc. of illumination on a 16 hour photoperiod. They were watered with tap water with supplements of Hoagland's #1 nutrient solution. Pigment analyses were carried out according to Arnon (Plant Phys. 24:1-15, 1949) and von Wettstein (Exptl. Cell Res. 12:427-506, 1957). Chlorophyll concentrations of $\underline{pg_{11}pg_{12}}$ and oy were 70% and 74% respectively of the normal line while the total carotenoids of the two mutant lines were 65% and 52%, respectively, of the normal line.

Free amino acids were extracted according to Block, Durrum and Zweig (1958) and purified on a Dowex 50-X8 ion exchange column. Total free amino acids were determined according to Barrolier (Naturwissenschaften, 48:554, 1961) and individual amino acids were separated on one- and two-dimensional thin-layer cellulose plates. The solvent systems used were chloroform/methanol/17% ammonium hydroxide (20/20/5,v/v) for the one-dimensional plates, and butanol/acetic acid/water (4/1/1,v/v) and the above solvent for the two-dimensional plates.

No significant differences were observed in the total free amino acid contents of either $\underline{pg_{11}pg_{12}}$ or oy when compared to the normal green plants. However, chromatographic analysis revealed that in both $\underline{pg_{11}pg_{12}}$ and oy, asparagine was very much reduced or completely missing while in the normal plants it was present in significant amounts. All other amino acids appeared to be unaltered.

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1. An oxidizable flavonoid difference in corn silks.

Last year (MGCNL, 1970) a polyphenol oxidase oxidizable flavonoid difference was reported in corn silks. When fresh silks were cut back prior to pollination, it was observed that the cut ends turned brown in a few minutes in certain lines while in others they did not brown but remained yellow-green (i.e. no change in color). Browning of cut ends