



# PHILIP MORRIS

U.S.A.

P.O. BOX 26603, RICHMOND, VIRGINIA 23261 TELEPHONE (804) 271-2000

July 14, 1976

Dr. T. C. Tso  
Chief Tobacco Laboratory  
Plant Genetics and Germplasm Institute  
U. S. Department of Agriculture  
Agriculture Research Center  
Beltsville, Maryland 20705

Dear Dr. Tso:

Attached are the results of our filler analyses on the TWG Series IV samples. There have been two methodological changes since the 1974 study.

1. Total Alkaloid - An aqueous acetic acid extract of tobacco is dialyzed on an Auto Analyzer and reacted with cyanogen bromide and an aromatic amine. The absorbance is measured at 460 nm. RSD at  $2\sigma = \pm 3\%$ .
2. Reducing Sugars - An aqueous acetic acid extract of tobacco is dialyzed on an Auto Analyzer. Reducing sugars are reacted with p-hydroxybenzoic acid hydrazide in a basic medium at  $95^{\circ}\text{C}$  and the absorbance is measured at 410 nm. Chlorogenic acid is a positive interference. Standards are 1:1 glucose-fructose. RSD at  $2\sigma$  for 2-30% reducing sugars is  $\pm 6\%$ . RSD at  $2\sigma$  for 0.2-2% reducing sugars is  $\pm 11\%$ .

If there are any questions regarding the data or the methodology, please don't hesitate to call (804-271-2418) or write me. I look forward to seeing the complete tabulation.

I am returning the remaining samples under separate cover.

Sincerely,

James L. Charles  
Senior Scientist

/jhb

cc: Dr. R. B. Seligman  
Dr. H. Wakeham  
✓ Dr. T. S. Osden

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