



PHILIP MORRIS

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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 2σ = $\pm 3\%$.
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°C and the absorbance is measured at 410 nm. Chlorogenic acid is a positive interference. Standards are 1:1 glucose-fructose. RSD at 2σ for 2-30% reducing sugars is $\pm 6\%$. RSD at 2σ 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. Osdene

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