

Bell/Laing

June 26th, 1968

Dr. I.W. Hughes,
Research & Development Est.,
Regent's Park Road,
SOUTHAMPTON, ENGLAND.

Dear Wally,

I am arranging to have the Bell & Laing cigarettes sent to you under separate cover. They reached us late last week. There are eight samples in all, coded RL 268, A to G, of which RL 268, A, B & C bear a high efficiency acetate filter, and RL 268D, E, F & G a low efficiency acetate. Samples RL 268 & 268D were made at normal density, samples RL 268A & E at 1.3 times normal density, samples RL 268B & F at 1.4 times normal density and samples RL 268C & G at 1.5 times normal density. You will be receiving forty cigarettes of each sample.

Our original intent was for the cigarettes to be bored to leave holes of different diameter in the hope of minimizing differences in pressure drop, i.e. it was hoped that samples RL 268A, B, C, E, F & G, could be treated to give comparable pressure drop, notwithstanding the differences in density and filter. However, Bell & Laing had problems in making sufficient cigarettes and, with our approval, finally prepared all samples by rapidly inserting a 0.06 inch tungsten probe heated to 430°C into the tobacco rod to within a millimetre of the acetate tin. Only in this way could they achieve any control. Finally, the last 1/4 inch of tobacco (lighting end) was rolled to close the hole.

By these means they were able to produce the samples submitted, which, by their measurement show the following pressure drop relationships:

Sample	Ratio of pressure drop to pressure drop of RL 268D	
	Unlit (rolled end)	Lit (after smoking 1/2 inch)
268A	1.2	1.5
268B	1.4	1.7
268C	1.4	1.9
268E	1.1	1.15
268F	1.3	1.3
268G	1.15	1.55

(Ratio of RL 268D, lit:unlit = 1.35)

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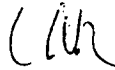
From this, it is apparent that, as far as the tobacco portion is concerned, samples A, B & C are closely replicated by E, F, & G.

With regard to your measurements, I agree it would be of interest to investigate radial as well as longitudinal temperature changes. Furthermore, it might be valuable to look briefly into the effects of puff volume as well as frequency. For our part we will be looking at TPM, DPM, nicotine, water, phenols, aldehydes, acids, HCN, H₂S, N oxides, etc., as well as effects on *Paramecium*.

You are undoubtedly aware, from the copy of the agreement sent to Dr. Green, that we have four months in which to complete our investigations. Needless to say, we would appreciate hearing your results, and any problems which you may encounter. Similarly, we will keep you informed of our progress. In addition, it was agreed that the communication of results with Messrs. Jones, Bell & Laing would be via Dr. Green.

With kindest regards,

Yours sincerely,



V.C. RUNECKLES.

VCR/ja

cc: Dr. S.J. Green ✓
Dr. T.A. Smith
Dr. V.C. Runeckles
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