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Imperial Tobacco Limited/Limitée



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January 11, 1989

BY TELEFAX

Dr. R.R. Baker
 BAT (UK and Export) Limited
 Research & Development Centre
 Regent's Park Road
 Southampton SO9 1PE
 England

Dear Richard:

I am writing in reference to your letter concerning BAT (UK & E) work in the area of "other noxae."

"Group Research Programs"

Project DAY aims to reduce Ames activity as well as the concentrations of certain smoke components viz. HCN, CO, aldehydes (formaldehyde, acetaldehyde, crotonaldehyde, acrolein), phenols (phenol, cresol, catechol) and PAH. This list was developed partly through expediency (what we can measure) and partly because these compounds (or classes of compounds) have been associated with various measures of biological activity. Our list (apart from PAH) is a subset of the 'Other Noxae' list proposed by the SRG. The other 11 chemicals on the SRG list are not addressed by DAY for various reasons: lack of proper analytical methodology, low concentrations in the flue-cured cigarettes, or they have similar precursors to the compounds on the ITL list.

Although we do not have the resources to pursue all the "Other Noxae," we still believe that it is important that their levels in commercial cigarettes be determined. Only then can their relevance to smoke toxicology be assessed.

The work being carried out by the "Other Noxae" group is in most respects directly relevant to Project DAY. Our interest in Ames activity reduction is addressed by 901.01.200. The identification of genotoxic smoke components and their precursors is of great importance both to Project DAY and to any future program of work which aims to reduce indices of biological activity. We have made some initial attempts in this area with our smoke fractionation project. But lack of appropriate analytical methodology for the involatile nitrogen-containing heterocyclics in the condensate has hampered our progress.

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- 2 -

Physical and chemical (901.01.300) and enzymic (901.01.400) modification of tobacco to alter "other smoke noxae" is also directly relevant to DAY. We are particularly interested in removal of precursors for smoke genotoxins and phenols (leaf polyphenols and possibly lignin). Elucidation of the formation mechanisms for the aldehydes would also be of great interest. Are they an inevitable consequence of carbohydrate combustion? Or can their concentration be reduced without compromising the structural integrity of the tobacco?

In conclusion, we support the proposed (1989) work program of the "Other Noxae" group. With the resources available in Southampton, we believe that the focus of this work should be to gain a more fundamental understanding of the mechanisms by which the "Smoke Noxae" are produced and, on this basis, results may be applicable to Project DAY. We see no reason to change the emphasis of this work, which was originally decided at the 1986 RPG meeting. The mandate given at that time was to carry out fundamental work on various noxae as prioritized by the SRG.

Sincerely yours,



Patrick J. Dunn

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