

11.2.92

To Dr T. Hirji  
From D. Irwin

A minor point about APPLE data

Something I am more aware of from enzyme work is that the levels of substances in tobacco, expressed as percentages (dwb), can be misleading.

If sugars are "oxidised off" a tobacco and go to carbon dioxide and water, then other substances will increase in percentage terms (obvious).

Australian B&H has less sugars than its competitors. Therefore its higher ash and protein, for example, may not be "independent" of the lower sugars. On a dry weight basis, ash contents of Australian B&H, Rothmans and Dunhill were 15.7, 14.3 and 14.4% respectively. On a total sugars free basis they are 18.0, 17.2 and 17.2% respectively. Protein nitrogens were 1.04, 0.85 and 0.81% respectively (dwb). On a total sugars free basis they are 1.19, 1.02 and 0.97% respectively. Subjectively, it seems more likely that there is an "independent" protein difference than for the case of ash, though I accept that one would conclude that protein difference was greater than ash difference even without this change in calculation basis. However it illustrates the point, I hope. The effect would have been more dramatic if I had used the first set of B&H sugar results which were lower than the repeats. You know that on balance I think I should take the repeats.

I do not intend to labour this point in a report, but it is one we should not forget in looking at results of this type. Now you will tell me you never did forget it!

The point applies to any tobacco component which may be lost as volatiles, say during curing, rather than converted to some other involatile. I chose sugars because of their relatively high level and hence differences can affect other results.

cc. Mr A. C. Stephenson ✓

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