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Use on File

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July 17, 1971

Dr. D.C. Bellon
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England

Dear Sir:

We have been reviewing the results of the mouse skin painting tests done on small cigars at Harrogate, with a view to planning a series of rebaccous plant tests as a guide to product development work in Canada. Our sources of information were as follows:

1. Your letter of 16 March, 1971, with TRC enclosures (1151 and 1152), discussing the results of the 2 foreshortened test series.

2. Review of TRC work, Ian Ayres, 30 December, 1969.

3. TRC Document F1530, G.D. Briggs, 3 December, 1968.

4. TRC Document F1581, FTT, 16 December, 1968.

5. Davies and Day's paper in British Journal of Cancer.

The attached table shows a summary of the samples, and also includes a proposed list of samples to be tested for us. The table raises some queries, and also requires some explanations by us.

Especially, in Experiment 1.1.8.2 (sample C1) and 1.1.8.3 (T53 and T54), the cigar tobaccos are described as being in granulated form, while in Experiment 1.1.7.4, the flue-cured sample T45 is shattered. In the above contexts is there any difference between granulated and shattered?

In 1.1.7.4, are the actual circumferences of the non-standard sizes known, and also the porosities of the low and high porosity papers relative to the normal type i.e. is the low porosity type virtually non porous, like cigar leaf of PLT?

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We would be grateful for more clarification on Experiment 1.1.8.3. As we understand it, samples T44, C3 and T52 are repeat samples from 1.1.8.2, replacing T4, C1 and C2 respectively. In other words, where Document J252 refers to sample C3 as containing composite cigar tobacco, is this tobacco actually in granulated form; whereas the same composite cigar tobacco in sample T52 is in shredded form (i.e. n.f.)?

By comparing the proposals for repeating and extending 1.1.8.3, given in Document F1530, with the information in Document J252, sample T53 represents F1530/I, and T54 represents F1530/II, but F1530/III was omitted from the experiment. F1530/III was planned to use cigar leaf wrapper and shredded cigar tobacco, and to be of cigarette size. This sample III, when compared to sample T52, would have covered the effect of the leaf wrapper. However, sample III was probably left out because a similar comparison could be made between T53 and T54 using granulated instead of shredded tobacco. It would help if we knew more details of the wrapper used in samples C3 and T54, since it seems difficult to manufacture a cigarette size pipe with a cigar leaf wrapper.

The relative biological activity results, which we have included, are taken from the Weibull analyses given in Documents J151 and J252. However for the 1.1.8.3 results, we have reexpressed the comparisons as being based on the control sample T44. While we recognize the tentative nature of the comparisons because the experiment was terminated so early, the results seem to indicate that the two cigars (C3 and T54) give relative activities that appear to be not significantly different, despite the difference in size. This result contrasts with earlier results on effects of circumference in the cigarette series. We feel this is too important not to be rechecked by the sebaceous gland test. It is possible, of course, that a change in biological activity is only achieved at a circumference below 25 mm.

Also in Experiment 1.1.8.3, there is a significant difference in activity between samples T52 and T53 (i.e. shredded v. granulated form), which does not appear in the flue-cured series (T44 v. T45).

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We would like to compare the biochemical activities of a series of small cigars by using the sebaceous gland test at Hamburg or possibly Westford, with four objectives, all stemming from our present development program.

1. To compare some of our current commercial products (Old Port Tipped Cigarillos, Old Fort Colts and Vintos Cigarillos).
2. To compare the effect of cigar circumference alone, keeping other parameters constant as far as possible.

3. To recombine shredded and shattered tobacco in cigars.
4. To compare wrapper-binder combinations of widely differing porosities, together with a single highly porous wrapper.

The proposed list of our samples is included in the table. Sample 1 is a control BAT cigarette (CN102 flue-cured blend, normal size of cut circumference and paper). Sample 2 is our own control flue-cured cigarette; this will have Flavors Mild tobacco blend, cut at 45 c.p.f., with 25 mm circumference and our standard non-waterproof paper (porosity 35-45 Greiner-seconds). We have not included a sample of our cigar tobacco made into cigarette form, as similar comparisons have been well covered previously, e.g. in I.T. 1.2 and I.T.R. 1.

Sample 3 represents our commercial Old Port Tipped Cigarillo, with its cigar blend (PK), and its PLT binder and General Cigar (U.S.) Ultra A wrapper. Samples 4, 5 and 6 are intended to show the effect of cigar circumference alone. Sample 5 constituted our Old Port Colts Cigarillos, (cigar blend OPF) while samples 4 and 6 ideally should differ from it only in circumference (to be the sizes of our Old Port Tipped and Vintos Cigarillos). We believe that samples 4 and 5 can be made with the same size of shattered tobacco pieces, although for 6, the tobacco form of necessity may have to be a little smaller. Also the relative proportions of filler and wrapper-binder combination will not be identical for the 3 samples. However, for practical purposes this is the best that can be achieved in cigars.

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Comparison of samples 6 and 7 will show the effect of shattered or shredded tobacco form in cigars. Samples 5 and 8 will compare the effects of extremes of porosity of the wrapper-binder combination. In 5, the wrapper and binder are virtually non-porous, while in 8, the 2 wrappers are identical (Rapaport I), and are very highly porous (7-10 Greiner-seconds). In sample 9, the porosity is even higher, since it will have only one wrapper (Rapaport I). Sample 10 represents our Vintos Cigarillos with its own filler in normal shredded form, and a somewhat less porous Rapaport II wrapper-binder combination (porosity of both, 10-15 Greiner-seconds).

We would welcome your criticisms and suggestions on these proposed comparisons and the possibility of scheduling them for sebaceous gland tests.

We would also like to know if we will be billed for these tests and if so how much. These tests may be of some interest to ITG and they may possibly be interested in sharing a part of the cost. As mentioned previously, our preference would be to have the tests carried out by BAT Hamburg.

With kind regards,



R.S. Wade
Manager Research and Development

c.c. Dr. S.J. Green

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