

Mr. D.E. Creighton.

DEC/JJ

3rd July, 1985.

Mr. R.M.H. Duncan,  
Director,  
Nigerian Tobacco Company Limited,  
P.O. Box 413,  
Zaria,  
Nigeria.

Dear Richard,

Dry Snuff

Thank you for your letter dated 14th June 1985 which clarifies that you are interested in a dry snuff formulation. We have no directly relevant experience of dry snuff and there is very little group experience outside of B&W who make and market Tube Rose and STK (Denmark) who make a range of non smoking tobacco products. From the literature and apocryphal sources we offer the following:

1. Simple Dry Snuff

Use either dry Fire-cured or a mixture of Fire-cured and Air-cured whole tobacco leaves and grind them to a fine powder. Add finely ground sodium or potassium chloride and re-sieve. Any large particles should be re-ground and re-sieved. To this mixture is added the "potash". In a classical snuff this is said to be a "titillating agent" and is added as sodium or potassium carbonate at about 2%. In formulations in Barbados 8% of calcined potassium carbonate have been used and received AGP approval. Calcined suggests dry roasting heat treatment to drive off any water of crystallisation to leave anhydrous carbonate. The anhydrous carbonate would act as both a drying agent to remove moisture from the tobacco so that it remained a free running powder and to ensure that the pH was high. The high pH would ensure that the nicotine was absorbed in the free base state where it is most effective from the sensation point of view and most rapidly absorbed. If you have moisture problems with a product so that it clogs you could try adding magnesium oxide, magnesium carbonate or sodium sulphate to the carbonate, all of which act as drying agents and have been added to table salt to improve free running properties.

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Many snuff formulations are flavoured with added levels or top dressing flavours. Popular amongst the herbs are 2% oris root or 3% spent tonka bean - may I suggest 2% ginseng for the Nigerian market! Top dressing flavours include menthol, peppermint oil, wintergreen, attar of roses and clove oil. I suggest a menthol and peppermint flavoured version might be appropriate for the Nigerian market as a significant proportion of your cigarettes are mentholated. The added flavour may also help to cover some of the product deficiencies that a connoisseur of classic European snuff might find in a simple domestic product.

You say in your letter that Black Fat tobacco is the basis of your domestic product. You may be aware that the AGP have had some reservations on the use of some of the Black Fat tobaccos found on the West African market due to the mineral oil content. As I understand it, this tobacco was smoked. It would however, be wise to keep AGP informed of any formulation that you wished to market.

My understanding of Black Fat tobacco is of a fairly sticky material that comes from USA in barrels. If this is the material then I do not understand how it can be ground and sieved to make a snuff. More classic snuffs use Malawi Fire-cured "short leaves" I would guess tips rather than flyings, which can be powdered. Thus for both AGP and practical reasons Fire-cured tobacco or a mixture of Fire-cured and Burley may be preferable, if it is available.

If your final formulation lacks "impact" you could try the addition of some ammonium carbonate, which is used in smelling salts. This would increase the alkalinity as well as having a "jolt" of its own. If your formulation is too strong, then dilute the tobacco with powdered stem.

If you send us a sample of the "potash", I will find a way to have it analysed for the main constituents - I would guess sodium, potassium, chloride and carbonate would be the main ions present. It would also help to have 'Bade analyse a sample of your local snuff for nicotine, moisture, chloride and carbonate, or if you prefer, send us a sample (with usual H.M. Customs procedures) and we will make an analysis for those constituents.

#### European Snuff

The process for classic snuff is much more complex. Aged Fire-cured and Burley tobaccos, which have been kept 3 - 4 years, are ground and cased with a brine sauce and kept in a wooden barrel or vat for 6 - 8 weeks at 30 - 35°C. We would guess that the brine sauce contained 5% sodium or sodium and potassium chloride and 2% sugar.

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The pH of the cased tobacco mixture should be 5.5 - 6.0 so additional salts may be needed in the casing sauce to adjust the pH. Under these conditions the tobacco would ferment, probably by a lactic acid bacteria fermentation similar to that used on sauerkraut or dill pickles. The moisture content would need to be about 60% and the mixture would need to be turned periodically - say twice a week. The wooden vessel would hold some of the bacterial culture to inoculate the next batch. The sugar in the sauce is the energy source for the bacteria.

After fermentation the mixture is ground again and 5 - 8% sodium or sodium and potassium chloride added - The mixture is left to mature for 3 - 4 months. We would guess that this stage is for a partial sterilisation by the high salt content which should reduce the microbial population - An alternative would be heating to 45 - 50°C for an hour or so but this might affect the taste and aroma qualities.

This mixture is then re-ground and the 2.0% potassium carbonate added as the "titillating agent". After a further maturation the product is flavoured with either or both added vegetable flavours, ground roots, pods etc., and essential oils.


Throughout all these snuff formulations, I have a feeling that potassium chloride would be preferable to sodium chloride as potassium is more salty on an equal weight basis, and would seem more compatible with a natural product.

We wish you every success with this venture and suspect that the simple formulation might be the most appropriate to try, at least in the short term. We would appreciate you keeping ACP informed of any proposed products that you wish to market especially if you use local materials of unknown origin.

If we can be of further help please do not hesitate to contact us.

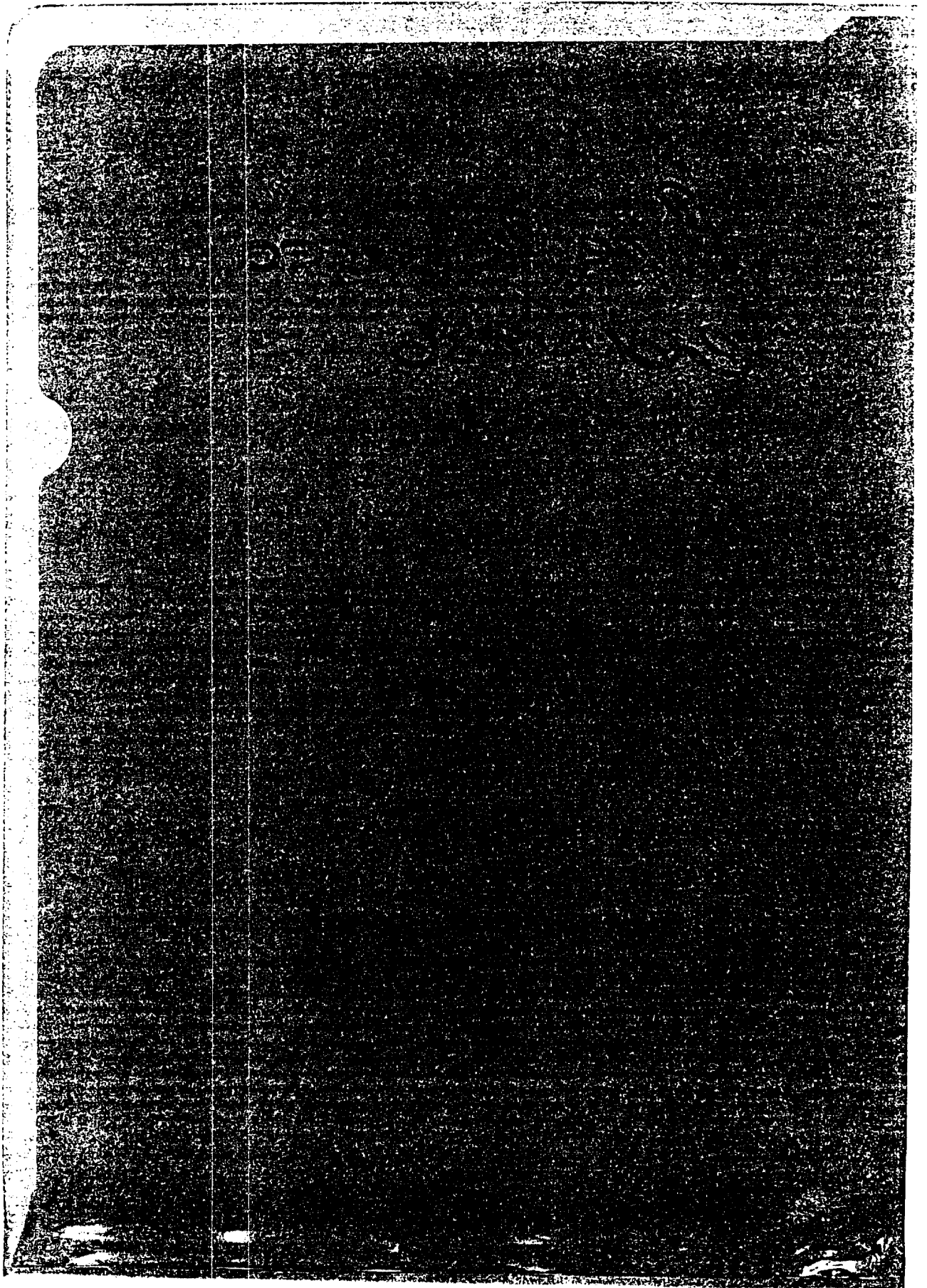
With kind regards,

Yours sincerely,

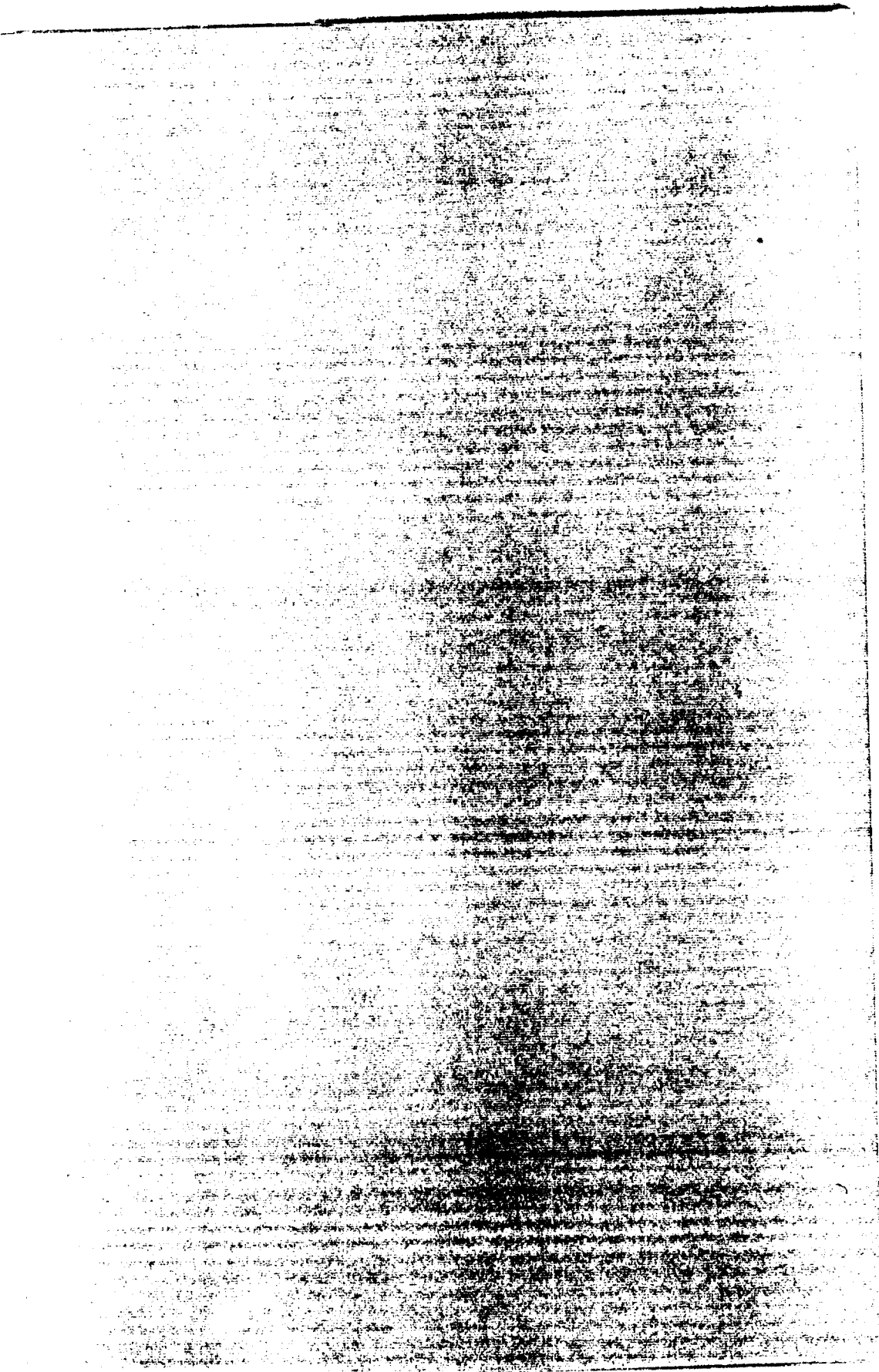
  
D.E. CREIGHTON

cc Mr. J.W.H. Butcher, Millbank.  
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