

L.488-R c.5

R&D-1091-75 c.5

PROJECT WHEAT - PHASE 2
CIGARETTES FOR CONSUMER TESTS

LABORATORY REPORT NO. L.488-R

3.7.1975



**Group
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SCOTT CAMPDEN, ENGLAND

BRITISH - AMERICAN TOBACCO COMPANY LIMITED

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Group Research & Development Centre,
British-American Tobacco Co. Ltd.,
SOUTHAMPTON.

DJW/RA/46D-6

3rd July, 1975

PROJECT WHEAT - PHASE 2
CIGARETTES FOR CONSUMER TESTS

(Laboratory Report No. L.488-R)

SUMMARY

Samples of two regular size filter-tipped cigarettes, designated E and F, have been produced for testing among U.K. consumers as an extension to Project WHEAT. Against target nicotine deliveries of 1.4 mg and 1.9 mg per cigarette, samples E and F give deliveries of 1.37 mg and 1.73 mg per cigarette respectively. The two cigarettes can be clearly distinguished in terms of impact by a smoke panel, and they have been judged generally acceptable in smoking characteristics. It is considered that the cigarettes are sufficiently close to the target specifications for consumer testing to proceed.

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INTRODUCTION

A previous report (1) described the manufacture of four types of experimental cigarette for testing among U.K. consumers as part of Project WHEAT. The four cigarette types were intended to differ in nicotine delivery, but in the event type D, with the highest nicotine delivery, was so far below target that it was scarcely different from type C with the second highest nicotine delivery.

Consumer testing was duly completed as planned, but the failure to achieve an adequate separation in terms of nicotine delivery between cigarettes C and D made interpretation of the results somewhat difficult. Accordingly it was decided to produce two further samples of 74 mm F.T. cigarettes, E and F, with similar target nicotine deliveries to C and D respectively, that is to say 1.4 mg and 1.9 mg; as before the cigarettes were intended to be comparable in pressure drop and number of puffs, and to be generally similar with regard to smoke flavour. Provided these targets could be met, the intention was to conduct further testing among consumers who participated in the initial series of tests.

This report gives the specifications and analysis results of cigarette samples E and F.

CIGARETTE MANUFACTURE AND ANALYSIS RESULTS

In conjunction with Leaf Department, Millbank, Blends 72 and 42 were chosen for cigarettes E and F respectively. As before, the specifications for the cigarettes were worked out at Group R. & D. Centre as a result of pilot-scale manufacture using small portions of these two blends, following which the sample cigarettes for testing among consumers were manufactured and packed in Liverpool Branch. In order to achieve reasonable

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uniformity of the tobacco within each blend a member of the Group R. & D. Centre staff visited Liverpool Branch and assisted with the selection and sampling of the tobacco. Numbered skips of each blend were set aside until samples had been analysed at Group R. & D. Centre, and only those skips which came close together in nicotine content were used in manufacture. The contents of these selected skips were mixed together, a sample was forwarded to Group R. & D. Centre for pilot-scale manufacture, and the remaining tobacco was held in cold storage until the cigarette specifications had been finalised.

One major difference in design between the present cigarettes and the former A to D series was the use of cellulose acetate filters in place of dual paper-acetate filters. This change was suggested by Leaf Department, Millbank, following complaints of harshness in cigarettes A to D.

The specifications of cigarette samples E and F are given in the Appendix. The results of cigarette examination are shown in Table 1, and the results of panel assessment are shown in Table 2.

It is seen from these results that the nicotine delivery of cigarette F was somewhat below target, but was sufficiently above that of cigarette E to give a clearly perceived difference in impact. Various members of the Millbank and Group R. & D. Centre staff found both cigarettes acceptable in general smoking characteristics. It is concluded that the cigarettes come close enough to the target specifications for consumer testing to proceed.

REFERENCE

1. B-A.T. Report No. L.469-R, 24.9.74.

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TABLE 1
RESULTS OF CIGARETTE EXAMINATION

Cigarette Type		E	F
Code Number		J54	M47
<u>PHYSICAL</u>			
Total length	(mm)	74	74
Circumference	(mm)	24.60	24.71
Filling density	(mg/cc)	310	310
Paper porosity	(W.T. units)	199	104
Filter P.D.	(cm W.G.)	4.2	3.6
Total P.D.	(cm W.G.)	14.5	12.8
<u>BLEND</u>			
Total nicotine alkaloids	(%)	1.49	1.68
Total sugars	(%)	16.4	17.6
Reducing sugars	(%)	13.9	15.6
Moisture	(%)	13.4	12.4
<u>SMOKE</u>			
TPM	(mg/cig)	27	33
Total nicotine	(mg/cig)	1.37	1.73
Extractable nicotine	(mg/cig)	0.38	0.43
Average puff number		9.1	9.3

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TABLE 2

RESULTS OF PANEL ASSESSMENT

Cigarette Type	E	F
Code Number	J54	M47
Impact	2.6	3.3
Mouth Irritation	2.9	3.2
Throat Irritation	2.9	3.1
Nose Irritation	3.4	3.7

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APPENDIX

CIGARETTE SPECIFICATIONS

CIGARETTE E

Blend

Blend 72 cut tobacco.

Dimensions

Complete cigarette 74 mm x 24.75 mm.

Cigarette rod 59 mm x 24.75 mm.

Cigarette Paper

136/F WLD, width 26.75 mm.

Density.

305 mg/cc at 13.0% moisture content.

Filter

Cellulose acetate HIT/1.

Plug dimensions 15 mm x 24.55 mm.

CIGARETTE F

Blend

Blend 42 cut tobacco.

Dimensions

Complete cigarette 74 mm x 24.75 mm.

Cigarette rod 59 mm x 24.75 mm.

Cigarette Paper

66/M WLD, width 26.75 mm.

Density

300 mg/cc at 13.0% moisture content.

Filter

Cellulose acetate MIT/2.

Plug dimensions 15 mm x 24.55 mm.

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Project wheat - phase 2
Cigarettes for consumer tests.
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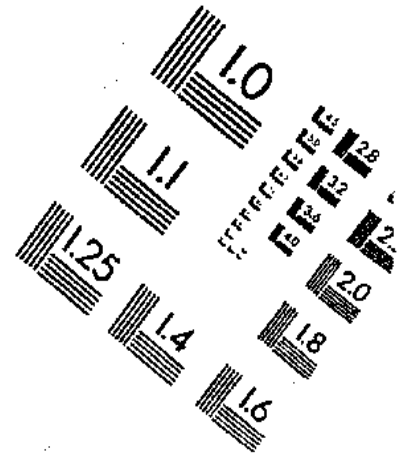
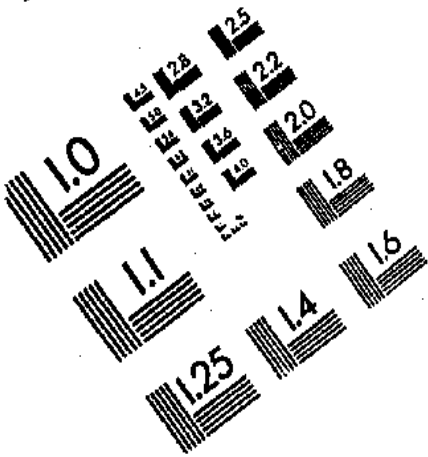
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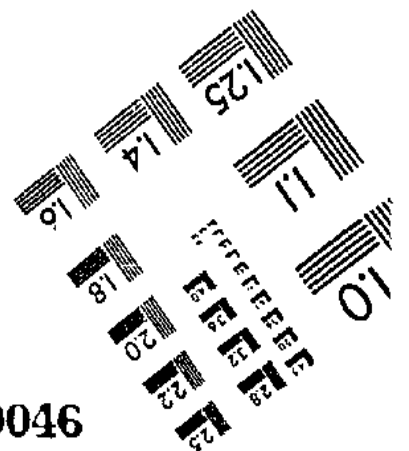
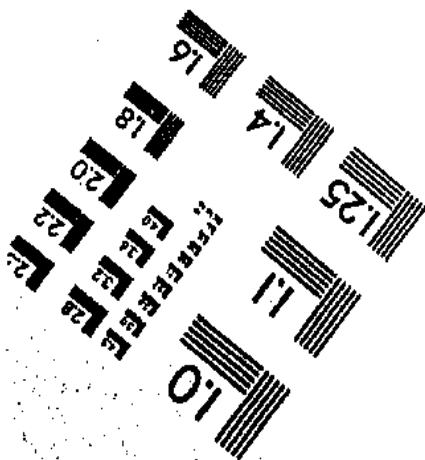
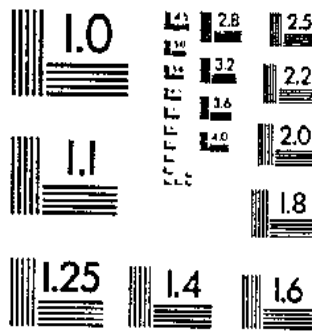
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