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PHILIP MORRIS RESEARCH CENTER
QUARTERLY PROGRESS REPORT

C O N F I D E N T I A L

January - March
1975

External Distribution

J. F. Cullman III (1)	A. C. Britton (10)	S. Pollack (20)
G. Weissman (2)	B. A. Soyars (11)	J. J. Morgan (21)
R. R. Millhiser (3)	E. M. Schaaf (12)	M. Berkowitz (22)
C. H. Goldsmith (4)	G. W. Macon (13)	R. Cremin (23)
H. Cullman (5)	W. G. Longest (14)	J. P. Jeb Lee (24)
W. O'Connor (6)	A. J. Kay (15)	C. H. Willson (25)
T. Ahrensfield (7)	W. Sperber (16)	R. B. Seligman (26)
J. Bowling (8)	J. Landry (17)	R. Skead (27)
J. E. Lincoln (9)	A. Holtzman (18)	H. Maxwell (28)
	W. W. McDowell (19)	

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NEW BRANDS AND COMPETITOR ACTIVITY

New brand introductions in the First Quarter of 1975 consisted of the test marketing by Philip Morris of two new brands, Saratoga 120's plain and menthol and Marlboro Lights Menthol 85.

Product and packaging modifications by competition were limited. P. Lorillard and Liggett & Myers are in the process of increasing filter length and tipping paper length on several of their cigarette brands.

Liggett & Myers are marketing Chesterfield 85 and 101 in a new package which is similar to the package used for Chesterfield nonfilter cigarettes. L&M 85 is also being marketed in a new package.

Blend changes were modest and included an increase by Reynolds in the level of expanded tobacco in their blends from 11 to 12%. American removed expanded tobacco from the blends of Pall Mall Menthol 100 and Montclair 85.

R&D ACCOMPLISHMENTS

New Cigarette Products

Cigarette specifications for Saratoga 120's, plain and menthol, were submitted to Manufacturing in January permitting market introduction in early February. As a follow-up we have developed models of Saratoga cigarettes delivering 13 and 16 puffs vs. the current product delivery of 12 puffs. These models will be prepared for HTI testing. Many variations of brown colored cigarette papers were prepared and a shade was selected. Suppliers have been contacted for submission of samples for further testing.

A Parliament Menthol 100 prototype was developed through successful small scale consumer research testing.

A chocolate-menthol cigarette and a 12 mg tar, low nicotine (0.5 mg) cigarette were developed for subjective testing at R&D.

PRODUCT MODIFICATIONS

A 33% reduction in the carbon content was made in B&H Multifilter and Parliament 100 filters. A reduction was made also in the triacetin content in Marlboro and Parliament filters. All changes noted were found acceptable by local (RP³) panels and models of the products are being prepared for National panel tests.

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The new prototype of the Improved Multifilter cigarette continued to perform well in large scale consumer testing against Vantage. Further flavor improvements in the products are anticipated with the use of special casings and flavorings for the expanded stem and RL sheet components of the blend.

Cigarettes containing a low percentage of the new Imitation Licorice flavor continued in test marketing. No product or consumer problems have been encountered to date. This Imitation Licorice while alleviating some of our supply problems also provides important economic advantages.

TOBACCO MATERIALS PROCESSING

In order to provide process improvements applicable to production we have redesigned our pilot stem line so that it now matches production facilities. The installation of new equipment and modification of existing components have begun. We expect the line to be operational by the end of the Second Quarter.

Our factory prototype pilot plant for expanding tobacco with CO₂ continues to perform extremely well. Current results indicate that modifications introduced into the process have increased the amount of tobacco expansion to a level fully comparable with that obtained by our current NH₃/CO₂ process. We are working closely with Manufacturing Engineering in the design and procurement of equipment for the CO₂ expansion production facility.

We have also completed the installation and shakedown of a new fully instrumented prototype pilot Adt dryer in our attempts to increase the filling power of tobacco during drying. Test runs are now in progress.

All of our initial objectives for the RL Pilot Plant were completed with the production in this past Quarter of 17,000 pounds of standard reference sheet and 2,500 pounds each of five process variants for testing. Several samples were also produced with flavor compounds applied in the sizing material applied to the sheet. All Hopewell supervisory personnel have now been fully trained in at least one major area of plant operation. Primary emphasis will now be on cross-training of these personnel to be ready for the July start-up of manufacturing operations at Hopewell. During this final training phase we will conduct additional flavor and process development studies.

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We completed the design and built a prototype of an improved RTD measuring device to provide for more reliable measurements than obtained with current instruments. At the request of Manufacturing the device was altered for evaluation by Manufacturing QC. Following several minor modifications in the instrument it will be tested on the Production floor.

CHEMICAL RESEARCH

In our continuing studies to develop new and improved flavors, our organic synthesis laboratory prepared several polymeric flavor-release compounds. These included menthol and isoprene as flavor agents which are presently undergoing laboratory evaluations.

PHYSICAL RESEARCH

Our studies designed to develop a mathematical model of cigarettes have now progressed to a stage where, based on these models, we can estimate the effects of changes in tobacco weight, rod circumference, moisture content, and blend components on puffs/cigarette, static burn time, RTD, firmness, and delivery of tar, TPM, water, and nicotine. As these models are further developed and refined we anticipate having the capability of providing specifications quickly for any type cigarette based on properties desired in the product.

PATENTS, PUBLICATIONS, AND REPORTS

Patents

Issued:

U.S. Patent #3,870,070 on Air System Control to G. A. Kraft.

U.S. Patent #3,871,059 on Conversion of Cigarette Vending Machines to Hold Outsized Cigarette Packages to J. E. Goldenstein.

U.S. patent applications allowed: 1

U.S. patent applications filed: 5

Foreign patents allowed or issued: 22

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Publications

"A scanning infrared technique for cigarette coal peak temperature measurement" by T. S. Laszlo and F. M. Watson III. Beitr. Tabakforsch. 7(5), 269-75 (1974).

"Cigarette peak coal temperature measurements" by A. T. Lendvay and T. S. Laszlo. Beitr. Tabakforsch. 7(5), 275-81 (1974).

"Microfilm-based information systems and their use in an R&D Center" by C. H. O'Donohue. J. Chem. Doc. 14, 163-5 (1974).

Reports

A Technical Bulletin, directed to affiliates and licensees of the International Division, was issued on the "Apparatus and Method for Determining Filter Quality."

In-house reports of note:

75-014 Humectant study-replacements. F. H. Crayton.
Dec. 1974.

75-020 A chemical indicator of cigarette smoke
biological activity. Project 6908. R. J. Levins.

75-030 Status of cigarette mathematical modelling.
Project 0105. H. A. Hartung and L. L. Stewart, Jr.

April 11, 1975


H. Wakeham

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