

June 9, 1977

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Dr. R. M. Irby, Jr.

E. C. Cogbill and B. F. Price

Weekly Report - Research Section

Project CET tests this past week involved several equipment modifications. A new heavy-gauge polyethylene skirt, attached to the bottom of the metal sleeve, was an improvement over the metal extension that it replaced; however, it has not been as effective as the original flexible plastic cloth. A whole new sleeve assembly is being installed today. Although the chiller system is running, additional Freon 502 is required to appropriately charge the system. Vessel insulation surrounding the coils does seem to stabilize the temperature of the vessel. Some practice runs may be needed to learn the changes in operating properties. Several glycerin-free BKB tobacco runs were made to compare "T" ball versus compression filling power measurements.

A muffler assembly and uses of the Jetstream dryer were also incorporated into the overall operating scheme. A new release valve coupled with the muffler appears to work well in allowing rapid pressure release with relatively little noise. The Jetstream dryer was run at both 300 and 350° F and seemed to handle the cold tobacco much more efficiently than the "U" dryer. The "T" ball expansions over this past week ranged from a low of 10 up to 115% on conditioned samples.

Analysis of CARLTON blend cigarettes containing CET and their controls containing FET should be completed by Friday.

An apparatus designed to provide 600° F superheated steam for tobacco expansion has been assembled and operated. A maximum outlet temperature of 320° F has been obtained to date. Additional insulation is being added and some means of removing much of the water in the house steam supply is contemplated. The venturi tobacco feed efficiently sucks in small portions of tobacco and the flowing steam stream rapidly propels the tobacco out of the tube into a hand-held screen. Some small refinements are needed before any serious measurements can take place.

Results of fragility tests on RC-TM samples taken during this period from both Machine No. 1 and Machine No. 3 showed good strength quality. Construction and repair of shredding equipment by the Shop has finally been completed so that direct comparison of the new and original equipment can proceed.

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-2-

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Chromatographic vapor phase smoke analysis has been made on the Model No. 3 CVAP cigarettes. Results showed the reduction of condensible vapor phase constituents to be 81%. With the ventilation in the filter blocked off, the reduction was 35%.

Treatment of burley stems with urea for improvement of smoking quality still appears promising. Samples of BRS-55 stems treated with urea at 2% and 5% levels have been prepared and are being given preliminary taste evaluation. Treatment of BRS-55 stems with extract from pectinized 132 fines produced inconclusive estimates from smokers evaluating the product.

Analysis of Hammer Division's process waste effluent is continuing. A comparative analysis of the intake river water by fractionation of the organic solutes on Amberlite XAD resin is in process.

A new model of AyC Little Cigars manufactured June 6 with M-24 filler blend and revised NuWay wrap (No. 653-5) has been received for analysis according to BATF procedures. All results from the sequential extraction and other analyses should be in hand June 22.

ODL

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