

Thamman
Return to me when complete
RK

July 24, 1935.

Mr. W. G. Campbell, Chief,
Food and Drug Administration,
United States Department of Agriculture,
Washington, D.C.

Dear Mr. Campbell:

Re: Investigation of
Chicle Contamination.

I enclose the report by the Chicle Development Company of its investigation of chicle contamination and the resulting remedial action. This report is self-explanatory. And I hope that it commends itself to you as satisfactory in the circumstances.

When I return from Europe in October I hope and plan to transmit a supplemental report upon our related scientific investigation which is now in the course of completion.

Believe me to be, with esteem,

Very truly yours,

Charles Wesley Dunn

KE 0006376

N 7571

3. Chicle, used in solidified latex of in the Yucatan Peninsula, the Mexican Territory of Quintana Roo; northern half of the northern half of the

the chewing gum Shras Sapote tree The area of it of Campeche, Yuc of Quintana Roo; Tewelien Territory 1st Honduras.

ature, is the ensively grown odution com- and Vera Cruz d also the eten and the

4. The latex of the young bark of the latex vessel. The latex vessel is rather heavy and contains a milky latex. The latex is removed from the tree by cutting the bark.

Ashras Sapote tree is the cambium. When severed and the latex continuous pipes up of short and disconnected necessary to cut through the ground up from the ground up. When this bark is a milky channel is by cutting the bark.

tained within the bark is out of the trunk; reservoirs. is bark in the first he later id and flows

5. The chicle latex only flows during the rainy season, which is about July 1st of each year and ends sometime in the three months of the following year. Therefore this is the sole product in season and it is limited accordingly.

6. The chicle production process is summarily as follows:

KE 0006377

N 7571.01

REPORT OF AN INVESTIGATION OF LEAD CONTAMINATION OF CHIOLE.

By the Chiole Development Company
of 500 Fifth Avenue, New York City,
for the United States Department
of Agriculture.

I

1. The Chiole Development Company is an importer of chiole for use in the domestic manufacture of chewing gum. In this importation it represents 2 of the 3 largest domestic manufacturers of chewing gum.

2. But the Company made this investigation in behalf of all 3 of the aforesaid manufacturers who together import approximately 90 per cent. of the chiole now introduced into the United States. Therefore its investigation and the resulting remedial action, hereinafter described, are effective to this major importation extent.

the chicleiro, supporting himself by a rope passed around his body and the tree, climbs the tree and cuts its bark as stated. He places a palm-leaf spout at the bottom end of the cut to carry the flowing latex into a canvas bag located at the foot of the tree. The latex usually flows for a period of 4 or 5 hours. As a rule the chicleiro cuts from 4 to 6 trees during the morning; and he then waits until the latex has flowed therefrom into the collecting bags. On an average each tree gives from 1 to 3 quarts of latex. When the latex has ceased flowing from these trees the chicleiro carries it to the production camp in a canvas bag strapped on his back. After a sufficient quantity of latex has been obtained he pours it into an iron kettle, placed in the open and under which a fire is built. Thereupon the latex is boiled down by evaporation. Nothing is added to it during this boiling process. The chicleiro simply stirs it continuously with a wooden stick to promote this process and to prevent burning. When he determines that the latex has been sufficiently boiled down he removes the kettle from the fire and pours the thickened latex into wooden molds wherein it cools and is solidified into block form; and in that form it becomes commercial chicle. Thereupon the chicle blocks are transported in henequen bags to storage warehouses, where each block is cut by a steel machete, for inspection, and where all the blocks are held for export shipment. And these chicle blocks are shipped in cotton-lined henequen sacks, by boat, to the United States.

7. The domestic importers purchase their chicle directly from chicle production contractors in the production area.

III

8. About December 1st, 1935 and because of certain chicle analyses by the United States Department of Agriculture the Chicle Development Company instituted a comprehensive investigation of any lead contamination of chicle during its production in this area for importation by the 3 domestic users aforesaid, which was directed to discover and remove any significant source of such contamination. In doing so and as stated the Company acted in behalf of said users.

9. In this investigation the Company sent special and competent representatives to the Yucatan Peninsula under instruction personally and thoroughly to inspect the whole course of the production of chicle in this area and to report any potential and/or actual source of its lead contamination discovered by such inspection. They were instructed to examine in detail each process and action of chicle production there, from start

to finish; and also each utensil and other article used in such production. And they duly complied with these instructions.

10. These inspectors went into the chicle production districts of the Mexican States of Campeche and Yucatan and the Mexican Territory of Quintana Roo. And their inspection was later supplemented by a similar personal inspection by other competent representatives, in the chicle production districts of the Mexican State of Vera Cruz and of Guatemala and British Honduras. Therefore this inspection was comprehensive in scope and reliable in character.

IV

11. As a result of this investigation the Company discovered one and only one potential source of significant lead contamination of the chicle produced in this area. This source was certain iron kettles used to boil the latex down into chicle and because they contained solder for sealing riveted seams and, in some instances, as an inside coating to prevent rust. For it was experimentally determined that if and to the extent such solder came into direct contact with the latex during the boiling process and if and to the extent such solder was melted by the heat generated in that process, it might more or less enter and remain in the latex in the form of globules. And an analysis of such solder established that it contained from 25 to 50 per cent. of lead, with a remainder of tin.

12. But in such investigation the Company established that this potential contamination was limited in extent and incidental in significant effect. This because:

(a) It was found that the source of this potential contamination was geographically localized; and that many kettles used in Mexico and most kettles used in Guatemala and British Honduras were fabricated free of solder.

(b) It was experimentally determined that a soldered kettle upon use progressively became a less potential source and ultimately was an insignificant source of such contamination, if any.

(c) It was experimentally determined that only exceptional and a relatively few blocks of chicle produced in soldered kettles contained lead in an amount exceeding the tolerance.

V

13. When this potential source of the lead contamination of chicle produced in this area was discovered the Company immediately instituted remedial action to remove it. Such action to be effective during the 1936-1937 chicle production season in this area and thereafter; and with respect to all chicle produced therein for the 3 domestic users represented by the Company.

14. This remedial action was summarily as follows:

First: The Company acted for the destruction of all soldered kettles used therein to produce such chicle and to substitute new and non-soldered kettles at the expense of the 3 domestic chicle users aforesaid. This action involved and resulted in the replacement of approximately 1850 kettles at a total expense of some \$49,000. The new and substituted kettles are composed of stainless steel or iron and were fabricated under direct supervision by the Company. They are each wholly free of solder; and they each have distinctive handles or marks which differentiate them from the old kettles, at a glance. Each chicle production camp affected was visited by a reliable representative of or for the Company; and he personally saw to it that every soldered kettle therein was destroyed and replaced by a new and non-soldered kettle. In addition the Company has also acted for the destruction and replacement of all soldered kettles used in the chicle production camps affected or in neighboring Indian villages for non-chicle production purposes, in order to prevent their subsequent use for chicle production. Furthermore all chicle production contractors affected have been informed that the presence of a single soldered kettle in any chicle production camp is ground for immediate cancellation of the chicle purchase contract involved.

Second: The Company acted for the installation of a system of kettle inspection, effective to prevent the untoward introduction of any soldered kettle to produce the chicle affected during the production season of 1936-1937 or thereafter. This system involves the special employment of numerous carefully selected inspectors who are familiar with this area and experienced in chicle production therein. They are instructed to travel from one designated chicle production camp to another at regular intervals and to inspect each kettle used therein and to destroy and replace any soldered kettle found therein. This inspection system is also at the expense of the 3 domestic chicle users aforesaid; it is territorially comprehensive with respect to the chicle produced for them; and it is now effective and will hereafter continue.

15. Therefore the Company believes and has good reason to believe that the aforesaid remedial action is effective to remove this potential source of the lead contamination of the chicle produced for the 3 domestic users aforesaid, who, as stated, import approximately 90 per cent. of the chicle introduced into the United States; and to prevent any recurrence of such contamination in the future. The Company has suggested to other chicle importers that they take similar remedial action. And it is informed that at least one has already taken such kettle replacement action.

(signed) CHICLE DEVELOPMENT COMPANY,

By _____
Charles Wesley Dunn,
Special Counsel.

KE 0006381