

able impression on a photographic plate when placed in proximity to it in the dark. He believed that the active substance is hydrogen peroxide. The present investigation shows that freshly expressed vegetable oils or fats do not have this property but after they have been exposed to the sun for several hours they become active. The saturated fatty acids are inactive, even after exposure to the sun. On the other hand, the unsaturated fatty acids are faintly active before exposure to the sun and after such exposure become intensely active.

Heating to approximately 120°C. for several hours destroys or greatly decreases the activity. Blotting paper placed over very active oils becomes permeated with the active substance and capable of affecting a plate.

The substance that is given off by an active oil will liberate iodine on a test paper saturated with a solution containing potassium iodide, starch and a little ferrous sulfate. It will turn a paper saturated with titanium sulfate, yellow, and a paper saturated with a solution containing ferric-ferricyanide, blue, showing that there has been a reduction to ferric-ferrocyanide.

These results confirm Russell's opinion that the substance is hydrogen peroxide.

This investigation was proposed by Dr. C. A. Browne, Chief of this Bureau, and the authors are indebted to him for many helpful suggestions.

BUREAU OF CHEMISTRY, U. S. D. A.,
WASHINGTON, D. C.

AN APPARATUS FOR APPROXIMATE OR COMPARATIVE MELTING POINTS OF FATS, WAXES AND PETROLEUMS

BY HOYT STEVENS

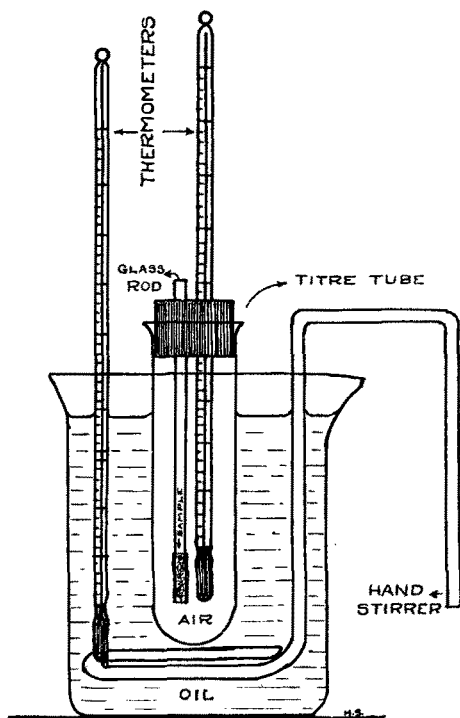
This apparatus consists of the ordinary hand-stirred melting-point bath of paraffin oil and thermometer and in addition a one inch titer tube or short test-tube equipped with a two-hole stopper which has a small groove along one side to prevent possible pressure when subjected to heat.

The holes in this stopper are bored, as nearly as possible, equal distances from the circumference of the stopper and about one-eighth inch apart. They are made to accommodate a thermometer and a glass rod (slightly smaller than the thermometer) whose bottom end is cut off square and left sharp.

The sample in case of solids such as beeswax, carnauba wax, paraffin, spermacetti, stearic acid, etc., is melted on a water bath and the bottom end of the rod dipped in about one-half inch and immediately withdrawn. By holding the rod horizontally and rotating while cooling, a uniformly thin film is produced. The small drop adhering to the bottom of the rod is scraped

off with the finger nail and both the thermometer and the rod inserted in the stopper so that they will each reach to about a half inch from the bottom of the tube.

The stopper is then put in the tube and the tube immersed in the oil which has previously been heated to a temperature ten degrees above the



MELTING POINT APPARATUS

for

FATS WAXES & PETROLATUMS

expected melting point of the sample and the flame removed. Care must be taken to get the rod and the thermometer as nearly equidistant from the sides of the tube as possible.

The film on the rod is observed until it becomes transparent and the temperature noted. This is the softening point and might be of interest.

The actual melting point is noted when the film slides down the rod and forms a hanging drop on the squared end. This usually will be noted as a melting *range* of about one degree.

Unctuous masses such as petrolatum may be gotten on the rod by merely sticking the rod in the mass and squaring off the end eliminating the preliminary melting.

The rod is cleaned when the determination is made by removing from the tube and wiping with a dry rag while the wax is still liquid.

While this method may lack in absolute accuracy somewhat, it is very satisfactory for ordinary or comparative work.

UNITED DRUG CO.,
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COCONUT EXPERIMENT STATION TO BE ESTABLISHED IN CEYLON

The "Ceylon Government Gazette Extraordinary," No. 7424 of October 14, 1924, published an ordinance to provide for the establishment of a coconut experiment station in Ceylon, says a report of Vice-Consul Mason Turner, Colombo, Ceylon, to the Department of Commerce. The purpose of this experiment station is to conduct scientific investigation of problems connected with the coconut industry and to render practical assistance, by advice and demonstrations and the inspection of plantations, of persons engaged in the coconut industry. This investigation will include in particular the growth and cultivation of coconut palms, the prevention and cure of diseases and pests, and the utilization and marketing of the products of coconut palms. The Bill provides for the management of this station by the Director of Agriculture subject to the direction of a Committee. The Committee will consist of the Director of Agriculture and not less than five or more than ten other members to be appointed by the Governor. Of the appointed members, one will be an official employed in the Colonial Treasury and the others shall be persons engaged in the coconut industry. It is proposed that the initial cost of the Station shall be met by a Government loan of Rs. 250,000 repayable with 6 per cent interest in ten equal annual installments.