

temperature of about 120° C, was found to have lost its vitamin A content but retained to a large measure its anti-rachitic potency.

It seems justified to conclude that under the conditions as found in the Chinese preserved eggs, the originally rich vitamin B content is practically completely destroyed, but the stability of vitamin A and the anti-rachitic food factor is little or not at all affected.

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A method for the preparation of basal dietary free from vitamin A.

By ERNEST TSO. (Introduced by O. H. Robertson).

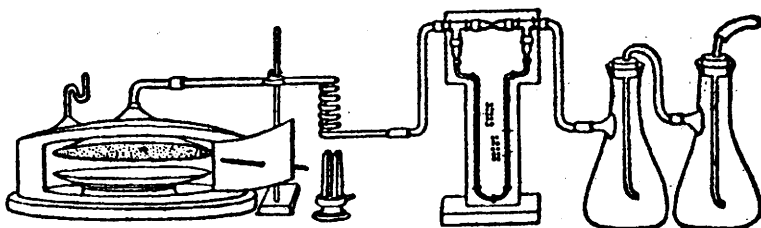
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The method depends upon the fact that vitamin A can be easily destroyed by oxidation and that the higher the temperature the more rapid, apparently, is the destructive process. The apparatus illustrated in the accompanying diagram consists of an iron coil of about 7 mm. bore; two suction flasks interposed between the coil and the compressed air faucet; one improvised Marshall and Kolls' flowmeter; a shower expansion of about 28 cm. diameter, made of copper sheet; and a galvanized iron drum box enclosing the shower expansion. Through a large window in the drum the food is placed under the air shower. Exit of the air current is provided for by a tube inserted in an upper corner of the drum.

By using a four tube burner under the coil and setting the air stream running at the rate of about three thousand liters per hour, the temperature of the food is maintained at about 110° C. in the case of yeast and, in the case of casein and starch, about 120° C. Two hundred grams of the food are spread over a 26 cm. aluminium tray placed at a distance of 6 cm. under the shower plate. The food is stirred at half an hour intervals in order to secure a uniform surface of exposure.

Experimental tests have demonstrated that beyond the desired effect the basal foods thus treated for 6 hours are not injured or unfavorably affected. The basal ration was composed of casein 20, starch 65, yeast 10, and McCollum's 185 salt mixture 5. In a separate test it was found that 5 per cent of yeast whether oxidized, untreated, or extracted with absolute alcohol was inadequate as the source of vitamin B. Fresh butter-fat of proved potency after a six hour exposure loses practically all of its vitamin A content as shown by its complete failure to prevent or cure vitamin A deficiency disease in the rats.

The advantages of this method over the usual absolute alcohol extraction procedure are, first, in the saving of a comparatively large item of expense otherwise involved in the use of absolute alcohol and, second, in the saving of much time and labor.



Apparatus for the preparation of basal dietary free from vitamin A.