QUEBRACHITOL

A method of preparation of quebrachitol from factory serum, has been described by Rhodes and Wiltshire in this Journal, Vol. 3, No. 3, page 160. In the search for uses for this material, it became possible, with the help of Mr. B. D. Porritt, Director of the Research Association of British Rubber Manufacturers, to supply to Drs. McCance and Lawrence of the Diabetic Clinic, King's College Hospital London, a quantity of quebrachitol prepared at the Rubber Research Institute. These investigators wished to explore its possible use as a sweetening agent for the food of diabetic patients.

The results of their investigation have now been published in the Biochemical Journal Volume XXVII, page 986, 1933. The authors indicate that any sugar substitute for use in cases of diabetes, must satisfy three requirements :—

(1) It must have a pleasant sweet taste and should preferably be sufficiently soluble in water to make a sweet syrup.

(2) It must not be metabolised as a sugar.

(3) It must be free from harmful effects even when taken in large doses.

The authors have found by a series of experiments on human subjects and on rats, that quebrachitol could satisfy the first two requirements; it is very soluble in water, but it is not however so sweet, weight for weight, as cane sugar or glucose. When used in larger amounts, a satisfactory degree of sweetness can be obtained. Quebrachitol is not metabolised as a sugar and does not, as in the case of a sugar, raise the blood-sugar, increase the deposition of glycogen in the liver, or relieve hypoglycaemia.

It was found however that quebrachitol does not satisfy the third requirement, since it produces harmful effects when taken by mouth. When taken in amounts such as would be employed for the purpose of sweetening foods, severe diarrhoea or colic results and on this account quebrachitol cannot be recommended as a sweetening agent.

12th January, 1934.

E. R.