

arthritides, but we have not found any chemotherapeutic action against trypanosomes or spirochaetes. A di-mercury compound of saligenin has been prepared by refluxing saligenin with 2 mols. of mercuric acetate in dilute alcohol on a water bath for several hours. The sodium salt of this is water soluble and is an excellent antiseptic, about as good as $HgCl_2$ but 1:1000 solutions are non-irritating to mucous membranes, and are being used successfully in the treatment of gonorrhoeal urethritis. An acetate of this substance has also been prepared.

The occurrence of diastase in the sweet potato in relation to the production of sweet potato sirup: H. C. GORE. In the production of sweet potato sirup the potatoes are cooked until soft, crushed finely and mixed with 2 parts of water. Three per cent. of ground barley malt is then added, and the mixture digested at 60°-65° C. for from 20 minutes to one hour. During the time nearly all of the starch is changed into maltose and dextrin. Separation of the soluble solids from the insoluble pulp is easily made by use of the rack and cloth type of press or by suction filtration; and the wort is then evaporated into sirup. The yield of sirup is at least 30 per cent. of the weight of potatoes taken. The pulp remaining amounts to 5 per cent. of the weight of potatoes, and may be dried and used for feed. The crude sirup can be used for all cooking purposes for which similar sirups are employed.

Polyneuritis as influenced by the amount of protein and carbohydrate present: A. D. EMMETT.

The acid-base balance in animal nutrition. IV. The tolerance of rabbits to acid rations over long periods of time: A. R. LAMB. Rations complete from the standpoint of nutrition and as nearly as possible of proper physical character for rabbits were so planned from combinations of oats, alfalfa meal, casein and normal sulfuric acid solution, as to furnish a slight excess of acid-forming mineral elements. This excess of acid in the ration was equivalent to about 3 to 5 cc. normal acid solution per rabbit per day. On this ration several rabbits have made normal growth, and one female which has received the ration for eleven months has reproduced successfully, and her progeny have made their entire growth to maturity on the same ration. Most of the acid is excreted normally as phosphates. The ammonia production in the second generation, however, is increased from an average of 0.5 per cent. of the total urinary nitrogen to an average of 2.0 per cent. on the same

ration, a possible adaptation to the abnormal acid character of the ration. This work is being continued.

Further studies on the effect of a deficiency of fat-soluble vitamine: V. E. NELSON and ALVIN R. LAMB. Rabbits fed upon a ration of casein, dextrin, salts, wheat embryo and extracted alfalfa, containing practically no fat-soluble vitamine but otherwise complete, invariably develop xerophthalmia. The time of the onset of this symptom varies directly with the age of the rabbit and occurs in young rabbits in four to eight weeks time. A ration consisting of oats, gelatin, salts and extracted alfalfa produced from three to eight weeks before the death of the rabbit. Attempts to induce the disease in the eyes of rats on the same ration by inoculating with the exudate from the eyes of affected rabbits did not succeed. It has not yet been possible to produce the disease in chickens or guinea pigs.

The hydrogen ion concentration of the contents of the small intestine: J. F. MCCLENDON. Determinations were made on two healthy men about 25 years of age on a mixed diet and the following readings obtained: Subject No. 1, pH = 5.1, 4.5, 4.9, 4.1, 4.2, 6.5, average 4.9; subject no. 2, pH = 4.5, 5.2, 4.4, 6.2, 6.4, 5.9, average 5.4. The determinations were made by passing a rubber tube, 1.5 mm. bore with 6 gram weight attached through the mouth until it extended 7 feet into the alimentary canal. The tube was allowed to remain in place 5 days and 4 nights while the subjects followed their accustomed occupations. The contents passed out of the tube into a hydrogen electrode vessel. The electrode was made of gold, plated with iridium and was totally immersed in the sample when the readings were taken.

CHARLES L. PARSONS,

(To be continued) Secretary

SCIENCE

A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science

Published every Friday by

THE SCIENCE PRESS

LANCASTER, PA.

GARRISON, N. Y.

NEW YORK, N. Y.

Entered in the post-office at Lancaster, Pa., as second class matter