

We were primarily interested in determining whether one of the commercial liver extracts<sup>3</sup> would offer a good source of vitamin G for further concentration of the active factor.

#### EXPERIMENTAL

Rats averaging 45 gms in weight were fed Diet 2B consisting of extracted casein 18, salts (No. 186) 3.7, agar 2, corn starch 69.3, butterfat 5, and cod-liver oil 2 parts for a preliminary depletion period of two weeks. The rats were fed in groups during this preliminary period; they were then placed in individual cages and given the test material, fed separately from the basal diet. Preliminary tests on 0.05 and 0.10 gm of liver extract per rat daily indicated that these dosages did not furnish a sufficiency of vitamins B and G for normal growth; on the 0.05 gm dosage there was rapid development of beriberi; even on 0.10 gm there was eventual development of beriberi. Later tests were conducted on daily dosages of 0.10 and 0.20 gm both with and without an added vitamin B supplement. The vitamin B supplement was prepared by adsorbing on fuller's earth the vitamin B from a concentrated alcoholic (80 per cent. alcohol by weight) extract of white corn.<sup>4</sup> Tests were simultaneously conducted upon a high-grade brewer's yeast for comparison. The average gain per rat during a period of nine weeks following the two weeks' preliminary period is shown below.

AVERAGE GAIN PER RAT FOR NINE-WEEK EXPERIMENTAL PERIOD

	Gms
0.10 gm liver extract .....	3.0
0.20 gm liver extract .....	65.0
0.10 gm liver extract plus 0.05 gm vitamin B solid .....	172.0
0.20 gm liver extract plus 0.05 gm vitamin B solid .....	165.0
0.05 gm brewer's yeast .....	21.0
0.10 gm brewer's yeast .....	53.0
0.10 gm brewer's yeast plus 0.05 gm vitamin B solid .....	51.0
0.20 gm brewer's yeast plus 0.05 gm vitamin B solid .....	72.0
0.05 gm vitamin B solid .....	11.0

It is evident that the liver extract tested is an excellent source of vitamin G, 0.10 gm per day furnishing a sufficiency of this factor for normal growth of the rat through an experimental period of nine weeks. It

<sup>3</sup> The extract (No. 343) was kindly furnished by Eli Lilly and Company.

<sup>4</sup> W. D. Salmon, N. B. Guarrant and I. M. Hays, "The Effect of Hydrogen Ion Concentration upon Adsorption of the Active Factors of Vitamin B Complex by Fullers' Earth," *Jour. Biol. Chem.*, 80: 91, 1928.

is not such a good source of vitamin B; 0.10 gm per rat daily as the sole source of this factor produces some increase in weight for a few weeks but the initial increase is followed by a decline in weight and the onset of beriberi. The liver extract tested apparently contained four or five times as much vitamin G but only about one fifth as much vitamin B as the sample of brewer's yeast. The vitamin B content of the extract compared favorably with the vitamin B content of the pure dried baker's yeast which we commonly obtain on the market.

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#### BOOKS RECEIVED

- Abhandlungen der Medizinischen Fakultät der Sun Yatsen-Universität.* I Band 2, 3 und 4 Heft. Pp. xi + 295. 114 figures. II Band 1 Heft. Pp. 126. Verlag der Sun Yatsen-Universität, Canton.
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- BURTON, WILLIAM W. *Plane Trigonometry.* Pp. x + 125 + 93. 65 figures. Thomas Y. Crowell. \$2.50.
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- THOMPSON, HOMER C. *Vegetable Crops.* Second edition. Pp. ix + 560. 59 figures. McGraw-Hill. \$5.00.
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