

ine varied between -9 and -12 per cent. Twenty-four hours after the injection of 21 mg. of the substance the basal rate was -9 per cent, and at the end of 48 hours was -7 per cent.

Three days following this determination the injection of 10 mg. of Squibb Thyroxin was followed at 24 hours by a rise to $+4$ per cent, which dropped to -1 per cent at 48 hours and remained for six days between 0 and -2 per cent.

On the seventh day after thyroxin 15 mg. of di-iodotyrosyl-di-iodotyrosine were taken, the basal rate staying at -2 per cent for the next 72 hours.

The di-iodotyrosyl-di-iodotyrosine used was prepared by the action of alkali on the cyclic anhydride of di-iodotyrosine, and the cyclic anhydride used by the action of iodine chloride in acetic acid upon the anhydride of tyrosine.

It is felt that the two substances investigated have shown no calorogenic activity.

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A study of the laxative action of wheat bran.

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The physiological action of wheat bran and a number of products isolated from bran was studied on dogs, which received as a basal ration a "synthetic" diet of casein, sucrose, and lard, together with the necessary mineral salts and vitamins. The purpose of the investigation was to determine what constituents of bran are responsible for its laxative effect. After a control period of 8 days the dogs were given the basal ration, supplemented with the bran or other material, the laxative power of which was to be determined. The frequency of defecation and the total weight of air-dried feces per eight-day period served as criteria of laxation.

Washed bran (starch-free) was laxative when ingested in amounts ranging from 10 per cent to 0.5 per cent by weight of the food intake. The average minimum effective dose was about

2 per cent (200 to 275 milligrams per kilo. body weight). About two grams of additional water was excreted in the feces for every gram of bran eaten.

The crude fiber of bran was a much more potent laxative than bran itself. The fiber when fed in such small daily doses as 0.5 gram to dogs weighing 7 to 9 kilos caused a marked rise in the number of defecations per eight-day period and produced an increase in the fecal output equal on the average to three times and, in some instances, to five or six times the weight of the ingested fiber. In general, bran itself did not possess this feces-forming power. Extensive experiments on 10 animals indicate that the laxative action of wheat bran is due at least in part to its crude fiber content.

The laxative factor of bran was not removed by acid and alkali hydrolysis or by prolonged, successive treatment with water, sodium chloride solution, hot 70 per cent alcohol, and weak sodium hydroxide solution.

A number of decidedly laxative products containing a relatively large proportion of crude fiber and pentosans were isolated from bran. The high crude fiber and pentosan content of these products may explain their pronounced laxative effect which was always as great as, and sometimes greater than that of the original bran.

Two dogs on a "10 per cent bran" diet utilized about 16 per cent of the nitrogen of the bran, but a third dog showed no evidence of the utilization of bran nitrogen. The addition of 10 per cent of bran to the control diet had practically no effect on the utilization of the fat and protein of the control ration.

Bran which had been washed with cold water until it was free of starch was a somewhat better laxative than whole (unwashed) bran.

Preliminary experiments indicate (1) that the crude fiber of bran is not utilized to any extent by the dog, and (2) that this crude fiber is a more powerful laxative than an equal amount of powdered agar.