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An Improvement in Experimental Method for Investigation of Vitamin G.

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Several investigators have reported that coprophagy may be a disturbing factor in vitamin B studies. In our own laboratory we have not encountered any serious difficulty with coprophagy in our vitamin B (B_1) studies when the experimental animals were kept on raised wide-mesh screens. On the other hand we have of late observed the practice of coprophagy by animals on vitamin G deficient diets. The feces of these rats are apparently very potent sources of vitamin G, for even the small proportion of the feces which the artifices of the animals enable them to acquire in spite of large meshed raised bottom cages is sufficient to affect the accuracy and precision of vitamin G measurements.

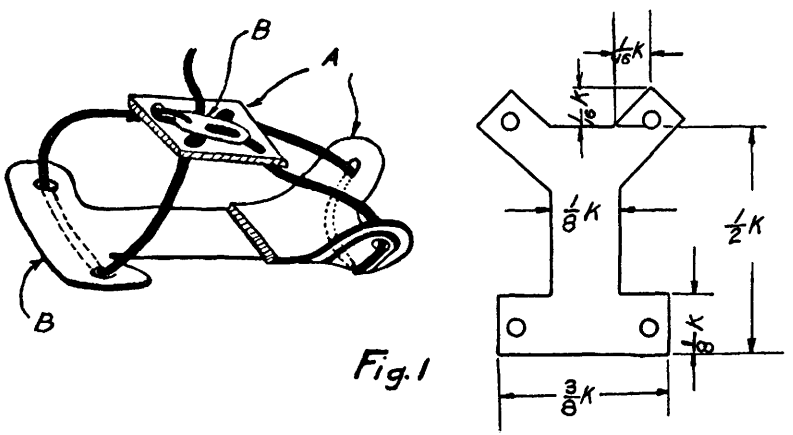

FIG. 1. Anti-coprophagy Harness.
K = size of animal, measured from neck to base of tail.
A = parts made of soft, thin kid.
B = parts made of aluminum (0.009 in. thick).
Note—an allowance for rolled edges of 1/16″-1/8″ should be made.
—Leather fastened to aluminum with Duco cement.

Figure I is a diagram of a small aluminum and leather harness adapted to the prevention of the practice of coprophagy by our experimental animals. The use of this harness not only shortens the period necessary for the young 28-day-old rats to reach stationary weight on the vitamin G deficient diet, but having reached stationary weight the harnessed control animals without vitamin G supplements

lose weight more rapidly than unharnessed ones. In one experiment 37 twenty-eight-day-old animals were given the Sherman and Bourquin vitamin G deficient diet until they had reached stationary weight. They were then divided into harnessed and unharnessed groups and each rat was given a vitamin G supplement of 2.0 gm. of skimmed milk powder per week for a period of 8 weeks. The average gain of the unharnessed group for the first 4 weeks was 26.9 gm. with an A.D. of ±2.0 gm., while the average gain of the harnessed rats was 15.4 gm. with an A.D. of ±1.3 gm. The average gain of the unharnessed rats at the end of 8 weeks was 38.8 (A.D. ±4.0) gm., and of the harnessed rats 32.1 (A.D. ±2.1) gm. The prevention of the practice of coprophagy not only decreased the growth rate on limited supplements of vitamin G but also decreased the variation in our experimental results.

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Placental Transmission of Alimentary Anaphylaxis.

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The human and guinea pig placentae are permeable to native proteins and to anaphylactic antibodies, therefore, sensitization may be actively or passively induced in the fetus.[1] It has further been demonstrated that the female guinea pig may sensitize its offspring *in utero* by the inhalation of dry antigenic dusts during pregnancy.[2] Rosenau and Anderson[3] first showed that guinea pigs can be sensitized through feeding. In the experiments detailed below it is shown that a pregnant guinea pig fed an antigenic substance can become sensitized and, in addition, actively sensitize her fetus *in utero*. Pregnant women who are allergic can passively sensitize their offspring to the same substance to which they are sensitive.[4] Normal pregnant women who eat excessively of protein foods may actively sensitize the fetus *in utero,* and when such offspring partake of these particular foods for the first time may manifest allergic reactions.[5]

[1] Ratner, B., Jackson, H. C., and Gruehl, H. L., *J. Immunol.*, 1927, **14**, 249.
[2] Ratner, B., and Gruehl, H. L., *J. Exp. Med.*, 1929, **49**, 833.
[3] Rosenau, M. J., and Anderson, J. F., *Hyg. Lab. Bull.*, 1906, **29**, 67.
[4] Ratner, B., and Greenburgh, J. E., *J. Allergy*, 1932, **3**, 149.
[5] Ratner, B., *Am. J. Dis. Child.*, 1928, **36**, 277.