radiation, is to administer one fixed drug dose for 5 days after irradiation without adjusting medication to changes in weight of individual animals. The procedure of oral drug administration as outlined appears just as accurate as the injection method.

The oral route offers the advantage of administering larger total drug doses to animals by extending time of medication and of accomplishing this without additional stress to the animals. Extension of injections over equally long periods of time raises the obstacle of burdening the irradiated animal with larger amounts of vehicle substances which may in themselves adversely affect survival rate, as shown by us(1) and others(2) with respect to saline. The saving in time otherwise needed for injections is a further advantage of oral drug administration.

Summary. 1. Drinking habits of guinea pigs kept on a diet of dry food and drinking water have been studied to ascertain the amount of daily water consumption which may serve as a parameter for oral drug administration. 2. There is a difference between water intake of non-irradiated and irradiated animals. 3. This difference is chiefly accounted for by reduced water intake of animals succumbing to irradiation, which stopped drinking prior to death. 4. Water consumption of irradiated animals is not materially altered during the critical first 8 days after irradiation, irrespective of death rate produced later on. 5. Use of oral administration of water-soluble drugs with drinking water appears therefore possible with a sufficient degree of accuracy.

1. Ellinger, F., PROC. SOC. EXP. BIOL. AND MED., 1952, v81, 486.

2. Spellman, M. W., Roth, F. E., Blank, L., and Lillehei, C. N., *Cancer,* 1955, v8, 172.

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A Urinofecal Separator for Laboratory Rat. (22204)

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The problem of obtaining urinary and fecal samples free from intercontamination is a major obstacle to some studies of absorption and metabolism utilizing laboratory animals. In the course of a study of the efficiency of absorption of dietary thiamin by the rat, using a conventional apparatus, serious errors attributable to contamination of fecal samples with urine were encountered. Subsequently a glass separator of new design was constructed which has been shown to effect this separation with a high order of efficiency. The design and operation of this apparatus are described herewith.

The construction of the separator is outlined in Fig. 1. An essential feature is the flared funnel stem which serves to draw the urine away from the pathway of the feces, which fall directly into the feces tube. Glass-to-glass contact must be maintained between tip of funnel stem and the inside surface of the separator, so that urine may flow readily around the interior of the bulb and be drained off by the urine tube. Urine is prevented from falling directly into the feces tube by the glass cone which rests on three legs ½ in. long. The feces tube is flared to 35 mm O.D. at the top, thereby being extended beneath the shoulder of separator bulb. The wire cage was constructed according to a design obtained from the Nutrition Division, Food and Container Institute, Quartermaster Corps, Chicago, Ill.

The whole apparatus may be attached to a ring stand by means of a 6 in. iron ring to support weight of the funnel and cage, and by 2 clamps fastened to neck of separator and to the feces tube, respectively.

The efficiency of the separator was tested according to the following scheme. Two nor-

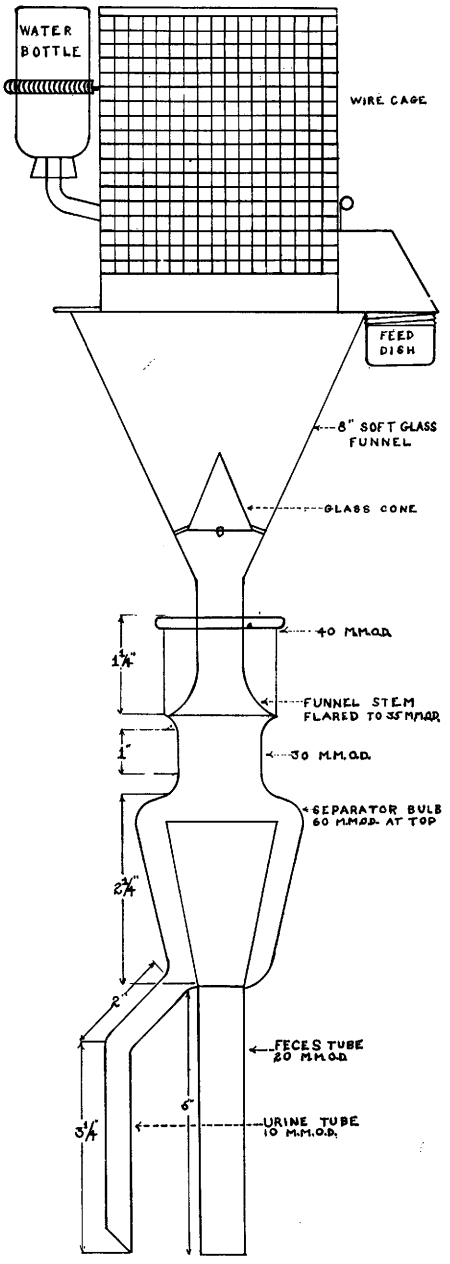

FIG. 1.

mal rats, A and B, weighing about 100 g, were placed in the wire cage. Rat A, which had been fasted during the previous 24-hr period, was given an intraperitoneal injection of 120 μg of radioactive thiamin (thiazole-2-C^{14}) having a specific activity of 6 μc/mg. Rat B had been fed a complete diet *ad libitum* during the preliminary period. A collection period of 24 hr ensued, during which time no food was offered. Throughout this interval a composite urine sample from both rats was collected, while the feces sample was derived predominantly from Rat B. Feces excreted by rat B were identified by means of a ferric oxide marker and any pellets excreted by rat A were discarded. At end of collection period the feces from rat B were hydrolyzed using papain and clarase, filtered, and the radioactivity of filtrate was measured by plating, using a Tracerlab windowless flow counter and a Nuclear scaler. Radioactivity of total urine was also determined and efficiency of the system was calculated as percent of urinary radioactivity which appeared in the feces of rat B.

Based upon 12 such tests, the average radioactivity in the feces, expressed as a fraction of total urinary radioactivity, was 0.11% with a standard deviation of 0.08%. No contamination of urine by feces was evident from visual examination.

The performance achieved by the apparatus described is sufficient for most research purposes. By appropriate modifications in scale, the separator may be adapted to smaller or larger laboratory animals than the growing rat. By introducing ground glass fittings and a glass cage, the apparatus also has been converted to a closed system for the simultaneous collection of respiratory gases. Some increase in ease of handling and in rigidity has been attained by the use of a pyrex funnel with the stem fused directly to the neck of the separator.

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ERRATUM

Oct. 1955, Article 21941, by Greenway and Quastel, Column heading, Table I should read "μl CO_2 above endogenous evolved in 1 hr".
P. 73, col. 2, line 33 "0.25 *M*" should read "0.025 *M*."