a cover glass. Preparations made thus may be kept under observation for a long time with little attention, except occasional moistening. With animals wrapped in the usual manner in wet cloth, preparations have been used in our laboratory for periods exceeding two hours. The method is so simple and obvious, the writer suspects that others must also have thought of it; but he makes bold to pass it on to those who may not have done so.

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THE DESIRABILITY OF HOMOZYGOUS MICE IN NUTRITION EXPERIMENTS

IT is pretty generally conceded that the Wistar strain of rats is preferable in nutrition experiments, so that the animals will be homozygous and also of the same strain in coordinating the work of different investigators. Mice are used mainly by bacteriologists, cancer workers and geneticists, but in the assay of hormones and the determination of the nutritive value of pure chemical substances it is sometimes possible to save thousands of dollars by using mice instead of rats. Yet no standard strain of mice has been generally adopted. Since, however, a number of papers have appeared, using the Bagg strain of homozygous albino mice (Cold Spring Harbor Station of the Carnegie Institution), it seems probable that Table 1, showing the growth rate (mean body weight and standard deviation) of Bagg albinos, quoted from our paper in "Science Reports of Tohoku Imperial University," April, 1935, should be of interest. A paper on the growth and chemical composition of the brain of Bagg albinos by Hideo Endo will also appear in the same reports at a later date. Although the mouse grows at a slower rate we have been able to produce marked rickets in the mouse on the same diet that produced rickets in the rat.

TABLE 1

BODY WEIGHTS AND STANDARD DEVIATIONS IN GRAMS

Day of age	Males		Females	
	Mean weight	S.D.	Mean weight	S.D.
1	1.313	.200	1.300	.200
2	1.506	.245	1.515	.200
3	1.754	.283	1.770	.316
4	2.090	.374	2.160	.316
5	2.452	.458	2.570	.436
6	2.880	.548	3.020	.557
7	3.300	.574	3.470	.781
8	3.770	.663	3.970	.761
9	4.205	.768	4.425	.894
10	4.670	.774	4.920	.974
11	5.020	.948	5.320	1.118
12	5.390	1.128	5.630	1.288
13	5.775	1.162	6.040	1.331
14	6.100	1.162	6.410	1.414
15	6.407	1.200	6.690	1.536
16	6.570	1.049	6.920	1.477
17	6.780	1.183	7.040	1.550
18	6.850	1.483	7.170	1.517
19	6.960	1.442	7.240	1.637
20	7.130	1.466	7.410	1.674
21	7.330	1.449	7.720	1.612
22	7.669	1.634	7.950	1.761
29	9.480	1.803	9.870	1.897
36	12.360	2.345	12.500	2.290
43	14.740	2.236	14.470	2.190
50	16.740	2.510	15.610	2.388
57	18.540	2.934	16.640	2.367

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SPECIAL ARTICLES

COMPARISON OF X-RAY AND GAMMA RAY DOSAGE[1]

NEED for a suitable correlation between x-ray and radium dosage had led us to extend our recent studies in the ionization produced in liquids by x-rays.[2] This note is for the purpose of giving briefly the results of some absolute measurements of the ionization produced in carbon bisulfide by gamma rays. Air ionization methods, while satisfactory for dosage measurements up to 200 kv, may be rendered ambiguous for higher frequency radiations because of lack of radiation equilibrium. A comparison of the physiological effects of different radiations ideally should be based on comparison of the numbers of ions produced in the tissue. In practice, one can make relative measurements in dielectric liquids nearly equivalent in density and atomic number to living tissue.

For gamma rays carbon disulfide is sufficiently near tissue (or wax) in atomic number and density to be considered equivalent. A combination of the two materials will, therefore, give an effectively homogeneous medium in which there will be radiation equilibrium and uniform mass absorption. Measurements were made of the gamma ray absorption in a layer 1 mm thick at the incident surface of a 25 cm cubical wax phantom. The ionization chamber con-

[1] Publication approved by the director of the National Bureau of Standards of the U. S. Department of Commerce.

[2] F. L. Mohler and L. S. Taylor, *Bureau of Standards Jour. Res.*, 13: 659, 1934.