

analytical laboratory will be of the greatest value in determining policies.

To sum up, then, analytical chemistry occupies a position of unique importance as an unrivaled tool for chemists and for chemical industry. It furnishes an invaluable post graduate training for the industrial chemist and yet despite these facts it has come to be greatly under-valued. What I am campaigning for

right now is more respect for analytical chemistry not only by the profession in general but by analytical chemists themselves. Industrially, at least, there is no more useful branch of chemistry and without a full sense of its values we ourselves will certainly fail to realize professionally the complete benefits of this important section of our science in its dual capacity of tool and training.

Abstract of Experiments on the Physiological Action of Glycerol in the Animal Organism*

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AN extended study of the effect of glycerol on the animal organism was undertaken because: (1) glycerol is now being used in food preparations, and its use may be even further extended, and (2) reports have been published of various toxic effects, from glycerol administration. With regard to the latter point, a survey of the literature reveals that it is essentially in cases of intravenous or subcutaneous administration that there may be such injurious effects as red blood cell destruction, anemia, albumin excretion by damaged kidneys, tissue damage, and even death. Our own studies have in part confirmed these findings, at least as far as red blood cell destruction and appearance of albumin in the urine are concerned following intravenous or hypodermic injection of glycerol. But when glycerol is given by mouth with other food materials the results are strikingly different.

In three separate growth experiments (run for 40 weeks, 25 weeks, and 21 weeks), involving 80 rats, it was found that normal growth occurred when glycerol was substituted for starch of a normal diet to a point where glycerol comprised 41 per cent by weight of the total food intake. Even more striking, rats receiving quantities of a normal diet insufficient to support growth, were made to grow by the addition of glycerol to the diet.

Also reproductive virility, as determined by

the number of pregnancies, young born, and young weaned, was not affected in rats 41 per cent of whose diet was glycerol. On the other hand, a diet containing 61 per cent glycerol and no starch failed to support growth or to permit reproduction.

Growth experiments run for 50 weeks on six dogs clearly indicated that when 35 per cent of the diet is glycerol, dogs grow quite as well as control animals receiving no glycerol. In these dogs there was no red blood cell destruction, anemia, or appearance of albumin in the urine. The general appearance of both rats and dogs was excellent, and post-mortem examination of the tissues revealed no pathology. In general, the feeding experiments, besides indicating that the quantities of glycerol fed were non-toxic, confirmed the findings by others that glycerol is utilized as a food, probably by being first converted into glucose, in part at least.

The work on human subjects involved 14 students who took 110 grams of glycerol daily (with meals) for 50 days. These subjects showed a slight tendency to gain weight. They showed no change in the red or white blood cell counts or hemoglobin content of the blood. There was no excretion of albumin or hemoglobin and no change in uric acid excretion (a possible source of renal calculi). Body temperature curves, basal metabolic rates, and colon activity as determined by the daily number and consistency of the stools, were not consistently affected.

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