

AMOUNTS OF THE NUTRIENTS REQUIRED.

The quantity and kind of food eaten must depend largely on the age, the weight, and the kind and amount of work of the individual, taking into consideration the climate and the peculiar characteristics of the person's digestion—a most important factor. The amount of food required per diem by the body is measured by the amount of carbon and nitrogen eliminated daily from the system. These represent the final and waste products of the food compounds. The weight of carbon excreted by a healthy person in one form or another doing a fair amount of work is about fifteen times heavier than that of the nitrogen. The carbon daily eliminated is about 4,600 grains, the nitrogen about 300 grains. These numbers are the results of many experiments, but for many reasons are only approximate. In order to retain health it is necessary to preserve as closely as possible this ratio in our diet, for not only do we wish to avoid an excess or lack of food, but also the excess or lack of any one ingredient. If we supply the nitrogen (Albuminoids) altogether from vegetable foods, such a large quantity has to be consumed that there would be a large excess of carbon—a state of affairs seriously affecting the health. On the other hand, if the required amount of carbon is to be obtained from an exclusive meat diet, about four times as much nitrogen as needed would be furnished. This would seriously impair the digestion and be apt to induce disease.

As I have before emphasized, no one class of nutrients is in itself a complete food, and it is only when they are in proper proportions that a healthy and vigorous system can be maintained. Though there is strong tendency in the system to eliminate any excess of food, yet, as I have pointed out before, too much food acts deleteriously. The habitual use of large quantities of meat and albuminous foods induces a diseased condition of the liver, gout, &c., while excessive amounts of the fats, starch and sugar cause obesity and dyspepsia.

Professor Ranke found that when doing no muscular work, his weight was maintained with the following per day.

Albuminoids, 3.5 ozs. ; Fats, 3.5 ozs. ; Carbo-hydrates, 8.5 ozs.
Professor Voit, an eminent German scientist, gives the following