

amount of carbohydrates which the fat and carbohydrates are together equal to. Then this number is divided by the amount of protein. For example, we will determine the nutritive ratio of barley. According to the table, it contains digestible nutrients in 100 pounds as follows: Protein, 9.5; carbohydrates, 66.1; fat, 1.2. Then, multiplying the fat by 2.2 we get $1.2 \times 2.2 = 2.64$. Adding this product to the carbohydrates we get $66.1 + 2.64 = 68.74$; therefore nutritive ratio = 9.5 to 68.74. But it is customary to express the digestible protein as 1, therefore we must divide by the amount of protein, which gives nutritive ratio, 1 to 7.23.

By means of many experiments, feeding standards have been compiled for different classes of stock. To German experimenters belongs the credit of first investigating the matter, and Dr. Emil Wolff, a noted German scientist, proposed the following feeding standard for dairy cows.

A dairy cow in full milk should receive per day and per 1,000 pounds live weight:

Total organic matter.....	24 lb.
Digestible protein.....	2.5 "
" carbohydrates	12.5 "
" fat	.4 "
Total digestible nutrients.....	15.4 lb.
Nutritive ratio.....	1 to 5.4

The German standard given above does not correspond with the practice of American dairymen; and, after obtaining information regarding the rations fed by a great many leading dairymen in the United States and Canada, the Wisconsin Experiment Station recommends the following standard, which is sometimes called the American standard ration for dairy cows:

Total organic matter	24.51 lb.
Digestible protein	2.15 "
" carbohydrates	13.27 "
" fat	.74 "
Total digestible nutrients	16.2 lb.
Nutritive ratio	1 to 6.9

It is possible that the American standard may prove more satisfactory than the German.

Composition of Fodders.

Below is given a table representing the amount of digestible nutrients in 100 lbs. of the most important fodders. The figures given in this table have been selected from various sources, and in some instances they will be found to