

From these figures we must conclude that, when eaten in the usual way as part of a mixed diet, bread from the soft wheat flour is practically equal in nutritive value to that obtained from the hard spring wheats.

NUTRITIVE VALUE OF WHITE AND BROWN BREAD.

The comparative nutritive value of white and brown bread has always been a subject of controversy. The theory is advanced that in preparing the finer flours much of the most nourishing of the food materials are removed, and, consequently, the whole wheat, or Graham flour, is the most nutritious and healthful. In studying the nutritive value of any food it must always be borne in mind that it is not the flour or bread that contains the highest percentage of the most valuable food constituents that is the most nourishing, but it is the one that contains the most of these constituents in a form that is capable of being absorbed. The coarser flours have a higher percentage of protein, fat, and mineral matters than the finer grades, and so has bran; but, owing to the amount of crude fibre, or cellulose, surrounding these materials, they are not so well assimilated, and they really furnish less nourishment than is obtained from the bread made from the finer grades of flour. The work of Snyder, of Minnesota, Wood and Merrill, of Maine, and others, have clearly shown this. A few figures taken from Bulletin No. 101 of the Office of Experiment Stations, Department of Agriculture, will illustrate the point.

In the work referred to the different grades of flour experimented with were made from one stream of wheat, the flours and the bread made from them were analyzed, and the digestibility of the bread determined. We shall only refer to three grades of flour—i. e., the standard patent, or straight grade, which represented about 96 per cent. of the total flour from the wheat; the entire wheat flour, which is made by removing part of the outer bran layers and then grinding, and a true whole wheat or Graham flour, i. e., a flour made from the clean, scoured wheat without any bolting process. The composition of these three kinds of flours was found to be as follows:

COMPOSITION AND HEAT OF COMBUSTION OF THE FLOURS.

	Water %	Pro- tein %	Fat %	Carbo- hydrates %	Ash %	Phos- phoric acid %	Heat of combustion	
							Calculated calories	Determin'd calories
Standard patent or Straight	10.54	11.99	1.61	75.36	.50	.20	4.022	4.050
Entire wheat	10.81	12.26	2.24	78.67	1.02	.54	4.026	4.032
flour	8.61	12.65	2.44	74.56	1.72	.71	4.123	4.148
Graham flour								