

authority has stated that "Vegetable foods, including flour, breakfast foods, and other cereal products, furnish 55 per cent. of the total food, 39 per cent. of the protein, 8 per cent. of the fat, and 95 per cent. of the carbohydrates of the diet of the ordinary family."* The same authority states that oats, rice, and wheat breakfast foods together furnish about 2 per cent. of the total food, and protein, 1 per cent. of the total fat, and 4 per cent. of the carbohydrates of the ordinary mixed diet. These figures may not appear high, but when we consider the large quantities of food consumed by a family in a year, they represent an immense amount and form a sufficiently important part of our ordinary diet to warrant their careful study.

OUTLINE OF WORK DONE ELSEWHERE.

A large amount of work has been done in various places on this continent in determining the chemical composition and in estimating the comparative value of breakfast foods, and all, or nearly all, of the numerous brands of these foods on the market have been analyzed. Several of the Agricultural Experiment Stations in the United States, principally Storrs, Maine, and Minnesota Stations, have studied the digestibility of these foods. Other Experiment Stations have investigated the influence of the "predigestion" process on the solubility of the organic matter. As the "predigestion" process commonly practised consists almost entirely of the cooking and malting to which the prepared breakfast foods are submitted, and results in bringing starch into solution, it follows that the thoroughness of the preparation processes may be at least approximately estimated by determining the amount of material soluble in water. This knowledge has been utilized by several investigators, particularly at the Wyoming† and Michigan‡ Stations and the Inland Revenue Laboratory, Canada.§ The two latter stations have also made a careful study of the nature of the materials rendered soluble.

The completeness of the digestion of a food is determined by finding out the amount of material absorbed as in the ordinary digestion experiments. Such results, however, give no indication of the ease or rapidity of digestion. Snyder¶ and Gudeman** have investigated the rate of solution or digestion effected by malt, saliva, and pancreatin on breakfast foods cooked for different lengths of time.

THE NATURE OF BREAKFAST FOODS ON THE MARKET.

The origin of the present numerous varieties of breakfast foods may be traced back to the "porridge" made by simply boiling coarsely ground

*U. S. Department of Agriculture, Farmers' Bulletin No. 249.

†Wyoming Station Bulletin No. 33.

‡Michigan Agricultural College Experiment Station Bulletin 211.

§Laboratory of the Inland Revenue Department Bulletins Nos. 84, 127, and 132.

¶Minnesota Experiment Station Bulletin No. 74, p. 153.

**Journal American Chemical Society, Vol. 26, p. 321.
1a Bu'l. 162.