nutrients than the other foods, and, so far as we may judge from their mere chemical composition, are not superior in value. Taking all the facts into consideration, we would naturally be led to conclude that, as the oat products contain the most protein, or muscle-forming material, and the largest percentage of fat, they are the most nutritious foods. It is also evident that these foods are also superior to all others as heat producers.

Influence of Special Process of Manufacture on Solubility of Foods.

The composition, as given above, does not show the changes that cooking, parching and malting processes have effected in the ready-to-serve foods, and, as it is because of these changes that so much is claimed for them, we studied this point somewhat fully. The object of treating these foods with malt is to increase the solubility, and, consequently, the ease of digestion of the starch. As previously explained, the diastase of malt converts starch into dextrin and maltose,—water-soluble compounds. Cooking in water, or by dry heat, as in toasting or parching, also tends to break down starch into simpler substances which are soluble in water. If, then, we determine the amount of a food that will dissolve in water, we must, to some extent, measure the efficiency of the malting and cooking processes used in the preparation of that food. In order that we might procure some data on this point, we determined the amount of the total solids soluble in water in some uncooked, partially cooked, cooked, and cooked and malted foods. We also analyzed the water extract to ascertain how far the decomposition process had proceeded.

The methods used in making the extractions and determinations were based on those outlined by A. McGill in Bulletin No. 84, Inland Revenue Department, Ottawa. Briefly, the methods were as follows. 100 grams of the material in its natural condition and 1,000 cc. of distilled water at room temperature were placed in a 2-litre bottle, and fastened on a rotating machine which turned the bottles end over end at the rate of 40 revolutions per minute for 24 hours. Previous experimental work demonstrated that up to this length of time there was a sensible increase in the amount of material brought into solution. The contents of the bottle were then placed in a cup of 300 cc. capacity in a large centrifuge and whirled at the rate of 2,000 revolutions per minute for one hour, or until the insoluble matter was thrown down. After filtering through close paper, to insure a clear solution, the per cent. of solids, dextrin, sugar, and proteids were determined. The dextrin was estimated by evaporating a portion of the clear filtrate nearly to dryness, and afterwards taking up with alcohol, filtering off, drying, and weighing the resulting precipitate. As such a precipitate would not be pure dextrin, it is reported simply as "alcohol precipitate." The sugar was determined in the usual way with Fehling's solution, and, as no effort was made to separate the probable sugars present, it was reported as "cuprous oxide precipitate." Approximately, 1 per cent. of cuprous oxide is equal to