10500 P

Carbohydrates of Certain Vegetables and Fruits.

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A method is presented for the direct determination of the carbohydrate fraction of several classes of foods. The principal features of the method are: Materials very low in carbohydrate are concentrated by air-drying below 60°C until the residue can be pulverized. The soluble sugars are separated from the starch by solution in 60% ethyl alcohol. After inversion of the sucrose the sugars are determined before and after fermentation. The starch is separated from the unavailable carbohydrate residue by pancreatin digestion and further acid hydrolysis of the filtrate to convert the starch into glucose which is determined as such. The residue is then dissolved in 21.4 N sulfuric acid and further hydrolyzed to convert the cellulose into glucose, the hemicellulose into non-fermentable sugars. The lignin which is insoluble in dilute acid is determined gravimetrically.

Data obtained by this method and certain conventional procedures in a composite analysis account for more than 98% of the carbohydrate in a variety of common foods. Our results compare favorably in regard to available carbohydrates with those obtained by reliable direct determinations in other laboratories. We know of no data with which to compare our results on the unavailable carbohydrate fraction. In a previous publication[1] we emphasized the errors of the old crude fiber determinations.

10501 P

Aminoethyl Phosphoric Ester in the Small Intestine of Rabbits and Pigs.

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Outhouse reported the isolation of this ester from bovine malignant tumors, but found no trace of it in benign tumors or in the normal tissues investigated which included muscle, placenta, pancreas, liver

[1] Williams, R. D., and Olmsted, W. H., *J. Biol. Chem.*, 1935, **108**, 653.