

138 SYNOPSES OF LABORATORY COURSES

this point the reaction should be distinctly acid to litmus. Heat the solution to boiling for one half-hour, filter, rinse the beaker thoroughly, and wash the precipitated proteins and the adherent fat with hot water. Combine the filtrate and wash water, and concentrate the mixture to about 150 c.c. on a water bath. Cool the solution, and dilute it to 200 c.c. in a volumetric flask. Titrate this sugar solution according to directions given under Benedict's method. (See Biological Chemistry Synopses, IX, III.)

Calculate the food value of half a litre of the milk.

1 gramme of carbohydrates or proteins = 4.1 Cal.

1 gramme of fat = 9.3 „

TENTH LABORATORY PERIOD

FOODS (*continued*)

BREAD

1. *Water* (Leathes).—Take about 10 to 15 grammes of fresh bread, rub it up lightly to crumbs and weigh on torsion balance, 10 to 12 grammes to second decimal place. Spread it on a flat evaporating dish exposed to air to dry, then reduce to powder as fine as possible and dry in oven at 105° C. to constant weight after transferring the powder quantitatively to a weighed watch-glass.

Calculate the percentage of water.

2. *Proteins*.—Determine the total nitrogen, using about half a gramme of the dried bread, by the Kjeldahl