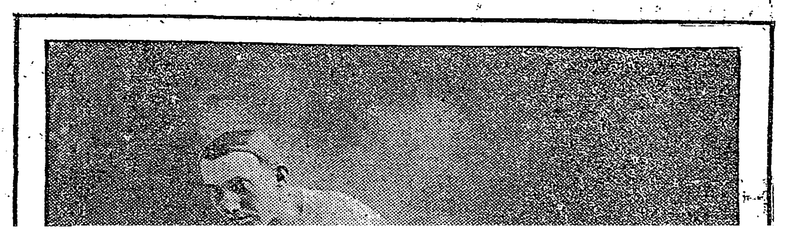
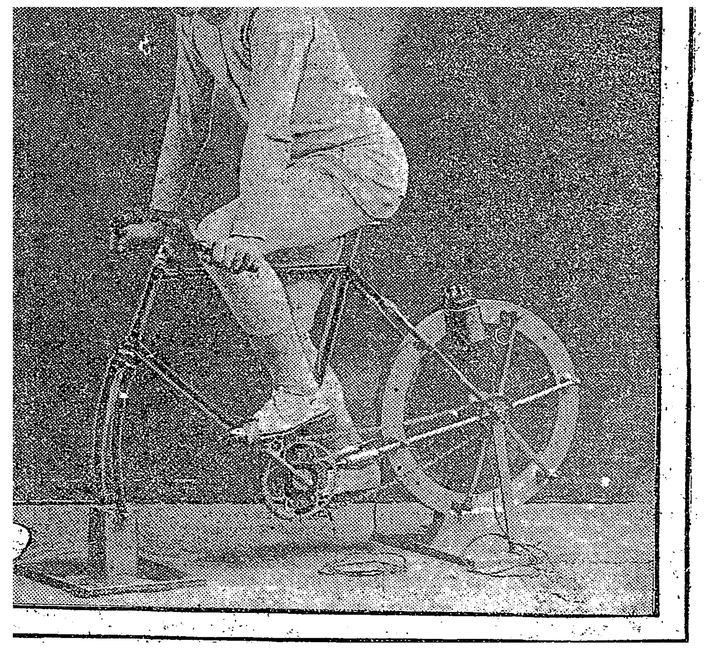
WELSH RABBIT AS HARMLESS AND WHOLESOME AS MEAT

No More Can the Chafing Dish Product Be Blamed for Nightmares, Since Cheese Is Perfectly Digestible According to Tests Made by Government Experts.





Measuring the Energy Generated by a Given Food.

ALL hail to the rotund cheese, the scorned, the scoffed, the much maligned. Praise be to the Welsh rabbit, the prince of foods, the purveyor to peaceful sleep, the best friend to the normal stomach, public opinion to the contrary notwithstanding. Blessed be the rictumdiddy, that wedding of the material of which the moon is supposed to be made and the love apple, latterly known as the tomato. Drag forth from the dust of the top shelf ye chafing dish, long since discarded as a breeder of indigestion.

For despised cheese has come into her own. The United States Government has given her fair trial before that august organization, the Department of Agriculture, and has acquitted her of all the dire charges that have been cumulatively piled up against her through the years that have passed. One after another, in the face of the facts, have these charges evaporated into thin air. One after another have those food products deemed fittest by the dietary orthodox entered the lists with despised cheese and been unhorsed. When the battling was over there was but one claimant for honors remaining as a competitor to cheese and that competitor was the humble bean. All the others of these staple foods that go to make up the breakfast, dinner and supper of the ninety millions had gone down to defeat.

Now the Department of Agriculture reports that cheese is as digestible as the average meats. It carries, weight for weight, twice the nourishment that is contained in your Britisher's beef. It has as much nourishment as its weight in bacon or ham, and is more digestible. A pound of it is worth in nourishment three pounds of fish. And, greatest surprise of all, one pound of cheese has as much body-building material in it as has two pounds of the much-touted product of the overworked American hen.

What is more, there is hardly a food in the market that can be bought, strength-producing unit for strength-producing unit, so cheaply as can cheese, considering even the expensive varieties of cream cheese. When this is waived and the product of skimmed milk is brought into consideration, twice the nourishment may be had for the money as by investing in any sort of meat.

So the authority of the Government places itself back of the boom for the cheese industry. Uncle Samuel says to his honest working man in these days of high cost of living that cheese is the thing he should eat.

The Government makes these declarations only after years of experiment. In the course of its research it has fed practically exclusive diets of cheese to human beings in one thousand experiments, and its scientific observers have noted the results.

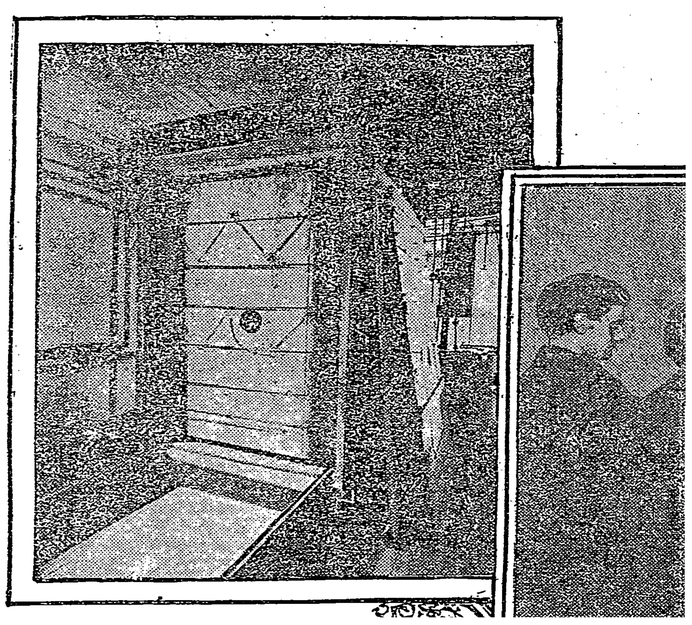
The first of these experiments was made at Middletown, Conn. There sixty-five students of Wesleyan University, between the ages of nineteen and thirty-two, volunteered to offer themselves as subjects for the food experiments. These were given courses of feeding on cheese. The courses were of three days' duration, but were often repeated on an individual student. One student submitted to fourteen courses, thus living for forty-two days on cheese.

With the cheese were taken certain amounts of bread and bananas. The nutritive value and dietary effects of these foods are well known, and consequently could be separated from those effects of the cheese. The exact physical conditions of the volunteers were taken before and after the experiments. Upon this diet of cheese almost exclusively it was found that these students were, on the whole, in better condition after the cheese dieting than before. Tests were also made as to the relative merits of green cheese and that which was thoroughly ripened. The green cheese is more solid and more like rubber in appearance. It will not be affected by water. The ripe cheese has undergone some physical and chemical changes, is to a certain extent soluble in water, and is much softer and mushier. It was found that both varieties were readily digestible, with no obvious difference as to degree.

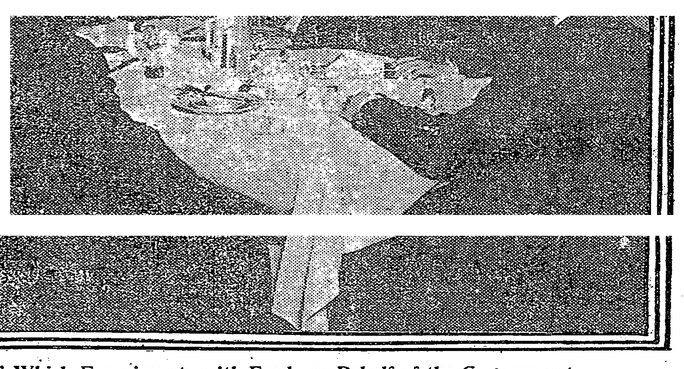
Not since the farmers in the vicinity of Washington presented the biggest cheese ever made to President Andrew Jackson has there been such a cheese feast. This monster cheese, according to stories still afloat, was somewhat overripe. Yet the public was invited to the White House in those days of informality to share the eating of the donated great cheese. Certain it is that a perfectly good Brussels carpet in the State dining room was entirely ruined by having discarded portions of the cheese trodden into it and certain it is that the most democratic of Presidents for once regretted his democracy. But this cheese feast for science was happier.

In fact the results obtained were so interesting that the Government decided to duplicate them, this time at the Minnesota agricultural experiment station. For two years were these experiments carried on, members of the student body volunteering for experiment. In no single instance was it developed that cheese was other than beneficial to the individual taking it. In some cases individuals were selected who had long nursed the idea that cheese was bad for them, and these men began the experiments with the idea that they were to be made ill. In no case, however, did illness follow, and all the experimenters were won over to the cheese diet.

Here was particular attention paid to the study of skim-milk cheese. This is a product that has not been viewed with very great favor by the public in general. The physical properties of cheese made from skim milk have been such as to give consumers the impression that it was indigestible, and, on the whole, of questionable value as food. This proved by experiment not to be the fact. The establishment of the actual food value of this comparatively cheap product will, the Government experts hold, at some future time be of great economic importance. Skim-milk cheese made up in a way to be agreeable to the taste could be sold at a price that should attract the attention of the laboring classes. Cheese made from skim milk and sold as whole-milk cheese is a fraud, they hold, and a positive injury to the dairy business. But cheese made of skim milk and sold at its face value is worthy of serious consideration on the part of the consumer as well as the producer. It is held that the *time will come in the not too distant future* when the dairy interests will make big money from this product, while the masses will be correspondingly benefited by the ability to buy cheaply so excellent a food. Cottage cheese is a similar product that is shown to have a high nutritive value and to be capable of economical production.



Calorimeter for Testing Food Values.



A "Poison Squad" Which Experiments with Foods on Behalf of the Government.

The great trouble in the cheese problem in America, the experts say, lies in the fact that the American people have the wrong idea of the province of cheese. They use it as a condiment instead of as a staple article of food. It is used to encourage the appetite and in small quantities, while it should be used in greater quantities and play the part of the principal feature of given meals. It should not be eaten as an unimportant supplement of a piece of apple pie, but the pie should be the dessert to a meal made principally of cheese.

Heretofore cheese has seldom been regarded seriously by consumers of any class in the United States as a possible cheap staple food. The consumers of cheese, with few exceptions, use it as a luxury in small quantities and at comparatively rare intervals.

The greater part of the cheese consumed in this country is eaten without any preparation, while in many European countries it is usually sprinkled on other food—vegetables principally—or is cooked with the food. Americans evidently have much to learn from Europeans of some of the possibilities in preparing such dishes. A number of European varieties of cheese are made exclusively for use in cooking. Among these is the well-known Parmesan, a hard cheese made from skim milk. There is also the sap sago cheese, a small, conical-shaped product made from skim milk and highly seasoned with herbs. The Italians use cheese for flavoring as the Americans use salt and pepper, having it grated and constantly on hand in a small shaker. With them macaroni and cheese is a very common dish, and we have borrowed this from them to a certain extent. Their cheese omelet we also see occasionally, as we do warmed-over potatoes made palatable through the use of cheese in the course of cooking.

The Swiss are probably the greatest cheese eaters of them all, and the physical excellence of this race pays its compliment to the food that so largely nourishes them. The miners of England consume great quantities of the cheaper cheese made in America, especially the high-acid cheese, which they use exclusively for flavoring. The Germans, a sturdy race, have always eaten great quantities of cheap and highly flavored cheese of the skim-milk varieties, scorned in America. With them the hand kase, which has the most pungent flavor of them all, is very popular.

Unfortunately Americans have come to use the mild-flavored and unripe cheeses to the exclusion of those that are better matured. These are not satisfactory for flavoring purposes. Further, they do not get hold of the appetite like the highly flavored cheese. The person who has developed an appetite for this latter may be depended on to eat cheese to the end of the chapter.

In summing up the results of years of work in cheese investigation, C. F. Doane, cheese expert for the Government says:

"A comparison of food value of cheese with that of other highly nitrogenous food materials may be of interest. No kind of meat excepting dried beef carries such a large percentage of protein as cheese, and as dried beef contains a much greater percentage of water, the other food constituents aside from the protein are much less than is found in cheese.

"Fresh beef as purchased has, weight for weight, little more than half the food value of cheese in either protein or fat, and the same is true of practically all other fresh meats, which have in many cases such a large percentage of refuse and in all cases such a large percentage of water that they are noticeably inferior to cheese in food value. Bacon or fat pork are exceptions, but their food value is mostly in the fat, which can be and is replaced to a great extent by the carbohydrates of vegetables at a much less cost and sometimes perhaps at a benefit to the health of the consumer. Fish and pork each have a notably large percentage of refuse, while eggs have a high percentage of water.

"To sum the matter up, a pound of cheese has nearly the same food value as two pounds of fresh beef or any other fresh meat; as food it is worth as much as or more than a pound of ham and is more digestible, and it is equal to two pounds of eggs or three pounds of fish.

"In view of the foregoing comparison of food values it is a matter of some wonder why there is not more of a demand for cheese, especially by people of limited means. Estimates made by the Department of Agriculture show that the people of the United States consume between 160 and 185 pounds of meat annually per capita, besides fish and poultry, while the annual consumption of cheese is only about four pounds per capita. Even granted that fresh meats are more palatable to most people, some other explanation must be found for this wide difference in the quantity of the two products eaten.

"A great proportion of the laboring class in this country are able to eat plenty of wholesome food, but they can not afford to discriminate against a cheap, palatable, and wholesome food in favor of a higher-priced food. The only way to account for the comparatively limited demand for cheese is on the basis of custom and lack of knowledge. People usually eat what they have been accustomed to, making variations within narrow limits only, and never changing the general character of their food. New foods are not sought.

"In this connection particular interest attaches to the quantity of salt or cured pork products eaten in comparison with cheese. Cured pork, ham, and bacon to about seven times the value of cheese are eaten annually. No one can say that the pork products, with the exception of good ham, are more palatable than cheese, and they are not known to be more healthful. These pork products are usually eaten by the poorer classes, who cannot afford to buy fresh meat but who *could afford to buy cheese*, and cheese makes a better food in the dietary, because of its high protein content."

But the most fascinating part of the Government's experiments with cheese are just now in the course of completion. These are the experiments with that remarkable instrument, the calorimeter. The calorimeter is a complicated instrument devised for the purposes of measuring the forces of man. It is built on the plan of a large refrigerator, with the idea of excluding from it all such influences of the outside world as heat, moisture, air. It is fitted with the most delicate instruments in the world, which register any change of condition within it.

The exact conditions of a man, his weight, strength, vitality, food content, and all manner of things with relation to his condition are ascertained. He is put in the calorimeter and fed a pound of cheese. He is given four hours' hard work riding a machine resembling a bicycle and called an engometer, which measures the amount of energy he expends upon it. Then he is taken out. If his weight and general condition are the same as when he went into the machine, then a pound of cheese is equal to the amount of energy he has expended upon his dummy bicycle. He may be given a pound of beefsteak and put through the same paces. If he is not in as good condition after expending the same amount of energy, then the beefsteak has not produced as much energy as has the cheese.

Upon this principle it is possible to test the relative energy-producing qualities of all manner of foods. This example is, however, but a rough one, showing the work of the calorimeter. One of the main principles upon which it is worked is that to the effect that in using up energy the body generates heat. The instrument is so delicate that when a man is lying on a couch within it and he raises his hand to scratch his head a change of temperature is registered, the heat causing it having been generated by the lifting of the hand.

Now, in this calorimeter men are regularly put and kept for days and weeks. They take their meals within its narrow walls and make down a couch and sleep there at night. They are given regular courses in various diets, and accurate records are kept of the food administered. At the end of a given period a very accurate measure of the amount of energy produced by a given diet is to be had. Certainly in the end it will be possible to compare the energy generating power of any food with its competitors. Its power production may be measured as accurately as may that of a shovelful of coal burned and tested.

In the face of the facts, all of us are *called upon to revamp that opinion* which we held to the effect that cheese is a condiment; that it is weighty on the stomach and indigestible; that it is but an incident in the food programme; that it is the fare of the white lighters and the free lunchers. Such talk is calumny. Cheese is the sturdy best companion of the staff of life. It is the faithful servant of the sturdy legs and the knotty forearm. It is the best friend of the economist who would still sacrifice no efficiency. It is the neglected food that offers itself as a cynosure to him who to-day is pinched by the increase in the price of those things that feed the inner, material man. Uncle Sam has spoken.

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