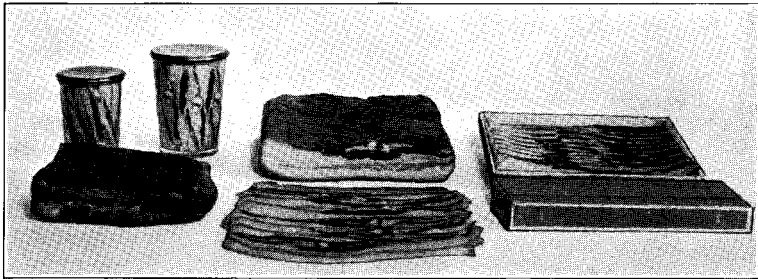


UNIVERSITY OF MINNESOTA  
AGRICULTURAL EXPERIMENT STATION

# SELECTION AND USE OF BACON

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# SELECTION AND USE OF BACON

By ALICE M. CHILD

## INTRODUCTION

What knowledge is necessary in selecting bacon for the home? What are the factors by which standard bacon is determined? What can the consumer learn with respect to the slicing of bacon? What is a standard piece of cooked bacon? How is a standard piece of bacon cooked? What is the nutritive value of bacon? How much of the bacon for which the consumer pays is actually eaten? What proportion is rendered out as drippings? How can bacon drippings best be utilized? In what methods of using bacon are consumers interested?

Since bacon is a highly nutritive, appetizing, easily prepared food and suited to all members of the family, it is worth while to secure data which relate to the above questions. This bulletin gives the results of such investigations.<sup>1</sup>

### Preparation of Market Bacon and Comparative Costs

For choice bacon the hog should be light in weight, comparatively thin, and hard fleshed. The feed of the hogs must be carefully regulated, as the kind of feed determines whether the fat will be hard or soft. (1) Yorkshire and Tamworth hogs are considered best for bacon products and these breeds are frequently classified as "bacon type" hogs. Most bacon is cut from the belly of the hog, but a small quantity is from the jowl, or cheek, from the brisket, and from the back, the last being called rib-back bacon.

Commercial bacon is prepared as follows: After the hog is dressed, it is cut in halves and sent to a refrigerating room for thoro chilling to prevent bacterial growth; then the carcass is divided into the usual market cuts. In this process the belly portion is removed, trimmed of surplus fat, and made into rectangular slabs which weigh from 4 to 16 pounds each. The slabs are of two types—the wide, from nine to ten inches in width; and the narrow, about five inches. When properly trimmed, they should show streaks of lean on all four sides. The

<sup>1</sup> The funds available for this research from the experiment station budget were supplemented by financial aid from the Northwest Branch of the American Institute of Meat Packers. This aid materially assisted in advancing the study.

Stella Stemsrud, Hazel Thomas, Mary Keenan, and Monica J. Aamodt, advanced students of the Division of Home Economics, of the University of Minnesota, assisted in the research.

slabs are carefully sorted with reference to: (1) quality and texture of meat, (2) proportion of fat to lean, and (3) thickness and condition of skin. Each packer puts out several grades of bacon, classified according to these qualities and sold under certain brands. First-grade bacon is the very best and brings the highest price.

Each packing house has its own method of curing. The ordinary formula includes chiefly common salt, sugar, and saltpeter ( $\text{KNO}_3$ ), all of which act as preservatives. There are two types of cure in use—the dry, and the brine. In the dry cure, the slabs are thickly coated with the curing mixture and are stacked on top of each other in boxes and allowed to stand several days, according to size. In the brine cure, the slabs are placed in a large vat and covered with the curing mixture in liquid solution. In both cures, the bacon is repacked at weekly intervals to insure an even penetration of the curing mixture. The dry cure is preferable because there is no excess moisture in the finished product and the cure is likely to be more even. After the bacon has remained in the cure for the required time, it is taken to the smoking room. Smoking helps to preserve the meat and gives a desirable flavor if properly done.

The same process is used for home-cured bacon, tho, as a rule, more salt is used than for commercial bacon and the finished product is more salty. (2)

#### Inspection of Meat

The United States Government spends millions of dollars each year on the inspection of meat. All inspected meat has an inspection legend or government seal on it. This means that the animal was healthy and in good condition, and that the packing house in which it was killed follows all the laws of sanitation laid down by the government. (2) In buying bacon by the slab, look for the inspection mark and know whether it has been approved.

#### Slicing Bacon

Bacon may be purchased unsliced in slabs or sliced. Sliced bacon is put up attractively in pasteboard cartons which may be purchased in a one-pound size and in some brands in half-pound and ten-pound cartons. That in large packages is cheaper than that in small ones. Fancy sliced bacon may also be had in glass jars containing from eight to sixteen ounces. This is the most expensive form (See Table I) but it is a valuable asset to the emergency shelf or for a camping trip. It will be seen from Table I that bacon retails at from five to fifteen cents less a pound in the slab than when sliced, but when purchased in the slab, the buyer is also paying for the rind.

TABLE I

RELATIVE PRICES OF BACON OF DIFFERENT TYPES IN MINNEAPOLIS RETAIL MARKET, OCTOBER, 1926

	Cost per lb.
Glass jar	
8½ oz. at 60 cents .....	\$1.13
9 oz. at 65 cents .....	1.15
Packages	
1 lb. ....	.55-.60
½ lb. at 30 cents.....	.60
Whole slabs—unsliced	
Wide .....	.40-.50
Narrow—untrimmed .....	.27-.35
Narrow—trimmed .....	.40
Slabs—sliced (by the pound)	
Wide .....	.45-.65
Narrow—untrimmed .....	.35
Narrow—trimmed .....	.45
Bacon squares (jowl bacon).....	.20-.28
Rib-back bacon .....	.28
Brisket .....	.23

Sliced bacon may be bought in bulk. Most markets offer a wide variety of quality in this form. It also may be sliced at the market to suit the purchaser. The thickness is usually designated in such indefinite terms as thick, medium thick, medium thin, and thin. Where slicing machines are used, it is possible to determine the thickness with greater accuracy. The slicing machine used in a great many markets has the following code:

- No. 5. 3/64 inch thick
- No. 6. 3/32 inch thick
- No. 7. 1/8 inch thick

The only objection to such a system is that the various slicing machines have no standardized code for indicating thickness. Therefore it is advisable for the housewife to familiarize herself with the code of the machine used at her market and order her meat sliced in terms of definite numbers rather than abstract terms. Most of the bacon in pound cartons is sliced No. 6.

### Storage of Bacon

Bacon should be kept at a temperature of 50 to 60 degrees F. In the summer, it should be kept in the refrigerator or a place equally cool. In a warm place, it becomes soft and flabby, develops an undesirable odor and flavor, and may become moldy. This mold is not poisonous and can be removed and the bacon used. It is important

to keep bacon at a constant temperature, because when changed from a cold to a warmer temperature, moisture condenses on it and this hastens the growth of mold and causes the fat to become rancid. Only the quantity to be used should be taken from the refrigerator, leaving the remainder where the temperature is constant. Sliced bacon of the best quality can be kept for two weeks in an ordinary refrigerator without altering its flavor.

### Selecting a Standard Piece of Bacon

It is suggested that the following points be considered in choosing standard bacon:

1. Shape—rectangular, well trimmed
2. Skin—thin, smooth, light colored, free from tooth marks or scars
3. Color—
  - (a) Outside, medium brown
  - (b) Inside lean, uniform pink
  - (c) Inside fat, cream white, free from blood spots
4. Marbling of fat and lean—
  - (a) 60 per cent fat to 40 per cent lean
  - (b) Fat and lean well intermixed
  - (c) Streaks of lean less than one-fourth inch wide
5. Texture—
  - (a) Fine grained, firm, velvety
  - (b) Free from coarse fibers
  - (c) Fat firm and relatively dry, not oily or flabby
6. Odor—mild, sweet, meaty, not too smoky

#### SCORE CARD FOR RAW BACON (SLICED)\*

Perfect Score, 25

Standard	Sample No. I	Sample No. II	Sample No. III
Appearance			
Color			
1. Lean—uniformly pink			
2. Fat—creamy white			
Proportion of fat and lean			
3. 60% fat to 40% lean			
4. Fat and lean well intermixed			
Texture			
5. Fat—firm, relatively dry, not oily or flabby			
Total			

\* Use 1 for very poor; 2 for below average; 3 for average; 4 for better than average; 5 for very superior. Place the figure in the column indicating rating given for each quality.

In buying bacon the consumer should keep in mind not only the different grades, but also the variation in proportion of fat to lean in the same grade. Figure 1 shows that there may be a great variation in bacon of the same grade and from the same packing house.

Because of this variation, it seems desirable to inspect bacon when purchasing, to determine the firmness, the color, and the proportion of fat and lean which best suits one's taste and needs. For certain uses, as in baked beans and in greens, the cheaper grades can be used. When ordering bacon it is well to describe definitely the kind desired and how it is to be cut.

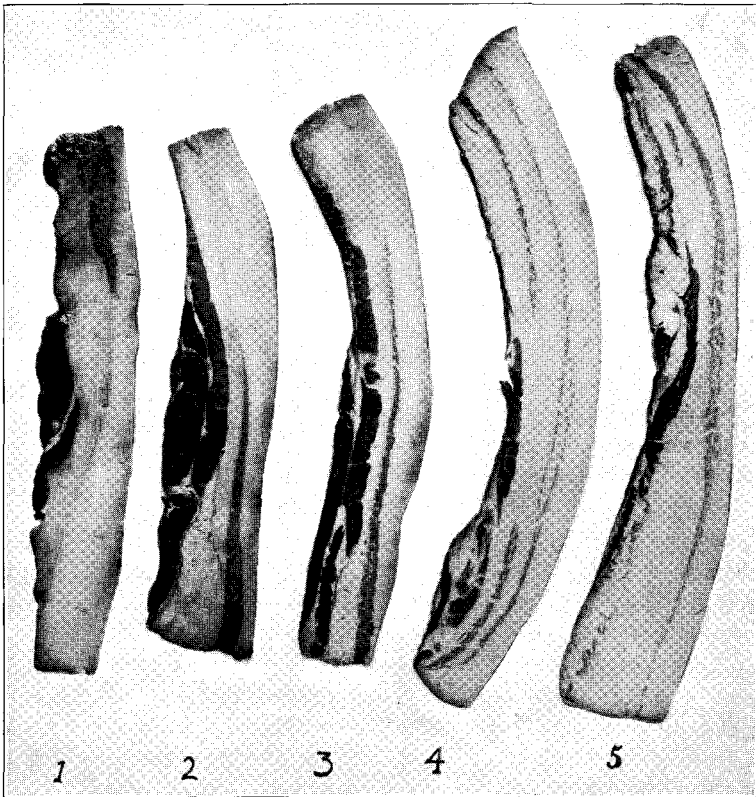


Fig. 1. Variations in Proportion of Fat and Lean in Bacon of the Same Grade and Brand

Nos. 1, 2, and 3 are from the same slab and show great variation in fat, while 4 and 5 are each from different slabs. Nos. 4 and 5 show a more nearly perfect marbling of fat and lean than Nos. 1, 2, and 3.

### Composition and Nutritive Value of Bacon

Table II shows that raw bacon has a high percentage of fat as compared with beef and milk. In 100 calories of raw bacon, 93.3 are from fat while only 6.7 are from protein (Table III). In round of beef, protein and fat calories are about equal, and in milk more are from fat than from protein. The high percentage of fat in bacon gives it a high fuel value, as the fuel value of fat is two and one-half times that of protein and carbohydrate.

Figure 2 shows the quantities of raw bacon, cooked bacon, lean beef, and whole milk which will give 100 calories.

In figuring the fuel value of bacon, it should be remembered that from 35 to 62 per cent of the fat may be extracted in cooking. Because of the great variation in loss of fat, it is impossible to give a definite weight in grams or ounces for a 100-calorie portion of the cooked product.

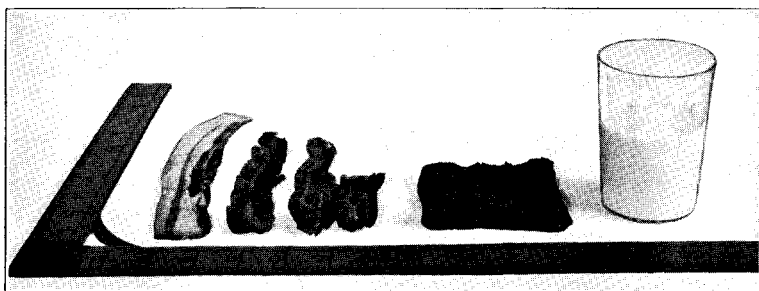


Fig. 2. A 100-Calorie Portion of Raw and Cooked Bacon, Lean Beef, and Whole Milk

Altho bacon is eaten primarily for the fat which it contains, a study of Table IV shows that bacon has small amounts of the common mineral substances of the body, but less than green vegetables and milk.

Table V shows that the vitamin content of bacon is very low as compared with milk, but about equals that of beef.

From a study of Tables II, III, and IV it can be seen that the chief nutritive value of bacon comes from the fat, that there is a small quantity of protein, small amounts of the common mineral substances of the body, and a very low vitamin content.

### Digestibility of Bacon

Blunt and Mallon (3) report that the average person utilizes 96.3 per cent of cooked bacon. The time and completion of the digestibility of bacon reverts to the properties of bacon fat. Bacon fat is classified as a medium soft fat; it melts at 34 degrees C., which is lower than body temperature (37 degrees C.). The protein of the bacon is

as easily digested as any meat protein. It is the first meat recommended for children because it is easily digested, and it can be given as soon as they can chew well. For children, bacon must be crisply cooked and excess fat drained from it.

### Experimental Results

#### Cooking of Bacon

It was found by studying cook books, by discussion with homemakers, and by questionnaires that there are no generally approved standards or methods for cooking bacon. Each homemaker has developed her method by trial and error, which is a waste of time and energy. In this work, different methods of cooking bacon were carried out under carefully controlled conditions. The bacon was judged and scored, the losses were calculated in each case, and conclusions were drawn as to the method which gave a standard bacon. The following methods were found the most satisfactory for cooking bacon on a gas stove.

#### I. Pan Broiling (cooking in pan without any fat).<sup>2</sup>

1. Place a single layer in a cool frying pan.
2. Place over a low heat.
3. Turn frequently.
4. Drain excess fat frequently so that the bottom of the pan is only well greased.
5. When bacon is light golden brown and evenly crisped, remove from pan to **hot** platter.

While this method results in the most satisfactory product, bacon may be cooked more quickly by putting it all in the cold frying pan at one time and cooking it without draining off the grease. The hot fat in the pan hastens the cooking process.

#### II. Broiling Under Direct Flame.

1. Place cold slices of bacon on cold broiler rack.
2. Place rack five inches below the flame. (Gas should be turned on for moderate oven—325 degrees F.)
3. Turn frequently.
4. When a light golden brown and evenly crisped, remove to a hot platter.

<sup>2</sup> Either a heavy cast iron or an aluminum frying plan is desirable. A griddle with a well defined groove around the edge is excellent.



### III. Cooking in Oven.

1. Place cold slices of bacon in a cold dripping pan.
2. Place dripping pan on a rack in the middle of a hot oven—400 degrees F. (Best results are obtained if bacon is turned frequently.)

When large quantities of bacon are to be cooked, the oven method is quick and convenient.

### IV. Frying in Deep Fat.

1. Fill iron kettle half full of bacon fat.
2. Heat fat (300 degrees F. or 148.8 degrees C.).
3. Drop bacon into fat (one-fourth pound lowers the temperature of the fat to 285 degrees F. or 140.5 degrees C.).
4. Keep temperature of fat below smoking temperature (293 degrees F. or 145 degrees C.).
5. Cook bacon until a light golden brown, about three minutes.

The bacon may be fried in oil at 400 degrees F., or 204 degrees C. in about one minute.

#### **Important Facts to Remember in Cooking Bacon**

The smoking temperature of fat, or that at which it decomposes and gives off a sharp, pungent vapor (acrolen), differs for different fats. Blunt and Feeny (4) state that the three important factors in regulating the smoking temperature of a fat are the acidity, the extent of the exposed surface, and the presence of a finely divided foreign substance.

Williams and Gray (5) give the smoking temperature of bacon fat at 293 degrees F. or 145 degrees C. Since the factors influencing it vary greatly, these figures may not be exact, but it is low compared with that of other fats. The important thing to remember is that bacon should be cooked below the smoking temperature to obtain the best flavor. If this is done, the room will not be filled with smoke.

### Standard for Cooked Bacon

The following standard was used for cooked bacon :

1. Color, even light golden brown.
2. As straight and flat as possible.
3. Crisp but not brittle, dry, or charred.<sup>3</sup>
4. Fat clear and free from white spots.
5. Flavor mild, meaty—not smoky, no burnt fat odor.

Bacon cooked to conform to the above standard is illustrated in Figure 3.

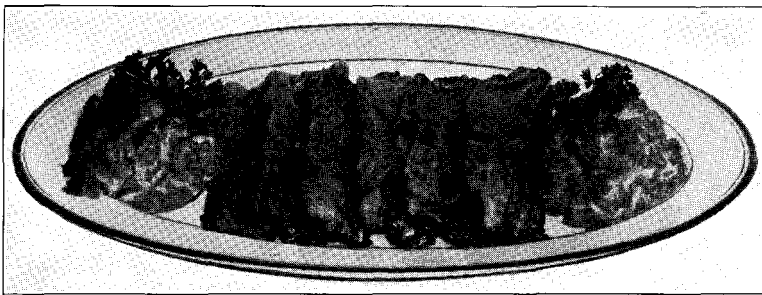


Fig. 3. Standard Cooked Bacon with Scrambled Eggs

TABLE II  
COMPARISON OF COMPOSITION OF BACON, LEAN BEEF, AND MILK\*

Food	Protein (N× 6.25) per cent	Fat per cent	Carbo- hydrate per cent	Fuel value per pound calories
Bacon, raw smoked, edible portion.....	10.5	64.8	..	2930
As purchased .....	9.5	59.4	..	2685
Lean beef, round, edible portion.....	20.9	10.6	..	835
As purchased .....	19.2	9.2	..	745
Whole milk .....	3.3	4.0	5.0	325

\* Chemical Composition of American Food Materials, U. S. Dept. of Agr. Bull. 28.

TABLE III  
COMPARISON OF STANDARD PORTIONS (100 CALORIES) OF RAW AND COOKED BACON, LEAN BEEF,  
AND MILK\*

	Standard portion		Distribution of calories		
	gm.	oz.	In protein	In fat	In carbohydrates
Bacon, edible portion.....	16	0.6	6.7	93.3	....
Beef, round .....	64	2.3	54.5	45.5	....
Whole milk .....	145	5.1	19.0	52.0	29.0

\* Sherman, H. C.—Chemistry of Food and Nutrition, 3rd Ed. (6)

<sup>3</sup> The degree of cooking is a matter of preference. Crisp bacon is generally preferred. When bacon is not crisp more fat is retained, as will be seen in the paragraph on losses in cooking bacon.

TABLE IV

PERCENTAGE OF EDIBLE PORTION OF MINERAL CONSTITUENTS OF BACON, LEAN BEEF, AND MILK\*

Food	Calcium (Ca)	Magnesium (Mg)	Potassium (K)	Sodium (Na)	Phosphorus (P)	Chlorine (Cl)	Sulphur (S)	Iron (Fe)
Bacon (10 per cent protein)	0.006	0.012	0.169	0.042	0.108	0.038	0.115	0.0015
Lean beef (20 per cent protein)	0.012	0.024	0.338	0.084	0.216	0.076	0.230	0.0030
Milk (whole) . .	0.120	0.012	0.143	0.051	0.093	0.106	0.034	0.00024

\* Sherman, H. C.—Chemistry of Food and Nutrition, 3rd Ed. (The figures were compiled from various sources.)

TABLE V

VITAMINS IN BACON COMPARED WITH VITAMINS IN LEAN BEEF AND WHOLE MILK\*

Food	Vitamin A†	Vitamin B†	Vitamin C†
Bacon . . . . .	— to +	+ to ++	?
Beef . . . . .	+	++	— to +
Milk (whole) . . . . .	+++	++	+ variable

\* Sherman, H. C.—Chemistry of Food and Nutrition, 3rd Ed.

† — indicates that the food contains no appreciable amount of vitamin.

+ indicates that the food contains the vitamin.

++ indicates that the food is a good source of the vitamin.

? indicates doubt as to presence or relative amount.

+++ indicates that the food is a good source of the vitamin.

Methods of cooking bacon were carefully checked and the bacon was scored according to the following score card.

## SCORE CARD FOR COOKED BACON\*

Perfect Score, 25

Standard	Sample No. I	Sample No. II	Sample No. III
Appearance			
1. Color—even light golden brown			
2. Fat—clear			
Texture			
3. Crispness—crisp but not brittle			
4. Lean—tender and easily cut			
Flavor			
5. Taste—mild; not too salty or strong			
Total			

\* Use 1 for very poor; 2 for below average; 3 for average; 4 for better than average; 5 for very superior. Place the figure in the column indicating rating given for each quality.

### Losses in Cooked Bacon

In cooking bacon much of the edible portion is extracted in the cooking process and in this work it is considered a loss, as in figuring the food value this must be taken into consideration. In the results from experimental work on losses in cooking bacon, the total loss is considered as the difference between the weight of cooked and uncooked bacon. The fat loss is the drippings remaining in the utensil after the cooked bacon is removed, all except a negligible portion being fat. The evaporation loss is the total loss less the fat loss. The fat can practically all be recovered and used. Experiments were carried out to show:

1. Comparative losses of pan broiled bacon, drained and not drained; and oven broiled.
2. Comparative losses of oven cooked bacon, drained and not drained.
3. Comparative losses of crisp, overdone, and "not crisp" (cooked below the crisp point) bacon.

A constant weight of first-grade bacon, cured in the same way, was used for each experiment and the average percentage was figured from many samples. As nearly as possible bacon with a proportion of 60 per cent fat to 40 per cent lean was used.

Table VI shows that:

1. The total loss in pan-broiled bacon, drained and not drained, is nearly the same but the fat loss is higher and the evaporation loss lower in the drained than in the undrained.
2. The total loss is lower in oven-broiled bacon than in pan broiled.

Table VII shows that:

1. In oven cooked as in pan broiled bacon, the fat loss is lower and the evaporation loss higher when fat is not drained.
2. The losses are less in oven cooked bacon than in pan broiled, both drained and undrained, and less than in oven broiled bacon.

Table VIII shows that:

1. The more bacon is cooked the greater the loss.
2. The greatest loss in weight, in both fat and evaporation, occurs in the first part of the cooking period.

Some work was done on the comparison of losses in weight in cooking first-grade and poor bacon. The data obtained seem to indicate as wide a variation in loss of weight in the poor bacon as in the high-grade bacon. A comparison was also made of the losses in weight in cooking bacon cut No. 4, No. 5, and No. 6. The total loss in each was practically the same.

The total losses in these experiments ranged from 50 to 75 per cent; the fat losses from 35 to 62 per cent; and the evaporation losses from 3 to 22 per cent. Because of the great range in losses it seems impossible to give a definite caloric value for cooked bacon.

### Bacon Fat

It can readily be seen that the great loss in weight in cooking bacon is due to fat extraction and loss of moisture by evaporation. Most of the fat can be recovered in the pan, and unless this is used, bacon is a very expensive food.

TABLE VI  
COMPARATIVE LOSSES IN WEIGHT OF PAN BROILED (DRAINED) PAN BROILED (UNDRAINED), AND OVEN BROILED BACON

Method	Average fat loss, per cent	Average evaporation loss, per cent	Average total loss, per cent
Pan broiled (drained) .....	58.12	11.45	70.48
Pan broiled (undrained) .....	54.73	15.42	70.15
Oven broiled .....	53.52	11.45	64.64

TABLE VII  
COMPARATIVE LOSSES IN WEIGHT OF OVEN COOKED BACON, DRAINED AND UNDRAINED

Method	Average fat loss, per cent	Average evaporation loss, per cent	Average total loss, per cent
Oven cooked (drained) .....	47.13	5.51	52.64
Oven cooked (undrained) .....	38.35	17.62	55.76

TABLE VIII  
COMPARATIVE LOSSES IN WEIGHT OF "NOT CRISP," CRISP, AND OVER-DONE BACON

Method	Average fat loss, per cent	Average evaporation loss, per cent	Average total loss, per cent
"Not crisp" .....	44.19	11.69	63.75
Crisp .....	53.34	15.66	68.89
Over-done .....	54.94	16.07	71.04

### Clarification of Fat

Altho bacon fat is highly flavored, it is very useful and clarification increases its usefulness. A simple method of clarification is to cook slices of potato in the drippings. The potato absorbs some of the strong flavor and in the process impurities settle to the bottom. For a quart of fat use ten slices of raw potato. Heat slowly. When the potatoes are browned, remove them and strain the fat through several thicknesses of cheese-cloth. Allow it to cool and use the clear fat which collects on top.

Another method is to heat the fat with water. Pour one quart of boiling water over one quart of bacon fat and boil the mixture thoroly. Allow the fat to harden, and drain off the liquid, with impurities collected. Add more water and repeat until the fat is clean and there is no odor or flavor of bacon. Great care must be taken not to add water to hot fat. A large kettle should be used to avoid the boiling over of the mixture.

### Storage of Bacon Fat

Bacon fat will keep for a long time if properly stored. The fat becomes rancid by oxidation, which is hastened by moisture, heat, and contact with air and light, hence it should be kept in a cold, dark, dry place in an air-tight container.

### Uses of Bacon Fat

Both clarified and unclarified bacon fat can be used as a sautéing medium for eggs, potatoes, and other products; also as a substitute for the fat in plain, bran, and cornmeal muffins; gingerbread, spice cake, molasses cookies, chocolate cake, and griddle cakes. Clarified bacon fat can be substituted for the fat in many batter and dough products. That which is not eaten can be used for soap, which is easily made with prepared lye by following directions on the can.

The following abbreviations are used in the recipes:

c=cup

tb=tablespoon

t=teaspoon.

#### Bacon Muffins:

Milk	Flour	Egg	Bacon fat	Baking powder	Salt	Bacon
1c	1¾-2c	1	2tb	3t	½t	¼c finely chopped

Beat egg slightly, add milk, and mix with sifted dry ingredients. Add melted fat and crisp bacon cut in small pieces. Mix but do not beat. The mixture should have a rough appearance. Put in greased muffin pans, and bake at 400 degrees F. for 20 or 25 minutes. This is an excellent way to use left-over bacon.

#### Bacon Griddle Cakes:

Sour milk	Flour	Bacon fat	Egg	Soda	Baking powder	Salt
1c	1½c	1tb	1	½t	½t	½t

Add ½c crisp bacon cut into small pieces to griddle cake batter.

#### Gingerbread:

Water or sweet milk	Bread flour	Bacon fat	Sugar	Molasses	Baking powder	Soda	Salt	Flavor
1c	2¾c	¼c	½c	1c	3¼t	½t	¼t	1t ginger ½t cloves ½t cinnamon

Sift dry ingredients, add milk, molasses, beaten egg, and melted fat. Beat enough to mix thoroly. Bake at 325 degrees F. for 60 minutes.

#### Spice Cake:

Milk	Bread flour	Bacon fat	Sugar	Baking powder	Egg	Salt	Flavor
1c	2¾c	¼c	1¾c	3t	2	½t	1t vanilla 1t cinnamon ½t nutmeg ½t cloves

Cream fat, add sugar, cream well; add well beaten eggs and flavoring; add milk and sifted dry ingredients alternately. Bake at 370 degrees F. for 45 minutes.

**Molasses Drop Cookies:**

Sour milk	Flour	Molasses	Sugar	Bacon fat	Soda	Salt	Flavor
$\frac{3}{4}$ c	$3\frac{1}{2}$ c	$\frac{3}{4}$ c	$\frac{1}{2}$ c	1c	1t	$\frac{3}{4}$ t	$\frac{1}{2}$ t cloves
							1t ginger
							1t cinnamon
							1c raisins

Drop from spoon on a cookie sheet about an inch apart. Bake at 400 degrees F. This makes 72 cookies.

**Ways of Using Bacon****Breakfast Dishes**

1. Broiled bacon (see directions).
2. Scrambled eggs with crisp pieces of bacon added.
3. Bacon omelet.
4. Bacon and liver.

**Bacon Omelet:**

Egg	Milk	Salt	Bacon
1	1tb	$\frac{1}{4}$ t	$\frac{1}{2}$ c

Separate egg. Beat yolk until creamy, add seasoning and milk. Fold in carefully the stiffly beaten whites. Place in greased frying pan. Cook on stove, covered, until brown on bottom. Place in hot oven a few minutes to dry top. Make dent across omelet at right angles to handle of pan. Place crisply cooked bacon, cut in small pieces, on top of omelet, fold once and turn on hot platter. The bacon may be added before cooking.

**Broiled Bacon with Apple Rings:**

Core apples, cut slices across apple. Sauté in bacon fat. Place crisply cooked bacon in center of chop plate and apple rings around the edge.

**Luncheon Dishes****Oysters with Bacon (Pigs in Blankets):**

Clean oysters, wrap a thin slice of bacon around each and fasten with toothpicks. Place on a broiler over a dripping pan and bake in a hot oven until bacon is crisp and brown, turning once during the cooking.

Dip thick slices of ripe tomato in egg and then in seasoned cracker crumbs. Sauté in bacon fat. Place a "pig in blanket" on each slice. Serve on a hot platter. This dish is illustrated in Figure 4.



Fig. 4. Pigs in Blankets on Sautéd Tomato

**Stuffed Bacon Rolls:**

Bread crumbs 2½c	Egg 1	Milk ½c	Green pepper 3tb	Celery ½c	Onion juice few drops
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Prepare a moist dressing of the ingredients. Place 2 teaspoons of this dressing on a slice of bacon, roll the bacon slice around the dressing, just covering it. Fasten with a toothpick. Broil, oven cook, or pan broil until bacon is crisp. Small rolls make an attractive garnish for meats.

**German Lettuce Salad:**

Bacon fat ½c	Lemon juice 3tb	Salt 1t	Sugar ½t	Pepper few gr.	Mustard ½t	Onion juice few drops
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Heat the fat, add seasonings, and pour over lettuce to which small pieces of crisp bacon have been added.

**Spinach with Bacon:**

Spinach 1c (cooked)	Bacon ¼c	Pepper few gr.	Vinegar 1t
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Chop bacon fine. Sauté until crisp. Add vinegar and seasoning. Add spinach and heat thoroly. Garnish with hard cooked egg. Serve hot. Lettuce may be used in place of spinach.

**Spanish Omelet:**

Bacon 6-8 slices	Eggs 6	Milk 6tb	Onion 1 (small)	Salt 1t	Tomato 1	Mushrooms 5
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Cut bacon into ¼-inch squares. Cook until crisp; add onion, tomato and mushrooms chopped fine. Cook 15 minutes. Prepare omelet. When ready to fold, add mixture. Fold and serve at once.

**Bacon Rarebit:**

Bacon ½c	Milk 1c	Bacon fat 2tb	Cheese ½c	Flour 2½tb	Egg 1	Salt ½t
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Make a white sauce in the double boiler. Cook 5 minutes. Add beaten egg and grated cheese. Cook slowly over water until the cheese is melted. Add ½ cup crisp bacon cut in small pieces. Serve on crackers or small pieces of toast.

**Bacon Sandwiches****Combinations for Sandwich Fillings:**

- Bacon—tomato, lettuce, salad dressing
- Bacon—stuffed olives, boiled eggs, salad dressing
- Bacon—Dutch cheese, salad dressing
- Bacon—salad dressing
- Bacon—cold meat, salad dressing
- Bacon—liver, salad dressing.

**Bacon Sandwich:**

Season chopped crisp bacon with mayonnaise. Place between slices of buttered toast.



**Bacon-Egg Club Sandwich:**

Scrambled egg:

Egg	Milk	Salt
1	1tb	¼t

Beat egg, add milk and seasoning, beat. Put in upper part of double boiler and cook until egg is coagulated.

Place scrambled egg on a slice of buttered toast. Cover with slice of buttered toast, place slices of crisply cooked bacon on this, add mayonnaise dressing, cover with slices of tomato. Garnish with parsley.

The egg may be fried instead of scrambled.

**Open-Face Club Sandwich:**

Place two slices of toast on a plate or small platter. On one, place thin pieces of crisply cooked bacon; on the other, a fried or scrambled egg. In one lettuce cup arrange sections of tomato and in another mayonnaise dressing. Place olives in center. Serve hot. A sandwich prepared in this way is shown in Figure 5.

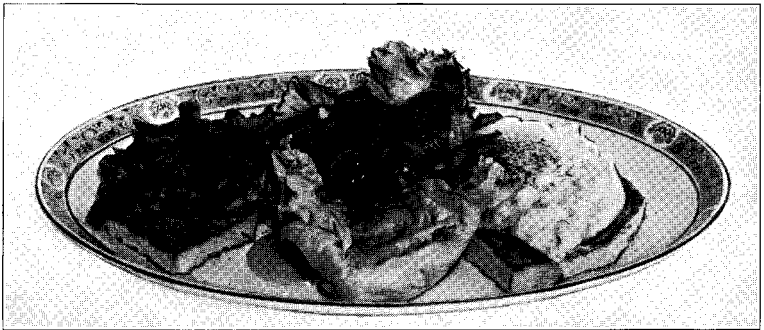


Fig. 5. Open-Face Club Sandwich with Bacon and Eggs

**Bacon Serves as an Attractive Garnish**

For—

Macaroni dishes	Meat loaf
Escalloped potatoes, corn, tomatoes	Veal cutlets
Baked fillets of fish	Spanish and Italian rice
Roasted meats	Spinach, dandelion, beet, and swiss chard greens

Scrambled eggs

**Appendix****Method of Calculating Losses in Cooking Bacon**

The following method was used to obtain the losses in weight when bacon is cooked: A constant weight of bacon was used: (227 grams, or one-half pound). The bacon was cooked to the desired standard in a weighed pan and the cooked slices were placed on brown unglazed paper.

The following were recorded when bacon was not drained:

- Weight of pan
- Weight of pan and bacon
- Weight of paper
- Weight of paper and cooked bacon
- Weight of paper with bacon removed (or weight of paper and fat adhering).

From these figures the losses were computed as follows:

Weight of cooked bacon = weight of paper and bacon — weight of paper and fat.

Total loss = weight of raw bacon — weight of cooked bacon.

Fat loss = weight of pan and fat — weight of pan  
+ weight of paper and fat — weight of paper.

Evaporation loss = total loss — fat loss.

When the bacon was drained, the bowl into which the fat was poured was weighed with and without the fat.

The fat loss was found as follows:

Fat loss = weight of pan and fat — weight of pan  
+ weight of bowl and fat — weight of bowl  
+ weight of paper and fat — weight of paper.

Results are given in the text of the bulletin.

#### Literature Cited

1. Some results of soft pork investigations. U. S. Dept. of Agr. Bull. 1407. 1926.
2. Tomhave, W. H. and Gaumnitz, D. A. Dressing and curing meats on the farm. Agr. Ext. Div., Bull. 11, University of Minnesota. 1919.
3. Blunt, Katherine and Mallon, Marguerite G. Digestibility of bacon. Jour. Biol. Chem. 38:43-48. 1919.
4. Blunt, Katherine, and Feeny, Clara. The smoking temperatures of edible fats. Jour. Home Econ. 10:535-541. 1915.
5. Williams, A. W. and Gray, C. E. Fats and oils in cookery—cooking temperatures. Univ. of Ill. Dept. of Household Science, Bull. 47, p. 4. 1917.
6. Sherman, H. C. Chemistry of foods and nutrition, 3rd Ed. Macmillan Co., New York. 1926.

#### Bibliography

1. Donham, S. Agnes. Marketing and housework manual, p. 25. Little, Brown & Co., Boston. 1925.
2. Vaughan, H. W. Types and market classes of livestock. ch. 24, pp. 335-398. R. S. Adams & Co. 1923.
3. Helser, M. D. Farm meats. ch. III, pp. 42-69. Macmillan Co., New York. 1923.
4. Monroe, D. and Stratton, L. M. Food buying and our markets. p. 265. M. Barrow & Co., Boston. 1925.
5. Tomhave, W. H. Meats and meat products. p. 159. J. B. Lippincott Co., Philadelphia. 1925.
6. Sherman, H. C. Food products. p. 221. Macmillan Co., New York.
7. Ashbrook, F. G., Anthony, G. A., and Lind, F. P. Pork on the farm—killing, curing and canning. U. S. Dept. of Agr. Farmers' Bull. 1185. 1924.