

CIRCULAR NO. 10

Manitoba Agricultural College

HOME ECONOMICS SECTION

HOUSEHOLD SCIENCE DEPARTMENT

Published by Authority of Hon. Geo. Lawrence, Minister of Agriculture, Manitoba

MEAT

In our foods we have five distinct classes of materials necessary to meet the demands of the body and keep it in smooth running order—

1. Proteid—muscle and tissue-building material.
2. Carbohydrates (starch and sugar)—heat, and energy-producing material.
3. Fats—fat and heat-producing material.
4. Mineral matter—tissue-building.
5. Water—in all parts of the body.

Meat belongs to the proteid, or muscle and tissue-building class, and is one of our chief foods supplying this use in the body. It is this one with which this pamphlet will deal briefly.

Flesh food is called meat, and on the market we get it under different names according to the animal from which it is taken, and also according to the age of the animal, as for example—

Cattle—beef.
Sheep—mutton.
Swine—pork.
Calves—veal.
Lambs—lamb.

Meat or muscle is composed of fibres, each of which is a bundle of tube-shaped cells which are filled chiefly with proteid or muscle- and tissue-building substance. All are held together by connective tissue—a white substance threaded by tiny blood-vessels. Toward the end of the muscle the connective tissue becomes a firm mass which is known as *tendon*.

Beef-juice contains albumen and other proteids, mineral salts and extractives. The albumen contained in meat is similar to the white of egg. The effect of heat on it is that it hardens it and renders it more difficult of digestion. Raw beef is more easy of digestion than cooked beef. In cooking meat our object is to keep in as much juice as possible, and in order to do this it requires to be subjected to a very high temperature at first in order to coagulate or harden the outside albumen, and make a coating which will keep in the juices. When this is formed over the entire surface of the piece of meat, the temperature may be lowered and the cooking process continued more slowly to prevent the hardening of the albumen throughout the entire piece of meat. If the application of a high temperature is continued throughout the whole process of cooking, the meat will be dry and hard instead of tender and juicy. While we know that the digestibility of the outside albumen is destroyed to a certain extent by the intense heat, yet, for the sake of the larger portion contained in the inner juices, it is necessary to harden that on the outside.

In cooking meat by methods such as broiling, roasting, boiling and frying, the object is to keep in the juices. In stewing, the juices are partly extracted and partly retained, this may be done by putting the meat in cold water and bringing quickly to boiling point, then simmering gently for a long time at a low temperature, or by cooking in a fireless cooker. In soup-making the object is to extract the juices, so the meat is cut up into small pieces and allowed to stand in cold water for some time to draw out the juices. When put on to cook it should not be allowed to reach a higher temperature than simmering (180 degrees F.).

Every housewife is aware of the fact that some meat is tough and some tender, but not everyone can tell the reason why such is the case. The more a muscle is used the tougher the connective tissue and fibres in it become; it absorbs more food material and makes rich, juicy meat. The muscles which are used very little yield tender meat. Hence we find that from along the back of the animal and the upper part of the leg the tender cuts are obtained which are used for steaks and roasts. From the neck, shank, shin and other parts much used, the pieces suitable for boiling, stewing and soups are obtained.

BROILED STEAK

Time:—1 In. thick, allow 5 to 6 minutes

1½ " " " 8 to 10 "

Put platter to heat before broiling.

- (1) To broil by coal fire :—

Have coal glowing hot without flame or smoke. Grease broiler with beef fat and place steak in it, and hold it near the coals while counting ten slowly. Turn and hold for some length of time. Repeat for one minute until seared. Hold farther from fire and turn occasionally until surface is well-browned. Sprinkle with salt and pepper and turn once again.

- (2) To broil by gas :—

Have broiling oven hot. Lay the meat on broiler or directly on the rack over the pan. (In the latter case do not pierce the meat in turning). Broil as in cooking with coal fire. To cook more slowly after outside is seared, lower the gas and lower the pan in the broiling oven.

- (3) Pan broiling :—

Heat pan very hot. Rub lightly with fat. Sear the meat on one side, then on the other and continue turning occasionally until done, as in method for broiling. (Note:—Do not pierce lean part of meat with a fork in turning as it allows the juices to escape.)

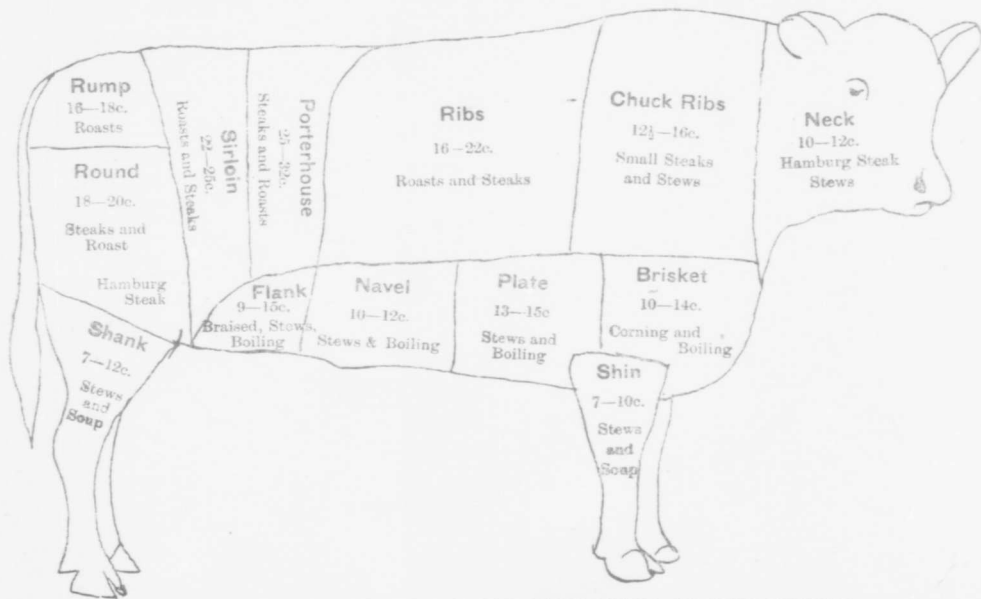
BROWN STEW

One pound beef, 1 cup cold water, 2 tablespoonfuls flour, $\frac{3}{4}$ teaspoonful salt, 1 small onion, $\frac{1}{4}$ cup carrots cut in cubes, $\frac{1}{4}$ cup turnip, $\frac{1}{2}$ teaspoonful pepper. Remove fat from meat and "try" it out in the stew pot. Cut the meat in pieces and roll in the flour. Put it into the hot fat and stir until brown. Add the water, cover closely and cook two and a half hours. Add the onion, carrots, turnips, salt and pepper and simmer half an hour.

DUMPLINGS

One cup flour, 2 teaspoonfuls baking powder, 1 tablespoonful butter, $\frac{1}{4}$ teaspoonful salt, $\frac{1}{2}$ cup milk. Sift together all the dry ingredients. Rub the butter into the dry ingredients. Stir the milk in quickly and drop by spoonfuls into the hot stew. Cover closely and boil gently 15 minutes. Do not remove cover while dumplings are cooking.

BERTHA A. DUNCAN.



THE ABOVE CUT SHOWS THE AVERAGE RETAIL PRICES OF CUTS OF BEEF AS FOUND IN WINNIPEG MARKETS.