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1/3 of Your Food Dollar: Meat, Poultry, Fish, Eggs

About 36 cents of each dollar spent for food by households in the spring of 1965 went for meat, poultry, fish and eggs. This represents an average for all families in the United States as revealed by a nationwide survey. Of course no household fits the average nor should it strive to do so.

Is this the proper share of the food budget for your family to spend for meats and eggs?

Are you getting the quality and the quantity that you should get for the dollars and effort you are spending?

The average family of four (father, mother, two pre-teen school children) following a moderate-cost food plan of Western U. S. spends $37.00 per week for food and $13.32 of this for meats and eggs.

If you fit this pattern it may be possible through competent planning and shopping for you to enjoy one of four things:

1. Better quality meats.
2. As much as 10% to 20% more meats and eggs at no added cost.
3. Expenditures for meats and eggs reduced 10% to 20% ($70.00 to $140.00 annually).
4. A combination of these.

What factors concern you most with respect to meats and eggs? Is it money, flavor, nutrition, tenderness, prestige, time, energy, quantity, or something else?, or a combination of these?

If money and tenderness rate highest with you perhaps brains is your best choice.

If time and energy are most important, perhaps eggs fill the bill.

If nutrition is the principle factor, pork or lamb liver is ideal.

If prestige counts most, fresh lobster or Kansas City steak may be your answer.

Let's look at the alternatives available, information available, and factors for decisions that may be applied by consumers.

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GRADES, INSPECTION, SIZES, IDENTIFICATION

For more complete information on grades, inspection, sizes, and identification obtain and study the appropriate following publications:

U.S. Grades For Beef, USDA Marketing Bulletin No. 15
Beef and Veal in Family Meals, USDA, H & G No. 118
How To Buy Beef Steaks, USDA, H & G No. 145
How To Buy Beef Roasts, USDA, H & G No. 146
Poultry in Family Meals, USDA, H & G No. 110
Eggs in Family Meals, USDA, H & G No. 103
How To Buy Eggs, USDA, H & G No. 144
Know the Poultry You Buy, USDA, PA 170
Know the Eggs You Buy, USDA, PA 70
When You Buy Seafood, Ag. Ext. Service, WSU, E.M. 2510
When You Buy Meat, Ag. Ext. Service, WSU, E.M. 2519

LABELS

Labels carry much information but it takes study and time to interpret it. For example, the label on a section of ham in the meat counter may indicate:

Wilsco Ham	5 lbs.
Fully cooked	69¢ per lb.
Semi-boneless	$3.45
Butt portion	Wilson Packing Co.
U.S. Inspected and Passed	Do-Good Market

A package beside it may read:

Wilson's Certified Ham	5 lbs.
Smoked	99¢ per lb.
Short shank	$4.95
U.S. Inspected and Passed	Wilson Packing Co.
Shank Half	Do-Good Market

A third package may read:

Wilsco Smoked Picnic	4 lbs.
Shank Portion	59¢ per lb.
U.S. Inspected and Passed	$2.36
Fully cooked	Wilson Packing Co.
	Do-Good Market

What is the difference between these three? Which would you rather have? Let's analyze them.

They are all packed by the same company and sold in the same store.

All are U. S. inspected.

Two are fully cooked, the other reads, "Smoked" which means 140 degrees F. (sufficient to kill trichinea but needs additional cooking for flavor).

One is semi-boneless, the other two are not but one is "short shank" which means that at least two inches of the shank bone has been removed.

One is a "half", the other two are portions, one a butt portion, the other a shank portion. The half contains half the center slices. Shank portions are easier to carve but yield less lean meat per pound of purchased weight.

Two are hams, the other is a picnic (front leg).

One is "Wilson's Certified" which means top grade for that packing company, the other two are "Wilsco" which means second grade.

Key words relating to ham or a similar product, in addition to the brand name are:

- Half -- Half a ham. Half the center section included.
- Portion -- Less than a half.
- Boneless -- All bones removed. Usually most or all skin and excess fat removed.
- Semi-boneless -- All bones removed except the large, straight, round bone.
- Country cured -- Dry cured. Slow smoking and drying process. Firm texture, low in moisture, often salty, require cooking. Frequently labeled Smithfield, Kentucky, Boone County, etc. to indicate the geographical location of production.
- Water added -- Up to 10 percent added moisture above weight of the fresh meat.
- Imitation Ham -- More than 10 percent added moisture above the weight of the fresh meat.
- Baked -- Cooked in dry heat, as opposed to boiled.

There are more than 200 cuts of red meats plus poultry varying from the tiny cornish game hen to large tom turkeys, fish of varying species and forms, domesticated rabbit, and wild game (very limited sales). As many alternatives exist for these cuts as for ham products.

Eggs are a wonderful alternative to meat and serve many uses in our foods.

Federal law requires labels on prepackaged meats and eggs to contain the following information:

1. Name and address of packer, processor, or distributor.
2. Net quantity by weight and/or measure (in case of canned and certain other processed forms).
3. Price per unit (lb., pint, etc.)
4. Total price.
5. Country of origin if imported.
6. Common or usual name of product including species (pork, chicken, halibut), identification of age when applicable (fryers, lamb, veal), market form (steak, whole, fresh), plus certain other information if it is an imitation or diluted product.
7. If a mixture of two or more ingredients, all ingredients must be listed in descending order of predominance in the product unless a standard of identity has been pre-established.
8. List of additives except as outlined in 7 above.
9. Eggs must carry the grade and size.

The following generalizations are useful guides to buying:

1. All cuts of meats have a place and can be prepared to a delicious, tender stage.
2. The price of meats, fish, and eggs is a function of supply-demand-competition. Price is not an indicator of quality, nutrition, safety, yield, tenderness, freshness, or other desirable characteristics except in an indirect way. Price is not determined by cost of production and marketing except to a limited degree.

   The value of a cut of meat or a dozen eggs depends on:
   - Yield of desirable edible portion --lean meat, for example versus bone, fat, and skin.
   - Family likes and dislikes.
   - Preparation time.
   - Preparation and or storage facilities.
   - Other factors.

3. Inspection of meats and fish is required. Grading is voluntary and may be done by government, processors, or distributors. Inspection relates to the safety of products when slaughtered or processed including the health of the animal or fowl, ingredients used, wrappings, and facilities and persons involved in the processing.

   Grade denotes age, confirmation, finish, color, freedom from defects or undesirable substances such as bruises, hairs or feathers.

4. Grade of eggs denotes degree of freshness, cleanliness and freedom from meat spots and checked or irregular shells.

   SIZE of eggs denotes quantity (volume by weight) and is in no way related to the GRADE.

5. Eggs of a given size have the same nutritive composition regardless of grade, color of shell, or other characteristic.

6. The lean muscle portions of all cuts and grades of meats of the same species are essentially equal in nutritive value except for variance in marbling.

7. Lean muscle portions of meat from different species are essentially equal in composition (including calories) except for variance in marbling. The difference in composition from different portions of the same animal may be greater than the usual variation from one species to another or one animal to another of the same species.

8. Tenderness in red meats is primarily a function of age, finish, inheritance, muscle (the cut), and treatment. The first two are conveyed through grades and/or other identification such as "veal", "baby beef", "beef".

   Inherent tenderness (or lack of it) cannot be pre-determined with present technology.

The muscle or portion of the animal is conveyed in the name of the cut in many instances but not all. Round steak, chuck roast, rib roast, leg of lamb, ham, etc. suggest the area of the animal involved, but what is a breakfast steak?, a cadillac steak?, a rotisserie roast?

A treatment that renders meat more or less tender than the natural state may occur in marketing channels or in the home. Such a discussion demands more space and analysis than is here permissible.

NUTRITION (Source: Nutrition and Physical Fitness, Bogert, Briggs, Calloway, Eighth edition, 1966)

"The outstanding contributions of these foods to the diet are: (1) high-quality protein in concentrated form, (2) B vitamins, especially riboflavin and niacin, and (3) iron. The proteins of meat are somewhat similar to those of milk and eggs in their amino acid make-up and, therefore, in the efficiency with which they supplement those of the cereal grains, and some other vegetable proteins.

Meats are well-liked foods and give the feeling of satiety. They are usually consumed in larger amounts if the economic level permits and have come to be associated psychologically with prosperity and with a higher standard of living. Nutritionally, their place in the diet can be entirely met by the use of milk, cheese, and eggs, as often happens in the diet of vegetarians. Only when cattle and sheep are raised on grazing lands does meat production represent the most economical use of national resources.

Meat is an excellent food, containing good protein in concentrated form, but it should not be consumed to the extent that other protective foods, rich in minerals and vitamins, are excluded. It takes only 1½ pints of milk or three eggs to provide approximately as much protein as an average (3½ oz.) serving of meat. One medium-sized serving of meat daily is a great help in securing an adequate protein intake. Meat in the main meal of the day gives a sense of satiety because the meat leaves the stomach less quickly. As the old saying goes: "Meat sticks to the ribs". One should not lose sight of the fact that the same amount of meat may be purchased for less money if the cheaper cuts are chosen and cooked in an appetizing manner.

The flesh of all animals (mammals, birds, fish, or shellfish) is essentially the same. The difference in composition in flesh from different portions of the same animal is sometimes greater than the usual variation between the flesh of different animals. Variations in composition are due chiefly to differences in water or fat content. These are largely dependent on the species - for example, fish is usually higher in moisture content than beef or lamb; salmon is relatively high in fat, compared with cod or flounder; and most cuts of pork are richer in fat than most other meats. The fat content also varies in different cuts of meat and according to previous feeding. Fat that is in layers surrounding the lean portion is usually discarded and should not be counted in the caloric value of the meat eaten. Fat may also be lost in the drippings during cooking. In pork, considerable fat is located between the muscle fibers, which adds to the fuel value of pork and pork products (such as sausages) and also slows down digestion.

Lean muscle meats may be described as consisting of approximately one-fifth protein, three-fourths water, and one-hundredth ash (with varying small amounts of fat). They also contain small amounts of connective tissue, which holds the muscle fibers together, and of extractives, which give the flavor to meat soups.

Pork is many times higher in thiamine (vitamin B_1) than other muscle meats. Fatty fish (e.g. canned salmon) has a good content of vitamin D. The glandular organs, such as liver and kidneys, are especially rich in vitamin A, the B vitamins, and iron. The iron in these organs is 100 percent available for building hemoglobin, but there are differences of opinion as to the extent of availability of iron in muscle meats. All lean meats are good sources of phosphorus. Marine fish and shellfish are good sources of iodine, which is a scarce element in most foods.

The effect of cooking on the vitamin content of meats also deserves mention. Meats contain little vitamin C (ascorbic acid), even in the raw state, and practically none after cooking. The vitamin A contained in meat fats is usually in the discarded trimmings or in the drippings from the cooking. The loss of B vitamins in cooking depends on the specific B vitamin and on the method of cooking. Thiamine (the most heat-labile B vitamin) may be lost to the extent of 50 to 75 per cent in stewing or braising, 30 to 50 per cent in roasting or broiling, and only 10 to 15 per cent in quick frying."

COOKING (Source: The Experimental Study of Foods, Griswold, 1962)

"Tests show greater retention of thiamine in beef cooked at low oven temperatures (300 degrees F. or less) and lower internal temperatures (rare vs. well-done) and in meats cooked for shorter periods. Drippings of braised and stewed meats contain a substantial portion of the B vitamins.

Pork chops rate higher on nutrient retention and on palatability tests when cooked by moist heat than by dry heat. Cooking losses and times are similar for chops braised with and without water, but those braised without water receive higher palatability scores.

Nutrient losses are very similar in stews that were simmered, boiled, or cooked under 15 pounds pressure just long enough to become tender.

The temperature accepted by government regulatory agencies as safe for cooking raw pork to destroy Trichinella spiralis is 137 degrees F., but to allow a margin of error 140 degrees F. is required for hams and similar foods, and for palatibility reasons hams labeled "Fully Cooked" must have reached an internal temperature of 150 degrees F.

In fresh pork loins, as internal temperatures increase above 150 degrees F. cooking losses increase and meat becomes less tender and less juicy. Because of past flavor customs of pork cooked to a greater degree of doneness, a higher internal temperature, up to 170 degrees F. may have greater taste appeal. The old temperature of 185 degrees F., however is not recommended.

Tender and less-tender cuts of meat do not respond alike to cookery.

High temperatures applied for long periods toughen meat. High temperature for short periods on tender steaks render a tender product.

Moist heat (212 degrees F.) for a relatively short period of time or LOW (165 degrees F. to 200 degrees F.) dry heat for a longer period of time yield tenderness in less tender cuts.

Modern theory suggests that ANY cut of meat (large chunk) may be cooked to a tender state by dry heat at low temperature for a long cooking period (20 hours or more).

Meats cooked at a low, constant, oven temperature are more uniformly done throughout, show less cooking loss, require longer cooking time than those cooked at a higher temperature.

Research has shown that gentle boiling is as satisfactory as simmering temperature which is often difficult to maintain.

There is no general agreement on what internal temperature is the best end-point for braised meat. In comparative studies in which beef was braised to temperatures up to and including 210 degrees F. plus 30 minutes, longer cooking improved flavor and tenderness but decreased juices and increased cooking losses. Conclusions drawn from federally sponsored research is that braised meat is about equally tender and flavorful and more juicy when cooked to low rather than to high end-point temperatures.

Poultry is desirable roasted in an open pan at 325 degrees F. They may be covered with cheesecloth and basted with fat. The latter improves the flavor.

Turkeys roasted breast-up during the entire cooking period are as palatable and cook in less time than those roasted breast down during the first hour. Moist heat cookery may be superior to roasting for birds to be used for pre-cooked frozen products. Roasting accelerates the development of fat rancidity.

Fish is done when the protein has coagulated. Beyond this point it becomes dry, crumbly, and firm. Cooking should be stopped when the fish flakes easily with a fork.

Shellfish and some fish with bones contain less than 5 percent fat when raw. Fish containing more than 5 percent of fat such as halibut, herring, mackerel, salmon, and shad are desirable for baking and broiling. Leaner fish may be cooked by these methods if basted with melted fat. Both fatty and lean fish may be fried successfully."

To simplify the presentation of information, it is sometimes necessary to use trade names. No endorsement of products is intended.

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