FACT SHEET

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FOOD FACTS AND FALLACIES

Food Quality and Safety Committee*

Many myths, fallacies and misconceptions concerning the processing, preparation, storage and value of various foods and food stuffs exist. While some of these concepts are intriguing, others are nonsensical. In fact, some can even be considered dangerous to consumers. Individuals should seek current and accurate information about the effects of processing and handling on the nutritive value and safety of foods and food products.

The various myths related to food have many origins; folk medicine gave value to certain foods and many of the handling and preparation methods used prior to the development of modern processing technologies. These ideas have traditionally been passed down through families, communities and geographical regions. Today's consumer is intently interested in the nutrition and safety aspects of food handling, preparation and processing.

The following are brief answers to questions continually raised about food and about certain misconceptions and misnomers regarding food. The objective is not to provide in-depth answers to the questions, but to alert individuals to the fact that fallacies do exist and that careful consideration should be given to traditional ideas.

This fact sheet is divided into two sections. The first section includes general questions. The second section deals with specific foods.

General Topics

Are foods made with mayonnaise or salad dressing more likely to cause food poisoning than those made without?

Not necessarily. Because mayonnaise is an acid food, it will not support the growth of food poisoning bacteria. Problems with foods made with mayonnaise or salad dressings are probably caused by other ingredients, preparation or handling. Salads normally using mayonnaise or salad dressing may also contain ingredients subject to contamination, such as chopped meat, meat products, eggs, potatoes, raw vegetables or spices. Proper food handling of these products reduces the possibility of food poisoning.

Can you refreeze meat, fish and poultry?

Yes, as long as it is still cold (not above 40 degrees F) and contains ice crystals. There may be some loss in flavor and overall quality, but generally, these products will be safe. If there is any doubt, cook the product immediately and refreeze (cooked meat and poultry can be stored 1½ to 3 months).

Can certain foods prevent, cure, relieve or treat certain diseases or symptoms?

No single food is a cure-all for the many causes of disease, nor does any single food prevent disease. When food is a factor in treatment, it is only a part of the total strategy. A balanced diet is one of the most important factors in maintaining your health. Eat a variety of foods from the major food groups (meats, poultry and fish products, dairy products, cereal products, and fruits and vegetables).

Are our daily diets lacking nutrients because many foods undergo prolonged storage, transportation, processing and cooking?

No. Refrigeration, rapid shipment and modern storage and processing methods protect the nutritional quality of foods and make it possible to have a wide variety of food throughout the U.S. year-round. In cooking, some nutrients may be lost, but these losses are generally minimized by using proper times and tempertures. These losses are not sufficient to affect the quality of the daily diet.

What is ptomaine poisoning?

The term *ptomaine* is misused commonly to describe unspecified food poisoning. The word was coined in the late 1800's to identify foul-smelling substances produced

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by decomposing food. Although various *amines* are produced through natural enzymatic or bacterial breakdown of food proteins, the only one responsible for food poisoning is *histamine.* Large concentrations of histamines in a food can cause an immediate allergic reaction, but the classical food poisoning symptoms (diarrhea and vomiting) are caused by bacteria such as *Staphylococcus, Salmonella* and *Clostridium* not *ptomaines.* Foods incriminated in food poisonings are those mishandled in preparation and storage, not those that are decomposed or spoiled. Further information on bacterial food poisoning is included in Extension publication L-1540, *Bacterial Food Poisoning,* available from your county Extension agent.

Milk and Dairy Products

Why are food poisoning organisms often found in homemade ice cream?

Because quite often the mix is not pasteurized. If eggs are used in an ice cream mix, they must be clean and uncracked, and the mix must be pasteurized by heating to 155 degrees F and holding at that temperature for 30 minutes. After heating, cool it immediately. The only other way to be sure homemade ice cream will not cause food poisoning is to use pasteurized milk products and not add raw eggs. With either method the mix must be refrigerated until it is used.

Is it safe to drink unpasteurized (raw) milk?

No. Pasteurize all milk. Many diseases and food poisonings can be transmitted through milk. Historically, unpasteurized milk has been a major cause of food poisoning. After pasteurization became mandatory in most of the states, the incidence of food poisonings caused by milk virtually disappeared. If you must drink raw milk, it should be from cows that are free from brucellosis and tuberculosis. The milk should be obtained from the cow in a sanitary manner and stored at less than 40 degrees F until it is used. Despite these precautions, the potential to become ill from the consumption of raw milk still exists.

How long will milk keep in the refrigerator?

Although pasteurized milk is safe to drink, it is not a sterile product and eventually will deteriorate. Usually, this happens several days after the expiration date on the carton. Milk from different companies will have different keeping qualities, but the major factor that affects keeping quality is the storage temperature. Always store milk at temperatures lower than 40 degrees F to obtain the maximum shelf life. An increase in temperature above 40 degrees F at any point will decrease the length of time milk will remain acceptable. Milk stored at 45 degrees F will have half the shelf life of milk stored at 40 degrees F. Consumers have no control over the temperature of milk during distribution and in the store. Buy only cold milk and keep it refrigerated until it is used.

Are the natural hormones and vitamins in raw milk, such as vitamin D, destroyed during pasteurization?

No. As in any other food, the hormones and enzymes in raw milk are destroyed as you digest the food. The body does not receive its hormones from food substances, but manufactures them itself. Vitamin D is scarce in our food supply. It is not naturally found in raw or pasteurized milk. The pasteurization process kills organisms in the raw milk which are responsible for typhoid fever, dysentery and salmonellosis. The nutrients for which milk is most important — calcium, protein and riboflavin — are not reduced in pasteruization.

Is cheese safe to eat if it becomes moldy?

Cheese often develops mold in a home refrigerator after the cheese has been opened. Some molds can produce aflatoxins which are carcinogenic and hallucinogenic. Most of the molds that grow on cheese in the refrigerator do not produce aflatoxins. Remove mold from cheese by slicing at least ¼-inch off the surface of the cheese where the mold has grown. Cheeses such as Camembert, Brie, and blue cheese are made using a mold, and these molds can be eaten.

Fish and Shellfish

Is it true that fish are "brainfood?" Will eating them make you smarter?

Eating seafood will not increase intelligence. Intelligence is determined primarily by genetic, nutritional and environmental factors in the first 2 years of life. Seafoods are a healthy addition to anyone's diet. They contain a high-quality, easily digested protein and many essential vitamins and minerals which help maintain good health, allowing better functioning of the mind and body.

Is it true that you can only eat oysters during the months that have an "r" in their names?

Eating oysters only in months spelled with an "r" does not indicate the wholesomeness of the meat. This idea could have developed in the days before refrigeration was widely used and people were warned to avoid eating oysters during the summer. Although oysters are edible all year, they are usually more plump during the winter months. Oyster season in Texas runs from November to April.

Why do some fish have a strong odor?

Most species of fish, when truly fresh, lack offensive odors. A strong odor becomes prevalent only after deterioration sets in. Odors in fish may be caused by oxidized fats, amines and other products of bacterial and enzymatic action. Fresh fish can be stored at temperatures below 40 degrees F, for 7 to 10 days.

Fruits and Vegetables

Why is open-kettle canning not recommended for fruits and vegetables?

In open-kettle canning, food is cooked in an ordinary kettle, then packed into hot jars and sealed without processing. For fruits and vegetables, the temperatures obtained in open-kettle canning are not high enough to destroy all spoilage and food poisoning organisms that may be in the food. Spoilage bacteria also may contaminate the food when it is transferred from kettle to jars.

Why must fruit be processed in a boiling water bath?

Even though fruit contains natural acidity which prevents the growth of pathogenic bacteria, many spoilage organisms such as bacteria, yeast and molds may be present on utensils used in filling jars, on the jars and lids, on hands and clothing, in the air, or even in the heated food. If used according to directions, the boiling water bath kills those organisms which might cause spoilage.

Is it all right to use preservatives in home canning?

Products used to prevent browning and maintain firmness are acceptable for home canning. Do not substitute canning powders or other chemical preservatives, including aspirin, for heat processing.

Is it safe to can in the oven?

No, oven temperature varies as the heat goes off and comes on again. Dry heat does not penetrate the same as steam under pressure or boiling water. Pressure may build in jars and cause an explosion. Likewise, canning in a microwave is not recommended.

Why are fresh supermarket tomatoes so tasteless and mushy?

A number of factors affect the quality of fresh produce you buy. Most of America's off-season tomato supply comes from California, Florida or Mexico. Because of the distance to markets and consumer demand for blemish-free fruit, growers must compromise to provide tomatoes at reasonable prices. They must choose varieties that do not crack, are firm enough to withstand shipping and handling and have suitable shelf life. Most off-season tomatoes in the supermarket were picked at "mature green" state and in many cases treated with ethylene gas to accelerate ripening. When you purchase them they are often not fully ripe and if eaten or refrigerated immediately they will not be at peak quality. To complete the ripening process, simply leave them out at room temperature for several days.

Are there dangerous pesticides on the fruits and vegetables we eat?

There is no simple answer. Large amounts of pesticides are used in agriculture today; indeed, America's agricultural abundance is due in part to the use of pesticides. Unfortunately, many of these chemicals are toxic to humans as well as to pests. To minimize potential hazards, government agencies at the state and federal levels regulate pesticide use. Tough registration procedures restrict the range of crops on which a pesticide can legally be used. Time restraints between application and harvest are imposed to allow the pesticide to break down before the product is consumed. Extensive research establishes what residue levels are acceptable in the marketplace. Finally, federal and state inspectors routinely check the residue levels in samples of harvested produce. This sampling program extends to imported produce as well.

Are potatoes too fattening to be included in low-calorie diets?

A common misconception is that potatoes, especially baked potatoes, are too fattening for most diets. But, a medium baked potato contains only 110 calories, the same as 1 cup of orange juice and 10 calories less than 1 cup of plain yogurt. The calorie count increases when the seasonings are added. Low-calorie recipes for potatoes are available.

Eggs and Poultry Products

Are fertile eggs more nutritious than nonfertile eggs?

There is no evidence to support this belief. Fifteen to 20 years ago, many educational programs were held to convince farmers to remove roosters from hens producing table eggs. Possible blood-ring development in fertile eggs was the major reason for this suggestion. Today no fertile eggs are sold as table eggs.

Clean, sound shelled, graded eggs maintained under refrigeration and purchased from a store where stock moves quickly are still the best choice.

Are blue-shelled eggs more nutritious?

For several years "blue-shelled eggs" have been promoted in various areas as being, "more nutritious and lower in cholesterol" than ordinary white or brown-shelled eggs. These eggs are no more nutritious and have the same or more cholesterol than regular brown-or white-shelled commercial eggs.

Meat and Meat Products

Do Americans consume excessive amounts of red meat?

This misconception is related to how consumption is expressed. When expressed on a carcass weight basis, on the average, the annual per capita consumption for beef, veal, pork and lamb ranges from 105 to 110, 2 to 3, 65 to 75, and 1.5 to 2 pounds, respectively. Trimmable fat and bone are not consumed, so a more realistic statistic might be pounds of cooked meat which would be 36 to 38, 0.2 to 0.7, 20 to 30 and 0.2 to 0.7 pounds annually for beef, veal, pork and lamb, respectively.

Can cured meats be frozen?

Yes, however, the stability is somewhat limited by processing and the addition of salt. Recommended frozen storage times are: sausage, 60 days; frankfurters, 1 month; bacon, 1 month; ham, 60 days; and luncheon meats, not recommended.

Is Trichinosis a major problem?

Trichinosis is a minor problem today, with only 100 to 120 clinical cases reported each year. In addition, there is a low incidence of trichinae — the parasite responsible for trichinosis — in animals. Statistics indicate that only 0.125 percent of 80 million hogs slaughtered each year are infected, down from 0.95 percent registered in the 1930's. Because the stamp "U.S. Inspected and Passed" on raw pork products does not guarantee the product is trichinae free, properly cook fresh pork. For maximum tenderness, juiciness and flavor, with a minimum amount of cooking loss, cook pork to a resting internal temperature of 170 degrees F. Preparation of fresh raw pork in a microwave has recently received some attention with regard to survival of trichinae. Pork prepared in a microwave should be cooked, using a low power setting, to an internal teemperature of 170 degrees F and periodically rotated.

Are non-fed or grass-fed beef less expensive to produce than grain-fed beef and just as palatable?

No, it is more efficient and economical to produce beef with some grain feeding. A short period of time on a high-quality grain diet produces beef with the shelf life, color, flavor, tenderness and taste that the American people have become accustomed to eating.

Are meat inspection and meat grading the same process?

No, they are separate services. Inspection insures that meat products are from healthy animals which were slaughtered and processed under sanitary conditions. Meat inspection guarantees that meat and meat products are suitable for consumption and are properly labeled. Meat inspection is mandatory and paid by tax dollars. USDA meat grading is a voluntary service paid for by the company requesting the service. Not all meat is graded, but *all meat is inspected.* There are two kinds of meat grading. One is "quality" grading which segments carcasses into similar groups based upon palatability (tenderness, juiciness and flavor) characteristics. The second is "yield grading" which indicates the percentage yield of closely trimmed retail product.

*This publication was developed through the efforts of the Food Quality and Safety Committee. Contributing members include: Al Wagner (chairman), Extension food technology specialist; Dennis Stiffler, Extension meats specialist; Ranzell Nickelson, Extension seafood technology specialist and marine project supervisor; Mary K. Sweeten, Extension food and nutrition specialist; Tim Hartz, Extension vegetable specialist; Richard Edwards, Extension economist-marketing (food distribution); Dave Mellor, Extension poultry marketing specialist; and Dean McCraw, Extension horticulturist-special programs, The Texas A&M University System.

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