

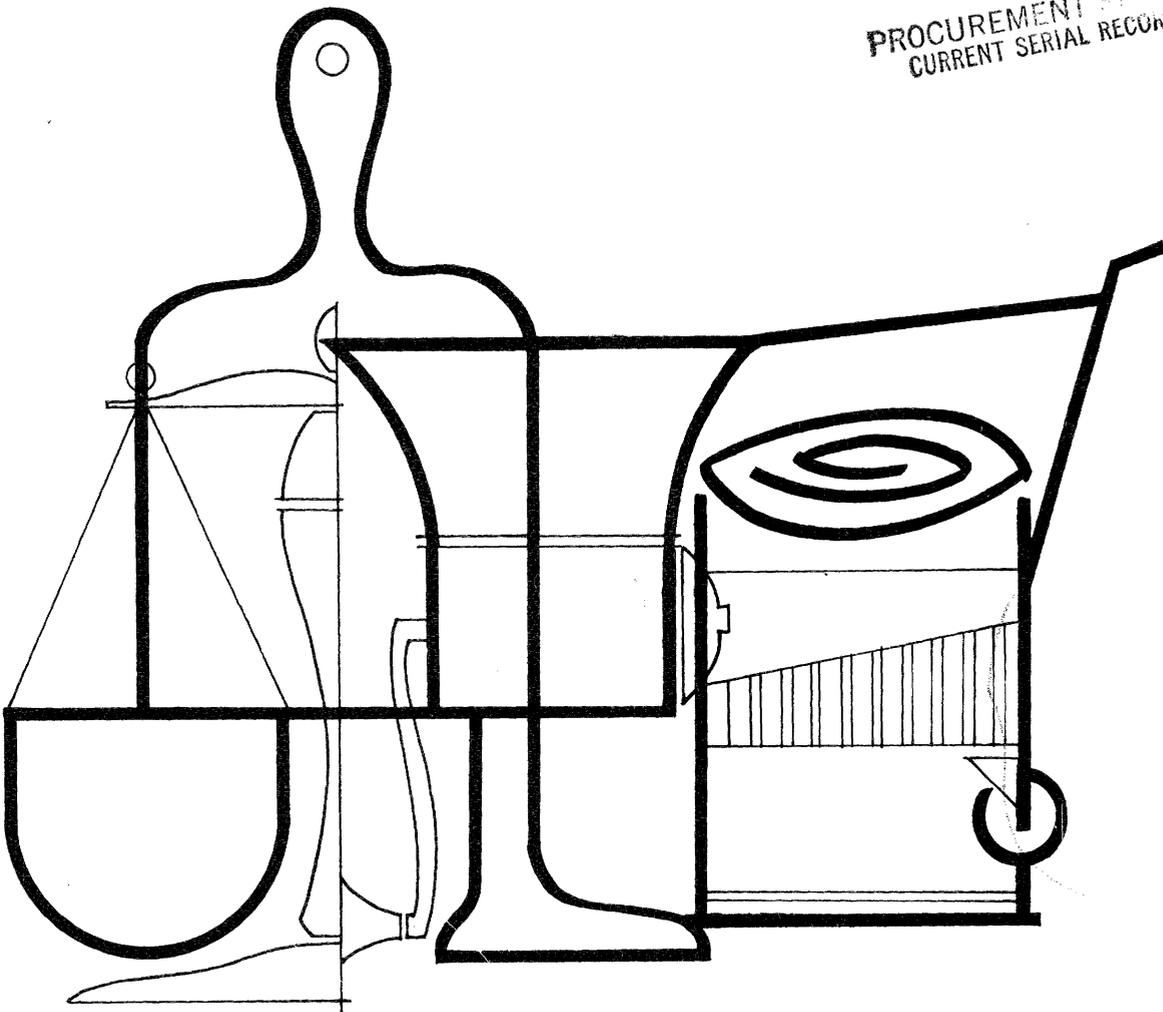
# INSPECTION, LABELING, AND CARE OF MEAT AND POULTRY

a consumer education guide

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UNITED STATES DEPARTMENT OF AGRICULTURE  
CONSUMER AND MARKETING SERVICE

WASHINGTON, D.C. 20250

Dear Educator:

This guide was designed to give you background information and aid you in teaching your students about meat and poultry inspection, buying and care of meat and poultry products.

Some visuals and learning aids are included in this booklet.

Others which are mentioned must be ordered. These include:

*Publications:* Contact the regional C&MS-USDA Information Office covering your State.

*Films:* To book films, contact your State film library, or Motion Picture Service, U.S. Department of Agriculture, Washington, D.C. 20250.

*Table-Top Exhibit:* Is available for loan from the regional C&MS-USDA Information Office.

*Posters:* "Meat and Poultry Inspection" set (A 88.38:M46) may be purchased for \$1.75 from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

**Regional C&MS-USDA Information Offices**

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An evaluation sheet is enclosed at the end of this booklet. We would very much appreciate your comments on whether the material is of help to you or suggestions on how we might improve it.

Cordially,

Sara A. Beck  
Consumer Specialist

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July 1971

# unit 1 Introduction to Inspection

## UNIT OBJECTIVE:

To develop an understanding of meat and poultry inspection programs, their history, coverage, and importance to consumers.

## OVERVIEW:

The average homemaker spends about one-third of the family food budget for meat and poultry products. For the most part she must make selections on her own. She needs information to solve problems. So it is with anybody who does the family food shopping.

Meat and poultry are a nutritious part of the family menu and an enjoyable part of everyday life. In fact, meals just wouldn't be the same without them. And helping to supply every American with clean, wholesome, truthfully labeled meat and poultry is the main purpose of meat and poultry inspection programs.

## SUGGESTED LEARNING EXPERIENCES:

- Have students work crossword puzzle either for test or home assignment.
- Display charts showing inspection marks.
- Display charts showing grade marks.
- Display posters or table-top exhibit.
- Go on field trips to slaughter and/or processing plant. Point out different aspects of inspection.

## CONTENT:

### Inspection Milestones

A lot of controversy and legislation, ranging over nearly a century, led to the meat and poultry inspection programs administered today by the Consumer and Marketing Service in the U.S. Department of Agriculture. Here are some of the key events:

**1890—MEAT INSPECTION ACT OF 1890** authorized inspection of salted pork and bacon and live animals intended for export. Our meat industry faced losing its meat trade with European countries if it didn't set wholesomeness standards for meats shipped to them. Act also authorized inspection and quarantine of imported animals.

**1891—CATTLE INSPECTION ACT OF 1891** authorized inspection of all cattle intended for export; voluntary inspection of animals before and after slaughter if they were to be shipped in interstate commerce; tagging of inspected meats so consumers would know which products were inspected; and non-mandatory inspection of carcasses to be sent to canning or processing establishments. The voluntary nature of this Act and the lack of sanitation regulations made it difficult to protect the Nation's meat supply, however.

**1906—MEAT INSPECTION ACT OF 1906** was passed by Congress as part of USDA appropriations bill. During the same year, Upton Sinclair ("The Jungle") and other muck-

rakers were writing exposes on packing plant problems. The Act provided for Federal inspection of sanitation in meat plants. Also established mandatory after-slaughter inspection at packing houses and procedures for condemnation. Compliance with previous inspection laws had been voluntary but, with the passage of this Act, all meats moving in interstate commerce became subject to compulsory inspection. The Act, however, was passed with provisions for only one year's appropriations.

**1907—MEAT INSPECTION ACT OF 1907**, part of another USDA appropriations bill, provided funds for the inspection program to continue. It also provided for labeling reviews, for inspection of live horses, and for separation of diseased animals from other animals and of slaughter areas from processing areas.

**1926—USDA** agreed to take over the inspection of live poultry in New York—a program begun by the New York Live Poultry Commission Association. Soon there were similar agreements with other States, and so began voluntary Federal inspection of interstate commerce poultry. USDA's inspection work further expanded during the next few years to encompass voluntary inspection of poultry for export.

**1942—An Act of Congress** declared that all intrastate meat plants would be subject, for the duration of World War II, to the provisions of the 1907 Meat Inspection Act, which already applied to interstate and foreign commerce plants.

**1947—Congress** repealed the 1942 law providing for wartime inspection of intrastate meats.

**1957—POULTRY PRODUCTS INSPECTION ACT** established compulsory Federal inspection of all poultry moving across State lines and in foreign commerce.

**1958—NATIONAL HUMANE SLAUGHTER ACT** set standards for methods and equipment used in slaughtering livestock and poultry.

**1967—WHOLESOME MEAT ACT**, an amendment to the 1907 Meat Inspection Act, provided for establishing a uniform standard for State and Federally inspected meats.

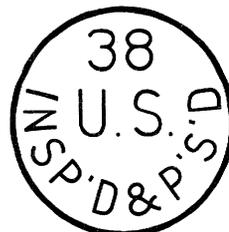
Required meats which do not cross State lines to be inspected in programs "at least equal to" Federal inspection. Authorized Federal government (USDA) to pay up to half the cost of State inspection programs and provide technical assistance as needed. Required that plants in States without approved inspection programs after Dec. 15, 1970, be placed under Federal inspection. Brought under control many small plants not previously inspected. Required foreign plants which export meats to this country to meet U.S. sanitation and inspection requirements. This amendment has been incorporated in the Federal Meat Inspection Act.

**1968—WHOLESOME POULTRY PRODUCTS ACT**, an amendment to the 1957 Poultry Products Inspection Act, made similar provisions for poultry inspection that the Wholesome Meat Act of 1967 made for meat inspection. Set final deadline of Aug. 18, 1971, for State "at least equal to" poultry inspection programs.

### Inspection and Grading Distinctions

There are two separate, but related, programs within USDA's Consumer and Marketing Service which cover meat and poultry. These should not be confused. One is the inspection program which is for wholesomeness and proper labeling. To pass inspection, meat and poultry products must be from healthy animals and birds which were handled or processed under strict sanitary conditions, must not be adulterated, and must be truthfully packaged and labeled. Federal inspection marks are round.

This is the inspection stamp put on meat carcasses. It is only stamped on the major cuts of the carcass, so it may not appear on the roast or steak you buy.



You will find this mark on every prepackaged processed meat product—soups to spreads—that has been Federally inspected.





This is the mark used on Federally inspected fresh or frozen poultry or processed poultry products.



USDA Good beef often pleases thrifty shoppers because it is somewhat more lean than the higher grades. It is relatively tender, but because it has less marbling, it lacks some of the juiciness and flavor of the higher grades.

The other program is grading for quality. Grading is a voluntary service to meat packers, poultry processors, and others who request it and pay a fee for the service.

### Meat Grades

The types of meat which may be purchased at retail with the grade mark are beef, veal, calf, lamb and mutton. When the carcass is graded, a purple shield-shaped grademark containing the letters USDA and the grade name is applied with a roller-stamp. The grade shield is rolled on, in a long ribbon-like imprint, all along the length of the carcass and across both shoulders. Then, when the carcass is divided into retail cuts, one or more of the grade marks will appear on most of these cuts. However, close trimming of these cuts may eliminate the grade mark. Only meat which has first passed a strict inspection for wholesomeness may be graded. Inspection and grade marks are applied with a purple vegetable dye which is harmless and need not be removed.

There are eight grades for beef, six for veal and calf, and five for lamb and yearling mutton. The top three grade names—Prime, Choice, and Good—are the same for all. The remaining grades for beef are Standard, Commercial, Utility, Cutter, and Canner. For veal and calf they are Standard, Utility, and Cull. For lamb, yearling mutton, and mutton they are Utility and Cull.



USDA Prime grade beef is the top in tenderness, juiciness, and flavor. It has abundant marbling (flecks of fat within the lean) which enhances both flavor and juiciness.



USDA Choice beef will be tender, juicy, and flavorful. Choice grade has slightly less marbling than Prime, but still is of very high quality.

In contrast with other meats, USDA pork grades are not intended to identify differences in quality to consumers. They identify carcasses for differences in yields of trimmed wholesale cuts. Although pork differs less in tenderness, juiciness, and flavor than does beef, there are wide differences in other factors that are important to consumers. So, consumers need to pay close attention to what they select. A high proportion of lean is probably the most important factor. This can be assured by selecting cuts which carry little fat and which have plump, full muscles. Also to assure high palatability, select pork that is firm and grayish pink or darker in color. It should have at least a slight amount of marbling—more is better. Soft, pale, watery lean is definitely not desirable.

### Poultry Grades

Before poultry can be graded, it must first be inspected for wholesomeness. The poultry grader—a Federal or Federal-State quality expert—examines each bird for conformation (overall shape and appearance), meatiness, amount of fat, and the presence or absence of defects (torn skin, discolorations, or bruises).



U.S. Grade A is the top grade for poultry, and the only one commonly found in stores. Grade A birds have good overall shape and appearance. They are meaty, have a well-developed layer of fat in the skin, and are practically free from defects.

U.S. Grade B and U.S. Grade C birds are not as attractive as Grade A. They may have defects or faulty conformation, and could be lacking in fleshing and fat cover. Birds graded B and C are usually sold without the grademark in supermarkets, or are used in processed foods where appearance is not important.

## Scope of Inspection

**Animals**—Meat and poultry inspection applies to cattle (including calves), sheep, swine, and goats, chickens, turkeys, ducks, geese or guineas, and the products made from these animals. Horses may also be Federally inspected, but the slaughtering of horses and handling of horse meat is required to be performed in establishments separate from those used for preparing meat from cattle, sheep, swine and goats. All horse meat or products containing horse meat must be conspicuously marked "horse meat." The mark of inspection for horse meat is a hexagon.

**Establishments**—Before any plant is granted Federal inspection, blueprints of the entire plant layout must be furnished to USDA for approval of all aspects of slaughtering, processing, shipping, and receiving. Once plants are in operation under inspection, all the facilities, equipment, and operating procedures are continually inspected to maintain USDA's high standards for production of wholesome meat and poultry products.

**Before Slaughter**—Each and every animal and every lot of birds presented for slaughter in a Federally inspected plant is examined on the day of slaughter by a USDA veterinary inspector. (Only those which are healthy are passed for slaughter.)

**After Slaughter**—After slaughter, Federal meat inspectors examine each and every carcass, organs, and parts—any area in which unwholesome conditions could be evident. Meat carcasses which pass this examination are stamped with the official "U. S. INSP'D & P'S'D" mark. Containers of poultry which pass this examination are stamped with the official "Inspected for Wholesomeness by USDA" mark. Each carcass or part which is found on final inspection to be unfit for human food is conspicuously marked "U.S. Inspected and Condemned." All condemned carcasses, parts, or organs are kept under the supervision of a Federal inspector, and are treated so anyone can tell they're not fit to eat, before the close of the day on which they are condemned.

**Processed Products**—During actual processing, all meat and poultry and non-meat and non-

poultry ingredients used in making the products are continually checked to insure wholesomeness and preparation according to approved formulas. All processing procedures and techniques must conform to approved methods for sanitation and accurately labeled meat products. Procedures used for processing ready-to-eat pork products must insure the destruction of trichinae. Some examples of these processing procedures are: mixing, weighing, stuffing sausage casings, filling containers, curing, smoking, drying, cooking, canning, aging, slicing, freezing, packaging, and labeling.

Non-meat and non-poultry ingredients which must be approved before use include: flour and grain; dairy and egg products; fruits and vegetables; curing agents and miscellaneous items; as well as chemicals and containers used in processing such as soaps, oil, cleaners, and casings. USDA inspectors visually examine all non-meat ingredients upon arrival into a meat or poultry plant under Federal inspection. USDA inspectors generally accept these ingredients providing there are no outward danger signs. The Food and Drug Administration (FDA) of the U.S. Department of Health, Education, and Welfare has responsibility and authority for controls over the wholesomeness of all foods other than meat or poultry sold across State lines.

USDA inspection technicians establish regulations on the kinds and amounts of additives which can be used in meat and poultry products, using FDA guidelines for safe, healthful food. All containers, wrappings, netting, cords, and other materials which come in contact with the meat and poultry products or in which the product is wrapped, are inspected for safety and sanitation. Samples are routinely sent in to the chemical laboratory and checked for harmful chemicals.

**Imported Products**—Meat and poultry can be imported only from countries which have a national inspection program for their exporting plants equal to the U.S. program. Products must meet U.S. labeling and minimum product composition requirements and include the name of the country of origin. All labels must be approved in advance. The country must agree to permit frequent reviews of its inspection system by USDA foreign review

officers to insure that the country's program is fully meeting U.S. requirements. The meat must be certified as wholesome at the time of export. As an additional check, it is statistically checked at the U.S. port of entry. All products which pass examination are allowed into the U.S. Those failing are rejected and cannot enter the country or are destroyed for human food purposes.

**Laboratories**—Chemistry, microbiology and pathology laboratories are maintained across the Nation to provide inspectors in the packing plants with supplemental scientific data to aid them in the proper disposition of questionable meat and poultry products. An inspection test kitchen plays a major role in the analysis of products submitted for label approval and compliance with the provisions of label approvals.

**Compliance and Review**—Compliance officers attempt to prevent violations of the Federal meat and poultry inspection laws by alerting people to what they may and may not do. When necessary they track down violations. They also conduct periodic reviews to evaluate the effectiveness of the meat and poultry inspection program.

Lack of compliance with meat and poultry inspection laws may take a variety of forms—counterfeit inspection stamps may be used, a product label used may be incorrect, an uninspected product may be shipped in interstate commerce, or meat and poultry may be improperly handled in foodstores.

It's up to the compliance officers to find out about these violations and correct them. The Staff's main tool is the authority to detain a suspect meat or poultry product for up to 20 days. During this time, the owner of the product may remedy the deficiency so that the consumer will receive a wholesome, unadulterated and truthfully labeled meat or poultry product. If the product is unwholesome, compliance officers make sure the product is not allowed to enter human food channels.

If the owner does not take proper action within 20 days to remedy the situation, then the compliance officers move for a court order to have the product seized for violation of Federal law. The court then decides on the proper disposition of the questionable product.

**Federal-State Cooperation**—Federal inspection covers meat and poultry and their products which are sold in interstate or foreign commerce. USDA's Consumer and Marketing Service has responsibility and control over the wholesomeness of these foods. With the passage of the Wholesome Meat Act in 1967 and the Wholesome Poultry Products Act in 1968, each State is required to provide an inspection system at least equal to Federal requirements, or all plants in that State must be Federally inspected. If the State complies, the State inspection covers plants which produce meat and poultry products for sale only within the State.

Federal and State authorities charged with administering meat and poultry inspection programs may also have a joint program of enforcement. While Federal and State compliance activities are, in many cases, conducted independently of one another—depending on jurisdiction—often joint efforts are called for. Such efforts permit the Federal and State agencies to integrate their compliance and review programs to offer consumers maximum protection against unwholesome, adulterated, and deceptively labeled meat and poultry products.

## Teaching Aids for Clarifying USDA Inspection

### Publications (suitable for handouts):

*Meat and Poultry—Wholesome for You* (G-170). Facts on how meat and poultry inspection protects consumers.

*Meat and Poultry—Clean for You* (G-173). Sanitation requirements the processors must meet under inspection, and how to keep products clean after buying.

*Meat and Poultry Inspection* (C&MS-92).  
A fact sheet.

*Foreign Meat and Poultry Inspection Program* (C&MS-84). A fact sheet.

*How to Buy Beef Roasts* (G-146). Illustrates and describes 10 beef roast cuts, USDA grades for beef, how much to buy, suggested cooking methods. Chart of cuts.

*How to Buy Beef Steaks* (G-145). Illustrates and describes 16 beef steak cuts, gives degree of tenderness for each, explains USDA grades, suggests amounts to buy, how to cook. Chart of cuts.

*How to Buy Meat for Your Freezer (G-166).*

Points you need to consider, such as how much to buy, quality, dealer reputation. How to compare costs of sides, quarters, wholesale cuts, and retails. What USDA grades mean.

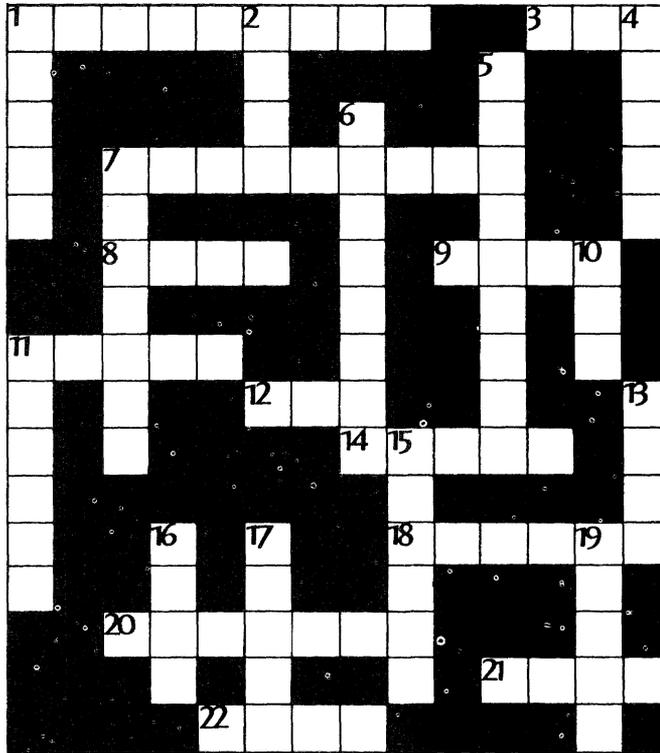
*How to Buy Poultry (G-157).* What the USDA grades mean, age classifications, what to look for on the label. Tips on buying, cooking, storing.

**Movies:**

*That the Best Will Be Ours.* A 16 mm color, sound film on meat and poultry inspection. Released 1971. Runs about 18 minutes. Examines the establishment, growth, and changes in the inspection program, with emphasis on what the program means to today's and tomorrow's consumers.

*Janet and the Genie.* A 16 mm color, sound film on C&MS food grading and inspection services. Runs 28½ minutes. Released 1967. Home economics students and consumers take a trip with Janet, a young high school student, as she journeys through meat packing, poultry processing, apple packing, egg handling, and dairy plants with the help of "The Genie," a magical character who shows her how to be a smart shopper.

*Something to Crow About.* A 16 mm color, sound film extolling poultry as a high quality, wholesome food. Released 1964. Runs 27½ minutes. A European magazine writer tours a hatchery, feed mill, broiler farm, processing plant, and supermarket. Emphasizes inspection, which assures consumers that the product bearing the USDA mark is safe, clean, and wholesome. Shows how poultry is graded for quality and explains difference between inspection and grading.



## Puzzled About Meat & Poultry Inspection?

**M**AYBE SO. BUT you may know more about inspection, buying and care of meat and poultry than you think! Why not give this puzzle a try?

And if you *don't* do so well, write to Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250, for the free USDA publications, G-170 through 174. Inspection needn't be perplexin'!

### ACROSS

1. All of us who buy and eat food.
3. Source of pork.
7. Always cook ..... all the way through (two words).
8. Another name for margarine made with animal fat. It has a USDA standard of identity stating how it must be made.
9. Meat from cattle.
11. Meat and poultry plants under USDA inspection must be kept ....., to help assure you of a

wholesome product.

12. A Cornish ..... is inspected for wholesomeness just like other poultry.
  14. Always ..... meat and poultry at low temperatures to slow down bacteria growth.
  18. Meats cooked in an oven.
  20. Ground meats with spices in a casing.
  21. Some ..... of meat are more tender than others.
  22. Biggest item in the food budget.
- ### DOWN

1. Rich, red ..... is sign of fresh meat.
2. The ..... of USDA inspection is a sign of wholesome meat.
4. The USDA ..... on meat and poultry tells you its quality level.
5. He checks your meats and poultry for wholesomeness before they reach your store.
6. These birds should be stored at

refrigerator temperatures for only 1 or 2 days—but they may be kept in the freezer at 0° F for up to 12 months.

7. Government inspection helps ..... us from bad meat and poultry.
10. A basic part of all meats. USDA inspectors limit it to 30% in hot dogs and other cooked sausage products like bologna.
11. Beef can be ..... in many different ways.
13. Are good to take on picnics, but should be kept cold.
15. Thanksgiving bird.
16. Meat from milk-fed calves.
17. You needn't ..... money on unnecessarily expensive meat and poultry products if you read the USDA-approved labels.
19. Never ..... any food containing meat or poultry that looks off-color or smells sour.

(Answers on next page.)

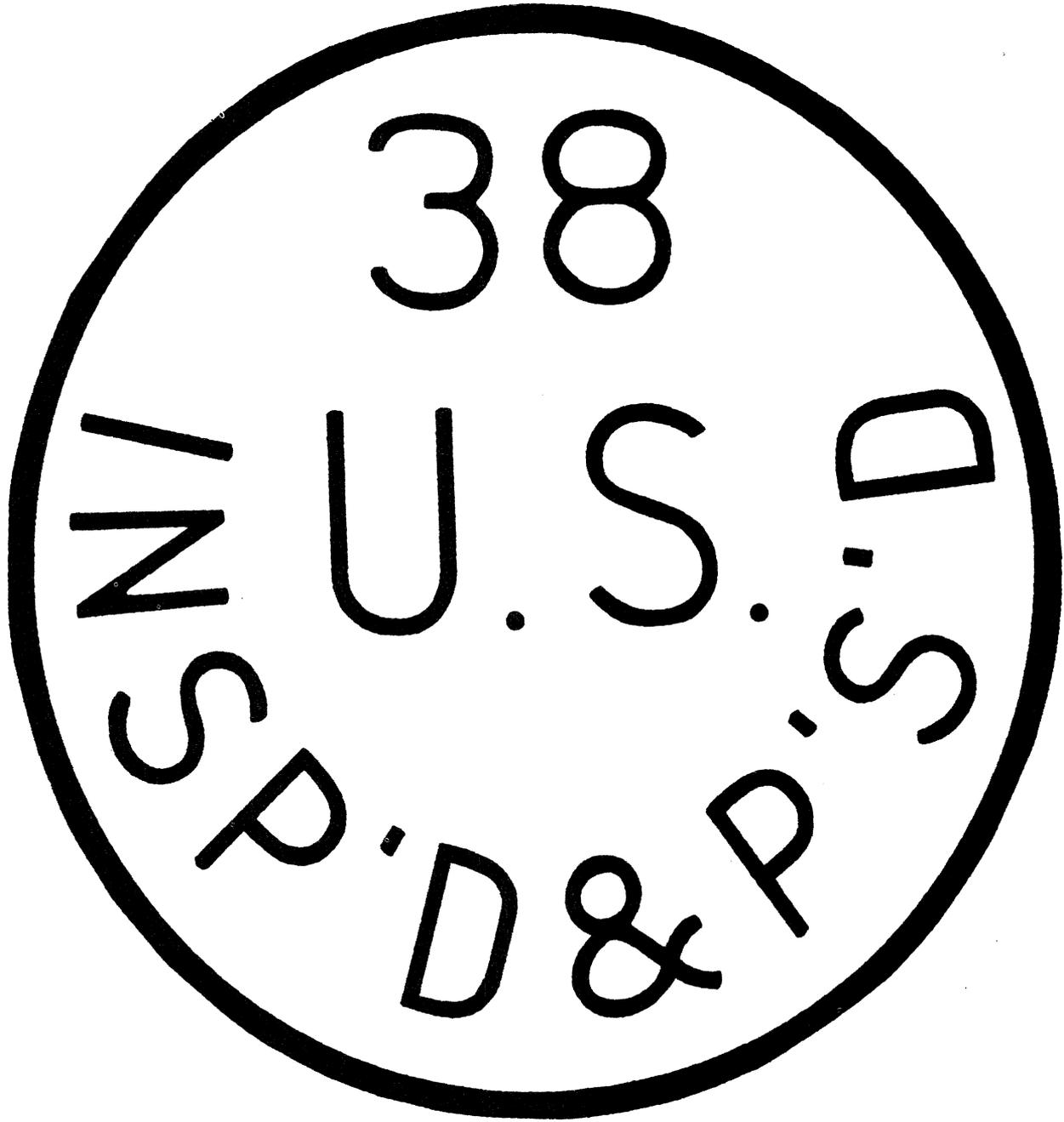
# Puzzle Answers

## ACROSS

1. Consumers.
3. Hog (or pig).
7. Pork chops. For more cooking and care tips, write for "Meat and Poultry—Care Tips for You," G-174.
8. Oleo. More on USDA standards for meat and poultry products is in "Meat and Poultry—Standards for You," G-171.
9. Beef.
11. Clean. To learn more about how USDA checks for cleanliness in plants, request "Meat and Poultry—Clean for You," G-173.
12. Hen.
14. Store.
18. Roasts.
20. Sausage.
21. Cuts.
22. Meat.

## DOWN

1. Color.
2. Mark.
4. Grade.
5. Inspector. The work of USDA's Consumer and Marketing Service in helping to assure wholesome products is described more fully in "Meat and Poultry—Wholesome for You," G-170.
6. Chickens.
7. Protect.
10. Fat.
11. Cooked.
13. Hams.
15. Turkey.
16. Veal.
17. Waste. USDA's labeling requirements for inspected products are explained in "Meat and Poultry—Labeled for You," G-172.
19. Taste.





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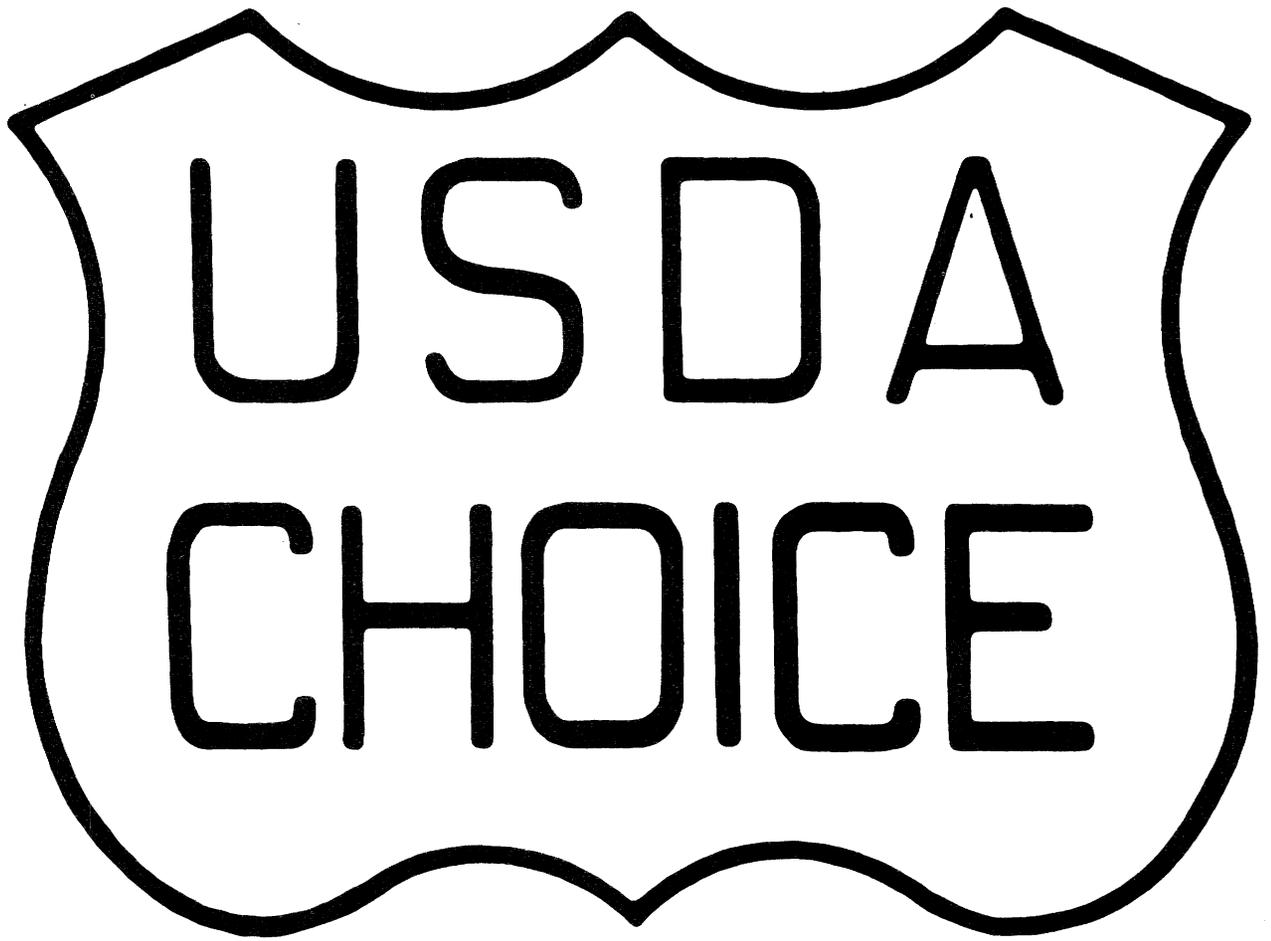






















# unit 2 Labeling and Standards

## UNIT OBJECTIVES:

To develop an understanding of the U.S. Department of Agriculture labeling and standards program for meat and poultry products and how smart shoppers can use the information on labels to make wise decisions between competitive products.

To develop an awareness of how labeling and standards rules are set and how consumers can participate.

## OVERVIEW:

All labels on Federally inspected meat and poultry products must be truthful and accurate and must be approved by USDA before they can be used. To be labeled with a particular name, a Federally inspected meat or poultry product must be approved by the U.S. Department of Agriculture as meeting specific product requirements. In order to do this, USDA sets standards for products. These standards or requirements describe what is to be in the product—such as the minimum amount of meat, the maximum amount of water, and what other ingredients may be in the product.

## SUGGESTED LEARNING EXPERIENCES:

- Enlargement of sample label: point out required information on label.
- Visit a grocery store: have students note the number of competing brands of various processed meat and poultry products, the different size, ingredients, weight and relative cost of servings. Discuss situations in which the lower priced product may not be the best buy.
- Compare cost and ingredients of five different kinds of frankfurters.
- Compare cost of whole chicken vs. cut-up chickens and parts. Cut up a chicken in class.
- Write meat and poultry companies and trade associations for more information and recipes for meat and poultry (including fresh and canned products and economical and convenient dinners.)

- Have students bring in sample labels and packages and discuss the information contained on the labels. Include: TV dinners, pot pies, sausage, luncheon meat, hot dogs, sandwich spread, cooked ham.

- Which would you buy? Give students simple examples of common buying situations with alternative labeling information representing different products. Have them select the best buy among the alternatives. Key points to consider: cost per package, cost per serving, ingredients, serving requirements of the family, storage capability for excess, nutritional value of products, etc.

- Conduct a taste test (example: 5 different kinds of frankfurters.)

- Conduct a visual examination of different brands of beef stew. Consider: can size, order of ingredients, cost of each can.

## CONTENT:

### Coverage of Labeling Program

The label, container, formula, method of manufacture, and frequently a sample of the product are submitted by the processor. Each part of the label is checked for accuracy and conformance with Federal regulations and specifications for that particular product. Home economists check the contents and cooking instructions to make sure they conform to the label. All products must meet minimum Federal specifications set up for the particular product they represent.

Labels may be rejected for failure to meet USDA requirements. Many labels are rejected for the improper use or omission of certain words. If a product has been prepared by special processing, the product name must identify the processing or the method of processing must be indicated on the label. Example: Fully-cooked ham, corned beef, dried beef, pickled pigs feet, chopped ham, minced beef, cooked turkey roll.

When any product is enclosed in a container along with a packing substance such as brine, vinegar, or agar jelly, this must be stated on

the label with the name of the product. Example: Frankfurters Packed in Brine, Beef Tongue Packed in Agar Jelly.

Any geographical term referring to a locality other than that in which the product was produced may appear on the label only when qualified by the word "style," "type," or "brand"—such as Virginia-Style Ham and Country-Style Sausage. However, when these qualifying words are used on a product, the product must be similar to that product which has been identified as peculiar to the locality represented by the geographical term. The label on such products must also give the actual locality where the product was prepared.

Transparent packaging material for meat products cannot be of a color or design that would mislead the consumer as to the color, quality, or kind of product to which they are applied. For instance, red lines or designs would not be permitted on the cellophane that covers bacon or pork sausage, since it might give a false impression of leanness.

If the product is imported, the name of the country of origin must be shown, such as "Product of Denmark."

## How to Read a Label

Before a label can be approved by USDA, it must contain:

- The common or descriptive name.
- The official mark of inspection.
- A net weight statement. This must show only the weight of the product and must not include the packaging material.
- The name, address and zip code of the manufacturer or distributor.
- An ingredient statement, if the product is composed of two or more ingredients. The common name of each ingredient used in formulating the product must be shown in descending order from those ingredients weighing the most to those weighing the least. Natural spices may be listed simply as "spices" and not by their specific name. Small amounts of powdered vegetables and extractives of spices may be grouped together under the term "flavoring."
- A warning statement such as "Keep Refrigerated," if applicable. If a product must be kept frozen or refrigerated to protect its wholesomeness, then a warning (such as "Keep

Frozen" or "Keep Refrigerated") must appear on the label.

- The size of each serving, if the label specifies the number of servings in the package.
- An accurate representation of the contents, if a photograph or drawing of the product appears on the label. If the container holds six slices of turkey, the illustration may show only six slices of turkey. If garnish, trimming, or dish is shown on the label but is not contained in the product, the illustration must be marked "Serving Suggestion" or "Suggested Serving." This statement must also appear if the product is raw and the picture represents it after being cooked.

## How Standards Are Set

A standard is something established for use as a basis of comparison in measuring or judging content. Before USDA will approve a label, the name of the product on the label must describe what is in the package.

In USDA test kitchens, home economists and food technologists examine similar products processed by various manufacturers to learn what current practices are and acquire information from restaurants on professional ways used to prepare foods. Cookbooks and other reference sources reveal information about the standard definition of a product.

Consumer feedback is especially important. Taste panels are used. Technical work is done in laboratories to establish how much fat or moisture may be in a product. If a manufacturer markets a product which is similar to one for which requirements are set, but which does not comply exactly with the standard, then he must call his product by another name.

## How Consumers Can Participate in Setting Standards

Between the time a proposed standard leaves the test kitchen and the time it is incorporated into a formal regulation, it is published in the Federal Register so that anyone who wishes can comment on it. Since regulations are principally designed to protect you, as a consumer, your comments may well decide whether or not a standard is adopted and what it will require.

In order to know when a standard is being considered, read newspapers, listen to radios,

talk to friends in civic organizations and consumer organizations. Then write and tell USDA what you think about the proposal.

### Examples of Standards for Meat and Poultry Products

To be labeled with a particular name—such as “All Beef Franks” or “Chicken Soup”—a Federally inspected meat or poultry product must be approved by the U.S. Department of Agriculture as meeting specific product requirements. Following are products for which percentages of meat, poultry, or other ingredients have been established. (This list does not include all products for which requirements have been set, nor does it necessarily include all requirements for those products that are listed.)

**Red Meat Products** (all percentages of meat are on the basis of fresh uncooked weight unless otherwise indicated)

- BARBECUED MEATS—Weight of meat when barbecued can't exceed 70% of weight of fresh uncooked meat. Must have barbecued (crusted) appearance and be prepared over burning or smoldering hardwood or its sawdust.
- BARBECUE SAUCE WITH MEAT—At least 35% meat (cooked basis).
- BEANS WITH BACON IN SAUCE—At least 12% bacon.
- BEANS WITH FRANKFURTERS IN SAUCE—At least 20% franks.
- BEANS WITH HAM IN SAUCE—At least 12% ham (cooked basis).
- BEANS WITH MEAT BALLS IN SAUCE—At least 20% meatballs.
- BEEF AND DUMPLINGS WITH GRAVY or BEEF AND GRAVY WITH DUMPLINGS—At least 25% beef.
- BEEF BURGUNDY—At least 50% beef.
- BEEF SAUCE WITH BEEF AND MUSHROOMS—At least 25% beef and 7% mushrooms.
- BEEF SAUSAGE (raw)—No more than 30% fat.
- BEEF STROGANOFF—At least 45% fresh uncooked beef or 30% cooked beef, and at least 10% sour cream or a “gourmet” combination of at least 7.5% sour cream and 5% wine.
- BEEF WITH BARBECUE SAUCE—At

- least 50% beef (cooked basis).
- BEEF WITH GRAVY—At least 50% beef (cooked basis). /GRAVY WITH BEEF—At least 35% beef (cooked basis).
- BREADED STEAKS, CHOPS, etc.—Breading can't exceed 30% of finished product weight.
- BREAKFAST SAUSAGE—No more than 50% fat.
- BRUNSWICK STEW—At least 25% meat.
- BURRITOS—At least 15% meat.
- CABBAGE ROLLS—At least 12% meat.
- CANNELLONI WITH MEAT AND SAUCE—At least 10% meat.
- CAPELLETTI WITH MEAT IN SAUCE—At least 12% meat.
- CHILI CON CARNE—At least 40% meat.
- CHILI CON CARNE WITH BEANS—At least 25% meat.
- CHILI HOT DOG SAUCE WITH MEAT—At least 6% meat.
- CHILI HOT DOG WITH MEAT—At least 40% meat in chili.
- CHILI MACARONI—At least 16% meat.
- CHILI PIE—At least 20% meat.
- CHILI SAUCE WITH MEAT—At least 6% meat.
- CHOP SUEY (AMERICAN STYLE) WITH MACARONI AND MEAT—At least 25% meat.
- CHOP SUEY VEGETABLES WITH MEAT—At least 12% meat.
- CHOW MEIN VEGETABLES WITH MEAT—At least 12% meat.
- CONDENSED, CREAMED DRIED BEEF or CHIPPED BEEF—At least 18% dried or chipped beef (figured on reconstituted total content).
- CORNED BEEF AND CABBAGE—At least 25% corned beef.
- CORN DOG—Must meet standards for frankfurters and batter can't exceed the weight of the frank.
- CREAM CHEESE WITH CHIPPED BEEF (Sandwich spread)—At least 12% meat.
- CROQUETTES—At least 35% meat.
- CURRIED SAUCE WITH BEEF AND RICE (Casserole)—At least 35% beef (figured on beef and sauce part only).
- DEVEILED HAM—No more than 35% fat.
- EGG FOO YOUNG WITH MEAT—At least 12% meat.

- EGG ROLLS WITH MEAT—At least 10% meat.
- ENCHILADA WITH MEAT—At least 15% meat.
- FRANKFURTERS, BOLOGNA, OTHER COOKED SAUSAGE—May contain meat and meat by-products; no more than 30% fat, 10% added water, and 2% corn syrup; no more than 15% poultry unless its presence is reflected in product name; no more than 3.5% cereals and nonfat dry milk, with product name showing that they're added. /“ALL MEAT”—Only muscle tissue with natural amounts of fat; no by-products, cereal, or binders./ “ALL BEEF”—Only meat of beef animals.
- FRIED RICE WITH MEAT—At least 10% meat.
- FRITTERS—At least 35% meat.
- FROZEN BREAKFASTS—At least 15% meat (cooked basis).
- FROZEN DINNERS—At least 25% meat or meat food product (cooked basis, figured on total meal minus appetizer, bread and dessert).
- FROZEN ENTREES: MEAT AND ONE VEGETABLE—At least 50% meat (cooked basis) /MEAT, GRAVY OR SAUCE, AND ONE VEGETABLE—At least 30% meat (cooked basis).
- GOULASH—At least 25% meat.
- GRAVIES—At least 25% meat stock or broth, or at least 6% meat.
- HAM—CANNED—Limited to 8% total weight gain after processing; if gain is up to 8%, must be labeled “HAM, WITH NATURAL JUICES”; if between 8% and 10%, must be labeled “HAM—WATER ADDED—WITH JUICES.”
- HAM—NOT CANNED—Must not weigh more after processing than the fresh ham weighs before curing and smoking; if contains up to 10% added weight, must be labeled “HAM—WATER ADDED”; if more than 10%, must be labeled “IMITATION HAM”.
- HAM A LA KING—At least 20% ham (cooked basis).
- HAM AND CHEESE SPREAD—At least 25% ham (cooked basis).
- HAMBURGER OR GROUND BEEF—No more than 30% fat; no extenders.
- HAM CHOWDER—At least 10% ham (cooked basis).
- HAM CROQUETTES—At least 35% ham (cooked basis).
- HAM SALAD—At least 35% ham (cooked basis).
- HAM SPREAD—At least 50% ham.
- HASH—At least 35% meat (cooked basis).
- HIGH MEAT BABY FOODS—At least 30% meat.
- LASAGNA WITH MEAT AND SAUCE—at least 12% meat.
- LIMA BEANS WITH HAM OR BACON IN SAUCE—At least 12% ham or cooked bacon.
- LIVER SAUSAGE, LIVER LOAF, LIVER PASTE, LIVER CHEESE, LIVER PUD-DING, LIVER SPREAD, and similar liver products—At least 30% liver.
- MACARONI AND BEEF IN TOMATO SAUCE—At least 12% beef.
- MACARONI SALAD WITH HAM OR BEEF —At least 12% meat (cooked basis).
- MANICOTTI (containing meat filling)—At least 10% meat.
- MEAT BALLS—No more than 12% extenders (cereals, etc.)
- MEAT BALLS IN SAUCE—At least 50% meat balls.
- MEAT CASSEROLES—At least 25% fresh uncooked meat or 18% cooked meat.
- MEAT PIES—At least 25% meat.
- MEAT RAVIOLI—At least 10% meat in ravioli.
- MEAT SALADS—At least 35% meat (cooked basis).
- MEAT TACO FILLING—At least 40% meat.
- MEAT TACOS—At least 15% meat.
- MEAT TURNOVERS—At least 25% meat.
- OMELET WITH BACON—At least 12% bacon (cooked basis).
- OMELET WITH HAM—At least 18% ham (cooked basis).
- PATE DE FOIE—At least 30% liver.
- PEPPER STEAKS—At least 30% beef (cooked basis).
- PIZZA SAUCE WITH SAUSAGE—At least 6% sausage.
- PIZZA WITH MEAT—At least 15% meat.
- PIZZA WITH SAUSAGE—At least 12% sausage (cooked basis) or 10% dry sausage, such as pepperoni.

- PORK SAUSAGE—Not more than 50% fat.
  - PORK WITH BARBECUE SAUCE—At least 50% pork (cooked basis).
  - PORK WITH DRESSING AND GRAVY—At least 30% pork (cooked basis)/PORK AND DRESSING—At least 50% pork (cooked basis).
  - SANDWICHES (containing meat)—At least 35% meat.
  - SAUCE WITH MEAT OR MEAT SAUCE—At least 6% meat.
  - SAUERBRAUTEN—At least 50% meat (cooked basis).
  - SAUERKRAUT BALLS WITH MEAT—At least 30% meat.
  - SAUERKRAUT WITH WIENERS AND JUICE—At least 20% wieners.
  - SCALLOPED POTATOES AND HAM—At least 20% ham (cooked basis).
  - SCALLOPINE—At least 35% meat (cooked basis).
  - SCRAPPLE—At least 40% meat and/or meat by-products.
  - SPAGHETTI SAUCE AND MEAT BALLS—At least 35% meat balls (cooked basis).
  - SPAGHETTI SAUCE WITH MEAT—At least 6% meat.
  - SPAGHETTI WITH MEAT AND SAUCE—At least 12% meat.
  - SPAGHETTI WITH MEAT BALLS AND SAUCE—At least 12% meat.
  - SPANISH RICE WITH BEEF or HAM—At least 20% beef or ham (cooked basis).
  - STEWS (BEEF, LAMB, and the like)—At least 25% meat.
  - STUFFED CABBAGE WITH MEAT IN SAUCE—At least 12% meat.
  - STUFFED PEPPERS WITH MEAT IN SAUCE—At least 12% meat.
  - SUKIYAKI—At least 30% meat.
  - SWEET AND SOUR PORK OR BEEF—At least 25% fresh uncooked meat or 16% cooked meat, and at least 16% fruit.
  - SWISS STEAK WITH GRAVY—At least 50% meat (cooked basis)./GRAVY AND SWISS STEAK—At least 35% meat (cooked basis).
  - TAMALE PIES—At least 20% meat.
  - TAMALES—At least 25% meat.
  - TAMALES WITH SAUCE — (or WITH GRAVY)—At least 20% meat.
  - TAQUITOS—At least 15% meat.
  - TONGUE SPREAD—At least 50% tongue.
  - TORTELLINI WITH MEAT—At least 10% meat.
  - VEAL BIRDS—At least 60% meat and not more than 40% stuffing.
  - VEAL CORDON BLEU—At least 60% veal, 5% ham, and containing Swiss, Gruyere or Mozzarella cheese.
  - VEAL FRICASSEE—At least 40% meat.
  - VEAL PARMAGIANA—At least 40% breaded meat product in sauce.
  - VEAL STEAKS—Can be chopped, shaped, cubed, frozen. Beef can be added with product name shown as “VEAL STEAKS, BEEF ADDED, CHOPPED, SHAPED, AND CUBED.” No more than 20% beef or must be labeled “VEAL AND BEEF STEAK, CHOPPED, SHAPED AND CUBED.” No more than 30% fat.
- Poultry Products** (All percentages of poultry—chicken, turkey, or other kinds of poultry—are on cooked, deboned basis unless otherwise indicated.)
- BREADED POULTRY—No more than 30% breading.
  - CANNED BONED POULTRY:
    - BONED (kind), SOLID PACK—At least 95% poultry meat, skin and fat.
    - BONED (kind)—At least 90% poultry meat, skin and fat.
    - BONED (kind), WITH BROTH—At least 80% poultry meat, skin and fat.
    - BONED (kind), WITH SPECIFIED PERCENTAGE OF BROTH—At least 50% poultry meat, skin and fat.
  - CHICKEN CACCIATORE—At least 20% chicken meat, or 40% with bone.
  - CHICKEN CROQUETTES—At least 25% chicken meat.
  - CHOPPED POULTRY WITH BROTH (BABY FOOD)—At least 43% poultry meat, with skin, fat, and seasoning.
  - CREAMED POULTRY—At least 20% poultry meat.
  - POULTRY A LA KING—At least 20% poultry meat.
  - POULTRY BARBECUE—At least 40% poultry meat.
  - POULTRY BURGERS—100% poultry meat, with skin and fat.

- **POULTRY CHOP SUEY**—At least 4% poultry meat./**CHOP SUEY WITH POULTRY** —At least 2% poultry meat.
- **POULTRY CHOW MEIN, WITHOUT NOODLES**—At least 4% poultry meat.
- **POULTRY DINNERS**—At least 18% poultry meat.
- **POULTRY FRICASSEE**—At least 20% poultry meat.
- **POULTRY FRICASSEE OF WINGS**—At least 40% poultry meat (cooked basis, with bone).
- **POULTRY HASH**—At least 30% poultry meat.
- **POULTRY NOODLES OR DUMPLINGS**—At least 15% poultry meat, or 30% with bone./**NOODLES OR DUMPLINGS WITH POULTRY**—At least 6% poultry meat.
- **POULTRY PIES**—At least 14% poultry meat.
- **POULTRY RAVIOLI**—At least 2% poultry meat.
- **POULTRY ROLLS**—Binding agents limited to 3% in cooked roll.
- **POULTRY SALAD**—At least 25% poultry.
- **POULTRY SOUP**—At least 2% poultry meat.
- **POULTRY STEW**—At least 12% poultry meat.
- **POULTRY TAMALES**—At least 6% poultry meat.
- **POULTRY TETRAZZINI**—At least 15% poultry meat.
- **POULTRY WITH GRAVY**—At least 35% poultry meat./**GRAVY WITH POULTRY** —At least 15% poultry meat.
- **SLICED POULTRY WITH GRAVY**—At least 35% poultry.

Complete standards of identity currently exist for three meat products. These standards require specific ingredients to be present as follows:

- **CORNED BEEF HASH**—Must contain at least 35% beef (cooked basis). Also must contain potatoes (either fresh, dehydrated, cooked dehydrated, or a mixture of these types), curing agents, and seasonings. May be made with certain optional ingredients such as onions, garlic, beef broth, or beef fat. May not contain more than 15% fat nor more than 72% moisture.

- **CHOPPED HAM**—Must contain fresh, cured, or smoked ham, along with certain spe-

cified kinds of curing agents and seasonings. May also contain certain optional ingredients in specified amounts, including finely chopped ham shank meat, dehydrated onions, dehydrated garlic, corn syrup, other chemical substances as permitted in the Federal standard, and not more than 3% water to dissolve the curing agents.

- **OLEOMARGARINE OR MARGARINE**—Must contain either the rendered fat, oil, or stearin derived from cattle, sheep, swine, or goats; or a vegetable food fat, oil, or stearin; or a combination of these two classes of ingredients in a specified proportion. Must contain—individually or in combination—pasteurized cream, cow's milk, skim milk, a combination of nonfat dry milk and water or finely ground soybeans and water. May contain optional ingredients specified in the standard, including butter, salt, artificial coloring, vitamin A and D, and permitted chemical substances. Fat in finished product may not exceed 80%. Label must indicate whether product is from animal or vegetable origin or both.

## **Teaching Aids for Clarifying USDA Labeling and Standards Program:**

### **Publications (suitable for handouts):**

*Meat and Poultry—Labeled for You* (G-172).

How labeling safeguards of inspection protect the consumer and how consumers can take part in setting of labeling rules.

*Meat and Poultry—Standards for You* (G-171).

How standards and requirements for composition of meat and poultry products are formulated and how consumers can have a voice in setting of standards.

# unit 3 Care of Meat and Poultry Products

## UNIT OBJECTIVES:

To develop an understanding of keeping meat and poultry products wholesome after they leave the store.

To develop habits of caring for meat and poultry products so they retain their wholesomeness.

## OVERVIEW:

The U.S. Department of Agriculture inspects and certifies the wholesomeness of meat and poultry products if they are processed in plants which sell across State lines or in foreign commerce. States are developing or enforcing their own programs for inspecting products in plants which sell totally within the State boundaries. Inspection begins when the livestock or poultry is still alive and continues through slaughter, processing, packaging and labeling. All these steps are taken to make sure the meat and poultry products you buy are wholesome. But making sure they stay that way is up to the consumer. Care in buying, storing, handling, and cooking them is essential to retaining the wholesomeness of the products.

## SUGGESTED LEARNING EXPERIENCES:

- Illustrate on the blackboard or by picture how bacteria multiply. Or, develop bacteria culture on agar plate. Discuss the effects of time and temperature on growth.
- Discuss storage charts for refrigerator and freezer. Demonstrate how to wrap and store meat and poultry in refrigerator.
- Demonstrate how to prepare meat and poultry to retain wholesomeness. Follow with student demonstrations or laboratory preparation.
- Visit meat department of grocery store to talk with meat manager regarding care of meats and poultry to retain wholesomeness.
- Show and discuss different kinds of packaging materials.
- Plan and carry out a study of home care

of meat and poultry. Determine extent to which recommended practices are being observed in sampling of homes in the school district. Plan and carry out an educational program to improve practices. Evaluate results through an end survey.

## CONTENT:

### Bacteria and Parasites—Kinds, Causes, Effects

Bacteria are all around us—in the air we breathe, in food we eat, even in our nose and throat, or on our skin. Many are beneficial. But some growing in food cause illness, in the form of food poisoning. They thrive best under warm, moist conditions. Temperatures around 60 to 120 degrees provide ideal conditions for their growth.

Temperature and time influence the growth of bacteria and their production of bacterial toxins in foods. Prompt cooking and proper refrigeration of foods slows the growth of most bacteria. The growth of harmful bacteria and the production of their toxins are almost completely prevented by proper refrigeration practices.

Some types of bacteria can grow slowly in foods that are properly refrigerated. These are called psychrophilic bacteria and cause the spoilage of foods held for a long time under proper refrigeration. Their growth does not result in food poisoning but they are responsible for a loss in food quality. Extended refrigeration of perishable foods may result in the development of slime, off odors, and poor color. These changes, although not harmful, are not acceptable and may be avoided by purchasing only that amount of foods that can be consumed within a reasonable period of time. Leftovers should be used within several days or discarded. The proper purchasing, refrigeration, and rotation of perishable foods can eliminate losses due to psychrophilic spoilage, improve the quality of foods consumed, and result in economic savings for the consumer.

The USDA and various other public and private agencies are conducting research to prevent these food-borne diseases. In the meantime, you should know something about these diseases and how to avoid them.

The names of some of the most common disease-producing bacteria found in foods are: Salmonella, Clostridium perfringens, Staphylococcus aureus, and Clostridium botulinum. Some attack stomach or intestinal tissues directly; others may form a toxin.

The most common parasite found in food, which may still be a threat to health, is *Trichinella spiralis*. It causes the disease, trichinosis, which can be transmitted to human beings when they eat undercooked pork. So, the best way to prevent trichinosis is to serve only pork and pork products which have been cooked all the way through—brought to an internal temperature of at least 137° F. This temperature is sufficient to prevent trichinosis if the pork does contain trichinae. However, for destroying some other organisms that can cause illness and for the best flavor and texture, 170° F. is the most desirable internal temperature when roasting fresh pork. A very important point to remember when cooking any pork product is to be sure to cook it all the way through, but don't overcook it. Overcooking results in products that are less juicy and tender and have less flavor.

In the disease, trichinosis, tiny microscopic worms from the infected meat are released in the intestinal tract and carried by the bloodstream to muscle tissues. There they cause swelling and muscular pain. Diarrhea may be caused by the mature worm in the intestinal tract. The muscular weakness may be prolonged and disabling and, in some cases, causes death. Trichinosis has gradually decreased in the last several years because of State and local laws forbidding the feeding of raw garbage to hogs.

All processed meat products that contain fresh pork and which might be eaten without thorough cooking in the home are adequately processed in Federally inspected plants to assure the destruction of the organism. Since the organism is destroyed by thorough cooking, or by a combination of various processes, controls over the actual cooking and processing of the products are maintained under Federal

inspection to protect consumers from this danger.

Salmonellosis results from eating food containing large numbers of salmonellae and which has not been thoroughly cooked. It causes cramps, nausea, headache, vomiting, diarrhea and dehydration. Antibiotics, fluids and bed rest are the best medicine. Healthy persons throw off the infection usually within 24 to 36 hours, although it can kill elderly people, infants or invalids.

Germs in animal feeds may be one possible source of salmonella infection for animals. Food handlers are another source of contamination. Only thorough cooking kills salmonella in meats and poultry. Freezing curbs, but does not kill these germs.

Another type of bacteria causing foodborne illness is *Clostridium perfringens*. It causes illness through improperly handled, cooked meats. However, illness can easily be prevented if the food is properly refrigerated and then cooked thoroughly before serving.

The symptoms of perfringens poisoning are: nausea without vomiting, diarrhea, acute inflammation of stomach and intestines.

*Staphylococcus aureus*, can produce a poisonous toxin in food, causing so-called "staph" poisoning. It is less acute than salmonellosis, but is more common and causes symptoms similar to those of salmonellosis (but shorter-lasting—usually less than a day). Carelessness on the part of food handlers is frequently a cause. Thorough cooking, sanitary handling, and proper storage of products can prevent *Staphylococcus aureus* poisoning.

The symptoms of staph poisoning are: vomiting, diarrhea and abdominal cramps. It's generally mild and is often attributed to other causes.

Another bacterium which produces poisonous toxins in food is *Clostridium botulinum*. It causes botulism, the rarest and deadliest kind of food poisoning. Botulism spores are harmless in themselves, but the deadly toxin they produce when they reproduce attacks the central nervous system 12 to 36 hours after food containing the toxin has been eaten. Low-acid or non-acid foods are usually the ones carrying the toxin, which is produced in the absence of oxygen, such as a sealed container. The toxin is destroyed by boiling the food for 10 to 20

minutes. Symptoms of this disease are: double vision, inability to swallow, speech difficulty, progressive respiratory paralysis.

## Care Tips

Any food can be a joy to serve and eat if it is prepared properly, but almost any food can be ruined if it is handled carelessly. A food may be safe to eat when it's purchased, but unless it's handled carefully and properly, it may cause illness. Lack of sanitation, insufficient cooking, and improper storage can allow bacteria in food to increase to dangerous levels.

## Buying

- Shop at clean, well-kept grocery store.
- Run errands first, then shop for groceries.
- Select refrigerated and frozen foods last before checkout counter.
- Make sure frozen foods are hard-frozen.
- Make sure refrigerated foods are cold.
- Don't buy torn or damaged packages.
- Don't buy dented cans. A swollen can might contain spoiled food that can cause serious illness.
- Take perishable items home and refrigerate or freeze immediately.

## Storing

- Store canned foods in a cool, dry place. High temperatures may cause some loss of color, flavor and nutritive value of canned food, but it won't affect wholesomeness. In very humid climate, cans may rust more, but rust doesn't hurt food unless it's severe enough to perforate can. Unused portions of canned foods may be stored in can. Cover can and place in refrigerator.
- The transparent film used on prepackaged fresh meat and poultry is designed for both refrigerator and freezer storage for short periods. If meat or poultry is bought wrapped in market paper, remove it, place on platter, cover with wax paper, and store in coldest part of refrigerator. For freezer storage, wrap in moisture, vapor-resistant (airtight) wrapping. Wrap and store giblets separately. Improper wrapping or punctures in the package may cause freezer burn. Freezer burn is the drying out of the surface tissues of food, giving it a

white appearance. It is not harmful, but does make the dehydrated area tough and tasteless when cooked.

- Keep fresh, raw poultry and ground meat in the refrigerator only 1 or 2 days. For longer storage, place in freezer. Whole chicken or turkey may be kept in the freezer at 0° for up to 12 months. Ground meat may be kept in the freezer up to 3 months.
- Raw fresh beef roasts and steaks may be kept in the refrigerator 3 to 5 days, or in the freezer up to 12 months. Check a storage chart for other meats.
- Thawed meat and poultry may be refrozen if they contain ice crystals or have been kept cold and have been held at refrigerator temperature for no more than a day or two. In general, if a food is safe to eat, it is safe to refreeze.
- Separate cooked meat or poultry, stuffing, broth or gravy, and store in refrigerator in separate containers.

## Handling

- Serve foods soon after cooking or refrigerate them; don't leave them sitting out at room temperature very long.
- Defrost products in your refrigerator whenever possible. For faster defrosting, place product in watertight wrapper in cold water or in closed double paper bag at room temperature. This will help to keep surface of product cool while it defrosts, thus protecting against bacteria growth.
- Use a cooler for carrying perishable foods from one place to another (picnic).
- Some people who have had a food-borne disease transmit it to others through the food they handle. That's why it's important to clean hands carefully and frequently while handling food.
- Thoroughly wash with hot water and soap your hands and all equipment that has been used for handling raw meat or poultry before using the same for handling other foods or cooked meat or poultry. A knife, cutting surface, or pan used for raw product can put germs back into the cooked product unless it is cleaned first.
- Keep hot foods HOT and cold foods COLD—over 140° F. or under 40° F.

## **Cooking**

- When cooking foods, use the right equipment and make sure it is working properly.

- Cook meat and poultry at low to moderate temperatures. It will be more tender, juicy, have less shrinkage, and there will be more to serve.

- Always cook all pork and poultry thoroughly, but don't overcook and reduce palatability. Use meat thermometer as guide. Fresh Pork—170°. Fresh poultry—180° to 185°.

- The pink color of some fresh pork cuts—even though the meat is well-done—comes from a chemical reaction of the gases in the oven with the meat. Both electric and gas ovens will cause this reaction. A meat thermometer is the best way to make sure the pork is cooked to the right internal temperature.

- “Darkness” around bones of cooked poultry is an indication of a very young, tender bird. Broiler-fryers are now brought to market in about one-half the time (7-10 weeks) of several years ago. Because the birds are raised quickly, their bones have not matured and are very soft and porous. When the poultry is cooked, sometimes the pigments from the marrow from the soft bones seep through and cause the meat next to the bones to become dark. This is in no way harmful.

- Meat and poultry may be cooked from frozen state. Cooking time may be slightly longer.

- Cook meat and poultry completely at one time; never partially cook to finish cooking later.

- It is safest to cook dressing outside the bird, but if you want to stuff it, do so right before roasting; don't stuff raw poultry and then refrigerate or freeze it.

- Heat leftovers thoroughly. Bring broth and gravy to a full rolling boil and allow to boil for several minutes.

## **Teaching Aids for Clarifying USDA Care of Meat and Poultry Products**

**Publications (suitable for handouts):**

*Meat and Poultry—Care Tips for You (G-174).*

Tips on buying, handling, storing, and cooking meat and poultry products, to keep them wholesome.

## STORING CHART

PRODUCT	STORAGE PERIOD (To maintain its quality)	
	Refrigerator 35° to 40° F. DAYS	Freezer 0° F. MONTHS
<b>FRESH MEATS</b>		
Roasts (Beef and Lamb) .....	3 to 5	8 to 12
Roasts (Pork and Veal) .....	3 to 5	4 to 8
Steaks (Beef) .....	3 to 5	8 to 12
Chops (Lamb and Pork) .....	3 to 5	3 to 4
Ground and Stew Meats .....	1 to 2	2 to 3
Variety Meats .....	1 to 2	3 to 4
Sausage (Pork) .....	1 to 2	1 to 2
<b>PROCESSED MEATS</b>		
Bacon .....	7	1
Frankfurters .....	7	1/2
Ham (Whole) .....	7	1 to 2
Ham (Half) .....	3 to 5	1 to 2
Ham (Slices) .....	3	1 to 2
Luncheon Meats .....	3 to 5	} Freezing not recommended
Sausage (Smoked) .....	7	
Sausage (Dry and Semi-Dry) .....	14 to 21	
<b>COOKED MEATS</b>		
Cooked Meats and Meat Dishes .....	1 to 2	2 to 3
Gravy and Meat Broth .....	1 to 2	2 to 3
<b>FRESH POULTRY</b>		
Chicken and Turkey .....	1 to 2	12
Duck and Goose .....	1 to 2	6
Giblets .....	1 to 2	3
<b>COOKED POULTRY</b>		
Pieces (Covered with Broth) .....	1 to 2	6
Pieces (Not Covered) .....	1 to 2	1
Cooked Poultry Dishes .....	1 to 2	6
Fried Chicken .....	1 to 2	4

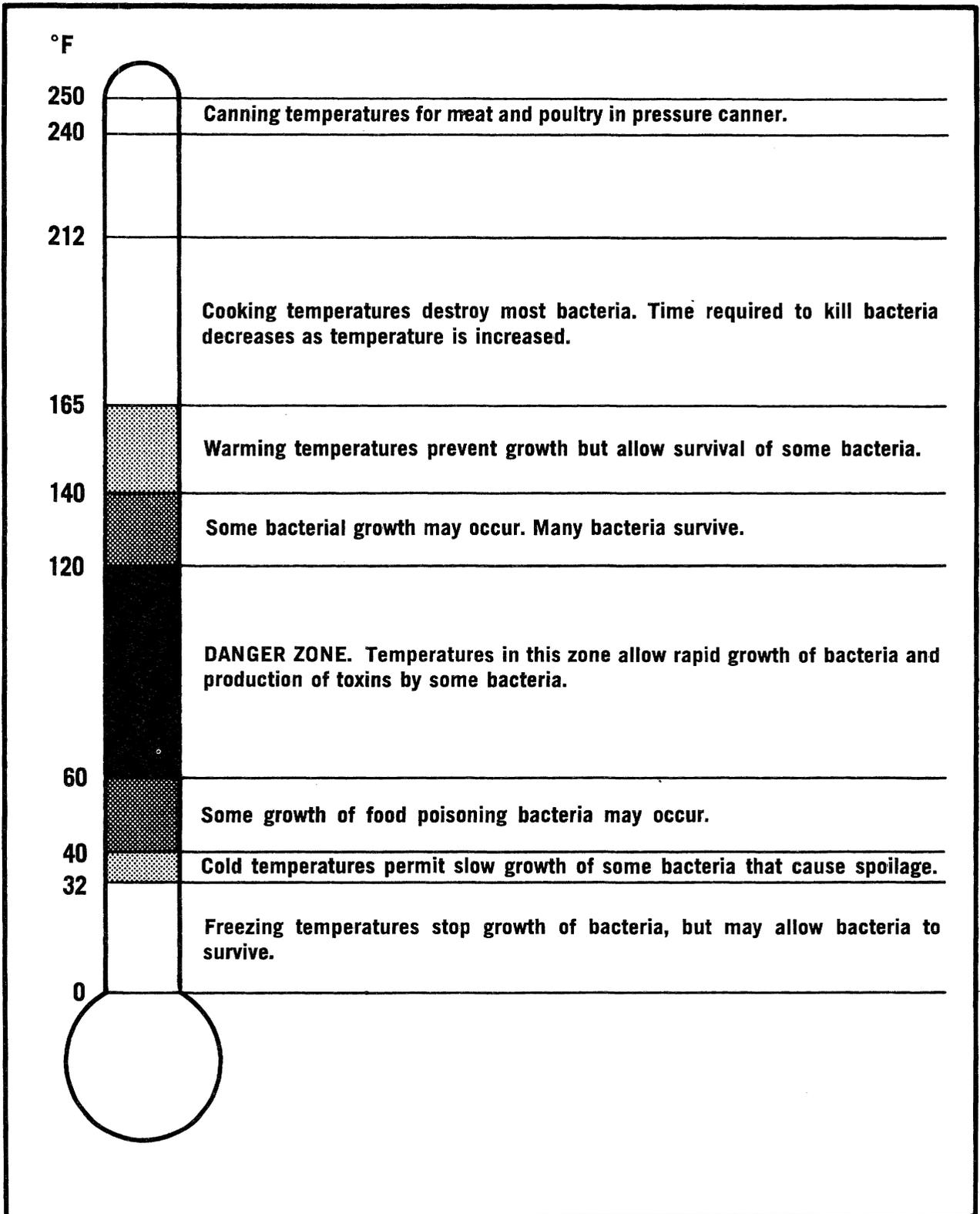


## COOKING CHART

PRODUCT	Internal temperature when done
	°F.
<b>FRESH BEEF</b>	
Rare .....	140
Medium .....	160
Well Done .....	170
<b>FRESH VEAL</b> .....	170
<b>FRESH LAMB</b>	
Medium .....	170
Well Done .....	180
<b>FRESH PORK</b> .....	170
<b>CURED PORK (Cook-Before-Eating)</b>	
Ham .....	160
Shoulder .....	170
Canadian Bacon .....	160
<b>CURED PORK (Fully Cooked)</b>	
Ham .....	140
<b>POULTRY</b>	
Turkey .....	180-185
Boneless Roasts .....	170-175
Stuffing .....	165



# TEMPERATURES for control of bacteria





## SUMMARY OF MEAT AND POULTRY INSPECTION PROGRAM

Federal inspection is required for meat and poultry and their products which are sold across State lines or in foreign trade. Meat, poultry or products which are produced and sold within a State must be inspected under an inspection program that measures up to the Federal program.

Federal and State governments cooperate to give you a wholesome, safe meat and poultry

supply. Wholesome means the animals or birds were healthy, were processed under sanitary conditions, and that products produced from them are truthfully packaged and labeled, contain no harmful chemicals or additives, and are not adulterated. Inspected products alone will not assure against foodborne illness. It is essential that care and cleanliness be used in buying, storing, handling and cooking of all foods.

### SAMPLE TESTS

#### Short Answers

##### 1. How does inspection protect consumers?

The inspection program helps make sure the meat and poultry is safe to eat when it leaves the plant. Each animal is checked before slaughter and after slaughter to ensure only wholesome food. Processed products, such as frozen dinners or pot pies, are inspected—with a special emphasis on sanitation—to make sure the product is wholesome. They must also be truthfully labeled and the ingredients must be listed from the one weighing the most to the one weighing the least.

##### 2. How long can uncooked poultry be stored?

Fresh poultry should be kept in the refrigerator no longer than 1 or 2 days. However, if it is wrapped properly, whole chicken and turkey can be stored in the freezer for up to 12 months. Also, poultry should be handled properly before cooking. Try to defrost poultry in the refrigerator and not at room temperature. This keeps bacteria from growing and makes the food safer to eat. Always serve poultry immediately after cooking and refrigerate leftovers quickly. If you use stuffing, remove it from the bird before you refrigerate the leftovers.

##### 3. How long can uncooked meat such as roasts be kept?

Uncooked meat should be kept in the refrigerator no longer than 5 or 6 days. However, if it is properly wrapped, meat may be held longer by freezing it—for example, up to 12 months for beef and lamb roasts. It is important to defrost frozen meat in the refrigerator and not on the kitchen counter at room temperature. Bacteria grow rapidly at

room temperature, but in the refrigerator—about 40° F.—the meat will remain wholesome until thawed. Serve meat dishes soon after cooking or refrigerate.

**4. How should meat and poultry be wrapped for refrigerator and freezer storage?**

The transparent wrap on prepackaged meat and poultry is designed for refrigerator storage both in the meat case and at home. The special wrap controls moisture losses. Chilled, raw meat and poultry wrapped only in market paper should be unwrapped, placed on a platter or tray, covered with wax paper, and refrigerated. Products which are stored in the freezer should be wrapped in air-tight, moisture-vapor resistant wrappings. This will prevent the meat and poultry from losing any of its moisture and becoming freezer burned, which will cause the meat to lose its color, tenderness and flavor.

**5. What is the meaning of “ham—water added” on the label of Federally inspected non-canned hams?**

The simple term “ham” can be used only if the meat is returned to its original weight after being treated with a curing solution. The term “ham—water added” applies to a product which has acquired up to 10% added weight from the curing solutions. The descriptive term “water added” must be prominent on the label—near the name of the product. If the product has acquired more than 10% added weight from the curing solutions, it must be labeled as an “imitation ham.”

**6. Is it safe to refreeze poultry that was previously frozen and then thawed out?**

Yes, as long as it still contains ice crystals or is still cold and has been held in the refrigerator no longer than two days after thawing. Put poultry in the freezer right after buying it, if you plan to keep it more than 2 days before cooking. And make sure the wrappings are airtight. Whole chicken and turkey will keep at 0° F. for up to a year. If you're planning to cook the poultry within two days after buying, store the product in the refrigerator.

**7. What are the best procedures to follow in cooking poultry?**

The actual cooking of poultry should not be taken lightly. Poultry should be cooked completely at one time and it should never be left partially cooked to be finished later. It's safest to cook dressing outside the bird. But if you want to cook the dressing inside the bird, stuff it just before roasting. The internal temperature of the bird is one good test for sufficient cooking. Turkey should be cooked to an internal temperature of 180° to 185° F. in the inner thigh muscle. The temperature of the stuffing should reach at least 165° F.

## **8. What information must appear on the label of meat and poultry products?**

USDA meat and poultry regulations require that all information appearing on the label must be truthful. It must have the name of the product and if a picture appears on the label, it must agree with the contents. If the product contains several ingredients, they must be listed from the one weighing the most to the one weighing the least. If the number of servings is given, the size of these servings must be stated. The net weight of the product must be listed. If necessary for the product, storage instructions must appear. The name, address and zipcode of the manufacturer or distributor must be shown. The round mark of Federal inspection must appear if the product was processed under Federal Inspection.

## **9. How are standards for meat and poultry products set?**

USDA must approve all labels for products before they can be used and must make sure the name on a product really describes what is in the package. Maximum and minimum requirements for ingredients are also set. To properly protect consumers, USDA experts in home economics, food hygiene, food technology, and food chemistry keep attuned to constant changes in food processing. They work closely with the food industry and get views of consumers to arrive at uniform standards so when you buy meat and poultry products, you know what to expect in the product by reading its label.

## **10. What are the different kinds of frankfurters available?**

Under the USDA meat and poultry regulations, a plain frankfurter contains meat and meat by-products, plus seasonings. An all-beef frank, however, can contain the meat of only the beef animal, plus seasonings. An all-meat frank can contain a combination of meat—beef, veal, lamb, pork, and can contain up to 15% poultry meat, plus seasonings. Frankfurters with poultry added and reflected in the product name can contain meat and meat by-products and more than 15% poultry, plus seasonings. A hot dog with label indicating extenders added can contain such things as nonfat dry milk, cereal, or soy protein which helps bind the ingredients together and makes a more firm product. The extenders can't exceed 3½%. Cooked sausage products such as franks can contain no more than 30% fat, 10% added water, and 2% corn syrup.

## **11. What is the best way to thaw meat and poultry?**

Frozen meat and poultry should be thawed in the refrigerator. Meat or poultry may also be thawed in a container of cold water if it's left in a watertight wrapper. Careful thawing procedures are especially important for poultry. If the bird must be thawed at room temperature,

its surface should be kept cool during thawing. This can be done by placing it in a closed double-paper bag until it is pliable. Always cook meat and poultry immediately after thawing or refrigerate it to reduce the chance of bacterial growth.

**12. Is there a difference between USDA inspection and grading services?**

Yes. USDA inspection is for wholesomeness and is required for meat and poultry products which are sold across State lines or in foreign commerce, and in those States which have no intrastate inspection program. USDA grading is a voluntary program for determining the quality of meat and poultry products. The U.S. grades for poultry are A, B, and C. Grade A is the top grade and is usually the only one found in retail stores. The top three U.S. grades for meat are Prime, Choice, and Good. Choice is the grade generally in most plentiful supply. It has slightly less marbling and is less expensive than Prime. The Federal inspection mark is round, and the grade mark is in the shape of a shield.

**True or False**

1. T Federal inspection covers only meat or poultry that is sold across State lines, in foreign commerce, in District of Columbia or in designated States.
2. F Inspection and grading mean the same thing.
3. T The USDA grades for poultry are: USDA Grade A, B, and C.
4. T All imported meat and poultry products must meet the same wholesomeness requirements as products produced in the United States.
5. T Processing procedures in an inspected plant for ready-to eat pork products must insure the destruction of trichinae.
6. F Food and Drug Administration administers the meat and poultry inspection program.
7. T Labels may be rejected for improper use or omission of certain words.
8. T If a manufacturer markets a product which is similar to one for for which a minimum standard is set, but which does not meet this minimum standard, then he must call his product by another approved name.
9. F There is no limit on the amount of fat or extenders in cooked sausage products.
10. T Cooked sausage products may contain up to 15% poultry without it being reflected in the name of the product.

11. T The way to prevent trichinosis is to eat only pork and pork products which have been properly cooked.
12. T Food poisoning can be caused through improperly handling meats and poultry.
13. T It's safe to refreeze meat or poultry, but it may reduce eating quality.
14. F After foods are cooked, they should reach room temperature before being refrigerated.
15. T Cooked meat or poultry, stuffing, broth or gravy should be separated and stored in refrigerator in separate containers.
16. F You should never cook meat or poultry from the frozen state.
17. T All ingredients used in processed products, not just meat or poultry, must be approved as wholesome before use.

### Multiple Choice

1. The Federal agency that administers the meat and poultry inspection program is the
  - (a) Consumer and Marketing Service (answer)
  - (b) Food and Drug Administration
  - (c) Federal Trade Commission
2. Inspection is for
  - (a) wholesomeness (answer)
  - (b) quality
  - (c) assigning grades
3. Processed meat or poultry product labels must be
  - (a) wholesome
  - (b) colorful
  - (c) truthful (answer)
4. Uncooked poultry can be stored in the refrigerator without freezing
  - (a) 5-6 days
  - (b) 1-2 days (answer)
  - (c) 1 month
5. Meat and poultry for freezer storage should be
  - (a) on a platter covered with wax paper
  - (b) in a brown paper bag
  - (c) in moisture-resistant airtight wrappings (answer)
6. An all-meat frankfurter may contain
  - (a) no poultry
  - (b) up to 15% poultry (answer)
  - (c) meat byproducts

7. The best way to thaw meat or poultry is
  - (a) on counter top
  - (b) in refrigerator (answer)
  - (c) in warm oven
8. A USDA grade for meat is
  - (a) USDA Prime (answer)
  - (b) U.S. Fancy
  - (c) U.S. Grade A
9. A beef roast or steak can be kept in the freezer at 0° F. or below for
  - (a) up to 12 months (answer)
  - (b) no more than 6 months
  - (c) not recommended for freezing
10. Extenders (like cereal or dry milk) used in cooked sausage products
  - (a) have no limit
  - (b) may not exceed 3½% (answer)
  - (c) may not exceed 10%
11. Federal meat and poultry inspection is mandatory for
  - (a) all meat and poultry products
  - (b) meat or poultry products sold across State lines, in foreign trade, in those States which have no intrastate inspection program, and in the District of Columbia (answer)
  - (c) only those plants which want to use it
12. When a proposed standard is being considered
  - (a) it is published in Federal Register so anyone who wishes can comment (answer)
  - (b) consumer views are not considered
  - (c) it is established and then published
13. Water added to cooked sausage products
  - (a) has no limit
  - (b) is limited to 30%
  - (c) is limited to 10% (answer)



## EVALUATION SHEET

Dear Educator:

We would like to ask your cooperation in filling out the following questionnaire in the interest of helping us provide you with the most beneficial materials.

1. For which grade level, size of class, and course of study were the materials used? Elementary (1-6) ....., Junior High (7-9) ....., High School (10-12) ....., College....., Other .....
- 1 - 5 students ....., 5 - 10 students ....., 10 - 20 students ....., 20 - 30 students ....., More .....
- Social Studies ....., Home Economics ....., Consumer Education ....., Other .....

2. What questions, if any, do you have concerning meat and poultry inspection that have not been answered? \_\_\_\_\_

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3. Rate the parts of the guide listed below.

Parts of Guide	Good	Fair	Poor
Narrative .....	—	—	—
Learning Aids .....	—	—	—
Sample Tests .....	—	—	—

4. Suggestions for improvement, or for new materials.

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5. Other comments \_\_\_\_\_

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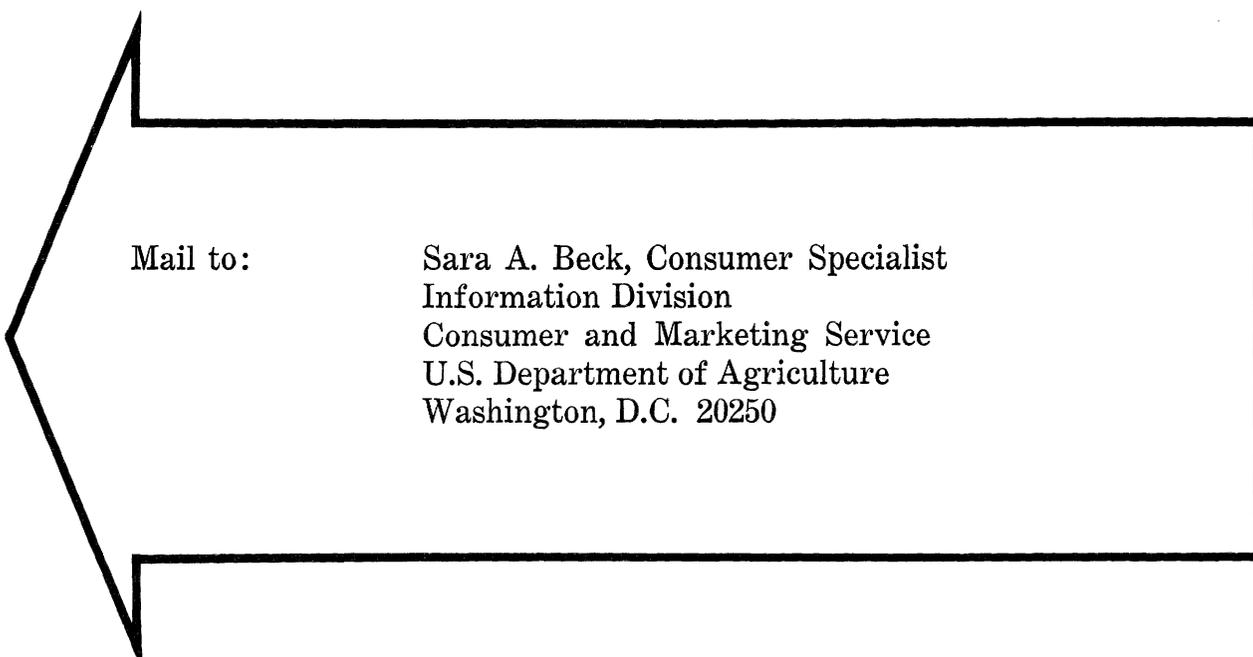
6. I am a: Teacher ....., Extension Specialist ....., Other .....

## RELATED PUBLICATIONS

*(available from Office of Information,  
U.S. Department of Agriculture,  
Washington, D.C. 20250)*

- \* USDA Yearbook, 1969—Food for Us all—available only from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. \$2.25.
  - Family Fare, Food Management and Recipes (G-1).
  - Beef and Veal in Family Meals: A Guide for Consumers. (G-118).
  - Lamb in Family Meals: A Guide for Consumers (G-124).
- \* Poultry in Family Meals: A Guide for Consumers (G-110). 15¢
  - Pork in Family Meals: A Guide for Consumers (G-160).
  - Money-Saving Main Dishes (G-43).
  - Keeping Food Safe to Eat: A Guide for Homemakers (G-162).
  - How to Use USDA Grades in Buying Food (PA-708).
  - This is USDA's Consumer and Marketing Service (PA-661).
  - Your Money's Worth in Foods (G-183).
  - Nutrition: Food at Work for You (GS-1).
  - Freezing Combination Main Dishes (G-40).

*\* Available from Superintendent of Documents*



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