



First Things First

- 1906 Union Stockyards and Transit Company
- The Jungle
- Federal Meat Inspection Act of 1906
 - Mandated that all meat intended for interstate commerce be inspected
- No exceptions!



Meat Inspection

- HACCP
 - Mandatory food safety program
- All areas have to be inspected
- Every step has to be inspected
- You cannot open a package and then repackage



The Big Question You have to ASK!

- How big do you want this to get?
 - Promote my farm
 - Promote the industry
 - I want to be the next Laura Freeman
- How hard do you want to work?
 - This can be difficult
 - This is not easy



Things we've learned, problems and solutions

- I cannot work with this processor, I'm switching!
 - Communication is key
 - Look at the meat case
- I want to sell to a restaurant
 - Restaurants are tricky
 - Tough to supply
 - Specialty events are possible



Things we've learned, problems and solutions

- I want to sell to Kroger's
 - Supply is the issue
 - Specialty shops are possible
- Middle meats sell, ground beef and roasts not so much
 - Selling bundles
 - \$25, \$50, \$75, etc



Things we've learned, problems and solutions

- Consumer Education
- Aging
 - Dry vs Wet aging
 - Dry has a earthy, nuttier, more blue-cheese flavor
- I cannot store that much
 - Beef/pork/lamb shares
 - Meat Lockers are becoming popular
- I paid for this, but got...
 - Be up-front and communication is key



What are consumers buying?

- More money to spend on a wider variety of foods that ever before
- People like knowing where their food came from
- Some people are buying your story
 - The meat is a bonus!



How am I different?

- Kentucky Proud
 - Local is huge
- Grain-finished, Grass-Finished, Natural, Organic, Free-Range, Family Owned, Kentucky Kobe Beef
- Tell your story!



Excerpted from Kentucky Farmers Market Manual and Resource Guide, 2018-2019

pages 80 to 84

Meat Sales at Farmers' Markets

All meat and poultry being marketed to the public must be obtained from an approved source. This means that all meat products must be produced and packaged in an establishment under either a federal (USDA) or state (Food Safety) inspection program. Packaged meat products must: 1) bear the relevant mark of federal or state inspection, 2) be protected from contamination through proper packaging, and 3) be stored frozen or under proper refrigeration (41°F or below). Additionally, meat and poultry products shall carry safe handling information and a “use by” date. Anyone engaged in the sale, processing, transportation of meat or poultry MUST maintain records which include purchasing, sales receipts, etc. Records may be requested and viewed by USDA at any time.

- ***Home-processed or custom-processed meat and poultry, including wild game, may not be marketed or sold at farmers' markets.***
- ***Custom Exempt meat or poultry can never be sold in commerce.***

In general, the United States Department of Agriculture (USDA) has jurisdiction over red meat and poultry items. USDA inspection requirements, exemptions, and areas of jurisdiction are often complex. For this reason, producers should first consult with the Kentucky Food Safety Branch prior to any processing. Cuts of meat (including beef, pork, goat, etc.) and poultry (including turkey, chicken, duck, etc.) from species which are considered “amenable” by USDA must be processed in a USDA-inspected facility and bear the mark of USDA inspection. Although USDA has some exemptions for small poultry processors who raise, slaughter, and sell their own product, the Kentucky Food Safety Branch still requires USDA-exempt processors to comply with state requirements if these products are intended to be marketed to restaurants, grocery stores, or at farmers' markets. A listing of USDA inspected processing plants in Kentucky can be found on this link: <http://www.kyagr.com/marketing/meat-marketing.html>.

Other animal species, such as rabbit or quail, are considered non-amenable by USDA. This means that USDA requires a fee-for-service in order to inspect the product and provide the USDA mark of inspection. A vendor who wishes to process and market cuts from non-amenable species must ensure that: (1) the products were processed under USDA inspection protocols and bear the mark of USDA inspection; or (2) the products

were processed in a permitted, state-inspected and approved facility. Vendors who market product under option number two (2) above shall carry to the farmers' market invoices and a copy of the processing facility's state permit — and be ready to provide this information upon request.

The Mobile Processing Unit (MPU) operated by Kentucky State University is an example of a small USDA-exempt poultry processing facility that is under a state permit to operate. Poultry products processed in this state-inspected facility do not receive the mark of USDA inspection but are considered “approved-source” products. It is important that vendors who market poultry products processed in this unit at farmers' markets be able to provide pertinent documentation (invoices, *etc.*) to health authorities which verify that the products are from an approved source. State inspected poultry can only be sold in Kentucky and should not be sold in other states.

For information regarding the Mobile Processing Unit (MPU) contact Kentucky State University Steve Skelton by email steven.skelton@kysu.edu or 502-597-6437.

Inspectional jurisdiction over seafood, including fish and prawn, is retained by the Food and Drug Administration (FDA) and the agency's state counterpart, in this case the Kentucky Food Safety Branch. However, catfish (*siluriformes*) is under the jurisdiction of the USDA-FSIS and be properly packaged and labeled including the mark of inspection. All processed seafood marketed at farmers' markets must come from a permitted, state-inspected and approved facility. Vendors shall carry to the farmers' market pertinent documentation which can be used to verify that the product was obtained from an approved source. As addressed above, such documentation includes invoices as well as a copy of the processing facility's state permit.

Vendors selling meat, poultry, seafood and other commercially packaged processed foods should contact their local health department with regard to obtaining a mobile, prepackaged retail sales permit. The yearly permit is \$50 and allows you to sell other commercially processed products as well as meat and poultry. The permit is expired on an annually basis and expires on December 31.

Until you are ready to transport your meat and poultry products to the market, they must be stored in an approved manner, at safe refrigerated or frozen storage temperatures. If products are stored at home, they must be stored in a dedicated refrigerator or freezer, separate from personal use foods. Products must be stored at 0°F, if frozen, or 41°F (or colder) if refrigerated. The product must be transported and maintained at these temperatures at the market. This can be accomplished by either a freezer or an ice chest/cooler. All units holding frozen or refrigerated product should contain a calibrated thermometer in order to monitor the temperature of the product at all times.

While a freezer is generally preferred, a heavy duty ice chest/cooler may also be used provided sufficient ice is available to maintain safe product temperatures. Styrofoam coolers are not approved. If you use an ice chest, the meat **should not** be stored in direct contact with the ice. You will also need to have provisions for melted ice to drain away from the product. The meat should NEVER be sitting or floating in ice water. Additionally, vendors should ensure that juices from one species (*i.e.*, chicken) do not

drip onto and contaminate another species (beef). Storing product in dedicated species-specific coolers or freezers is typically required in order to reduce the risk of cross-contamination from one species to another.

Selling at the market requires you to have a tent, large umbrella or covered trailer to protect your product from weather conditions. At all times, the product should be protected from human and environmental contamination, including insects and dust. Most activities involving the handling of meat and poultry, including packaged product, can cause your hands to become soiled. Consequently, the health department will typically require that each vendor provide a suitable portable hand washing station. A simple, health department-approved set up could consist of an elevated 5-gallon container of potable water that is equipped with a turn-spout dispenser or drain, with a catch bucket placed below the container. Liquid soap and disposable towels should also be provided at the hand washing station.



Risk

All producers should consider the added risk of selling retail. The potential for loss could be great. Consult your insurance professional to discuss product liability insurance. You may also consider legally organizing the meat sales part of your farm business separately to protect your farm.

Displays and marketing tips

Meat is hard to display while maintaining correct temperature and storage requirements. Customers are accustomed to looking through meat packages to choose the one with right marbling, size, thickness, etc. that they want. Good displays of most products at a farmers' market start with techniques that let the customer see and choose their selections. Meat in a freezer doesn't allow for such merchandizing. Therefore, you have to give your customers something else to draw them to your booth and select your product.

First, put a lot of effort into your signs. Describe your product to the customer. Tell them how thick the steaks are cut, describe the marbling, etc. Tell them why your product is different. If it is raised by your family on a nearby farm – tell them. Better yet, take photos of your farm and your family busy at work, blow those up to poster size and put them up on your booth. If your product is grass fed, pasture raised, organic, etc., tell them, but also tell them why that it is important to you and why it is important to them.

Clearly display prices. If your chicken is \$3 per pound and most chickens weigh between 4-5 pounds, explain this. If ground beef is packaged in 2-pound packs, make this clear.

Recipes are important. Give a customer the answer to what they are cooking for dinner that night and they will be a steady customer. Offer “goes with” ideas as well to complete the meal. Feature seasonal fruits and vegetables as your “goes with” suggestions. Ask your fellow market members what recipes they have and use those. Cooperatively sell the makings for an entire meal with fellow vendors. Many folks don’t know how to cut up a chicken. If you are selling whole chickens you should get a printed guide to doing this and pass out copies. Another angle is to supply recipes for roasting or grilling whole chickens.

Make sure you have the meat arranged in the ice chest or freezer to facilitate getting to a certain cut to limit the time you spend in the container. This will help you maintain the correct temperature. Vacuum packed product will get air leaks in the package if pushed around too often. Also, it is nice to reach in and get a couple of packages for the customer to choose between.

Always carry business cards and price lists with you to the market. You will make a lot of contacts at the market that may result in sales from your farm. Make it easy for them to reach you or pass your name along to others.

Cuts

Some producers report that only their higher end cuts sell. Some report success from offering package deals on their product that include the cuts that are slow sellers.

Price

There are essentially two types of farmers’ markets. There are price markets and specialty markets. At a price market, usually in smaller towns and rural areas away from urban areas, meat sales at a profit will be difficult. Customers are looking for a bargain. This type of market typically sets their prices to beat a large retailer in their area. Except for a few customers, most will not spend more than what they can get the meat for at the local grocery store. If you can produce for this price and make a decent profit then it may be a good market for you. Customers at these markets may still want to buy an entire or half beef if they perceive this as a cost savings.

The other markets, the specialty markets, bring higher prices. They are usually in larger urban areas or communities that surround urban areas where customers are seeking a certain quality of product. In these markets a producer will get higher prices for higher quality or niche products. They are usually the markets where there will be the most competition as well.

Though these generalizations do not hold true in every market, it is worthwhile for a producer to investigate the strength of the potential marketplace as part of his or her decision to offer retail meat sales.

Marketing Lamb and Goat Meat to Hispanic Retail Outlets

Terry Hutchens and Gregg Rentfrow, University of Kentucky; and Kenneth Andries, Kentucky State University

The Hispanic population in Kentucky is growing rapidly. According to the 2000 U.S. Census, Kentucky had approximately 60,000 people who identify themselves as Hispanic; however, this number is thought to be much higher. More recent Census Bureau estimates for Kentucky (2009) indicate that 2.4 percent of Kentucky's 4.3 million people are of Hispanic origin; therefore it is likely that Kentucky has a Hispanic population in excess of 100,000. The Hispanic population is concentrated in major Kentucky population centers, including Lexington, Louisville, Frankfort, Bowling Green and surrounding areas. Census Bureau statistics indicate that nearly 75 percent of these Hispanics are of Mexican origin.

Because of minority populations immigrating into Kentucky, the level of lamb and goat consumption could grow exponentially within the next few years. Minority populations are expected to reach 235.7 million out of a total U.S. population of 439 million, or 53 percent of the total U.S. population, by 2030. These statistics indicate a growing market for meat processors and sheep and goat products. To successfully do business with the emerging Hispanic market requires an understanding of the Hispanic culture and the needs and desires of these potential customers.

Consumers

People of Mexican origin will be the primary consumers of sheep and goat products. People from Central and South American, the Caribbean, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, and Nicaragua consume both lamb and goat, but they may not consume the same products or animal species. Preference is influenced by individual country, regions within countries and socioeconomic status.

Researchers have observed that Hispanics spend 15 to 20 percent more of their disposable income on food than do most American households. The Hispanic consumer in general is likely to purchase lower priced imported sheep and goat products. These sheep and goat meat products may in some cases be consumed in small quantities on a regular basis. Both quantity and quality is often sacrificed for price.

Larger quantities and more expensive cuts are generally reserved for special occasions. These better cuts are often offered as an appetizer prior to the main meal of the day. Recent research conducted by the University of Kentucky, Kentucky State University, and the Kentucky Department of Agriculture indicates that meat price is the predominant purchase factor for most Hispanic consumers. They may prefer lamb and goat, but chicken and pork are often more affordable.

Products

An alternative to the lower-priced imported sheep and goat products is the Kentucky product mature ewe/doe bone-in chunks, chops, and stew meat products. These mature animals, weighing 120 pounds or more, can be purchased for much less than lamb and kids on a live weight basis. The mature animals have been successfully marketed at less than half the lamb and kid goat price after processing and vacuum packing. These products can be sold fresh or frozen.

The less expensive cuts can also be marketed as a value added, pre-cooked product. Many Hispanic grocery stores have buffet-style lunch counters where bone-in goat meat has been observed selling at a much higher price per pound pre-cooked as an eat-in or carryout dinner.

Larger stores will purchase whole carcasses, keep them in coolers and cut the meat as needed. Small grocery outlets will require the product frozen in small vacuum packages to insure product freshness. Goat carcasses are often sold as whole, half, or quarter carcass cuts. Smaller cuts are sold as legs, shoulders, ribs, ground meat, stew meat, organ meat, and head.

Dressing Percentage

Consumers often have questions concerning the amount of meat a typical animal will provide. The amount of the live weight that will enter the cooler in the form of a carcass is referred to as the "dressing percentage." The dressing percentage can be calculated as:

$$(\text{Hot Carcass Weight} \div \text{Live Weight}) \times 100$$

The average dressing percentage for shorn sheep will be 50 to 53 percent. Goats will average between 45 and 50 percent. Many factors can affect the dressing percentage of meat animals, such as when the live weight was recorded, gut fill, horns, fleece covering, etc.

Lamb and goat have a limited amount of fat covering the carcass, making the carcass more susceptible to evaporative cooler loss, thus creating an added source of weight loss. Fresh meat is primarily water (70 to 75 percent) and coolers are low-humidity environments with constant circulating air. Commonly, sheep and goat carcasses will lose 8 to 10 percent of their hot carcass weight during the first 24 hours postmortem due to evaporative cooling.

Sheep and goat carcasses have a similar appearance. Some ethnic groups will not purchase a goat carcass unless the head remains on the carcass. The USDA Food Safety and Inspection Service (FSIS) may require the horns to be removed before the carcass will pass inspection.

The lean meat yield of a typical carcass will vary from animal to animal. Consumers wanting younger animals for holiday celebrations should be made aware that the lean meat yield will be less than that of an older animal. The skeleton is one of the first tissues to reach maturity, so younger animals will have a higher bone-to-lean meat ratio compared to older animals.

Goat Carcass Fabrication

Currently the Hispanic community desires a whole goat carcass that can be barbecued on a spit or roasted whole. Other markets prefer the entire carcass to be cut into 2-inch cubes. Louisiana State University worked closely with the USDA to develop institutional meat purchasing specifications (IMPS) for goats. Fabrication—how the carcass is broken down for sale—differs with the size of the carcass (Table 1) and the needs of the consumer. Fabrication specifications for each style of goat carcass can be found at <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELDEV3003291> or <http://www.lsuagcenter.com/NR/rdonlyres/B8FE3706-64DC-417F-A592-B8DEC14B4D9F/43292/pub2951Meat-GoatJanuary2008LOWRES.pdf>.

Outlets

Kentucky MarketMaker is a free interactive mapping system that identifies businesses and markets of agricultural products in Kentucky and provides invaluable links between producers and consumers. Grocery stores and restaurants catering to the immigrant Hispanic populations can be located geographically using the web-based marketing aid. Resources, links, business spotlights, national events calendar and a buy and sell forum are available at <http://www.marketmakerky.com/>.

For additional assistance, contact Kentucky MarketMaker, University of Kentucky Department of Agricultural Economics, Lexington (859) 257-7272, ext. 223.

Large, high-volume store owners are more willing to take some risk by purchasing locally produced and processed meat. Smaller store owners are more hesitant. Because of reluctance to purchase product locally, and because it is difficult for farmers and meat proces-

Style	Carcass weight (lb)
Platter	< 20
Roasting	15 to 30
Barbecue	20 to 40
Food service	> 30
Hotel	> 40

Source: LSU Extension Meat Goat Selection, Carcass Evaluation & Fabrication Guide

sors to develop a functioning business relationship with a significant number of store owners, consider distributing local meat product through an established Hispanic-based food broker or distributor. Marketing to small retailers through established Hispanic food distributors can eliminate some of the challenges. A relationship with a single Hispanic food distributor working in the region of the state you're targeting could allow you to distribute meat to many small outlets, potentially making the total sales much higher and your marketing time investment lower.

Marketing

Knowledge of the size of the retail outlet and its sales volume are important considerations. Sales in small local Hispanic grocery stores will likely be low on a day-to-day basis due to limited traffic. Recent research conducted by the University of Kentucky, Kentucky State University and the Kentucky Department of Agriculture determined that the average sales volume for lamb and goat meat was less than 50 pounds per month in most small stores. By contrast, large Hispanic groceries in major Kentucky cities may sell as much as 200 pounds of fresh goat meat each week.

Often Hispanic business owners are not available at the grocery store or restaurant. They are frequently involved in several businesses activities simultaneously. In many cases, communication between the store owner and store employees is limited. Most employees and family members do not have information or the authority to conduct business, so you will need to speak directly with the owner to forge a meaningful agreement. The most likely time to speak directly to the owner is early in the morning, when the store opens, or late in the day, before the store closes at night.

Market delivery agreement

A market delivery agreement between you and the retailer is powerful marketing tool. The agreement sets out the conditions under which goods are to be purchased from the vendor, including ordering, delivery and product. When defining an agreement, you'll need someone who speaks and writes fluent Spanish to work on your behalf. You may be able to find a trusted member of the community to assist you as a translator, but because of the problems that will be avoided by clear communication, even employing a professional translator is cost effective.

With a market delivery agreement, fresh cuts can be ordered on an on-call basis to provide the consumer with a fresh, non-frozen alternative. This method is most effective when local meat availability is high, but as animal numbers decline in the winter, delivery on an on-call basis becomes more challenging for most processors. Some processors may charge a deposit on winter orders of fresh non-frozen products.

Advertising

In general, mass media is the best advertising choice for reaching potential Hispanic customers, especially local Hispanic radio and TV stations. Advertising can also be purchased on international Hispanic TV stations. Newspapers are reported to be the least effective medium.

In small stores where the product is stored in small freezers, attractive signage becomes extremely important in advertising the unseen product. The signage should be large, written in Spanish and English, in bright colors with pictures of live sheep or goats. Advertising should focus on the seasonal availability of the product, because sheep and goats are seasonal breeders and the majority of the product is ready for market in the late spring and summer and declines in the fall and winter. The advertising should state when, where, and what the processor is offering for sale, using the phrases "fresh," "locally grown" and "locally processed in a clean and safe environment."

Table 2. Major Mexican, Central American and South American civic and religious holidays.

Date	Originating Country/Region	Type of Celebration	Name	Traditions
Jan 1	Latin America	Religious and Civic	New Year's Day/New Year's Eve (Año Nuevo)	Families attend mass and have dinner.
Jan 6	Latin America	Religious	The Day of the Three Kings, or the Feast of the Epiphany (Día de Los Reyes Magos)	In much of Latin America, this holiday, the day of adoration of the baby Jesus, is more important than Christmas.
March 21	Mexico	Civic	Birth date of Benito Juárez	Juarez was one of Mexico's most-loved presidents.
March 31	Mexico	Civic	Birth date of Cesar Chavez	Chavez is honored as an American labor and civil rights giant.
March/April	Latin American	Religious	Holy Week (La Semana Santa)	One of the highest holy days of the year, Easter for Latino Catholics.
May 5	Mexico	Civic	Cinco de Mayo	Commemorates victory of the Mexican Army of 4,500 over 6,500 French in the Battle of Puebla, 1862.
May 10	Mexico, Latin America	Civic	Day of the Mothers (Día de Las Madres)	Mexican Americans may celebrate the holiday on May 10 even if the day falls in the middle of the week or on the day that the U.S. celebrates, always a Sunday.
Sept 16	Mexico	Civic	Mexican Independence Day	In 1810, Father Miguel Hidalgo called his people to revolt against 300 years of Spanish rule, marking the start of an 11-year war.
Nov 2	Mexico, Central America	Religious, Civic	Day of the Dead, or All Souls' Day (El Día de los Muertos)	On this day, the holiday for celebrating one's ancestors, it is said that the spirits of the dead come back for family reunions.
Nov 20	Mexico	Civic	Anniversary of the revolution of 1910	One of Mexico's most important holidays, marks the anniversary of the 1910 revolution against dictator Porfirio Díaz.
Dec 12	Mexico	Religious	Feast Day of Our Lady of Guadalupe (Día de la Virgen de Guadalupe)	Our Lady of Guadalupe, named patron saint of the Americas by Pope John Paul II, and is symbol of the marriage of European and Indian blood and beliefs.
Dec 16-24	Mexico, Latin America	Religious	Las Posadas	The celebration commemorates Mary and Joseph's search for a place to stay in Bethlehem.
Dec 24-25	Mexico, Latin America	Religious	Christmas Eve/Christmas (La Nochebuena y La Navidad)	Latinos celebrate Christmas Eve and Christmas with a mixing of old country and U.S. traditions, attend midnight Mass and cooking meals that often take days to prepare.

Source: Pennsylvania State University Ethnic Holiday Calendar

Special Events

Sheep and goat meat products are not necessarily consumed daily by the Hispanic community. They are, however, valued for special events, holidays, and other celebrations. The Hispanic market prefers the higher quality cuts from fresh non-frozen young animals weighing 25 to 45 pounds fresh carcass weight. The weight and sex of the carcass desired will vary from holiday to holiday and by ethnicity. A great deal of community research is needed in order to know the specificity of the product needed for various events and holidays.

Special occasions observed by the Hispanic population in Kentucky include religious and civic holidays, weddings,

births of children, birthdays (a number of birthdays are often grouped together and celebrated jointly), grade school and high school graduations, and funerals (Table 2).

Christmas

The most desired goat is a young (less than 3 months old), milk-fed kid weighing less than 30 pounds. Consumers are often disappointed by the meat yield of these carcasses due to the high bone-to-meat ratio. Therefore, a weight range of 20 to 50 pounds is acceptable. Young, milk-fed goats fitting this description can be rare or difficult to obtain as they must be produced outside the normal breeding season.

Civic Holidays (Mexico and Latin America)

For civic holidays, most people in the Mexican culture and other Latin Americans prefer a milk-fed goat weighing less than 30 pounds live weight for civic holidays. They also prefer a slightly older goat, a young kid with no more than one set of adult teeth, for the Independence Day (July 4) celebrations. The Caribbean culture desires an older male animal (buck) weighing 60 to 80 pounds for the Jamaican Independence Day (August 6) celebration because it is more malodorous.

How Much Meat to Expect from a Carcass

A CONSUMER'S GUIDE TO PURCHASING FREEZER MEATS

Gregg Rentfrow, *Animal and Food Sciences*

Consumers who buy freezer meat should understand the difference between the paid weight and the amount of meat they will put in the freezer. To avoid misunderstandings, meat processors should be able to explain to customers the approximate amount of meat to expect from a beef, pork, or lamb carcass, the best ways to have meat wrapped for the freezer, and the amount of freezer space necessary to store large amounts of meat.

This guide provides the information you need to estimate the amount of meat you will receive from a carcass of beef, pork, or lamb.

Dressing Percentage

The “dressing percentage” is the amount of the live weight that will enter the cooler in the form of a carcass. The dressing percentage can be calculated as:

$$(\text{hot carcass weight} \div \text{live weight}) \times 100$$

The dressing percentage of each species of livestock animal will differ (Table 1).

Many factors can affect the dressing percentage of an animal. Anything that adds to the live weight but does not appear on the carcass will decrease the dressing percentage, including:

- Mud and/or manure caked on the hide
- Gut fill
- Horns
- Unshorn wool
- Abscesses or excessive bruises that must be cut off the carcass before it enters the cooler

Table 1. Average dressing percentages for the four major livestock species.

Species	Average dressing percentage (%)
Beef (grain-fed)	60 – 63
Beef (grass-fed)	56 – 58
Pork (skin-on)	70 – 73
Sheep (shorn)	50 – 53
Goat	45 – 50

Some factors can increase the dressing percentage, such as:

- Excessively fat animals
- Empty digestive tracts or stomachs
- Freshly shorn wool

Dressing percentage also can be affected by the time between when the live weight was taken and when the carcass weight was recorded. Some meat processors do not weigh live animals, so they must be weighed at the farm prior to shipping. A lengthy time between recording the live weight and weighing the carcass will allow more time for the digestive tract to empty. Commonly, cattle that are not fed 24 hours prior to harvest can lose 50 to 100 pounds, pigs 10 to 15 pounds, and sheep and goats 5 to 10 pounds. On such animals the dressing percentage will be lower than expected. Animals weighed immediately prior to slaughter, however, will have a higher than average dressing percentage.

Cooler Shrink

Fresh meat is approximately 70 to 75 percent water, making carcasses very susceptible to evaporative cooling loss in the first 24 hours. Most coolers are designed to circulate air around the

carcasses to facilitate rapid cooling, and carcasses can lose 3 to 5 percent of the hot carcass weight during the first 24 hours of chilling. Carcasses with moderate to excessive fat cover will have less cooler shrink, and trimmer carcasses with less fat cover will experience more evaporative cooler shrink. Goat carcasses can shrink as much as 10 percent during the first 24 hours.

How much meat will I take home?

Several factors affect the amount of meat you will take home from the meat processor. These factors include:

- **Carcass fatness and the amount of external fat remaining on the retail cuts.** Typically ¼ inch of external fat is left on retail cuts; however, some consumers prefer less fat left on their cuts. A fatter carcass will yield less meat.
- **Bone-in verses boneless cuts.** The skeletal system can be 15 to 20 percent of the carcass weight. Therefore, less total poundage can be expected with boneless cuts.
- **Carcass muscularity.** Heavily muscled carcasses will yield more retail cuts.
- **Bruising, abscesses, and/or other carcass abnormalities.** Although these abnormalities are not common, if they do occur they have to be removed from the carcass, greatly reducing the amount of take-home meat.
- **Type of ground beef.** Lean ground beef will require more fat to be removed, thus lowering the amount of take-home product.
- **Aging beef carcasses.** Aging beef carcasses increases the tenderness of the retail cuts. The optimum aging time is between 14 to 21 days; however, the longer a carcass is aged the higher the cutting loss. As a beef carcass dry ages, the surface becomes dehy-

drated; the dehydrated surface has to be removed, which lowers the yield. Furthermore, trimmer carcasses (less than 0.3 inch of fat) are more susceptible to surface dehydration, further lowering the yield.

Number of Steaks/Chops and Roasts

Tables 2 through 4 detail the total amount of meat to expect from the average carcass. The actual number and amount of steaks/chops, roasts, and ground product will vary from meat processor to meat processor, and how the customer wants the carcass fabricated. Communicate with the meat processor about what you want and understand that some retail cuts are fabricated from others. For example, you cannot expect to get beef Top Loin and Tenderloin steaks (Filet Mignon), if you want T-bone or Porterhouse steaks. Top Loin and Tenderloin steaks are boneless versions of T-bone and Porterhouse steaks.

How many pounds will my freezer hold?

Make sure you have plenty of freezer space. Most freezers will hold between 30 to 40 pounds of meat per cubic foot. You may need to allow more room for odd shaped cuts.

Packaging

Frozen meat will not last forever in the freezer. The average beef carcass will produce over 500 meals. It would be very difficult for the average American to consume a carcass in a timely fashion. Freezer burn, the dehydration of the frozen meat surface, is a major concern in long-term freezer storage. The type of packaging will help reduce the incidence of freezer burn. Although it may cost more, vacuum packaging retail cuts will help reduce the incidence of freezer burn. Refer to Table 5 for the recommended storage time for frozen meats.

Table 2. Average amount of meat from a 1,200-pound beef carcass.

Cuts	Trim (inches)	Ground beef		Approx. amt. of freezer meat (lb)
		Lean (%)	Fat (%)	
Boneless steaks and roasts	1/8	90	10	425
Bone-in steaks and roasts	1/4	80	20	500
Mixture of bone-in and boneless steaks and roasts	1/8	80	20	490
Boneless steaks and roasts from very fat beef animal	1/8	90	10	348
Boneless steaks and roasts from Holstein (dairy animal)*	1/8	90	10	396

Source: South Dakota State University. Note: Estimations may vary by 25 pounds or more.
*A Holstein steer was used in the examples to show how a light-musclcd animal will affect the amount of take-home product.

Table 3. Average amount of meat from a 250-pound pig carcass.¹

Cuts	Trim (inches)	Sausage		Approx. amt. of freezer meat (lb)
		Lean (%)	Fat (%)	
Bone-in chops and roasts	1/8	80	20	133
Boneless chops and roasts	1/8	80	20	118
Boneless chops and roasts from very fat pig	1/8	90	10	93

¹ Skin-on carcasses.
Source: South Dakota State University. Note: Estimations may vary.

Table 4. Average amount of meat from a 120-pound lamb carcass.

Cuts	Fleece condition	Ground lamb		Approx. amt. of freezer meat (lb)
		Lean (%)	Fat (%)	
Bone-in chops and roasts, shorn fleece	Shorn	80	20	46
Bone-in chops and roasts from a very fat lamb	Long	80	20	118

SOURCE? Note: Estimations may vary.

Table 5. Recommended storage time for refrigerated or frozen meat.

Meat	Refrigerator 38° to 40°F (days)	Freezer 0° or colder (months)
Beef	3 to 4	6 to 12
Ground beef (hamburger)	1 to 2	3 to 4
Pork	2 to 3	6
Fresh pork sausage (without antioxidants)	3 to 4	1 to 2
Lamb and goat	3 to 4	6 to 9
Bacon	7	1
Smoked ham	7	1 to 2



USDA Photo

Meat and Poultry Labeling Terms

“What does ‘mechanically separated meat or poultry’ mean?”

“If chicken is labeled ‘fresh,’ how can it be so rock hard?”

“Does ‘natural’ mean ‘raised without hormones’?”

These are just some of the questions consumers have asked USDA’s Meat and Poultry Hotline about words which may be descriptive of meat and poultry. Can they be legally used on labels and, if so what are their definitions?

Here from USDA’s Food Safety and Inspection Service (FSIS) is a glossary of meat and poultry labeling terms. FSIS is the agency responsible for ensuring the truthfulness and accuracy in labeling of meat and poultry products. Knowing the meaning of labeling terms can make purchasing of meat and poultry products less confusing.

Basted or Self Basted

Bone-in poultry products that are injected or marinated with a solution containing butter or other edible fat, broth, stock or water plus spices, flavor enhancers and other approved substances must be labeled as basted or self basted. The maximum added weight of approximately 3% solution before processing is included in the net weight on the label. Label must include a statement identifying the total quantity and common or usual name of all ingredients in the solution, e.g., “Injected with approximately 3% of a solution of _____ (list of ingredients).”

Use of the terms “basted” or “self-basted” on boneless poultry products is limited to 8% of the weight of the raw poultry before processing.

Certified

The term “certified” implies that the USDA’s Food Safety and Inspection Service and the Agriculture Marketing Service have officially evaluated a meat product for class, grade, or other quality characteristics (e.g., “Certified Angus Beef”). When used under other circumstances, the term must be closely associated with the name of the organization responsible for the “certification” process, e.g., “XYZ Company’s Certified Beef.”

Chemical Free

The term is **not allowed** to be used on a label.

Free Range or Free Roaming

Producers must demonstrate to the Agency that the poultry has been allowed access to the outside.

Fresh Poultry

“Fresh” means whole poultry and cuts have never been below 26 °F (the temperature at which poultry freezes). This is consistent with consumer expectations of “fresh” poultry, i.e., not hard to the touch or frozen solid.

Fresh Poultry, continued

In 1997, FSIS began enforcing a final rule prohibiting the use of the term "fresh" on the labeling of raw poultry products whose internal temperature has ever been below 26 °F.

The temperature of individual packages of raw poultry products labeled "fresh" can vary as much as 1 °F below 26 °F within inspected establishments or 2 °F below 26 °F in commerce.

Fresh poultry should always bear a "keep refrigerated" statement.

Frozen Poultry

Temperature of raw, frozen poultry is 0 °F or below.

Fryer-Roaster Turkey

Young, immature turkey usually less than 16 weeks of age of either sex.

Halal and Zabiah Halal

Products prepared by federally inspected meat packing plants identified with labels bearing references to "Halal" or "Zabiah Halal" must be handled according to Islamic law and under Islamic authority.

Hen or Tom Turkey

The sex designation of "hen" (female) or "tom" (male) turkey is optional on the label, and is an indication of size rather than the tenderness of a turkey.

Kosher

"Kosher" may be used only on the labels of meat and poultry products prepared under rabbinical supervision.

"Meat" Derived by Advance Meat/Bone Separation and Meat Recovery Systems

The definition of "meat" was amended in December 1994 to include as "meat" product derived from advanced meat/bone separation machinery which is comparable in appearance, texture and composition to meat trimmings and similar meat products derived by hand. Product produced by advanced meat recovery (AMR) machinery can be labeled using terms associated with hand-deboned product, e.g., "beef" or "pork" trimmings and ground "beef" or "pork." The AMR machinery cannot grind, crush or pulverize bones to remove edible meat tissue and bones must emerge essentially intact. The meat produced in this manner can contain no more than 150 milligrams of calcium per 100 grams product. Products that exceed the calcium content limit must be labeled "mechanically separated beef or pork."

Mechanically Separated Meat

Mechanically separated meat is a paste-like and batter-like meat product produced by forcing bones with attached edible meat under high pressure through a sieve or similar device to separate the bone from the edible meat tissue. In 1982, a final rule published by FSIS on mechanically separated meat said it was safe and established a standard of identity for the food product. Some restrictions were made on how much can be used and the type of products in which it can be used. These restrictions were based on concerns for limited intake of certain components in MSM, like calcium. Due to FSIS regulations enacted in 2004 to protect consumers against Bovine Spongiform Encephalopathy, mechanically separated beef is considered inedible and is prohibited for use as human food. However, mechanically separated pork is permitted and must be labeled as "mechanically separated pork" in the ingredients statement.

Mechanically Separated Poultry

Mechanically separated poultry is a paste-like and batter-like poultry product produced by forcing bones with attached edible tissue through a sieve or similar device under high pressure to separate bone from the edible tissue. Mechanically separated poultry has been used in poultry products since 1969. In 1995, a final rule on mechanically separated poultry said it would be used without restrictions. However, it must be labeled as "mechanically separated chicken or mechanically separated turkey" (depending upon the kind of poultry used) in the ingredients statement. The final rule became effective November 4, 1996.

Natural

A product containing no artificial ingredient or added color and is only minimally processed. Minimal processing means that the product was processed in a manner that does not fundamentally alter the product. The label must include a statement explaining the meaning of the term natural (such as "no artificial ingredients; minimally processed").

No Hormones (pork or poultry)

Hormones are not allowed in raising hogs or poultry. Therefore, the claim "no hormones added" **cannot be used** on the labels of pork or poultry unless it is followed by a statement that says "Federal regulations prohibit the use of hormones."

No Hormones (beef)

The term "no hormones administered" may be approved for use on the label of beef products if sufficient documentation is provided to the Agency by the producer showing no hormones have been used in raising the animals.

No Antibiotics (red meat and poultry)

The terms "no antibiotics added" may be used on labels for meat or poultry products if sufficient documentation is provided by the producer to the Agency demonstrating that the animals were raised without antibiotics.

Organic

For information about the National Organic Program and use of the term "organic" on labels, refer to these factsheets from the USDA Agricultural Marketing Service:

- Organic Food Standards and Labels: The Facts
- Labeling and Marketing Information

Oven Prepared

Product is fully cooked and ready to eat.

Young Turkey

Turkeys of either sex that are less than 8 months of age according to present regulations.

Food Safety Questions?

Call the USDA Meat & Poultry Hotline

If you have a question about meat, poultry, or egg products, call the USDA Meat and Poultry Hotline toll free at **1-888-MPHotline (1-888-674-6854)**. The hotline is open year-round



Monday through Friday from 10 a.m. to 4 p.m. ET (English or Spanish).

Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at

www.fsis.usda.gov.

Send E-mail questions to MPHotline.fsis@usda.gov.

Ask Karen!

FSIS' automated response system can provide food safety information 24/7 and a live chat during Hotline hours.



AskKaren.gov

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