

# Purchase Specifications

## CHAPTER

# 4

### Learning Objectives

After reading this chapter, you should be able to:

- write product specifications based on product knowledge;
- conduct the following types of product testing:
  - yield test
  - butcher test
  - raw food test
  - canned food test/can-cutting test
  - staple dry food test
  - “blind” taste test
- create the following types of quantity specifications:
  - par level
  - purchase order
  - inventory on hand
  - lead time
  - cost of acquisition
  - volume pricing
  - vendor minimum order quantity
  - safety stock
  - perishable products
  - nonperishable products.

### In Practice

*Myla Thomas’s next appointment with chef Robert and purchasing manager Scott Vincent was a tour of the food and beverage storerooms, walk-in coolers, and refrigerators. “Gentlemen, I am still finding my way around this place. Where do we start?” asked Myla. Chef Robert suggested starting from the loading dock*  
*(continues)*

(continued)

and walking their way through the storerooms and walk-ins and into the kitchen. The purchaser, Scott, was unenthusiastic, but he walked with them.

Scott led the group onto the loading dock and then to the dry storeroom. Myla couldn't believe her eyes. The shelves in the dry storeroom were overloaded. Products were poorly organized: Identical products had been purchased in different sizes and placed in multiple locations. On the floor lay many cases, some opened, others not. Myla peered toward the back of the shelves and could see dust on products in the back. She asked, "Do we have multiple specs for the same product?"

Scott replied, "Not quite. We are correcting these problems as we go along."

Myla went on to comment, "You seem to have an awful lot of product for a restaurant this size."

"We don't like to run out," Scott exclaimed.

"Do you rotate your product?" Myla asked.

"First in, first out, but obviously we are not following it consistently," Robert responded.

At the first of two walk-in coolers, Robert opened the door and followed Myla in to view the produce. Based on her long experience in the industry, Myla gauged that there was much more product than a restaurant of this size required. The shelving units were packed full of produce, and there were additional cases lying on the floor. Scott grabbed a partial case of rotting tomatoes and three-quarters of a case of spoiled lettuce from the cooler floor. He said, "Let me toss this out. I'll be right back."

When Scott returned, Myla felt the need to address his actions. "Of course, that is going to affect your food cost. I agree with you that we can't run out, but business volume dictates how much to buy."

Scott answered, "Yeah, we probably did order a little more than we needed."

Myla's response to Scott showed how she intended to handle this issue: "Please prepare a spoilage report for my review."

Robert led Myla to the dairy cooler. The products inside were organized much better, but there still seemed to be much more of everything than the restaurant could possibly need. "You won't find any spoilage in here," declared Robert proudly. "I personally supervise this area."

At the locked meat cooler, Robert said he needed to get his keys from his office. When he returned and they entered the cooler, he told Myla, "I am in the process of changing our meat specifications to reflect our new menu, as I mentioned to you in our previous meeting."

"This one appears to be in pretty good shape," Myla commented. "The amount of product seems to be about right, and all products are neatly stored in the shelving units."

## INTRODUCTION

*One cannot think well, love well, sleep well, if one has not dined well.*

—Virginia Woolf, *A Room of One's Own*, 1929

### **purchase specifications**

Detailed, precise descriptions of items desired to be purchased and under what conditions.

When you shop for groceries, you have standards in mind for the products you buy. You have **purchase specifications** of your own, however informal these might be. You might prefer

low-fat, organic, or kosher foods; you may choose your menu within a very tight budget; or you might prefer the foods that are easiest to store and prepare, such as prepackaged meals. You choose the types of foods you like, the quantities you like to have on hand, the variety, the brands, and the cuisine, within your own budget. Your standards derive from what you like. If you don't like a product, if it doesn't meet your needs, or if it doesn't give you that feeling of having dined well, you probably won't buy it again. It is much the same for a purchaser—except that you are helping many more people have the experience of dining well.

In Chapter 2, you learned about cuisine, theme, and market. Decisions about these topics are crucial for deciding on a menu—which, in turn, guides all your purchasing decisions. Your menu will impact every step of your operation, from planning to everyday functioning. As the purchaser, you are a crucial component in the team that brings the menu to life, and it is up to you to do so within the quality and cost specifications that best match your restaurant's needs and your target market. To achieve this goal, this chapter will show you how to create these purchase specifications, step by step.

You will need to create purchase specifications in conjunction with all interested parties—meaning all of the restaurant personnel who are affected by the decisions that are made, as well as considering your customers. The chef and customers must be satisfied with the quality of products; the storeroom must be satisfied with the delivery schedule; accounting must approve of the billing procedure; and management must agree with the costs. You will continually review and revise your purchase specifications to meet changing conditions. Each time they are updated, you will need to produce a written version for potential vendors. The vendors can then submit their product samples according to your specifications. This is how they bid for your business.

As the purchaser, you are responsible for making sure you get what you need from vendors—and for making adjustments when what you get doesn't match your company's standards. In creating purchase specifications for your company, you will evaluate the quality, quantity, consistency, reliability, availability, service, safety, and price of the items you need. Each one of these factors will take time and effort to evaluate, but your common sense and consumer experience will help to guide you. What follows are some questions that you and your restaurant team will need to ask yourselves regarding each of these specifications. When you decide on the answers based on your menu, your purchasing decisions will follow.

- *Quality:* What level of quality will your guests expect based on your prices, atmosphere, and image? What level of quality does each vendor offer? When you test a vendor's products, is there a great deal of wasted weight due to poor quality?<sup>1</sup>
- *Quantity:* What quantities will your company require? In what quantities does the vendor offer the products? Do those quantities correspond with your needs? Are there extra charges if you order partial cases or packages? How much storage space do you have?
- *Consistency:* What kind of product consistency can the vendor offer? Is it guaranteed? What are the vendor's policies on substitutions and returns?
- *Reliability:* How reliable is the vendor in terms of delivery schedule and product quality? Does the vendor have references?
- *Availability:* What kinds of seasonal items will you be buying from each vendor? What kinds of price fluctuations can you expect? Is the vendor capable of supplying for your volume?
- *Service:* Does the vendor provide services such as prompt notification of shortages, technical support, reports of your past purchases, good customer service, and effective handling of complaints? What do you need the vendor to do? Can the vendor respond to special orders and delivery requests? How far in advance must an order be placed—two days, six hours, a week? Does the vendor have refrigerated trucks for products that might spoil?

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<sup>1</sup> A specialized form for use in making in-depth quality decisions is available in the Appendix. This form can be used with vendors to get further detail on how to control waste and to keep product costs down.

- *Safety*: Are the vendor’s products processed in accordance with government regulations for food safety? Can you visit their facilities to inspect the conditions for yourself? Do you have any special safety requirements?
- *Price*: Are the vendor’s prices consistent with or below those of their competitors? Will the vendor accept lower offers or offer discounts for volume buying? Considering the prices you can charge your target market, can the vendor’s prices translate into profit for you?

All of these aspects of a vendor’s bid will influence your decisions about what to buy—and from whom—for each product you purchase. If that sounds a little overwhelming—after all, most restaurants have extensive menus—the next section provides you some ways to standardize and organize the information you will need to make your decisions, so that the purchasing process doesn’t take all your time.

## PRODUCT INFORMATION

It is necessary for a purchaser to have a bank of product information on hand when developing purchase specifications and accepting bids. You can find this information in several trade publications, such as the Meat Buyer’s Guide (MBG), the USDA Institutional Meat Purchase Specification (IMPS), and the Seafood Buyer’s Guide. There are also local sources that you can use to learn more about a variety of products referred to in this chapter.

Usually, product specifications should include the following:

- The name of the item
- The amount or quantity needed
- The grade, packer brand, USDA number, or other quality information about the item
- The price of the item
- The packaging size and method of delivery
- Other miscellaneous information, such as the item’s area or country of origin or the number of days the item (such as beef) should be aged

Figure 4-1 is an example of product specifications for New York steak.

In writing product specifications such as the one in Figure 4-1, details can be eliminated if the purchaser is familiar with commonly used market terms such as *Product # 1180 IMPS* or the grade levels discussed below. The purchaser should be aware that there are different grades for

**Figure 4-1** NYS Product Specs

Definition	Description
Product Name & Use	<b>New York Steak</b> for lunch and dinner main entrée item
Product #	1180 (IMPS #) denotes - strip loin steaks, boneless, center short cut
Product Yield	From USDA yield grade 3 carcass. Dry aged 14 to 21 days
Product Size	Pre cut – 12 ounce portion sizes
Product packaging	Plastic wrapped in batches. Sixteen portions per batch
Product Delivery	In a refrigerated truck
Country of Origin	USA

each item purchased and different grade categories for different types of items. The following is a description of meat and dairy grades:

All grades are listed from highest quality to lowest:

- Beef: Prime, Choice, Select, Standard, Commercial, and Utility. If one supplier is giving the purchaser a bid on Prime beef and another supplier is bidding on Select beef, the two suppliers are not bidding on the same grade level. Thus, it is important that the purchaser specify the grade that he or she wishes to buy.
- Lamb has the following grades, from highest to lowest: Prime, Choice, Good, and Utility.
- Pork has the following grades, from highest to lowest: No. 1, No. 2, No. 3, No. 4, and Utility.
- Veal has the following grades, from highest to lowest: Prime, Choice, Good, Standard, Utility, and Cull.
- Poultry has the following grades, from highest to lowest: A, B, and C.
- Fish has the following grades, from highest to lowest: A, B, and C.
- Produce has the following grades, from highest grade to lowest: Fancy, No. 1, Commercial, No. 2, Combination, and No. 3.
- Cheeses, have the following grades, from highest to lowest: AA, A, B, and C.
- Eggs have the following grades, from highest to lowest: U.S. Grade AA, U.S. Grade A, and U.S. Grade B.

This chapter is not intended to be a discussion of how products are graded. Rather, it should make you aware that there are different grading systems for different products so that you can make informed decisions about product specifications. You will likely learn more about product grades as you become familiar with the products used in a particular establishment.

Figures 4-2 through 4-7 provide data about different cuts of meat and produce in a useful format. They will help you learn about the product before writing product specifications.

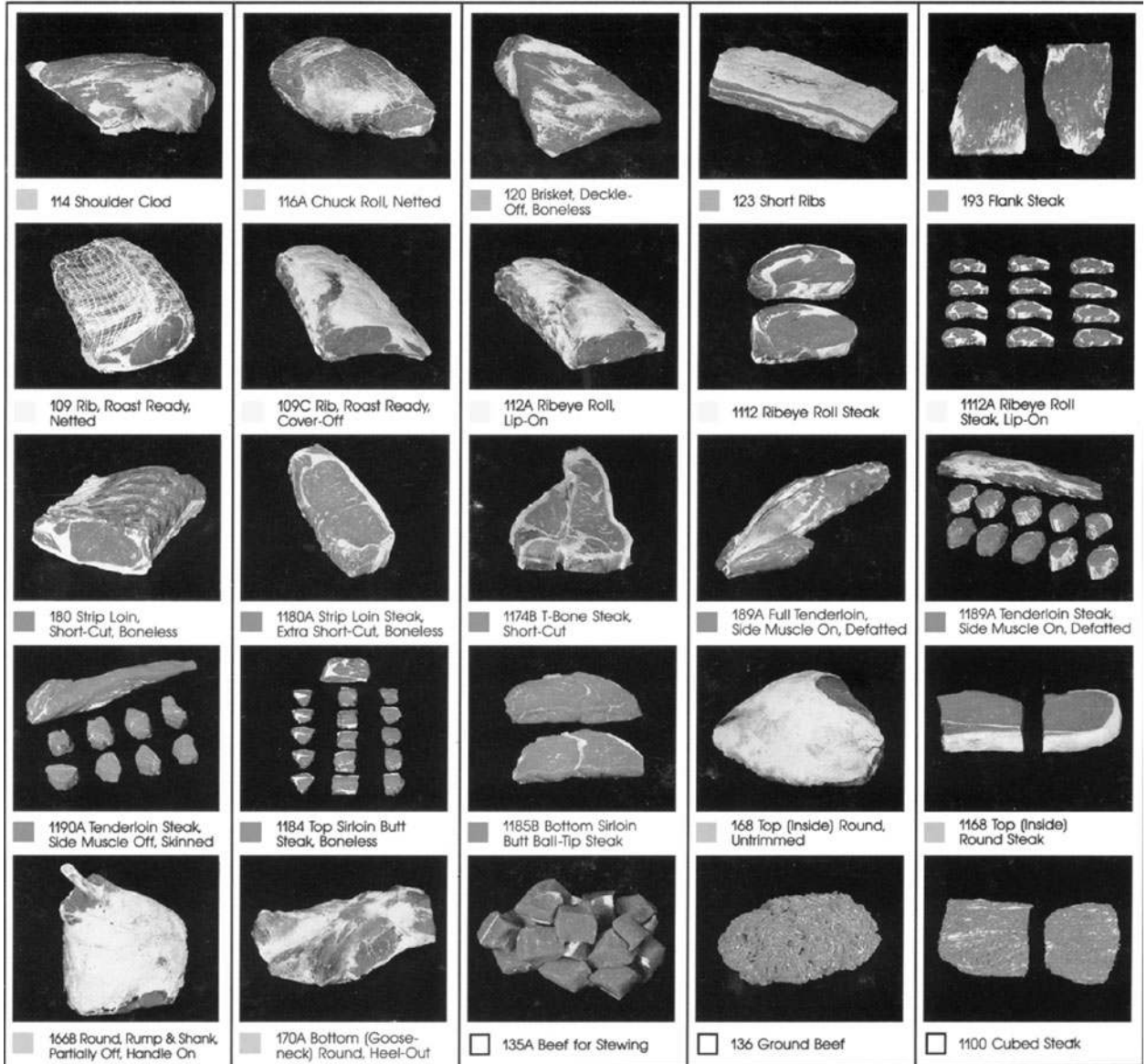
Figures 4-2 through 4-5 list different specifications of fresh meat.

You will need to create a chart of specifications for the items you need for your operation. You can send such a chart to prospective vendors so that they can send you their applicable product prices. All of the information is useful in comparing and analyzing differences in quantity, quality, packaging, and pricing among various vendors. Many vendors carry different brands that you will have to choose from, and they will be packaged differently and have different levels of quality. Since you are setting the specifications and standards for your company's purchases, you will evaluate how the vendors' price quotes and products fit your needs. Figures 4-6 and 4-7 show specifications for produce products.

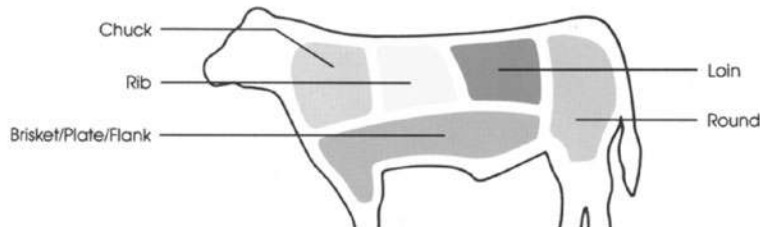
## QUALITY SPECIFICATIONS AND PRODUCT TESTING

In this section we will talk about quality specifications. We use the word *quality* to define a number of parameters for your purchases. Just as at home, how well the product performs—not simply whether it tastes good or whether it costs more—is a measure of how well it meets your needs. In a restaurant, however, you have more opinions to hear. Everyone involved—the vendor, the purchaser, the chef, the restaurant manager, and the guest—views quality differently. Ultimately, all these opinions must figure into the choice of products, and as the purchaser,

# FOODSERVICE CUTS OF BEEF

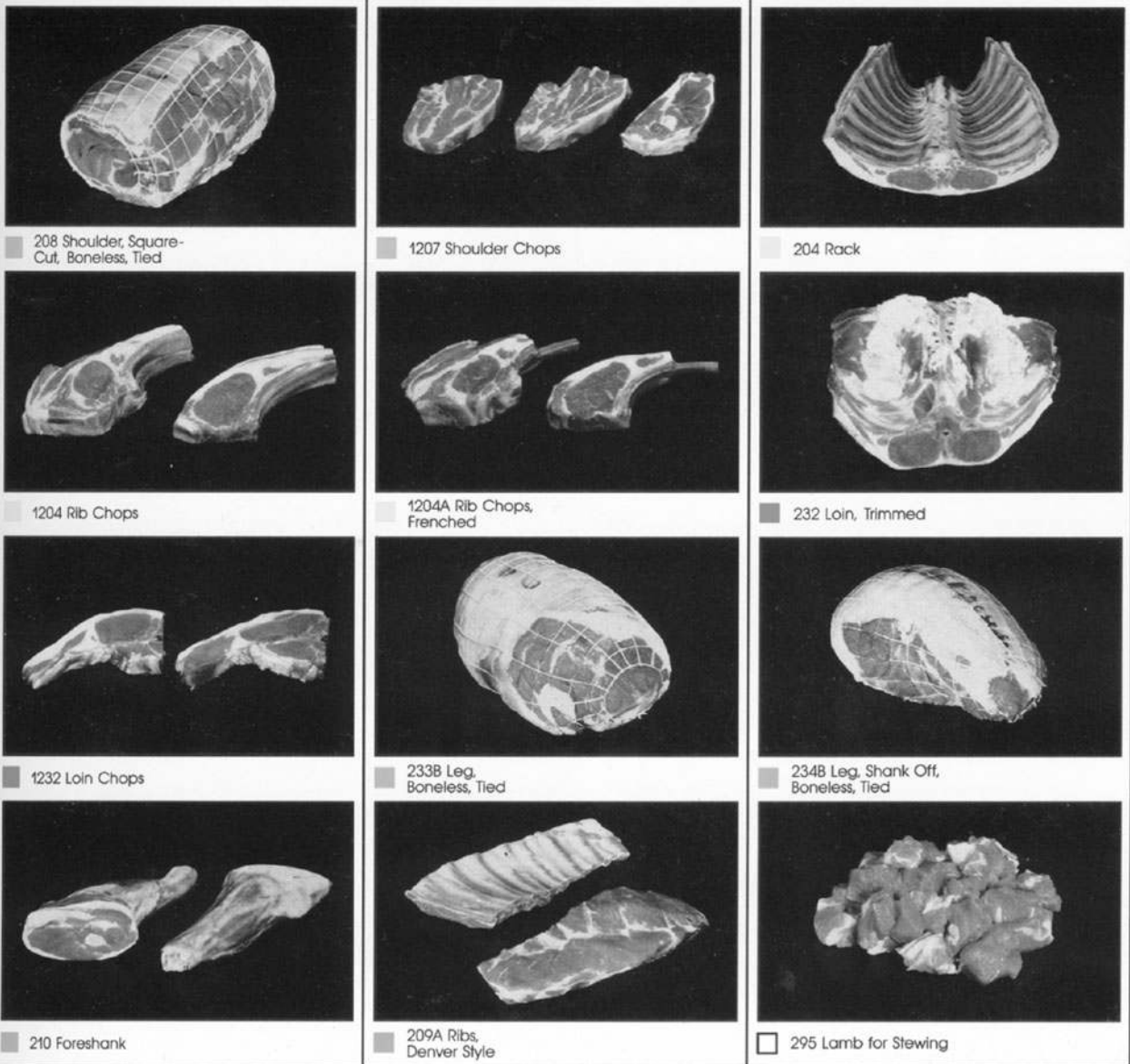


The above cuts are a partial representation of NAMP/IMPS items. For further representation and explanation of all cuts see *The Meat Buyers Guide* by National Association of Meat Purveyors.

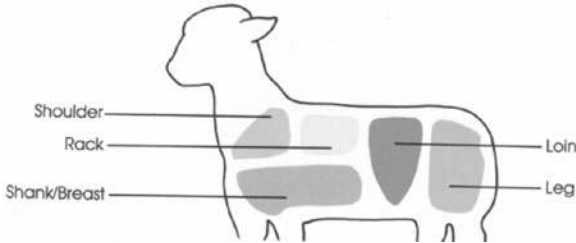


**Figure 4-2** Beef Specifications. *Courtesy of "The Meat Buyers Guide: Beef, Lamb, Veal, Pork, and Poultry by NAMP North American Meat Processors Association. © 2006. Reproduced with permission of John Wiley & Sons Ltd."*

# FOODSERVICE CUTS OF LAMB

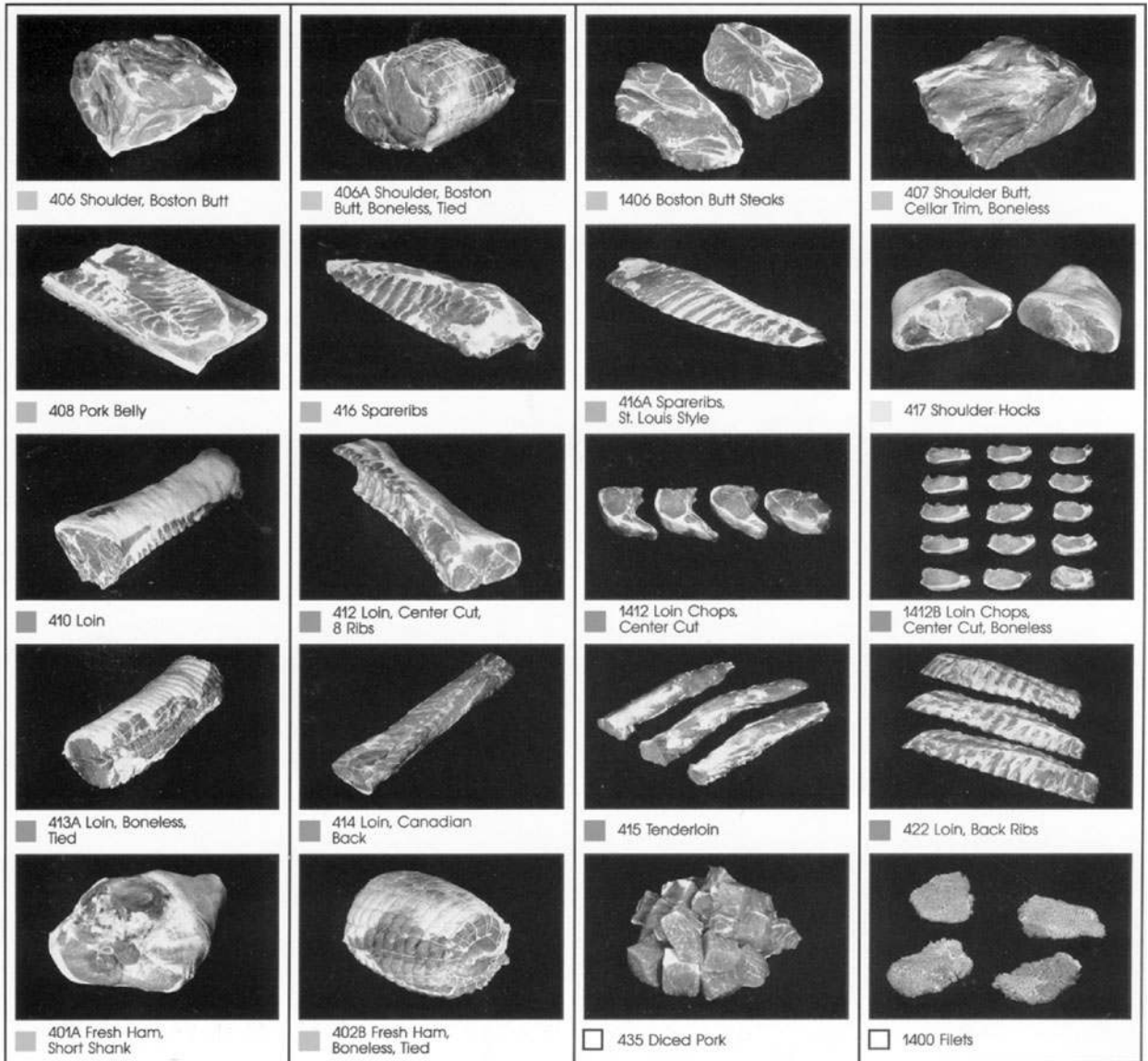


The above cuts are a partial representation of NAMP/IMPS items. For further representation and explanation of all cuts see *The Meat Buyers Guide* by National Association of Meat Purveyors.

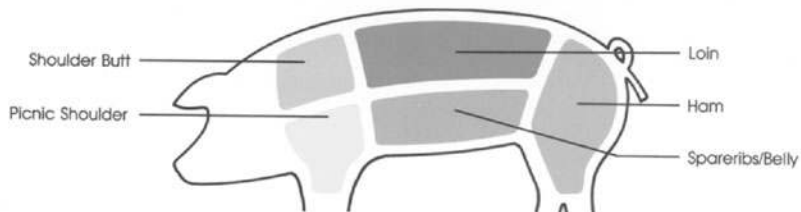


**Figure 4-3** Lamb Specifications. *Courtesy of "The Meat Buyers Guide: Beef, Lamb, Veal, Pork, and Poultry by NAMP North American Meat Processors Association. © 2006. Reproduced with permission of John Wiley & Sons Ltd."*

# FOODSERVICE CUTS OF PORK



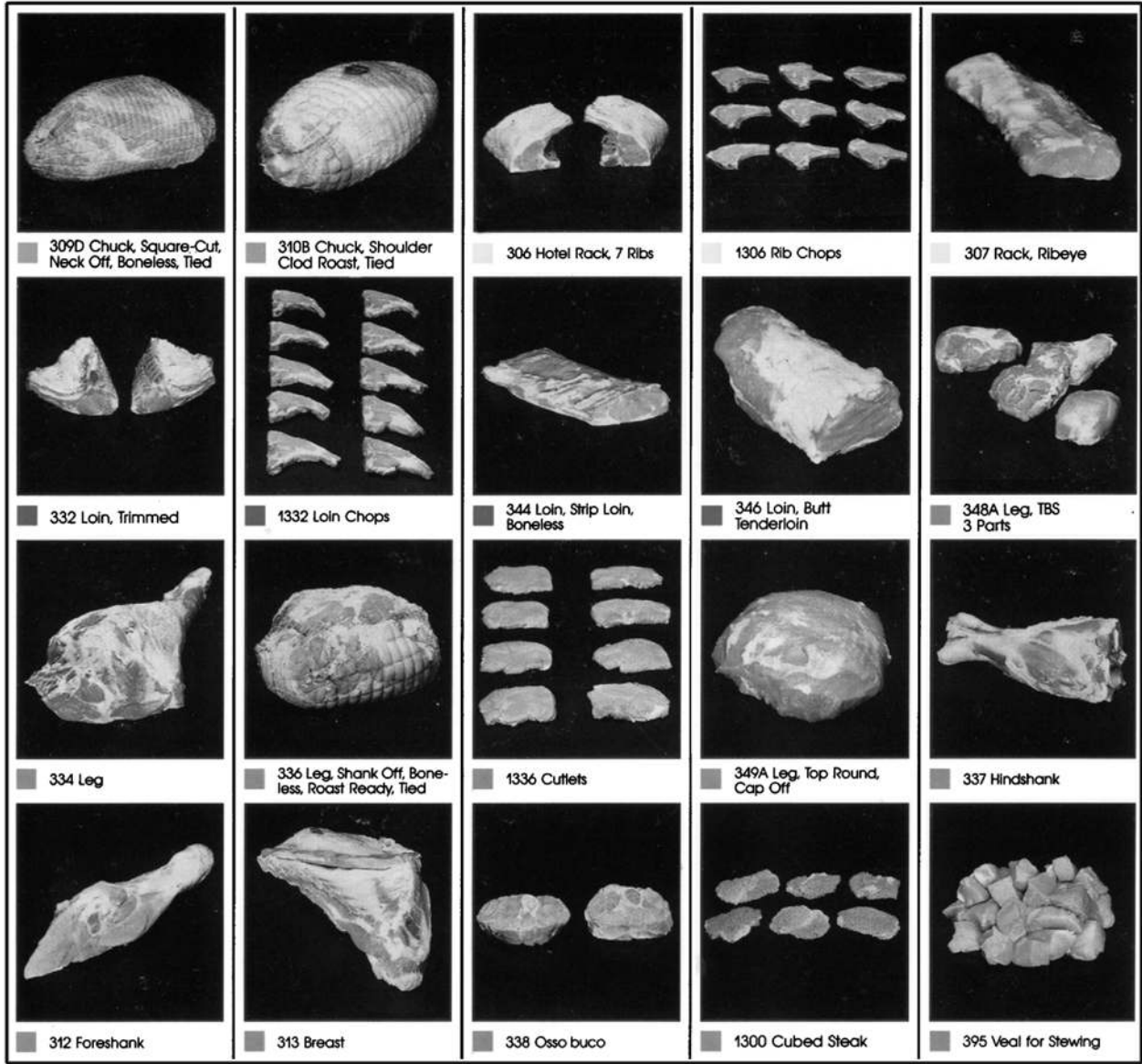
The above cuts are a partial representation of NAMP/IMPS items. For further representation and explanation of all cuts see *The Meat Buyers Guide* by National Association of Meat Purveyors.



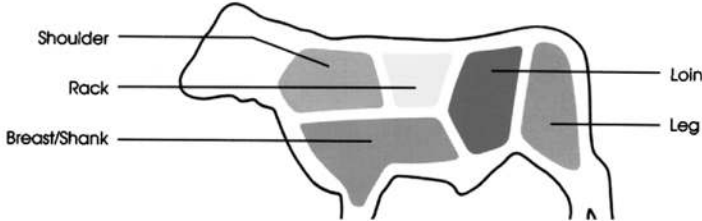
**Figure 4-4** Pork Specifications. *Courtesy of "The Meat Buyers Guide: Beef, Lamb, Veal, Pork, and Poultry by NAMP North American Meat Processors Association. © 2006. Reproduced with permission of John Wiley & Sons Ltd."*



# FOODSERVICE CUTS OF VEAL



The above cuts are a partial representation of NAMP/MPA items. For further representation and explanation of all cuts see *The Meat Buyers Guide* by National Association of Meat Purveyors.



**Figure 4-5** Veal Specifications. *Courtesy of "The Meat Buyers Guide: Beef, Lamb, Veal, Pork, and Poultry, by NAMP North American Meat Processors Association. © 2007 by North American Meat Processors Association. Reproduced with permission of John Wiley & Sons, Inc.*

Figure 4-6 Fresh Vegetables

Fresh Vegetables—U.S. Grades, Pack Sizes, and Storage Characteristics			
Product	U.S. Grades	Pack Sizes	Storage Characteristics
Artichokes	#1 and #2	Cartons weighing 20 to 25 pounds with counts ranging from 18 to 60.	Store at 38°F (3°C).
Asparagus	#1 and #2	Bunched (approximately 12 bunches of 2 pounds each per crate) or loose (30 pounds per case).	Packed upright in crates with a moist base to preserve quality.
Beans	Fancy, #1, combo, and #2	Cartons or baskets weighing from 26 to 31 pounds.	May be held for short period between 45°F (7°C) and 50°F (10°C).
Broccoli	Fancy, #1, and #2	Half cartons containing 14 to 18 bunches (each weigh 1 1/2 pounds).	Store at 34°F (1°C).
Brussels Sprouts	#1 and #2	Pint containers (12 per tray, or about 9 pounds); 25-pound cartons.	Store at 34°F (1°C).
Cabbage	#1 and Commercial	Cartons or bags weighing 50 to 60 pounds; Savoy cabbage normally packed in 40-pound cartons.	Store at 34°F (1°C).
Carrots	A, B, #1, and Commercial	Varies, most commonly packed as 48 one-pound units and bulk bags weighing 25 to 50 pounds.	Store at 34°F (1°C).
Celery	Extra, #1, and #2	Cartons or wire bound crates of 60 pounds, with counts of 18, 24, 30, 36, or 48 bunches.	Store at 32°F (0°C).
Corn	Fancy, #1, and #2	Wire bound crates of 50 pounds; counts range from 54 to 66.	May be stored at 32°F (0°C) for a short time period.
Cucumbers	Fancy, Extra #1, #1, #1 Small, #1 Large, and #2	Packed in lugs, West Coast lugs, and cartons.	Store at 45°F (7°C).
Iceberg Lettuce	Fancy, #1 Commercial and #2	West—varies in weight per case from 35 to 55 pounds; normally 18, 24, or 30 heads per standard western carton.	All varieties of lettuce may be stored at 34°F (1°C).
Leaf Lettuce	Fancy	Varies, but mostly in 24-quart hampers weighing about 10 pounds.	
Boston Lettuce	#1	Varies, best to purchase by the pound.	
Onion	#1, Combo, #2, and Commercial	Usually packed in 50-pound mesh fiber bags.	Should be stored under dry conditions.
Romaine	#1	Western lettuce cartons holding 24 heads and weighing approximately 40 pounds.	Store at 34°F (1°C).
Sweet Peppers	Fancy, #1, and #2	Bushels with various counts; 80 count is a good size for stuffing.	Store between 46°F (7°C) and 48°F (9°C), with relative humidity of 85%.
Potatoes	Extra #1, #1, and #2	Cartons with counts ranging from 60 to 120 per carton.	Store in cool, dry, dark area. Raw potatoes should not be refrigerated.
Sweet Potatoes	Extra #1, #1, Commercial and #2	Normally packed in bushel baskets of approximately 50 pounds.	Store at 50°F (10°C) with low humidity and use promptly.
Tomatoes	#1, Combo, #2, and #3 (field grading standards; grade identification is lost in repacking)	Sold by the box, which may contain 10, 20, 25, or 30 pounds; weight may vary by 10%.	Bring to full color at 55°F (13°C). Store between 40°F (4°C) and 50°F (10°C) until used.

Source: William B. Virts, *Purchasing for Hospitality Operations* (Lansing, Mich.: American Hotel & Lodging Educational Institute, 1987), pp 256–257

Figure 4-7 Fresh Fruits

Fresh Fruit—U.S. Grades, Pack Sizes, and Storage Characteristics			
Product	U.S. Grades	Pack Sizes	Storage Characteristics
Apples	Extra Fancy, Fancy, #1, and Utility	Loose in cartons weighing 38 to 40 pounds, or tray pack cartons weighing 40 to 45 pounds. Counts range from 48 to 198 per carton	Soften rapidly in warm temperatures. Store at temperatures around 30°F (–1°C).
Apricots	#1 and #2	Lugs weighing 24 to 26 pounds.	Store at temperatures from 32°F (0°C) to 36°F (2°C).
Avocados	#1, Combo, #2, and #3 (grades for Florida only)	California packs—one-layer flats weighing 12 1/2 pounds with counts of 9 to 35 per flat. California and Florida pack double-layer 25 pound lugs with counts of 18 to 96.	Ripen at room temperature, then refrigerate until use.
Bananas	No U.S. grades	Cartons of 40 pounds in assorted sizes; some markets offer a uniform 150 count per carton in petite size.	Bananas should be purchased at the ripeness stage that will hold until anticipated usage.
Blackberries/Raspberries	#1 and #2	Normally packed in 12-pint flats with overfilled baskets.	Store at 32°F (0°C) with 90% relative humidity.
Blueberries	#1	Shipped in 12-pint flats with overfilled baskets.	Store at 32°F (0°C) with 90% relative humidity.
Cantaloupes	Fancy, #1, Commercial, and #2	Half crates weighing 38 to 41 pounds; 2/3 crates weighing 53 to 55 pounds; and full crates weighing 75 to 85 pounds. Counts range from 12 to 46 depending on container size.	Store at 40°F (4°C).
Cherries	#1 and Commercial	Normally shipped in 20-pound lugs.	Refrigerate at 34°F (1°C).
Coconuts	No U.S. grades	Usually sold by the dozen	Refrigerate at 34°F (1°C).
Cranberries	#1	Typically packed in cartons of 24 one-pound units and 25-pound bulk.	Store at 32°F (0°C) with 90% relative humidity.
Grapefruit	Fancy, #1, Combo, #2, and #3	All areas—7/10 bushel cartons weighing between 38 and 42 pounds with counts ranging from 23 to 64.	Store at 50°F (10°C).
Grapes	Fancy, #1 Table Grapes, and #1 Juice Grapes	Weights vary by shipping area. Normally shipped in flats weighing 17 to 20 pounds and lugs weighing 20 to 26 pounds.	Store near 32°F (0°C) with 90% relative humidity.
Honeydews	#1 Commercial, and #2	Bliss cartons (29 to 32 pounds) or 2/3 cartons (5 to 10 melons with total weight of 30 to 34 pounds).	Honeydews may have to be pre-ripened by letting stand in a warm room for several hours (or days).
Lemons	#1, #1 Export, Combo, and #2	Standard cartons described for grapefruit, weighing between 37 and 40 pounds. Standard counts range from 63 to 235 per carton (115, 145, 165 and 200 counts are most popular).	Store at 50°F (10°C).

(continues)

Figure 4-7 continued

Fresh Fruit—U.S. Grades, Pack Sizes, and Storage Characteristics			
Product	U.S. Grades	Pack Sizes	Storage Characteristics
Limes	#1 and Combo	Cartons weighing 10, 20, and 40 pounds. Counts range from 72 to 126 for 20-pound cartons (96 and 108 counts are most popular).	Store at 50°F (10°C).
Nectarines	Fancy, Extra #1, #1, and #2	Generally packed in two-layer lugs of 20 pounds. Counts range from 50 to 84.	Refrigerate at 35°F (2°C).
Oranges	Fancy, #1, Combo, and #2	Standard fruit cartons with counts ranging from 48 to 162 (mandarine orange counts generally 176 or 210).	Refrigerate at 35°F (2°C).
Peaches	Fancy, Extra #1, #1, and #2	Boxes weighing 17 to 18 pounds with counts ranging from 40 to 65; Los Angeles Lub (two-layer) weighing 18 to 23 pounds with counts ranging from 50 to 80.	Peaches ripen rapidly at room temperature. Refrigerate at 32°F (0°C).
Pears	Extra #1, #1, Combo, and #2	Cartons weighing 44 to 45 pounds with counts ranging from 80 to 165; 100 count is a popular eating size.	Store at 40°F (4°C).
Pineapples	Fancy, #1, and #2	Cartons weighing 40 pounds with counts of 8-9-10-12-14-16; 1/2 cartons weighing 20 pounds with counts of 4-5-6-7.	Store at room temperature to ripen, then hold at 45°F (7°C).
Plums	#1	Usually packed in 28-pound lugs with counts ranging from 126 to 225.	Refrigerate at 34°F (1°C).
Strawberries	#1, Combo, and #2	Normally packed in 12-pint flats with baskets heaped.	Store at 32°F (0°C) with 90% relative humidity.
Watermelons	Fancy, #1, and #2	Usually sold individually with a minimum weight specification of 20 pounds recommended.	Store at 65°F (18°C).

Source: William B. Virts, *Purchasing for Hospitality Operations* (Lansing, Mich.: American Hotel & Lodging Educational Institute, 1987), pp 265–266

you must balance people's varying needs. You should do this by testing the products to see how well your specifications are met.

Take, for example, the quality specification for meats. One of the most important measures of quality across the industry is the system of grades given to products of different levels of quality. Figure 4-8 shows a guide to the United States Department of Agriculture (USDA) stamp of approval.

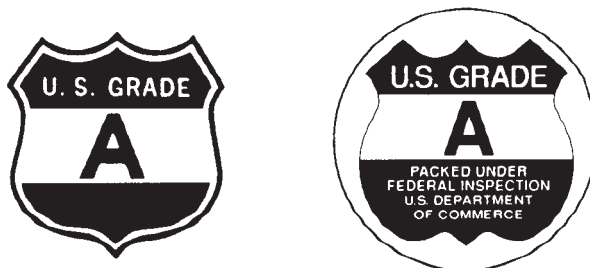


Figure 4-8 U.S. Grade Approval

Your role as a purchaser is to make sure the quality of the products you receive from a vendor matches your specifications, which are based on your menu and market. The tools in this chapter will help you test the products you receive, so that you can determine by hands-on experience whether or not they meet your needs. If you receive products that don't meet your standards, you will have to reject them—and all restaurant staff should be trained to do so as well.

You can avoid many problems by confirming orders with the vendor prior to shipment and checking the confirmation against your order. Correcting discrepancies in advance is much less time-consuming and problematic than dealing with mistaken deliveries after they have arrived at your restaurant. For example, if you ordered extra virgin olive oil but the confirmation reads *vegetable oil*, you can tell the vendor to correct it. If the confirmation explicitly states *extra virgin olive* it is unlikely that the vendor will send you vegetable oil instead. A reliable vendor will not normally confirm an order for which they cannot guarantee a delivery.

Vendors often send sample products, labeled as such and free of charge, to potential customers. With these samples you can test the quality for yourself, as can the chef and the restaurant manager. These tests determine whether the product meets the criteria detailed in your purchasing specifications. You will want to test the product using the same production procedures that will commonly be used. For example, if the product is likely to sit in a steam table for two hours before being served, or to sit in a refrigerator for two days before being used, test it under those conditions. Based on your test results, you can compare quality and cost aspects among vendors. The following discussion of different types of tests gives you a detailed guide on how to carry out each one.

## Yield Tests

**Yield tests** help to determine how much actual, usable product comes out of the raw product a vendor sends you. They help you to differentiate in quality and usable quantity between two or more vendors quoting a price on the same food product. The term **yield** means the net weight or volume of a food item after it has been processed from the as-purchased weight or volume and made ready to eat. The term *as-purchased* refers to the original raw product, which will be processed to **end-product** use (yield).

Yield may be stated either as a number of portions or as a **yield percentage**. For example, you might get eight 10-ounce steaks from a tenderloin or four servings of red potatoes from a 1-pound bag—the number of portions. You can also calculate the yield percentage, which is the percent of usable product available from the raw product. To find this, divide the usable weight by the as-purchased weight. (Remember that you must use the same units to divide weights—pounds divided by pounds, ounces divided by ounces, and so on.) Then, when you order the same product from the same vendor later, you have a close estimate of the yield you will get from the product.

As an example of calculating a yield percentage, if your tenderloins usually weigh 11 pounds, and after trimming you get 9.5 usable pounds from the original 11, your yield is 86.4 percent (9.5 pounds of usable weight divided by 11 pounds of original weight.) A 14-pound tenderloin, then, will net 12.1 pounds of usable steaks (14 pounds of original weight multiplied by a yield percentage of 86.4 percent.)

You can further use this yield percentage to calculate the number of portions the product will yield. Multiply the yield percentage by the original weight, and then divide the result by the weight of your portions. If your portion weight for a steak is 8 ounces, or 0.5 pound (again, remember to use equal units when dividing), an 11-pound tenderloin will net 9.5 pounds, or potentially nineteen 8-ounce steaks. A 14-pound tenderloin, multiplied by the yield percentage of 86.4 and then divided by the 0.5-pound portion size, will give you 24 half-pound portions.

To continue the example, in some cases the tips of a tenderloin may not conform to steak size and shape specifications, so you won't be able to serve them that way. In that case, your **end-product (EP) price** may be higher than the **as-purchased (AP) price**, because part of

**yield tests** determine the amount of usable product available after processing raw items.

**yield** The net weight or volume of a food item after it has been processed from raw materials and made ready to eat.

**end product (EP)** refers to final yield after processing.

**yield percentage** is the amount of usable product available from raw materials. To find this, divide the usable weight by the original weight.

**end-product price** refers to the price of usable product, including the price of wastage.

**as-purchased price (AP)** The original price paid for a product.

the usable meat could not be used as portioned steak. However, you may be able to use the leftovers as ground beef or for other menu items. If you use parts of your product for a less-expensive menu item, the EP price will increase. You will have to judge whether you need to increase your menu prices to reflect the increase in EP price.

EP price is derived as follows:

$$EP = \frac{AP}{Yield\%}$$

As-purchased price simply means the original price you paid for the product.

### Quiz

If you purchase a 25-pound case of green beans for \$16.00 and it yields 20 pounds of edible beans, what is the end price for a 4-ounce portion of the beans?

## Butcher Tests

**butcher test** A yield test used to determine the actual portion cost of meat, poultry, fish, or seafood after accounting for waste, trim, and cooking losses.

A **butcher test** is one kind of yield test. It is used to determine the actual portion cost of meat, poultry, fish, or seafood after accounting for waste, trim, and cooking losses. Whenever you revise your menu or try out a new vendor, you'll need to conduct a new test. The butcher test is further used to obtain raw and cooked net yield, as well as the correct number and size of standard portions. You will always want to test a representative sample, with at least two pieces, in order to be more accurate by averaging the results. The following steps give you the full test procedure. Figure 4-9 gives an example of a butcher testing chart.

### Discussion Topic

Which is more useful: Performing yield testing on samples of the actual product you receive, or referring to published purchasing yield guidelines? Why?

1. Enter all required information into the butcher testing chart. Include the vendor's information, such as the unit prices and purchased weight. These are letters B, C and D on the sample chart (Figure 4-9). We're comparing two vendors, so you'll see two columns on the right with the data for each vendor.
2. Write the name and description of the product being tested at the top of the chart, as we have done with the beef tenderloin. With cuts of meat, be sure to enter all prime and secondary cuts. This accounts for every usable cut you get from a product. For letter A, enter the portion size of the primary cut; in this example, an 8-ounce filet steak.
3. You will often get secondary cuts from meat products, as in the tenderloin example. Fat, plastic wrap, and blood, on the other hand, typically are not used or sold, so do not assign them any value. In our example, ground beef is a secondary cut, but there are no usable bones or stew meat products from the tenderloin.
4. Obtain price quotes from the vendor for per-pound prices on all secondary cuts. Then, in the *Secondary Cuts* box, enter the values and weights of any secondary cuts. Total the weights and values of the secondary cuts and enter them on line E. You'll be using both the weights and the values of these cuts, so be sure to keep them straight by using dollar signs (\$) next to the values.
5. Find the primary cut weight by subtracting the weights in line E from those in line D. The result goes in line F.
6. In line G, indicate the number of portions you can get from 1 pound of cleaned product. In this example, each portion weighs 8 ounces; therefore, there are two portions per pound.
7. Line H is very important, as it gives you an accurate **cost per servable pound**. Subtract the secondary cost values (line E) from the full price (line C). Then divide that result by the number of pounds in line F; write the result in line H.

**cost per servable pound** The cost derived from butcher test results. Calculated by subtracting secondary costs from the purchase price, and dividing by the weight of the primary cut.

Figure 4-9 Raw Beef Test

ITEM: BEEF TENDERLOIN						
	Assumptions				Vendor 1	Vendor 2
	Quality grade of beef purchased				5# up	6# up
A	Primary Cut per menu item	ounce			8 oz	8 oz
B	Price per pound				\$6.21	\$6.69
C	Purchase price				\$449.60	\$484.36
D	Purchase weight	pound			72.4	72.4
	Purchase price per ground beef				\$1.38	\$1.38

Butcher Test Results					
		Vendor A	Vendor B	Vendor A	Vendor B
		Weight in pound		Value	
	Blood, Cryovac, & Fat	3.25	5.25	\$0.00	\$0.00
	Ground Beef at \$1.38 per pound	30.86	22.77	\$42.59	\$31.42
	Beef Bone	0	0	\$0.00	\$0.00
	Stew Meat	0	0	\$0.00	\$0.00
E	<b>Total</b>	34.11	28.02	\$42.59	\$31.42

Calculations of Test Results						
F	Therefore, Primary - Filet Cut <i>Subtracting weights in line E from weight in line D</i>	pound			38.29	44.38
G	Portions per pound <i>pound = 16oz</i>				2	2
H	Cost per servable pound <i>derived by (c-e)/f</i>				\$10.63	\$10.21
I	Cost Factor per pound <i>cost factor = h/b</i>				1.71	1.53
J	Portion Cost Multiplier or Cost Factor (per portion). Derived by (i/g)				\$0.86	\$0.77
K	Therefore, portion cost <i>derived by jxb</i>				\$5.34	\$5.15
L	Yield percentage (b/h)				58.42%	65.52%
	<b>Notes</b> Line <i>j</i> will remain constant until a revision of specification or change of vendors. Line <i>k</i> will not remain constant, as long as the vendors change their prices. Meat prices change daily in the US market. The purchaser should monitor line <i>k</i> to determine profitability.					

**cost per purchased**

**pound** Purchase price of a cut of meat divided by the weight in pounds.

8. The cost factor, line I, is the ratio of the cost per servable pound to the **cost per purchased pound**. Divide line H by line B, and enter the results in line I.
9. Line J is simply line I divided by line G; it represents the cost factor made applicable to your portion size.
10. Line K is the actual cost per portion. You derive this by multiplying line J by line B, or by dividing line H by line G. Look back over the chart (Figure 4-9) to see why this is so.

Various meat items are portioned after cooking, including prime rib, London broil, and pork loin. Each of these items must be tested, and the amount of loss during cooking can then be determined. Different grades of meat have different yields and quality characteristics. Higher cooking temperature is another variable, as it tends to increase shrinkage. Studies show a shrinkage loss of 15.8 percent at 325° and 30.4 percent at 500°. In order to increase yields, lower temperatures are recommended for roasting. Lower temperatures also produce a product that is juicier and more evenly browned, an added benefit in the food service business. You will need to determine these variances if they apply to the item you are testing.

**cost factor** The ratio of the cost per servable pound to the purchase price per pound.

Line I of Figure 4-9 involves a new term: **cost factor**. This is the ratio of the cost per servable pound to the purchase price per pound. This is a very accurate ratio with which to compare vendors. The closer this ratio is to 1, the more value (and less waste) you get from what you buy. In our example, Vendor 2's product has more tenderloin filets—and more value—than Vendor 1's product. Once the cost factor has been determined, you can apply it to any current market price and you'll obtain an up-to-date portion cost, as long as the same purchasing and portion standards are applied.

Now you have an accurate price per tenderloin portion: \$5.31 for Vendor 1 and \$5.11 for Vendor 2 (Figure 4-9). The results from a butcher test can be used in what is called a **make-or-buy decision**: Should you buy the product raw and prepare it yourself, or should you buy it preportioned and save on labor and waste costs? It is true that portion control consistency is often better with preportioned products, unless you have a sufficiently experienced butcher. Preportioned meats also make your inventory easier to calculate because the number of portions a butcher gets from a cut of meat may vary. However, you will have to decide if these benefits justify the added costs.

A butcher test reveals valuable information that was not obvious from the vendors' prices. Had you judged simply from the purchase price per pound, you would have thought Vendor 1 was offering a better price. The results of the butcher test (subtracting the secondary cuts in line E) plus the resulting prices per portion lead to a different and more complete conclusion. In this example, you will be better off selecting Vendor 2 for its higher quality and greater cost effectiveness. This shows the necessity of butcher testing before selecting a vendor. Similar tests should be conducted for all product groups, from meat and fish to produce.

### **Activities/Assignments**

1. Distribute sample butcher yield tests (see Appendix) for an assortment of products. Work in groups of two to calculate the yield percentages.
2. Obtain current produce price sheets from local vendors. Compare the options, select the "best" buys, and justify their decisions.

## **Raw Food Test**

Purchasers perform raw food tests to determine which vendor supplies the best count and weight of fruits and vegetables for specific uses—for example, how many tomatoes come in a case or how many slices you get from one tomato. By performing tests on these items, you will be able



to determine yield and waste based on various sizes, types of packaging, and condition of fruits and vegetables—peeled or unpeeled, cleaned and preparation-ready, or uncleaned and requiring preparation. This test allows you to make an informed selection of products and vendors.

## Canned Food Test/Can-Cutting Test

Another test used in cost control is the can-cutting test. Whenever large quantities of canned, frozen, or dehydrated items are used, these tests should be performed in order to identify the best buy—how well do the items meet your purchase specifications, including cost?

A canned food test is used to determine the yield of canned goods, either through weighing or counting the drained contents of the container. Use good, scientific-method procedures so that the only variable is the product being tested. For example, use the same size sieve to drain liquids, the same drainage time, and so on. It is always prudent to determine servable weight in this way rather than trusting the printed volume. To determine the end-product price, always perform the calculations using the units as they are sold, whether they are sold by volume, weight, piece, or portion. Read the label, but do not make a judgment until after the test, because a product may contain added air or liquid, or may have a lower density.

## “Blind” Taste Test

You can also use your staff members to conduct a taste test of vendors’ samples. Using samples from more than one vendor, prepare the products as you would normally prepare them for service. Do not label them in any obvious way; the person who is testing the products should not be able to tell where the product is from. Use several testers, and average the findings to come to a decision about which product tastes best.

## QUANTITY SPECIFICATIONS

When we talk about quantity specifications, we are no longer talking about yield. Rather, we are referring to inventory management, including how much to order and how much to keep on hand. There is a great deal to consider in making these decisions wisely for different products: You want a good balance between what you use and what you order. You don’t want spoilage, of course, but you do want to take advantage of vendors’ volume price discounts, and you want to have stock on hand for unexpected needs. You will need to have a thorough understanding of how quickly your business consumes the products you are ordering, how long it takes your vendor to deliver, and how much safety stock is required. Your experience—both as a consumer and as a professional purchaser—will hone your judgment on when and how much to order.

Although the restaurant manager or chef usually tracks how fast items are consumed (the inventory turnover ratio), the purchaser decides how much to order. The purchaser establishes an inventory schedule—daily, weekly, or more or less frequently—based on the operation’s needs. By monitoring usage levels, the purchaser also sets **par levels** for the inventory. These are set amounts that maintain enough stock, but not more than is necessary for your business volume. When the chef or manager sees that something is needed, he or she sends a purchase order, which is a detailed, standardized way to tell the purchaser what is needed. This is how the purchaser knows of a need and begins to fill it. To know how much of a product to order, it is important to consider several contributing factors.

**par level** Set inventory amounts that maintain enough stock, but not more than is necessary for the business volume.

## Inventory on Hand

**Inventory on hand** is your restaurant’s stock of the food and other products you buy and store for use. The stock you have on hand actually costs you money. You lose interest that you

**inventory on hand** The quantity and value of inventory currently present.

could have earned on what you spent. You spend money to maintain and operate the storage facility. And, of course, spoiled food is pure cost as well. On the other hand, when a guest orders something, you want to have it in stock. Purchasing is a delicate balance between ordering more than you need (and therefore having waste) and ordering less than you need (and therefore running out). Inventory on hand should match what the purchaser's recommended par levels of stock as closely as possible.

## Lead Time

**lead time** The time between the receipt of a purchase order and the receipt of the goods from the vendor.

**Lead time** is the time between the receipt of a purchase order and the receipt of the goods from the vendor. It should include time to obtain quotation bids, time to place an order, and time for the vendor to make your delivery.

## Cost of Acquisition

Many costs can add to the cost of acquisition, including the costs of placing an order, processing an invoice, and delivering the goods. While these expenses are small relative to the value of the food and beverage purchased, they must be weighed when determining the optimum order quantity. Normally, these costs percentages are lower when you order larger quantities less frequently.

## Volume Pricing

**volume pricing** Lower prices when products are purchased in larger quantities.

If the addition of one or more units to an order will result in a lower price for all, you are getting **volume pricing**. Evaluate the various other costs against this lower price—if you purchase too much and it spoils, you will have lost your discount as well.

## Vendor Minimum Order Quantity

**vendor minimum order quantity** Required minimum amounts for orders from a vendor.

If you order from someone who is not your primary vendor, you may be required to order a set minimum amount, the **vendor minimum order quantity**, or pay a premium price. You will have to decide whether making that required minimum order is suitable for your company. Some purchasers buy regularly from more than one vendor, as long as they are competitively priced. Doing so allows you to call on other vendors without a cost penalty when your primary vendor can't deliver.

## Safety Stock

**safety stock** Extra inventory kept on hand to ensure that you will have time to order more before running out.

**Safety stock** is your cushion; it is an extra amount of product that you keep on hand to ensure that you will have time to order more of that product before you run out. The amount required as a cushion is a judgment made by assessing the restaurant's operations, your suppliers' delivery schedules, and the general economic conditions. Safety stock is important to smooth restaurant operation. If you order too little, the unit cost will usually be higher, shortages may occur, paperwork will increase, and your vendor relationships may suffer. On the other hand, if you order too much, you will have higher inventory costs, greater risk of theft, more spoilage, and less storage space available.

Assessing the amount of safety stock you need is tricky and will probably vary from item to item and from one season to the next. You will want to consult your company's business forecasts plus your own past usage records to decide how much you will need. Note how long each vendor takes to deliver items to you. Based on this analysis, you can estimate a sufficient amount of safety stock to maintain.

How many days' worth of safety stock products do you want to have on hand? How many days' lead time does it take your supplier to deliver products? Finally, what is your average daily

use of the item? The following is an example of a formula you can use—the number of days of safety stock desired plus the number of days of lead time, multiplied by the number of units you use each day, determines the appropriate order quantity:

$$(\# \text{ of days safety stock} + \# \text{ of days lead time}) \times \text{average daily use} = \text{order quantity}$$

Figure 4-10 provides two examples, with different daily usage and lead times. In each case, assume you'd like a safety stock supply of one day.

**Figure 4-10** Daily Usage Charts

Products	Safety Stock in days	Lead time in days	Daily usage
Onions red	1	2	20 pounds
Tomato puree	1	3	3 cans
The order points are computed as follows:			
	<i>(safety stock + lead time)</i>	<i>x daily usage</i>	<i>= order quantity</i>
Onion	(1+2)	x 20 =	60 pounds
Tomato puree	(1+3)	x 3 =	12 cans

How much you buy will also be affected by whether the products are perishable or nonperishable.

## Perishable Products

Perishable products need attention and appropriate handling to avoid spoilage. They also differ from nonperishable products in the following ways:

- they are seasonal.
- they are more frequently purchased.
- their prices are less stable.

Being seasonal or perishable means a product is much more likely to spoil rapidly or to lose freshness or quality. Some examples are fresh fish and seafood, meats, berries, freshly squeezed juices, and some dairy products. These products require great care in handling because they are prone to contamination. It is also important to understand the shelf life of each product.

For these reasons, it is very important for the purchasing manager to pay attention to the **market reports** distributed by vendors. These reports are written by vendors to inform businesses of present and future product conditions, particularly with farm and seafood products, as these constitute the majority of perishable goods. These reports contain information on supply, demand, and prices. Figure 4-11 shows what a market report might look like.

Use market reports to make purchasing decision. For example, if you know that poor weather in California will soon seriously affect your perishable purchases, you can plan ahead. You may even have to revise your menu depending on how severely these issues impact the available supply and prices. Knowing that these products deteriorate quickly, determine the quantity on hand as well as how much you expect to need.

Planning for ordering perishable products should be extensive and systematic. Review your company's business forecast. You'll need to review anticipated banquet functions and special

**market reports** Reports written by vendors to inform businesses of present and future product conditions, particularly with farm and seafood products.

ALLIANT FOODSERVICE MAY 4, 2008	
GENERAL OVERVIEW: All citrus areas are experiencing near-perfect conditions with daytime temperatures in the 60's and 70's. Products from Mexico are in their final week with higher temperatures creating weak quality. We are making the transition to California as product becomes available.	
CAULIFLOWER: Expect a significant price increase in the next two weeks as cool temperatures slow down production.	
STRAWBERRIES: Supplies are much tighter than ever imagined. Rain caused a bloom drop 10 days ago causing a substantial drop in volume. Supplies increase in one week.	
<b>BEST BUYS</b>	<b>GREAT ITEMS FOR MOTHER'S DAY</b>
Spring Greens	Bing Cherries
Asparagus	Vidalia Onions
Strawberries	Long-stem Carnations
<i>Source: ALLIANT FOODSERVICE, May 4, 2005 By Permission</i>	

**Figure 4-11** Market Reports. *Courtesy of the Alliant Foodservice*

events as well, if your establishment offers such functions. Consider the lead time and how much you will need before placing this order; with a little foresight, you can ensure both quality and timely delivery. For example, fish quality depends on careful handling and freshness, so plan your order to arrive just in time for its use.

You will also want to determine inventory on hand. Record what you have in inventory before placing an order. You will see why this is important as we go through the following case study.

## Case Study: Why Experience Matters

Assume it is Thursday afternoon and your restaurant is open every day. The restaurant usually uses between five and six flats of strawberries every three days, or about 1.83 flats per day. Today the banquet chef has submitted a purchase order for two flats of strawberries for a function on Monday. The vendor only delivers on Tuesdays and Thursdays, and you must call by 9:00 A.M. the day before these delivery dates to place an order. Now assume you counted seven flats of strawberries in your storeroom (this is your inventory on hand); you've already received your deliveries for the day and filled your requisitions. Your seven flats will likely be gone before Monday's banquet function, and you can't get a delivery from your vendor either. You will probably have to buy strawberries at the local market, and you should order ten flats. Why ten?

The reason for ordering this amount is demonstrated in Figure 4-12.

**Figure 4-12** Order Quantity

Days of safety stock desired	1 day
Lead time	5 days
Average daily use	1.83 flats
So, (5 days + 1 day) × 1.83 flats daily use	11 flats
Plus special banquet requisition	2 flats
Plus Wednesday & Thursday	4 flats
Less inventory on hand	7 flats
Therefore, order quantity	10 flats

In this example, notice that Wednesday and Thursday are included in the daily usage calculation. If they are not included for next Tuesday's delivery, you will deplete your stock before the next delivery on Thursday. When purchases are not planned correctly or special needs must be met, you may have to purchase goods from a local market or from an alternate vendor. The prices at markets are often high, and the quality could be low. These are both problems you want to avoid. Look back over this example to see where procedures could be improved. For instance, you might establish a policy of having the banquet chef submit orders earlier. Or, better yet, get a vendor who delivers more often with competitive prices.

## Nonperishable Products

Ordering quantities for nonperishable items are determined by usage, storeroom space, cash availability, price, and lead time. The company may have plenty of space, but cash flow could be a problem (or vice versa). You might negotiate a better price package through bulk or volume buying incentives, but storeroom space may limit how much you can buy. Also, because of variations in price levels, delivery schedules, demand, and sales forecasts, the ideal is to place an order to arrive just in time to avoid both running out of product and spoilage. You can do this by using the following formula for nonperishable items:

$$\begin{aligned} \text{net outlet demand} - \text{stock on hand} + \text{demand during lead time} \\ + \text{safety factor} = \text{order amount} \end{aligned}$$

Say you usually use one jumbo can of tomato sauce per day. If the demand increases to two jumbo cans per day during the four days' lead time, the above formula helps you account for that urgent need. The formula also includes a safety stock amount, which you will have to determine based on your restaurant's conditions, including storage space, business forecasts, and cash flow. Note, however, what this formula does *not* include: Sometimes a vendor requires that you order a minimum amount, or will give you a better price if you order more. These variables require judgment calls.

You can also establish par levels for nonperishable items. As stated above, these are set amounts—determined by the purchaser—of the minimum and/or maximum of each item to keep on hand. Once these numbers are set, they can easily be adjusted according to the business season or economic conditions. This par level lets you know when to place an order.

If your company's inventory is automated, you can keep your par levels in the computer. What you will want to create is called a **perpetual inventory**, which can also be done manually but is very time consuming without a computer. With this type of inventory you keep a running balance for each item in the storeroom: Purchases are added and requisitions are subtracted from the numbers all month long. Depending on your computer system's degree of sophistication, it may be possible to enter how often you will order products as well as your business volume, and the computer will tell you how much to order! You must check, of course, to see that your actual, physical inventory and the computer-calculated inventory are the same. This is discussed in more detail in Chapter 11, which provides physical inventory and month-end cost procedures.

None of these tools or formulas can replace your judgment as the purchaser, but they do provide guidance in knowing how much to order. Common sense is invaluable in your attempts to keep the right amount of any item on hand. As with the other topics discussed in this section, you can draw on your experience as a consumer to evaluate how much inventory to have on hand and as safety stock, whether volume pricing is worthwhile for you, and how to monitor perishable goods to eliminate spoilage. Monitor how often you run out of an item or end up with spoiled product. Everyday practice and evaluation will help you find the middle ground.

**perpetual inventory** A system of accounting for inventory changes, in which beginning and ending inventories are noted along with any sales or purchases.

## SUMMARY

With the menu and market as a starting point, one of a purchaser's responsibilities is to set purchase specifications for products that will best meet your needs in terms of price, quality, and service. To do this, the purchaser compiles detailed, relevant product information and works with the chef and manager so that their needs are met. The team discusses standards and how different products meet the needs of the target market and your offerings. Together, set product specifications to serve as the backbone of the purchasing process.

Vendors send you products samples, which you and your team can use to test yields, quantity, and even taste. These tests help you determine which vendor's products are right for your operation, and allow you to make an informed decision about the real cost after preparation. At this point you will often have to grapple with make-or-buy decisions, in which you will weigh the relative costs of buying preportioned products versus preparing the products in-house.

Quantity specifications also come into play in setting your purchase specifications. As the purchaser, you evaluate the circumstances at hand (inventory, volume pricing discount offers, business volume levels, storeroom requirements, and lead time, for example) to decide how much product you will want to purchase. When these specifications are then sent to vendors, you will receive bids based on your needs, rather than on what the vendor wants to sell.

Your role is to create an ongoing system for the purchasing process, so that as menus and seasons change, you continue to make good buying decisions for your company.

## CHAPTER QUESTIONS

### Critical Thinking Questions

1. What is a can-cutting test? How is it conducted?
2. What is accomplished by a butcher test? How is it conducted?
3. How is cost factor calculated?
4. Why might some products have a better value for some food service operators than the same product for another operator?

### Objective Questions

For Questions 5–9: You have purchased one 50-pound case of 80 potatoes for \$16.00.

5. What is the cost of one potato?
6. What is the cost of 1 pound of potatoes?
7. After cleaning and peeling the potatoes, the case yields an edible weight of 42 pounds. What is the yield percentage?
8. What is the prepared cost per pound?
9. True or false? One of the primary objectives of the purchasing department is to procure the best or highest-quality product available.

For Questions 10–14: Using the butcher test as presented in the chapter, calculate the following for preparing 12-ounce rib-eye steaks from a prime beef rib given these assumptions: purchase

weight is 22 pounds; price per pound is \$3.85; waste is 3 pounds of blood and fat; secondary cuts bones are 4.8 pounds (value \$0.85 per pound); stew meat is 3 pounds (value \$2.20 per pound).

10. What is the usable weight of the primary cut?
11. What is the cost per servable pound?
12. What is the cost factor per portion?
13. What is the yield percentage?
14. In a can-cutting test, suppose Vendor A charges \$23.00 for a case of 6 #10 cans of corn and Vendor B charges \$24.00, and the quality is the same—but one can from Vendor A yields 6 pounds of drained corn and one can from Vendor B yields 6.2 pounds. What is the cost per usable pound for each vendor's product, and which is a better value?

## Multiple Choice Questions

1. Assuming a safety stock of one day, a lead time of two days, and a daily usage of five cans, how many cans should the order quantity be?
  - A. 15
  - B. 12
  - C. 20
  - D. 10
2. When purchasing, what is the most important thing to consider?
  - A. AP price
  - B. EP price
  - C. EPP price
  - D. value
3. The information you need for making product decisions include all of the following *except*.
  - A. Menu and ingredient information from the chef
  - B. Budget information from the manager
  - C. The waitstaff's item preferences
  - D. Price and quality information from vendors
4. You are purchasing cans of tomato sauce for your restaurant. Assuming a safety stock of one day, a lead time of two days, and a daily usage of ten cans, how many cans should your order quantity be?
  - A. 15
  - B. 20
  - C. 30
  - D. 10
5. When purchasing, what is the most important price consideration?
  - A. As-purchased price
  - B. Delivery costs
  - C. Cost factor
  - D. Vendor perks

**You have purchased one 50-pound case of 80 potatoes for \$16.00.**

6. What is the cost of one potato?
  - A. 50 cents
  - B. 75 cents
  - C. 30 cents
  - D. 20 cents
7. What is the cost of one pound of potatoes?
  - A. 32 cents
  - B. 48 cents
  - C. 16 cents
  - D. 24 cents
8. After cleaning and peeling the potatoes, the case yields an edible weight of 42 pounds. What is the yield percentage?
  - A. 50%
  - B. 42%
  - C. 84%
  - D. 110%
9. What is the end-product price per pound?
  - A. 48 cents
  - B. 42 cents
  - C. 32 cents
  - D. 38 cents

**These questions are about a butcher test with the following characteristics.**

You are preparing 12-ounce rib-eye steaks from a prime beef rib.

The purchase weight is 22 pounds

Price per pound is \$3.85

Waste products (blood and fat) come out to 3 pounds

Secondary cuts are 4.8 pounds at \$.85 per pound

10. What is the usable weight of the primary cut?
  - A. 13.7 pounds
  - B. 15.5 pounds
  - C. 14.2 pounds
  - D. 9.9 pounds
11. What is the cost per servable pound?
  - A. \$5.96
  - B. \$4.96
  - C. \$5.15
  - D. \$3.85
12. What is the cost factor per portion?
  - A. 1.3
  - B. 1.8
  - C. 2.0
  - D. 1.5