DETERMINING PORTION COSTS AND SELLING PRICES

OBJECTIVES

Upon completion of this chapter, the student should be able to:
1. define standards, standard recipe, standard yield, standard portion, and standard plate cost.
2. define the terms “As Purchased” and “Edible Portion” when used to cost recipes.
3. determine Standard Portion Cost using the methods of Cost per Unit, Yield Test, Cooking Loss Test, and Recipe Costing.
4. calculate and use Cost Factors.
5. calculate a Preliminary Selling Price using methods of “ Desired Cost %” and “Pricing Factor.”
6. set the selling price of a menu item to insure a profit as well as to maintain customer satisfaction.

KEY TERMS

<table>
<thead>
<tr>
<th>As Purchased</th>
<th>Preliminary Selling Price</th>
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<tbody>
<tr>
<td>Cooking Loss Tests</td>
<td>Pricing Factor</td>
</tr>
<tr>
<td>Cost Factor</td>
<td>Q Factor</td>
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<tr>
<td>Desired Beverage Cost %</td>
<td>Standard Plate Cost</td>
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<td>Desired Cost %</td>
<td>Standard Portion</td>
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<td>Desired Food Cost %</td>
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<td>Edible Portion</td>
<td>Standard Recipes</td>
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<td>Edible Yield %</td>
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<td>Mark up</td>
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<td>Menu Selling Price</td>
<td>Yield Test</td>
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The Menu & The Cycle of Cost Control - McVety et al
INTRODUCTION

Everyone Enjoys Celebrating

The party begins at 8:00 p.m. sharp so don’t be late! The best thing of all is that the party is at my favorite restaurant. Every time I have eaten at this restaurant the food has been great, . . . every time! How do they serve excellent food all the time?

They have standards. The chefs, cooks, servers, bartenders, managers, and all the other employees are knowledgeable about, and execute, quality standards. A standard is a rule, policy, or statement written by management, which results in employees performing quality tasks, producing quality products, and providing excellent service.

When purchasing food and beverages, preparing meals, writing recipe cards, answering the telephone, greeting the customer, serving customers, taking inventory, performing yield tests, determining portions, deciding on plate presentations, closing out the cash register, cleaning and sanitizing, and hiring and training employees, standards should be used.

When there are no set performance standards, there is no consistency in the quality of how tasks are performed. The customer is always left wondering how good the food and service are going to be. Customers want to be assured that the food and service are great every time they dine.

The most common standard used in the foodservice industry is a standard recipe. A standard recipe is a written formula used to produce a food or beverage item that uses the same quantity and quality of product and the same method of preparation each time the product is made. Using a standard recipe promotes consistency in product and ultimately leads to customer satisfaction. There is nothing worse than going to a restaurant and enjoying a fabulous meal and returning the next week to repeat the experience only to find that the product is completely different. Having standard recipes and properly training staff to follow the standard recipe in preparation will prevent inconsistency.

Standard recipes should be written in edible portion form. Products should be measured or weighed after they are rid of trim components such as the core and skin of an apple, or the fat and trim of a filet. If a recipe is prepared using the same quality and quantity of ingredients in their edible form and using a prescribed method of preparation, a standardized and consistent product will always result. A standard yield is the expected quantity of food that results from a standard recipe. It can be stated in the total quantity of food the recipe produces, such as 3 gallons of clam chowder, or by the number of portions it produces, such as 48–8 oz. bowls.

A standard portion is the consistent quantity of product served to each person each time it is served. Maintaining a standard portion through portion control tools such as scoops, ladles, a standard serving bowl, or count promotes consistency and customer satisfaction, and aids in insuring a business’ profit. Methods of standardizing portion sizes are discussed in Chapter 11.

DETERMINING THE STANDARD PORTION COST

The process of calculating the Standard Portion Cost of a menu item is used by foodservice operations to determine how much the prepared menu item actually cost the business to purchase and to present on a plate. Prior to set-
ting a selling price for a menu item, it is extremely important that the chef/manager know exactly how much the food or beverage item cost the business to prepare. As defined in Chapter 6, “Food Cost” is the total dollar amount spent to purchase the products needed to produce a food item to be sold. “Beverage Cost” is the total dollar amount spent to purchase the products needed to produce a beverage item to be sold. Food and Beverage Costs combined are referred to as “Cost of Sales.” How does a chef determine the cost of preparing a menu item when some items are made from scratch using standard recipes, and other items are purchased ready to sell? A combination of both of these practices is also used at times. There are four methods that can help the chef/manager to calculate Standard Portion Costs of both food and beverage menu items. The four methods of determining a standard portion cost are:

1. Cost per Unit Method
2. Yield Test
3. Cooking Loss Test
4. Standard Recipe

One, two, three, or all four of these methods can be used to determine a standard plate cost. A standard plate cost is the total cost of the product needed to produce a menu listing.

THE “COST PER UNIT” METHOD

Due to the improvement of product processing and the preparation of food and beverage items by suppliers, an increasing number of products are now purchased in ready to use, edible portion form. Edible portion is defined as the form in which the product is served. Little or nothing needs to be done to prepare a product in its edible portion form. Purchasing a prepared cheese cake that needs only slicing; a case of 6 oz. chicken breasts needing only to be cooked; or a case of 24–10 oz. bottles of sparkling water that need only to be opened; are examples of edible portions. These products are already in their “edible portion,” servable form. The only procedure the chef needs to perform to “make ready” this product is to portion the product, cook the product, or perhaps open and serve the product.

The formula to determine the portion cost of a prepared item purchased in its edible portion form using the Cost/Unit method is:

\[
\text{Purchase Unit Cost} \div \text{Number of Portions} = \text{Standard Portion Cost}
\]

**Example:** The chef purchases a prepared cheesecake for $8.00. Using the 12-slice portion marker, the Standard Portion Cost is calculated as follows:

\[
\frac{\text{Purchase Unit Cost}}{\text{Number of Portions}} = \text{Standard Portion Cost}
\]

\[
\frac{\$18.00}{12} = \$1.50
\]
Example: The chef purchases a case of twenty-four, 8 oz. boneless chicken breasts that costs $38.50. The Standard Portion Cost of each chicken breast is determined as follows:

\[
\text{Purchase Unit Cost} \div \text{Number of Portions} = \text{Standard Portion Cost}
\]

\[
\$38.50 \div 24 = \$1.60
\]

Example: The bar manager purchases a case of twenty-four, 10 oz. bottles of sparkling water at a cost of $16.80. The Standard Portion Cost is calculated in this way:

\[
\text{Purchase Unit Cost} \div \text{Number of Portions} = \text{Standard Portion Cost}
\]

\[
\$16.80 \div 24 = \$0.70
\]

With the use of advanced processing technology, purchasing prepared food and beverage products is becoming commonplace within many different types of foodservice operations. Restaurants often purchase products in an edible portion form, and use the product as an ingredient in their Standard Recipes. Using the Cost per Unit method to determine the standard portion cost of a prepared item within a standard recipe is often just one step in the process of recipe costing. The process of determining the Standard Portion Cost of a Standard Recipe will be more thoroughly explained later in this chapter.

THE YIELD TEST

A yield test is a process in which raw product purchased in an “As Purchased” form is broken down into edible product and waste. As Purchased is defined as the form of the purchased product that needs some preparation before it is ready to be served in its edible portion form. The preparation needed is usually that of trimming waste from the product and separating it from the usable product. Although yield tests are usually performed on raw product, they may also be used on prepared products. A cooking loss test, which is a similar method of breaking product into edible product and waste, is used to determine the “Standard Portion Cost” of products that need to be cooked before portioning. The purpose of a yield test is to determine the yield, the cost per pound, and the cost per portion of a product purchased in an “As Purchased” form.

A yield test can be performed on a variety of food and beverage items: fresh produce (a case of green beans), poultry (a turkey), seafood or meat (a 10 lb. beef tenderloin), as well as canned (#10 can chopped tomatoes), bottled (14 oz. artichoke hearts), and frozen items (5 gallons ice cream) that have been prepared prior to purchasing. Many of these products are not 100% usable as they include some waste. The purpose of the yield test is to break down the product into usable product and non-usable waste.

Preparation of the Yield Test Form

The information required to perform a yield test is the As Purchased Cost (the cost of the product when purchased), the As Purchased Weight (the weight of the product when purchased), and the Standard Portion Size (the size of the serving in ounces). The Standard Recipe and appropriate purchasing documents can supply this information. Figure 7.1 illustrates how a yield test would be performed on a 24 lb. case of fresh green beans.
Chapter 7 Determining Portion Costs and Selling Prices

Yield Test Standard Portion Cost Form

<table>
<thead>
<tr>
<th>Product: Green Beans</th>
<th>Menu Listing: Accompaniment</th>
</tr>
</thead>
<tbody>
<tr>
<td>As Purchased Cost: $38.00</td>
<td>As Purchased Weight in Lbs: 24</td>
</tr>
<tr>
<td>As Purchased Cost/Lb. $1.58</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Use</th>
<th>Weight</th>
<th>Yield %</th>
<th>Number of Portions</th>
<th>Edible Cost/Lb.</th>
<th>Edible Cost/Portion</th>
<th>Cost Factor per Lb.</th>
<th>Cost Factor per Portion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Weight:</td>
<td>24</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trim Loss:</td>
<td>2</td>
<td>8.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edible Product:</td>
<td>22</td>
<td>91.7%</td>
<td>117</td>
<td>$1.73</td>
<td>$0.32</td>
<td>1.095</td>
<td>0.203</td>
</tr>
</tbody>
</table>

**FIGURE 7.1 Yield Test Form: Case of Green Beans**

As Purchased Cost per Pound

The process to calculate the As Purchased Cost per Pound is:

**Formula:**

\[
\frac{\text{AS PURCHASED COST}}{\text{AS PURCHASED WEIGHT}} = \text{AS PURCHASED COST PER POUND}
\]

Green Beans: \(\frac{$38.00}{24 \text{ lb.}} = $1.58/\text{lb.}\)

Product Break Down

Although a yield test is normally performed in a kitchen or laboratory setting, the resulting information is also used by management to both cost and purchase product. Once the product is broken down into edible product and waste, the edible yield % for the specification of the product can be determined.

Edible Yield %

The Edible Yield % represents the part of the product that is usable. If the chef/manager maintains quality standards when purchasing, the edible yield should remain fairly consistent. The Edible Yield % is important in both the costing and purchasing processes.

The formula to calculate the Edible Yield % is:

**Formula:**

\[
\frac{\text{EDIBLE WEIGHT}}{\text{AS PURCHASED WEIGHT}} \times 100 = \text{EDIBLE YIELD %}
\]

Example:

Green Beans: \(\frac{22 \text{ lb.}}{24 \text{ lb.}} \times 100 = 91.7\%\)

As indicated in the break down of the case of green beans, the case of green beans was not 100% useable. The chef needs to separate the waste from the edible product to be able to determine not only how many portions the case
of green beans will yield, but also to be able to determine a “true portion cost.” The chef must be certain that all waste and the edible yield % have been taken into consideration in order to insure adequate product and profit.

Number of Portions
After the product has been broken down and the edible yield has been determined, the number of edible portions can be determined. The case of green beans delivered 22 lb. of edible product. If the chef were to serve the Standard Portion of 3 oz., how many portions would be available? Determining the number of portions is a two-step process:

Step A
Formula:

\[
\text{POUNDS OF EDIBLE WEIGHT} \times \frac{16 \text{ oz.}}{\text{POUND}} = \text{TOTAL OUNCES}
\]

Green Beans: 22 lb. \( \times \frac{16 \text{ oz.}}{\text{POUND}} = 352 \text{ oz.} \)

Step B
Formula:

\[
\text{TOTAL OUNCES} \div \text{PORTION SIZE} = \text{NUMBER OF PORTIONS}
\]

Green Beans: 352 oz. \( \div \frac{3 \text{ oz.}}{\text{PORTION}} = 117 (117.333) \)

Step A illustrates that the case of green beans yields 352 ounces of edible product. Step B illustrates that if the chef were to serve 3 oz. portions, the case of green beans should provide 117 portions of product.

The Edible Cost per Pound
It is important that the chef/manager calculate the Edible Cost per Pound. The Edible Cost per Pound is how much each pound of edible product costs the foodservice operation to purchase when it is purchased in the As Purchased (AP) form. For example, if the chef/manager determines that the process of cleaning and trimming a case of fresh green beans is too labor intensive, he/she may consider purchasing green beans in a frozen, prepared form, where no cleaning and trimming is needed.

When looking at the “As Purchased Cost” of $38.00 for the case of Green Beans and the “As Purchased Weight” of 24 lb., we can determine an “As Purchased Cost per Pound” of $1.58 per Pound. However, as identified in the product breakdown, the case of green beans does not yield an edible yield of 24 lb., it only yields 22 lb. due to “waste.” The formula for calculating the Edible Cost per Pound is:

\[
\text{AS PURCHASED COST} \div \text{EDIBLE WEIGHT} = \text{EDIBLE COST PER POUND}
\]

Green Beans: $38.00 \( \div \frac{22 \text{ lb.}}{\text{EDIBLE WEIGHT}} = \$1.73/\text{lb.} \)

The chef/manager can now compare the Edible Cost per Pound of $1.73 to the $1.58 As Purchased cost per pound for green beans in the frozen, prepared form. This is a form of “cost analysis.” Once the “cost analysis” has been done, the chef/manager must also consider quality of product and preparation time.
The Edible Cost per Pound provides the chef/manager with the information necessary to make important food cost decisions.

**The Edible Cost per Portion**

The Edible Cost per Portion is the cost of each portion when the product has been purchased in AP form. As previously determined, the Edible Cost per Pound tells the chef/manager how much 1 lb. (1 lb. = 16 oz.) of the edible product costs the business to purchase. However, since the chef is selling the green beans in 3 oz. portions rather than 16 oz. portions, he/she must calculate the cost per 3 oz. portion. To calculate the Edible Cost per Portion, the chef uses the number of portions determined previously.

Formula:

\[
\text{AS PURCHASED COST} \div \text{NUMBER OF PORTIONS} = \text{EDIBLE COST PER PORTION}
\]

\[
$38.00 \div 117 = \$0.32/\text{portion}
\]

By preparing a yield test on a case of fresh green beans, we determine that a 3 oz. portion costs $0.32 to prepare.

**Cost Factors**

A *cost factor* is a ratio that illustrates the relationship between the “Edible Cost” and the original “As Purchased” price. The Cost Factor can be illustrated either in decimal or percentage form. There are two types of cost factors: the Cost Factor per Pound and the Cost Factor per Portion.

The Cost Factor per Pound illustrates the relationship between the Edible Cost per Pound and the As Purchased Cost per Pound.

Formula:

\[
\text{EDIBLE COST PER POUND} \div \text{AS PURCHASED COST PER POUND} = \text{COST FACTOR PER POUND}
\]

**Example:**

Green Beans: \(\frac{\$1.73}{\$1.58} = 1.095\) (109.5%)

This means that the Edible Cost per Pound is 1.095 times greater than the As Purchased Cost per Pound, or that the Edible Cost per Pound is 109.5% of the As Purchased Cost per Pound.

The Cost Factor per Portion illustrates the relationship between the Edible Cost per Portion and the As Purchased Cost per Pound.

Formula:

\[
\text{EDIBLE COST PER PORTION} \div \text{AS PURCHASED COST PER POUND} = \text{COST FACTOR PER PORTION}
\]

**Example:**

Green Beans: \(\frac{\$0.32}{\$1.58} = .203\) (20.3%)
The Edible Cost per Portion is 0.203 times the original As Purchased Cost per Pound, or the Edible Cost per Portion is 20.3% of the original As Purchased Cost per Pound. It is understood that the “As Purchased Costs” increase and decrease on a regular basis, due to a change in season, supply and demand, the popularity of the products, etc. It is therefore impossible to prepare a yield test on a case of green beans every time the As Purchased Cost fluctuates. It is important to understand the relationship between the “Edible Cost” and the “As Purchased Cost” originally paid, to be able to recalculate the new Edible Cost, without performing a new yield test whenever the “As Purchased Cost” changes.

Using the Cost Factors
Another case of green beans is purchased at a new price of $42.00 per case. Using the calculations derived in Figure 7.1 and changing the “As Purchased Cost per Pound” to $1.75 per pound ($42.00 ÷ 24 lb.), determine the new Edible Cost per Pound and the new Edible Cost per Portion. The formula to calculate the new Edible Cost per Pound is:

\[
\text{COST FACTOR} \times \frac{\text{NEW AS PURCHASED COST PER POUND}}{\text{NEW EDIBLE COST PER POUND}} = \text{GREEN BEANS: 1.095} \times \frac{1.75}{1.92} = \$1.92/\text{lb.}
\]

The formula to calculate the new Edible Cost per Portion is:

\[
\text{COST FACTOR} \times \frac{\text{NEW AS PURCHASED COST PER POUND}}{\text{NEW EDIBLE COST PER PORTION}} = \text{GREEN BEANS: 0.203} \times \frac{1.75}{0.36} = \$0.36/\text{lb.}
\]

Even though the increase in cost may only be a few cents, these few cents represent money that foodservice operators once found in the profit column. The chef/manager needs to pay attention to the effect that the increase or decrease of As Purchase Costs has on the foodservice operation’s food cost. Cost Factors are tools to help the chef/manager determine changes without having to perform additional yield tests.

THE COOKING LOSS TEST
Unlike the yield test where the number of portions and the costs are determined prior to the restaurant’s cooking process; the cooking loss test is performed on products that need to be cooked before portioning and serving. Cooking Loss Tests are most often used on whole roasts (lamb, beef, pork) and poultry (turkey, chicken). The breakdown of the number of portions and their costs are determined after the cooking process. The actual procedure of the cooking loss test is performed in a kitchen or laboratory setting. The information is then provided to the chef/manager to allow him/her to determine the edible yield %, the number of portions, the Edible Cost per Pound, the Edible Cost per Portion, and the cost factors of the cooked product. Most of the steps in preparing the Cooking Loss Test are very similar to those applied in preparing a Yield Test.
Preparation of the Cooking Loss Test Form

First examine the required information given in the Standard Recipe and the purchasing information provided. Additional information concerning cooking time is also needed when preparing a cooking loss test. Many chefs will perform several tests on the same type of product, cooking them at different temperatures and for different lengths of time, in order to evaluate the product yield. Figure 7.2 illustrates the results of a Cooking Loss Test performed on an 8 lb. leg of lamb.

As Purchased Cost per Pound

The As Purchased Cost per Pound refers to how much the product costs per pound. The following formula is used to calculate the As Purchased Cost per Pound:

\[
\text{As Purchased Cost} \div \text{As Purchased Weight} = \text{As Purchased Cost per Pound}
\]

Product Breakdown

The Product Breakdown consists of weighing, trimming and cooking, and weighing and trimming again after cooking to achieve the edible product weight.

Edible Yield %

The Edible Yield % is the percent of the product that is servable. When looking at the total cost and weight of the leg of lamb, we are led to believe that the 9 lb. leg of lamb is going to yield 8 lb. of edible product. But as we have identified in Figure 7.2, after the leg of lamb is boned, trimmed, and cooked, it only yields 3.5 lb. of servable product. The chef can only use just about one third of
the product’s “As Purchased Weight” in the preparation of the menu item. The formula to calculate the Edible Yield % for the Leg of Lamb is:

\[
\text{Formula:}
\]

\[
\frac{\text{EDIBLE WEIGHT}}{\text{IN POUNDS}} \div \frac{\text{AS PURCHASED WEIGHT}}{\text{Lamb: 3.5 lb.}} = \frac{\text{EDIBLE YIELD \%}}{8 \text{ lb.}} = 0.438 (43.8\%)
\]

The Edible Yield % listed in the specification of the product purchased will usually aid the chef/manager to determine how much product is needed to feed a prescribed number of customers.

**Number of Portions**

Once it is known that the 8 lb. Leg of Lamb produces 3.5 lb. of edible product, the next step is to determine the number of portions derived from the Leg of Lamb. A 6 oz. Standard Portion size is used in the following example. There are two steps to this process.

**Step A**

Formula:

\[
\text{POUNDS OF EDIBLE WEIGHT} \times \frac{16 \text{ oz.}}{16 \text{ oz.}} = \text{TOTAL OUNCES}
\]

Lamb 3.5 lb. \times 16 oz. = 56 oz.

**Step B**

Formula:

\[
\text{TOTAL OUNCES} \div \text{PORTION SIZE} = \text{NUMBER OF PORTIONS}
\]

56 ounces \div 6 oz. = 9 portions

**The Edible Cost per Pound**

The Edible Cost per Pound is derived by dividing the “As Purchased Cost” of the product by the edible weight. Knowing the Edible Cost per Pound helps the chef/manager to determine whether or not the “As Purchased” form of the product is the most cost effective form to purchase.

Formula:

\[
\frac{\text{AS PURCHASED COST}}{\text{Lamb: $32.25}} \div \frac{\text{EDIBLE WEIGHT}}{3.5 \text{ lb.}} = \frac{\text{EDIBLE COST PER POUND}}{\text{$9.21/lb.}}
\]

**The Edible Cost per Portion**

A knowledge of the Edible Cost per Portion ensures that the chef/manager knows exactly how much each portion of product served costs to prepare. To calculate the Edible Cost per Portion, the chef divides the As Purchased Cost by the Number of Portions.
Formula:

\[
\text{AS PURCHASED COST} \div \text{NUMBER OF PORTIONS} = \text{EDIBLE COST PER PORTION}
\]

Lamb: \( $32.25 \div 9 = $3.58 \) per portion

When determining the standard portion cost of a menu item, be sure to take into consideration all waste and cooking loss.

**Cost Factors**

Cost Factors show the relationship between the Edible Cost per Pound or the Edible Cost per Portion and the original As Purchased Cost per Pound. Since the costs of products fluctuate, determining Cost Factors can help the chef/manager to adjust costs as needed.

The Cost Factor per Pound illustrates the relationship between the Edible Cost per Pound and the As Purchased Cost per Pound.

Formula:

\[
\frac{\text{EDIBLE COST \ PER POUND}}{\text{AS PURCHASED COST \ PER POUND}} = \text{COST FACTOR PER POUND}
\]

Lamb: \( \frac{9.21}{4.03} = 2.285 \) (228.5%)

The Edible Cost is 2.285 times greater than the original As Purchased Cost per Pound. In other words, the boneless lamb’s Edible Cost per Pound is 228.5% of the As Purchased Cost per Pound.

The Cost Factor per Portion illustrates the relationship between the Edible Cost per Portion and the As Purchased Cost per Pound.

Formula:

\[
\frac{\text{EDIBLE COST \ PER PORTION}}{\text{AS PURCHASED COST \ PER POUND}} = \text{COST FACTOR PER PORTION}
\]

Lamb: \( \frac{3.58}{4.03} = 0.888 \) (88.8%)

This means that the Edible Cost/Portion is .888 times the original As Purchased Cost per Pound, or that the Edible Cost per Portion is 88.8% of the As Purchased Cost per Pound.

Using the Cost Factors

If the chef/manager purchases another Leg of Lamb weighing 8 lb. with an As Purchased Cost of $35.85, the new As Purchased Cost per Pound can be determined at $4.48 per pound ($35.85 \div 8 \text{ lbs.}) Using the Cost Factors previously determined, the chef/manager can calculate the new Edible Cost per Pound and the new Edible Cost per Portion. The formula to determine the new Edible Cost per Pound follows.

Formula:

\[
\text{COST FACTOR} \times \text{NEW AS PURCHASED \ COST \ PER POUND} = \text{NEW EDIBLE COST \ PER POUND}
\]

Lamb: \( 2.285 \times 4.48/\text{lb.} = 10.24/\text{lb.} \)
The new Edible Cost per Pound can then be used to perform a cost analysis when purchasing other cuts of lamb. The formula to determine the new Edible Cost per Portion is:

\[
\text{COST FACTOR} \times \frac{\text{NEW AS PURCHASED COST PER POUND}}{\text{NEW EDIBLE COST PER POUND}} = \frac{\text{Lamb: 0.888}}{\$4.48/\text{lb.}} = \frac{\$3.98/\text{portion}}{}
\]

By using Cost Factors, the chef/manager can quickly identify any changes in portion costs and can adjust menu prices as needed.

**RECIPE COSTING**

Most foodservice establishments have developed standard recipes for the menu items they offer for sale. These recipes include the name of the menu item, the standard yield, the standard portion, the name, and quantity of ingredients needed, and the standard procedures involved in preparing the recipe. Because most recipes include several ingredients, it is often a time consuming process to calculate how much a recipe costs to prepare. But the process is necessary, especially for the inexperienced foodservice worker.

Recipe Costing is a way the chef/manager can determine the Standard Portion Cost of a menu item. By knowing the entire cost of the recipe, the business can determine the standard portion cost and an adequate selling price, in order to insure that all costs in preparing that recipe are covered and that a profit is realized. Figure 7.3 illustrates the Standard Costing form for a side order of Three Bean Salad. The recommended steps to determine the Standard Portion Cost of a Standard Recipe follow:

**Step 1: Ready the Costing Form**

Fill in the required information such as the name of the recipe, standard yield, standard portion and the ingredients (including garnishes), and their exact quantities from the standard recipe. The latest “As Purchased Cost” of each ingredient should be posted in the Invoice Cost per Unit column.

**Step 2: Calculate the Individual Ingredient Cost**

The “individual ingredient cost” informs the chef/manager of the price of each ingredient within the standard recipe. By knowing the cost of each ingredient, the chef/manager can identify the high cost items that need special tracking. The formula to calculate the Individual Ingredient Cost is:

\[
\text{INGREDIENT QUANTITY} \times \text{PRICE} = \text{INDIVIDUAL INGREDIENT COST}
\]

As illustrated, calculating the "Individual Ingredient Cost" is a simple multiplication process; however, there are several procedures to thoroughly consider before performing the calculation.

**Edible Yield %**

It is important to understand that most standard recipes are written in an edible portion form. In order to achieve the correct standard yield using the stated
standard portion size, the quantity of ingredients listed must be measured in edible portion form (not in As Purchased form). Writing Standard Recipes in edible portion form ensures a consistent product. Let us examine the recipe in Figure 7.3 that calls for 3 lb. of green beans. Please note that it is calling for 3 lb. of green beans that have already been cleaned and snipped. Knowing that the Standard Recipes are written in edible portion quantities will insure the standard yield and the standard portion. Three pounds of edible product is 3 lb. of edible product, no matter who prepares the recipe. When calculating the Individual Ingredient Cost, the chef/manager must decide whether to use the Edible Yield % to determine the actual “As Purchased amounts.” At this point, it should be quite obvious that 3 lb. of As Purchased green beans do not yield 3 lb. of edible green beans. It would take more. But, how much more?

This is where a yield test can be valuable. Although time consuming, it is possible to prepare a yield test for every ingredient in a recipe. However, the more familiar the chef becomes with preparing the ingredients, the more familiar the chef will become with how much edible product is derived from an “As Purchased” product. The chef may also acquire the edible yield % from the purveyors who supply their products or from published guidelines prepared by the US Department of Agriculture. Appendix C provides a partial list of recommended Edible Yield %s from the USDA.
In the yield test example, we broke down a 24 lb. case of green beans into edible product and waste. We also illustrated how to calculate an edible yield %. An edible yield % is that part of an “As Purchased” product which is actually edible. The edible yield % of 91.7% was previously determined in the yield test in this chapter by dividing the 22 lb. of usable product by the 24 lb. total weight.

Once it is determined that an edible yield % is needed for an ingredient, post it to the Edible Yield % column. The process now is to determine how much product must be purchased to yield the quantity of product stated in the original recipe. It is important to understand that the “As Purchased” quantity should be used to calculate the Individual Ingredient cost of each recipe ingredient. The foodservice operation will need to purchase that amount to achieve the necessary amount of edible product.

As Purchased Quantity

The following formula is used to determine how many pounds of green beans are needed to yield the 3 lb. required by the recipe.

Formula:

\[
\text{RECIPE AMOUNT} \div \text{EDIBLE YIELD %} = \text{AS PURCHASED QUANTITY}
\]

Green Beans: 3 lb. \(\div 91.7\% \cdot (0.917) = 3.5 \text{ lb.} \cdot (3.27)\)

The 3 lb. originally called for in the recipe are only part of the whole amount needed to produce a 3 lb. yield. In order to obtain the yield and portion size of the standard recipe, it must be understood that the Recipe Quantity is stated in the edible portion form. The chef would need to purchase 3.5 lb. of green beans to yield the 3 lb. called for in the recipe.

Invoice Cost per Unit

Post the purchase price and unit of each ingredient to the Invoice Cost per Unit column. Most foodservice operators use the current market price of ingredients in this column. These prices are normally taken from the invoice that accompanies the order when delivered (Chapter 9), and are based on the purchase unit stated on the product specification (Chapter 8).

Recipe Cost per Unit

Before calculating the “Individual Ingredient Cost,” the preparer should be certain that the quantity needed and price of each ingredient are stated in the same unit. If the quantity and price are in the same unit of measure, multiply these two numbers to derive the Individual Ingredient cost. In Figure 7.3 for example, both the Recipe Quantity and the Invoice Cost of the Yellow Beans are stated in the same unit of measure. Simply multiply 3.5 lb. \(\times \$1.95\) per pound = \$6.83.

If the quantity and cost are not stated in the same unit, the preparer can use the Recipe Cost per Unit column to convert the Invoice Cost per Unit to the Recipe Unit that is called for in the Standard Recipe. The Recipe Cost per Unit column is only used when the Invoice Cost per Unit is different than the Recipe Quantity per Unit. To convert the Invoice Cost per Unit to the Recipe Cost per Unit, the chef/manager must be familiar with measurement equivalents in weight and volume including container sizes (Appendix C).
If the Invoice Cost per Unit is $38.00 per 24 lb. case, and the recipe quantity per unit is also in pounds, merely calculate the cost per pound.

Formula:

\[
\text{INVOICE COST} \div \text{INVOICE QUANTITY} = \text{RECIPE COST PER UNIT}
\]

Green Beans: $38.00 \div 24 \text{ lb.} = \$1.58/\text{lb.}

Post the new Recipe Cost per Unit and proceed to solve the Individual Ingredient Cost by multiplying the As Purchased Quantity by the Recipe Cost per Unit.

Formula:

\[
\text{AS PURCHASED QUANTITY PER UNIT} \times \text{RECIPE COST PER UNIT} = \text{INDIVIDUAL INGREDIENT COST}
\]

Green Beans: 3.5 lb. \times \$1.58/\text{lb} = \$5.53

Now let us examine the example of Red Kidney Beans that come in a #10 can. The chef/manager must know the yield of the product from the different size cans (Appendix B). Normally a #10 yield between 6.0 and 7.5 lb. of product. To solve for the Recipe Cost per Unit, the chef/manager would take the invoice cost divided by the invoice quantity.

Formula:

\[
\text{INVOICE COST} \div \text{INVOICE QUANTITY} = \text{RECIPE COST PER UNIT}
\]

Red Kidney Beans: $3.90 \div 6.5 \text{ lb.} = \$0.60/\text{lb}

Now the chef/manager can multiply the Recipe Quantity, which is 2 lb. in this recipe, by the Recipe Cost per Unit, to get the Individual Ingredient Cost for Red Kidney Beans.

Formula:

\[
\text{RECIPE QUANTITY} \times \text{RECIPE COST PER UNIT} = \text{INDIVIDUAL INGREDIENT COST}
\]

Red Kidney Beans: 2 lb. \times \$0.60 per Pound = \$1.20

Remember that if the Recipe Amount per Unit is in the same unit as the Invoice Cost per Unit, a figure is not needed in the Recipe Cost per Unit column.

**Calculating The Ingredient Cost**

To calculate the Individual Ingredient Cost simply multiply the Ingredient Quantity (Recipe Quantity or As Purchased Quantity if needed), by the Cost (Invoice Cost per Unit or Recipe Cost per Unit if utilized). When calculating the individual ingredient cost, it is important to understand that both quantity and cost must be in the same unit of measure. An Individual Ingredient Cost cannot be determined for all ingredients.

Calculating the Individual Ingredient Cost calls for a great deal of knowledge about food products. Although a time consuming effort, it is extremely important to determine the Individual Ingredient Cost to guarantee that a foodservice operation is charging an adequate price to cover product cost.
Step 3: Totaling the Individual Ingredient Costs

Once the individual ingredient costs are calculated, total the Individual Ingredient Cost column. The Total Ingredient Cost is the total cost of all the ingredients for which the chef/manager is able to determine a cost.

Step 4: Calculating the “Q Factor” (the Questionable Ingredient Factor)

There are certain ingredients to which an actual cost cannot be assigned due to the small quantity used. In fact, in some cases, the ingredients are actually immeasurable. It is in these situations that a “Q Factor” should be utilized. A Q Factor is an immeasurable ingredient cost. It is assigned to the cost of the Standard Recipe to cover the costs of ingredients which are impossible, or too time consuming, to calculate. It must be realized that even though an individual ingredient cost cannot be determined, the ingredient still costs the business money to purchase and to use. It is a cost that needs to be accounted for even if it is an estimated cost.

A “Q Factor” can be utilized in the following cases:

1. when pinches, dashes, or “to taste” type of measurements are needed;
2. if a recipe ingredient (such as salt) calls for a very small quantity (.25 tsp.). This quantity is measurable, however salt is a low cost item. It is difficult to calculate an actual cost for such a small quantity, so chefs and managers will cover their costs by including them in the Q Factor. The purchase of salt costs the business money, and that cost must be considered so that it may be passed on to the consumer.
3. to cover excessive costs caused by an incorrect measurement, or even to absorb some of the costs due to seasonal fluctuations.
4. to account for the cost of condiments used. Condiments are often included in the Q Factor rather than in the Individual Ingredient Cost. Since condiments are often placed on tables for customer use, it is much more practical to use the Q Factor than to determine how much each customer uses and what the cost per portion of each condiment is to the foodservice operation.

The “Q Factor” is usually calculated based upon a percentage of the Total Ingredient Cost of those costs that are measurable. Normally, chef/managers will choose a percentage between 1% and 15% of the Total Ingredient Cost. The more accurate the calculation of each ingredient cost, the lower the percentage usually added to the recipe. The less accurate the calculation, the higher the percentage used. Some chefs elect not to determine the individual ingredient cost of spices and herbs in a recipe. Instead they increase the Q Factor % to compensate. Other chefs think this outrageous and take the time to determine the exact cost of all small ingredients. The choice of using the Q Factor percentage is up to the chef/manager costing the recipe. The Q Factor is used to insure that the costs of all ingredients are covered while maintaining a fair price for the customer.

It is common practice to include a Q Factor in the cost of the Recipe even if there are no immeasurable ingredients within the recipe. Some foodservice operations will use the same Q Factor % for every recipe, while others will assign a Q Factor % based on the individual ingredients within each standard recipe.
The Q Factor is calculated by multiplying the Total Ingredient Cost by the Q Factor % chosen. In Figure 7.3, a Q factor of 5% has been selected. The Q Factor $ amount would be calculated as follows:

Formula:

\[
\text{TOTAL INGREDIENT COST} \times \frac{\text{Q FACTOR \%}}{} = \frac{\text{Q FACTOR $ AMOUNT}}{}
\]

Three Bean Salad: \(\$31.70 \times \frac{5\%}{0.05} = \$1.59\)

The Q Factor $ can range from a few cents to a few dollars, depending upon the Q Factor Cost % and the Standard Yield of the recipe. Including a Q Factor in the recipe costing process rarely increases a Standard Portion Cost by more than a few cents, but those “few cents” add up to a noticeable overall food cost increase.

Step 5: Calculating the Recipe Cost

The Recipe Cost is the total cost of measurable ingredients and the estimated immeasurable ingredients. It is an educated estimate of how much the Standard Recipe costs the foodservice operation to prepare.

Formula:

\[
\text{TOTAL INGREDIENT COST} + \frac{\text{Q FACTOR DOLLARS}}{} = \frac{\text{RECIPE COST}}{}
\]

Three Bean Salad: \(\$31.70 + \$1.59 = \$33.29\)

Step 6: Calculating the Standard Portion Cost

In Step 5 (Calculating the Recipe Cost), we illustrated how much it costs the restaurant to prepare the entire recipe. However, since it is unusual to sell menu items by the recipe as a whole, we must also calculate the Standard Portion Cost of a Standard Recipe.

Formula:

\[
\text{RECIPE COST} \div \frac{\text{STANDARD YIELD}}{} = \frac{\text{STANDARD PORTION COST}}{}
\]

Three Bean Salad: \(\$33.29 \div 30 = \$1.11\)

It is these six major steps that are needed to determine the Standard Portion Cost of a standard recipe. Once each of the Standard Portion Costs have been determined, the Additional Portion Cost can be used to total Standard Portion Costs to get the Standard Plate Cost (Total Cost) of the Menu Item.

As the chef sets the Standard Plate Cost of each menu item listed, he/she may very well utilize all of the previously mentioned costing methods within one sales menu item. Example: A menu item of boneless Leg of Lamb is accompanied by scalloped potatoes, fresh green beans, and applesauce. The chef has to perform a cooking loss test to determine the portion cost of the leg of lamb; cost out a recipe to determine the portion cost for the scalloped potatoes; perform a yield test to get a portion cost for green beans; and calculate the cost per unit of the applesauce.

It is important in Menu Costing that thought be given to each and every item provided to the customer. The cost of rolls, butter, and garnishes must be included. The more the chef/manager uses the prescribed methods, the more expertise he/she will attain in costing menu items.
SETTING THE PRELIMINARY SELLING PRICE

It is extremely important and strongly recommended that before setting a selling price for a menu item, that one of the aforementioned Standard Portion Costing methods be utilized. If the Standard Portion Cost of a product or menu item is unknown, it is nearly impossible to successfully set a Menu Selling Price that insures a profitable menu and a successful foodservice operation. Once the Standard Portion Cost of a menu item is calculated, then and only then, should the chef/manager start to consider how much to charge for the menu item.

In order to determine the actual selling price to be stated on the menu, we must first determine the “Preliminary Selling Price.” The Preliminary Selling Price is the least amount of money that a foodservice operation should charge for a menu item in order to guarantee that all costs are covered (food, beverage, labor overhead, profit). There are several mathematical approaches that one might use in setting the Preliminary Selling Price. Two of these methods will be discussed.

Desired Cost %

The Desired Cost % is the overall cost percentage that a restaurant is striving to achieve (by setting control standards throughout the cycle of food and beverage cost control). It is the ideal cost percentage attainable when all standards have been maintained and the purchase prices have remained constant. Normally, the Desired Cost Percentage can be 2 to 4 percentage points below the Actual Cost Percentage. The Actual Cost Percentage is the cost percentage that is determined by implementing the Cost of Sales formula. The Desired Cost Percentage can be looked at as a goal of the restaurant operation.

When setting the Preliminary Selling Price for a food item the Desired Food Cost % is used. When setting the Preliminary Selling Price for a beverage item, the Desired Beverage Cost % is used. Often, restaurateurs will have different Desired Cost % for the different categories of menu items. They may want all their Soups at a 20% Desired Food Cost %, and their Entrées at 28% Desired Food Cost %. The Desired Cost % to strive for is derived from the foodservice operation’s historical data as well as the knowledge and experience of the chef/manager.

The examples below include Standard Portion Costs that have been previously determined in the costing explanation in this chapter. These costs will be used to illustrate the Desired Cost % method of calculating a Preliminary Selling Price. The formula for setting the Preliminary Selling Price using the Desired Cost % method is:

\[
\text{STANDARD PORTION} \div \text{DESIRED COST} \% = \text{PRELIMINARY SELLING PRICE}
\]

Example: If a side order of Three Bean Salad has a portion cost of $1.11 to prepare, and the Desired Food Cost % is 30%, the Preliminary Selling Price for the 3 oz. portion would be $3.70.

The price is determined as follows:

\[
\text{STANDARD PORTION} \div \text{DESIRED FOOD COST} \% = \text{PRELIMINARY SELLING PRICE}
\]

Three Bean Salad: $1.11 \div 30\%(0.3) = $3.70
Example: If a slice of cheesecake has a Standard Portion Cost of $1.50 and the chef wants to maintain a 25% Desired Food Cost, the Preliminary Selling Price for the slice of cheesecake would be $6.00.

Formula:

\[
\frac{\text{STANDARD PORTION COST}}{\text{DESIRED FOOD COST \%}} = \text{PRELIMINARY SELLING PRICE}
\]

Cheesecake: \[\frac{1.50}{25\% \times .25} = 6.00\]

How does the Desired Cost \% method insure that all of our costs are covered? An example and explanation follow.

<table>
<thead>
<tr>
<th></th>
<th>One Sold</th>
<th>10 Sold</th>
<th>100 Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$3.70</td>
<td>$37.00</td>
<td>$370.00</td>
</tr>
<tr>
<td>Food Cost</td>
<td>$1.11</td>
<td>$11.10</td>
<td>$111.00</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>$2.59</td>
<td>$25.90</td>
<td>$259.00</td>
</tr>
</tbody>
</table>

When breaking down the sales price into Food Cost and Gross Profit, (Labor, Overhead, Profit), we conclude that every portion of Three Bean Salad sold contributes $2.59 to the Gross Profit of the foodservice operation. Gross Profit is the amount of money remaining after the business pays the Cost of Sales (Food and Beverage Cost). Although the Gross Profit from one menu item may not seem like much money, the gross profit from the sale of 100 portions or from the total menu items is sizable. It is a simple concept to ensure that all the costs are covered. Remember, in order to make this work, cost control standards must be in place.

Pricing Factor

The second method used to determine the Preliminary Selling Price is called the **Pricing Factor**. Divide 100\% by the Desired Food Cost \% to arrive at the Pricing Factor (Figure 7.4).

Using the previous examples, we see that the Three Bean Salad generates a 30\% Desired Food Cost \% and the Cheesecake a 25\% Desired Food Cost \%. The formula for determining the Pricing Factor for each of the Desired Food Cost \%s previously stated is:

Formula:

\[
\frac{100\%}{\text{DESIRED FOOD COST \%}} = \text{PRICING FACTOR}
\]

Three Bean salad: \[\frac{100\%}{30\%} = 3.333\]
Cheesecake: \[\frac{100\%}{25\%} = 4.000\]

In a restaurant that wishes to maintain a 30\% or 25\% Desired Food Cost, the chef/manager would multiply the Standard Portion Cost by the 3.33 or 4 pricing factor to arrive at a preliminary selling price.

Formula

\[
\text{STANDARD PORTION COST} \times \text{PRICING FACTOR} = \text{PRELIMINARY SELLING PRICE}
\]

Three Bean Salad: \[1.11 \times 3.333 = 3.70\]
Cheese Cake: \[1.50 \times 4 = 6.00\]
The Pricing Factor provides the foodservice operator with the same Preliminary Selling Price as does the Desired Food Cost % method. Some chef/managers find the Pricing Factor method easier to work with. The Preliminary Selling Price is the smallest amount a business might charge to reach its Desired (Food or Beverage) Cost %, assuming again that all cost control standards are met.

### FIGURE 7.4 Pricing Factors

<table>
<thead>
<tr>
<th>Desired Food Cost %</th>
<th>Pricing Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>2.5</td>
</tr>
<tr>
<td>90%</td>
<td>2.111</td>
</tr>
<tr>
<td>80%</td>
<td>2.632</td>
</tr>
<tr>
<td>70%</td>
<td>3.125</td>
</tr>
<tr>
<td>60%</td>
<td>3.333</td>
</tr>
<tr>
<td>50%</td>
<td>3.571</td>
</tr>
<tr>
<td>40%</td>
<td>4.0</td>
</tr>
<tr>
<td>30%</td>
<td>4.167</td>
</tr>
<tr>
<td>20%</td>
<td>5.0</td>
</tr>
<tr>
<td>10%</td>
<td>5.556</td>
</tr>
<tr>
<td>5%</td>
<td>6.25</td>
</tr>
<tr>
<td>2.5%</td>
<td>6.667</td>
</tr>
</tbody>
</table>

The Pricing Factor provides the foodservice operator with the same Preliminary Selling Price as does the Desired Food Cost % method. Some chef/managers find the Pricing Factor method easier to work with. The Preliminary Selling Price is the smallest amount a business might charge to reach its Desired (Food or Beverage) Cost %, assuming again that all cost control standards are met.

### Determining the Menu Selling Price

Once the chef/manager has determined the Preliminary Selling Price, it is time to set the price that will be stated on the menu. The Menu Selling Price, unlike the Preliminary Selling Price, is not only determined mathematically. Considerations as to potential profit and customer price acceptance are also evaluated. The chef/manager wants to charge as much as possible so that the business makes a maximum profit from every menu item sold.

When a manager says that a restaurant is maintaining a 30% food cost, it must be understood that not every menu item is working at a 30% food cost. The overall menu average is 30%. Some menu items may generate a 20% food cost, while others may be at 35% or 40%. The Preliminary Selling Price guarantees that the Desired Cost % is achieved. Menu items have different cost...
%s due to the *mark up* (or mark down) that takes place after the Preliminary Selling Price has been determined.

Chef/managers must select a Menu Selling Price that insures a profit, without crossing the line of fairness to customers. Charging prices that are too expensive for the target market will cause customers to go elsewhere. On the other hand, a price decrease might mean an inadequate Gross Profit to pay expenses.

When setting a Menu Selling Price, there are many considerations to evaluate: labor, competition, clientele, atmosphere, location, etc.

**Labor**
Chef/managers will often make-up the Preliminary Selling Price of menu items that are labor intensive. Products that are labor intensive require more time, care, and skill in preparation than the average product. A good example of a labor intensive item is a Caesar’s Salad prepared table side. If the chef were to cost the ingredients of a Caesar’s Salad, it would be determined that the ingredients of the salad are not any more expensive than any other salad on the menu; possibly less expensive. So why do restaurants charge so much for a Caesar’s Salad prepared table side? It takes more time, labor, and skill to prepare. People enjoy watching the table side preparation of the Caesar’s Salad and therefore will be willing to pay more.

**Competition**
Competition is good. Do not let anyone tell you otherwise. Foodservice operators will often review the menus of competitors to see what they are charging for similar items. This can be a way of helping to lock in a Menu Selling Price, however, it should not be the only method utilized. Although competitors often appear to have similar menu items, be careful to examine the quality of ingredients and the portion sizes. Use competitors’ prices only as a guide.

**Clientele**
The clientele of a foodservice operation plays an important part in setting the Menu Selling Price. Foodservice operators who accept credit cards and who have a large percentage of customers who pay with credit cards will often mark up the Menu Selling Prices to pay for service charges. Foodservice operations that cater to the business professional often charge more than those that cater to families. The business professional is thought to have more disposable income or an expense account that may be drawn upon.

**Atmosphere**
The more formal the style of the foodservice operation, the higher the prices they charge due to Product Differentiation. Product Differentiation refers to the uniqueness of a product. A local pub may be serving a 10 oz. New York Sirloin for $15.50, while a fine dining restaurant just next door offers a 10 oz. New York Sirloin for $24.95. Chances are that the cost of the New York Sirloin is the same to both restaurants, but each has developed its own product differentiation.Traditionally, fine dining foodservice operations charge more than family style dining operations.
Location
Location can play a part in marking up Menu Selling Prices. Various cities and regions of the country have different cost of living standards. Foodservice operations located in a city can charge more for a product than those in a rural community due to increased disposable income and competition.

Psychology of Pricing
The Psychology of Pricing refers to how a customer reacts to the prices on a menu. How does the customer react to a price of $4.95 as compared to one of $5.00? When chef/managers raise their selling prices, they often hesitate to move into a new dollar category. A price of $13.95 raised to $14.25 has a bigger increase perception than one of $14.25 raised to $14.75, even though the first increase is only $0.30 while the second is $0.50. Start the Menu Selling Prices on the lower end of the dollar category, so that when prices have to be adjusted, they can be adjusted once or maybe twice without entering into the next dollar category. A starting price of $22.25 can go to $22.50, $22.75, or $22.95 before entering a new dollar category.

The most important aspect in setting a menu item’s selling price is covering the costs of operating the business. First use one of the mathematical methods presented to set the Preliminary Selling Price. Once the Preliminary Selling Price has been determined, adjust the selling price to make sure that it is contributing to the profit of the business and that the price is fair and reasonable to the customer.

Determining a Standard Portion Cost is important to the success of foodservice operations. Using the methods of Cost per Unit, the Yield Test, the Cooking Loss Test, and Recipe Costing, the chef/manager can determine how much the products cost the foodservice operation to produce. Once the Standard Portion Cost is determined, then and only then, can the chef/manager create a Menu Selling Price. The Menu Selling Price must 1) cover all costs, 2) contribute to the profit of the business, and 3) be fair to the customer. The determination of a Standard Portion Cost and the setting of a Menu Selling Price are major components of the cycle of cost control. They form the basis of every other function in the cycle (Purchasing, Receiving, Storage/Inventories, Production, Sales, and Analysis).

REVIEW QUESTIONS

1. Determine the Standard Portion Cost using the Cost per Unit Method.
   a. The chef/manager purchases a case of 84–3 oz. fruit filled Danish for $86.40.
   b. The chef/manager purchases a case of 100 Maine Baking potatoes for $24.40 per case.
   c. The chef/manager purchases a pound of bacon at $2.44 per pound. The pound of bacon has sixteen slices, what is the cost per slice?

2A. Using the information given and the Yield Test Form in Appendix F, perform a Yield Test to calculate the following.

   Beef Tenderloin, No. 189
   As Purchased Cost: $85.50          Portion Size: 8 oz.
   As Purchased Weight: 10 lb.
   Edible Weight (lb.): 8 lb.
   Waste: 1 lb.
   (Trim, Cutting Loss)
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a. As Purchased Price per Pound
b. Edible Yield %
c. Number of Portions
d. Edible Cost per Pound
e. Edible Cost per Portion
f. Cost Factor per Pound
g. Cost Factor per Portion

2B. If another beef tenderloin is purchased at an As Purchased Cost of $9.95 per pound, how would we calculate the following?
   a. New Edible Cost per Pound
   b. New Edible Cost per Portion

3A. Post the following information to the Cooking Loss Form in Appendix F, and perform a Cooking Loss Test using the following information:

   Turkey
   As Purchased Cost: $31.25  Portion Size: 5 oz.
   As Purchased Weight: 25 lb.
   Edible Weight after Cooking: 10 lb.
   Waste: 15 lb. (Trim, bones)

   Calculate:
   a. As Purchased Cost per Pound
   b. Edible Yield %
   c. Number of Portions
   d. Edible Cost per Pound
   e. Edible Cost per Portion
   f. Cost Factor per Pound
   g. Cost Factor per Portion

3B. A second turkey was purchased at an As Purchased Cost of $1.35 per pound, determine the:
   a. New Edible Cost per Pound
   b. New Edible Cost per Portion

4. Make three copies of the Standard Recipe Costing Form in Appendix F, and post each of the following recipes on the form. Determine the Standard Portion Cost for these three recipes. Use the Edible Yield % as given, and use a 3% Q Factor for each recipe. Round off Purchase Amounts up to the next whole purchase unit, and round costs to the nearest cent.


<table>
<thead>
<tr>
<th>Qty./Unit</th>
<th>Edible Yield %</th>
<th>Ingredient</th>
<th>Invoice Cost per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 lb.</td>
<td></td>
<td>Scrod Fillets</td>
<td>$6.25/lb.</td>
</tr>
<tr>
<td>As Needed</td>
<td></td>
<td>Fish Stock</td>
<td>n/c</td>
</tr>
<tr>
<td>1/2 cup</td>
<td></td>
<td>Wine, White</td>
<td>$30.54/cs. 4–1.5 liters*</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Lemons</td>
<td>$111.20/cs–165</td>
</tr>
<tr>
<td>2 1/2 lb.</td>
<td>67%</td>
<td>Clarified Butter</td>
<td>$2.10/lb.</td>
</tr>
<tr>
<td>2 1/2 lb.</td>
<td></td>
<td>Bread Crumbs</td>
<td>$0.92/lb.</td>
</tr>
<tr>
<td>1 bunch</td>
<td></td>
<td>Fresh Parsley</td>
<td>$0.65/bun.</td>
</tr>
<tr>
<td>To Taste</td>
<td></td>
<td>Salt</td>
<td>$0.55–26 oz.</td>
</tr>
<tr>
<td>To Taste</td>
<td></td>
<td>White Pepper</td>
<td>$14.18/lb.</td>
</tr>
</tbody>
</table>

*1 liter = 33.8 ounces
Recipe #2: White and Wild Rice with Mushrooms  
Yield: 10  

<table>
<thead>
<tr>
<th>Qty./Unit</th>
<th>Edible Yield %</th>
<th>Ingredient</th>
<th>Invoice Cost per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 oz.</td>
<td>67%</td>
<td>Clarified Butter</td>
<td>$2.10/lb.</td>
</tr>
<tr>
<td>6 oz.</td>
<td>88%</td>
<td>Onions</td>
<td>$19.50/50 lb.</td>
</tr>
<tr>
<td>6 oz.</td>
<td></td>
<td>Wild Rice</td>
<td>$7.10/28 oz.</td>
</tr>
<tr>
<td>10 oz.</td>
<td></td>
<td>White Rice</td>
<td>$2.20/lb.</td>
</tr>
<tr>
<td>1 qt.</td>
<td></td>
<td>Chicken Stock</td>
<td>n/c</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Bay Leaf</td>
<td>$5.00/lb.</td>
</tr>
<tr>
<td>10 oz.</td>
<td>98%</td>
<td>Mushrooms</td>
<td>$1.75/lb.</td>
</tr>
<tr>
<td>1/2 bunch</td>
<td></td>
<td>Parsley</td>
<td>$0.65/bunch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Salt</td>
<td>$0.55/26 oz.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pepper</td>
<td>$14.18/lb.</td>
</tr>
</tbody>
</table>

Recipe #3: Ratatouille  
Yield: 20  

<table>
<thead>
<tr>
<th>Qty./Unit</th>
<th>Edible Yield %</th>
<th>Ingredient</th>
<th>Invoice Cost per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 oz.</td>
<td>88%</td>
<td>Oil</td>
<td>$10.69/gal.</td>
</tr>
<tr>
<td>8 oz.</td>
<td></td>
<td>Onions</td>
<td>$19.50/50 lb.</td>
</tr>
<tr>
<td>2 lb.</td>
<td>80%</td>
<td>Green Peppers</td>
<td>$1.58/lb.</td>
</tr>
<tr>
<td>1 lb.</td>
<td>99%</td>
<td>Tomatoes</td>
<td>$28.60/25# cs.</td>
</tr>
<tr>
<td>1.5 lb.</td>
<td>81%</td>
<td>Eggplant</td>
<td>$56.75/24# cs.</td>
</tr>
<tr>
<td>1.5 lb.</td>
<td>94%</td>
<td>Zucchini</td>
<td>$1.10/lb.</td>
</tr>
<tr>
<td>1.5 lb.</td>
<td>91%</td>
<td>Green Beans</td>
<td>$38.00/24# cs.</td>
</tr>
<tr>
<td>8 oz.</td>
<td></td>
<td>Tomato Purée</td>
<td>$18.50/6–# 10 cans</td>
</tr>
<tr>
<td>2 oz.</td>
<td></td>
<td>Garlic</td>
<td>$2.10/lb.</td>
</tr>
<tr>
<td>To Taste</td>
<td></td>
<td>Salt</td>
<td>$0.55/26 oz.</td>
</tr>
<tr>
<td>To Taste</td>
<td></td>
<td>White Pepper</td>
<td>$14.18/lb.</td>
</tr>
</tbody>
</table>

5. Assuming that the Standard Portion Costs in Question #4 are from an à la carte menu, calculate the Preliminary Selling Price using a Desired Food Cost % of 30%. Round out your answer to the nearest cent.

6. Assuming that the Standard Portion Costs in Question #4 are from a table d’hôte menu, total the Standard Portion Costs and calculate the Preliminary Selling Price using the price factor for maintaining a 28% Food Cost. Round out your answer to the nearest cent.

7. List and explain the considerations described in the text to help the chef/manager set the Menu Selling Price. What other considerations might also play a part in setting the Menu Selling Price?

8. Using a spreadsheet package of your professor’s choice, create a work sheet to calculate a yield test.

9. Using a spreadsheet package of your professor’s choice, create a work sheet to calculate a cooking loss test.

10. Using a spreadsheet package of your professor’s choice, create a work sheet to determine the standard portion cost of a Standard Recipe.