

NATIONAL TURKEY FEDERATION CULINARY CIRICULUM MODULE

Nutrition

*A Contemporary Approach to Turkey's Nutritional
Considerations for Foodservice and Culinary Arts
Educators*

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Learning Objectives

Individuals successfully completing this program will be able to:

- Explain basic nutritional and dietary guidelines and provide examples of turkey's versatility when used in a variety of menu applications.
- Discuss the role of health and diet as key concerns for Americans.
- Develop menu items featuring turkey in innovative and non-traditional ways.
- Prepare turkey dishes utilizing a variety of contemporary cooking methods that reflect healthy cooking styles and recommended dietary guidelines.
- Demonstrate key safety and sanitation practices as they apply to turkey including HACCP considerations.
- Using foodservice charts and published materials, write specifications for key turkey cuts.
- Discuss the foodservice professional's role in communicating key nutritional information about turkey to both front and back of the house employees.

The Link Between Nutrition and Health

Understanding and appreciating good nutrition is key to being able to develop recipes and prepare menu items that not only look appealing and taste delicious but also provide the foundation for healthful living. It is important for chefs and cooks to have an understanding of the basics of nutritional science as this knowledge will help them to promote good nutrition by selecting the proper ingredients and marrying them with the appropriate cooking techniques. Knowledge of these basics will go a long way in promoting good health while helping the dining public to make healthy menu choices.

The Six Categories of Nutrients

Most two-year culinary arts programs in the United States include a course in nutrition in order to provide students with these important nutrition fundamentals. Essential to these fundamentals is the understanding of what are known as the six categories of nutrients: **carbohydrates, lipids (fats), proteins, vitamins, minerals and water**. *Essential nutrients* are those that must be provided by food because the body does not produce them in sufficient quantities or cannot make them at all. Some nutritional components are considered *nonessential* because healthy, well-nourished bodies can make them in sufficient quantities to satisfy their needs. Our bodies depend upon the various nutrients for different purposes and require different amounts of each depending on age, sex and health. A comprehensive nutrition course taught by a registered dietician will help students to understand how these six categories of nutrients provide the building blocks to good nutrition and healthy living while demonstrating the importance of ingredient selection, food handling and culinary preparation. A useful source of expanded information on the six nutrients and their linkages to food preparation and nutrition can be found at the Web site for the American Dietetic Association at www.eatright.org (Food and Nutrition Information section).

Dietary Guidelines for Americans

In an effort to help consumers develop more healthy approaches to diet, menu selection and food preparation while maintaining supportive lifestyle choices, the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services published a document titled *Dietary Guidelines for Americans*. These guidelines are not only helpful for consumers but are key for foodservice professionals to embrace and become familiar with as they strive to develop a more healthy approach to menu development while supporting the health concerns of their dining patrons. According to these two important U.S. agencies, following these guidelines may significantly help in reducing the risks for chronic diseases such as heart disease, hypertension, diabetes and obesity. The seven primary guidelines are as follows:

- Balance the food you eat with physical activity; maintain or improve your weight.
- Choose a diet with plenty of grain products, vegetables and fruits.
- Choose a diet low in fat, saturated fat and cholesterol.
- Eat a variety of foods.
- Choose a diet moderate in salt and sodium.
- Choose a diet moderate in sugars.
- If you drink alcoholic beverages, do so in moderation.

MyPyramid

In further support of nutritional health, the USDA established an interactive food guidance system, *MyPyramid*, that describes the proper selection of foods, emphasizing an individualized approach to improving diet and lifestyle. The pyramid, illustrated below, identifies five food groups from which to choose. In addition, it offers these simple guidelines:

- Choose at least 3 ounces of whole grains from the bread, cereal, rice and pasta group,
- Select 2 to 3 cups from the vegetable group,
- Enjoy 1 ½ to 2 cups from the fruit group,
- Eat (2 to 3 cups) from foods from the milk, yogurt and cheese group, and
- Choose 5 to 6 ounce equivalents from the meat, poultry, fish, dry beans, eggs and nuts group.
- Choose sparingly foods that provide few nutrients and are high in fat, salt and sugars.

(Illustration of *MyPyramid* from NTF)

<http://www.eatturkey.com/foodsrv/manual/bigpyramid.html>

Key Comparisons: Sizing up Turkey's Benefits

Understanding the basic concepts associated with the link between diet and health, the six categories of nutrients, the *Dietary Guidelines* and the *MyPyramid* guidance system, begin to lay the foundation for understanding the importance of selecting the right ingredients in developing a foodservice menu. For example, when looking at the nutritional differences of various proteins, the values for turkey are significant in their

benefits as compared to other portion cuts. As outlined in the chart below, as compared to other popular protein sources, turkey provides:

- Fewer calories than many lean red meats.
- Less than one-fourth of the maximum daily-recommended intake of cholesterol.
- Minimal total fat and saturated fat.
- A protein that is naturally low in sodium, containing less than 25 milligrams (mg) per ounce on average.

(Illustration of Nutrition Comparison, 3-ounce portion, from NTF)

<http://www.eatturkey.com/foodsrv/manual/nutr3.html>

Nutrition, Menu Marketing and Turkey

Grasping an understanding of basic nutritional concepts illustrates how important it is to develop menu items that include a wide variety of foods such as grains products, vegetables and fruits, while selecting proteins, which are lower in saturated fat, cholesterol and sodium. Whether it's a refreshing Indonesian Turkey Salad with Curried Dressing or hot and spicy Kung Pao Turkey Thighs, it is exciting for both cooks and chefs as well as their customers to develop recipes and menu items that incorporate some of the nutritional benefits of turkey, especially given the variety, innovation and creativity that these items offer. Below are some suggestions for modifying traditional menu items and recipes to include the healthy turkey alternative.

- Choose a familiar appetizer or entrée and use turkey as a tasty substitute for beef, pork or chicken. Feature turkey in each of the following menu items: black bean chili, asparagus chowder, Greek pita sandwiches, quesadillas, osso buco, lasagna and scalloppine.
- Include turkey in non-traditional ways by adding it as a key ingredient or a garnish in soups, salads, pastas, rice and grain dishes. Examples might include a saffron risotto with turkey; cold penne salad with turkey, vodka, peas and three cheeses; chilled gazpacho soup with diced turkey breast and cilantro; or baby green beans seasoned with smoked turkey, corn and caramelized onion.

Marrying Turkey's Versatility to a Variety of Cooking Methods and Techniques

Cooks and chefs employ three basic types of cooking methods in the preparation of menu items. These cooking methods known as *Dry Heat*, *Moist Heat* and *Combination Cooking* are categorized by the type of heat and type of equipment used. In considering a more healthful and contemporary approach to cooking while taking into consideration the nutritional considerations discussed, several of these cooking methods (such as deep fat frying and sautéing in mediums rich in saturated fats) should be used more sparingly or for selected special events while other cooking methods (such as braising, steaming and grilling) may take a more central culinary role given their high flavor and nutritional appeal. Applying turkey's versatility and nutritional compatibility to this rich variety of

cooking methods provides for enhanced menu development and culinary appeal. Outlined below are the basic categories of cooking methods with specific guidelines and tips for handling different cuts of turkey.

Dry Heat Cooking uses hot air or fat to transfer heat to the food. Dry heat methods allow surface sugars to caramelize. These include:

- Roasting
- Baking
- Broiling
- Grilling
- Pan frying
- Deep-fat frying
- Sautéing

Moist Heat Cooking uses steam, water or other liquids to transfer heat to the food. Moist heat methods are used to emphasize the natural food flavors. These include:

- Simmering
- Boiling
- Poaching
- Steaming

Combination Cooking uses dry heat and moist heat procedures. Foods are first browned in hot fat, then covered and slowly cooked in a liquid over low heat. These include:

- Stewing
- Braising

Turkey and Oven Cooking Considerations

Conventional oven cooking: This is a simple method of cooking whole body turkey, turkey breasts and large turkey roasts. Also, it provides for greater volume/yield and less moisture lost than in convection oven roasting. Keep in mind the yield will be reduced if the oven temperature is increased in an attempt to shorten the cooking time.

Convection oven cooking: With convection cooking, the hot air moving throughout the oven cooks faster and at a lower temperature than conventional cooking. Therefore, convection oven cooking temperatures should be 25 to 50°F lower than conventional oven temperatures.

Combi oven cooking: Popular in many menu applications such as banquets and volume cooking, this oven offers three cooking modes: pressureless steam, convection or a combination of steam and convection know as “combi” mode. Many chefs prefer the combi oven cooking given its ability to combine the speed of convection cooking with little or no moisture loss and excellent yield. A good resource for combi oven cooking can be found at the Rational Cooking Systems, Inc. Web site at www.rationalusa.com.

Using Natural Flavorings, Herbs and Spices for Healthier Cooking Technique

Given the abundance and availability of high quality fresh herbs and spices to the foodservice operator, many recipes can be enhanced both in terms of flavor and presentation by the addition of these flavor-packed ingredients. In addition to spices and herbs, other healthy low fat flavor enhancers may be used in recipes to boost flavor without the addition of saturated fats or sodium. These items include: flavored vinegars; hot peppers; wild mushrooms; reduced stocks; wines, beers and spirits, infused oils; low fat yogurt and sour cream; and intensely flavored vegetables such fennel, arugula and sweet onions. These items, combined with the innovative menu and recipe suggestions discussed can be successfully paired with turkey to create new, exciting and nutritious menu applications.

Turkey Recipes

To further expand the application of turkey to innovate and healthy menu presentations, the following turkey recipe database provides for an excellent resource.

<http://recipes.eatturkey.com/fsearch.asp>

Innovative Chefs Demonstrate Turkey's Versatility

Professional chefs and successful restaurateurs provide demonstrations of cooking methods, applications of the use of seasoning herbs and flavorings, and innovative and contemporary recipes demonstrating turkey's expanded potential appeal and versatility. The link below showcases the talent of 30 talented culinarians.

<http://www.eatturkey.com/foodsrv/celebrty/main.htm>

Preserving the Nutritional Integrity and Nutritional Quality of Turkey: Safety, Sanitation and Handling and Purchasing Specifications

Handling turkey in a safe and sanitary manner while adhering to foodservice standards and regulatory health codes is key to providing menu items that are safe to eat, while maintaining a high standard foodservice professionalism. The following guidelines via information links provide key sanitation and safety and HACCP information for handling turkey in a foodservice environment. Each link, which provides information, charts and diagrams, is preceded by the topic.

Foodborne Illnesses

<http://www.eatturkey.com/foodsrv/manual/safe1.html>

Sanitation and Storage

<http://www.eatturkey.com/foodsrv/manual/safe2.html>

Maintaining Approved Temperatures

<http://www.eatturkey.com/foodsrv/manual/safe3.html>

Receiving and Storing

<http://www.eatturkey.com/foodsrv/manual/store1.html>

Recommended Refrigerator Thawing

<http://www.eatturkey.com/foodsrv/manual/store2.html>

Other Thawing Techniques

<http://www.eatturkey.com/foodsrv/manual/store3.html>

Storing Cooked Turkey

<http://www.eatturkey.com/foodsrv/manual/store4.html>

Measuring Internal Temperature

<http://www.eatturkey.com/foodsrv/manual/prep4.html>

Heating and Holding

<http://www.eatturkey.com/foodsrv/manual/prep8.html>

Cooking Whole Turkey

<http://www.eatturkey.com/foodsrv/manual/prep5.html>

Developing Purchasing Specifications Using Yield Cut Charts

<http://www.eatturkey.com/foodsrv/manual/purch6.html>

USDA/FDA HACCP Resources Database

<http://www.nal.usda.gov/fnic/foodborne/haccp/index.shtml>

Nutrition's Link to Training and Communication

Communicating nutritional information related to turkey's versatility and nutritional appeal is key to establishing a successful foodservice menu and merchandising program. One of the most effective means for honing and developing communication skills is through the practice of role-playing. The following sample of role-playing activities is designed to develop effective communication strategies between management, front and back of the house employees and customers.

Role Playing Activity:

Have waitstaff team members explaining key ingredients and menu items to guests that include turkey items.

Role Playing Activity:

Have a key member of management, such as a chef, conduct a kitchen meeting with cooks and waiters highlighting the reasons for developing a turkey menu promotional program.

Role Playing Activity:

Have a group of cooks meet for a working session to modify several menu items featuring pork to include innovative turkey alternatives in an effort to appeal to a greater ethnic audience.

Communicating Turkey's Versatility

When thinking about breakfast, lunch and dinner menus, consider incorporating turkey alternatives to the menu to add a healthy appeal, creativity, and a sense of customer satisfaction, knowing that the guest has made a more healthful menu selection. In communicating with the customer, consider these meal-specific approaches:

Breakfast: Suggest seasoned turkey sausage or turkey links as a more healthful alternative. *“Our breakfast specials come with the option of turkey links or sausage. Which would you prefer?”*

Lunch: Suggest a lunch special featuring turkey. *“For lunch today, our special is a Turkey Santa Fe Sandwich, featuring a tequila-lime marinated turkey breast, guacamole and grilled red onions.”*

Dinner: Suggest an upscale, elegant turkey entrée. *“For dinner this evening I'd like to suggest our bistro special. It includes turkey medallions, served with a port wine sauce, wild mushrooms and is accompanied by patty pan squash and roasted baby carrots.”*

Seasonality of Turkey

There are few foods available to the chef that can be purchased year round, is relatively price stable, is extremely versatile in its menu application and provides for beneficial health considerations. Turkey is such a product, and provides the foodservice professional with many opportunities throughout the year to incorporate innovative and appealing menu choices. The illustration below provides for a creative approach with suggestions for highlighting turkey's seasonality.

<http://www.eatturkey.com/foodsrv/manual/promo10.html>

A Note Regarding Menu Merchandising, Menu Development and Ethnic Neutrality

As the United States becomes a more diverse population, cultural and religious restrictions limit the amount of other proteins that public institutions offer on their menus. Turkey products such as turkey ham, sausage and bacon provide for an excellent alternative to pork products while ground turkey, turkey cutlets and tenderloins are easily substituted for beef.

Sample Student Activities and Questions for Discussion

- Have students cost several signature menu items featuring non-turkey key ingredient, then again with turkey as key ingredient. Develop profitability comparison establishing nutrition as a link to menu profitability.

- Meeting in small groups, students will take one turkey recipe selected from the www.eatturkey.com database and develop detailed purchasing specifications utilizing the charts provided to be used for quantity vendor purchases.
- Discuss the importance of the *Dietary Guidelines for Americans* as they relate to developing healthy menu alternatives featuring turkey and turkey products.
- As a term project, develop a simple training program for cooks highlighting safe food handling practices for turkey including storage, thawing, cooking, holding and HACCP considerations.
- Lead an open forum with students, discussing what they believe to be consumers' biggest reasons for resisting healthy menu alternatives and develop a list of strategies for overcoming these attitudes.
- As a cooking demonstration project, identify a traditional recipe high in saturated fat and sodium. Modify the recipe to incorporate more healthy cooking methods, flavorings and herbs and the replacement of turkey as the center-of-the-plate item. After modifying the recipe, prepare the recipe in class, having students taste the final project.

VALUABLE COMMODITY BOARD RESOURCES FOR HEALTHY MENU DEVELOPMENT AND NUTRITIONAL COOKING

- Almond Board of California-www.AlmondsAreIn.com
- California Avocado Commission-www.avocado.org
- California Date Commission-www.datesaregreat.com
- California Dried Plum Board -www.californiadriedplums.org
- California Fig Advisory Board-www.californiafigs.com
- California Kiwifruit Commission-www.kiwifruit.org
- California Pear Advisory Board-www.calpear.com
- California Raisin Marketing Board-www.calraisins.org
- California Strawberry Commission-www.calstrawberry.com
- California Table Grape Commission-www.tablegrape.com
- California Tree Fruit Agreement-www.caltreefruit.com
- Cherry Marketing Institute-www.cherrymkt.org
- Chilean Fresh Fruit Association-www.cffa.org
- Concord Grape Association-www.concordgrape.org
- Cranberry Institute-www.cranberries.org
- Florida Dept. of Citrus-www.floridajuice.com
- Georgia Peach Commission-www.agr.state.ga.us
- Idaho Potato Commission-www.idahopotato.com
- International Banana Association-www.uffva.org
- Leafy Greens Council-www.leafy-greens.org
- Michigan Apple Committee-www.flavorbest.com
- Michigan Blueberry Growers Association-www.blueberries.com
- National Cherry Foundation-www.nationalcherries.com
- National Honey Board-www.nhb.org

- National Onion Association-www.onions-usa.org
- National Turkey Federation-www.eatturkey.org
- National Watermelon Promotional Board-www.watermelon.org
- NC Sweet Potato Commission-www.ncsweetpotatoes.com
- New York Apple Association-www.nyapplecountry.com
- New York Wine & Grape Foundation-www.nywine.com
- North American Blueberry Council-www.blueberry.org
- Northwest Cherry Growers-www.nwcherries.com
- Oregon Raspberry and Blackberry Commission-www.oregon-berries.com
- Pacific Northwest Canned Pear Service-www.pnw-cannedpears.com
- Pear Bureau Northwest-www.usapears.com
- Pomegranate Council-www.pomegranates.org
- Popcorn Board-www.popcorn.org
- Produce for Better Health Foundation-www.5aday.com
- Rare Fruit Council International-www.gate.net/~tfnews/tfnhome2.htm
- U.S. Apple Association-www.usapple.org
- United Fresh Fruit & Vegetable Assn.-www.uffva.org
- Washington Red Raspberry Commission-www.red-raspberry.com
- Washington State Apple Commission-www.bestapples.com
- Washington State Fruit Commission-www.nwcherries.com
- Washington State Potato Commission-www.potatoes.com
- Wheat Foods Council-www.wheatfoods.org
- Wild Blueberry Assn. of North America-www.wildblueberries.com
- Wisconsin Milk Marketing Board-www.wisdairy.com

OTHER LINKS

- a. USDA National Nutrient Database for Standard Reference
http://www.nal.usda.gov/fnic/cgi-bin/nut_search.pl
- b. Cooking Light Web link:
<http://www.cookinglight.com/cooking/cs/allabout/package/0,14343,355869,00.html>
- c. Cook's Illustrated <http://www.cooksillustrated.com/>
- d. Food Fit <http://www.foodfit.com/>

SOURCES:

National Turkey Federation; www.eatturkey.com
The Art of Nutritional Cooking, Baskette and Mainella