

# Cooking Grains

**Unit:** Culinary Arts & Hospitality

**Problem Area:** Grains, Pasta, Noodles

**Lesson:** Cooking Grains

- **Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:

- 1 Describe different variations of rice and grains.**
- 2 Summarize various cooking methods used for rice and other grains.**

- **Resources.** The following resources may be useful in teaching this lesson:

E-unit(s) corresponding to this lesson plan. CAERT, Inc. <http://www.mycart.com>.

Labensky, Sarah R. and Alan M. Hause. *On Cooking: A Textbook of Culinary Fundamentals*, 4<sup>th</sup> ed. Pearson, 2007.

McGraw-Hill Education. (2016). *Culinary essentials*. Columbus, OH.

Prentice Hall. (2011). *Foundations of restaurant management and culinary arts*. Boston

■ **Equipment, Tools, Supplies, and Facilities**

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials



■ **Key Terms.** The following terms are presented in this lesson (shown in bold italics):

- barley
- brown rice
- couscous
- corn
- enriched rice
- grain
- hominy
- hull
- oat berries
- oats
- parboiled rice
- pilaf method
- polenta
- rice
- risotto
- risotto method
- wheat
- white rice

■ **Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

*To understand how to properly cook grains it is important to know the characteristics of the rice and grains you want to prepare. Ask students to identify what type of rice and grains they are familiar with or have eaten before. Ask them if they can tell the difference between different rices and/or variations of grains. Pass around small cups of short grain, medium grain and long grain rice for the students to examine and compare and contrast. Ask students to explain the differences and similarities they can visually see just by looking. Pass around examples of other grains (if you have on hand). Ask students to explain the characteristics of those grains as well. If you do not have grains on hand, use visuals that can show students various grains and rice.*

# CONTENT SUMMARY AND TEACHING STRATEGIES

**Objective 1:** Describe different variations of rice and grains.

**Anticipated Problem:** What are the different varieties of rice? What are other common grains used in cooking?

## I. Rice and Other Grains

- A. Grains are a staple in the diets of people around the world. This is because of the variety of grains and the fact they store well and have high nutritional value. A **grain** is a single, small, hard seed. Grains are packed with nutrients, with the main nutrient in the form of carbohydrates and fat. Grains are usually dried for storage and cooking grains with liquid will add the water back into the grain. The cooking process will make the grain tender and edible. There is a wide variety of grains to choose from.
- B. Rice: **Rice** is the starchy seeds of a cereal grass and is served around the world. Rice picks up the flavors of other foods so it is often served as part of a main dish. Rice increases in volume as it cooks and therefore yields a high profit. All varieties of rice come in different grain types.

### 1. TYPES OF RICE:

- a. Short grain — short grain rice contains the most starch. It becomes sticky when cooked, but is the most tender type of rice. Short grain rice is used in risotto. **Risotto** is a rice dish in which the grain has been sautéed in butter, and then simmered in a flavored cooking liquid, which has been added gradually to the rice until it has finished cooking.
  - b. Medium grain — medium grain rice is firm when it is hot. It becomes sticky, like short grain rice, when cooked.
  - c. Long grain — like short grain rice, long grain rice remains slightly firm when cooked properly. However, it should not become sticky when cooked. The grains of rice separate easily after cooking. Long grain rice can be used in just about any food dish.
2. PROCESSING RICE: All three types of rice can be processed. Processing rice removes the **hull**, or outer covering, from the grain. If the grain is left alone, the rice is brown. If the grain is polished, the rice is white. White rice can be processed even further, producing converted rice and instant rice. Rice varieties are helpful in selecting rice for different menus.
- a. Brown rice — rice that has not had the hull, or outer covering, removed but is unpolished, is called brown rice. **Brown rice** has a tan color, a chewy texture, and slightly nutty taste. Brown rice is available in long grain, short

grain and medium grain. Brown rice takes longer to cook and needs more cooking liquid than white rice.

- b. White rice — **white rice** has had the outer layers of the grain removed. Without the outer layers, the rice grain is white and cooks more quickly with less water. White rice has a lighter texture, but is also lower in some vitamins and minerals. There are many varieties of white rice: long grain, short grain, hard rice, soft rice, and enriched rice. **Enriched rice** has a vitamin and mineral coating added to the grain. This makes up for the nutrients that are lost when the outer covering is removed.
  - c. Converted rice — converted rice, sometimes referred to as **parboiled rice**, has been partially cooked with steam and then dried. This process removes some of the surface starch and increases the nutrient value by forcing nutrients from the outer layer into the grain. After the rice is steamed, it is then polished and milled. This results in a light, white grain rice that has more nutrients than regular white rice. Converted rice can be used the same way as white rice, except that converted rice takes longer to cook and requires slightly more liquid. Converted rice becomes very fluffy when cooked and the grains do not clump together.
- C. Other Grains: Although rice is very versatile and popular, there are many other grains that can add variety and nutrition to a menu. The high carbohydrate and protein content of traditional grains, such as oats, wheat, and barley can add nutritional value and flavor to any meal. Grains are also an important part of menu planning because they can be used from breakfast to dinner to prepare many different kinds of dishes.
1. BARLEY: **Barley** is a hardy, adaptable grain that can grow in both warm and cold climates. It is available unmilled, and in a form called pearled barley, which has been milled and polished. Barley has a slightly sweet flavor and chewy texture. It is often added to soups and stews, giving them a hearty consistency and rich texture. Barley is also used as a poultry stuffing and as a pilaf side dish. Due to the mild flavor, barley is a good candidate for cooking with onions, garlic, herbs, and other seasonings. Use a ratio of three parts liquid to one-part barley when preparing.
  2. OATS: **Oats** are the berries of oat grass. They can be purchased as oatmeal and as a whole grain, called groats or oat berries. Oatmeal, a popular but plain hot cereal, can be dressed up with fruits, berries, cream, maple syrup, and other similar toppings to turn a simple breakfast into something special. **Oat berries**, or groats, do not have the outer layer removed, so they are a whole grain, with all the texture and nutrients found in other whole grains. They can be cooked and served as a hot cereal, used to stuff poultry, and added to baked goods. A ratio of four parts liquid and one-part oat berries is used.
  3. WHEAT PRODUCTS: Wheat, in the form of flour, is a staple in bread-making and other kinds of baking. **Wheat** is actually a very versatile grain that is also milled into semolina and cracked wheat. These wheat products can be served as side dishes, and used in stuffing and casseroles. **Couscous** is made from semolina that is milled from wheat.

4. CORN PRODUCTS: **Corn** is different from the other grains, because it can be eaten fresh or a dried grain. When eaten fresh, it is served as a vegetable. As a dried grain, it comes in two main forms: cornmeal, used to make breads and polenta; and hominy, a dried corn kernel.
- Polenta** is made from cornmeal that is gradually sprinkled into simmering water or stock and cooked until it becomes a thick paste. It is the right consistency when it pulls away from the pot when stirred. Polenta can be served with butter, cheese, or various sauces. It also can be poured into shaped containers or spread on a baking sheet to cool. When cool, it can be sliced or cut into shapes that can be baked, fried, grilled or broiled. Polenta can be served as a breakfast food with maple syrup, as an appetizer; or as a side dish for dinner. Spices, dried tomatoes, cheese, herbs, and other ingredients can be added during the simmering process.
  - Hominy** is made by soaking dried corn in lye so that the kernels become swollen. As they swell, the outer layers loosen and are easily removed. Hominy is often served as a side dish or added to soups. When cooking hominy, use 2 to 2½ times the amount of water as grain. Hominy also is made into other corn products, including grits, which are cracked hominy served as a side dish or as a cereal. Cook grits in four parts water to one part grain. **Masa harina** is a finely ground hominy used in tortillas and breads.

**Teaching Strategy:** Many techniques can be used to help students master this objective. Use VM–A through VM–J to facilitate a discussion of the variations of rice and other grains.

**Objective 2:** Summarize various cooking methods used for rice and other grains.

**Anticipated Problem:** What cooking methods can be used to cook grains? How are rice and other grains served?

## II. Cooking Rice and Other Grains

- Cooking rice and grains involves adding enough water to make the grain moist and tender. Depending upon the length of the rice or grain, the proportion of water to rice or grain, and the cooking method, the product can be light and fluffy or sticky. The degree of tenderness may vary depending on the grain and the way in which it will be served.
  - BOILING:** To boil grains, the grain is added to slightly salted, boiling water and then simmered until tender. Boiling produces a good product that can be served as is or incorporated into other dishes such as salads or casseroles. The proportion of water to grain is about the same as for cooking pasta.
  - STEAMING:** Steaming grains is different from steaming vegetables. To steam grains, add the appropriate amount of boiling liquid to the grain. Cover and cook the grain until the liquid is completely absorbed by the grain. Grains can

be steamed in a saucepan on the stovetop and can also be steamed in the appropriate bakeware in the oven, or steamed in a convection steamer or rice cooker.

3. **BRAISING:** Braising, often called the ***pilaf method***, involves sautéing the grain in oil or butter before adding the liquid. Often, onions, garlic, seasonings, and items such as red or green peppers may be added to the rice during the sautéing process. The coating of oil on each grain results in a fluffy product in which individual grains do not stick together. One the grain is sautéed; a seasoned liquid is added. The grain is then usually cooked on the stove in a saucepan or baked in the oven in a hotel pan. The grain is done when all of the water has been absorbed and there are small, tube-like holes on the surface. [NOTE: Cooking in the oven instead of on the stove is preferred, because the uniform heat results in a more flavorful product.
  4. **RISOTTO:** The ***risotto method***, is a little like boiling and the pilaf method combined. First, the grain is sautéed, and then a small amount of hot liquid, often a soup stock, is added. The grain is stirred until most of the liquid is absorbed. This process of adding liquid and stirring the grain is continued until the grain is completely cooked. When the grain is done, it will still be firm. Seasonings and chopped mushrooms can be added to risotto after the sautéing stage. Grains cooked with the risotto method are creamy. Risotto should be served immediately after being cooked to maintain its texture and creamy consistency. Butter, olive oil, or cheese are often stirred in just before serving.
- B. All grains should be served as soon as possible after being cooked. They lose their texture quickly and can become either clumped or dried out if they are held for a long period of time. Any grains not used immediately after being cooked should be properly cooled, labeled, dated, and refrigerated in an air-tight container.

**Teaching Strategy:** *Many techniques can be used to help students master this objective. Use VM–L through VM–M to facilitate a discussion of cooking grains. Assign LS–A.*

- **Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. If a textbook is being used, questions at the ends of chapters may also be included in the Review/Summary.
- **Application.** Use the included visual master(s) and lab sheet(s) to apply the information presented in the lesson.
- **Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.



## ■ Answers to Sample Test:

### Part One: Matching

1. e
2. c
3. b
4. d
5. f
6. a

### Part Two: Completion

1. corn
2. oats
3. oat berries
4. parboiled rice
5. enriched rice
6. brown rice

### Part Three: Short Answer

1. Answers may vary and would be similar to the following. All three types of rice can be processed. Processing rice removes the hull, or outer covering, from the grain. If the grain is left alone, the rice is brown. If the grain is polished, the rice is white. White rice can be processed even further, producing converted rice and instant rice. Rice varieties are helpful in selecting rice for different menus.
2. Answers may vary and would be similar to the following. Rice that has not had the hull, or outer covering, removed but is unpolished, is called brown rice. Brown rice has a tan color, a chewy texture, and slightly nutty taste. Brown rice is available in long grain, short grain and medium grain. Brown rice takes longer to cook and needs more cooking liquid than white rice. White rice has had the outer layers of the grain removed. Without the outer layers, the rice grain is white and cooks more quickly with less water. White rice has a lighter texture, but is also lower in some vitamins and minerals.

# Cooking Grains

## ► Part One: Matching

**Instructions:** Match the term with the correct definition.

- |            |                 |
|------------|-----------------|
| a. wheat   | d. pilaf method |
| b. polenta | e. rice         |
| c. barley  | f. masa harina  |

- \_\_\_\_\_ 1. The starchy seeds of a cereal grass and is served around the world
- \_\_\_\_\_ 2. A hardy, adaptable grain that can grow in both warm and cold climates
- \_\_\_\_\_ 3. Made from cornmeal that is gradually sprinkled into simmering water or stock and cooked until it becomes a thick paste
- \_\_\_\_\_ 4. Involves sautéing the grain in oil or butter before adding the liquid
- \_\_\_\_\_ 5. Finely ground hominy used in tortillas and breads
- \_\_\_\_\_ 6. A very versatile grain that is also milled into semolina and cracked wheat

## ► Part Two: Completion

**Instructions:** Provide the word or words to complete the following statements.

1. \_\_\_\_\_ is different from the other grains, because it can be eaten fresh or a dried grain.
2. \_\_\_\_\_ are the berries of oat grass.
3. \_\_\_\_\_, or groats, do not have the outer layer removed, so they are a whole grain, with all the texture and nutrients found in other whole grains.
4. \_\_\_\_\_, has been partially cooked with steam and then dried.





5. \_\_\_\_\_ has a vitamin and mineral coating added to the grain.
6. \_\_\_\_\_ has a tan color, a chewy texture, and slightly nutty taste.

### ► Part Three: Short Answer

**Instructions: Answer the following.**

1. Describe how rice is processed.
2. Differentiate between white and brown rice.

# WHAT IS A GRAIN?

Grains are a staple in the diets of people around the world. This is because of the variety of grains and the fact they store well and have high nutritional value. A **grain** is a single, small, hard seed. Grains are packed with nutrients, with the main nutrient in the form of carbohydrates and fat.





# WHAT IS RICE?

**Rice** is the starchy seeds of a cereal grass and is served around the world. Rice picks up the flavors of other foods so it is often served as part of a main dish. Rice increases in volume as it cooks and therefore yields a high profit. All varieties of rice come in different grain types.





# RISOTTO

**Risotto** is a rice dish in which the grain has been sautéed in butter, and then simmered in a flavored cooking liquid, which has been added gradually to the rice until it has finished cooking.





# BROWN RICE VS WHITE RICE

*Brown rice* has a tan color, a chewy texture, and slightly nutty taste. Brown rice is available in long grain, short grain and medium grain. Brown rice takes longer to cook and needs more cooking liquid than white rice. *White rice* has had the outer layers of the grain removed. Without the outer layers, the rice grain is white and cooks more quickly with less water. White rice has a lighter texture, but is also lower in some vitamins and minerals.



# BARLEY

*Barley* is a hardy, adaptable grain that can grow in both warm and cold climates. It is available unmilled, and in a form called pearled barley, which has been milled and polished. Barley has a slightly sweet flavor and chewy texture. It is often added to soups and stews, giving them a hearty consistency and rich texture. Barley is also used as a poultry stuffing and as a pilaf side dish.





# OATS AND OAT BERRIES

Oats are the berries of oat grass. They can be purchased as oatmeal and as a whole grain, called groats or oat berries. Oatmeal, a popular but plain hot cereal, can be dressed up with fruits, berries, cream, maple syrup, and other similar toppings to turn a simple breakfast into something special.



# WHEAT

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**Wheat** is actually a very versatile grain that is also milled into semolina and cracked wheat. These wheat products can be served as side dishes, and used in stuffing and casseroles.





# COUSCOUS

**Couscous** is made from semolina that is milled from wheat.



# CORN

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# POLENTA

Polenta is made from cornmeal that is gradually sprinkled into simmering water or stock and cooked until it becomes a thick paste. It is the right consistency when it pulls away from the pot when stirred. Polenta can be served with butter, cheese, or various sauces. It also can be poured into shaped containers or spread on a baking sheet to cool.





# HOMINY

**Hominy** is made by soaking dried corn in lye so that the kernels become swollen. As they swell, the outer layers loosen and are easily removed. Hominy is often served as a side dish or added to soups.





## PILAF METHOD

the pilaf method, involves sautéing the grain in oil or butter before adding the liquid. Often, onions, garlic, seasonings, and items such as red or green peppers may be added to the rice during the sautéing process. The coating of oil on each grain results in a fluffy product in which individual grains do not stick together. One the grain is sautéed; a seasoned liquid is added. The grain is then usually cooked on the stove in a saucepan or baked in the oven in a hotel pan. The grain is done when all of the water has been absorbed and there are small, tube-like holes on the surface. [NOTE: Cooking in the oven instead of on the stove is preferred, because the uniform heat results in a more flavorful product.



# RISOTTO METHOD

The risotto method, is a little like boiling and the pilaf method combined. First, the grain is sautéed, and then a small amount of hot liquid, often a soup stock, is added. The grain is stirred until most of the liquid is absorbed. This process of adding



liquid and stirring the grain is continued until the grain is completely cooked. When the grain is done, it will still be firm. Seasonings and chopped mushrooms can be added to risotto after the sautéing stage. Grains cooked with the risotto method are creamy. Risotto should be served immediately after being cooked to maintain its texture and creamy consistency. Butter, olive oil, or cheese are often stirred in just before serving.

All grains should be served as soon as possible after being cooked. They lose their texture quickly and can become either clumped or dried out if they are held for a long period of time. Any grains not used immediately after being cooked should be properly cooled, labeled, dated, and refrigerated in an air-tight container.

# Cooking Grains: Preparing Risotto

## Purpose

The purpose of this activity is to plan and prepare risotto.

## Objectives

1. Plan and prepare risotto using the risotto method of preparing grains.
2. OPTIONAL: Take pictures of the dish or food item variations for your culinary arts portfolio.

## Materials

- ◆ lab sheet
- ◆ device with internet access and print capabilities
- ◆ ingredients as needed to prepare the dish and/or variations of the food item

## Procedure

1. Work with a small group to complete this lab activity. Review your class notes about the risotto method and cooking grains.
2. Access the Danilo Alfaro video recipe, “How to Make Perfect Risotto”, at <http://www.thespruceeats.com/how-to-make-risotto-996011>.
  - a. Watch the video and listen to the instructions.
  - b. This recipe can be printed from this website link.
3. Using classroom standard practices, plan for the preparation of the risotto. Have your instructor approve the lab plans.
4. Conduct mis en place. As directed, prepare the risotto. Follow standard safety and sanitation rules. Use proper techniques to prepare the risotto.
5. OPTIONAL: Take pictures of the dish or food item for your presentation and for your culinary arts portfolio.
6. Turn your completed lab sheet in to your instructor.

