

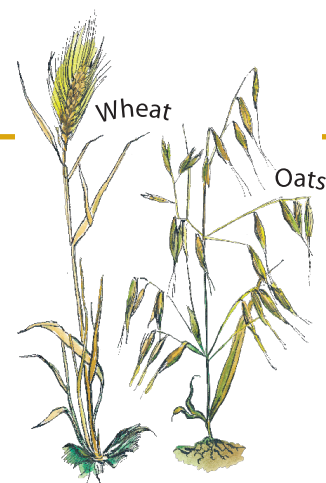
Grains

Did You Know

- Montana fields grow an impressive amount of grains including wheat, barley, oats, and corn. Montana is the 3rd top producer of wheat and barley, 17th for oats, and 37th for corn. Wheat production in 2013 was valued over \$1.3 billion, which includes 203,070,000 bushels!
- Wheat is classified by the season in which it is grown, hardness, color, and other factors (e.g., hard red winter wheat). Spring wheat is planted in spring and harvested in late summer. Winter wheat is planted in the fall and harvested in the spring or summer, depending on the conditions. Spring wheat is the most common variety in Montana, accounting for over half of our wheat production.
- Kamut, grown in Montana, is an ancient variety of wheat and is an excellent source of the mineral selenium.
- Barley has played an important role in many cultures throughout history. In ancient Egypt, barley was used in religious ceremonies, while in Rome, gladiators believed barley gave them extra strength.
- Despite their many health benefits and popularity as a breakfast food, only about 5% of oats are used for human consumption, while the rest are used in products and animal feeds.
- What's in a bushel? One US bushel is approximately 8 gallons of dry crops. One bushel of wheat weighs about 60 pounds.

Selection

The process of refining grains to make flour and other products removes the fiber and some of the nutrients from the grain. Therefore, select at least half of your grains from whole grain sources. Whole grain sources include whole wheat bread, oatmeal, whole corn, and hulled barley. Although most refined grains are enriched—the nutrients are added back in after processing—they are lacking the fiber of the original whole grain.



Storage

Keep whole grains and flour stored in a cool, dry place in airtight containers. To extend shelf life, store in the refrigerator or freezer.

Preparation

Barley. Prior to use, wash carefully. To cook, use 1 cup hulled barley to 3 cups water or broth, bring to a boil then simmer for 45-60 minutes. Yields approximately 3 1/2 cups.

Cornmeal. To cook, use 1 cup cornmeal to 4 cups water or broth, bring to a boil then simmer for 25-30 minutes. Yields approximately 2 1/2 cups.

Oats. To cook, use 1 cup steel cut oats to 4 cups water or broth, bring to a boil then simmer for 20 minutes. Yields approximately 4 cups. Use 1 cup rolled oats to 2 1/2 cups water. Bring to water to boil, add rolled oats, simmer for 5 minutes stirring occasionally.

Wheat. Prior to use, wash and soak wheat berries for 10-12 hours in water. To cook, use 1 cup wheat berries to 4 cups water or broth, bring to a boil then simmer for 45-60 minutes. Yields approximately 3 cups.

Cooking

Breakfast. Use in parfaits, prepare hot for cereal, or roast with dried fruit to make granola.

Ground. Grains can be ground using electric or hand mills. Depending on the types of grain, the flour can be used in products such as breads, muffins, cake, crepes, tortillas, or various desserts.

Pasta. To cook, use approximately 1 cup pasta to 6 cups water or broth, bring to a boil then simmer for 8-12 minutes or until tender. Add to cold salads with chopped vegetables or make a hot dish with tomato sauce and chopped vegetables.

Pilaf, Risotto, Soups, Stews or Stir-fry. Add cooked grains for added nutrients and texture.

Pop. Drizzle cooking oil in a heated pan and add low-sodium seasonings, if desired. Put several corn kernels in the pan. When the kernels pop, add 1/3 cup corn kernels evenly in the pan, cover with lid and remove from heat for 30 seconds. Return to heat and gently shake the pan while kernels pop.

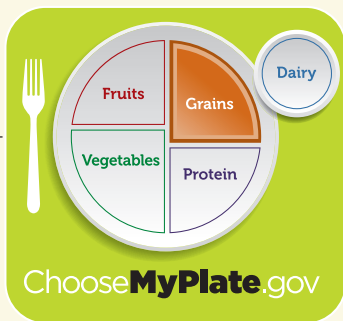
Salad. Chill grains after cooking. Combine with chopped vegetables, such as tomatoes and broccoli, then toss with a balsamic, Italian, or another vinaigrette dressing. Add to a pasta or green salad for fiber. Ideal for wheat berries and hulled barley.

Season. For added flavor, cook grains in water, broth, or tomato sauce. To enhance flavor, experiment with allspice, basil, cinnamon, chili powder, celery seed, cloves, garlic, ginger, nutmeg, oregano, sage, and thyme.

Adapted from the Grains Food Fact Sheet developed by Montana State University Extension. For the full fact sheet and other resources, visit: www.msuextension.org/nutrition.

Nutrition Information

When the grain kernel is intact (the bran and germ haven't been removed in processing), it is rich in fiber and many minerals, B vitamins, and folic acid. However, when it is processed to make white flour, the fiber and most of the vitamins and minerals are lost. All grains are rich in carbohydrates. Fiber is necessary to maintain a healthy digestive system. Gluten is contained in the endosperm of many grains and creates the texture and volume of bread by stretching and capturing gasses released by yeast or other leavening agents. While some individuals may have Celiac Disease, have a wheat allergy, or are sensitive to gluten, most people are able to eat gluten-containing grains without issue. Oats do not contain gluten, however, they are often stored or processed with wheat, and therefore are not usually acceptable for those with gluten intolerances.



Recipes

Tasty Tabbouleh

Tabbouleh (Tuh-BOO-lee), also spelled tabouli, comes from the word tabboula, which means "Middle Eastern cookery" in Arabic. Tabbouleh is originally from the mountains of Syria and Lebanon. This easy recipe can easily be made in the classroom with student assistance, and provides an opportunity to connect nutrition, culture, and geography. Bulgur wheat is whole wheat that has been cracked and partially cooked.

Adapted from: Chop Chop

Servings

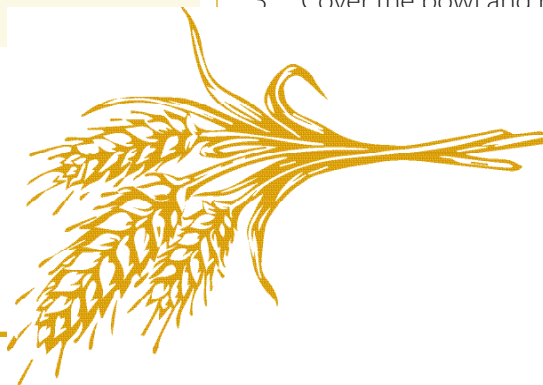
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Ingredients

- 3/4 cup bulgur wheat
- 1 1/2 cups warm water
- 3 large ripe tomatoes, cored and diced
- 2 cucumbers, diced
- 3 scallions, chopped (use both the green and white parts)
- 1 1/2 bunches flat leaf parsley leaves, chopped
- 1 1/2 small bunches mint leaves, chopped (optional)
- 3 Tbsp olive oil
- 1 1/2 Tbsp fresh lemon juice
- Pinch of salt

Directions

1. Put the bulgur into the mixing bowl. Pour the warm water into the bowl. Cover and let sit until the bulgur is soft, at least 2 hours or refrigerate overnight.
2. After the bulgur is soft, add the tomatoes, cucumber, scallions, parsley, mint if using, olive oil, and lemon juice or red wine vinegar. Mix everything together.
3. Cover the bowl and refrigerate at least 1 hour, up to



Oatmeal On-The-Go Breakfast Bars

This is a great recipe for grab-and-go breakfasts or a tasty snack!

Adapted from Weelicious.com

Servings

18 bars

Ingredients

2 cups old fashioned oats

1 cup whole wheat flour

1 1/2 tsp cinnamon

Pinch of salt

1 tsp baking powder

1 1/2 cup milk (any kind of milk — rice, almond, soy, cow's — will work) or water

1/4 cup brown sugar

1/2 cup applesauce (or baked squash or pumpkin puree if available)

1 large egg

1 tsp vanilla

3/4 cup dried fruit (cranberries, raisins, blueberries, cherries, etc.) optional

1/2 cup nuts (walnuts, sunflower seeds, pumpkin seeds, etc.) optional

Preparation

1. Preheat oven to 375°F.
2. Place the oats, flour, cinnamon, salt, and baking powder in a bowl and stir to combine.
3. In a separate bowl, mix the milk, applesauce, egg, sugar, and vanilla.
4. Pour the dry ingredients into the wet mixture, stir to combine and then stir in the dried fruits and nuts.
5. Pour the oatmeal mixture into a greased 9 x11 inch baking dish.
6. Bake for 30 minutes or until thickened and golden.
7. Cool, cut into squares, and serve. Refrigerating: allow to cool, cut into squares, place in an airtight container and refrigerate up to 5 days. Freezing: allow to cool, cut into squares, and place in a plastic bag to freeze up to 4 months. When ready, allow to defrost in fridge for 24-48 hours.

Activities

Whole Grain Choo Choo Train

Adapted from: Florida Health Department CACFP Lesson Plans (http://www.floridahealth.gov/programs-and-services/childrens-health/child-care-food-program/nutrition/_documents/lesson-plans/lesson3.pdf)

Montana Early Learning Standards

Standard 2.1 Fine Motor Skills

Standard 2.2 Gross Motor Skills

Standard 2.5 Nutrition

Standard 2.5 Physical Fitness

Standard 3.5 Early Reading and Book Appreciation

Objectives:

- Children will begin to recognize whole grain foods.
- Children will be active by jumping, skipping, hopping and running in place.
- Children learn about whole grains and where they come from.

Supplies:

- Whole Grain Choo-Choo Train Book (available for download at www.floridahealth.gov/programs-and-services/wic/nutrition-materials/whole-grain-choo-choo-train/index.html)
- Packages of whole grain foods (try to include wheat, corn, and rice).
- Pictures of whole grains in the field (available for download here: http://www.floridahealth.gov/programs-and-services/childrens-health/child-care-food-program/nutrition/_documents/lesson-plans/lesson3.pdf)
- Multiple black and white copies of the four coloring pages: Bonita Brown Rice, Haley Whole Wheat Bread, Ollie Oatmeal, and Tito Soft Corn Tortilla; so that each child will have at least one coloring page (included in book download).
- Crayons

Directions:

1. Have the children sit in a circle. Show the children the cover of the "Choo Choo" book and discuss what they see on the cover. "What do you think this story is about?"



"Yes, it is about a train, whole wheat bread, oatmeal, brown rice and corn tortillas." Ask the children to tell the group if they have eaten one of these whole grains, or other whole grains.

2. Read the book to the group. Each time you read the part that says, "Choo-Choo Whole Grains," have the children make an up and down motion with their hands (like pulling a train whistle) and repeat with the leader the phrase, "Choo-Choo Whole Grains."
3. At the end of the book, bring out the pictures of whole grains in the field. Say, "Whole grains come from plants like wheat, corn, rice, and oats." Hold up a picture of the wheat field and say, "This is where wheat comes from." Then hold up a box or package of a whole wheat grain food and say, "This food started here (pointing to the picture of the wheat field)."
4. Repeat this with the corn and rice pictures and food packages.
5. Ask, "What whole grain foods do you like to eat for breakfast?" After children have responded, say, "When we eat whole grain foods we eat foods that are good for our growing bodies because whole grains have all (emphasize all) their vitamins. We know our bodies need foods that give us vitamins. When we eat whole grains we have energy to run, think, and play!"
6. Ask all of the children to stand up and do each of

Book Nook

Bread, Bread, Bread, by Ann Morris
Corn, by Gail Gibbons

The Wheat We Eat, by Allan Fowler
Pancakes, Pancakes!, by Eric Carle
The Little Red Hen, by Paul Galdone

Tick, Tock, the Popcorn Clock, by Jane Moncure
Anna's Corn, by Barbara Santucci
Everybody Bakes Bread, by Norah Dooley



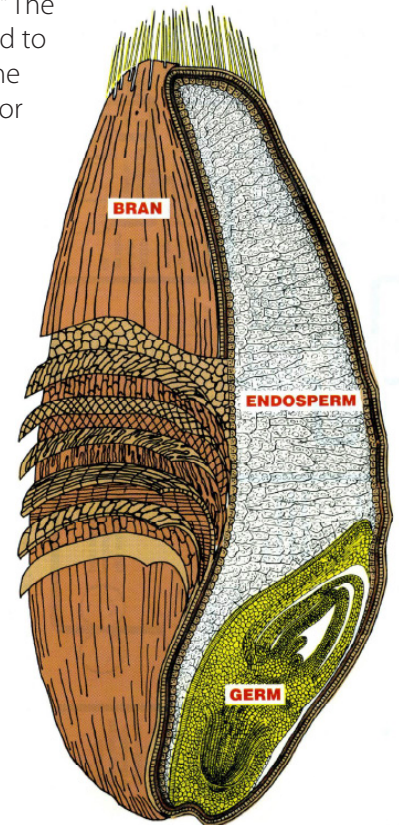
the motions from the book together as a group: hop, jump, run in place, turn around.

7. Lay out the coloring pages, and explain to the children the name of each of the characters, which they met in the book. Have each child select a coloring page and then have all of the children color their page. You can also ask children to use the back of the page to draw a whole grain food that they like to eat.

Taking the Fun Further

Grains on MyPlate: Have children color in the "Grains" section on MyPlate and draw the whole grain foods that they like to eat. You can find MyPlate at www.choosemyplate.gov.

Whole Grain Choo Choo Train Game: Have each child cut out one of the characters they colored in the earlier activity and glue it to construction paper to make a hat. The teacher says "We are going to play the Whole Grain Choo-Choo Train game. I am the head of the train and I am going to come around and ask you to get on board." The teacher then goes around to each child and says "Come on board Ollie Oatmeal (or whichever grain they are wearing on their hat)." Then each child stands behind the teacher and holds onto the waist of the child in front to them to make a train. The teacher can ask the children to say "Choo-Choo Whole Grains" as they go around picking up "whole grains".



Dig Deeper

For sources and photo credits along with more recipes, lessons, quick activities, resources, and guides, visit: mtharvestofthemonth.org.

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The Montana Harvest of the Month program showcases Montana grown foods in Montana communities. This program is a collaboration between Montana Farm to School, Office of Public Instruction, Montana Team Nutrition Program, National Center for Appropriate Technology, Montana State University Extension, Gallatin Valley Farm to School, FoodCorps Montana, and Montana Department of Agriculture. More information and resources are available at: mtharvestofthemonth.org.

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