The background of the slide is a photograph of a wheat field. The wheat stalks are golden-brown and are in the foreground, some in sharp focus and others blurred. The sky is a clear, bright blue, occupying the upper two-thirds of the image. The overall composition is simple and natural, emphasizing the theme of whole grains.

# **Cooking with Whole Grains and Pseudo Grains**

With Chef Jessica VanRoo  
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# What are Whole Grains?

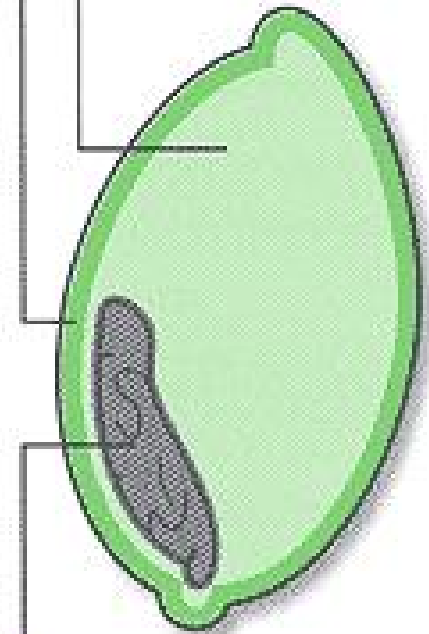
- A whole grain contains the bran, endosperm, and germ
- Non processed; such as cracked, pearled, rolled, cooked, etc. are not whole grains

## Bran

“Outer shell” protects seed  
*Fiber, B vitamins, trace minerals*

## Endosperm

Provides energy  
*Carbohydrates, protein*



## Germ

Nourishment for the seed  
*Antioxidants, vitamin E, B vitamins*



# What are Whole Grains?

## According to the American Whole Grains Council

- Amaranth\*
- Barley
- Buckwheat\*
- Corn, including whole cornmeal and popcorn
- Millet
- Oats, including oatmeal
- Quinoa\*
- Rice, both brown rice and colored rice
- Rye
- Sorghum (also called milo)
- Teff
- Triticale
- Wheat, including varieties such as spelt, emmer, farro, einkorn, Kamut®, durum and forms such as bulgur, cracked wheat and wheatberries
- Wild rice

\*psuedo grains

# What is the difference between Grains and Psuedo Grains?

- Psuedo grains taste like grains, are often used as a replacement
- Are not in the same family
  - Cereal grains are the seeds of grass: monocots
  - Psuedo grains are broadleaf plants seeds : dicots



Quinoa Plant



Wheat Plant



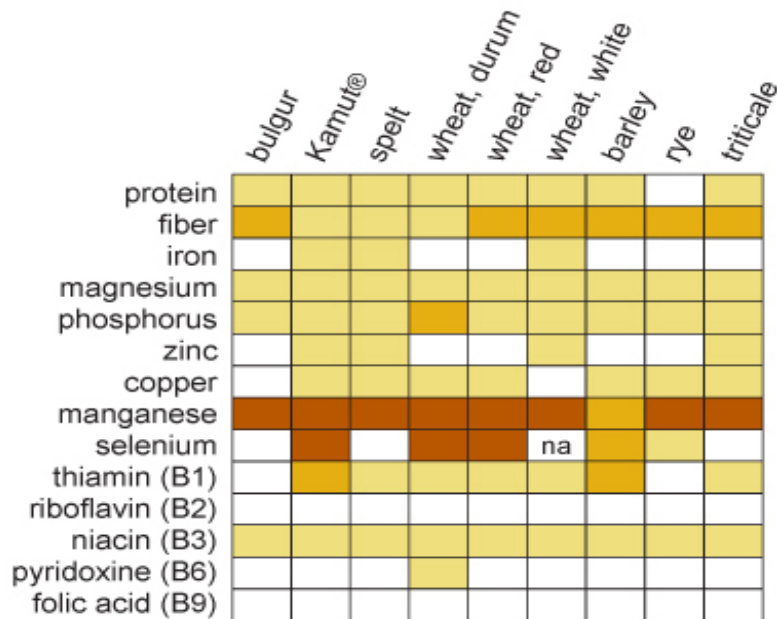
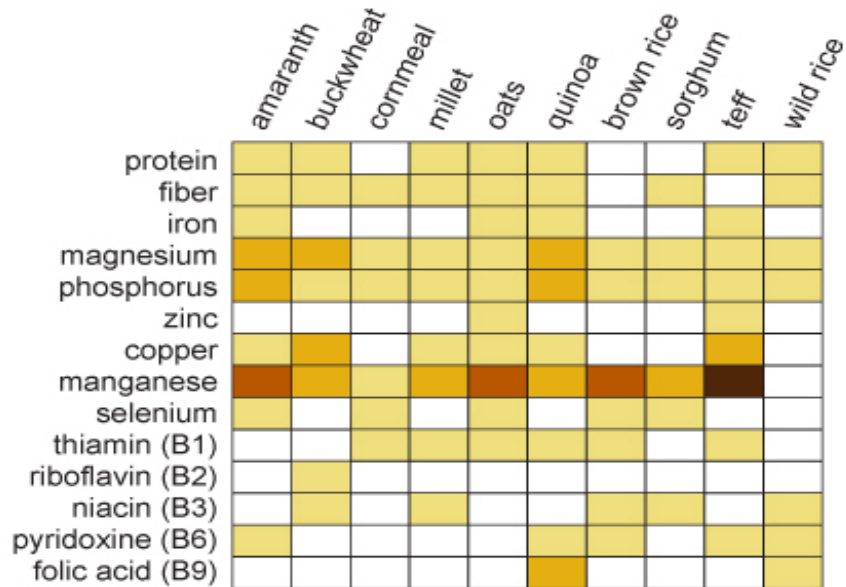
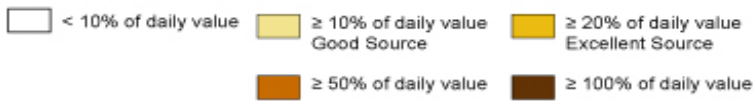
Amaranth Plant

## Nutrient content of common grain products

FOOD	SERVING SIZE	CALORIES	CARBS (g)	PROTEIN (g)	FAT (g)	FIBRE (g)	SODIUM (mg)	IRON (mg)
white bread	1 slice	93	18	3	1	0.8	238	1.3
whole wheat bread	1 slice	86	14	4.5	1	2.5	165	0.9
whole grain bread	1 slice	120	20	5	2	3	150	1
white rice, long grain	½ cup cooked	114	24	3	0	0.8	2	0.2
brown rice, long grain	½ cup cooked	115	24	3	1	1.5	5	0.4
white pasta	½ cup cooked	117	23	4	0.4	1	1	1
whole grain pasta	½ cup cooked	92	20	4	0.4	2.1	2	0.8
quinoa	½ cup cooked	88	16	3	1	2	5	1
buckwheat	½ cup cooked	82	18	3	0.5	2.5	4	0.7
oats	½ cup cooked	50	9	4	2	2.3	3	1.2
pearled barley	½ cup cooked	102	23	2	0.4	2	2	1.1
O's cereal	30 g	118	22	3.5	2	3.3	322	5.7
crisp rice cereal	30 g	115	25	2	0	0	332	4
flake bran cereal	30 g	115	24	3	0.7	4.5	261	4.3
popcorn	3 cups popped	100	3	3	1	3.5	3	0.8

■ indicates whole grain product

Source: Canadian Nutrient File, Health Canada



# All about wheat flours

- White whole wheat flour: A wheat that grows a white/ light bran, milder in flavor, 13%
- White all purpose flour: usually bleached, 8% to 11% protein
  - Look for unbleached in stores
- Whole wheat flour: the whole grain of wheat is used 8%-15% depending on type of wheat
- White/ Whole wheat bread flour : made with high protein wheat, has more gluten than all purpose, 12% to 14% protein
- Pastry flour/ Whole wheat pastry flour : used to make cookies, crusts, things that crumble, 9% to 10%
- Cake flours: high cornstarch content, baking delicate cakes, bleached, 8% to 10% protein
- Self-Rising flour: Low protein, has baking powder and salt added already, used to make quick breads

# Common terms

- Pelted/ Pearled: the outer layer has been removed
- Cracked: the kernels have been crushed
- Groats: When referring to buckwheat the whole form, when referring to other items means minimally processed
- Refined: germ and bran removed

THE BASIC STAMP	THE 100% STAMP
Product may contain some extra bran, germ, or refined flour.	For products where ALL of the grain is whole grain.
Minimum requirement: 8g (8 grams) whole grain per serving. (one half serving of whole grain)	Minimum requirement: 16g (16 grams) whole grain per serving. (a full serving of whole grain)





Grain	Ratio of Grain to Liquid (Cups)	Approximate Yield (Cups)	Cooking Time
Amaranth	1:1	1 ½	12-17 minutes
Barley, Whole Grain	1:4	4	1 hour
Buckwheat	1:2	4	20 minutes
Cornmeal, Whole Grain (Polenta)	1:3 ½	2 ½	35-40 minutes
Couscous, Whole Wheat	1:2	3	10 minutes (heat off)
Millet	1:2	3	30-35 minutes
Oats, Steel Cut	1:4	4	20 minutes
Pasta, Whole Wheat	1:6	Varies	Varies
Popcorn	1 no liquid	8	5 minutes with air popper
Quinoa	1:2	3 ½	10-12 minutes
Rice, Brown	1:2 ½	4	35-40 minutes
Rice, Wild	1:3	4	30-45 minutes
Spelt	1:1 ½	2	Soak overnight, 45 minutes
Triticale	1:3	2 ½	75 minutes
Wheat, Berries	1:4	2	1 hour, 15 minutes
Wheat, Bulgur	1:2 ½	2	15-20 minutes
Wheat, Cracked	1:2	3	20 minutes

Sources: Culinary Institute of America. (2008). *Techniques of Healthy Cooking*; Rombauer, IS, Becker MR, and Becker, E. (2006). *Joy of Cooking*; [www.wholegrainscouncil.org](http://www.wholegrainscouncil.org)

Grains with Gluten	Gluten FREE Grains
Wheat, including varieties like spelt, kamut, farro and durum; and products like bulgur, semolina	Amaranth
Barley	Buckwheat
Rye	Corn
Triticale	Millet
	Montina (Indian rice grass)
Oats*	Oats*
	Quinoa
	Rice
	Sorghum
	Teff
Wild Rice	

*\* "Oats are inherently gluten-free, but are frequently contaminated with wheat during growing or processing. "Whole Grain Council*

# Other Wheat Products

- **Wheat Bran:** High fiber part of the wheat, the most outer layer
- **Wheat Germ:** This is the part of the wheat that is still living.
- **Wheat Germ Oil:** not really used for cooking because of taste



# Reading Labels

- Multigrain; more than one type for grain can be used some of which can be processed or refined, look for “whole grain” as the first ingredient
- Other ways to call white flour: wheat flour, refined flour, enriched flour
- Whole grains doesn't always mean fiber
- When looking for whole grain make sure it says 100% whole grain
- “Made with whole grains”
- “Stone Ground”

# How to Store and Reheat Grains

## Store

- Raw: in refrigerator, freezer or dark place in a sealed package
- Cooked: freezer for up to 3 months or refrigerator for 2 days
  - Cool fully before freezing or refrigerating
  - Place in individual packages and label
- Grains That Freeze Well:
  - Barley
  - Buckwheat
  - Millet
  - Quinoa
  - Rice and Brown Rice
  - Rye and Wheat Berries
  - Bulgur Wheat
  - Farro

## Reheat

- Microwave covered with a little water until heated through
- Serve as salad cold
- For whole grains reheat on a seasoned cast iron pan or nonstick pan with a little water and oil

## Whole Grain Baked Chicken Strips

### For Chicken

1 lb chicken tenders or boneless skinless chicken breast, cut into strips  
1/2 cup buttermilk  
1 teaspoon granulated garlic  
1/2 teaspoon kosher salt

### For Coating

15 whole grain crackers, crushed  
1/3 cup rolled oats  
Seasoning of choice

Serves 4

1. Preheat the oven to 400 degrees.
2. In a large bowl toss the eggplant and onion with olive oil, Italian seasoning, and salt. Pour the vegetables into a roasting dish and roast for 30- 40 minutes or until browned. Stir halfway through the cooking process to ensure even color.
3. In a medium bowl combine the eggplant with the remaining ingredients except the mixed greens.
4. Place mixed greens on serving platter and top with eggplant mixture.
5. For dressing combine all the ingredients, blend well, season and serve with salad.

# Roasted Eggplant Wheat Berry Salad with Tomato Vinaigrette

## For Salad

1 medium eggplant, medium dice  
1 onion, diced  
1 teaspoon olive oil  
2 teaspoon Italian seasoning  
1/2 teaspoon salt  
2/3 cup wheat berries, cooked according to package,  
and cooled  
1 cup cooked and rinsed white beans  
1/4 cup basil, chopped  
2 Persian cucumbers, diced  
6- 8 oz mixed greens

## For Dressing

2 cloves garlic, peeled  
1 ripe tomato, peeled and deseeded  
1/2 teaspoon honey  
2 teaspoons red wine vinegar  
1/4 cup olive oil  
Salt and pepper to taste

## Serves 6

1. Marinate Chicken with buttermilk, garlic and salt for at least 1 hour and up to 24 hours.
2. Preheat your oven to 400 degrees
3. Prepare a baking tray by lining it with parchment or foil. Spray with cooking spray.
4. Combine cracker crumbs and oats together in a Ziploc bag
5. Remove a couple strips of marinated chicken, allowing the marinate to drip off. Add the chicken into the oat mixture, toss and remove from the bag.
6. Line on baking sheet and refrigerate the chicken for 30 minutes.
7. Remove the chicken from the fridge and bake for 20- 30 minutes, or until cooked through. (165 degrees)
8. To get an extra crispy crust place chicken strips under the broiler for a couple of minutes before serving.
9. .

# Sundried Tomato, Buckwheat and Amaranth Cake

Makes 20- 24

2 teaspoons oil divided into 1 teaspoon and 1 teaspoon

1/3 cup diced onion

2 cloves garlic, minced

1 1/2 cups buckwheat groats, cooked according to package and cooled

1/2 cup amaranth, cooked according to package and cooled

8 oz feta, crumbled

1/4 cup chopped parsley

1/4 cup chopped sun dried tomato in oil

3/4-1 1/2 cups rice flour, whole wheat flour, spelt flour, etc.

1. Heat the oil in a sauté pan over medium high heat. Add 1 teaspoon oil onion and garlic, cook until onions begin to brown. Remove from heat and set aside to cool.
2. Combine the cooked onion mixture, buckwheat, amaranth, feta, parsley and sun dried tomatoes.
3. Add 3/4 cup flour into the mixture and mix well, add more flour if the mixture does not bind. Form mixture into 20- 24 cakes.
4. Heat remaining oil in a pan and cook until cakes are browned. Keep warm in a 200 degree oven until ready to serve.



## Berry Oat Bran Muffins

Makes 12- 15 muffins

2 tablespoons flax seed meal

2 1/2 tablespoons boiling water

1/4 cup of milk

1 cup yogurt

2 tablespoons grapeseed oil

1/2 teaspoon vanilla extract

1 cup oat or wheat bran

1 cup flour

1 teaspoon baking powder

1/2 teaspoon baking soda

1/2 cup sugar

1/2 cup blueberries, fresh or frozen

1/2 cup raspberries, fresh or frozen

1. Preheat your oven to 350 degrees. Line a muffin tin with cupcake liners
2. In a small bowl combine the flaxseed meal and boiling water, mix until well incorporated. Refrigerate for at least 15 minutes.
3. In a small bowl combine the milk, yogurt, oil and vanilla, and flax seed mixture, mix well.
4. In a large bowl whisk the wheat bran, flour, baking powder, baking soda and sugar together.
5. Pour the milk mixture into the flour mixture and mix well.
6. Stir in berries.
7. Fill each lined muffin cup 1/3 full with batter, using ice cream scoop.
8. Bake for 15- 20 minutes, or until a toothpick inserted into the muffin comes out with a no crumbs.