

Whole Grains and the Gluten-Free Diet

© Carol Fenster, PhD, author of 1,000 *Gluten-Free Recipes*

www.CarolFensterCooks.com

© Shelley Case, RD, author of *Gluten-Free Diet: A Comprehensive Resource Guide*

www.glutenfreediet.ca

The National Institutes of Health (NIH) state that 1:100 or 3 million Americans have celiac disease, an autoimmune disorder where gluten inhibits the absorption of nutrients in food. The only treatment is a strict lifelong, gluten-free diet. People with non-celiac gluten sensitivity must also follow a gluten-free diet. Gluten is the general name for specific proteins found in the grains wheat, spelt, kamut, rye, triticale and barley.



What are Gluten-Free Whole Grains?

Gluten-free grains (also called cereals) are the seeds of plants and include brown rice, corn, Montana™ (Indiana ricegrass), millet, oats (pure, uncontaminated), sorghum, teff, and wild rice—as well as the pseudo-grains of amaranth, buckwheat and quinoa. A grain is “whole” when it is consumed in a form that includes the bran (outer layer and primary source of fiber), germ (the part that sprouts into a new plant) and endosperm (the bulk of the seed).

The Scoop on Oats

Until recently, oats were not allowed in the gluten-free diet because the protein in oats was thought to trigger the same toxic reaction as wheat and other gluten-containing grains. New research in Europe and the US over the past 16 years has revealed that eating moderate amounts of oats is safe for the majority of children and adults with celiac disease. Most of these studies used pure, uncontaminated oats, but it should be noted that a very small number of persons with celiac disease may not even tolerate pure oats. The mechanism causing this intolerance has yet to be established.

Based on this new research, a growing number of celiac organizations and health professionals around the world now allow consumption of moderate amounts of pure, uncontaminated oat products in the gluten-free diet. An extensive technical review on the safety of oats was published on Health Canada’s website. http://www.hc-sc.gc.ca/fn-an/securit/allerg/cel-coe/oats_cd-avoine_e.html

Unfortunately, the majority of commercial oats products on the market are cross-contaminated with wheat, barley or rye which occurs during harvesting, transporting, storing, milling, processing and packaging. The good news is that there are companies in the US, Canada and Europe who produce pure, uncontaminated specialty oat products. The North American companies are Bob’s Red Mill, Cream Hill Estates, Avena Foods (Only Oats™), Gifts of Nature, GF Harvest (formerly Gluten Free Oats) and Legacy Valley (Montana Monster Munchies).

Health Benefits of Whole Grains in a Gluten-Free Diet

People who regularly eat whole grains have a lower risk of obesity, lower cholesterol levels and a reduced risk of heart disease, stroke, type 2 diabetes and cancer. The USDA and the Whole Grains Council recommend 3 to 5 servings of whole grains per day. Look for the yellow Whole Grains Stamp (<http://wholegrainscouncil.org/whole-grain-stamp>). Eating three whole grain food products labeled “100% Whole Grain”— or six products bearing ANY Whole Grain Stamp—satisfies the need for 3 to 5 servings per day.

Culinary Benefits and Ways to Add Whole Grains to a Gluten-Free Diet

Whole grains add chewy texture, intriguing flavor, visual appeal and greater variety to gluten-free meals. They can be an extra ingredient... or a replacement...or stand alone, as shown below:

- Add cooked buckwheat, oat groats, steel-cut oats, quinoa, sorghum or wild rice to rice pilaf
- Enrich soups with cooked brown rice, buckwheat, oat groats, quinoa, sorghum or wild rice
- Boost nutritional content of brownies, cakes and cookies with ¼ cup cooked amaranth or teff
- Sprinkle cooked whole grains over mixed green salads
- Toss cooked whole grains with gluten-free pasta
- Cook whole grains in a slow-cooker overnight for a hearty breakfast (see page 5)
- Dress cold cooked whole grains with pesto or a zesty salad dressing for tabbouleh (see page 4)
- Blend cooked oat groats or brown rice with black beans or pinto beans in Southwestern dishes
- Extend hamburger patties or meat loaf with gluten-free rolled oats or cooked brown rice, quinoa, amaranth or teff
- Replace ¼ of the cornmeal with teff grains for a cornmeal-teff polenta
- Add cooked amaranth, quinoa or teff to puddings for interesting texture
- Cook hot cereal for breakfast from *Ancient Harvest* quinoa flakes, *Bob's Red Mill* Mighty Tasty GF Hot Cereal, *The Birkett Mills'* buckwheat flakes or gluten-free rolled oats (see page 7)
- Use quinoa flakes, gluten-free rolled oats or gluten-free cold cereals and granolas to top fruit crisps
- Choose pasta that is made with quinoa (e.g., *Ancient Harvest*, *GoGo Quinoa*) or added rice bran (e.g., *Tinkyada*, *DeBoles GF Multi-Grain*)
- Choose baking flours such as amaranth, brown rice, buckwheat, *Montina*[™], quinoa, sorghum, teff or wild rice because they are ground from the whole grain
- Add cream of buckwheat cereal or rice bran to homemade breads
- Enjoy popcorn as a nutritious snack
- Choose whole grain crackers (e.g., *Mary's Gone Crackers*, *Crunchmaster Multi-Grain Crackers*)

Nutrient Composition of Gluten-Free Whole Grains Compared to Whole Grain Wheat

Raw Grain (1 cup)	Thiamin mg	Riboflavin mg	Niacin mg	Folate mcg	Calcium mg	Iron mg	Magnesium mg	Zinc mg	Protein g	Fiber g
Amaranth	0.16	0.41	2.5	96	298	14.8	519	6.2	28.2	18.1
Brown Rice	0.74	0.17	9.4	37	43	2.7	265	3.7	14.7	6.5
Buckwheat										
Groats	0.37	0.44	8.4	69	28	4.1	362	4.0	19.2	16.9
Corn Grits (yellow, enriched)	0.99	0.59	7.7	320	3	6.1	42	0.6	13.7	2.5
Millet	0.84	0.58	9.4	170	16	6.0	228	3.4	22.0	17.0
Oat Groats*	1.19	0.22	1.5	87	84	7.4	276	6.2	26.4	16.5
Quinoa	0.34	0.67	5.0	83	102	15.7	357	5.6	22.3	10.0
Sorghum	0.46	0.27	5.6	38	54	8.5	365	3.0	21.7	12.1
Teff	0.70	0.20	2.7	135	331	12.1	342	8.8	21.8	11.2
Wild Rice	0.18	0.42	10.8	152	34	3.1	283	9.5	23.6	9.9
Bulgur (quick cooking whole wheat)	0.32	0.16	7.16	38	49	3.4	230	2.7	17.2	25.6

* choose pure, uncontaminated, gluten-free oat groats

Nutrient composition data from:

1. **Gluten-Free Diet: A Comprehensive Resource Guide** - Expanded Edition, 2010 by Shelley Case, RD. www.glutenfreediet.ca (Amaranth, buckwheat, millet, quinoa, sorghum, teff and wild rice)
2. **USDA National Nutrient Database for Standard Reference** at www.nal.usda.gov/fnic/foodcomp/search/ (Corn grits, oat groats, and bulgur)

How to Cook Whole Grains

Reprinted with permission from *1000 Gluten-Free Recipes* by Carol Fenster, PhD (Wiley, 2008)

(Cooking times may vary by altitude and manufacturer. Season to taste with salt, pepper, or your favorite herbs and spices.)

Grain (1 cup)	Boiling Water or Broth	Approximate Cooking Time
Amaranth ¹	2 cups	20-25 minutes
Brown rice	2½ cups	50-55 minutes
Buckwheat ²	2 cups	15-20 minutes
Oat Groats ³	3 cups	40-45 minutes
Millet Grits/Meal ⁴	3 cups	10-15 minutes
Millet (Whole Grain)	4 cups	35-40 minutes
Polenta (Corn) Grits	4 cups	10 minutes
Quinoa ⁵	2 cups	15-20 minutes
Sorghum ⁶ (soak overnight)	2 cups	45-60 minutes
Steel-Cut Oats ⁷	4 cups	10-15 minutes (rinse with hot water)
Teff ⁸	3 cups	10-15 minutes
Wild Rice	4 cups	40 minutes

These whole grains are available at health food stores or online at:

1. www.nuworldamaranth.com, www.gogoquinoa.com
2. www.bobsredmill.com, www.thebirkettmills.com
3. www.creamhillestates.com, www.onlyoats.com, www.mtmonstermunchies.com, www.gfharvest.com
4. www.bobsredmill.com
5. www.bobsredmill.com, www.quinoa.com, www.quinoa.net, www.gogoquinoa.com
6. www.twinvalleymills.com, www.shilohfarms.com
7. www.bobsredmill.com, www.onlyoats.com
8. www.bobsredmill.com, www.teffco.com

Quinoa Tabbouleh

Adapted from *1,000 Gluten-Free Recipes* by Carol Fenster, PhD (Wiley, 2008)

Most of the quinoa we buy today has already been rinsed to rid it of the bitter saponin coating, particularly if it is from Bob's Red Mill or www.quinoa.com, www.quinoa.net or imported through Inca Organics. If you're not sure about the source, rinse it in a sieve until the water runs clear. Saponin, a natural coating that wards off birds and insects, won't hurt humans but the quinoa tastes better without it.

To cook quinoa

1 teaspoon canola oil
1 cup uncooked quinoa, rinsed twice
½ teaspoon table salt
1 can (14.5 ounces) or 1¾ cups gluten-free, low-sodium chicken broth (Swanson's Natural Goodness)
¾ cup water

Tabbouleh

¼ cup shelled raw pumpkin seeds
1 English (hothouse) cucumber, unpeeled and finely diced
3 green onions, thinly sliced
1 small red bell pepper, cored, seeded, and finely diced
1 small yellow bell pepper, cored, seeded, and finely diced
½ cup chopped fresh parsley
½ cup chopped fresh cilantro
¼ cup chopped fresh mint
¼ cup crumbled feta cheese (optional)

Dressing and Garnish

3 tablespoons fresh lemon juice
2 tablespoons extra-virgin olive oil
1 tablespoon white wine vinegar or rice vinegar
¼ teaspoon table salt
1/8 teaspoon white pepper
Fresh mint or parsley sprigs for garnish

1. Heat the oil in a medium saucepan over medium heat and toast the quinoa about 4 minutes, shaking the skillet occasionally, until the seeds are light golden brown.
2. Add the chicken broth and water, reduce the heat to low, and cook 15 to 20 minutes, covered, or until the quinoa is tender. Remove from heat and cool 10 minutes. Drain the quinoa well.
3. Combine the cooked quinoa and remaining tabbouleh ingredients except feta cheese in a large serving bowl.
4. Combine the dressing ingredients (except fresh mint or parsley) in screw-top jar and shake vigorously to blend. Pour over quinoa mixture and toss until all the ingredients are thoroughly coated. Cover the bowl and refrigerate 4 hours. Let stand at room temperature 20 minutes before serving. Toss with the feta cheese just before serving. Garnish with fresh mint or parsley. Serves 6.

Shelley Case's High-Fiber Hot Cereal

Reprinted with permission from *Gluten-Free Diet: A Comprehensive Resource Guide*
by Shelley Case, RD (Case Nutrition Consulting Inc., Expanded Edition, 2010)

This quick, heart-healthy breakfast is packed with fiber and omega-3 fatty acids. Add a spoonful of brown sugar, chopped nuts and/or dried apricots or raisins for more flavor and extra nutrients

3 tablespoons flax seed meal (ground flax)*
3 tablespoons Cream of Brown Rice Hot Cereal
1 1/3 cups water
Dash of vanilla

1. Combine the first 3 ingredients in a medium-to-large glass bowl.
2. Cook on high in a microwave for 3 to 4 minutes, or until thick and creamy. Stir in vanilla. Serve with brown sugar, nuts and/or dried fruits.

*As flax is very high in fiber, it is important to gradually introduce it in small portions until tolerated. Start with 5 tablespoons hot cereal and 1 to 3 teaspoons of ground flax initially and then gradually work up to 3 tbsp. flax and 3 tbsp. hot cereal.

Variations:

Substitute Creamy Buckwheat Hot Cereal or Bob's Red Mill Mighty Tasty Gluten-Free Hot Cereal™ for the Brown Rice Hot Cereal.

Nutritional Analysis: 1 serving = 1 cup

	Brown Rice Hot Cereal	Creamy Buckwheat Hot Cereal	Bob's Red Mill Mighty Tasty Hot Cereal
Calories (kcal)	225	217	225
Carbohydrates (g)	30	29	29
Dietary Fiber (g)	7	8	9
Fat (g)	10	10	10
Protein (g)	6	8	7
Iron (mg)	1.2	1.2	1.2
Calcium (mg)	60	60	60
Sodium (mg)	16	13	16

Slow Cooker Whole Grain Porridge

Reprinted with permission from *Gluten-Free Quick & Easy* by Carol Fenster, PhD, (Avery/Penguin Group, 2007)

Cooked whole grains are an excellent way to start the day, but if you don't have time in the morning to cook whole grains on the stovetop, use your slow cooker to make porridge overnight. Coat the liner with cooking spray, use a ratio of 1 cup grain to 3½ to 4 cups water or broth, and cook on Low overnight for 8 to 12 hours. Serve with dried fruit, nuts, and honey, cinnamon, maple syrup, and agave nectar or your favorite sweetener.

Warm Millet Salad

Reprinted with permission from *125 Gluten-Free Vegetarian Recipes*
by Carol Fenster, PhD (Avery/Penguin Group, 2011)

Although we call it a grain, millet is a grass seed that is very high in protein, and due to its high alkalinity, it is one of the easier grains to digest. I feel it is one of our more underutilized gluten-free grains, so incorporate this easy, tasty dish into your diet and you'll be doing yourself a favor.

3½ cups GF store-bought vegetable broth, such as *Imagine No-Chicken*
1 cup whole-grain millet
1 tablespoon chopped fresh rosemary
½ teaspoon sea salt
2 tablespoons olive oil
1 small onion, diced
1 celery rib, diced
¼ cup dried cranberries
¼ cup sherry vinegar
2 tablespoons agave nectar or honey
½ cup seedless green or red grapes
¼ cup walnuts, coarsely chopped
Salt and pepper to taste

1. In a medium, heavy saucepan, bring the broth to a boil. Add the millet, rosemary, and salt and cook, covered, over low heat until the grains are soft, about 35 to 40 minutes. Drain any excess liquid.
2. Meanwhile, in a large, heavy saucepan heat the olive oil over medium heat. Add the onion and celery and cook, covered, over medium-low heat about 5 minutes, or just until the vegetables are somewhat softened.
3. Add the cooked millet mixture, cranberries, vinegar, and agave to the saucepan and stir to coat the grains thoroughly. Stir in grapes and walnuts, and add salt and pepper to taste. Serve warm. Serves 4

Providers of Gluten-Free Whole Grains*

www.amazinggrains.com
www.arrowheadmills.com
www.bobsredmill.com
www.thebirkettmills.com
www.creamhillestates.com
www.giftsofnature.net
www.glutenfree.com
www.glutenfreemall.com
www.gfharvest.com (www.glutenfreeoats.com)
www.glutensolutions.com
www.gogoquinoa.com
www.lundberg.com
www.mtmonstermunchies.com
www.onlyoats.com
www.quinoa.com
www.quinoa.net
www.nuworldamaranth.com
www.teffco.com
www.twinvalleymills.com

*These are examples of companies that produce or sell gluten-free whole grains.

For More Information and Recipes about Using Whole Grains in the Gluten-Free Diet

125 Gluten-Free Vegetarian Recipes by Carol Fenster (Avery/Penguin Group, 2011)
100 Best Gluten-Free Recipes by Carol Fenster (Wiley, 2010)
1,000 Gluten-Free Recipes by Carol Fenster, PhD (Wiley, 2008)
Gluten-Free Quick & Easy by Carol Fenster, PhD (Avery/Penguin Group, 2007)
Gluten-Free 101 by Carol Fenster, PhD (Savory Palate, 2006)
Cooking Free by Carol Fenster, PhD (Avery/Penguin Group, 2005)
Gluten-Free Diet: A Comprehensive Resource Guide by Shelley Case, RD
(Case Nutrition Consulting Inc., Expanded Edition, 2010)
American Dietetic Association Easy Gluten-Free by Tricia Thompson, MS, RD and
Marlisa Brown, MS, RD, (Wiley 2010)
Gluten-Free Makeovers by Beth Hillson (Da Capo Lifelong Books, 2011)
The Wheat-Free Cook by Jacqueline Mallorca (William Morrow, 2007)
Complete Gluten-Free Cookbook by Donna Washburn and Heather Butt (Robert Rose, 2007)
Best Gluten-Free Family Cookbook by Donna Washburn and Heather Butt (Robert Rose, 2005)
Wheat-Free Recipes & Menus by Carol Fenster, PhD (Avery/Penguin Group, 2004)
Food Allergy Survival Guide by Vesanto Melina, MS, RD, Jo Stepaniak, MEd,
Dina Aronson, MS, RD (Healthy Living Publications, 2004)
Gluten-Free Friends by Nancy Patin Falini, RD (Savory Palate, 2003) – book for kids

For More Information on Whole Grains

www.wholegrainscouncil.org
www.mypyramid.gov
www.healthierus.gov/dietaryguidelines