

# Eating Gluten-Free

Gluten-free diets have become popular in recent years and celebrities often promote them for their health benefits.

## What is gluten and why are people avoiding it?

Gluten is a term for proteins found in certain grains like wheat, barley, rye and triticale (a wheat-rye hybrid). When mixed with liquid and manipulated, the proteins form an elastic substance that gives structure to flour mixtures such as bread.

For most people, eating gluten-free is a choice. For people with celiac disease it is a necessity. When a person with celiac disease eats gluten,

his/her immune system responds by attacking the lining of the small intestine. The small, fingerlike growths in the intestine, called villi, are damaged in the process and are not able to absorb the important nutrients needed for health. This increases the risk for nutrient deficiency diseases like bone disease and anemia.

It is estimated that around 1 percent of the US population has celiac disease. Another 5 to 10 percent of the population may have some degree of gluten intolerance or sensitivity. Non-celiac gluten sensitivity does not result in damage to the digestive tract, but it can cause a range of uncomfortable symptoms similar to those of celiac disease.

## Naturally Gluten-free Foods

The following list provides examples of naturally gluten-free foods. This is not a complete list.

- Amaranth
- Arrowroot
- Buckwheat
- Beans, plain
- Cassava
- Corn
- Dairy: plain milk, butter, cream
- Flax
- Fresh Eggs
- Fresh fruits
- Fresh meats, poultry, fish
- Fresh vegetables
- Indian rice grass
- Job's tears
- Legumes
- Millet
- Nuts
- Oils
- Quinoa
- Rice
- Sago
- Seeds
- Sorghum
- Soy
- Spices and herbs
- Sugar, honey, molasses
- Tapioca
- Wild Rice



## What are the symptoms of celiac disease?

Symptoms of celiac disease include: stomach pain, gas, diarrhea, extreme tiredness, change in mood, slowed growth, itchy skin rash with blisters, and weight loss.

The only treatment for celiac disease is a gluten-free diet. Avoiding gluten will allow the small intestine to heal. Eating foods that contain gluten will continue to harm the small intestine.

For people who do not have celiac disease, gluten intolerance or gluten sensitivity, a gluten-free diet doesn't provide any health benefit. The whole grains that contain gluten are a good source of fiber, vitamins and minerals. People following gluten-free diets may not get enough fiber, iron, folate, niacin, thiamine, calcium, vitamin B12, phosphorus or zinc and may need to take supplements.



People who do not have celiac disease but follow a gluten-free diet may lose weight and feel better because they have cut out foods made with refined grains like desserts, snack foods and other processed foods.

If you eliminate wheat and other gluten-containing foods from your diet, make sure to replace them with naturally gluten-free whole grains, such as rice, quinoa or buckwheat. Balance your diet with lots of fruits, vegetables, lean meat and low-fat dairy products.

The FDA recently issued its final rule defining "gluten-free." A food may be labeled "gluten-free" if it contains less than 20 parts per million (ppm) gluten. The less than 20 ppm standard is based in part on the lowest level at which currently available test methods can reliably detect gluten and is consistent with the 20 ppm standard adopted by the European Union.

## Foods that Contain Gluten

- **Wheat:** including einkorn, emmer, spelt, kamut, wheat starch, wheat bran, wheat germ, cracked wheat, hydrolyzed wheat protein
- **Triticale** (a cross between wheat and rye)
- **Barley**
- **Rye**

### Ingredients That Contain Gluten

For people with celiac disease and gluten intolerance, it is important to pay attention to ingredients in foods. Many packaged foods can contain gluten in ingredients added during processing. Reading food labels can help you identify gluten-containing foods. In addition to the words above, look for the following words in the ingredient list:

- Bromated flour
- Durum flour
- Enriched flour
- Farina
- Graham flour
- Malt
- Modified food starch
- Phosphated flour
- Plain flour
- Self-rising flour
- Semolina
- White flour

### Processed Foods That May Contain Gluten

- Bouillon cubes
- Brown rice syrup
- Chips/potato chips
- Candy
- Cold cuts, hot dogs, sausage
- Communion wafer
- French fries
- Gravy
- Imitation fish
- Matzo
- Rice mixes
- Sauces
- Seasoned tortilla chips
- Self-basting turkey
- Soups
- Soy sauce
- Vegetables in sauce

Certain grains, such as oats, can be contaminated with wheat during growing and processing. Doctors and dietitians generally recommend that people with celiac disease avoid oats unless they are specifically labeled gluten-free.



Fortunately, for people with celiac disease, there are gluten-free options in the marketplace. These products often cost more and may be higher in calories, carbohydrates, fat, and sodium and lower in fiber than the regular products, but they can help with management of the disease.

Many grocery and health food stores sell gluten-free products. If you do not see them on the shelf, talk to the manager to see if they might be willing to carry these items. Lots of restaurants are now making gluten-free options available to their customers and labeling their menus accordingly.

## Resources

There are multiple resources available for those with gluten sensitivity or celiac disease. These websites may be helpful in adapting to a gluten-free diet.

- [www.celiac.nih.gov](http://www.celiac.nih.gov)
- [www.americanceiliacsociety.org](http://www.americanceiliacsociety.org)
- [www.celiac.org](http://www.celiac.org)
- [www.csaceliacs.info](http://www.csaceliacs.info)
- [www.gluten.net](http://www.gluten.net)

For smart phones users, there is also a new mobile app for gluten-free eaters. The app is called The Gluten Detective can be used to identify gluten-containing ingredients in food items at the grocery store.



## Gluten-Free Herb Cheese Bread

### Ingredients

3 c. rice flour, divided	2 tbsp. chopped	3 eggs
1 c. brown rice flour	fresh thyme (or	2 c. shredded sharp
¼ c. dry milk powder	2 teaspoons dried)	Cheddar cheese
2 tbsp. minced onion flakes	1½ tsp. xanthan gum	1¾ c. water
2 tbsp. sugar	1¼-oz. package gluten-free	3 tbsp. vegetable oil
2 tbsp. chopped fresh	quick rise yeast	
rosemary, (or 2 tsp. dried)	1 tsp. salt	

### Preparation

Combine 2 cups rice flour, brown rice flour, dry milk, onion, sugar, rosemary, thyme, xanthan gum, yeast and salt in large bowl. Combine eggs, cheese, water and oil in medium bowl; mix well. Pour mixture into dry ingredients; stir until well blended. Stir in remaining cup rice flour to make stiff dough. Cover bowl; let rest 10 minutes. Turn onto floured surface; knead 5 minutes, using only as much extra flour as needed to keep dough from sticking. Divide dough into 2 equal pieces. Shape each piece into one loaf. Place in lightly greased loaf pans. Let rise in warm place 40 minutes. Bake at 375 degrees 40 minutes, or until golden brown on top. Cool completely on wire rack.

*Makes 2 loaves. Serving size: 1/2 inch slice; Calories 131; Total Fat: 6g; Cholesterol: 38mg; Sodium: 175mg; Total Carbohydrate: 15g; Protein: 5g*



## Gluten-Free Cornbread

### Ingredients

¼ c. butter, softened	1 c. Gluten-Free Flour
3 tbsp. sugar	Blend (see below)
2 eggs	½ c. yellow cornmeal
½ c. reduced-fat sour cream	2 tsp. gluten-free baking powder
½ c. fat-free milk	½ tsp. salt

### Preparation

Heat oven to 425°F. Combine softened butter and sugar in large bowl. Beat at medium speed, scraping bowl often, until creamy. Add eggs; mix well. Stir in sour cream and milk. Reduce speed to low; add all remaining ingredients. Beat just until mixed. Pour batter into greased 8-inch square baking pan. Bake for 18 to 22 minutes or until golden brown and toothpick inserted in center comes out clean. Serve warm.

**Gluten-Free Flour Blend:** Combine 2 cups brown rice flour, ⅓ cup potato starch, ⅓ cup tapioca flour and 1 teaspoon xanthan gum. Use appropriate amount for recipe; store remainder in container with tight-fitting lid. Stir before using.

*Makes 9 servings. Serving size: 1/9 recipe; Calories 197; Fat: 8g; Cholesterol: 66mg; Sodium: 309mg; Carbohydrates: 26g; Dietary Fiber: 2g; Protein: 4g*

