Let's Talk About...

Wheat allergy

What is a wheat allergy?

A wheat allergy is an immune reaction to protein in wheat. Children with wheat allergies may also be sensitive to other cereal products. Most of us eat wheat in some form every day, which can make diet changes challenging. However, there are many other grains that can be used in place of wheat

Are celiac disease and wheat allergies the same thing?

Celiac disease and wheat allergy are two different conditions. Celiac disease is a permanent harmful reaction to gluten. Gluten is contained in some grains. The major grains that contain gluten are wheat, rye, and barley. Children with celiac disease will not lose their sensitivity to gluten and must avoid gluten-containing grains for life.

Children with a wheat allergy have an adverse reaction to wheat protein. They need to avoid wheat, but can eat other grains. Many children outgrow wheat allergies.

What should I look for on food labels?

Current labeling laws require food manufacturers to tell, on the product's label, if it contains wheat. Wheat must be listed even if it is present in colors, flavors, or spice blends. You should read all labels and the ingredient list. Wheat is easy to spot in baked goods, breads, cereals, and crackers. Other foods such as bologna, imitation crab meat, luncheon meats, salad dressings, and some ice cream may have hidden wheat.

See the table to the left for a list of different types of wheat you may see on a label.

How can my child eat out safely?

Eating out can be a challenge with a wheat allergy. Many foods have wheat products added as fillers or thickeners, or as a main ingredient. Here are some tips to remember when eating out:

- Inquire about all menu items and food preparation before ordering.
- Be aware of cross-contamination. For example: French fries cooked in the same oil used to fry onion rings, chicken nuggets, or other breaded items will contain wheat proteins.
- If meat is cooked on a grill that is also used for breaded items, ask if it can be cooked on a piece of aluminum foil or in a clean pan.
- Choose menu items that do not contain breading or sauces.
- Have your child's salad made without croutons
- Choose fruit as a dessert. Most desserts contain wheat.
- Tell friends the types of foods your child can eat.

Different types of wheat on a label

All purpose flour	Flour	Kamut
Bulgur	Germ	Cereal extract
Bran	Gluten	Modified food starch
Bread crumbs	Gluten flour	Pasta flour
All purpose flour	Flour	Kamut
Bulgur	Germ	Cereal extract
Bran	Gluten	Modified food starch
Bread crumbs	Gluten flour	Pasta flour
Cake flour	Graham flour	Semolina
Cereal binding	Gum base	Spelt
Couscous	Hydrolyzed vegetable protein	Triticale
Cracked wheat		Vegetable gums
Durum flour	Hydrolyzed plant protein	Vegetable starch
Edible starch		Wheat
Einkorn	Hydrolyzed wheat protein	Wheat flour
Farina		Wheat germ
Filler	Icing mixture	Whole-wheat

- When eating at a friend's house, offer to bring an item so that your child will have something to eat.

The National Restaurant Association has created a website, http://www.foodallergybuddy.com, to make eating out easier. You can create free dining cards to give to restaurant staff. The cards indicate the specific food allergy and foods to be avoided.

Wheat allergy food list

Wheat-free foods	Wheat-containing foods
Beverages and formula	
• Milk • Fruit Juice • Most carbonated drinks • Coffee • Tea	• Postum • Beer, gin, and some whiskeys
Dairy products	
• Cheese • Cottage cheese • Cream • Custards • Milk • Pudding • Yogurt	• All dairy products thickened with wheat flour or wheat starch
Eggs, meat, fish and poultry	
• All plain eggs, beef, chicken, fish, ham, lamb, pork, turkey, or veal without breading • Luncheon meats or cold cuts that are 100% meat without wheat fillers	• All breaded meats with wheat flour or wheat starches • All meats with wheat flour or wheat starch thickeners
Fruits	
• All baby food fruits without wheat flour or starch • All fresh fruits and juices • Canned and frozen fruits without wheat flour or starch	• All fruits, canned or frozen, with breading or thickened with wheat flour or wheat starch
Vegetables	
• All fresh, canned or frozen vegetables without wheat flour or starch	• All vegetables canned or frozen, with breading or thickened with wheat flour or wheat starch
Breads, cereals and pasta	
• Bread and rolls made with rice, potato, corn, or other non-wheat flours • Hot cereals such as cornmeal, oatmeal, or rice cereal • Cold cereals made from rice or corn; make sure wheat starch is not in the ingredient list • Crackers such as corn cakes, corn tortillas, rice cakes, and crackers • Pasta made with corn, rice, quinoa, or other non-wheat flour	• Commercial breads and rolls made with wheat flour • All hot wheat cereals • All cold cereals made from wheat grains • All wheat crackers • Teriyaki rice cakes • Flour tortillas • All wheat pasta and noodles
Soups	
• Clear soups and consommés without wheat flour or starch • Commercial or homemade soup with vegetables and rice without wheat flour or starch	• Any soups with noodles or pasta and thickened with wheat flour or wheat starch
Fats	
• Bacon • Butter, coconut butter, or nut butters without wheat thickeners • Mayonnaise (check label – some brands contain wheat) • Nuts • Oils and shortening • Pure chocolate • Salad dressings that are wheat free • Whipped topping	• Salad dressings thickened with wheat flour or starches • Packaged gravies, dips, and sauces with wheat thickeners

Wheat-free foods	Wheat-containing foods
Desserts	
• Wheat free cakes and cookies • Custards and pudding without wheat flour or starches • Frozen yogurts, sherbets, and ice cream without wheat starches or wheat flours	• All candy or other desserts with wheat flours or wheat starches • Commercial cakes, cookies, donuts, pies and pie filling, or mixes with wheat flours
Desserts (Continued)	
• Fruit roll-ups and fruit snacks without wheat thickeners • Fruit and flavored ices • Hard candy, chocolate, gummy candy, cinnamon bears, tootsie rolls, snickers, rolls, and gum without wheat thickeners • Homemade treats without wheat thickeners • Gelatin • Juice bars and Popsicle®	• Custards and pudding with wheat flour or starch • Licorice (modified food starch [MFS]) • Most packaged frostings (MFS) • Peanut M&Ms® **Note:** In the US most modified food starch is made from corn; however, check with the manufacturer to verify it does not contain wheat.
Condiments	
• Ketchup • Mustard • Pickles • Steak sauce	• Soy sauce
Miscellaneous	
• Coconut • Jams and jellies • Pure seasonings and herbs • Vanilla powder	• Monosodium glutamate (MSG) • Pure vanilla

How do I bake with wheat-free flour?

When baking with wheat-free flours, a combination of flours usually works best. Experiment with different blends to find one that will give you the texture you are trying to achieve.

For 1 cup of wheat flour substitute:

Amount	Flour
¾ cup	Garbanzo (chickpea) flour
1 cup	Millet flour
1 cup	Montina (Indian rice grass)
½ cup	Nuts (finely-ground)
¾ cup	Potato starch
1 cup	Quinoa flour
7/8 cup	Rice flour (brown/white)
1 cup	Sorghum flour
½ cup + ½ cup potato starch	Soy flour
7/8 cup	Sweet rice flour
1 cup	Tapioca flour
7/8 cup	Teff flour

Substitute 1 tablespoon (Tbsp) wheat flour with any of the following:

Amount	Flour
1 ½ teaspoon (tsp)	Arrowroot
1 Tbsp	Garbanzo/Fava flour
1 ½ tsp	Cornstarch
1 ½ tsp	Gelatin powder
1 Tbsp	Kudzu powder
1 ½ tsp	Potato starch
1 Tbsp	Sweet rice flour
1 Tbsp	Rice flour (brown/white)
1 ½ Tbsp	Tapioca flour
2 tsp	Quick-cooking tapioca
1 tsp	Xanthan gum

Flour blends

Try these flour blends as a substitute for wheat flour in your favorite recipes. For best results, use a little less than the recipe calls for.

- Rice Flour Blend (#1)
  - — 3 cups brown rice flour
  - — 1 ¼ cups potato starch or cornstarch
  - — ¾ cup tapioca flour

- Bean Flour Blend (#2)
  - 2 cups potato starch or cornstarch
  - 1 2/3 cups garbanzo/fava flour
  - 2/3 cup tapioca flour
  - 2/3 cup sorghum flour
- Sorghum Flour Blend (#3)
  - 1 ½ cups sorghum flour
  - 1/½ cups potato starch
  - 1 cup tapioca flour
  - ½ cup corn flour*, chestnut flour, or bean flour
  - * Grind white cornmeal into flour with small coffee grinder

Menu Ideas	
Day 1	**Breakfast:** Corn flakes, Banana, Milk **Lunch:** Cottage cheese with fruit, Meat Sandwich on rice bread, Baby carrots, Milk **Dinner:** Wheat free chicken nuggets*, Green beans, Peaches, Wheat-free cheese biscuits*, Milk **Snack:** Rice cakes, String cheese
Day 2	**Breakfast:** Scrambled eggs, Hash browns, Wheat-free toast, Milk **Lunch:** Taco soup*, Orange, Corn tortilla chips, Milk **Dinner:** Baked fish fillets, Green salad, Wheat-free cornbread*, Sherbet, Milk **Snack:** Grape tomatoes, Cucumber slices, Wheat-free ranch dressing
Day 3	**Breakfast:** Wheat-free Pancakes*, Maple syrup, Strawberries, Milk **Lunch:** Wheat-free pizza*, Apple slices, Celery sticks, Milk **Dinner:** Grilled chicken or beef, Baked potato, Steamed vegetables, Grapes, Wheat-free chocolate chip cookie*, Milk **Snack:** Wheat-free granola bar
	* Indicates recipe included in this handout.

Recipes

Wheat-Free Chicken Nuggets

- 2 boneless, skinless chicken breasts, cut into nuggets (about 2" square)
- 1 egg
- ¾ cup coarse cornmeal or polenta
- ½ tsp of wheat-free seasoning mix or salt and pepper to taste

Preheat oven to 400 degrees F. Grease a large baking sheet. Beat egg in a bowl large enough to hold all of the chicken. Drop chicken into bowl and coat with egg. Place cornmeal or polenta in a large plastic bag add seasoning and then chicken. Seal bag and shake. Ensure that chicken pieces are well covered. Place coated chicken pieces on baking sheet. Bake 20-25 minutes or until golden and crispy.

Alternately, the chicken nuggets can be fried in canola oil in a large non-stick frying pan.

Taco Soup

- 1 small onion, chopped
- 1 pound hamburger
- 1 28 ounce can diced tomatoes
- 1 15 ounce can beans (black, pinto, kidney, etc.)
- 1 15 ounce can corn
- 1 15 ounce can chicken or beef broth
- 1 package wheat free taco seasoning OR
  - ½ tsp. dried oregano
  - ½ tsp. cumin
  - ½ tsp. chili powder
  - ½ tsp. black pepper
- Salt to taste
- Sour cream (optional)
- Cheddar Cheese, grated (optional)

In a large saucepan cook onion and hamburger. Add tomatoes beans, corn, and broth stir to combine; simmer until heated through. Stir in spice packet or seasonings. Serve with sour cream and cheddar cheese, and corn chips if desired.

Note: for a vegetarian version, omit hamburger and substitute vegetable broth for chicken or beef broth.

Cheese Biscuits

- 1 cup milk
- ½ cup corn meal
- 1 cup rice flour
- 1 Tbsp potato starch flour

- 4 tsp baking powder
- 1 tsp salt
- ¼ cup butter or margarine
- 1 ½ cups grated cheddar cheese

Preheat oven to 425° F. Grease baking sheet.Scald milk; add corn meal and beat well. Cool.Sift together dry ingredients. Cut in butter as for pastry. Add ¾ cup grated cheese and corn meal mixture. Mix thoroughly. Knead lightly on board dusted with rice flour. Roll dough to ½" thickness. Sprinkle with remaining ½ cup grated cheese. Roll up as for jelly roll. Cut into 12 slices. Place on baking sheet. Bake 20 minutes until lightly browned.

Basic Pancakes or Waffles

- 2 cups rice flour, or flour blend
- 1 Tbsp sugar
- 4 tsp baking powder
- 1 tsp salt
- 3 eggs
- 1 ½ cup milk
- ½ cup vegetable oil

Sift together dry ingredients. Beat together eggs, milk, and oil. Add to dry ingredients, mixing just until dry ingredients are moistened. Bake on hot, greased griddle or waffle iron.

Variations: Fold in 1/3 cup of any of the following: diced ham, bits of crisp bacon, raisins, chopped dates, slivered dried apricots, finely diced raw apple, or drained and chopped cooked prunes.

Waffles: Separate eggs and fold stiffly beaten whites into batter. Bake on waffle iron. Serve with sweetened berries or fruit.

Wheat-free Pizza Dough

- 1 Tbsp dry yeast
- 2/3 cup brown rice flour or bean flour
- ½ cup tapioca flour
- 2 Tbsp dry milk powder or non-dairy milk powder
- 2 tsp xanthan gum
- ½ tsp salt
- 1 tsp unflavored gelatin powder
- 1 tsp Italian herb seasoning
- 2/3 cup warm water (105 °F)
- ½ tsp sugar or ¼ tsp honey
- 1 tsp olive oil
- 1 tsp cider vinegar
- Cooking spray

Preheat oven to 425 °F. In medium bowl using regular beaters (not dough hooks), blend the yeast, flours, dry milk powder, xanthan gum, salt, gelatin powder, and Italian herb seasoning on low speed. Add warm water, sugar (or honey), olive oil, and vinegar. Beat on high speed for 3 minutes. (If the mixer bounces around the bowl, the dough is too stiff. Add water if necessary, 1 Tbsp at a time, until dough does not resist beaters.) The dough will resemble soft bread dough. (You may also mix in bread machine on dough setting.) Coat baking pan with cooking spray. Put mixture into 12-inch pizza pan or on baking sheet (for thin, crispy crust), 11 x 7-inch pan (for deep dish version). Liberally sprinkle rice flour onto dough, then press dough into pan, continuing to sprinkle dough with flour to prevent sticking to your hands. Make edges thicker to contain the toppings. Bake the pizza crust for 10 minutes. Remove from oven. Spread pizza crust with your favorite sauce and toppings. Bake for another 20–25 minutes or until top is nicely browned.

Rice Flour Yeast Bread

- 3 cups rice flour
- 5/8 cup (10 Tbsp) potato starch flour
- 2 packages dry yeast
- 2 Tbsp sugar
- 1 tsp salt
- 2 Tbsp baking powder
- 1 cup dry milk
- ¼ cup instant mashed potatoes
- 2 cups very hot tap water
- ¼ cup soft butter or margarine
- 4 eggs, beaten

Sift together flours; measure 2 cups into large mixer bowl. Add dry yeast, sugar, salt, baking powder, and dry milk. Mix thoroughly. Combine instant mashed

potatoes and hot tap water; whip lightly with a fork. Add potato mixture and soft butter to dry ingredients in mixer bowl. Beat 3 minutes on medium speed.Add remaining flour and eggs; beat 3 minutes on medium speed. Mixture will be like thick cake batter. Leave batter in bowl; cover and let rise in warm place for 1 hour. Batter will rise about 2″ depending on size of bowl. Beat just enough to remove large gas bubbles. Preheat oven to 325 ºF. Grease two 9″ x 5″ loaf pans. Pour batter into pans; cover and let rise 30 minutes. Bake 30–35 minutes until lightly browned. Especially good toasted.

Cornbread

- 1 ½ cups corn meal
- 3 Tbsp rice flour
- 1 tsp salt
- 1 Tbsp sugar
- 3 tsp baking powder
- 1 ½ cup water
- 3 eggs
- 2 Tbsp salad oil

Preheat oven to 450 °F. Grease 8" square baking pan. Sift together dry ingredients. Add water, eggs, and oil; mix just until dry ingredients are moistened. Pour into pan. Bake 20 minutes. Serve hot

Chocolate Chip Cookies

- 1 cup rice flour or flour mix
- ¾ cup potato starch flour (can use cornstarch)
- ½ cup margarine or shortening
- ¼ cup granulated sugar
- ¾ cup brown sugar
- 1 tsp. vanilla
- 1 package vanilla pudding (no wheat thickeners)
- 2 eggs

Combine margarine, sugars, vanilla, and pudding mix. Beat until smooth. Add eggs, beat a second time. Gradually add flours, soda, and chocolate chips. Drop dough by teaspoonfuls on greased cookie sheet. Bake at 375 °F for 6–8 minutes. Cool slightly before removing from cookie sheet.

Helpful books and websites

Books:

- Delicious, Healthful Eating for People with Food Sensitivities
  by Carol Fenster, PhD

Websites:

- The Food Allergy and Anaphylaxis Network: http://www.foodallergy.org
- Food Allergy Buddy: http://www.foodallergybuddy.com

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