

## Allergix<sup>SM</sup> IgG<sub>4</sub> Food Reaction Patient Guide

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# **IgG<sub>4</sub> Food Antibody Interpretation**

## **Overview:**

The Allergix<sup>SM</sup> family of test profiles includes IgG<sub>4</sub> food antibody profiles that can reveal food reactions due to intestinal permeability (leaky gut) issues. Because they are distinct from IgE-mediated allergies, we describe IgG<sub>4</sub> effects as “food sensitivities.” The profiles measure levels of IgG<sub>4</sub> antibodies that provide the clinician and patient with useful data to design appropriate diets that exclude the offending foods.

IgG<sub>4</sub> antibodies are associated with delayed hypersensitivity reactions, which are the most common—yet most difficult to detect—type of food reaction. These delayed or “hidden” food reactions can cause a variety of chronic symptoms. Since IgG<sub>4</sub> reactions occur several hours or even days later, there may be no obvious association between consuming a food and an adverse reaction. Food IgG<sub>4</sub> levels increase in response to the presence of the food antigens that penetrate a weakened intestinal barrier and enter the bloodstream, particularly with commonly eaten foods (e.g., corn, wheat, dairy, and egg). IgG<sub>4</sub> antibodies combine with specific food antigens to form food immune complexes, which cause the problems associated with delayed allergic responses. The complexes can cause inflammatory reactions at various sites in the body, including the small and large intestines, skin, kidneys, ears, sinuses, head, lungs, and joints.

## **Rotation Diet Benefits:**

**Whether you have food sensitivities or not, a rotation diet has many benefits:**

- prevents food addictions and allergies
- provides a variety of fresh, nutrient-rich, unprocessed foods
- cuts down on saturated and trans fatty acids, sodium, and refined sugars
- can prevent, and often times correct, digestive problems

## **Factors to Consider**

If you were on steroidal anti-inflammatory drugs or if you were not consuming a tested food, the test probably will not show a positive reaction. If you are already on an elimination diet due to known food reactions, a negative result on an IgG<sub>4</sub> food antibody profile does not necessarily mean you can freely eat the food without experiencing symptoms. Reintroduce any previously reactive foods with caution.

**As a guide to interpreting your food-specific IgG<sub>4</sub> results, this booklet includes:**

- Instructions for building your customized 4-day rotation diet based on your test results
- A dairy, wheat and egg-free 4-day rotation diet example
- A four-day rotation diet by food groups and families
- Dietary recommendations for common food sensitivities



## **Results Interpretation**

Your test results show the total amounts of IgG<sub>4</sub> antibodies that react to each food measured in the profile. The relative degrees of IgG<sub>4</sub> present for each food are reported as mild, moderate or severe, in addition to the quantitative levels. The results are ranked in classes of negative (blank “response” column) or +1 to +5 according to cutoff points shown. Foods sensitivity reactions may have one of several mediators, so it’s possible for you to react to certain foods even with low or negative levels of IgG<sub>4</sub>. The test results are still valuable since they may guide your clinician to look for non-immunological causes.

If your report has only a few +1 reactions, the data indicates a lack of IgG<sub>4</sub>-reactive food sensitivity or intestinal issues. Very strong reactions to only a few foods may simply be an indication that those foods are used excessively. In that case, the food elimination guides in this booklet can be useful for choosing alternatives. A report with many foods showing moderate or severe total IgG<sub>4</sub> elevations may reflect a chronic intestinal permeability problem. Progressive loosening of the junctions between intestinal cells can produce a “leaky gut” situation where undigested particles of food enter the blood in higher amounts. The solution for such problems is to eliminate highly reactive foods while rotating all other classes of food so that new food reactions do not appear, and the tight junctions of the intestinal cells can be restored.

The “leaky gut” phenomenon causes food antigens to permeate into the bloodstream where the immune system generates IgG<sub>4</sub> antibodies to protect against more dangerous types of reactions. The process of antibody production and removal causes a metabolic stress. Complete elimination of all highly reactive foods for one month, and rotation of ones with low levels, can relieve symptoms related to this type of food reaction. Avoiding reactive foods in this way will prevent IgG<sub>4</sub>-food antigen reactions that cause symptoms. If symptoms return after one month when normal eating habits are resumed, the elimination/rotation diet and nutritional support should be continued. This booklet will guide you about how to design your own customized elimination/rotation diet based on your test results.

Avoiding reactive foods may not completely heal the leaky gut because antibodies to whatever foods are consumed are formed at such high rates. Sometimes additional nutritional therapy is needed to improve the integrity of the intestine. Nutrients that have been found to be helpful include glutamine (3-6 grams daily between meals), pantothenic acid (1-3 grams daily), zinc (25-50 milligrams daily), vitamin A and essential fatty acids (both contained in cod liver oil - 1 tablespoon daily).

When numerous foods are taken out of the diet because they show significantly elevated total IgG levels, there is potential for protein deficiency, which is known to have a negative impact on the immune system and may, in turn, make symptoms worse. Protein deficiency may be avoided by using non-antigenic medical food substitutes or crystalline, pure free-form amino acid blends.



# **Building Your Customized Four-Day Rotation Diet**

The basic plan is to keep from challenging your system with the same foods by eliminating highly reactive foods and replacing them with ones from other food families and then rotating the food families that you use every four days.

## **Elimination of Foods:**

1. All foods classed as +2 or higher on your lab report should be eliminated for 4 weeks.
2. After 4 weeks, reintroduce each food one-at-a-time and wait one week before introducing the next food.
3. Record the date and time each food is eaten and any reactions or symptoms that occur.
4. If no reactions occur after 72 hours, add the food into the rotation diet. If adverse reactions are experienced, continue to eliminate the food and try to reintroduce it again in 2-4 weeks.
5. All foods that are categorized as mild should be eaten only once every four days.

## **Rotation Diet:**

1. Your rotation diet is divided into 4 days. Do not include any foods that showed moderate or severe reactions.
2. Start with Day 1 and after Day 4, go back to the Day 1 column for Day 5, and so on.
3. Consume a variety of foods including vegetables, fruits, and protein-rich foods daily for optimal nutrition.
4. Following this diet will assure that no one food is eaten more often than once every four days, which prevents food addictions and reactions.
5. Once you have reintroduced the moderate and severely reactive foods without experiencing any adverse reactions, you may incorporate them into one of the four days of your rotation diet.

## **Recommendations and Tips:**

- Read all food ingredient labels and become familiar with the many names a food may be called.
- Many commercially prepared foods and supplements have hidden additives like wheat, yeast, or egg by-products used as fillers.
- Keep a food symptom journal including time food eaten, amount of food eaten and any changes in attitude, alertness, aches, pains, skin, pulse, hearing, vision, and fatigue.
- Do not feel that you have to prepare more than one diet in your household. The rotation diet can benefit everyone by providing variety and decreasing the likelihood of developing food allergies.
- Avoid consuming canned, packaged, and/or fast foods. They contain many hidden, and possibly allergenic constituents and often lack wholesome ingredients.
- Include at least 3 different food groups at each meal for variety, satiety, and complete proteins.
- Unrefined, cold-pressed oils (safflower, olive, canola, sesame) are preferred, as they are less processed and contain less chemical additives and more flavor. Use organic brands if possible.
- Relax and chew your food well to break down food mechanically for digestion.
- Be aware that elimination of allergenic foods can sometimes cause withdrawal symptoms similar to the adverse effects of the allergy. These symptoms will subside in a few days, so stick with it.
- Do not fear, your food sensitivities are not usually permanent. The purpose of eliminating the antigenic foods is to allow time for the body to rest and repair itself so that once foods are reintroduced, no reaction occurs.



## **Your 4-Day Rotation Diet**

Fill in the blank diet form below to create your own personal rotation diet that includes foods appropriate to your tests results, excluding any high reaction foods. Try to include 2-4 fruits, 3-5 vegetables, 2-4 protein foods, and 2-3 whole grains per day. (Refer to the "4-Day Rotation of Foods by Groups and Families" for lists of related foods within food groups from which to pick.) Fresh fruits, nuts, seeds, and raw veggies make great snacks.

<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>	<b>Day 4</b>
<b>Breakfast:</b> <hr/> <hr/> <hr/>	<b>Breakfast:</b> <hr/> <hr/> <hr/>	<b>Breakfast:</b> <hr/> <hr/> <hr/>	<b>Breakfast:</b> <hr/> <hr/> <hr/>
Water (8-16 oz)	Water (8-16 oz)	Water (8-16 oz)	Water (8-16 oz)
<b>Lunch:</b> <hr/> <hr/> <hr/>	<b>Lunch:</b> <hr/> <hr/> <hr/>	<b>Lunch:</b> <hr/> <hr/> <hr/>	<b>Lunch:</b> <hr/> <hr/> <hr/>
Water (8-16 oz)	Water (8-16 oz)	Water (8-16 oz)	Water (8-16 oz)
<b>Dinner:</b> <hr/> <hr/> <hr/>	<b>Dinner:</b> <hr/> <hr/> <hr/>	<b>Dinner:</b> <hr/> <hr/> <hr/>	<b>Dinner:</b> <hr/> <hr/> <hr/>
Water (8-16 oz)	Water (8-16 oz)	Water (8-16 oz)	Water (8-16 oz)

### **Example of a Dairy, Wheat, and Egg-free 4-Day Rotation Diet**

In this example, the patient has high reactions to milk, egg, and wheat, so those foods have been excluded from this diet completely. This patient has a low reaction to rice and salmon, so those foods are included in the diet, but are only eaten once during a four day period.

<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>	<b>Day 4</b>
<b>Breakfast:</b> Buckwheat cereal with soy milk Grapefruit slices Banana	<b>Breakfast:</b> Oatmeal with raisins Chopped hazelnuts Rice milk Honeydew melon	<b>Breakfast:</b> Amaranth toast, walnuts, butter Blueberries Cranberry juice	<b>Breakfast:</b> Spelt toast with apricot preserves Fruit salad of peaches and plums Coffee
<b>Lunch:</b> Grilled chicken breast with pineapple slices Green beans Steamed parsnips	<b>Lunch:</b> Pork chops Sweet potato Cucumber salad Orange juice	<b>Lunch:</b> Salmon Steamed broccoli Apple slices and pecans	<b>Lunch:</b> Steak with onions and garlic Asparagus Baked Potato
<b>Dinner:</b> Tofu and vegetable (spinach, carrots, celery) stir fry over Quinoa	<b>Dinner:</b> Scallops and vegetables (bamboo shoots, mushrooms, zucchini) over wild rice Watermelon slices Grape juice	<b>Dinner:</b> Grilled white fish Salad of watercress and olives w/oil and vinegar Steamed cabbage	<b>Dinner:</b> Tomato sauce with beef over spelt pasta Artichoke Nectarines

# Your 4-Day Rotation Diet Template

Fill in the blank diet form below to create your own personal rotation diet that includes foods appropriate to your tests results, excluding any high reaction foods. Try to include 2-4 fruits, 3-5 vegetables, 2-4 protein foods, and 2-3 whole grains per day. (Refer to the "4-Day Rotation of Foods by Groups and Families" for lists of related foods within food groups from which to pick.) Fresh fruits, nuts, seeds, and raw veggies make great snacks.

For additional copies of this form please visit the patient center at [www.metametrix.com](http://www.metametrix.com).

## Day 1

### Breakfast:

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Water (8-16 oz)

### Lunch:

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Water (8-16 oz)

### Dinner:

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Water (8-16 oz)

## Day 2

### Breakfast:

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Water (8-16 oz)

### Lunch:

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Water (8-16 oz)

### Dinner:

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Water (8-16 oz)

## Day 3

### Breakfast:

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Water (8-16 oz)

### Lunch:

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---

---

Water (8-16 oz)

### Dinner:

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Water (8-16 oz)

## Day 4

### Breakfast:

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Water (8-16 oz)

### Lunch:

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Water (8-16 oz)

### Dinner:

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Water (8-16 oz)

## Day 1

### Breakfast:

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---

Water (8-16 oz)

### Lunch:

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---

Water (8-16 oz)

### Dinner:

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Water (8-16 oz)

## Day 2

### Breakfast:

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---

---

Water (8-16 oz)

### Lunch:

---

---

---

Water (8-16 oz)

### Dinner:

---

---

---

Water (8-16 oz)

## Day 3

### Breakfast:

---

---

---

Water (8-16 oz)

### Lunch:

---

---

---

Water (8-16 oz)

### Dinner:

---

---

---

Water (8-16 oz)

## Day 4

### Breakfast:

---

---

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Water (8-16 oz)

### Lunch:

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---

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Water (8-16 oz)

### Dinner:

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Water (8-16 oz)

## 4-Day Rotation of Foods by Groups and Families

This table illustrates how entire groups of related foods can be rotated so that they are eaten no more than every four days. Food families are shown in blue. If your test report showed reactivity to more than one food in a family, you may need to avoid the entire food family. Some choices of food in a family are not listed due to space restrictions. (Based on: J Am Diet Assoc 1998;98:1439-1444.)

Food Group	Day 1	Day 2	Day 3	Day 4
<b>Primary Protein</b>	<b>Bird:</b> chicken, turkey, duck, pheasant, all types of eggs <b>Ovis:</b> lamb, mutton, sheep <b>Legume:</b> tofu	<b>Swine:</b> pork, ham, bacon <b>Crustacean:</b> crab, shrimp, lobster, crayfish <b>Mollusk:</b> snail, squid, clam, oyster, scallop	<b>Fish:</b> saltwater, freshwater	<b>Bovine:</b> beef/bison, beef/bison products, milk and dairy products, such as butter, cheese, ice cream
<b>Vegetables</b>	<b>Parsley:</b> carrots, celery, parsley, parsnips, fennel <b>Sedge:</b> water chestnuts <b>Legume:</b> green beans, peas, navy beans, etc. <b>Goosefoot:</b> spinach, beet, chard, beetroot, sugar beet	<b>Morning Glory:</b> sweet potato, yam <b>Gourd:</b> cucumber, squashes, pumpkin, casaba, zucchini, marrow <b>Fungi:</b> mushrooms, truffle <b>Grass:</b> bamboo shoots, corn	<b>Mustard:</b> broccoli, Brussels sprouts, cabbage, kale, watercress, turnip, cauliflower, radish, mustard greens <b>Algae:</b> dulse, kelp <b>Olive:</b> green, black	<b>Nightshade:</b> eggplant, hot peppers, tomato, potato, bell peppers <b>Lily:</b> asparagus, chives, garlic, leek, onion <b>Aster:</b> endive, artichoke, Jerusalem artichoke, lettuce, escarole, chicory, stevia <b>Mallow:</b> okra
<b>Fruit</b>	<b>Laurel:</b> avocado <b>Banana:</b> banana, plantain <b>Palm:</b> coconut, date, sago <b>Pineapple:</b> pineapple <b>Mulberry:</b> figs, breadfruit <b>Pomegranate:</b> pomegranate	<b>Cashew:</b> mango <b>Citrus:</b> orange, grapefruit, lemon, lime, kumquat, tangerine, tangelo <b>Grape:</b> grape, raisins, wine, wine vinegar <b>Rose Berries:</b> blackberry, raspberry, strawberry <b>Gourd:</b> cantaloupe, honeydew, melons, watermelon	<b>Heath:</b> blueberry, cranberry <b>Rose Pomes:</b> apple, apple cider vinegar, pear, quince, loquat <b>Papaya:</b> papaya <b>Soapberry:</b> litchi <b>Honeysuckle:</b> elderberry <b>Ebony:</b> persimmons <b>Actinidiaceae:</b> kiwi <b>Myrtle:</b> guava	<b>Plum:</b> apricot, cherry, peach, plum, nectarine, prune, chokecherry <b>Saxifrage:</b> currant, gooseberry <b>Ebony:</b> persimmons <b>Custard Apple:</b> custard apple, paw-paw
<b>Nuts/Seeds</b>	<b>Sapucaya:</b> brazil nut <b>Pedalium:</b> sesame seeds, tahini	<b>Birch:</b> hazelnut <b>Cashew:</b> pistachio, cashew <b>Gourd:</b> pumpkin seeds	<b>Walnut:</b> walnut, pecan, butternut <b>Beech:</b> chestnut	<b>Conifer:</b> pine nut <b>Protea:</b> macadamia <b>Aster:</b> sunflower seed <b>Rose Stone:</b> almond
<b>Grains</b>	<b>Buckwheat:</b> buckwheat flour <b>Legume:</b> chickpeas, lentil flour, carob, soy (soy milk/tofu), sprouts <b>Arum:</b> arrow root <b>Goosefoot:</b> quinoa	<b>Ginger:</b> east India arrowroot starch <b>Grass:</b> corn starch, popcorn, oats, rice, wild rice, millet, sorghum, corn meal	<b>Spurge:</b> cassava flour, tapioca starch <b>Amaranth:</b> amaranth seeds and flour	<b>Nightshade:</b> potato flour <b>Composite:</b> artichoke flour <b>Grain:</b> spelt, bulgar, rye, barley, kamut, wheat (durham, selement, graham)
<b>Oils</b>	<b>Bird:</b> bird fat <b>Legume:</b> soy oil, peanut oil <b>Pedalium:</b> sesame oil <b>Palm:</b> coconut oil	<b>Grass:</b> corn oil <b>Flax:</b> flaxseed oil	<b>Olive:</b> olive oil <b>Walnut:</b> walnut oil <b>Mustard:</b> canola oil	<b>Aster:</b> sunflower oil, safflower oil <b>Mallow:</b> cotton seed oil <b>Bovine:</b> butter <b>Rose stone:</b> apricot and almond oil
<b>Seasoning &amp; Condiments</b>	<b>Laurel:</b> cinnamon, bay leaf <b>Poppy:</b> poppy seed <b>Pepper:</b> peppercorns, pepper <b>Parsley:</b> dill, caraway, celery seed, coriander, cumin, parsley <b>Legume:</b> fenugreek, clover honey, licorice, carob	<b>Citrus:</b> orange blossom honey <b>Ginger:</b> ginger, cardamom, tumeric <b>Grass:</b> corn syrup, corn sugar, rice sweetener <b>Fungi:</b> baker's and brewer's yeast <b>Tea:</b> black and green	<b>Mint:</b> mint, basil, oregano, rosemary, sage, summer, savory, thyme <b>Myrtle:</b> allspice, clove, paprika, pimiento <b>Orchid:</b> vanilla <b>Mustard:</b> mustard seed	<b>Nutmeg:</b> nutmeg, mace <b>Aster:</b> chamomile, chicory, goldenrod, tarragon <b>Nightshade:</b> cayenne, paprika, pimiento, chili peppers <b>Rose Stone:</b> almond extract <b>Madder:</b> coffee

The food groups are listed in blue. If you are reactive to more than one food in a food family, you may choose to avoid the entire food family. All possible choices of each food family are not listed due to space restrictions.

(Based on: J Am Diet Assoc 1998;98:1439-1444.)

# **Dietary Recommendations for Common Food Sensitivities**

Dairy foods, wheat, eggs and molds commonly cause allergic reactions in humans and also are difficult to reduce or eliminate from the diet because they are found in many different food products. If you are reactive to any of these foods, be careful to avoid the items containing them while maintaining a balanced, varied diet and a healthy intake of essential nutrients and vitamins.

## **Milk**

### **Dairy may be listed on labels as...**

- Milk, milk solids, non-fat milk solids
- Yogurt, kefir
- Whey
- Cream, sour cream, half & half, whipped cream
- Lactose, lactalbumin
- Cheese, cream cheese, cottage cheese
- Butter or artificial butter flavor
- Buttermilk or buttermilk solids
- Casein, caseinate, sodium caseinate (check lab results for + casein)

### **Foods likely to contain dairy:**

- Butter and many margarines
- Shakes and hot chocolate mixes and drinks
- Many “non-dairy” products (coffee creamer, whipped topping)
- Many baked goods (bread, crackers, desserts)
- Many baking mixes (pancake mix)
- Macaroni and cheese
- Canned foods (soups, spaghetti, ravioli)
- Mashed potatoes (often prepared with butter and/or milk)
- Many salad dressings (ranch, blue cheese, creamy, Caesar)
- Creamy, cheese, or butter sauces (often on vegetables or meats)
- Cream soups and chowders

### **Dairy-Free Sources of Calcium:**

- Soy products like tofu, tempeh, and calcium fortified soy-milk
- Calcium fortified rice milk
- Green leafy vegetables (kale, spinach, romaine lettuce, etc.)
- Broccoli
- Canned salmon with bones
- Sardines
- Beans (kidney, pinto, navy, soy)
- Calcium fortified orange juice
- Figs
- Rhubarb
- Black strap molasses
- Almonds

## **Wheat**

### **Wheat and wheat products may be listed on label as...**

- Wheat, hard wheat, red wheat, stone ground wheat, cracked wheat
- Flour, enriched flour, unenriched flour, bleached or unbleached flour
- Graham flour
- Durum flour

- Wheat bran
- Wheat germ
- Wheat berries
- Bulgur
- Farina
- Semolina

### **Foods likely to contain wheat:**

- Baked goods, baking mixes (cakes, cookies, biscuits etc.)
- Pancakes, waffles, doughnuts, muffins, crepes, and some corn breads
- Cereals
- Crackers, pretzels, and other snack foods
- Wheat flour tortillas
- Pasta and noodles
- Breaded and battered foods
- Instant breakfast, malted and Postum drinks
- Beer and whiskey
- Some soups and bouillon cubes
- Gravies and sauces thickened with flour
- Luncheon meats (bologna, ham) and meat loaf
- Ice cream cones
- Dumplings, croquettes, or patties
- Soy sauce

## **Corn**

### **Corn may be listed on label as...**

- Baking powder
- Maize
- Starch – cereal, corn, food, modified
- Glucose syrup
- Hominy
- Vegetable – gum, protein, paste, starch
- High fructose corn syrup
- Masa harina

### **Food likely to contain corn:**

• Cereals	• Beverages and alcohol
• Baked goods	• Jams and jellies
• Snack foods	• Cookies
• Syrups	• Deli meats
• Grits	• Candies
• Hominy	• Infant formulas
• Popcorn	• Other convenience foods
• Canned fruits	

## Egg

- Always read ingredient lists on food labels. You'd be surprised how many foods contain egg.
- Be aware that most egg replacers do not equal the nutrient quality of real eggs. They only replace the structural quality of eggs. There are other good quality protein foods to choose from such as fish, chicken, meat, beans, and soy.
- Liquid egg replacers, such as "Egg Beaters," are made of egg whites, and, therefore, should not be used as alternatives to egg.

### Eggs may be listed on food labels as...

• Egg protein	• Ovalbumin
• Egg white	• Ovomucoid
• Egg yolk	• Ovomucin
• Albumin	• Vitellin
• Globulin	• Ovovitellin
• Livetin	• Powdered egg

### Foods that may contain egg:

• Baked goods	• Macaroons
• Batter mixes	• Malted drinks
• Bavarian cream	• Marshmallows
• Boiled dressing	• Mayonnaise
• Bouillon	• Meat loaf
• Breaded foods	• Meringues
• Breads	• Noodles
• Cake flours	• Pancakes
• Creamy fillings	• Puddings
• Custards	• Quiche
• Egg drop soup	• Salad dressings
• Flan	• Sauces
• French toast	• Sausages
• Fritters	• Soufflé
• Frosting	• Tartar sauce
• Hollandaise sauce	• Waffles
• Ice cream	

## Molds

- Allergic reactions to molds can be brought on by both the inhalation and ingestion of mold spores. Mold sensitivity has been shown to provoke respiratory problems, as well as irritable bowel symptoms.

### Foods that contain mold (*aspergillus* and *penicillium*):

[Some of the foods listed below are processed with molds (\*). Others are prone to mold growth.]

- Black tea\*
- Breads\*
- Cheeses\*
- Chocolate\*
- Fruit juices\*
- Fruits
- Grains
- Jellies and jams

- Malted grains
- Miso soup\*
- Nuts (pistachios and peanuts in particular)
- Salted meats (e.g., ham, bacon)
- Soy sauce\*
- Tomato products (ketchup, tomato sauce, spaghetti sauce)\*
- Beers and wines

### Ways to avoid mold growth on foods:

- Keep food refrigerated. Molds grow best in warm conditions (i.e., kitchen cabinet, above the stove, on the countertop), and they grow slower in cold conditions (i.e., the freezer or refrigerator).
- Do not eat food with visible mold. Discard moldy, soft foods (e.g., soft cheeses, sour cream, yogurt, berries, leafy vegetables, bananas, melons). Save hard or firm foods (e.g., hard cheese, bell peppers, carrots, broccoli, garlic, onions, apples) by cutting away small mold spots with a knife.
- Eat fresh foods. Do not buy a lot of food at a time.

### Synonyms for Food Ingredients

Casein, caseinate .....	Milk
Cereal binder.....	Usually wheat
Cereal filler.....	Usually wheat
Cereal protein.....	Usually wheat
Cereal starch.....	Usually wheat or corn
Dextrose .....	A sugar derived from corn
Edible starch .....	Usually wheat or corn
Flour .....	Usually wheat flour
Fructose .....	A type of sugar
Glucose syrup .....	A sugar usually derived from corn
Hydrolysed protein.....	Usually yeast
Hydrolysed vegetable protein ...	Usually yeast
Lactalbumin .....	Milk
Lactose .....	Milk sugar
Leavening.....	Yeast
Lecithin .....	Usually egg or soya
Maltose.....	A type of sugar
Modified starch .....	Usually wheat or corn
Ovalbumin.....	Egg
Starch.....	Usually wheat or corn
Sucrose.....	Sugar
Vegetable oil .....	Usually a mixture of oils, including corn oil
Vegetable protein.....	Usually soya

# 4-Day Rotation Diet Alternative Foods

## Substitutes for Milk:

- Soy – soy milk, soy cheese, soy yogurt, soy sour cream, soy cream cheese, soy creamer (Silk®), soy frozen desserts
- Rice – rice milk, rice cheese, rice butter, Rice Dream® desserts
- Almond milk and cheese
- Oat milk and cheese
- Potato milk (high in starch and no protein)
- 100% vegetable oil, non-hydrogenated alternative to butter or margarine  
Ex. Spectrum® or Earth Balance® Spread
- Rice-based pudding (chocolate, vanilla, butterscotch, banana, and lemon)  
Ex. Imagine® Puddings

## Substitutes for Wheat:

- Cereals – amaranth, millet, or kamut\* flakes; puffed rice, millet or corn; and grits or oatmeal
- Grains – rice, amaranth, millet, quinoa, barley, buckwheat, teff, corn, kamut\*, wild rice
- Flours – potato, rice, soy, barley, buckwheat, corn, teff, tapioca
- Breads – millet, teff, kamut\* or rice bread
- Pastas – corn, quinoa, lentil, and rice
- Thickeners – cornstarch, potato starch, arrowroot or kuzu
- Snacks or sides – rice crackers and cakes, polenta, corn tortillas

\* Gluten-sensitive people may not tolerate kamut.

## Substitutes for Eggs:

- ENER-G® egg replacement powder
- 1 tbsp baking powder
- 1 tsp gelatin (for puddings and custards)
- 2 tbsp flour
- 1/2 tsp oil
- 1/2 tsp baking powder
- 2 tbsp water
- 2 tbsp water
- 1 tbsp vegetable oil
- 1/2 tsp baking powder
- 1 tbsp flaxseed powder
- 3 tbsp warm water
- 1 tbsp gelatin or 1 tbsp fruit pectin (Sure Gel®)
- 3 tbsp warm water
- Non-fat yogurt, mashed banana, applesauce, pumpkin, or other pureed fruit or vegetables are good replacements for eggs in muffins or cakes.
- To replace eggs in casseroles, burgers, or loaves try mashed vegetables, tahini, nut butters, or rolled oats.

## Substitutes for Soy:

- Legumes & Beans – green pea, kidney bean, peanut, lentil, split pea, butter bean, lima bean, chickpea, black-eyed pea, carob, green bean, snap bean, string bean, azuki, white bean, fava bean, garbanzo bean, northern bean, pinto bean, black bean, snow pea, navy bean
- Flours – potato, rice, lentil, barley, buckwheat, corn, teff, amaranth, tapioca, quinoa, spelt, kamut
- Cow or goat milk and cheese
- Rice milk and cheese
- Oat milk and cheese

## Substitutes for Mustard (seed or greens):

- Condiments – relish, mayonnaise, tomato sauce, vinegar, salsa
- Seasonings – onion, garlic, white or black pepper, basil, oregano
- Greens – collards, turnips, kale, spinach

## Substitutes for Tuna/Salmon:

- Other fish – bass, codfish, flounder, grouper, mahi mahi, mullet, halibut, orange roughy, perch, sardine, red snapper, scrod, sole, trout, whiting, mackerel
- Lean meats – lamb, pork, chicken, turkey, beef, veal, buffalo
- Protein rich foods – nuts, seeds, beans, legumes, eggs, dairy or soy products

## Substitutes for Peanut:

- Nuts/seeds – soynuts, almonds, walnuts, sunflower seeds, brazil nuts, pecans, cashews, pumpkin seeds, pine nuts, pistachios
- Nut butters – sesame, cashew, almond

## Substitutes for Beef/Pork/Chicken/Turkey:

- Other meats – lamb, mutton, fish, buffalo
- Protein rich foods – nuts, seeds, legumes, dairy products, eggs
- Vegetable-based protein – tofu, TVP (texturized vegetable protein), veggie burgers, tempeh (soy)

## Substitutes for Corn:

- Vegetables – acorn squash, butter cup squash, banana pepper, peas, carrots, butter nut squash, pumpkin, sweet potato, tomato, beans, yams, red pepper, yellow squash, winter squash, and eggplant
- Grains – rice, amaranth, millet, quinoa, barley, buckwheat, teff, kamut
- Thickeners – tapioca starch, potato starch, arrowroot or kuzu
- Snacks or sides – rice crackers and cakes, flour tortillas

## ***Additional Information Resources***

### ***Books/Magazines:***

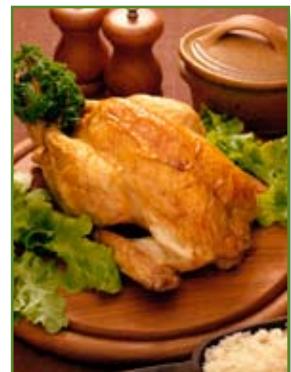
- ***Natural Medicine for Allergies: The Best Alternative Methods for Quick Relief*** by Glenn S. Rothfeld, M.D. and Suzanne LeVert
- ***Digestive Wellness*** by Elizabeth Lipski, M.S., C.C.N.
- ***The Complete Guide to Food Allergy and Intolerance*** by Dr. Jonathan Brostoff and Linda Gamlin
- ***The Whole Way to Allergy Relief & Prevention: A Doctor's Complete Guide to Treatment & Self-Care*** by E. Larson, Jacqueline Krohn, Frances A. Taylor (Contributor), Jinger Prosser (Contributor)
- ***Living Without*** – A lifestyle guide magazine for people living with food and chemical sensitivities. (630) 415-3378

### ***Cook Books:***

- ***The Complete Food Allergy Cookbook*** by Marilyn Gioannini
- ***The Allergy Self Help Cookbook*** by Marjorie Hurt Jones
- ***Healing With Whole Foods*** by Paul Pitchford
- ***Cooking the Whole Foods Way*** by Christina Pirello
- ***The Gluten Free Gourmet*** by Bette Hayman and Joseph A. Murray
- ***Allergy Cooking with Ease*** by Nicolette M. Dumke
- ***Healthy Living Cookbook*** by James B. LaValle, R.Ph., D.H.M., D.H.Ph., N.M.D. and Peggy Kramer
- ***A Celebration of Wellness*** by Natalie Cederquist and James Levin, M.D.
- ***Guilt Free Indulgence*** by Cheri Bauer and Mark Percival D.C., N.D.
- ***Sweet and Natural*** by Janet Warrington
- ***One Bite at a Time*** by Rebecca Katz

### ***Web Sites:***

• <a href="http://www.food-allergy.org">www.food-allergy.org</a>	• <a href="http://www.GlutenSolutions.com">www.GlutenSolutions.com</a>	• <a href="http://www.kinnikinnick.com">www.kinnikinnick.com</a>
• <a href="http://www.GlutenFreeMall.com">www.GlutenFreeMall.com</a>	• <a href="http://www.SpecialFoods.com">www.SpecialFoods.com</a>	• <a href="http://www.livingwithout.com">www.livingwithout.com</a>
• <a href="http://www.GlutenFreePantry.com">www.GlutenFreePantry.com</a>	• <a href="http://www.CauseYourSpecial.com">www.CauseYourSpecial.com</a>	• <a href="http://www.SavoryPalate.com">www.SavoryPalate.com</a>





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