US BioTek LABORATORIES

FoodStats FOOD FAMILY Guide

Table of Contents

Foods That May be Causing a Problem – The Science

Any symptom following consumption of a food is termed an "adverse reaction to food" (ARF). ARFs are broadly divided into three categories: toxic, psychological and nontoxic.

Toxic reactions are the result of contaminants in the food (i.e. botulism). Psychological reactions are largely psychosomatic in nature based on a prior ill experience with the food.

Nontoxic ARFs are further divided into immune-mediated reactions (i.e. food sensitivities), and non-immune-mediated reactions (i.e. food intolerances). Food intolerances are many. A common example is the inability to digest the milk sugar lactose, known as lactose intolerance. A food allergy is defined as a reaction mediated by the body's immune system.

A food that causes an allergic reaction is known as an allergen. Allergens are almost always proteins but not all proteins are allergens. Foods such as milk, strawberries or wheat may be allergenic for some individuals but not all, and the symptoms of these allergies may vary from person to person.

Immune-mediated reactions, or food allergies, are classified as either IgE-mediated or non-IgE-mediated reactions, the latter of which may involve antibodies other than IgE. The function of these antibodies is the neutralization and elimination of theallergen from the body. By forming an immune complex with the allergen, the allergen is tagged for removal by the immune system.

It is important to note that identification of food- and inhalant-specific antibodies alone does not establish a pathogenic role, and should not be used to confirm a symptomatic adverse reaction. Moreover, an elevated antibody test result to any particular food or inhalant allergen indicates sensitization. Sensitization indicates that the individual may have an increased likelihood that he or she will react, but there is no guarantee and no prediction on the severity of the reaction.

Test results must be interpreted in conjunction with the clinical findings obtained by your practitioner.

Most IgE-mediated reactions are fairly rapid in onset and a temporal relationship can usually be drawn between exposure to a specific food and onset of symptoms. Non-IgE-mediated reactions, on the other hand, may be more variable in onset, becoming evident hours or days after exposure to a food, creating a less well defined temporal relationship. The symptoms produced as a result of specific antibody production to any particular food vary in type and quality from person to person and may affect how we function and/or feel. Please discuss your antibody assessment test results with your practitioner who can take into consideration your full health history and concerns.

This guide lists the foods and inhalants tested on US BioTek's Antibody Assessment report into their respective food families. This booklet serves as an educational aid to help you identify related groups. Please consult your healthcare practitioner for specific dietary recommendations.

US BioTek Laboratories' Policy

Quantification of specific IgE antibodies to foods and inhalants is an FDA-accepted diagnostic procedure for the assessment of Type I hypersensitivity reactions, allergies. However, the assessment of human IgG or IgA antibodies specific for individual food and inhalant antigens is not an FDA-recognized diagnostic indicator of allergy. Specific IgG quantification has been utilized in research settings to assess and investigate Type III hypersensitivity reactions involving the formation of immune complexes.

US BioTek Laboratories, LLC. has developed and determined the performance characteristics of the FoodStats Antibody Assessments for IgG and IgA under the Clinical Laboratory Improvement Amendments (CLIA). These in-house assays have not been cleared or approved by the U.S. Food and Drug Administration and are considered for investigational and research purposes only.

The information in this booklet is intended for educational purposes only. While every attempt has been made to provide current and accurate information, neither the author nor the publisher can be held accountable for any errors or omissions. US BioTek Laboratories makes no claims as to the diagnostic or therapeutic use of its tests or other informational materials. US BioTek Laboratories test results and other information do not constitute medical advice and are not a substitute for professional medical advice. US BioTek Laboratories is not responsible or liable for misuse or misinterpretation of the information provided, or any diagnoses or healthcare changes initiated by a patient or healthcare practitioner based on the content of US BioTek Laboratories' informational materials.

Please consult your healthcare practitioner for questions regarding test results, or before beginning any course of supplementation or dietary changes.

Food Planning – Quick Tips

1. Plan ahead. Keep a shopping list on the refrigerator to jot down healthful alternatives as you think of them. A simple idea is to draw a pinwheel categorizing all the food groups to choose from, and write in food choices that you think of throughout the week. A diagram such as this may help you to remember the many food groups to include in planning your daily and weekly menu.

   Reserve a time to shop for groceries that is not going to end up as a hectic last minute rush for convenient and processed foods. When shopping, stock up on live foods such as fresh produce (green, red and orange vegetables), lean meats, poultry, wild fish, and whole grains.

2. Read all food labels carefully to screen out any product that may contain a food that your doctor has recommended you avoid.

3. Purchase different items from week to week to incorporate variety and rotation into your diet.

4. Invest in a few helpful and easy to follow recipe books that allow you to be creative.

5. Prepare a few lunches, dinners or sides in advance, or make extra servings to help you through busy weeknights. Depending on your food sensitivities, a bag of frozen cooked (skinless, boneless) chicken or turkey chunks or lean beef bits provides a quick addition to a hot evening meal without compromising quality.

   Keep an assortment of canned beans in the cupboard. Or, wash and soak dried beans in a pot of water overnight. The next day, boil in same water until tender. Cook them into your favorite stew on a slow evening or weekend. The goal is to always have healthy dish ideas in the fridge or freezer to help you avoid convenient foods that are not necessarily nourishing.

6. Always have healthful snacks and water on hand in the car and at work. Healthful snacks include foods rich in complex carbohydrates, fiber, quality protein and healthy fats. Fresh vegetables, whole grain products, nuts, seeds, and legumes are excellent choices of complex carbohydrates that provide essential fiber as well. A combination of legumes and grains is a good protein alternative for vegetarians.

   For the non-vegetarian, lean meats, poultry and cold-water fish are great protein sources that provide essential building blocks needed for growth and repair processes. Cold-water fish, in particular, is a rich source of essential fatty acids, namely omega-3 fatty acids. These fats are anti-inflammatory and promote the integrity and structure of blood vessels and nervous tissue. Colorful fruits and vegetables that are not on your reactive food list are key additions to your daily diet, supplying vitamins, minerals, and antioxidants, which nourish your cells and tissues.

7. Select a variety of fresh vegetables; wash and wrap up before refrigerating; then keep covered. Precut veggies are great to have for a quick stir-fry during the week. Precut and bagged wild greens provide for last minute salad fixings, when eaten within 2 or 3 days. Frozen food should be kept frozen and stored no longer than 3 months. Steaming and microwaving (5 to 7 minutes per lb.) with little or no water is best. Some may be more able to tolerate cooked items over raw. Date the foods that you store to avoid consuming spoiled products. When in doubt - throw it out!

8. Avoid packaged and processed foods, as well as smoked and cured meats. These types of foods are often laden with preservatives, artificial flavorings, sweeteners, and colorants.

9. Eat in a relaxed setting. Do not eat when rushed or when emotionally upset. Do not overeat.

10. As mother always said "Chew your food thoroughly". Breaking down the food you eat thoroughly is easier on your digestive system and systemic health.

11. When eating out, choose a restaurant with a large variety of quality fresh dishes so you will have choices. Do not hesitate to ask questions about how some of the foods are prepared.

Food Family Information

All foods are derived from either a plant or animal source and are grouped into families according to their origin. With some food families, in certain individuals, an adverse reaction to one member may result in a similar reaction to other members of the same family (known as cross-reactivity). For example, an individual allergic to shrimp may more likely be allergic to other shellfish than an individual who is not allergic to shrimp. The food family information provided below is NOT a list of foods to avoid. It is simply for your information. Please discuss any dietary changes with your practitioner.

Algae Family

Laminariaceae

Arame, brown algae, blue-green algae, dulse, hijiki, kelp, nori, red seaweed, red algae, spirulina and wakame.

Sources: "Green Drinks" and Asian cuisine. Konbu is a key ingredient used to make dashi (soup stock), sushi, and miso. Other types of seaweeds, hijiki and wakame, are used in salads and mixed vegetable dishes. Toasted nori, yakinori, is a packaged snack found in many Asian markets.

The food additive kelp (kombu, konbu), is the dehydrated, ground product prepared from Macrocystis pyrifera, Laminaria digitata, Laminaria saccharina, and Laminaria cloustoni. As a flavor and nutrient enhancer, kelp may be included in what may simply be labeled as "noodle sauce"; a mixture of shoyu (soybean, wheat, salt), dried bonito, kelp, sugar and salt. This seasoning mix is included in many instant food preparations.

Sodium Alginate, Potassium Alginate, and Ammonium Alginate are distillates of alga and may be found listed on processed food packages as a thickener, emulsifier, stabilizer, and binder.

In addition, alginic acid is used in ice cream to prevent it from crystallizing. Sold as a medicine, "K-Alginate Tea" is distributed in some countries as an anti- hypertensive. Kelp powder is also found in a variety of soaps as an exfoliating agent.

Amaranth Family

Amaranthaceae/Chenopodiaceae

Amaranth, beet, sugar beet, green spinach, quinoa, and Swiss chard.

Inhalants: Firebush, iodine bush, lamb's quarters, rough pigweed, Russian thistle,annual saltbush.

Sources of amaranth: Bakery products, snacks, cereals, batter and breading, dry mixes, pilaf, polenta and other goods as listed on food package labels.

Related plants: Rough amaranth, campala, Joseph's coat, lady bleeding, pilewort, prince's feather, red cockscomb, spleen amaranth, summer cypress, spearscale, tassel flower, tumbleweed, and wild beet.

Sources of beet, spinach, quinoa: Beet soup (Borscht), pickled beets, some relish, beet sugar, spinach dips and some casserole dishes, quinoa flour, and quinoa cereal. Spinach is contained in any

dish called Florentine. It is also in Italian Cannelloni, and Greek spanakopita.

Foods containing beet sugar: Beet sugar appears on labels as dextrose, sugar, and sucrose, and may be found in most canned foods, packaged cereals, processed meats (bacon, hot dogs, luncheon meats, hams, turkey hams, sausages), condiments (ketchup, mayonnaise, salad dressings, BBQ and meat sauces), syrups, molasses, fruit drinks and beverages, jams, jellies and peanut butter.

Aster/Daisy Family

Asteraceae

Artichoke, burdock root, chamomile, chicory, dandelion, endive, escarole, globe artichoke, Jerusalem artichoke (artichoke flour), lettuce (iceberg lettuce, romaine lettuce, bib lettuce, red leaf lettuce), safflower oil, salsify (oyster plant), stevia, sunflower seeds, tansy, tarragon, vermouth, wormwood (Absinthe) and yarrow, coneflower (Echinacea), and milk thistle.

Inhalants: Dog fennel, rough marshelder, common mugwort, poverty weed, rabbit bush, short ragweed, Western ragweed, common sagebrush.

Related plants and chemicals: Aster, bachelor's button, mum, chrysanthemum, cosmos, dahlia, daisy, goldenrod, heliopis, gazonia, lad's love, marigold, pyrethrum, sunflower, saffron, zinnia, blessed thistle, tansy, feverfew, and lavender cotton. Pyrethrum is used in insect sprays and in mothballs. If you are very sensitive to the members of this family and related plants, avoid insect sprays containing pyrethrum.

Banana Family

Musaceae

Banana and plantains.

Sources: Baked goods, banana bread, banana chips, cereals, shakes and smoothies. A cross-reactivity of banana and latex-containing products has been reported in subjects with so called "latex-fruit syndrome".

Bee Family

Apidae

Honey, bee pollen, beeswax, commercial blended honey, honeycomb, raw honey, and Tupulo honey.

Bovine Family

Bovidae

Beef, calf, veal, gelatin, rennin, rennet tablets, sausage casings, cow's milk, cow's milk cheeses, whey, casein, yogurt and other dairy products; goat, goat milk, goat dairy products, lamb and mutton.

Beef products: Steak, short ribs, London broil, shoulder roast, ground beef, pot roast,corned beef, beef jerky, beef sausage, processed meat products, luncheon meats, beef heart, tripe, tongue, gelatin, Jell-O®, medications in gelatin capsules, beef broth, beef bouillon, soups, main dish mixes, skillet dinners, hamburgers, hot dogs, and meat dinners.

A note about gelatin: A common ingredient of many processed foods including confectionary, fruit gums, food thickeners, dips, glazes, icing, soups, chilled dairy products (yogurt, mayonnaise, mousse, ice cream, cheeses), small goods (sausage coatings, salami, tinned hams, pate), used to clarify fruit juices and wine. Non-food sources include collagen implants for plastic surgery, gelatin sponges for surgical haemostasis, colloid solutions (Haemacel), dissolvable contact lenses, stabilizer in some vaccines (MMR), binding and coating agent in tablets and capsules, shampoo, glue, matches, cosmetics, and photographic emulsions.

A note about finished wax coatings: Manufacturers may add stearic acid (a fat that may be derived from animal or vegetable sources) to carnuba wax; a wax derived from palm trees, used to coat stonefruits, and a variety of vegetables.

Milk and dairy products: Cow's milk, powdered milk, cream, half & half, buttermilk, sour cream, whey, casein, lactalbumin, lactalbumin phosphate, lactose, and milk solids.

Sources: Sauces and gravies, batter fried foods, breads, cakes, muffins, puddings, cream soups, ice cream, sherbets, and milk chocolate.

Lactalbumin is a protein found in cow's milk. When milk is heated, the lactalbumin becomes insoluble and forms a film on the surface. Continued heating of the milk at high temperatures allows this film to be easily removed. This is why some milk-sensitive people can tolerate an evaporated milk formula. During the cheese making process, the proteins are separated into curds and whey. Lactalbumin primarily remains in the whey. As such, many milk-sensitive people may be able to tolerate hard cheese since most of the lactalbumin has been removed.

Casein is also a milk-derived protein found in any food product that contains dairy. Caseinate is the salt form of casein (sodium, calcium, or potassium caseinate). Caseinates impart a creamy character and stabilize fats in nondairy products, such as coffee whiteners, cheese- sauce powders, and bind water in processed meat and baked goods.

Hidden sources of milk proteins: Deli meat slicers used for both meat and cheese products, canned tuna fish may contain casein. Restaurants may put butter on steaks after grilling to add flavor (ask the waiter about potential hidden dairy additions to your meal), Alpine cereal, batter-fried foods, biscuits, breads, breakfast cereals, cakes, chocolate, cookies, cream sauces, cream soups, custard, fish in batter, gravies and gravy mixes, ice cream ("non-milk" fat), imitation sour cream, instant mashed potatoes, margarine, muesli, muffins, packaged soups, pies, puddings, rusks, sausages, sherbet, soy cheese, soup mixes, sweets, canned soups, vegetarian cheese, artificial butter flavor, butter, butter fat, buttermilk solids, casein, caseinate, cheese, cream curds, de-lactosed whey, demineralized whey, dried milk, dry milk solids, fully cream milk powder, high protein flavor, lactalbumin, lactalbumin phosphate, lactose, milk, milk derivative, milk protein, milk solids, natural flavoring, pasteurized milk, rennet casein, skim milk powder, solids, sour cream solids, sour milk solids, whey, whey powder, whey protein concentrate, yogurt, casein in wax (casein may be used as a thickener in lac-resin waxes- a finished wax coating used for citrus fruits, apples, and pears. Other names for lac-resin include; lac, shellac, confectioners glaze, foodgrade resin etc; it can therefore be found not only on produce but candies as well), seasoning mixes may contain lactose, seasoned potato chips, milk in "non-dairy" hot dog and bologna, and milk glaze on bakery products.

Ingredients that do not contain milk protein: Calcium lactate; calcium stearoyl lactylate; cocoa butter; cream of tartar; lactic acid; oleoresin; sodium lactate; sodium stearoyl lactylate.

Foods containing whey: Whey protein powder, protein energy bars, imitation milk products, imitation sour cream, cream soups, soup mixes, most margarines, store bought cookies, pies, and other baked goods. If a label says Pareve or Parve, it is milk-free in order to conform to Jewish dietary laws. Whey is added to over 100 processed foods to improve nutritional content. It is a by-product of the cheese making process and should be avoided by those allergic to milk.

Additional information about milk products: When milk is heated, treated with acid or rennet, or when bacteria or yeast are added, it becomes a new protein. For these reasons, those sensitive to milk may be able to tolerate other milk products. The methods of making cheese, the culture used to age the cheese, and the aging time creates various cheese proteins. Also, the softness of the cheese reflects the extent of solubilization of the proteins. With cheddar cheese, there is less protein breakdown (hydrolysis) making for a firmer cheese than compared to Camembert, for instance.

A note on casein and whey: During the cheese-making process, curds, the solid portion of milk, are separated from the milky liquid, called whey. Although casein is the main protein in cheese, different types of cheese have varying moisture contents, as determined by the amounts of whey allowed to remain in the curds. Cheese high in moisture, such as cottage cheese; for example, may contain more whey protein than cheese with a lower moisture content such as cheddar.

Below is a chart of the cultured milk products and basic cheese groups.

Cultured milk products: Butter, acidophilus milk, buttermilk, kefir, kefir cheese, sour cream, sour half and half, and yogurt.

CHEESE TYPES:

SOFT – American, Baker's cheese, Cottage cheese, Cream cheese, Farmer's cheese, Feta cheese, Gervais, Neufchatel, and Pot cheese.

HARD AGED – Cheddars, Cheshire.

COLBY – Edam.

GRANULAR – Grana, Parmesan, Reggiana, Romano, and Sardo.

MOZZARELLA – Caciocavallo, String cheese, and Provolone.

SWISS – Emmental, Gruyere, Swiss, and Asiago.

If you are sensitive to yeast and molds, the following cheeses may cause additional irritation.

MOLD RIPENED – Bleu, Brie, Camembert, Crema Dania, Liederkranz, Danish Blue, Gorgonzola, Roquefort, and Stilton.

BACTERIA RIPENED – Brick, Bell Pease, Fontina, Gammelost, Gouda, Jack, Muenster, and Port Salut.

BACTERIA AND YEAST RIPENED – Limburger.

WHEY CHEESES – Gyetost, Mysost, Primost, Ricotta, and Sapsago.

PROCESSED CHEESE FOOD – These are cheese with added ingredients.

Be sure to READ THE LABELS! Most of these have added color, gums, and sugars.

Goat products, lamb, and mutton: Goat milk is used to make butter, ice cream, yogurt, cottage cheese and other cheeses. Goat milk cheeses are available in soft forms such as Feta and Chavrie, and in hard forms such as Cheddar and Swiss. Goat milk is also added to select bath and beauty products.

Lamb is a sheep less than a year old. Meat from an older sheep is called mutton and has a much stronger flavor and tougher texture.

Other sources of irritation: Goat hides are used to make apparel such as "kid gloves" and rugs.

Buckwheat Family

Polygonaceae

Buckwheat, buckwheat honey, rhubarb, dock, sea grape and sorrel.

Sources: Cereals, Kasha. Buckwheat hulls are often mixed with black pepper; it is often used as a filler in processed meats; bakers use buckwheat flour to keep their loaves from burning.

Inhalants: Sheep sorrel.

Carrot Family

Apiaceae/Umbelliferae

Angelica, anise (ingredient in five spice powder, woo-hsiang powder), asafetida gum, caraway, carrot, celariac, celery, celery seed, water celery, chervil, coriander, cumin, dill, fennel (ingredient in five spice powder, woo-hsiang powder), ferula gum, gum galbanum, kummel, parsley, parsnip, samphire, sumbul, sweet cicily, and dong quai.

Caraway: Caraway seeds are often found in rye breads, caraway cheeses, sauerkraut, knockwurst, some cereals, cakes and cookies.

Carrot: Stews and soups containing carrots, carrot and raisin salad, tossed salads with carrots, and pot roast with carrots.

Celery: Celeriac and celery seed. Celery is used in meat sauces, soups, soup mixes, meat loaf, casseroles, green salads, poultry salads, ham salad, macaroni salads, an ingredient in curry, V-8® juice, vegetable broths, chicken broths, beef broths, and bouillon cubes.

Dill: Dill seed, dill weed, dill weed oil and foods containing them. Dill may be found in dill pickles, ranch style and other salad dressings, Scandinavian potato and soup dishes, curry seasoning, dill vinegar, salad vinegars. Dill seed may be sprinkled on salads, seafood dishes and deviled eggs.

Fennel: Often in Italian sausage and fennel cookies.

Parsley: Cilantro (Mexican parsley), garlic salt with parsley; Italian foods seasoned with garlic often contain parsley, soups, stews, and garnishes.

Chinese Gooseberry Family

Actinidiaceae

Kiwifruit, Chinese gooseberry, and yang tao.

Citrus Family

Rutaceae

Grapefruit, kumquat, limequats, lemon, lime, mandarin, murcot, oranges, bitter orange (bergamot), pommelo, satsuma, shaddock, tangerine, tangelo, ugly fruit, prickly ash, szechuan pepper (ingredient in five spice powder, woo-hsiang powder).

Sources: Lemons are often added to salad dressings and mayonnaise. In restaurants they are used on fresh fruit, fish, seafood, iced tea, glazes for carrots and fruit pies. Lemon/lime drinks, 7-Up®, and other fruit colas and fruit drinks may contain lemon or lime juice.

Crustacea Class

Crab, lobster, crayfish, shrimp, prawn and langoustine.

Sources: Seafood soups, casseroles, Chinese foods, egg rolls, and salads.

Fish Families

Anchovy Family

Engraulidae

Engraulidae is a large family that includes at least 150 different species of anchovy. They are generally found in warm oceans and occasionally in freshwater. Used as food, bait, and oil.

Catfish Family

Ictaluridae

Ictaluridae are a family of catfish with approximately 50 different species. Native to North America; found in freshwater rivers and lakes. Important as a food and in sport.

Cichlid Family

Cichlidae

Tilapia and several aquarium fishes including angelfish. Primarily freshwater fish. Tilapia is cultivated as a food source.

Clupeoid Family

Clupeidae

Alewife, herring, menhaden, and sardine/pilchard. Species of this family are used as food, oil, and as fish meal.

Codfish Family

Gadidae

Codfish (Pacific cod, Pacific tomcod, Atlantic cod, Atlantic tomcod), Blue ling,Haddock, Whiting, Cusk, Hake and Pollock.

Pollock is found in Pollack-based surimi and may be used as the basis for imitation crab, lobster, shrimp, and for pork or beef substitutes which in turn may be used in the manufacture of hot dogs, ham, pizza toppings, and anchovies in Worcestershire sauce.

***Surimi:** a seafood item that looks like crab or scallops but is mostly white fish fillets that have been minced, washed, and heated causing a natural gelling of the flesh. Also called 'sea legs', imitation crab, imitation shrimp, or kamaboko (fish cake).

Halibut and Flounder Family

Pleuronectidae

Halibut (Atlantic halibut, Pacific halibut), Dab, Sole (Little sole, Common sole), Hogchoker, Flathead sole, North Atlantic flounder, Smoothback flounder, American white flounder, and Pacific plaice.

Salmon and Trout Family

Salmonidae

Salmon (Coho salmon, Sockeye salmon, Atlantic salmon, Pacific salmon, Pink salmon, Chinook salmon, King salmon, Silver salmon), Rainbow trout, Steelhead trout, Brown trout, Brook trout, Lake trout, Whitefish, Red fish, and Grayling.

Snapper Family

Lutjanidae

Red snapper, Gray snapper, and Schoolmaster snapper, Fusiliers.

Tuna and Mackerel Family

Scombridae

Tuna (Albacore, Yellowfin tuna, Bluefin tuna, Blackfin tuna, Chub), mackerel, bonitos, and Atlantic mackerel.

Ebony Family

Ebenaceae

Family includes ebony, persimmon.

Persimmon uses: the fruit of the persimmon tree may be eaten fresh, dried, cooked, or canned. High in protein, persimmons also have various medicinal and chemical uses.

Fungi Kingdom - Yeasts & Molds

Agaricaceae Family

Mushrooms.

Saccharomycetaceae Family

Bakers yeast, brewers yeast, moldy cheeses, Bleu, Gorgonzola, Roquefort, Stilton, Bel Paese, Brick, Limburger, Muenster, Port Salut, and vinegars.

Tuberaceae Family

Truffles.

Inhalants:

Mycosphaerellaceae Family

Cladosporium herbarum

Pleosporaceae Family

Alternaria alternata

Trichocomaceae Family

Aspergillus fumigatus, Penicillium notatum

Molds and yeasts are the chief cause of food spoilage. They feed on the same food that we do. They are in the air we breathe. Refrigeration and freezing slow down their growth and high temperatures will destroy them, but their growth rate under favorable conditions (room temperature - sitting out on the counter) is incredible.

The two main types of yeast are baker's and brewer's yeasts. While both carry the same Latin name Saccharomyces cerevisiae, they are different strains (like the difference between a Granny Smith and Macintosh apple). The active dry yeast that you purchase at the grocery store is baker's yeast which is used for baking bread. To brew cider and other alcoholic beverages, you use brewer's yeast. The differences in the varieties of the yeast strains lies in their rate of sugar consumption, carbon dioxide and other waste production, as well as the temperature and pH needed for the fermentation processes they carry out.

Although baker's yeast and brewer's yeast have different metabolic characteristics, people sensitive to any form of yeast should avoid all forms of yeast, mold, moldy cheeses, and other forms of fungi in their foods and environment. Foods high in carbohydrates (fruits, fruit juices, root vegetables, and grains) tend to be "yeasty" in nature since yeasts have accelerated growth on these foods. Cooked foods also tend to attract yeast, especially when left out at room temperature. For these reasons, you must handle all food wisely, and freeze any leftovers that you do not plan to eat within 24-hours. Avoid eating any leftovers that have been in the refrigerator for more than 24-hours.

Wash all raw fruits and vegetables well. Grapes and the rind of cantaloupes and other melons are covered with yeast. Eating food without washing off the yeast may be problematic for some.

Processed foods (hot dogs, processed meats, frozen concentrated fruit juices, canned fruit juices, sausages, and other man-made food combinations) tend to be yeasty in nature due to the long exposure of the food to the air during processing.

Sources: Fermented foods and drinks (alcoholic beverages, cider, sauerkraut, beer, malts, ales, soy sauce, vinegar, etc.), moldy and aged cheeses (Bleu, Gorgonzola, Roquefort, Stilton, Brie, Camembert, Bel Paese, Brick, Limburger, Muenster, Port Salut, and processed cheese food), cheeses with mold growing on them, breads (except those made without yeast), buns, buttermilk, coffee cakes and breakfast rolls made with yeast, cakes, cake mixes, crackers, cookies, flour that has been enriched with malted barley, fortified foods (they either contain yeast or malt), frozen fruit juice concentrate or juices made from concentrate, milk fortified with vitamins from yeast, malted products, mushrooms (especially raw), pickled foods, root beer, salad dressings, smoked foods, Virginia hams, bacon, vinegar-containing foods (condiments, ketchup, BBQ sauce, mayonnaise, pickles, olives, horseradish), and vitamins(natural vitamins grown on yeast or containing brewers yeast).

What to look for on labels: Yeast, Citric acid, and Yeast proteases.

Ginger Family

Zingiberaceae

Ginger, cardamom, East Indian arrowroot, and turmeric.

Sources: Chinese cuisine, spiced nuts, cookies, pumpkin pie spice. Oleoresin of ginger is used to flavor soft drinks, ginger ale, gingerbread, pickling spices, and is used in making pancake syrups and pickling vinegar. Turmeric oleoresin is used as a coloring in foods and may be listed as "natural coloring" or "beta-carotene coloring", as well as in Crispix® cereal, mustards, relishes, curry, and salad dressings.

CARDAMON: Also known as cardamom. Traditionally oil of cardamom has been used as a carminative and a flavoring to disguise the smell of foul-smelling drugs; used by some cigarette manufacturers to disguise odor, and by some meat packers to flavor sausages and processed meats. In Sweden, cardamom is used more frequently than cinnamon. Other sources of cardamom are cardamom coffee, curry, baked fruit recipes, pumpkin pie spice, and many sweet baked goods.

Gourd/Cucumber Family

Cucurbitaceae

This family can be sub-divided into the following groups of close relatives:

CUCUMBERS: Cucumber, bitter gourd (bitter cucumber, bitter melon, ku gua foo, ampalaya, Chinese bitter melon), pickles, and decorative gourds.

MELONS: Canary melon, cantaloupe, casaba melon, crenshaw melon, honeydew melon, muskmelon, persian melon and watermelon.

SUMMER SQUASH: Acorn, Connecticut field, small sugar squash, table queen squash, melopepo, bush pumpkin, cocozelle squash, summer crookneck, summer straightneck, white bush scallop, pattypan, and zucchini squash.

WINTER SQUASH: Banana squash, Boston marrow, buttercup, delicious squash, blue Hubbard squash, cushaw, Hubbard squash, mammoth squash,Queensland blue squash, spaghetti squash, and turban squash.

MISC. SQUASH: Butternut, Quaker pie, pumpkin, Virginia mammoth, luffa (Loofah sponges from the dried fibrous part of the loofa fruit, vegetable sponge, see gua), and chayote (mirliton).

Grape Family

Vitaceae

Grape, grape seed, concord grape, wine grape, buckthorn, muscadines, raisin, currants, cream of tartar, brandy, champagne, wine and wine vinegar.

Grass Family

Poaceae

Whole wheat, wheat bran, wheat gluten, wheat gliadin, rye, barley, oat, corn, sugar cane, rice (white rice, brown rice), and lemon grass.

A note on gluten: Gluten is a protein mass present in cereal grains. It's what gives dough its elasticity and creates light and puffy baked goods. The gluten molecule is large and is a mixture of individual proteins; prolamines and glutelins. The prolamine, gliadin, is found in wheat, and is a problem in celiac disease. Secalin, hordein, and avenin, the prolamines of rye, barley, and oats respectively, may pose additional problems to celiac patients. Allergy to gluten containing grains closely parallels their taxonomic relationship with decreasing closeness in the following order: wheat, triticle (a wheat/rye blend), rye, barley, oat, rice, and corn.

Note: Although wheatgrass is a member of the grass family, wheatgrass may be suitable for those on gluten-free diets. Wheatgrass is generally cut before the plant forms a grain, or wheat berry, and therefore may not contain gluten. However, the harvesting practices must be taken into account.

Gluten-containing grains: Kamut, oat, pumpernickel, rye, spelt, triticale, wheat, wheat berries, and barley. There are small amounts of gluten in millet, but virtually no gliadin.

Barley malt, and malted barley: Malt is made from sprouted barley and from the hydrolyzed starch of other grains. This thick syrup is sweet in taste and is added to foods to improve taste. It can be dried into malt extract, a powder, and added to an array of foods and beverages. Caramel color and flavoring is made from malted barley and is used in most baked goods and deli meats. It appears on food labels as "artificially colored or flavored."

Other sources of barley: All purpose flour, barley flakes, barley flour, and enriched flour.

Foods containing malt: Ales, all-purpose flour, baby cereals, baby crackers, BBQ sauces, barley corn, barley malt (often used to sweeten carob candies), beer, breakfast cereals and granolas, canned and dried soup mixes, caramel flavoring, caramel coloring, cola, sodas of all kinds (contains caramel coloring), condiments, enriched breads, salad dressings, most canned prepared foods (TV dinners, Stouffers®, Green Giant®, etc.), lagers, malt, malt liquor, malted milk, malt syrup, maltodextrins, meat sauces, milk shakes, Ovaltine®, Postum®, processed meats, pre-cooked meats, rye bread (often colored with caramel color), soups, unbleached flour, and all products made from these flours (cakes, cookies, bread, noodles, pasta, pies, etc.), bourbon, and whiskey.

Foods containing oat: Oatmeal, granolas, multi-grain breads, meatloaf, and cookies, etc.

Foods containing rye: Rye bread, rye crackers, multi-grain breads, some granolas, gin, vodka, scotch, and whiskey.

Wheat products: Wheat flour, whole wheat, wheat gluten, gluten, wheat germ, wheat bran, whole wheat flour, bleached flour, white flour, unbleached flour, all-purpose flour, bulgur (cracked wheat), miller's bran, farina, triticale, kamut, spelt, couscous, tabouli, flour tortillas, and modified food starch.

Foods containing wheat or derived from wheat: MSG (monosodium glutamate), hydrolyzed vegetable protein, semolina (all pasta and noodles), hard durum flour, malt (may be derived from wheat), biscuits, breads, cakes, cookies, crackers, graham crackers, crepes, croutons, dumplings, pancakes, pie crusts, popovers, pretzels, waffles, chocolate candy, pills and tablets that are pressed together, breakfast cereals of all kinds, flours and flour blends (read labels), falafel, candy, bouillon cubes, soy sauce, processed meat/poultry/fish products (serves as binders and fillers), luncheon meats, hot dogs, sausage, canned processed meats (Spam®, Vienna sausages), imitation crabmeat, soups, soup mixes, mixes for baking anything, ice cream cones, some ice cream, baking powder, seasonings, ale, beer, breaded meats, breaded vegetables, fried foods dipped in batter, flour or crumbs, etc.

**Wheat flour can be flavored and shaped to look like beef, pork, or shrimp, especially in Asian dishes.*

Corn Sources: Corn oil, corn meal, corn cereals, food breaded with corn meal, corn bread, corn flour, corn oil, corn starch, corn sugar, corn syrup, popcorn, hominy, grits, corn chips, and corn tortillas.

Foods containing corn: Baking powder, coffee creamers, candy, chewing gum, pancake syrups, jams, jellies, preserves, cakes, cake mixes, baked goods, some peanut butter, processed meats, hot dogs, cereals, ice cream, baking mixes, fish sticks, TV dinners, potato chips (cooked in corn oil), salad dressings, some margarines, vegetable oils, Chinese food, gravies made with cornstarch, soups, cream pies, Crackerjack®, carbonated drinks, soda water, fruit drinks, bleached white flour, some cheeses, canned prepared food of all kinds, chili mix, instant coffee, cough syrups, canned peas, instant (converted) rice, sandwich spreads, condiments, meat sauces, sherbets, dates (sweetened), deep frying mixtures, gelatin desserts, gelatin capsules, glucose products, graham crackers, Similac® (most canned formulas), canned or frozen green beans, soybean milks, instant tea, vitamins with candy outer coatings, white powdered sugar has corn starch, baker's yeast often has cornstarch, iodized salt has dextrose from corn, fructose, zein, corn protein dextrose, corn gluten, dextrin, dexin, dextrimaltose, corn alcohol (beer, bourbon, blended whiskeys, fortified wines, liquors); most caramel color is corn-derived. Ingredients in products may change without notice, so always read labels.

Other sources of irritation: Paper cups, paper cartons and foods in them may have corn since they are stacked with corn starch to prevent sticking. An example is milk packaged in paper cartons. Pharmaceutical syrups (Benadryl®), some prescription drugs and over-the counter preparations contain corn. Liquid children's medicines usually contain corn syrup. Ask the pharmacist for corn-free medicine. Adhesives, gummed edge of envelopes, glue, stamps, stickers, tapes, aspirin, pain tablets, inhalants, body powders, clothes starch, and talcum powder.

What to avoid: Corn syrups, corn sugar, dextrose, dextrimaltose, Equal®, (dehydrated corn syrup solids) glucose, fructose, and foods containing them. Fructose that is available commercially also comes from corn.

Any products containing sugar may also contain corn sugar. The federal standard of identity for sugar states that it may be cane, corn or beet sugar depending on price and availability.

Foods containing rice: Cream of rice cereal, rice noodles, rice crackers, and rice milk.

Sources: Asian cuisine, fried rice, casseroles, Cajun dishes, Indian cuisine, pilaf, rice milk-based desserts and candies.

Inhalants: Bahia, Bermuda, Smooth brome, Meadow fescue, Johnson, Perennial rye, Sweet vernal, Timothy.

Heath Family

Ericaceae

Blueberry, bearberry (Uva-ursi), bilberry, cranberry, huckleberry, wintergreen flavoring and aspria gum (often in toothpastes).

Sources: Jellies, jams, preserves, pies, muffins, ice cream, and cheesecake, etc.

Hops Family

Cannabaceae

Family includes hops, hemp. "Hops" is the common term for either the dried flower heads or the extract, with a bitter taste and aromatic odor, from the dried fruit of the plant. Hops contribute flavor and aroma and act as a preservative in brewed alcoholic beverages and are used medicinally to aid sleep. Beer manufacturing utilizes most of the world's production of hops. A brown dye is obtained from hops leaves and flower heads; an essential oil is used in perfumery; extracts of the plant are used in Europe in skin creams and lotions.

Laurel Family

Lauraceae

Bay leaf, camphor, cinnamon, laurel, sassafras (used to make root beer, herb teas and ground to make Gumbo file) and avocado (alligator pear).

Foods containing avocado: Guacamole, salad dressings.

Foods containing bay leaves: Bay leaves are contained in various seasonings, seasoning salt, seafood seasonings, soups, soup mixes, bouillabaisse, bouillons, pickling spices, pickles, etc. Read labels - bay leaves may simply be listed as "spices" and you will have to write to manufacturers to see if those spices include bay leaves. Oil of bay leaves is used in pickling spices and the flavoring of salad vinegar.

Foods containing cinnamon: Apple butter, breakfast rolls, chili, chili powder, cinnamon tea cookies, spiced cakes, spiced teas, seasoned meats, processed meats, hot dogs, chewing gum, curry, candy, catsup etc. Cinnamon leaf oil, which contains eugenol is used in making perfume as well as a starting material in the production of vanillin. Cinnamon flavoring is often added to hot chocolate.

Legume/Pea Family

Fabaceae

This large group can be subdivided into the following groups:

BEANS: Aduki beans, black turtle beans, fava beans, great northern beans (white bean), green beans, jack beans, kidney beans, lima beans, mung beans, navy beans, pinto beans, snap beans, string beans, red beans, and mung bean sprouts. The fava bean, vicia faba, while in the same family, it is not particularly close to common garden beans. The black bean, phaseolus vulgaris, is a member of the kidney bean family (haricot bean) and includes other common garden varieties including pinto beans.

CAROB: Carob (chocolate substitute; also called St. John's bread), carob bean gum, and locust bean gum (guar gum).

LENTILS: Lentils, masur beans, and pink lentils.

PEANUTS: Peanuts, peanut butter, and peanut oil.

PEAS: Black-eyed peas, chickpeas, cream peas, Crowder peas, field peas, green peas, purple-hull peas, split peas, astragalus.

SOYBEAN: Soybeans.

Foods containing soybean: Edamame, tofu, soy protein in soy lecithin and margarine, guar gum (Crisco, mayonnaise, salad dressings), gum Arabic, bulking agent, breads, bread crumbs, baby foods, bakery goods, soy in some breads, burger patties, soy nuts, soy panthenol, butter substitutes, cakes, cookies, crackers, cereals, candy, carob, chocolates (cream centers), cooking oils, ice cream, canned meat or fish in sauces, cheese (artificial), emulsifier, drink mixes, hot dogs, hydrolyzed vegetable protein (HVP), ice cream, infant formula, liquid meal replacers, powdered meal replacers, miso, monosodium glutamate (MSG), protein extender, muesli, oleomargarines, prepared salad dressings, sauces (Worcestershire, sweet/sour, HP, teriyaki), sausages, Spanish sausage, meat pastes, seasoned salt, shortenings, soups, soy sprouts (served in Chinese restaurants), soy pasta products (noodles, macaroni and spaghetti), soy milk substitutes, soy sauce, stabilizer, snack bars, vegetable starch, textured vegetable protein (TVP), thickener, vegetable broth, vegetable gum, Tofutti, tempeh, TV dinners, Chinese foods prepared with soy sauce, fried rice, egg rolls, meat based pizza topping, similibacon, milled corn, soup stock cubes, and canned tuna (in broth).

Soy protein may be used as a thickener in lac-resin waxes, a finished wax coating used for citrus fruits, apples, and pears. Other names for lac-resin include; lac, shellac, confectioners glaze, food grade resin. It can therefore be found on candies as well.

PIZZA ALERT!!! Pizza parlors may use cheeses that are made from soybeans. Occasionally, the sensitive individual may report hives, asthma, and swelling after eating pizza made with soy cheeses. Ask your favorite pizza parlor to let you read the labels from the cheese sources they use. Also, read the labels on store bought pizza for soy.

**Soy lecithin may be listed as lecithin. Soy panthenol and soy protein are added to many cosmetics; body lotions and creams. Other sources of soy include: adhesives, dog food, enamel paints, fabric finishes, fertilizers, flooring materials, lubricants, nitroglycerine, paper, printing inks, and soaps.*

Other members of Legume Family: Acacia (gum), suakin, talca gum, tamarind, tragacanth gum (a thickener), cassia (found in laxatives - often called senna), fenugreek (spice used in curry, cinnamon and chutneys, primary flavoring in imitation maple syrup), and licorice.

Related plants: Clover, mimosa, milk vetch, and all plants that make a bean pod. A tree from this family is used throughout the coffee tree groves to shade the coffee trees.

Inhalants: Acacia and Mesquite.

Lily Family

Asparagaceae, Alliaceae, Asphodelaceae

White onion, red onion, wild onion, garlic, chives, leeks, shallots, scallions, green onions, asparagus (Asparagaceae), and Aloe vera (Asphodelaceae).

Sources: Onion and garlic can be used as "natural flavors" added to many processed foods, canned tuna, soup mixes, meat loaf, gravy mixes, tuna salad, chicken salad, potato salad, V-8 juice®, tarter sauces, catsup, chili con carne, picante sauce, Mexican foods, Chinese foods, salad dressings, some mayonnaise, meat dishes, Cajun cooking, Greek cooking, Italian cooking, mixed vegetable dishes, casseroles, Spanish rice, and processed meats, etc.

Linen Family

Linaceae

Linseed oil, flaxseed, and flaxseed oil.

Sources: Roman meal products, Uncle Sam's breakfast cereal, mixed grain cereals, breads, muffins, breakfast cookies, fiber supplements. Flaxseed is often added to cough remedies; ask the druggist if it is in any of your medication/prescriptions. It may be called linolein on the label.

Other sources of irritation: Flaxseed is used to make many products that may be irritating to you: Linoleum, Linseed oil, Bird lime, paint and varnishes, printers ink, lithographic ink, hair setting tonics (kremel), Soft soap, some depilatories, fabrics made of linen, insulating materials, Flaxlinum (used in refrigerators), Bi-flax (a base used for insulating plasters), flax rugs, high grade waxed paper, fiberboard, and stuffing for furniture.

Madder Family
Rubiaceae

Coffee bean.

Sources: Coffee (regular, instant or freeze dried), mocha flavored beverages, cola drinks of all kinds, chocolate bars/candies containing coffee, some gravies for meat dishes, cakes, cookies.

Caffeine is an alkaloid substance (like morphine and codeine) that occurs naturally in the seeds of some plants. These drugs, when refined into pure substances, have stimulatory effects and are often habit forming and addictive in nature. Caffeine is added to cola drinks for flavor and as a stimulant. Caffeine is frequently added to over-the-counter medications such as pain relievers, appetite suppressants, and cold medicines.

Mallow Family
Malvaceae

Cocoa bean.

Sources: Cocoa butter, cocoa powder, chocolate, cola bean, theobromine.

Relatives: Balsa, jute, hollyhock, mallows, cotton, and lindens.

Mangosteen Family
Clusiaceae

St. John's wort, Klamath weed, goat weed, bacury, dragon's-blood-tree, mangosteen, and Scotch attorney.

Mint Family
Lamiaceae

Applemint, basil, betony, catnip, chia, clary, hyssop, marjoram, menthol, oregano, pennyroyal tea, peppermint, rosemary, sage, spearmint, savory, summer savory, thyme, lemon balm, and horehound.

Related plants: Balm mint, blue balm, cure-all, dropsy plant, Melissa, sweet balm.

Foods containing basil: Oil of basil is used as a base for many perfumes and in scenting soaps. It is the primary ingredient in the liqueur chartreuse. It is used in Italian foods, spaghetti sauces, pizza, Mexican food, chili powder, mock turtle soup, and other foods with tomato sauces. Chicken Cacciatore is flavored with basil.

Foods containing marjoram: Oil of marjoram is used in the preparation of sauces in Greek, Italian and Spanish cooking. It is also added to meats, liverwurst, some cheeses, stuffings and soups.

Foods containing mint: Menthol, mint jelly, gums, toothpastes, and mint teas.

Foods containing oregano: Oregano oil is used in scenting soaps, and as an ingredient in liqueurs.

It is used in Italian foods, spaghetti sauces, pizza, Mexican food, chili powder, and other foods with tomato sauces.

Other sources of irritation: Perfumes, Tulsi (used in the Hindu religion), herb mixtures, and herb-scented room fresheners.

Mollusca Phylum

Abalone, clam, cockle, mussel, oyster, scallops, octopus, snail, squid and cuttlefish.

Sources: Clam chowder, clam dip, seafood soups and chowders.

Morning-Glory/Bindweed Family

Convolvulaceae

Sweet potato (yellow), boniato, jicama, and Chinese water spinach.

Note: Yams are not related to sweet potatoes but are commonly interchanged in our vocabulary.

Mulberry Family

Moraceae

Breadfruit, fig, jack fruit, and mulberry

Fig uses: Peeled or unpeeled, fresh, canned or dried, the fruits may be stewed or cooked in various ways, in pies, puddings, cakes, bread or other bakery products, or they may be added to ice cream mix. The fruits are sometimes preserved in sugar syrup or prepared as jam, marmalade, or paste. Figs have been roasted and ground up as a coffee substitute. Low-grade figs may be converted into alcohol for flavoring for liqueurs and tobacco. The latex is dried and powdered for coagulating plant and animal milk. From it can be isolated the protein-digesting enzyme ficin, which is used for tenderizing meat, rendering fat, and clarifying beverages. ~from Phadia.

Can cross-react with latex; some species are used to make rubber.

Some members of this tree family produce rubber. Fig wood, though of low quality, may be used for hoops, garlands, emery boards, etc. Ficus trees may be grown indoors for ornamental use.

Jack Fruit uses: it produces copious latex which may be used medicinally, as household cement, or as caulk. The fruit is eaten raw, boiled or fried; its seeds are roasted like chestnuts. It may be made into ice cream, chutney, jam, liqueur, pulp, custard, jelly, nectar, powder or concentrate, paste, or even a potato-like chip. It may also be pickled, canned or frozen. It is often included in curried dishes. The inedible portions of the fruit yield jelly, pectin and a syrup used for tobacco curing. Can cross-react with latex.

Mustard Family

Brassicaceae/Cruciferae

Bok choy, broccoli, brussels sprouts, cabbage, cauliflower, celery cabbage, Chinese cabbage,

collard greens, horseradish, kale, kohlrabi, krout, mustard greens, mustard seed, radish, rapeseed, rutabaga, savoy cabbage, turnip, turnip greens, watercress, canola and cress.

Canola oil is extracted from cultivated rapeseed. The word "canola" was originally derived from "Canadian oil, low acid" first cultivated in Canada, and denoting the extract contains low erucic acid, an omega-9 oil produced naturally among the brassica family to varying degrees. Also called "LEAR" oil (for Low Erucic Acid Rapeseed). "HEAR" oil (for High Erucic Acid Rapeseed) is used for industrial purposes. Animal studies have linked adverse effects to high levels of erucic acid.

Foods containing mustard: Prepared mustard, dry mustard, dijon mustard, mustard seed, potato salad, sandwiches, Chinese hot mustard, deviled eggs, mustard seeds are in pickling spices and may be used in sauerkraut, curry, salad dressings, cheese sauces, baked beans, hamburger relishes.

Other sources of irritation: Mustard seed oil can be used in massage oils, lubricant, hair oil, illuminant, and oils for burning in lamps. Also present in tear gas.

Foods containing broccoli: Casseroles with broccoli, vegetable mixtures with broccoli, stir fry foods with broccoli and bok choy. Bok choy is a main ingredient in many Chinese dishes, especially stir-fry dishes with vegetables.

Foods containing cabbage: Sauerkraut, soups and stews, egg rolls, cole slaw, stuffed cabbage, and tossed green cabbage salad.

Myrtle Family

Myrtaceae

Allspice, bayberry, clove (ingredient in five spice powder, woo-hsiang powder), eucalyptus, guava, Jamaica pepper, lian woo (wax apple, java apple, bell apple), and pimento.

Sources of allspice: Spiced tea, herbal teas, pickling spices, some sausages, relishes, fruit cakes, room fresheners, and spiced hams. Allspice is an important ingredient in Benedictine and Chartreuse liqueurs.

Sources of clove: Pumpkin spice, spiced teas, some perfumes, some soaps, some digestive aids, and some mouthwashes. Clove is used in the production of synthetic vanilla flavoring. Cloves are often used in pickled fruits, sweet syrups, some fruit punches, fruit cakes and mixed spices.

Related sources of irritation: Scented candles, sachets containing "pumpkin pie spice."

Inhalants: Eucalyptus.

Nightshade/Potato Family

Solanaceae

Green bell pepper, red, orange, yellow and purple bell pepper, banana pepper, brinjal, cayenne, capsicum pepper, chili pepper, eggplant, jalapeno pepper, salsa, sweet pepper, paprika, pimento, red potato (new potato), russet potato, white potato, tobacco plant, Tabasco, tomato, tomatillo, ground cherry, thornapple, and ashwaganda.

The members of this family have been associated with arthritis. Dr. Norman Childers and Gerald Russo, authors of "The Nightshades and Health" have studied the effects of nightshades and arthritis. Removal of these foods in some cases may relieve the symptoms of the disease.

Foods containing potato: Some inexpensive yogurts, baby foods, egg replacers, consommé, dried soup mixes, soups, fish cakes, breaded foods, frozen entrees, meatballs, frozen pies and desserts, canned mixed vegetables, some protein powders.

Foods containing tomato: Chili sauces, catsup, BBQ sauces, meat sauces, Italian foods, tortillas chips (some), herrings in tomato sauce, TV dinners, frozen entrees, soups, meat loaf, Spanish rice, baked beans, many deli foods.

Foods containing peppers: Relishes, stuffed olives, smoked herrings, frozen entrees, frozen chicken dinners, pinkish colored cheeses, may be labeled "natural flavor", salad dressings, dips, bean dips, refried beans, salsa, soy sauces, pickles, cough lozenges, bologna, processed meats, hot dogs, and pickled cauliflower.

Foods containing paprika: Paprika is made from peppers. Salad dressings, seasoning salts, some cheeses, may be called "natural flavoring", "natural coloring" or "beta carotene coloring", garnishes on potato salad, sprinkled on broiled fish and chicken, BBQ sauces, Italian sausage, processed meats, bottled roasted peanuts, frozen dinners and entrees, mayonnaise, chili sauce, and other bottled sauces. Paprika contains capsaicin, which is used as an intestinal stimulant. It may also be used in ginger ale and ginger beer.

Curry: Curry is a blend of seasonings and herbs from many families. All curries are not the same. A blend may be as simple as 3 or 4 ingredients or as many as 30 spices. Common ingredients in curry are: chili pepper, fenugreek, cassia, common cinnamon, cardamom, coriander, celery seed, cumin, caraway seed, dill seed, nutmeg, black pepper, mace, mint leaves, mustard seed, poppy seed, turmeric, saffron, cloves, ginger, fennel, and curry leaves.

All Nuts & Seeds

Aster/Daisy Family

Asteraceae

Sunflower seeds, curry.

Relatives: Jerusalem artichoke, and girasole.

Sources: Sunflower seeds, sunflower oil, Jerusalem artichokes, girasole, and foods containing them.

Beech Family

Fagaceae

Beechnuts, chestnuts, and chinquapins.

Birch Family
Betulaceae

Filberts and hazelnuts.

Sources: Nougat, an ingredient in many confections, ice cream and candies.

Inhalants: American hazelnut, white alder, white birch.

Brazil Nut Family
Lecythidaceae

Brazil nut, sapucaia nut.

Legume/Pea Family
Fabaceae

Peanut.

Sources: Peanuts, peanut butter, peanut oil (arachis oil), peanut milk, and products containing them; mixed nuts, granola bars, peanut butter and jelly sandwiches, nut toppings on ice cream, chocolate covered peanuts, peanut brittle, and peanut butter fudge, etc.

Note: Peanut is not a true nut, but a legume and grows in the ground. People with peanut allergy are not necessarily allergic to tree nuts, although it is usually advised to avoid them due to the possibility of cross-contamination in processing and packaging. Common names include, goober nuts/peas, and mandelonas (peanuts soaked in almond flavoring).

Hidden Sources: Almond icing, deflavored/reflavored sold as walnuts or almonds, chili, baby formula, vegetable burgers, flavoring in dry soup mix, chocolate from Europe, gravy, egg rolls, hazelnut paste, ground nut mix, baked goods, baking mixes, battered foods, biscuits, Chinese dishes, margarine, marzipan, milk formula, Satay sauce and dishes, Thai dishes, vegetable fat and vegetable oil.

Pine Family
Pinaceae

Cedar, fir, hemlock, larch, pine, and spruce.

Pine Nut uses: the high-fat, high-protein pine nut is found inside the pine cone and may be used raw, toasted, ground, and for oil. Popular as snacks and in salads, pine nuts are used to make pesto.

Pine nut varieties include Italian, Mediterranean, and Chinese.

Protea Family
Proteaceae

Macadamia.

Rose Family
Rosaceae

Almond.

Sources: Fish almandine, green beans almandine, almond butter, almond cookies, chocolate covered almond candies, Almond Roca®, Almond Joy,® Amaretto, almond extract, mixed nuts with almonds, ice cream with almonds, almond milk, granola with almonds, and marzapan. Other name is anacardium nut.

Hidden Sources: Pesto sauce, and coffee grinders used to grind nut-flavored coffees.

Sesame Family
Pedaliaceae

Sesame seeds.

Sources: Sesame seed, sesame oil, and tahini.

Sumac Family
Anacardiaceae

Cashew, mango, and pistachio.

Inhalants: California pepper.

Related plants: Poison ivy, poison sumac, poison oak. Brown sandals from India are dyed with a relative from this family and may cause a poison ivy-like rash on the feet.

Walnut Family
Juglandaceae

Pecans, walnuts.

Relatives: Butternut, hickory nut.

Sources: Pecans, walnuts, and foods containing them; cookies, candies, mixed nuts, cakes, ice cream, pralines, chopped nut toppings, brownies and fudge with nuts, etc.

Inhalants: White hickory, pecan, black walnut, English walnut.

Olive Family
Oleaceae

Black olive, green olive, pitted olives, Kalamata, olive oil.

Sources: Mortadella and other sausage mixes, breads, and puttanesca sauce.

Inhalants: White ash.

Relatives: Lilac, jasmine, osmanthus, and forsythia.

Orchid Family

Orchidaceae

Vanilla bean.

Sources: Cookies, baked goods, ice creams, candy, soft drinks, toppings, frostings, butter, margarine, chocolate products and custards. Rum guaiacum (other extracts use vanilla as a base and contains alcohol so they may need to be avoided as well).

What to look for on labels: Vanillin, ethyl vanillin, imitation vanilla extract, artificial vanilla.

Relatives: Lady's slipper.

Palm Family

Arecaceae

Date, coconut, coconut oil, palm oil, sago, palm cabbage, and saw palmetto.

Sources: Most processed foods, especially baked goods, may contain coconut and/or palm oil. May be labeled as MCT oils (medium chain triglycerides). Carnuba wax is derived from the palm tree and is used in waxes for a finished coating on stonefruits and some vegetables.

Additional information: Sodium laurel sulfate is derived from coconut and is used in the food industry in the following ways: improves the whipping of foods for easier and smooth mixtures; often included in mixes with egg or gelatin; used to gloss hard and soft candies; can be used in drink mixes as fumaric acid to help dissolve the ingredients in water.

Inhalants: Queen palm.

Papaya Family

Caricaceae

Papaya, papain (meat tenderizer).

Papain is used as a meat tenderizer and may be contained in the following foods: beer, soy sauce, condiments, seasoned salts, meat tenderizer, meat seasonings, digestive aids, digestive agents, canned and dried gravies, and other meat mixes. Some people have reported that papain may interfere with the clotting time of blood.

Pepper Family

Piperaceae

Green pepper, red pepper, and black pepper.

Sources: Used to season various soups, stews, casseroles, etc.

Relatives: Baby rubberplant, coin leaf plant, and kava.

Pheasant Family

Phasianidae

Chicken, egg white, egg yolk, whole egg, pheasant, peafowl, partridge, quail, Cornish hen, turkey, and turkey eggs.

Hidden sources of egg: Baked goods (except some breads), baking mixes, batters used for frying foods, Béarnaise sauce, breakfast cereals, candy, cookies, creamy fillings, puddings, custards, bouillons (cleared with egg white), cake flours, prepared frostings, cookies, divinity, fondant creams, truffles, Turkish delight, French toast, Hollandaise sauce, ice cream, sherbets, malted cocoa drinks (Ovaltine®), egg noodles and macaroni, eggnog, lemon curd, marshmallows, mayonnaise, meringues, muffins, omelettes, pancakes, pretzels, creamy salad dressings, processed meat products (bologna, meat loaf, meatballs, sausages), sherbets, soufflés, soups, tarter sauce, waffles, wines (cleared with egg white), some fat substitutes, glazes on baked goods, and lysozyme in cheese.

What to look for on labels: Egg; whole egg, dried egg, powdered egg, egg solids, egg yolk, egg white, egg protein, albumin, globulin, livetin, ovalbumin, ovamucoid, ovamucin, ovovitellin (and any other ingredient beginning with the prefix "ovo" including ovotransferrin), vitellin, lecithin, lysozyme, binder, coagulant, emulsifier, and globulin.

Note: Cross-reactivity may be possible between hen's egg-white, turkey, duck, goose and seagull egg-whites. In addition, between hen's egg yolk, hen and chicken flesh. The allergens in the meat however, seem to be different from the major allergens in the hen's egg. Cross-reactivity may be found within other Galliformes, or order of birds containing; chicken, grouse, partridge, peafowl, pheasant, quail, turkey and squab including Anseriformes (waterfowl); duck and goose.

Related sources of irritation: Poultry feathers, down pillows, down comforters (duvets), down-filled winter coats, scarves and gloves.

Pineapple Family

Bromeliaceae

Pineapple, bromelain (enzyme derived from the pineapple plant).

Sources: Fruit salads, fruit desserts, pineapple up-side-down cake, spice cake with pineapple, fruit cocktail, piña colata preparations, and pineapple juice, etc.

Rabbit Family

Leporidae

Hare, rabbit.

Rose Family

Rosaceae

APPLE: Apple, crabapple, loquat, pear, and quince.

Sources: Apple cider, apple cider vinegar, mayonnaise containing apple cider vinegar, apple sauce, apple juice, and pectin from apples.

BERRY: Blackberry, boysenberry, dewberry, loganberry, red raspberry, youngberry, blackthorn berry, strawberry, and rose hips.

Sources: Sloe gin, berry jams & jellies, mixed fruit preserves, berry wines & juices, and baked goods & desserts with berries.

STONE FRUITS: Apricot, cherry, nectarine, peach, and plum/prune.

ALMONDS - Fish almandine, green beans almandine, almond butter, almond cookies, chocolate covered almond candies, Almond Roca, Almond Joy, Amaretto, almond extract, mixed nuts with almonds, ice cream with almonds, almond milk, almond rice, granola with almonds, and marzipan.

APRICOT - Apricots, dried fruit mixtures, apricot nectar and foods containing them.

CHERRY - Cherries, cherry preserves, maraschino cherries, Bing cherries, cherry pies, and desserts containing cherries.

PEACH AND NECTARINE - Jams, jellies, baked desserts, and fruit salads etc.

PLUM AND PRUNE - Plums, prunes, prune juice and foods containing them.

Swine Family

Suidae

Pork.

Sources: Pork sausage, processed meats and sausages containing pork lard, refried beans with lard, bacon, bacon grease, fresh ham, cured ham, and foods containing pork products: Liverwurst, bolog na, Vienna sausage, Italian sausage, luncheon meats, salami, and hot dogs etc. Knox gelatin is prepared from either swine (porcine) or bovine, depending on cost or availability. Some gelatin-encapsulated supplements may be porcine derived.

Food additive derived from pork: Stearic acid or calcium stearate may be refined from pork fat which may be added to foods as a binder, foam inhibitor, lubricant, and coating on foods (manufacturers may add stearic acid to carnuba wax; used as a finishing coating on fresh fruits and vegetables). It is used in beverages, baked goods, candy and chewing gum.

A cross-reactivity of pork and cat epithelia has been reported in subjects with so called "pork-cat syndrome."

Tea Family
Theaceae

Black tea, green tea, Woolong tea (Oolong tea).

Tea is derived from the plant camellia sinensis, and is classified into three basic types: black, green and oolong. The process used in preparing the leaves establishes the classification, while the extent of oxidation determines the color, body and flavor.

Valerian Family
Valerianaceae

Valerian, valerian root, tobacco root, and St. George's herb.

Waterfowl Family
Anatidae

Duck, duck egg , goose , swan, teal, and hooded merganser.

Yam Family
Dioscoreaceae

Yams, cush-cush, yampee, water yams, yellow yams, black yams, Chinese yams, elephant's foot, wild yam, and white yam.

True yams are not related to sweet potatoes. They are grown in the tropics and are known as yampees and cush-cush.

A Note about Five Spice Powder and Curry Powder:
Five spice powder (woo-hsiang powder) is a blend of spices, commonly cinnamon, fennel, star anise, clove, and Szechuan pepper. Curry powder is a blend of spices, commonly coriander, fenugreek, turmeric, cumin, black pepper, bay leaves, celery seed, nutmeg, cloves, onion, red pepper and ginger.

A Note on Cross-Reactivity:
Cross-reactivity between allergens occurs when there is a degree of structural homology or similarity. Antibody tests to these similar "looking" allergens may be positive even though this may not always coincide with a clinical allergic reaction. Cross-reactions may occur among fruit or vegetable clusters belonging to the same or a closely related botanical family. For example, various tree nuts, peanuts, soy and other legumes, or stone fruits (peach, apricot, plum and cherry). Cross-reactivity may also occur between inhalant and food allergens. Those allergic to birch pollen, for instance, may be sensitized to numerous raw fruits/vegetables and nuts that have similar allergenic proteins to the pollen such as, apple, kiwi, peach, carrot, celery and hazelnut. Other common inhalant/food cross-reactions include ragweed/banana, mugwort/celery, and dust mite/snail/shrimp. The probability of reacting to related allergens varies. Those allergic to birch or ragweed pollen, for example, are likely to be allergic to at least one related fruit/vegetable such as apple, peach or honeydew (approximately 55% risk). On the other hand, those allergic to cow's milk are less likely to be allergic to beef (approximately 10%

risk). There are many factors that influence the risk of reaction including the nature and structure of the allergen, the antibody concentration specific for that allergen, its affinity, and the nature of the immune response. Discuss any concerns related to food cross-reactivity with your practitioner.

Pollen-Fruit/Vegetable Cross-Reactivity	
Ragweed Pollen	**Fruits:** banana , melons (cantaloupe, honeydew & watermelon), persimmon **Vegetables:** cucumber , tomato, zucchini, pumpkin **Herbs/Spices:** chamomile tea extract **Misc:** Latex
Birch Pollen	**Fruits:** apple, apricot, cherry, kiwi, lychee fruit, nectarine orange, peach, pear, persimmon, plum, strawberry, fig, jackfruit **Vegetables:** carrot, celery, parsnip, potato, zucchini **Herbs/Spices:** coriander, fennel, parsley, black pepper **Nuts/Beans:** almond, hazelnut, soy, peanut
Alder Pollen	**Fruits:** apple, apricot, cherry, kiwi, nectarine, orange, peach, pear, persimmon, plum **Vegetables:** carrot, celery, white potato **Herbs/Spices:** fennel, parsley **Nuts:** almond, hazelnut
Grass Pollen	**Fruits:** kiwi, melon, orange, peach, apple **Vegetables:** celery, Swiss chard , tomato, potato, buckwheat, wheat **Herbs/Spices:** fennel **Nuts/Grains:** peanut, wheat **Misc:** Latex
Mugwort Pollen	**Fruits:** apple, kiwi, melon, peaches **Vegetables:** carrot, celery, lettuce, cabbage, cauliflower, broccoli, garlic, onion, bell pepper **Herbs/Spices:** anise seeds , caraway seeds, chamomile tea extract, coriander, cumin extract, fennel seeds, parsley, black pepper **Nuts/Seeds:** almond, hazelnut, peanut, pistachio, sunflower seed, poppy seed **Misc:** Honey, Latex
Hazel Tree	Hazelnut, hazelnut husks

Other Cross-Reactions	
Latex	**Fruits:** apple, banana, cherry, kiwi, melon (cantaloupe, honeydew, muskmelon), papaya, peach, pear, pineapple, tomato, jackfruit, fig, persimmon **Vegetables:** avocado, carrot, celery, white potato **Nuts/Seeds:** almond, chestnut, hazelnut **Misc:** Hops
Cow's milk	Sheep, lamb, goat, buffalo
Beef	Cat dander, cow's milk, lamb, pork. Cross-reactivity has been suggested between a salivary glycoprotein from the ticks Amblyoma americanum, indigenous to southeastern United States, and Ixodes holocyclus, of Sydney, Australia and a glycoprotein found in various red meats (galactose-alpha-1,3-galactose) resulting in a delayed IgE-mediated allergy to beef, pork and/or lamb
Pork	beef, cat epithelia, cow's milk, dog dander
Chicken Egg	Duck, goose, seagull and turkey egg, pet bird dander, avian feathers and meat
Crustacean	Mollusks (abalone, clam, mussel, oyster, scallop, squid), dust mite, cockroach
Dog	Cat, horse, pork
Dust Mite	Cockroach and other insects, lobster, snail and shrimp
Mold	Baker's or Brewer's yeast (Saccharomyces cerevisiae), Candida albicans, raw mushroom, latex (Hevea brasiliensis), Fruit fly (Drosophila melanogaster)

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Index

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