

## The Importance of an Alkaline Diet

The internal environment of our bodies is maintained at a pH of just about 7.0. This means our internal environment is alkaline. Maintenance of this state is a dynamic, not static, process mediated moment to moment by numerous reactions that produce acid products. Our internal chemical equilibrium is primarily controlled by our lungs, kidneys, intestines, and skin. For necessary reactions and functions to occur, our body must maintain a proper pH. Adequate alkaline reserves are necessary for optimal pH adjustment. The body needs oxygen, water, and acid-buffering minerals to accomplish the pH buffering, while also briskly eliminating waste products.

When an alkaline environment is maintained in the body, metabolic, enzymatic, immunologic and repair mechanisms function at their best. The acid-forming metabolic of stress and inflammation and of high fat and high protein foods are adequately and effectively neutralized only when sufficient mineral-buffering reserves are present. Mineral-buffering reserves are the gift that alkaline forming foods give to our body. A diet that is predominantly alkaline forming is essential to the maintenance of sustained health.

Most vegetables and fruits contain higher proportions of alkaline-forming elements than other foods. These foods promote a more alkaline environment in the body. For example, commercial corn, barley, soybeans, and legumes are acid forming. This may reflect breeding selection in the last fifty years that favored higher carbohydrate and fat content. Traditional organically or bio-dynamically grown forms of these grains and grasses may well be much less acid forming. Surprisingly, despite their pronounced acid flavor, citrus fruits and rhubarb form alkaline residues. This is because their distinctive organic acids like citric, succinic, fumaric, and malic (Krebs' DCA or dicarboxylic acid) metabolize to water and alkalinizing bicarbonate, while producing energy (ATP) inside the cell.

Body balance, in terms of acid-alkaline state, is a pH of 7.450 for blood in the arteries and 7.350 for blood in the veins. Acid-alkaline equivalence is a pH of 7.000. Thus, a healthy body means a pH that is slightly alkaline. This means there are more buffering mineral receptors for electrons than acid-forming electron donors.

In foods containing large amounts of protein and fat, the acid-forming elements predominate over the alkaline-forming elements. Thus cow's milk and related dairy products are acid-forming, although sheep's milk/cheeses (with less fat and protein) produce less acid. The one dairy product exception is clarified butter (known as "ghee" in Indian cookery), which has

alkalizing short chain fats known as butyrates and caprylates. The butyrates and caprylates present in ghee are also thought to promote healthy bacterial growth in the intestines, promote repair of the intestine wall, and suppress pathogen growth of some yeasts and parasites if they are present.

Whole grains give an acid reaction disproportionate to their protein content due to the extra phosphorus present in the phytates. The phosphate content of commercial grains may be higher than traditional, organic, or biodynamic sources in part because of fertilizer differences and plant strain selection. Although most fruits have an alkaline effect, some such as prunes, plums, and cranberries make a net contribution of acid to the body since they contain organic acids that are not metabolized by the body. Nuts such as coconuts, almonds, and chestnuts are alkaline forming, while others like peanuts (a legume) and walnuts yield net acid. Highly refined and processed foods consisting chiefly of fats, sugars, and simple starches, along with protein-rich food are metabolically acidifying.

The chart on the back of this page titled, **Food & Chemical Effects on Acid/Alkaline Body Chemical Balance**, presents the message that, in general, fruits, vegetables, lentils, seeds, sprouts, roots, and tubers are healthfully alkalizing, while grains, grasses, fowl, fish, seafood, dairy products, meats, and most beans are acidifying. Here is a way to simplify this and make it memorable. It is come from under or near the ground it is likely to be alkalizing. If it comes from on or high above the ground, it is likely to be acid forming.

The specifics of how each food was categorized on this chart are based on a formula where protein, fat, carbohydrate, mineral, and other specific factors were taken into account. More specifically; the basic neutral and acidic end-products of protein, fat, and carbohydrate digestion were calculated, and the content of minerals and special factors were also accounted. A computation was used to determine the relative degree of acid or alkaline or alkaline-forming effects of the food on body chemistry. Based on this determination, the items were placed in the appropriate acid or alkaline group on the chart.



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# Food & Chemical Effects on Acid / Alkaline Body Chemical Balance™

Most Alkaline	More Alkaline	Low Alkaline	Lowest Alkaline	Food Category	Lowest Acid	Low Acid	More Acid	Most Acid
Baking Soda	Spices/Cinnamon Valerian Licorice •Black Cohosh Agave	•Herbs (most): Arnica, Bergamot, Echinacea Chrysanthemum, Ephedra, Feverfew, Goldenseal, Lemongrass Aloe Vera Nettle Angelica	White Willow Bark Slippery Elm Artemesia Annua	Spice/Herb	Curry	Vanilla Stevia	Nutmeg	Pudding/Jam/Jelly
Sea Salt Mineral Water	•Kambucha Molasses Soy Sauce	•Green or Mu Tea Rice Syrup Apple Cider Vinegar •Sake	Sulfite Ginger Tea •Sucanat •Umeboshi Vinegar •Aigae, Blue Green Butter)	Preservative Beverage Sweetner Vinegar Therapeutic Processed Dairy	MSG Kona Coffee Honey/Maple/Syrup Rice Vinegar Cream/Butter	Benzoate Alcohol Black Tea Balsamic Vinegar •Anthistamines Cow Milk	Aspartame Coffee Saccharin Red Wine Vinegar Psychotropics •Casein, Milk Protein, Cottage Cheese New Cheese Soy Milk	Table Salt (NaCl) Beer, 'Soda' Yeast/Hops/Malt Sugar/Cocoa White/Acetic Vinegar Antibiotics Processed Cheese
•Umeboshi Plum								
			Human Breast Milk	Cow/Human Soy Goat/Sheep Egg	Yogurt Goat/Sheep Cheese Chicken Egg	Aged Cheese Soy Cheese Goat Milk		Ice Cream
		•Quail Egg	•Duck Egg	Meat Game Fish/Shell Fish	Chicken Egg Gelatin/Organs •Venison Fish	Lamb/Mutton Boar/Elk/Game Meat Mollusks Shell Fish (Whole)	Pork/Veal Bear •Mussel/Squid Chicken	Beef Shell Fish (Processed) •Lobster Pheasant
			Oat 'Grain Coffee' •Quinoa Wild Rice •Amaranth Japanica Rice	Fowl	Wild Duck •Triticale Millet Kasha Brown Rice	Goose/Turkey Buckwheat Wheat •Spelt/Teff/Kamut Farina/Semolina White Rice	Maize Barley Groat Corn Rye Oat Bran	Barley Processed Flour
Pumpkin Seed	Poppy Seed Cashew Chestnut Pepper	Primrose Oil Sesame Seed Cod Liver Oil Almond •Sprout	Avocado Oil Seeds (most) Coconut Oil Olive/Macadamia Oil Linseed/Flax Oil	Nut Seed/Sprout Oil	Pumpkin Seed Oil Grape Seed Oil Sunflower Oil Pine Nut Canola Oil	Almond Oil Sesame Oil Safflower Oil Tapioca •Seitan or Tofu	Pistachio Seed Chestnut Oil Lard Pecan Palm Kernel Oil	•Cottonseed Oil/Mean Hazelnut Walnut Brazil Nut Fried Food
Hydrogenated Oil								
Lentil Broccoli •Seaweed Noril/Kombu/Wakame/Hijiki	Kohlrabi Parsnip/Taro Garlic Asparagus Kale/Parsley Endive/Arugula Mustard Greens Jerusalem Artichoke Ginger Root	Potato/Bell Pepper Mushroom/Fungi Cauliflower Cabbage Rutabaga •Salsify/Ginseng Eggplant Pumpkin Collard Greens	Brussel Sprout Beet Chive/Cilantro Celery/Scallion Okra/Cucumber Turnip Greens Squash Artichoke Lettuce Jicama	Bean Vegetable Legume Pulse Root	Spinach Fava Bean Kidney Bean Black-eyed Pea String/Wax Bean Zucchini Chutney Rhubarb	Split Pea Pinto Bean White Bean Navy/Red Bean Aduki Bean Lima or Mung Bean Chard	Green Pea Peanut Snow Pea Legumes (other) Carrot ChickPea/Garbanzo	Soybean Carob
•Burdock/Lotus Root Sweet Potato/Yam								
Lime Nectarine Persimmon Raspberry Watermelon Tangerine Pineapple	Grapefruit Cantalope Honeydew Citrus Olive •Dewberry Loganberry Mango	Lemon Pear Avocado Apple Blackberry Cherry Peach Papaya	Orange Apricot Banana Blueberry Pineapple Juice Raisin, Currant Strawberry	Citrus Fruit Fruit	Coconut Guava •Pickled Fruit Dry Fruit Fig Persimmon Juice •Cherimoya Date	Plum Prune Tomato	Cranberry Pomegranate	

\*Therapeutic, gourmet, or exotic items

Italicized items are NOT recommended