

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 metabolics 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 biodynamically grown forms of these grains and grasses may well be much less acid forming. Surprisingly, despite their pronounced acid flavor, citrus fruit 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 alkalizing 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 goat and sheep

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 foods 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. If it comes 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 wherein 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-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.

Reference: Jaffe R and Donovan P. *Your Health: A Professional User's Guide*. Sterling, Va: Health Studies Collegium, 1993.