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The Use of Raw Potatoes

The Irish peasantry refer to their beloved potatoes as "bog apples." This is a useful term to remember because it implies that potatoes, like the apple, may be eaten *raw* and, also like the apple, help "keep the doctor away." But while hardly an American meal passes without serving cooked potatoes, this same food served in the raw state is a rarity.

Good for Overweight

"Eat potatoes instead of bread" is good advice for the overweight who are constantly engaged in the battle of the calories. Pound for pound, potatoes furnish about one-third less calories than bread — so we may eat three times as much on a caloric basis. (There are about 100 calories per medium-sized raw potato, which is much less than a serving of spaghetti, pie or cake.) In addition, its superior digestibility and food value as a source of protein, vitamins and minerals make it ideal for reducing the caloric intake without sacrifice of many essential food factors.

Digestibility

Copeland said, "To eat is human; to digest divine." While the quality of potatoes is greatly modified by the conditions and soil under which they are grown, an analysis generally shows about 75 percent water, 15 percent starch, one to two percent protein and two to three percent mineral salts. However, the nutritive value cannot be obtained on the basis of analysis alone. It is necessary to know the extent to which the various constituents are digestible. Reports show 95 percent of calories are digested, 70 to 85 percent of nitrogenous material is absorbed (40 to 60 percent is in the form of protein), and 97 percent of the iron is present in "available" form. (*McCance and Widdowson*, 1942). Potatoes have very little fat or sugar and are high in potassium, phosphorus and calcium. The richer they are in protein, the more waxy they are; and the higher they are in starch, the more mealiness they have when cooked.

Accountable Losses

The portion of the potato close under the skin contains almost twice the solids that the central portion does, yet the removal of 20 to 25 percent of the total weight when the potato is peeled is not uncommon. In addition, if peeled potatoes are boiled in water, 20 percent of the solid constituents may be dissolved and so lost. (This loss is practically eliminated if potatoes are boiled with the skins intact). Cutting the potato causes cell damage and the liberation of an enzyme which destroys vitamin C to some extent (ascorbic acid oxidase). We may estimate that 25 percent of the vitamins are lost in cooking either by heat or leaching. The loss of vitamin C is particularly fast in heat. Keeping cooked potatoes, even under refrigeration, causes over 50 percent loss in 24 hours, practically all vitamin C in 72 hours. Ninety percent of vitamin C may be lost from mashed potatoes in 30 minutes if kept hot. It

now becomes evident that a 50 percent loss of nutrient value is a conservative estimate of the deficit caused by the ordinary methods of preparation of this important food.

Tips on Conserving

Cooking in salt water conserves more vitamin C than coking in unsalted water. The presence of calcium salts in the water (hard water) tends to conserve this vitamin. There is a greater loss of solid constituents if the potatoes are started in cold water instead dropping them into boiling water. One tablespoon of vinegar or lemon juice to a quart of water helps prevent blackening and may have additional beneficial effect. When extracting the juice of potatoes lemon juice should also be added.

Sprouted potatoes are inferior in quality to unsprouted ones. The potato skin is only from six to 10 cells thick, yet it contains about nine percent of the protein, and acts as preventive of the loss of solid constituents in cooking.

Baked potatoes should be pricked or broken open as soon as they are removed from the oven to let the heat and steam escape. This prevents them from becoming soggy. It is a good idea to insert a stainless steel skewer through the potato while baking; this conducts heat into the center and thus less baking is required.

Enzymes Destroyed

The cooked potato contains no enzymes, as all enzymes are destroyed by heat. There is an enzyme in raw milk which prevents constipation, and an enzyme in raw potatoes which does the same thing, according to clinical reports. Certainly a piece of raw potato before retiring can do no harm, and it has produced beneficial results in cases of chronic constipation. The farmer who reduces his potato intake when he comes to the city may notice that his head “pounds” after meals. Quite possible this is due to a reduction in his ordinary intake of potassium — the mineral which promotes normal heart rhythm. One of the enzymes found in raw potatoes is phosphatase, which promotes assimilation of calcium and iron in particular; another is tyrosinase, an essential component of the vitamin C complex and associated directly with the function of the adrenal glands.

Quality Differs

The best potatoes come from Maine where the crops are rotated with oats and clover, the clover ploughed under as green manure. The soil is abundantly supplied with decomposed shale rock. While potatoes can be grown on almost any soil the muck or peat soils are often used, and since these soils may be comparatively virgin, we have a good chance of obtaining good potatoes. Of course, it is recognized that one should try to obtain potatoes which have not been exposed to commercial fertilizer and poisonous insecticides.

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