

### *Quality Non-Flesh Proteins*

**F**OOD constituents required in such a limited amount as that of protein is largely supplied by the various products of the vegetable kingdom. Hence there is not so much necessity for an abundance of proteins in the vegetarian diet as there is for a liberal supply of minerals and vitamins, abounding in our raw fruits and green, leafy vegetables. Those who adopt a fleshless regime generally look for meat substitutes as a source of protein. Such combinations as "roast vegetable turkey" or "vegetarian steak" seem to be the result of a belief that meat is a necessary food and must be replaced in some form. Indeed, vegetarians who live largely on foods in which the protoplasmic cells have been more or less disorganized by prolonged cooking have very little [nutritional] advantage over eaters of a mixed diet.

Assuredly many meat substitutes on the market from accredited sources do provide conspicuously inviting non-flesh dishes at a moment's notice—delectable meatless loaves, steaks, hamburgers, roasts, and spreads, rivaling the choicest cuts of meats in flavor, appearance, and in vital, nourishing properties. They avoid the danger of monotony in the vegetarian regime, contributing as they do countless sustaining and appetizing meatless dishes to menus and quick luncheons.

Such preparations may be consumed occasionally in moderate quantities for convenience and to lend variety, but they need not form a regular part



of our daily food supply. We must understand that the proteins of fruits and vegetables, supplemented by a small amount of those occurring in nuts, legumes, dairy products, whole grains, and seeds, are fully able to sustain health and efficiency.

**NUTS AND NUT BUTTERS**—Nuts are often used as a dessert after a heavy meal. In this case they are harmful, as they require the full action of the digestive juices. Combined with fruits or vegetable salads, nuts make a complete meal in themselves, and their indigestibility in most cases must be attributed to a lack of wisdom in the choice of food eaten with them. One or two heaping tablespoons of flaked nuts or nut butter will suffice for a meal according to climate and activity. If two ounces or over are consumed per person, no other protein or fat need be taken at the same time. If nuts are thoroughly masticated and used in the small quantities indicated and harmoniously combined, they are easily digested and utilized by the human body.

Laboratory analyses have determined that all nuts, especially in the form of unroasted nut butter, furnish a relatively high amount of basic amino acids, and that nut proteins are of a high biological value. Nuts and nut butters, made from the unroasted whole nut, furnish us with the necessary proteins and fats combined with organic salts in the purest form. They are therefore superior to extracted or isolated fats, whether of animal or vegetable origin. They sometimes admirably substitute for mayonnaise and other free oil dressings

and lubricants.

Experiments have proved that the coefficient of digestibility is from five to ten per cent higher in nut butter than in whole nuts, even if well masticated. The digestibility of nuts in their natural state is impaired unless brought into a perfect state of emulsion by thorough mastication. Unbroken pieces of nuts may pass through the alimentary canal unabsorbed by the organism. Power nut butter mills pulverize and emulsify nut meats to a degree that completely fractures every particle of the nut cell, releasing all its valuable nutrient. Thus reduced to a delicious paste, nut butters easily absorb water, honey, fruit and vegetable juices, and lend themselves to the varied consistencies of delicious nut milk, sandwich spreads, fillings for dried fruits and candies, salad dressing, and as a shortening in baking. Nut cremes and nut milks are best when fresh; no more should be prepared than can be consumed comfortably at mealtime.

**LEGUMES**—Beans and peas are especially valuable when they are used at different stages of their growth, namely as tender pods (string beans and sugar peas) which can be gathered when the seeds are less than half grown. In this form, if eaten with the pods, they have an alkaline reaction, as they contain more lime and less phosphoric acid. A nourishing and very palatable food, green peas contain 9.50 per cent sugar and other carbohydrates, and 5.54 per cent protein, with a small amount of fat; the mineral matter consists of an abundance of magnesia and iron. Soy beans, when about three-quarters grown, make a most palatable and nutritious green vegetable, like the green pea or the lima bean.

Legumes in their dry state have a very high percentage of protein-about 20 per cent-resembling in this respect that of nuts; from 1.5 to 16 per cent fat and from 50 to 60 per cent carbohydrates, mostly starch. The soy bean ranks highest in protein, many varieties ranging as high as 35 per cent in this constituent; in fat content, the soy bean mounts to 16 to 18 per cent. Contrary to other members of the legume family which are highly acid forming, the soy bean yields many alkaline-reacting minerals in the end processes of metabolism.

It is advisable to soak lentils and beans over



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*Legumes*

night in water in order to soften them. Experiments have shown that the digestibility of legumes is facilitated by using distilled water in cooking. If the water used for cooking is hard, due to the presence of calcium carbonate, one teaspoonful of baking soda per gallon may be added, and then boiled and cooled before using, in order that the calcium carbonate may precipitate.

All legumes in their dry state require prolonged, slow cooking to render them thoroughly digestible and to bring out their rich flavors. They may be ground to increase their digestibility and to reduce the time of cooking. They can be made still more palatable if served in the form of puree, which can be readily accomplished by pressing the boiled seeds through a sieve. The addition of some vegetable and savory herbs promotes their digestibility.

Legumes are not difficult to digest if properly prepared and consumed in moderate quantities, well combined and balanced with green, leafy vegetables. No starchy food should accompany the meal. With these precautions, legumes may admirably replace animal foods without the usual disagreeable symptoms occurring during the process of digestion. If eaten, on the other hand, often and to excess, they produce acidity of the blood on account of their large amount of nitrogenous matter and acid-forming elements. Outdoor workers can digest legumes better than can sedentary workers; the latter group should eat them not more often than once or twice a week.

**QUALITY HARD WHEAT**—The factors which are the most valuable in estimating the protein content of wheat are color, texture, and test weight. The

most important factor for estimating protein content of red wheat is the color of the grain. In hard, red winter wheat, for example, a deep red color practically always indicates a fairly high protein content; whereas, distinctly yellow or light colored wheat (yellow berry) indicates a low protein content. Ordinarily this is a reliable index when applied to varieties of wheat of the Turkey type.

A hard, vitreous wheat is invariably high in protein, whereas a soft, starchy wheat is always low in protein. A combination of hard, vitreous texture and deep red color is a more reliable indication of high protein content than either factor taken alone. A low test weight is likely to be associated with a high protein content and vice versa. This fact is usually explained on the assumption that the protein is deposited in the grain earlier than the carbohydrates, and if the filling of the grain is cut short by hot winds, dry weather, or by other climatic factors, the grain is left relatively high in protein.

Grain that is not filled completely will be low in test weight per bushel, while well filled grain is high in test weight. Consequently, low test weight is associated with the high protein content of prematurely ripened wheat, and high test weight with low protein content of plump, completely filled grain rich in starch.

The softer, lighter colored wheats are used in making biscuits, pastry flours, and breakfast foods. Durum, an extra hard spring wheat, amber in color, is used to make macaroni, spaghetti, and vermicelli. High protein Turkey wheat is primarily utilized in bread making. The term gluten is sometimes loosely used as a synonym for protein; it is the gluten in the wheat that insures a porous, well risen loaf.

**ST. JOHN'S BREAD**—Nature yields profusely an abundance of many excellent foods, but few stand

out so pre-eminently as a universal provider as carob or St. John's Bread, as history and chemical analysis demonstrate. The basic food of millions of people for centuries, it possesses in harmonious combination the choice elements of fruits, nuts, and cereals. As a breakfast food, carob is richer

and carries more protein than does wheat. Well-balanced in its constituents, it compares favorably with cow's milk. The carob pod, meal, and flour require no cooking to be palatable; they are very nourishing and easily digested. Happily, carob flour is readily available.

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*The fruit of the carob tree, the carob pod with its seeds, ripens from May to August and originates from red flowers. Native to the eastern Mediterranean area (the above is from Majorca), this evergreen can reach heights of 50 feet, with a trunk 6 feet in diameter. One carob tree can produce up to 800 pounds of pods a year. The carob seeds and pods are ground to make a substitute for cocoa.*

**AVOCADO**—In intact natural food products the fats are mingled with other nutrients and form an integral part of the whole. In this undisturbed condition fats enjoy a higher degree of alkalinity than do oils which have been isolated from their original constituents. That is why the oil abounding in the avocado and in the sun-dried olives achieve a digestibility that surpasses that enjoyed by oils existing in a free state. The avocado is richer in protein than most fruits and is comparable in protein content to some dried fruits. The best varieties of avocados have more than twenty per cent fat in a very palatable and digestible form, superior to butter fat. Hence the avocado affords an admirable replacement for meat by virtue of its abundance of protein and fat.

**FRUITS AND VEGETABLES**—It is undeniable that proteins occurring in fruits and vegetables are pre-

sent in small quantities and lack one or more of the essential amino acids. Nevertheless, these proteins are associated with a greater amount of alkalinity and are of the highest biological value. Such amino acids as are available in fruits and vegetables occur in much better, cleaner, and purer form than those abounding in flesh foods.

Hence the inadequacy of amino acids in the incomplete proteins of many fruits and vegetables does not render their protein nutritive value of negligible consequence. When fruits and vegetables are consumed with nuts, nut butters, legumes—especially the soy bean—raw milk, eggs, cottage cheese, avocado, St. John's Bread, and sun-dried olives, their incomplete proteins are supplemented in such a way as to make them satisfactory nutrients. Among the few products of the vegetable kingdom that furnish proteins which are complete in amino acids and upon which the body can draw for its supply of tissue-building constituents may be mentioned nuts of all varieties, except the chestnut; soy beans are also notable in this respect.

Such remarks that all fruits and vegetables possess protein in negligible proportions are apparently at variance with facts. In the late Otto Carque's *Rational Diet* (now out of print), he indicates the average percentage of protein contained in water-free fruits, as follows:

Pears.....	4.00	Oranges.....	6.10
Prunes.....	4.40	Peaches.....	6.60
Pineapples....	4.80	Figs.....	7.40
Grapes.....	6.00	Apricots.....	8.70
Raspberries, black.....	10.00		

Otto Carque's Table on Vegetables and Grains in *Rational Diet* correspondingly enumerates the average protein content incorporated in the water-free parts of vegetables and grains; viz:

Pumpkins....	11.00	Dandelions.....	20.00
Corn.....	11.20	Celery.....	20.00
Oats.....	11.90	Leeks.....	22.60
Rutabagas....	12.00	Mushrooms....	23.80
Green Corn..	12.60	Cauliflower.....	27.70
Barley.....	12.70	Asparagus.....	28.80
Beets.....	12.80	Spinach.....	30.00
Okra.....	15.80	Turnips.....	35.00
Eggplant.....	17.00	Kohlrabi.....	35.00

Whole Wheat.....	15 .70
Brussels Sprouts.....	23.80
Savoy Cabbage.....	26.00

**OILY SEEDS**—All natural seeds rank high in protein; viz:

Sunflower Seed.....	14.20
Poppy Seed.....	19.40
Caraway Seed.....	19.84
Flaxseed.....	12.60
Mustard Seed.....	27.59
Sesame Seed.....	35.99

Flaxseed is frequently used for medical purposes as an emollient and demulcent in irritations of the mucous membranes, also as an ingredient in many cereal preparations to give them a slightly laxative effect. In the Orient, sesame seed is mixed with honey and preserved with citron and sold as a luxury. Elsewhere it is used in confections and bakery goods. The oil obtained from the seeds resembles olive oil. Sunflower seeds are derived from the sunflower which is grown largely in Australia, southern Russia, India, the United States, and China for the purpose of making sunflower oil. The seeds of the poppy are also frequently used for the production of table oil.

**SPIRITUAL SIGNIFICANCE**—Occult facts support the contention that when the flesh of animals is assimilated by man as food, it imparts to him, physiologically, some of the characteristics of the animal from which it came. Occult science also teaches and confirms that the coarsening effect on man is greatest when the flesh of the larger animals is partaken of, and diminishes in the intensity of its sex-evoking influence in birds, next in fish and in other cold-blooded animals, exciting the animal propensities least of all when fruits and vegetables are consumed.

Thus the notorious moral laggard is afforded an effective safety valve to acquire a beautifying and strengthening discipline, until an erstwhile slumbering spiritual consciousness is allowed to place irretrievably under control his base, animal appetites and passions. □

—Lillian R. Carque