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THE NUTRITIONAL VALUE OF CALAVOS

A Summary of Dietetic Research to October, 1930

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The Calavo is a food fruit. The health value of fruits is well-known. Through their mineral and vitamin content, they are "protective," and regulate the body

processes, figuring prominently in the coordination of the functions of nerves, glands, muscles, etc., enabling the body to use its available fuel and building material to the best advantage. The Calavo is essentially a fruit, and has within it these fruit principles.

And more! For the Calavo has stored within its smooth, creamy substance a nut-like oil of subtle flavor and of high energy value. It is the only fruit which, unprocessed from the tree, gives man a flavorful food containing fruit-oil to energize his body.

"Lipins (oils ana other similar compounds) are an essential component 01 the body. The brain and nerve tissues contain an oil-like compound. The soothing influence of oils on the nerves is noted by eminent authorities. Those oils with a high phosphorus content make up a large and integral part of the brain and nerve tissue.

The day of the heavy lunch has passed. More and more are people turning to salads and fruits for their mid-day nutrient, realizing that heavy meals tend to dull the brain for its keenly alert afternoon efficiency.

Yet, there is a danger that is not always recognized by those who are ;,Hve to the need for better diets. This danger is that the body may be depleted at the very time its energy need is greatest, and will have to tear down stored energy for its fuel. There is a danger that, in order to get the proper amount of fuel for each day, a very heavy evening meal will have to be eaten, causing the common after-dinner complaint of dyspepsia and general discomfort. The average breakfast of eggs, toast, and fruit, and a light salad lunch, may furnish less than one-third of the daily energy requirements for even an office worker. This necessitates a tremendous evening meal with energy and fuel pouring into the system when the need is past.

ENERGY UNITS (CALORIES):

Calavos solve this difficult situation. A fruit, with all the fruit essentials, its oil readily assimilable (93.8 per cent by test, or on a par with butter-fat), a half-portion of Calavo (six-oz. serving) will furnish 360 energy units towards the 2,500 calories approximate ration for the average office worker. Needless to say, if a man or woman, whose work is mental, rather than physical, increases his energy requirements through participation in athletic sports, or other form of exercise, his need for energy units is thereby increased.

The wise mother, also, is continually looking for a high source of energy for her children, as the growing boy of ten may require more energy food than his father, and it is very difficult to feed children enough healthful food to take care of their energy needs.

*See Pg. 13, "Nutrition," by Eddy; "Chemistry of Food and Nutrition," Sherman, Pgs, 4S, 278; Pg. 84, "Your Weight and How to Control It," edited by Fishbein.

CARBOHYDRATES:

The Calavo is also a valuable food in those diets which are marked "low in carbohydrates," as it contains by weight only about 4.45 per cent of sugar.

REDUCTION DIETS:

Calavos can even be used to advantage in reduction diets, for some oils are needed for brain and nerve tissues, Vitamins A and D, and it is a well-known practice to use a small amount of fat in reduction diets to assuage hunger pangs. A delicious half portion of Calavo for lunch or supper satisfies, yet offers no temptation to use rich salad dressings. Moreover, over-weights are often **under-nourished,** because they lack some of the vital essentials of diet, protein, calcium, iron, phosphorus, etc. Therefore, if they further curtail their food intake, they may deprive themselves of still more of these deficient essentials. Only the **dietitian** can prepare the safe-reducing diet, and only the **physician** can wisely administer it for the individual. Therefore, if you are contemplating a reduction diet, take this article to your physician, and ask his advice as to the portion of Calavo a day he thinks advisable for you.

PROTEINS:

Proteins are body-building material. Though Calavos are not normally regarded as a protein food, still they contain more protein than any other fresh fruit. Again, it is interesting to note that the quality of this protein is unusually high, having all the essential protein elements—Cystine, Lysine, Tryptophane, and Tyrosine in quantity. Histidine, though not present in quantity, can be easily added through other common protein foods—milk, wheat, eggs, etc.

*Quantity Protein		*Quality of Protein				
		Lysine	Tryptophane	Tyrosine	Cystine	Histidine
Milk	3.3 %	7.6%	2.2%	6.5%	**0.2%	2.5%
CALAVOS	2.37%	7.1%	2.1%	7.0%	2.0%	**0.6%
Wheat	11.1 %	**0.6%	**1.1%	**3.1%	1.7%	1.5%

**Low

*J. Biol. Chem., Mar., '29, Pg. 533.

A serving of Calavo supplies 3.57 grams of the maximum safety requirement (75 grams daily) for the average man, advised by those authorities who urge a protein safety margin. However, authorities differ—some advocating a lesser amount.

MINERALS:

Though many minerals are essential to bodily health, dietitians tell us that our modern diets are apt to be deficient only in calcium, phosphorus, iron (and in goitrous sections, iodine).

CALCIUM:

Calcium phosphate comprises about eighty-five per cent of the mineral matter of the bones. Calcium salts are found in the body fluids. They are necessary for the coagulation of the blood, and have a function in the control of heart action. Calcium is commonly deficient, Sherman states, in the American dietary. While Calavos do not compare with such sources of supply as milk, one quart of which daily furnishes a complete calcium ration, still they are as rich in calcium as other fresh fruits, having in a serving 0.1 gram, or about ten per cent of the daily safety requirement for the average

adult of one gram of calcium (CaO). (Children and mothers require more.)

PHOSPHORUS:

"Phosphorus forms an integral part of the nuclear structure of **every** cell, and thus is intimately concerned in all cell multiplication. It contributes largely to the bony structures, is an essential constituent of the plasma and other fluids, and is found in organic union with proteins, fats, and carbohydrates. It aids in the work of the various glands . . . Phosphorus is widely distributed in the body—perhaps the most widely distributed of all the inorganic elements."—(McLester's "Nutrition and Diet.") Phosphorus also is apt to be neglected in the modern dietary. The maximum safety allowance for the average adult (154 Ibs.) is 1.32 grams. The child and mother need more proportionately. A serving of Calavos furnishes .17 grams, or about thirteen per cent of this allowance.

ALKALINITY:

Foods, rich in phosphorus and valuable sulphur, are very apt to make the blood tend toward the acid danger point. Nature has beautifully balanced the phosphorus, sulphur, chlorine, and silicon in the Calavo with other minerals— potassium, calcium, magnesium, sodium, iron, copper, manganese, and aluminium, **to keep the blood safely alkaline.**

IRON (COPPER-MANGANESE): ,

For many generations, physicians have recognized the value of blood regeneration through iron, and life itself depends upon having sufficient iron, as the iron-compound in the blood, hemoglobin, is the carrier of oxygen. Physicians have recognized that the iron from certain foods (among them fruit) was more valuable than just "iron." Recent discoveries show that this food-iron should be accompanied by copper and manganese for quick assimilation. One serving of Calavo contains, as reported by the two universities, more than the daily fifteen mg. considered as safety margin. This iron is accompanied by copper and manganese. As the iron content is so very high, a series of check tests are being run this year by one of our universities, the results of which will be given later.

MANGANESE, ALUMINUM, SILICON:

Minerals, hitherto little understood, are coming into prominence. It has been found that milk assimilation is increased by the presence of fluorine, manganese, aluminum, and silicon. Calavos have manganese, aluminum, and silicon.

VITAMINS:

"All nutrition work, to be worthy of our present knowledge and opportunity, must stand four-square upon equal recognition of calories, protein, mineral elements, and vitamins," said H. C. Sherman, one of the world's greatest authorities on nutrition.

So, to complete this study of the nutritional aspects of the Calavo, a short discussion of its vitamins is necessary. Vitamins are most commonly described as "minute quantities of substances, which are to the human machine what the ignition spark is to the automobile." They have the closest relationship to all the bodily processes, and without them, the food materials—protein, energy units, and mineral elements could not be

utilized.

VITAMIN A:

Its presence promotes and maintains tissue building, resistance to infection, growth, physical vigor, aids in reproduction and lactation. Has a regulating effect in the body and tends to promote longevity. Calavos have 500 units per pound, and are a good source of "A."

VITAMIN B:

Its presence has to do with many functions, as it is found in the most lowly organisms, proving its necessity in all bodily functions. It has recently been found to consist of two Vitamins—B and G. The "B" element tends to prevent loss of appetite, fatigtie, nervousness, constipation, stunted growth, and (Beri-Beri) multiple neuritis. The "G" element promotes growth, nutrition, and has a close relationship to proper functioning of digestive tract. Calavos are a rich source of both Vitamins B and G (450 units per pound), or a six-oz. serving is equivalent to three cakes of compressed yeast.

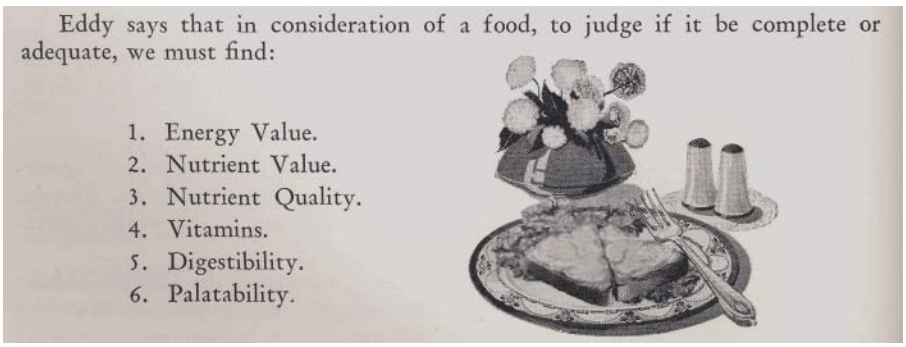
VITAMIN C:

Connected with life processes, increases resistance, helps prevent dental deficiency. Cures scurvy. A trace of "C" found in Calavos. Citrus fruit, tomatoes, cabbage and some other sources, are rich in Vitamin C.

VITAMIN D:

Is that vitamin which acts as a regulatory mechanism to adjust any lack of balance between calcium and phosphorus in the blood bringing about such a relationship as makes possible bone building. Holt states that calcium assimilation takes place best when there is a liberal amount of fat in the diet. Recent investigations by Hess have also indicated that these bone-building elements, together with Vitamin C, prevent DENTAL DECAY and aid in the building of strong teeth. Calavo is one of the few foods which contain, in addition to a liberal calcium-phosphorus serving, the sunshine Vitamin "D" stored in its fruit-oil. While the fresh fruit, itself, is "protective," the Calavo oil has been found "curative." Therefore, there is a direct relationship between the quantity of oil in the fruit and its bone building qualities. As a low-oil, immature fruit would have little of this value, insist, therefore, on standardized, laboratory-tested Calavos.

VITAMIN E:



Aids in the reproductive and lactation process. Calavos are rich in Vitamin E.

CAUTION: Analyses on avocados, alligator pears, aguacates, paltas, etc., have shown extremes of variation in oil content—from eight to thirty per cent in California, which has a legal minimum standard, to as low as one and two per cent to thirty per cent in other sections. Calavos are laboratory tested and standardized, and are stamped "Calavo" for your protection.

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