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## EC5572 b Food Facts for Meal Planning

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1930

FOOD FACTS FOR MEAL PLANNING

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Without long and tedious study it is not possible for the average person to know exactly which of the nutritive essentials any particular food will bring to the body. But there are many "family characteristics" which the members of each group of foods have in common which may be easily remembered and put into constant use in planning or choosing the day's meals.

Contributions Made By the Different Food Groups

The discussion which follows presupposes a knowledge of the functions of the essentials of an adequate diet. Therefore, no discussion will be attempted concerning the amount and quality of protein needed at different ages; of the number of calories required under different conditions of activity nor of how we may know whether a sufficient number of calories is being supplied; of the requirement for calcium, phosphorus, iron and iodine; of the need for vitamins A, B, C and D. We shall concern ourselves instead with the contributions made by the different groups of foods in supplying these dietary essentials and shall also discuss their failings with a view toward learning how to overcome the short comings of each.

It more than pays to acquaint oneself with the contributions of the different foods to the diet for then after one or two rather simple essentials have been included the rest of the food may safely be chosen as fancy and taste dictate. Occasionally one or more food dislikes must be overcome before all of the food may be selected to suit the individual palate, but the more one knows about food the more safely one may choose those foods which he prefers to meet a particular need, rather than being forced to follow iron clad rules in order to feel certain that the diet is adequate.

Cereal Grains and Their Products

One of the food groups which we meet in all sorts of disguises are the cereal grains and their products. We may eat them as bread, toast, cake, crackers, other bakery products, rice, canned corn, hominy, macaroni, breakfast cereals of all sorts both fresh, cooked or ready to serve and as thickenings for puddings, sauces, etc. A meal is seldom served at which cereal products do not appear in some form or other.

The cereals are so different in texture, flavor and color that we are frequently misled into believing that there are important differences between them. Cornbread and white bread or oatmeal and wheat breakfast food are practically interchangeable, for instance. As a matter of fact, all of our cereals are much more alike than they are different. Dr. Taylor has expressed this cleverly when he says, "In comparing the cereals with one another we are apt to emphasize their differences, just as we would in comparing two people. We do not remark that both have eyes; we say rather, one's are blue, another's brown; nor do we comment on both having vocal cords; we tell how one has a sweet voice while another's is gruff

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or strident. Any two men are more alike than a man and a dog, but we are so accustomed to the fact that it goes without saying. So we may first describe the dietary characteristics of the cereal family as we might describe the common traits of mankind as a class."

There is more difference between any unrefined cereal (one from which the bran coat has not been removed) and any refined cereal than there is between the cereal products from different plants. For instance white and graham flour differ more in composition than cracked wheat and oat meal.

The chief contribution of the cereals to the diet is energy or calories and these are in a palatable, easily digested and inexpensive form. They also bring us a surprisingly large amount of protein--one of the body building materials--but it is of rather inferior quality and had better be supplemented by other protein from some animal source.

The refined cereals, white flour and the products made from it--crackers, macaroni, ordinary corn meal, rice and hominy and pearl barley, etc. bring us very little except the calories and protein which have been mentioned. The unrefined cereals have for us in addition an excellent store of iron and to a less extent phosphorus and vitamin B. We get more for our money from the cereals than from any other group of foods and more from the unrefined than from the refined ones.

Our cereals, whether refined or unrefined, are very weak in calcium and the economical diet which will contain a large proportion of cereal, must be carefully supplemented to supply this important mineral. Cereals are also entirely lacking in vitamin A and vitamin C.

Let us see then what foods we shall use with our cheap cereals to provide a well balanced diet. We must have a food containing animal protein. If possible, this must also bring us calcium and vitamins A and C. Meat would supply the animal protein but it is not any better source of calcium than the cereals. It has some vitamin A, but when cooked is almost without vitamin C. We will, therefore, not choose meat if we can find something which will supply all of the deficiencies of the cereals.

Milk and cheese contain an animal protein of good quality. They are extremely rich in calcium and also have a good supply of vitamin A. If a reliable source of raw milk is available it may have some vitamin C. Milk, therefore, supplies almost to perfection those food essentials in which the cereal products are deficient.

#### Milk

Milk - the only food planned by nature for the nourishment of animals - contains animal protein of good quality. It is an excellent source of calcium and very good for phosphorus and vitamin A but it is a poor source of iron and vitamin C. A pint of milk daily for adults and a quart for children will supply the calcium needed each day. Because of its weaknesses it must be accompanied by good sources of iron, such as green vegetables, dried fruits, whole cereals, eggs, legumes, (peas, beans, peanuts, etc.), meat, molasses (not corn syrup), also by good sources of vitamin C such as fresh raw fruits and vegetables or cooked tomatoes.



### Meat, Fish and Eggs

Meat, fish and eggs are excellent sources of good quality protein. They are good sources of iron and phosphorus and fair for vitamin B. They are not good sources of vitamin C and have very little calcium. Eggs have plenty of vitamin A but meat and fish have only a little. They must be used with milk or a few vegetables and fruits, (oranges, spinach, carrots, cauliflower, cabbage), to make up for their weakness in calcium. Use fresh raw fruits and vegetables or cooked tomatoes to help out with vitamin C and use meat and fish with butter or green vegetables for vitamin A.

### Fruits and Vegetables

There was a time when the fruits and vegetables were discriminated against because it seemed that they were relatively expensive. That was before it was recognized how essential a contribution the minerals and vitamins make to an adequate diet. It is now known that we get more minerals and vitamins for our money from the fruits and vegetables than from many other foods. Since as a rule they are not high in calories nor in protein, fairly large quantities of fruits and vegetables may be introduced into the diet without making it overly "heavy". It is wise to cultivate a wide circle of friends (those we like to eat) among them. Few fruits or vegetables contain outstanding amounts of phosphorus so we must supplement them with whole grain cereal products, legumes, milk or meat for this important mineral. Fruits and vegetables must also be used with foods which bring calories and protein to the diet.

### Fats

The fats such as lard, vegetable oils, solid vegetable shortenings, butter, oleomargarine, cod liver oil, etc. do not bring any minerals or protein to the diet. They serve principally as sources of calories. Butter, some brands of oleomargarine, cod liver oil and a few other animal fats are valuable for the vitamin A which they contain. The vegetable fats do not contain vitamin A. It can be plainly seen that the fats must be supplemented on almost all the points which we consider in determining whether a diet is adequate or not. The diet would be very unpalatable and difficult to digest if it contained a great deal of fat. In actual practice we use the fats to increase the calories in the diet without making the meal too bulky. They also help to keep the food from digesting so fast that we become hungry before time for the next meal.

### Sugar and Syrups

Sugar and syrups also bring us little beside calories. Corn starch, corn syrup and white sugar have nothing else for us. Cane molasses and to a less extent brown sugar have a very rich supply of calcium and iron. It is for this reason that molasses cookies are recommended for children. Both of these sweeteners deserve to be used more widely than they are at present. Ginger-bread is easy to make and is a general favorite, and muffins or puddings containing molasses are usually popular. Sugar is a perfectly wholesome food. The objections which are raised to the use of sugar and syrups are based on the fact that used to excess they may be somewhat irritating to the stomach. But a much more important consideration is that they may displace other foods which bring essential minerals, vitamins and protein to the body along with their calories while sugar has calories alone to offer.



### Planning an Adequate Diet

Bearing in mind the food essentials which each "family" of foods brings to the diet and those in which they are weak one may plan an adequate diet from a very limited number of foods - if the right ones are chosen. For instance, milk and whole grain cereal products will make a pretty well-balanced ration. The addition of a little fresh fruit will make it entirely satisfactory. A person could live very comfortably on whole wheat bread and butter, milk and a little fresh fruit. We usually prefer, however, to have a bit more variety in the diet. If care is used, well balanced meals may be chosen containing almost any foods which fancy, the market, or the pocket book dictates. We cannot have a hit or miss combination of these foods on any given day, however. We must see to it that all of the foods chosen do not have the same weak points but that each food supplements the others. The reason for the rules for planning an adequate diet and how the dietary plans with which we are all so familiar actually work out should now be clear.

The pint or quart of milk provides enough calcium so that no further thought need be given to this factor. There are few other good sources of this mineral and it is largely for this reason that the milk is so important. Milk also makes a good start on the protein, phosphorus and vitamin A requirement. For some other source of good protein we had better choose a food rich in iron although cheese may be used if the iron is safeguarded elsewhere. This other protein food might be eggs, meat, legumes or nuts. Any of these will help out the phosphorus. Too much of these protein foods may be undesirable, therefore, the amount is best limited to two servings.

The iron will still need attention and so we include at least two vegetables, preferably three. One of these may be potato. Our green vegetables - spinach and other greens, snap beans, asparagus, peas, cabbage, lettuce, etc. will be especially good sources of vegetable iron, and most of them will contribute needed vitamin A. Our fruits will also help with the iron and so we plan for at least one serving of fruit but preferably for two servings. Prunes, figs, dates, raisins are fruits rich in iron.

The diet may still be weak in both phosphorus and iron and for that reason unrefined cereal or legumes should be included unless one prefers to use greater amounts of the other foods rich in these essentials. The need for vitamin C will not yet have been supplied unless one of the fruits or vegetables has been used raw or unless tomato has been served.

To summarize: An adequate diet will be provided by using the following plan. Substitutions may be made only if care is exercised to be sure that no dietary essential is omitted. Have as a minimum each day

- 1 pt. milk (adults), 1 quart milk (children)
- 2 other good sources of protein
- 2 vegetables, preferably 3
- some unrefined cereal
- something fresh and raw or tomatoes

If these common, simple rules are followed, the remainder of the food, in quantity sufficient to meet the energy requirement, may be safely selected according to taste or convenience.



## The Alphabet of Vitamins

Mrs. True Homemaker and Florence Atwood

### Vitamin A

Vitamin A in food protects the body against colds, sinus troubles and other respiratory infections. It is essential for growth and general good health.

Foods rich in this vitamin are: Butter, cheese, cream, egg yolk, liver, spinach and cod liver oil. Other foods which furnish vitamin A in considerable amounts are: String beans, carrots, milk, peas, sweet potatoes, squash and tomatoes.

Cooking has little effect on vitamin A. This is not true of some of the vitamins.

### Vitamin B

Vitamin B occurs so widely in nature that if we eat vegetables daily, especially the leafy ones, drink milk and eat fruits, we are reasonably sure of getting vitamin B. While this vitamin is essential for growth and good health, it is particularly necessary for nursing mothers and young children. Vitamin B is important also because it helps to stimulate the appetite. Recent investigations have shown that what we had formerly been calling vitamin B consists of at least two indispensable principles, namely F. and G. Following is a list of food which are good sources of vitamin B, asparagus, beans (fresh and dried), brains, cabbage, carrots, cauliflower, celery, egg yolk, grapefruit, kidneys, lemons, whole grain cereals, lettuce, liver, milk, nuts, okra, onions, oranges, parsley, parsnips, peas, potatoes, pineapples, rutabagas, spinach, and other greens and tomatoes.

### Vitamin C.

The richest sources of vitamin C are oranges, lemons, tomatoes and raw cabbage. Apples, bananas, carrots, and potatoes do not contain such a high concentration of the vitamin but because of the quantities eaten become a source for vitamin C. The entire lack of vitamin C in the diet causes scurvy, cessation of growth, and a loss of weight. A diet low in vitamin C causes a sallow, muddy complexion, loss of energy, fleeting pains in joints and limbs, especially in the legs, usually mistaken as rheumatism. "So called rheumatism in infants and young children has often been proved to be due to insufficient vitamin C and is really scurvy". Deficiency of vitamin C is also closely connected with tooth defects. It has also been discovered that such a deficiency causes children to be irritable, lacking pep, more or less retarded in growth and increases the susceptibility to infectious disease, hence vitamin C is needed for full health and vigor.

### Vitamin D

Vitamin D is the fourth member of the vitamin family. It is especially important for babies and expectant mothers. Its absence causes rickets, a disease of infancy in which the bones become soft and flexible, causing bow legs and other deformities. Fortunately, there is a food which contains vitamin D in abundance, cod liver oil. Doctors are recommending that it be given daily to infants and small children, except during the summer months when the children can be out of doors in direct sunlight. Vitamin D helps to build strong, straight bones and healthy teeth. It is found in cod liver oil and egg yolks. This vitamin which is necessary for food bone development is also produced in the baby's body when it is exposed to the sunlight.