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(54)	CEREAL PRODUCT	(57)	Abstract:				
(54)	ALIMENT AUX CEREALES						

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This invention relates to a cereal food product particularly adapted for an infant's or child's diet.

Ordinary cereals, whether composed of whole wheat or various parts of the grain, corn, oats, rye or the like are largely energy producing foods, and are deficient in vitamin and mineral content if considered with respect to the vitamin and mineral requirements of the human organism.

It is therefore an object of this invention to provide a cereal which in addition to supplying energy, also supplies vitamins and minerals essential for normal metabolism in effective amounts.

It is a further object of this invention to produce a cereal having greater dietary value than whole grain cereals, yet resembling in appearance, taste and non-laxative effect a part grain cereal, since whole grain cereals are too laxative for the average infant or small child and furthermore do not find general favor among infants and children.

Other and further important objects of this invention will become apparent from the following description and appended claims.

The cereal of my invention comprises part grains, e.g. part of the grain of wheat, such as the endosperm part of wheat, and corn meal and oatmeal. The wheat endosperm may or may not be contaminated with other portions of the wheat berry, such as the bran. All of these grains, or part grains, are largely energy producing substances. The part grains form the major portion of the cereal mixture and impart to it the taste and appearance of ordinary white or light colored cereals, such as cream of wheat.

The substances that I prefer to use to supply the desired vitamins are wheat germ, yeast and edible greens, such as alfalfa, sweet clover or spinach. Certain seeds that are

rich in vitamins, such as tomato seeds, may also be used.

Wheat germ has a high content of vitamins B₁ and E, a relatively high content of vitamin B₂ and a moderate content of vitamin A. Moreover, wheat germ contains about 30% protein and about 10 times the mineral content of wheat endosperm.

Yeast is added in dried form to supply vitamins B₁, and B₂. Either the yeast or the wheat germ may be irradiated by means of ultra violet light, naturally or artificially produced, to furnish vitamin D to the cereal mixture. This vitamin is very desirable, since all heretofore known natural cereals or mixtures thereof are rickets producing, due to their high carbohydrate and low calcium content in combination with an absence of vitamin D.

The ground, dried leaf of alfalfa, sweet clover, spinach, or any other edible green, is likewise incorporated into my cereal mixture both for their vitamin and mineral content. Green leaves, particularly alfalfa, are rich in vitamin A and also in minerals, such as iron and copper.

Edible bone meal, as obtained from bones from packing houses, furnishes to my cereal product all of the minerals necessary for bone formation and also for normal metabolism. Bone meal, such as here referred to, is made by autoclaving bones for some hours and then grinding and drying at 105° C. to produce an odorless, tasteless white powder containing about 30% organic matter and 70% mineral content. The minerals contained in this bone meal are not only calcium, phosphorus and iron, but all the minerals, whatever they may be, necessary in the formation of bone, since a natural product is used. In this way all uncertainty as to what are essential minerals is avoided. For instance, recent research has indicated that rubidium may be essential for bone building. If it is, then it is present in my cereal product.

While the various ingredients of my cereal may be

present within quite wide limits of proportions, the following will serve to illustrate the usual limits and preferred percentages, parts by weight being indicated on the basis of 100 parts dry weight of the mixture:

<u>Energy Producing</u>	<u>RANGE</u>	<u>PREFERRED</u>
Cereals, part grains		
Wheat (endosperm)	25-75	53
Oat meal	0-25	18
Corn meal	0-15	10
<u>Vitamins, A, B₁, B₂, D and E</u>		
Wheat Germ, A, B ₁ , B ₂ and E Also D, if irradiated	5-50	15
Yeast, B ₁ , B ₂ Also D, if irradiated	0.17-5	1
Edible green, A Alfalfa Sweet Clover Spinach	0.17-5	1
<u>Minerals, Calcium, Phosphorus,</u> Iron and others		
Edible bone meal	0.5-4	2
30% organic matter		
70% mineral matter		

Due to the fact that weevils, bugs and the like attack wheat germ, the cereal mixture is best packed in a sealed carton, which is then subjected to sufficient heat to kill spores and sterilize the whole contents of the package.

The cereal is cooked for use in the same manner as cream of wheat or other like cereal. It may, of course, be pre-cooked prior to marketing.

Proper growth requires a diet in which base forming elements such as sodium, potassium, calcium, magnesium, iron, etc. predominate over acid forming elements such as chlorine, iodine, sulphur, phosphorus, etc. Various fruits and vegetables are examples of base forming foods while eggs, cereals, fish, meat and nuts are acid forming.

1 I have tested a number of cereals for their acid or base forming qualities and have found my cereal product to be much superior in this respect to any of the popular cereal products. The tests were made by igniting a 10 gram sample of each cereal and determining in the customary manner the number of cubic centimeters of one tenth normal sulphuric acid necessary to neutralize the ash. Most cereals required less than one C.C. though certain examples of corn flakes required as much as 2.3 C.C. My own product, however, required 4.1 C.C. of the acid for the complete neutralization of its ash which indicates a great excess of base forming ingredients over the amount contained in ordinary cereal foods. Of course, it will be understood that these alkaline substances are largely combined with organic materials of acid nature in the original cereal so that the cereal does not have an alkaline taste and the alkaline materials are released after the organic matter has been destroyed by digestion.

It will thus be appreciated that I have provided a cereal product of unusual dietary value for infants and children, utilizing dried greens, bone meal, yeast and wheat germ. The great advantage of my product over other known cereal compositions is that it is not only energy producing, but also rich in vitamins, containing effective quantities of five of the six known vitamins, and rich in the minerals that are essential not only for bone formation but for normal metabolism. Such a cereal product is anti-rachitic, non-laxative and easily digestible, and moreover, because of its resemblance to the usual part grain cereals, is especially well liked by infants and children.

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I am aware that numerous details of the process may be varied through a wide range without departing from the principles of this invention and I, therefore, do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I CLAIM AS MY INVENTION:

1. The method of preparing a cereal, which comprises combining a mixture of grains, edible substances containing vitamins A, B₁, B₂, D and E and minerals essential for normal metabolism, the grains and other ingredients being so selected as to produce a cereal that is non-laxative and that resembles in taste and appearance a part grain cereal.

2. A method of preparing a cereal, as in claim 1 in which the inclusion of edible bone meal serves to furnish the minerals essential to normal metabolism, and provides an excess of base forming elements over acid forming elements.

3. A method of preparing a cereal, as in claim 1 in which alfalfa is included to furnish vitamin A.

4. The method of preparing a cereal, which comprises combining a mixture of grains, edible substances containing vitamins and bone meal, said bone meal being present in such proportions that the resulting product contains an excess of base forming elements over acid forming elements.

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SUBSTITUTE
REMPLACEMENT

SECTION is not Present
Cette Section est Absente