Starch - description, benefits, effect on the body and the best sources.

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Abstract. It is a white, tasteless powder that many of us are familiar with. It is found in wheat and rice grains, beans, potatoes and corn on the cob. However, in addition to these products, we find starch in boiled sausage, ketchup and, of course, in all kinds of jelly. Depending on their origin, starch grains vary in shape and particle size. When starch powder is squeezed in your hand, it produces a characteristic squeaking sound.

Key words: Starch, general characteristics, daily requirement, digestibility, beneficial properties, signs of deficiency, signs of excess

Starch-rich foods:

- Fig [1]
- Cornflakes
- Wheat flour
- Pasta
- Millet
- White bread
- Corn flour
- Buckwheat [2]
- Fresh corn [3]
- Oats
- Wheat
- Barley
- Rye bread
- Peas [4]
- Potatoes [5]

General characteristics of starch

Starch is absolutely insoluble in cold water. However, under the influence of hot water it swells and turns into a paste. When we were in school, we were taught that if you put a drop of iodine on a piece of bread [6], the bread would turn blue. This is due to the specific reaction of starch. In the presence of iodine, it forms the so-called blue-colored amyliodine.

By the way, the first part of the word, “amyl,” indicates that starch is a mucous compound and consists of amylose and amylopectin. As for the formation of starch, it owes its origin to the chloroplasts of grain crops, potatoes, as well as a plant that in its homeland, Mexico, is called maize, and we know it as corn.

It should be noted that in its chemical structure, starch is a polysaccharide, which, under the influence of gastric juice, can be converted into glucose.

Daily requirement for starch

As mentioned above, starch is hydrolyzed under the influence of acid and converted into glucose, which is the main source of energy for our body. Therefore, in order to feel good, a person must eat some starch.

You just need to eat cereals, baked goods and pasta, legumes (peas, beans [7], lentils [8]), potatoes and corn. It’s also good to add at least a small amount of bran to your food! According to medical indications, the body's daily need for starch is 330-450 grams.

The need for starch increases:

Since starch is a complex carbohydrate [9], its use is justified if a person has to work for a long time, during which there is no possibility of frequent meals. Starch, gradually transforming under the influence of gastric juice, releases glucose necessary for full life.

The need for starch is reduced:

- for various liver diseases associated with impaired breakdown and absorption of carbohydrates;
- with low physical activity. In this case, starch is able to be converted into fat, which is stored as a reserve;
- in the case of work requiring immediate energy input. Starch is converted into glucose only after some time.

Starch digestibility

Due to the fact that starch is a complex polysaccharide, which under the influence of acids can be completely converted into glucose, the digestibility of starch is equal to the digestibility of glucose.

Beneficial properties of starch and its effect on the body

Since starch can be converted into glucose, its effect on the body is similar to glucose. Due to the fact that it is absorbed more slowly, the feeling of fullness from eating starchy foods is higher than when directly consuming sugary foods. At the same time, the load placed on the pancreas [10] is significantly less, which has a beneficial effect on the health of the body.

Interaction of starch with other essential elements

Starch interacts well with substances such as warm water [11] and gastric juice. In this case, water causes starch grains to swell, and hydrochloric acid, which is part of the gastric juice, turns it into sweet glucose.

Signs of starch deficiency in the body

- weakness;
- fast fatiguability;

- frequent depression [12];
- decreased immunity;
- decreased sex drive.

Signs of excess starch in the body:

- frequent headaches [13];
- excess body weight;
- decreased immunity;
- irritability;
- problems with the small intestine;
- constipation [14].

Starch and health

Like the consumption of any other carbohydrate, the consumption of starch should be strictly regulated. You should not consume excess amounts of starchy substances, as this can lead to the formation of fecal stones. However, you should also not avoid eating starch, because in addition to being a source of energy, it forms a protective film between the stomach wall and gastric juice.

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HTML version of the article

Received 01.06.2019

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