



**B L A C K F O X**

---

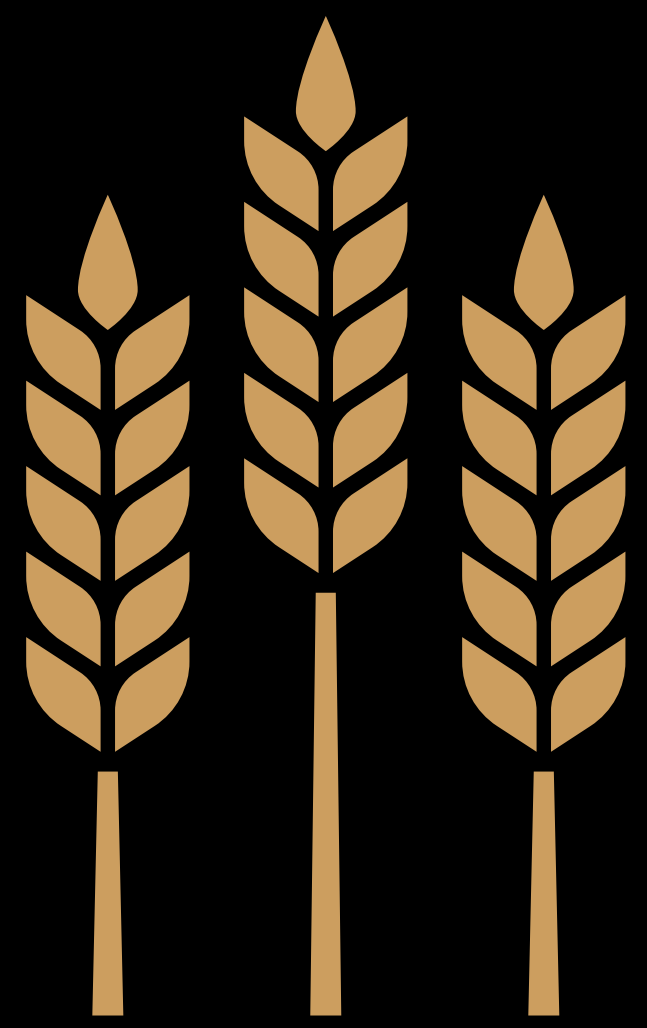
**COACHING & NUTRITION**

BORN FOR PROGRESS

**FIBER**

 **blackfox\_nutrition**

## FIBER



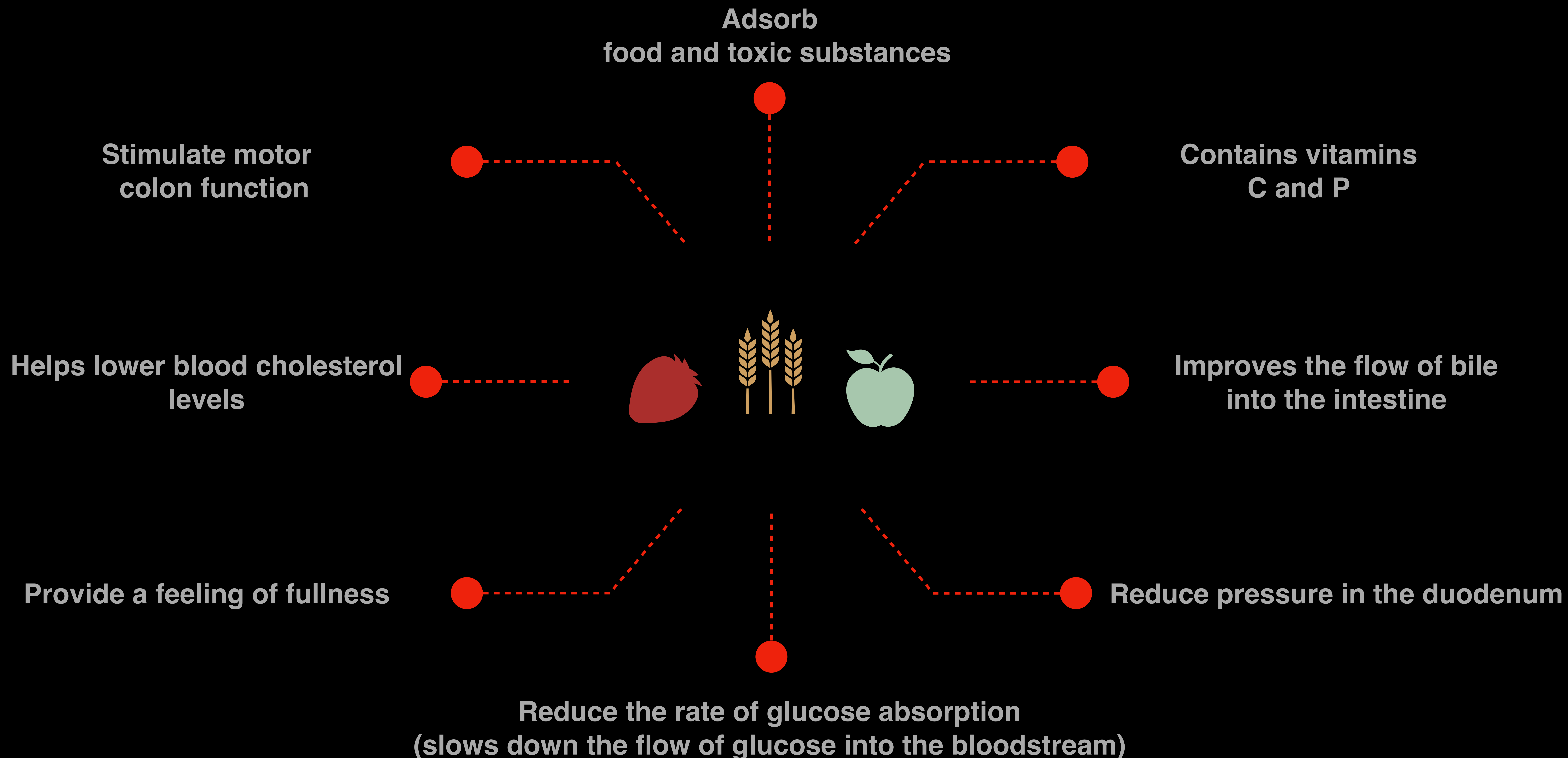
**Dietary fiber (fiber, ballast substances)** - the main structural component of plant cell walls - changes insignificantly during heat treatment: it swells and becomes more porous.

**Fiber** – it is one of the components of the complex prevention of fat metabolism disorders, atherosclerosis, diabetes mellitus, and cholelithiasis. In recent years, evidence has appeared that a lack of dietary fiber causes the development of urolithiasis, gastric ulcer and duodenal ulcer, gout, caries and even varicose veins. The main sources of dietary fiber are fruits, berries, vegetables, and bran.

Highly soluble dietary fibers (which absorb water and form a gel, lower cholesterol, blood sugar, for example - pectin, gums) and little or insoluble dietary fibers (which pass through the gastrointestinal tract practically unchanged, adsorb large amounts of water, affect motility intestines, for example - cellulose, hemicellulose, lignin).

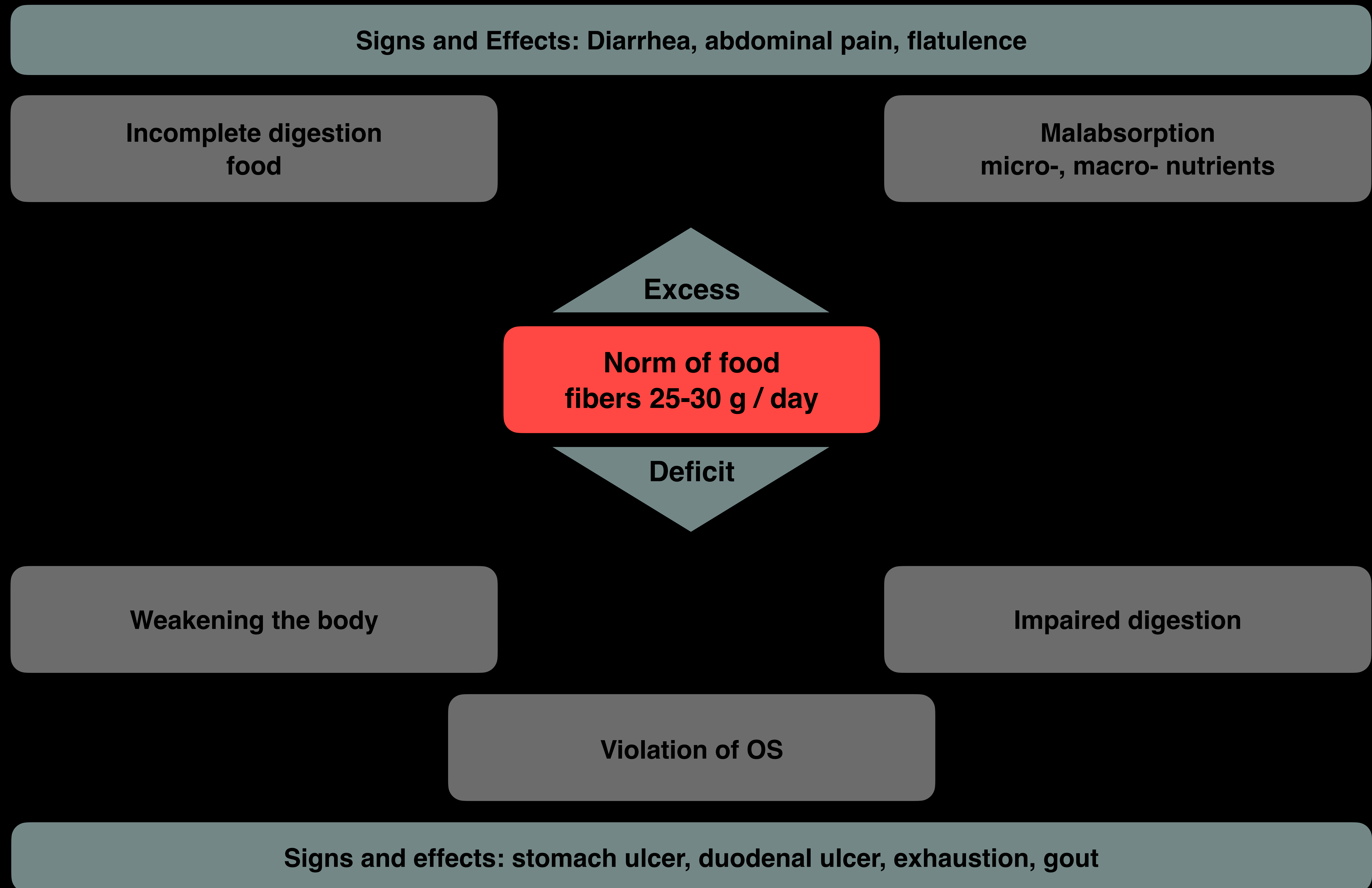
According to the recommendations of the WHO, the generally accepted norm is the intake of 25–35 g of ballast substances per day with the food eaten. To meet these standards, WHO recommends a daily intake of at least 400 g of fresh vegetables and fruits.

## MAIN USE OF FIBER CONTAINING PRODUCTS





### FIBER NORMS



### FACTS

- For a long time, indigestible carbohydrates (fiber) were considered unnecessary ballast, therefore, in the food industry, special technologies have been developed to free food from ballast substances to increase nutritional value.
- In our country, over the past 100 years, the consumption of dietary fiber has more than halved.
- The proper content of dietary fiber in the human diet favors the growth of, first of all, vital lacto- and bifidobacteria. Maintaining the number of these bacterial strains minimizes the risk of an increase in the number of pathogenic microorganisms and some types of fungi.
- Неусвояемые углеводы уменьшают бактериальное расщепление защитной слизи кишечника.
- Dietary fiber increases the synthesis of vitamins B1, B2, B6, PP, folic acid by intestinal bacteria. Dietary fiber is a source of potassium and has a diuretic effect, that is, it promotes the excretion of water and sodium from the body, which is important for edema.
- Of particular importance is the enrichment of diets with plant fibers in old age and in persons with a tendency to constipation. In chronic diseases of the colon, an increase in the amount of dietary fiber in the diet is required.
- Dietary fiber improves the absorption of zinc, copper, selenium, magnesium and iron, which is extremely important, for example, in osteoporosis, when there is an increase in calcium leaching from the body.
- The enrichment of the diet with ballast substances reduces the lithogenicity of bile, normalizing the cholatocholesterol coefficient and the lithogenic index by adsorbing cholic acid and inhibiting its microbial transformation into deoxycholic acid, alkalinizes bile, and enhances the kinetics of the gallbladder.
- The flip side of the coin, dietary fiber reduces calcium absorption.



### LIMITATIONS

- It is important to consider that dietary fiber can increase gas production in patients with flatulence and pain in patients with severe intestinal peristalsis.
- With inflammatory bowel diseases and accelerated intestinal peristalsis, it is necessary to limit the intake of cell membranes with food.
- Despite the high fiber content in lettuce, nuts, and beans, these foods are limited or excluded for liver disease.
- It is also recommended to control the use of fiber for diseases such as gastritis, open stomach ulcers, colitis. This measure is aimed at eliminating mechanical irritation of the damaged intestinal mucosa, as well as preventing fermentation processes, which cellulose and other components of cell membranes in the colon are susceptible to under conditions of dysbiosis.

### GENERAL RECOMMENDATIONS

- Try to eat enough fruits and vegetables every day (fresh, frozen). When cooking fruits and vegetables, do not make them too soft; in such products, fiber is destroyed. The vegetables should be slightly crunchy.
- Include legumes in the menu if there are no contraindications to their consumption. It has been shown that increasing the consumption of legumes decreases the risk of developing pancreatic diseases.
- Dried fruits are a great source of fiber. You can add dried fruits to cereals instead of sugar. Nuts and seeds are also high in fiber, but they are high in calories.
- Eat grain products every day - bread, rice, cereals from various cereals. Coarse bran bread should be preferred: one slice of this bread contains more fiber than eight slices of white bread.
- In case of insufficient consumption of dietary fiber with a regular diet, compensatory measures are recommended to enrich the daily diet with fiber. This kind of compensatory measures include the use of bran (wheat, rye, oat). Before using the bran, it is necessary to pour boiling water for 15 minutes so that they swell and become softer, then the liquid covering the bran should be drained. Usually they start with 1 teaspoon 3 times a day, gradually increasing to 1-2 tablespoons 3 times a day.



**B L A C K F O X**

---

**COACHING & NUTRITION**

BORN FOR PROGRESS

 **blackfox\_nutrition**