

DIETARY FIBER (ХАРЧОВІ ВОЛОКНА)

Тельна О.О., гр. ТХК-48

Наукові керівники: канд. техн. наук, доц. А.О. Колесник,
доц. О.О. Манусенкова

Харківський державний університет харчування та торгівлі

Dietary fiber or *roughage* is the portion of plant-derived food that cannot be completely broken down by human digestive enzymes. It has two main components: Soluble fiber – which dissolves in water – is readily fermented in the colon into gases and physiologically active by-products. Insoluble fiber – which does not dissolve in water – is inert to digestive enzymes in the upper gastrointestinal tract and provides bulking.

Dietary fibers can act by changing the nature of the contents of the gastrointestinal tract and by changing how other nutrients and chemicals are absorbed. Some types of soluble fiber absorb water to become a gelatinous, viscous substance which may or may not be fermented by bacteria in the digestive tract.

Food sources of dietary fiber have traditionally been divided according to whether they provide soluble or insoluble fiber. Plant foods contain both types of fiber in varying amounts, according to the plant's characteristics of viscosity and fermentability. Dietary fiber is defined to be plant components that are not broken down by human digestive enzymes.

Dietary fiber is found in plants, typically eaten whole, raw or cooked, although fiber can be added to make dietary supplements and fiber-rich processed foods. Some plants contain significant amounts of soluble and insoluble fiber. For example, plums and prunes have a thick skin covering a juicy pulp. The skin is a source of insoluble fiber, whereas soluble fiber is in the pulp.

Soluble fiber is found in varying quantities in all plant foods, including: legumes; oats, rye, chia, and barley; some fruits (including figs, avocados, plums, prunes, berries, ripe bananas, and the skin of apples); certain vegetables such as broccoli, carrots, and Jerusalem artichokes; root tubers and root vegetables such as sweet potatoes and onions; nuts, with almonds being the highest in dietary fiber.

Sources of *insoluble fiber* include: whole grain foods; wheat and corn bran; legumes such as beans and peas; nuts and seeds; potato skins; vegetables such as green beans, cauliflower, zucchini, celery, and nopal; some fruits including avocado, and unripe bananas; the skins of some fruits, including kiwifruit, grapes and tomatoes.