



SNS COLLEGE OF TECHNOLOGY

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DEPARTMENT OF FOOD TECHNOLOGY

19FTO302 FOOD NUTRITION

III – YEAR VI SEMESTER

UNIT 4- VITAMINS AND MINERAL NUTRITION

TOPIC 4 - Dietary fibre- importance, health benefits, sources and requirements



INTRODUCTION



Dietary fiber — found mainly in fruits, vegetables, whole grains and legumes — is probably best known for its ability to prevent or relieve constipation. But foods containing fiber can provide other health benefits as well, such as helping to maintain a healthy weight and lowering your risk of diabetes, heart disease and some types of cancer.





What is dietary fiber?

Dietary fiber, also known as roughage or bulk, includes the parts of plant foods your body can't digest or absorb. Unlike other food components, such as fats, proteins or carbohydrates — which your body breaks down and absorbs — fiber isn't digested by your body. Instead, it passes relatively intact through your stomach, small intestine and colon and out of your body.





Types dietary fiber

Fiber is commonly classified as soluble, which dissolves in water, or insoluble, which doesn't dissolve.

- **Soluble fiber.** This type of fiber dissolves in water to form a gel-like material. It can help lower blood cholesterol and glucose levels. Soluble fiber is found in oats, peas, beans, apples, citrus fruits, carrots, barley and psyllium.
- **Insoluble fiber.** This type of fiber promotes the movement of material through your digestive system and increases stool bulk, so it can be of benefit to those who struggle with constipation or irregular stools. Whole-wheat flour, wheat bran, nuts, beans and vegetables, such as cauliflower, green beans and potatoes, are good sources of insoluble fiber.



Benefits of a high fiber diet

- **Normalizes bowel movements.** Dietary fiber increases the weight and size of your stool and softens it. A bulky stool is easier to pass, decreasing your chance of constipation. If you have loose, watery stools, fiber may help to solidify the stool because it absorbs water and adds bulk to stool.
- **Helps maintain bowel health.** A high-fiber diet may lower your risk of developing hemorrhoids and small pouches in your colon (diverticular disease). Studies have also found that a high-fiber diet likely lowers the risk of colorectal cancer. Some fiber is fermented in the colon. Researchers are looking at how this may play a role in preventing diseases of the colon.
- **Lowers cholesterol levels.** Soluble fiber found in beans, oats, flaxseed and oat bran may help lower total blood cholesterol levels by lowering low-density lipoprotein, or "bad," cholesterol levels. Studies also have shown that high-fiber foods may have other heart-health benefits, such as reducing blood pressure and inflammation.



Benefits of a high fiber diet



- **Helps control blood sugar levels.** In people with diabetes, fiber — particularly soluble fiber — can slow the absorption of sugar and help improve blood sugar levels. A healthy diet that includes insoluble fiber may also reduce the risk of developing type 2 diabetes.
- **Aids in achieving healthy weight.** High-fiber foods tend to be more filling than low-fiber foods, so you're likely to eat less and stay satisfied longer. And high-fiber foods tend to take longer to eat and to be less "energy dense," which means they have fewer calories for the same volume of food.
- **Helps you live longer.** Studies suggest that increasing your dietary fiber intake — especially cereal fiber — is associated with a reduced risk of dying from cardiovascular disease and all cancers.



How much fiber do you need?

The Institute of Medicine, which provides science-based advice on matters of medicine and health, gives the following daily fiber recommendations for adults:

Fiber: Daily recommendations for adults

	Age 50 or younger	Age 51 or older
Men	38 grams	30 grams
Women	25 grams	21 grams