

DATE
27-6-2020

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Notes for B.Sc part 3rd
papers VI Unit = 9(3).

Que. (2) Write Notes on Classification of fat?

EUFIC's review facts fats provides the reader with an extensive, thorough easy to understand overview of the various aspects related to the fats we consume through our diets. To make this information easier to digest, the review is divided over two parts; the first, the current article, explains the Basics of dietary fats. It clarifies what dietary fats are, how fats differ from a molecular perspective, which roles they play in the human body (briefly), and the importance of fats in food technology.

What are dietary fats -

Dietary fats are naturally occurring molecules that are part of our

part of our diet. They belong to a larger group of compounds named lipids that also include waxes, Sterols (e.g. Cholesterol) and fat-soluble Vitamins. However, this distinction is not always clear, and sometimes the term fats also include other lipids, such as Cholesterol.

Zooming in on the Molecular Structure, how are dietary fats built —

Understanding the basic Chemistry of fats will help to understand the role that fats play in our health and in food technology. Over 90% of dietary fats are in the form of triglycerides, which consist of a glycerol backbone with fatty acids esterified on each of the three hydroxyl groups of the glycerol molecule.

Figure 1.

Structure of a triglyceride and Saturated, Monounsaturated and polyunsaturated fatty acids.

Fatty acids —

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Fatty acids have a backbone made of carbon atoms. They vary in the number of carbon atoms, and in the number of double bonds between them.

For example, butyric acid (C4:0), palmitic acid (C16:0) and arachidic acid (C20:0), contain 4, 16 or 20 carbon atoms in their chain, respectively.

Classification of unsaturated fatty acids (cis and trans) —

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Unsaturated fatty acids can also be classified as "cis" (bent form) or "trans" (straight form), depending on whether hydrogen is bound on the same, or on whether hydrogen is bound on the same, or on the opposite side of the molecule. Most naturally occurring unsaturated fatty acids are found in cis form. Trans fatty acids (TFA) can be divided in two groups: artificial TFA (industrial) and natural TFA (ruminant).

What role do fats play in food-technology —

Fats can make a food more pleasant by enhancing its texture and mouth feel, its appearance and by carrying fat-soluble flavours. Fats also have physical characteristics that are important in food manufacturing and cooking. This section addresses these food-technological aspects and will discuss some of the issues related to the reformulation of foods. For example, the replacement of TFA as a strategy to reduce the intake of these fatty acids (see also facts on fats: dietary fats and health).

Applications —

Fats are used in wide range of applications, and have many functional properties that contribute to a final product. ~~(see facts on fats)~~