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# Chemistry of food and its biochemical interactions

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Food chemistry is that the study of chemical processes and interactions of all biological and non-biological components of foods. The biological substances include such items as meat, poultry, lettuce, beer, milk as examples. Because the name implies, food chemistry is that the branch of chemistry that deals with the chemistry behind the biochemical nature of food, their properties and the way they're processed within the body. It involves the study of chemical components from proteins to carbohydrates and more. In food chemistry, we learn the way different processing techniques affect a specific kind of food and also for tactics to boost the standard of food. It's almost like biochemistry in its main components like carbohydrates, lipids, and protein, but it also includes areas like water, vitamins, minerals, enzymes, food additives, flavours, and colors. This discipline also encompasses how products change under certain food processing techniques and ways either to boost or to forestall them from happening. An example of enhancing a process would be to encourage fermentation of dairy products with microorganisms that convert lactose to lactic acid; an example of preventing a process would be stopping the browning on the surface of freshly cut apples using juice or other acidulated water.

Among the various branches of food science, food chemistry focuses on the changes within the

composition and chemical, physical, and functional properties of foods and food products during their different processing stages and storage periods. Food chemistry has rapid development within the past few decades supported modern chemistry and biochemistry. Its recent advances are mainly within the chemical aspects of food components and additives within the areas associated with food quality and safety. The long run development of food chemistry are expanded into the sector of functional foods and nutraceuticals.

It was also out of concern for the standard of the food supply, mainly food adulteration and contamination issues that might first stem from intentional contamination to later with chemical food additives by the 1950s. The event of schools and universities worldwide, most notably within the US, would expand food chemistry yet with research of the dietary substances, most notably the Single-grain experiment during 1907-11. Additional research by Harvey W. Wiley at the US Department of Agriculture during the late 19th century would play a key think about the creation of the US Food and Drug Administration in 1906. The American Chemical Society would establish their Agricultural and Food Chemistry Division in 1908 while the Institute of Food Technologists would establish their Food Chemistry Division in 1995. There are certain food technologies which we experience in our

daily lives which we don't know are the results of innovations in food chemistry. Some examples are:

**Fermentation of dairy products:** other than natural fermentation, to hurry up the method we use microorganisms which aid the method of

conversion from lactose to carboxylic acid.

**Fat & sugar substitutes:** we all know how fat & sugar cause different ailments, but with the assistance of food chemistry, chemists are bobbing up with substitutes which supply the identical taste without the bad effects.