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Title: Interaction of Water with different Food components

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Abstract:

Food ingredients can be divided into two main categories: macrocomponents and microcomponents. Macrocomponents consist of water, proteins,carbohydrates [both simple and complex] and lipids while microcomponents include minerals, vitamins, colorings, flavorings, preservatives, texture modifiers[gums and hydrocolloids], emulsifiers etc.Water is the main components of drinking water, beverages and most of foodstuffs.Water is used as a good medium to cook foods. In addition, steam is the basicworking medium of heat (as a feed for boiler) and power engineering in food processing.Water content of fresh fruits, vegetables, meats, and sea foods exceeds 50%.In food chains, water is not just a medium for reactions, but is also an active ingredient used to control reactions, food texture, and physical and biological behavior. Food may pick up moisture from the environment or lose moisture to the environment during storage. The percent of loss of fresh foods can be significantly reduced by controlling their water activity during storage.Water interacts with other food components by means of polar, hydrogen-bonding, and hydrophobic interactions. These interactions change the properties of water.In a simple assembly process, there can be interactions among macrocomponents , e.g., water- protein , protein-protein , protein –lipid, carbohydrate- lipid, carbohydrate –protein , and water- lipid interactions. In a similar manner there can be interactions between microcomponents, microcomponents and macrocomponents, and macrocomponent complexes. Conceptually, such interactions can be promoted by processing treatments, storage conditions, time, type of packaging , and the source of ingredients.

Keywords:-ingredients, macrocomponents,microcomponents,texture,water activity

Biography: I am pursuing my doctorate degree in Food Science and technology with research project entitled “Isolation,characterization and mitigation of biofilm formers for shelf life extension of farm fresh produce”.Food technology is my area of interest from past 7 years.