SUMMARY

Proteins represent a most important class of functional ingredients because they possess a range of dynamic functional properties. In addition to their contribution to the nutritional properties of foods through provision of amino acids that are essential to human growth and maintenance, proteins impart the structural basis for various functional properties of foods. Proteins are the principal structural and functional components of many food systems; e.g., meat, cheese, gelatin, egg white and many cereal products. The applications depend upon the physicochemical properties of protein ingredients, collectively referred to as the functional properties. The functional properties of food proteins affect behavior in food systems and influence the quality attributes-structure, texture, mouth-feel, and flavor of the final product. In addition, they interact with other components and improve quality attributes of foods. The functional properties of proteins are often affected by protein solubility, and those most affected are thickening, foaming, emulsifying, and gelling. Proteins as dry powders, have very limited appeal to potential users or consumers. To facilitate their use in foods and their conversion to desirable ingredients they must possess appropriate functional properties following interactions with other food components; e.g., water, carbohydrates or lipids, during processing. Insoluble proteins have very limited uses in food. In addition, proteins are used to fabricate and facilitate the engineering of new foods such as protein beverages and extruded foods. Therefore, knowledge of the physicochemical characteristics required for particular use is very important.