Summary

Canning is one of the important methods of packaging food for long term storage. Normally food is stored in metallic containers along with heat treatment. The heat treatment varies depending upon type of food. There is always a chance that microorganisms may survive if the heat treatment is not proper thereby leading to spoilage of food. Usually the incidences of food spoilage in cans are low. The spoilage of can could be due to biological or chemical reasons or combination of both. The biological spoilage is primarily due to microbial growth while chemical spoilage is due to hydrogen produced due to reaction of acid in food and iron on can. The degree of swelling can also be increased by high summer temperature and high altitudes. Certain other factors such as overfilling, buckling, denting or closing the can while cool may also be responsible for spoilage of foods in cans. During spoilage, cans may progress from normal to flipper, to springer, to soft swell, to hard swell. However, spoilage is not the only cause of abnormal cans. Some microorganisms that grow in canned foods, however, do not produce gas and therefore cause no abnormal appearance of the can; nevertheless, they cause spoilage of the product.

Physicochemical changes occurring during processing and storage are the factors that determine the product quality of canned products in terms of both its sensory properties and its provision of nutrients to the consumer. Reactions take place during both the process itself and on subsequent storage. Generally, the changes that occur during storage are slow, particularly when compared with those occurring in an equivalent unprocessed material and it is on this basis that heat preservation is effective in providing materials outside their normal seasons and in a conveniently prepared, often formulated, form ready for consumption or reheating and then consumption. The physical and chemical reactions that occur during processing can be desirable or undesirable and are often more significant and certainly occur much more rapidly than those during storage. The degree of heat processing varies according to the product. In turn, the changes that occur on processing are influenced by the time and temperature of the process, the composition and properties of the food material and its environment.