Summary

This thesis comprises two parts :

Part (1): Partial glycerides as edible emulsifiers.

This part comprises an introduction, a review of literature, an experimental part followed by the results and discussion.

The introduction indicates the utilization of fatty acid glyceryl esters in various purposes.

The review of literature covers the preparation, estimation and utilization of fatty acid mono-, diglycerides and their ethoxylated derivatives .

The experimental part includes the methods of preparation and estimation of the above compounds. The results and discussion are representation of the data obtained for the preparation of mono-and diglycerides under certain conditions. Variations in types of catalysts, time and temperature of reaction were explained. Emulsification power of both ethoxylated and nonethoxylated mono-and diglycerides was discussed.

Part (II) Flavour concentrates from chufa tubers and pistacia nuts.

This part comprises an introduction which gives a short account on flavour of food which is mainly composed of taste and odour.

The rview of literature systematises the attempts of many authors in studying Maillard reaction (browning reaction) and some model systems which lead to the aroma produced during roasting of nuts.

The experimental part includes some information about the materials utilized in the studies. The different experimental procedures and techniques adopted are also explained. These include the preparation of the aroma concentrate, its fractionation, analysis by gas liquid chromatography and identification by couple gas liquid -mass spectrometery. Besides, the fatty acid composition of the lipid fraction is determined. The results of all above studies are illustrated by 6 Tables and 15 Graphs.

In case of pistacia, it was shown that the basic fraction is mainly responsible for the typical characteristic multy aroma.

The neutral-acidic fraction has sweet-oily aroma. The lipid fraction of pistacia seems not essential for producing the paticular nutty aroma .

On the other hand, for chufa, it was shown that also the basic fraction seemed to be responsible for the aroma of chufa. However the lipid fraction seemed to be not responsible for producing its aroma.

The results of the present studies led to the conclusion that the aroma of roasted nuts are developed from the reaction of reduced sugar with amino acids. Also 2,5-dimethyl pyrazine and 2-ethyl-5-acetyl pyrazine seemed to be the characteristic components of roasted pistacia while 2,5-dimethyl pyrazine is considered only the characteristic component of roasted chufa.