CHAPTER - 3

AIMS AND OBJECTIVES

Pickle preparation is the method of food preservation by combination of processes of natural fermentation and salting. Microbial spoilages are common problem in pickles which decrease the shelf life of pickles. Chemical preservatives are invariably used commercially to inhibit spoilage causing microorganisms. But at present time, consumer demands for product with natural preservatives of microbial origin and not the chemical ones.

To achieve the goal of discouraging indiscriminate use of chemical preservatives and to avoid pickle spoilage caused by failure of natural starter microorganisms, the controlled fermentations using promising starter microorganisms and pretreated raw materials will be the right approach. The antimicrobial compounds produced by starter microorganisms can replace chemical preservatives and eliminate organisms causing undesired fermentation and spoilage causing organisms. Additionally the starter microorganisms produce desired quality pickles with prolonged shelf life.

Hence, it was found quite interesting and challenging to carry out detailed microbiological and biochemical studies of different pickles from Western Maharashtra with following aims and objectives:

1. Qualitative and quantitative studies of bacteria, yeasts and molds from main raw materials and other ingredients of pickles, from desired and undesired quality pickles and pickle samples under the ripening process.

2. Partial characterisation and biochemical identification preferably upto genus level, of representative isolates of bacteria, yeasts and molds.

3. Microbiological, biochemical, organoleptic and methodology optimisation studies in pickle preparation using microbial starter organisms.

4. Screening of market, home made and laboratory made (with starter mix) pickles for their mutagenicity and antimutagenicity.