

Technology to Preserve Mango Slices by Dry Salting

Mango (*Mangifera indica L.*) is one of the most delicious fruits of commercial importance. Nutritionally, it is a rich source of β -carotene, vitamin B₁ and B₂, but also contains sufficient quantity of niacin. It contains variety of phytochemicals and is also an excellent source of dietary fibres and vitamin C. The fruit is well known for its medicinal properties both in unripe and ripe stages. Mango protects the human beings from adverse effects of hot and is beneficial in the treatment of gastro-intestinal disorders. It tones up the liver and keeps it healthy. The green mango is valuable in blood disorders because it enhances the elasticity of the blood vessels and assists in the formation of new blood cells. Unripe mango is also valuable in the treatment of scurvy.

Mango can be used in all the stages of maturity, i.e. from the very young immature and unripe stage to the fully mature ripe stage. The mature but unripe fruit is used to prepare popular pickles with brine in some parts of the country.

Preservation of fruit and vegetables by fermentation and pickling is one of the oldest methods practiced throughout the world. In India pickling is done on commercial scale and has become one of the major food industries in the recent years. Among various types of pickles produced mango pickles are in great demand for both domestic and global market. Pickles have been eaten in India since the time immemorial. Undoubtedly pickles in general, and mango pickles in particular constitute an important item in the routine Indian diet. They serve as appetizers and help in digestion by aiding flow of gastric juices. The medicinal properties of pickles in general include digestiveness, carminative, anti-flatulent, antibacterial etc.

Raw mangoes required for pickling are available only during a short period of 2-3 months of cropping season. This necessitates preservation of raw fruits for extended period throughout the year for pickle production. When fruits are available in ample, then these can be preserved for further consumption by avoiding wastage of surplus. Fruits bought when surplus are cheaper and of good quality so that money can be saved and they could be preserved. Preserved fruits are easier to distribute and can be made available in all places at all time.

Traditionally raw mango slices are preserved both in brine and powdered salt. However, dry salting with more levels of common salt (15-20%) results in softening and browning of slices while the scum formation is common problem with brining. In addition brining requires more storage space; packaging, transportation and distribution cost etc. Moreover, dry salting has several advantages over brining.

Advantages of dry salting:

1. Storage space to store mango pieces in brine is reduced.
2. Bulk containers are not required.
3. Chances of microbiological spoilage are reduced significantly.
4. Problem of softening of mango pieces is eliminated.
5. This method ensures retention of color, flavor and texture in the finished pickles.
6. The potential benefit of this process is in the reduction of spoilage during storage of slices.
7. Pickle is produced having uniform quality.
8. Cost of storage, transportation, labour, distribution etc. is decreased.