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PICKLED FRUITS

Green Mango Pickle

Location of production

Mango pickle is a very popular pickle in many Asian, African and Latin American countries. It is a major product of India, Pakistan and Bangladesh and it is estimated that the annual production of mango pickle in South Africa is over 10,000 tons.

Product description

Green mango pickle is a hot, spicy pickle with a sour taste. It is eaten as a condiment. Preservation is caused by a combination of salt, increased acidity and to a small extent the spices. It is known as *burong mangga* and *dalok* in the Philippines.

Raw material preparation

The fresh, fully mature, firm but unripe mangoes must be carefully selected to ensure a good quality product. The best pickles are obtained from fruit at early maturity when the fruit has reached almost maximum size. Riper fruit results in pickles with a fruity odour and lacking the characteristic and predominant green mango flavour.

The green mangoes need to be inspected and any damaged fruit rejected. The fruit is washed in clean water and drained.

After draining, the fruit is cut. Sharp knives with preferably stainless blades should be used. Iron or copper equipment should be avoided. A single stroke should be used



during the process to ensure minimum damage and avoiding mushiness in the final product.

Processing

The sliced mangoes need to be soaked in brine solution. Sodium metabisulphite (1000 ppm) and 1% calcium chloride can be added. The containers are stored until the mangoes are pickled. The brine is then drained off and spices are mixed with the mango slices.

Flow diagram

Fruit	The mangoes need to be unripe
Sort	Remove damaged fruit
Wash	With clean water.
Drain	
Cut	Stainless steel knives should be used
Soaked in brine	20% salt solution
Drain	
Add spices	Spices to taste
Pack	Pack in containers and add oil

Packaging and storage

The mixture is then packed and oil added onto the surface of the mixture. The mangoes should be firmly pressed down in the container. Good quality vegetable oil such as sunflower oil should be used and finely ground chilli powder can be added to the oil for flavour and colour. Mango pickle can be packed in small polythene bags and sealed or in

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clean jars and capped. Mango pickle keeps well if stored in a cool place. If it is processed well, it can be kept for several months. Due to the high acid level of the final product, the risk of food poisoning is low.

Lime pickle (brined)

Location of production

Lime pickles are produced in Asia, Latin America and Africa. They are particularly popular in India, Pakistan and North Africa.

Product description

Lime pickle is made from salted pieces of lime packed in a salty, spicy liquor, like a semi-solid gravy. It is brownish red and the lime peels are yellow or pale green with a sour and salty taste. It is eaten as a condiment with curries or other main meals. If processed well, the product can be kept for several months.

Raw material preparation

The limes need to be selected and prepared. Only fully ripe limes without bruising or damage should be used. All the limes need to be washed in potable cold water and drained. The limes are dipped in hot water (60-65 °C) for about five minutes. The limes are then cut into pieces to expose the interior and allow salt to be absorbed more quickly.

All spices should be of good quality and free of mould.

Processing

The prepared limes are covered with a brine solution. This causes water to be drawn out of

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the pieces by osmosis. It is important to ensure that the surface is covered with juice for 24 hours. If necessary, the fruits should be pressed down to hold them below the liquid. Once the limes have been placed in the brine, there is a rapid development of micro-organisms and fermentation begins.

After fermentation the limes are dried in the sun until the skin becomes brown.

Flow diagram

Sort	Select ripe (but not overripe) healthy lime fruits.
Wash	.
Heat	Dip in hot water (60-65 °C) for about five minutes.
Cut	Cut into four pieces or alternatively cut into smaller, uniform-sized pieces.
Brine	Ensure that the surface is covered with juice.
Dry	Dry in the sun for 2-3 days.
Mix spices	To local preference
Pack	.
Store	In a cool place, away from sunlight.

Packaging and storage

The limes are mixed with spices and oils according to local taste and tradition. Lime pickle can be packed in small polythene bags and sealed or in clean jars and capped. Lime pickle keeps well if stored in a cool place. Due to the high acid level of the final product, the risk of food poisoning is low.

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Jack-fruit pickle

Young green jack fruit is pickled in India and Sri Lanka. Young green jack fruit should be selected. The skin is peeled and the peeled fruit cut into 1.2 to 1.8 cm thick slices. The slices are placed in a container and covered in an 8% common salt solution. They are weighed down to keep them submerged in the brine. The brine solution should be increased by 2% each day until it reaches 15%. The slices are then left for 8-10 days in the brine. They are then ready for the addition of vinegar and spices before packaging

References and Further Reading

Pickled Cucumbers Technical Brief ITDG
Pickled Dry Salted Lime Technical Brief ITDG
Pickled Cabbage (Kimchi) Technical Brief ITDG
Pickled Papaya Technical Brief ITDG
Pickled Vegetables Technical Brief ITDG
Preservation of Fruit and Vegetables: Agrodok 3, Agromisa 1997
Pickles of Bangladesh, ITDG Publishing 1994

Useful Organisations and Contacts

Agromisa
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6700 AA Wageningen
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Tel: +31 (0)317 412217

Fax: +31 (0)317 419178

E-mail: agromisa@wxs.nl

Web: <http://www.agralin.nl/agromisa>

Agromisa is a Dutch non-profit organisation affiliated with the Agricultural University of Wageningen in the Netherlands. Agromisa provides information and advice on small-scale sustainable agriculture and related topics in order to support and strengthen self-reliance of the rural populations in the South.

Useful Internet Sites

1. Humanity Libraries Online
<http://www.humanitylibraries.net/>
2. Food and Agriculture Organisation of the United Nations
<http://www.fao.org/>

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