

# PROCESSING OF TURMERIC

Turmeric (*Curcuma Domestica*)

Main countries of production:

India, Bangladesh, Taiwan and China

Optimal climate:

Wide range of conditions

Rainfall:

1000-2000mm

Elevation:

up to 1220m above sea level

## Agricultural and botanical aspects

Turmeric is an erect perennial plant grown as an annual. It requires a loamy soil and is propagated vegetatively.

## Harvesting

The whole plant is removed from the ground. Care needs to be taken to prevent the rhizomes being cut or bruised.

## Sweating

The leaves are cut off and the roots washed carefully in water. The lateral branches of the rhizomes ('fingers') are cut off from the central 'bulb' ('mother'). The 'fingers' and 'mothers' are heaped separately, covered in leaves to sweat for a day.

## Boiling

The rhizomes need to be boiled or steamed to remove the raw odour, reduce the drying time, gelatinise the starch and produce a more uniformly coloured product.

Traditionally in India the rhizomes were placed in pans or earthenware pots filled with water and covered with leaves with cow dung over the top. The ammonia in the cow dung reacted with the turmeric to produce the final product. For hygienic reasons this method is being discouraged.

The present practices recommended are:

- The rhizomes are placed in shallow pans in large iron vats.
- Water is added to a level at 5-7cm above the rhizomes.
- Add .05-.1% alkali (eg sodium bicarbonate).
- The rhizomes should be boiled for between forty five minutes (as is done in India) and six hours (as is done in Hazare in Pakistan) depending on the variety.

## Drying

The rhizomes are removed and dried in the sun immediately to prevent over cooking. The final moisture content should be between 8 and 10% (wet basis). When a finger will snap cleanly with a metallic sound it is sufficiently dry.

## Polishing

The dried rhizomes are polished to remove the rough surface.

This can be done by hand or by shaking the rhizomes in a gunny bag filled with stones.

Polishing drums are in use in many places. These are very simple power driven drums.

## Adulteration

Lead chromate is sometimes used to produce a better finish. This should be actively

discouraged.

### Varieties of turmeric

#### Allepey

This is from Kerela and is a deep yellow colour with a high pigment content (6.5% curcumin level). This is popular in the US.

#### Madras

This is from Tamil Nadu and is a mustard colour with a lower pigment content (3.5% curcumin level). This is popular in the UK.

#### West Indian

This is from the Caribbean and is a dull yellowish brown.

### Standards

US Government Standards and the American Spice Trade Association Standards

Moisture content %		<9
Curcumin %		5-6.6
Extraneous matter % (by weight)	<0.5	
Mould %		<3
Volatile oil ml/100g		<3.5

technical brief