Ber (Ziziphus mauritiana): Processing and Product Information

### Why process ber fruits?
- The fruit has a high sugar content and a high level of vitamins A and C, carotene, phosphorus and calcium.
- Processing increases the shelf-life of the fruit.
- Processing adds value and increases income.

### How to process ber fruits?
1. **Pre-processing: Grading and washing**
   - Remove under-ripe, over-ripe and damaged fruits.
   - Grade remaining fruits (manually or by passing through sieves) into 2 or 3 levels on the basis of size and colour.
   - Wash and drain graded fruits.

2. **Processing: From the graded and washed fruit**
   - Washed juicy fully ripe fruits
     - De-stone fruits (cut into small pieces)
     - Boil fruit pieces with an equal quantity of water for 20-30 min
     - Filter to obtain extract
     - Mix 1 l of extract, 500 g of sugar, 10 g of citric acid and 2.5 l of water and boil for 5-10 min
     - Filter
     - Pour into bottles
     - Crown cork bottles
     - Sterilise for 20 min in boiling water
   - Graded + washed matured (but unripe) fruits
     - Soak in 3-5% brine solution for 7-8 days
     - Wash 3 times
     - Prick with fork
     - Mix
     - Pack the mixture tightly in containers and store for 2-3 weeks
     - Wash and sterilise bottles
     - Pour into bottles and top with vinegar or citrus juice
     - Seal + label

### How to store ber fruits?
- Store fruits for 4-15 days at room temperature (25-35°C) in packages such as gunny-, net- or polythene bags, cloth packs or boxes.
- Dip fruits after harvest for 2 hours in cold water to extend shelf-life.
- Store fruits for 28-42 days in cold storage (10°C) in polythene bags or baskets.

### Potential processed products
- Pickles/chutney
- Butter/paste
- Jam/jelly
- Juice/squash
- Powder
- Candied + dried fruits
- Alcoholic drinks
- Candied fruits
- Juice
- Candied juice
- Powder
- Dried fruit
- Pickles/chutney
- Butter/paste
- Jam/jelly
- Juice/squash
- Powder
- Candied + dried fruits
- Alcoholic drinks

### Packaging and Storage
- **Ber pickles**
  - Graded + washed matured (but unripe) fruits
  - Soak in 3-5% brine solution for 7-8 days
  - Wash 3 times
  - Prick with fork
  - Mix
  - Pack the mixture tightly in containers and store for 2-3 weeks
  - Wash and sterilise bottles
  - Pour into bottles and top with vinegar or citrus juice
  - Seal + label

- **Ber powder**
  - Washed fully ripe fruits
  - Soak in 3-5% brine solution for 7-8 days
  - Wash 3 times
  - Prick with fork
  - Mix
  - Pack the mixture tightly in containers and store for 2-3 weeks
  - Wash and sterilise bottles
  - Pour into bottles and top with vinegar or citrus juice
  - Seal + label

### References
- ICUC (2002) Ber. Prepared and published by the International Centre for Underutilised Crops (ICUC), School for Civil Engineering and the Environment, University of Southampton, Southampton, SO17 1BJ, UK. Tel: +44-23-80594229 Fax: +44-23-80677519 Email: icuc@soton.ac.uk Website: http://www.civil.soton.ac.uk/icuc © 2004 International Centre for Underutilised Crops, UK.