AMLA

PLANT PROFILE

Family : Euphorbiaceae
English name : Indian gooseberry, Embelic
Indian name : Dhatri, Amlaka, Adiphala (Sanskrit)
Amla, Amlika, Aonla (Hindi)
Nelli, Malanelli (Tamil)
Amalakkamu, Usirikai (Telugu)
Amalak, Bettadanelli (Kannada)
Amali, Ambala (Gujarathi)
Amla, Amlaki (Bengali)
Nelli (Malayalam)

Species : Phyllanthus emblica Linn.
Embelica officinalis

MEDICINAL PROPERTIES AND USES

• Amla is an important crop in Ayurveda
• Fruits have the richest source of vitamin-C (700 mg per 100 g of fruits)
• Preparations (Products) using Amla :
  ➢ Chyawanprash
  ➢ Triphala churna (mixture of Amla, Terminalia chebula and T. bellerica)
  ➢ Brahma Rasayana
  ➢ Madumegha churna
• Medicinal properties:
  ➢ Anti scorbutic, diuretic, laxative, antibiotic and anti-dysenteric.
  ➢ Phyllemblin, obtained from fruit pulp has been found to have mild depressant action on central nervous system.
  ➢ Good liver tonic
• Good demand from the industries for the preparation of various health care products also like hair oil, dye, shampoo, face creams and tooth powder.
PRODUCTION TECHNOLOGY

Soil
- Light and medium heavy soils
- Avoid purely sandy soil
- The tree is well adapted to dry regions and can also be grown in moderate alkaline soils also.

Climate
- It is a tropical plant.
- Annual rainfall of 630-800 mm is ideal for its growth.
- The young plant up to the age of 3 years should be protected from hot wind during May-June and from frost during winter months.
- The mature plants can tolerate freezing temperature as well as a high temperature up to 46°C.

Varieties
- Banarasi
- Chakaiya
- Francis
- NA-4 (Krishna)
- NA-5 (Kanchan)
- NA-6
- NA-7 (Promising variety)
- NA-10
- BSR-1 (Bhavanisagar).

Inputs

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Materials</th>
<th>Per acre</th>
<th>Per hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Number of seedlings (grafts)</td>
<td>200</td>
<td>500</td>
</tr>
<tr>
<td>2</td>
<td>Farm Yard Manure (t)</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Fertilizers (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>90</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>P_{2}O_{5}</td>
<td>120</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>K_{2}O</td>
<td>48</td>
<td>120</td>
</tr>
</tbody>
</table>

Note: 15 kg FYM and 0.5 kg phosphorus should be applied to each pit before planting. Application of 30 g of nitrogen each year during September - October upto 10 years for each tree is recommended.
Cultivation techniques

Planting
- Dig pits of 1 m³ during May-June at a distance of 4.5 m x 4.5 m
- Leave for 15-20 days exposing to sunlight.
- Each pit should be filled with surface soil mixed with 15 kg farm yard manure and 0.5 kg of phosphorus before planting the grafted seedlings.

Important Note: Plant at least 3 varieties in a ratio of 2:2:1 for the purpose of pollination and maximum yield. For e.g. in an acre, plant 80 grafts of NA-7, 80 grafts of Krishna and 40 grafts of Kanchan for best results.

Irrigation
Young plants require watering during summer months at 15 days interval till they are fully established. Watering of bearing plants is advised during summer months at bi-weekly interval. After the monsoon rains, during October - December about 25-30 litres of water per day per tree through drip irrigation should be given.

Training and pruning
Leaving only 4-5 well shaped branches with wide angle at about 0.75 m from the ground level, other dead, diseased, week crisscrossing branches and suckers should be pruned off at the end of December.

Mulching and Intercropping
During summer, the crop should be mulched with paddy straw or wheat straw at the base of the tree up to 15-20 cm from the trunk. Inter crops like green gram, black gram, cow pea and horse gram can be grown up to 8 years.

Plant Protection
- Major insect : Bark Eating Caterpillar (*Inderbella tetronis*)
- Major disease : Rust (*Ravenellia emblica*)

Schedule

1. Injection of Endosulphon 0.05% or Monocrotophos 0.03% in holes and plugging with mud is effective in protecting the tree against bark eating caterpillar.

2. Spraying of Indofil M-45 @ 0.3% twice, first in early September and second 15 days after first application controls the spread of rust.

Harvesting and Yield
- Amla tree starts bearing after 2 years of planting.
- The fruits are harvested during February when they become dull greenish yellow from light green.
The mature fruits are hard and they do not fall at gentle touch and therefore vigorous shaking is required.
Fruits can also be harvested using long bamboo poles attached with hooks.
A mature tree of about 10 years will yield 50-70 kg of fruit.
The average weight of the fruit is 60-70 g and 1 kg contains about 15-20 fruits.
A well maintained tree yields up to an age of 70 years.

PRODUCTS

1. Home made products

Amla pickle  Amla burfi  Murraba & Laddu
2. Commercial products

Chyawanaprash

Chyawanprash has anti-oxidant properties & strengthens our body's internal defense mechanism, the immune system. Thereby protecting us from everyday infections, cough, cold & stress. Amla is the major ingredient of chywanaprash. Other ingredients include herbs like Ashwagandha, Hareetaki, Dashmul, Ghrit and several other herbal extracts.