Mandukaparni

*Centella asiatica* Linn.

*Syn. Hydrocotyle asiatica* Linn.

**Family: Apiaceae; Umbelliferae**

A prostrate, faintly aromatic, stoloniferous perennial herb, upto 2 m long, commonly found as a weed in crop fields and other waste places throughout India up to an altitude of 600m. Stem glabrous, pink and striated, rooting at nodes; leaves fleshy, orbicular-reniform, crenate-dentate, base cordate and often lobed, long-petioled, smooth on the upper surface and sparsely hairy on the lower; flowers red, pink or white, in fascicled umbels; fruits oblong, dull brown, laterally compressed, pericarp hard and thickened, woody, white.

The enjoys considerable reputation in the indigenous system of medicine and is frequently confused for *Bacopa monnieri* Wettst., which is sold in the market as Brhami. The controversy, however, has been resolved, and it is concluded that Brhami is *B. monnieri* and Manduknaparni is *Centella asiatica*.

**Vernacular Names:**

- Sanskrit – Mandukaparni, Brahmananduki, Manduki
- Hindi – Brahma-manduki, khulakhudi, mandookaparni
- English – Indian penny wort
- Kannada – Vandelaga, Brahmisappu
- Gujarati – Moti brahmi
- Telugu – Saraswataku
- Tamil – Vallarai
- Malayalam – Kodangal, muyalchevi
**Distribution:**

It is distributed throughout India, Srilanka, China, Australia, Indonesia and Malaysia. It is useful cover crop in plantations; its cultivation is also recommended for preventing surface run-off on slopes.

**Threat status:** under cultivation

**Agro-climatic requirements:**

The plant found in abundance on moist, sandy or clayey soils, often in large clumps forming a dense green carpet. In the availability of abundance water source Centella can be grown in any type of soil. Soil pH should be in between 6.0-9.0.

**Varieties:**

Majjaposhak, Kayakirti, Lucknow local

**Cultivation:**

For propagation seeds and stolon cuttings are used. The land should be given a thorough preparatory tillage of 4-6 ploughing and brought to fine tilth. The land after being leveled and pressed with a plank is laid out into small compartments to facilitate irrigation. Seed is sown broadcast or drilled; Stolon cuttings with minimum of one node are planted horizontally at a distance of 30 cm × 30 cm. in the month of October. By providing shade to the transplanted area will increase the yield of active constituents in the plant. First irrigation is given just after transplantation and subsequent irrigation at an interval of 8-10 days. To begin with weeding is done at an interval of 15-20 days thereafter, it is done as and when required.

**Manure and fertilizer:**

Farmyard manure or compost at the rate of 5 tons per hectare is applied. To get good vegetative growth 100 kg of nitrogen is given in 3 divided doses, 60 kg P₂O₅ and 60 kg K₂O per hectare at the time of land preparation.

**Plant protection:**

The crop is not known to be affected by any serious diseases and pests.

**Harvesting and yield:**

After January leaves are collected at an interval of 15 days. Before the monsoon starts (June) harvesting should get completed.

After harvesting leaves are dried under shade or leaves are first dried by giving 80°C temperature for 30 min. then dried under shade.
Yield of centella per hectare is around 54 quintal of fresh leaves (20 quintal of dried leaves) and with this around 20 kg of asiaticoside can be extracted.

Cost of Cultivation: Approximate cost of cultivation comes around Rs.40,000/- per hectare.

Inputs:

<table>
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<th>Sl.No</th>
<th>Materials</th>
<th>Per acre</th>
<th>Per hectare</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Number of plants</td>
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<td>112000</td>
</tr>
<tr>
<td>2</td>
<td>Farm Yard Manure (t)</td>
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<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Fertilizer (kg)</td>
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<td>N</td>
<td>40</td>
<td>100</td>
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<tr>
<td></td>
<td>P$_2$O$_5$</td>
<td>24</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>K$_2$O</td>
<td>24</td>
<td>60</td>
</tr>
</tbody>
</table>

Parts used: Whole plant – leaves, fruit, root, seeds and stem.

Medicinal uses:

The leaves are used as vegetable in Karnataka and Kerala. The plant is valued in indigenous medicine internally and externally used for the treatment of syphilitic with gummatous infiltration and skin diseases like eczema, psoriasis, leprosy and malaria, fevers, epilepsy, insanity and also to improve memory. Two common forms in which drug are used are as Swarasam (juice) and Ghrutam. In pharmacological and clinical trials it has been found to improve the power of concentration and general ability and behavior of mentally retarded children. The plant is used in case of cholera, rheumatism, elephantiasis and hydrocele. For treating leprosy and other skin diseases it is given as an ointment or dusting powder. Internally it has been valued as a tonic and is used in bronchitis, asthma, leucorrhoea, kidney troubles, gastric, urethritis and dropsy. In large doses the plant acts as narcotic, producing cephalgia, vertigo and sometimes coma. The plant is considered as aphrodisiac and used in venereal diseases.