**Senna**

*Cassia aungustifolia* Vahl

*Family: Ceasalpinacea*

A variable, branching, erect shrub, up to 1.8m in height. Leaves pinnate, pubescent, leaflets pale green to bluish green, 3-9 pairs, lanceolate /elliptic, varying on the same plant, 1.5-5.0 cm × 0.4-2.0 cm; flowers brilliant yellow, in erect terminal racemes; pods light green when young to dark brown or black when mature, flat, thin, oblong, pubescent, 3.5-7.0 cm × 0.2-2.5 cm; seeds dark brown, obavate-oblong, 5-7.

There are two botanical sources are used in the name of Senna

2. *Cassia acutifolia* Delile. Known as Alexandrian senna.

**Vernacular Names:**

Sanskrit – Pitapushpi, swarnamukhi, swarnapatrika.

Hindi – Sonamukhi, sonpat;

English – Senna

Kannada – Swarnapatri, sonamukhi

Tamil – Nattunelavarai, nelavagai, sooratnilla avarai

Tel – Neelaponna, Neelatangeedu

**Distribution:**

Globally the species distributed in Somalia, Egypt, South Arabia, Sind, India and Srilanka. In India it is distributed in tropical and sub tropical regions. It is found in Gujrat, Tamil Nadu, Karnataka and Maharasta. More of commercial cultivation is carried in regions of Tamil Nadu (Madurai, Salem, Ramanatapuram and Tiruchunapalli District)

**Threat status:**

Under cultivation
**Agro-climatic requirements:**

The plant requires dry and warm climate, bright sunshine and occasional drizzle for good growth. It can grow in places where the average minimum and maximum temperature fluctuate between 10 and 42. A rainfall was reported to be sufficient in arid areas. It is highly drought resistant and may be suitable for dessert. The plant can thrive on a wide range of well drained soils from loams, sandy loam, including even coarse, gravelly soils and on rich, clayey paddy fields. The pH generally ranges between 7.0 and 8.5.

**Varieties:**

A.L.F.T -2 (Gujrat agriculture university) and Sona (CIMAP,Lucknow)

**Cultivation:**

It can be propagated using seeds.

**Seed propagation:**

The spring sown (March- April) crop is reported to yield better quality seeds. Usually seeds at dough stage are collected for sowing. The seeds are small and 14,000 to 35,000 weight to a kg. The rate of seed employed for sowing under the rain-fed conditions is 10 to 27 kg/hectare and 7 to 15 kg/hectare under irrigated condition. The seeds are reported to have environment controlled dormancy and also inhibition of germination; hence, they are soaked in water for 10-12 hrs. The swollen seeds are separated for sowing to ensure highest germination. They can be soaked in liquid cow-dung for 6 days, this enhances the germination and ensure an even crop.

The treated seeds should generally be sown broadcast soon after the rains. Sowing in rows 30-40 cm apart and 1-2 cm deep either dribbled in plough furrows or through drill is recommended. Seed also can be planted in the nursery in December and the young plants transplanted in Feb when they reach 15cm height.

**Intercultural and pruning:**

Plant requires first weeding and hoeing when 5-10 cm high, a second at 75- 80 days and third at 110 days. Once the plants attain a height of 250-25 cm, they completely smother weeds. If plants are thick, they are thinned to a minimum of 30 cm apart when 30 days old. Senna is a rain fed crop but 2-3 irrigation in North India increases the herb yield. An avg. rainfall of 25-40 cm is sufficient.

**Manures and fertilizers:**

The roots of senna don’t form nodules and hence cannot fix nitrogen. Therefore, application of manure is beneficial. Farmyard manure 4-10 cartloads /hectare. 50 -100 kg N, 20-50 kg P₂O₅ and 20 kg K₂O per hectare, during growth of 135-150 days, depending upon growth and harvesting period.
Plant protection:

The crop in South India is not known to be affected by any serious diseases, but the symptom of die-back with shedding of leaves and stems turning black have been recorded. To control die back seeds are treated with captan or Thiram(25 g/kg). Drenching the field with Bavastin(1.0%), brassicol(0.2%) or Rhizoctol(0.1-0.5%) partially controls infection.

Leafspot and leafblight are other diseases. Spraying Dithane M-45 (0.15%) three times at 15 days interval in a period of 5-6 week is recommended.

Larvae of several leaf eating caterpillars also feed on green leaves. Periodical dusting of BHC (5%) during growth controls infestation.

Harvest and yield:

Harvesting starts after 50 days and subsequently continued at 70 and 90 days intervals. If the interval is increased the yield of leaflets and pods also increases but the quality diminishes. Pods 3-5 days old and young leaves contain high percentage of sennosides.

The yield of leaves and pods varies for dry and irrigated and semi-irrigated crops and also depends upon the region.

Dry land- cured leaves 330-1,500 kg/hectare; pods 82-500 kg/hectare
Irrigated and wet land - cured leaves 825-1,540 kg; pods 165-700 kg/hectare
Semi irrigated –curved leaves 2,464 kg; pods 184 kg/hectare.

Cost of Cultivation: Approximate cost of cultivation comes around Rs.25,000/- per hectare.

Inputs:

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Materials</th>
<th>Per acre</th>
<th>Per hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Seeds (kg)</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Farm Yard Manure (t)</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Fertilizer (kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</td>
<td>16</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>K&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>16</td>
<td>40</td>
</tr>
</tbody>
</table>

Parts used: leaves and pods

Medicinal Uses:

Purgative, but hot in nature and is apt to gripe and causes nausea; but it is free from astringency and does not induce after constipation. It is also used as febrifuge, in spleen enlargements,
anemia, typhoid, cholera, jaundice, gout, rheumatism, tumors, bronchitis, foul breath and in leprosy. Externally powdered leaves mixed with vinegar and made into plaster are applied locally in certain skin diseases. Senna leaves combined with henna are used as a hair dye to make the hair black.

Drug is contra indicated in chronic constipation, colitis, existence of piles and in pregnancy.