

## 1. Bel

Botanical Name: *Aegle marmelos* (L.) Corrêa

Family: Rutaceae

**Fruit collection: Nov- Feb**

### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<p>1. Fruits can be harvested when they become fully mature i.e. eight months after fruit set in March-June.</p> <p>2. Fruit should be harvested when shell (peel) changes from deep green to light green and flesh (pulp) from light yellow to deep yellow.</p> <p>3. Fruits should be harvested individually from the tree along with a portion of fruit stalk.</p> <p>4. The stem end of fruit is prone to infection. Therefore the fruits should be harvested along with a portion of stalk (approximate 2cm). The stalk automatically separated from the fruit when the fruit is ripe, which is an indication of ripening.</p>	<p>1. Fruit should not be allowed to drop or fall on the ground otherwise a minor crack in the shell can cause spoilage during storage.</p> <p>2. Don't harvest all the fruits from trees at a time, some fruits should be left for wildlife and further, regeneration point of view.</p>

## 2. Haritaki

Botanical Name: *Terminalia chebula* Retz.

Family: Combretaceae

**Fruit Collection: January to March**

### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<p>1. January to March is the best period for fruit collection. Fruit should be collected in the first half of January from the ground as soon as they have fallen. The best time for collection of the fruit for optimum tannin content is January. Collection prior to or after January will yield inferior quality of fruit.</p> <p>2. The collection of fruits is generally done by shaking the trees and picking up from the grounds.</p> <p>3. Freshly collected and properly dried Haritaki have yellowish colour which fetch a better price.</p>	<p>1. Don't allow the fruits to lie on the ground as it can invite mould attack. Tannin content in such decaying fruits is very low.</p>

### 3. Amla

Botanical Name: *Phyllanthus emblica* L.

Family: Phyllanthaceae

**Fruit Collection: October- December**

#### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<ol style="list-style-type: none"><li>1. Fruit is harvested in October- December when the fruit has turned golden yellow from green.</li><li>2. During harvesting colour of seed should turn into black.</li><li>3. Fruits can be harvested using long bamboo poles attached with hooks or by shaking the trees and picking up from the ground.</li><li>4. Harvesting should be done in early or in the late hours of the day.</li></ol>	<ol style="list-style-type: none"><li>1. Don't harvest all the fruits at a time, some fruits should be left for wildlife and further, regeneration point of view.</li><li>2. Don't delay in harvesting as it results in heavy dropping of fruits and adversely affects the following years bearing.</li><li>3. Don't cut the branches or the whole tree for harvesting as it declines treepopulation and the resource availability in the wild.</li></ol>

### 4. Arjun Bark

Botanical Name: *Terminalia arjuna*(Roxb.) Wight & Arn.

Family: Combretaceae

**Bark Collection: December and March**

#### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<ol style="list-style-type: none"><li>1. Although flowering and fruiting starts after 6-7 years of planting, bark is removed not before 15 years of growth to get quality product.</li><li>2. The best time to harvest bark was found between December and March.</li><li>3. Remove only 1/3 of the mature bark.</li><li>4. Remove only the outer and the middle bark leaving the inner bark for regeneration</li><li>5. The sizes of blaze used for removal of bark should be according to girth of the trunk at breast height and age of tree. The breadth of the blaze was <math>\frac{1}{4}</math> or <math>\frac{1}{3}</math> of the girth of the trunk at breast height.</li><li>6. Strip harvesting was found to be the best method in younger trees having a girth at breast height (GBH) of less than 60 cm. Sustainable bark harvesting can be done after every 2 year by removing opposite quarters of trunk bark.</li><li>7. Bark strip is removed alternately to the upward direction only.</li></ol>	<ol style="list-style-type: none"><li>1. Don't harvest the bark by cutting down the entire tree and chopping the main stem and branches</li><li>2. Don't harvest the bark by removing the entire bark from the existing tree</li><li>3. Don't use blunt blaze to harvest the bark, If the blaze is sharp, the recovery is faster whereas if the blaze (cut) is not sharp the recovery is slow.</li></ol>

<p>8. To avoid quick drying, the cut surface may be plastered with a mixture of mud and cowdung immediately after bark removal.</p> <p>9. Regular field observations should be taken on the recovery of bark.</p> <p>10. Collected bark is cut into small pieces and dried under sun.</p>	
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## 5. Kuruchi

Botanical Name: *Wrightia antidysenterica* (L.) R.Br.

Family: Apocynaceae

**Bark Collection: Oct-Dec**

### Do's& Don'ts for harvesting & post harvesting management

Do's	Don'ts
<p>1. Flowering occurs in Spring and fruiting in Summer. The stem bark is mainly collected from 8–12 year-old trees in dry season.</p> <p>2. Harvesting should be done by cutting down the entire tree and chopping the main stem and branches and removing the entire bark from the tree. Though it is a destructive method and causes serious damage to wild population, it is practised as it is a shrub.</p> <p>3. The bark needs to be freed from attached wood, and is cut into small pieces of 1–6 cm long and 1–7 mm thick before drying.</p>	

## 6. Guruchi

Botanical Name: *Tinospora cordifolia* (Thunb.) Miers

Family: Menispermaceae

**Stem Collection: August-September**

### Do's& Don'ts for harvesting & post harvesting management

Do's	Don'ts
<p>1. Harvesting should be started 2nd year after plantation.</p> <p>2. When the leaves begin to fall in August-September, the stems should be cut 30 cm above the ground and collected.</p> <p>3. Pale green coloured stems are cut into small pieces and dried in shade.</p>	<p>1. Don't uproot the whole plant, for obtaining the stems.</p>

## 7. Yastimadhu

Botanical Name: *Glycyrrhiza glabra* L.

Family: Fabaceae

**Root Collection: November or December**

### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<ol style="list-style-type: none"><li>1. It is found that high yields are obtained after 3 or 4 years of planting, just before the plants have borne fruit.</li><li>2. The crop is harvested in winter season <i>i.e.</i> November or December to obtain roots which contain high glycyrrhizic acid.</li><li>3. Manual digging is carried for harvesting of roots. Using disc harrow for digging has proved successful and is highly economical.</li><li>4. After harvesting and removal of soil and other residual particles, the roots are cut into pieces and dried.</li><li>5. At the time of harvest, the roots contain 50- 60 percent moisture and should be dried in the sun for 2- 3 days and then in shade for next 10- 12 days.</li></ol>	<ol style="list-style-type: none"><li>1. The dry roots should possess not more than 10% moisture when these are ready to be stored in polythene</li></ol>

## 8. Kala Marich

Botanical Name: *Piper nigrum* L.

Family: Piperaceae

**Fruit Collection: Dec- Jan (plains)/ Jan- April (hills)**

### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<ol style="list-style-type: none"><li>1. Black pepper starts flowering even 1 year after planting, but those should be removed for getting good yield during subsequent years.</li><li>2. Black pepper takes about 7-8 months after flowering to reach full maturity. In India flowering occur in May- June, and the crop is harvested during December –January in plains and January-April in the high ranges of Western Ghats.</li><li>3. Black pepper should be harvested when the berries are fully mature and 1-2 berries start turning from yellow to red in each spike.</li></ol>	<ol style="list-style-type: none"><li>1. Don't allow the berries to over ripe, there is heavy loss due to berry drop and damage by birds if it is over ripe, so it is important to harvest pepper at the proper stage of maturity in order to achieve a dried product of good colour and appearance.</li></ol>

<p>4. After harvesting pepper corns are threshed manually or by using a mechanical thresher.</p> <p>5. To get uniform black color, blanching of raw pepper is done by immersing berries in boiling water for about 03 minutes. Blanching reduces drying time by 2-3 days and also kills any microorganism presence.</p> <p>6. Pepper berries can be directly dried under sun. Sun drying takes 4-6 days.</p>	
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## 9. Rohitak

Botanical Name: *Tecomella undulata* D. Don

Family: Bignoniaceae

**Bark Collection: April to May**

**Do's & Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<p>1. The crop matures after 3-4 years and should be harvested for its bark during summer (April-May).</p> <p>2. Remove only 1/3 of the mature bark.</p> <p>3. Remove only the outer and the middle bark leaving the inner bark for regeneration.</p> <p>4. The bark is shade dried and stored in gunny bags in dry, ventilated places for marketing.</p>	<p>1. Don't harvest the bark by cutting down the entire tree and chopping the main stem and branches.</p> <p>2. Don't harvest the bark by removing the entire bark from the existing tree.</p>

## 10. Ashok

Botanical Name: *Saraca asoca* (Roxb.) Wilde

Family: Fabaceae

**Bark Collection: June-July**

**Do's & Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<p>1. Bark is removed from about ten years or older tree after the seeds are shed to facilitate reproduction.</p> <p>2. Bark should be harvested during the month of June-July.</p> <p>3. Bark should be collected from branches of main trunk.</p> <p>4. Strip the bark longitudinally and not from all over the circumference of trunk/ branches.</p> <p>5. Few plants should be left for further regeneration purpose.</p>	<p>1. Bark should be kept away from direct sun light to avoid destruction of active compounds.</p>

6. Pieces of bark were air-dried at room temperature until complete drying.	
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## 11. Neem Bark

Botanical Name: *Azadirachta indica* A.Juss.

Family: Meliaceae

**Bark collection: All the year round**

**Do's& Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<ol style="list-style-type: none"> <li>1. Harvesting should be done only after five years of planting.</li> <li>2. The rind of trunk can be removed at regular intervals.</li> <li>3. Bark should be removed longitudinally and not from all over the circumference of trunk/branches.</li> <li>4. Remove only the outer and the middle bark leaving the inner bark for regeneration.</li> <li>5. The stem bark of neem plants should be peeled with sharp knife and chopped into small pieces which can be sun dried before storage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Don't harvest the bark by cutting down the entire tree and chopping the main stem and branches.</li> <li>2. Don't harvest the bark by removing the entire bark from the existing tree.</li> </ol>

## 12.Sunti

Botanical Name: *Zingiber officinale* Roscoe

Family: Zingiberaceae

**Rhizome Collection: December- January**

**Do's& Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<ol style="list-style-type: none"> <li>1. It is planted in March-April Season and becomes ready to harvest by December – January.</li> <li>2. During that time, plants become yellow in colour and leaves start drying.</li> <li>3. The clumps are lifted carefully with a spade or digging fork and the rhizomes are separated from the dried up leaves, roots and adhering soil.</li> <li>4. Rhizomes are soaked in water overnight and then cleaned. The skin is removed by scrapping with sharp bamboo splits or such other materials.</li> <li>5. After scrapping, the rhizomes are sun-dried for a week with frequent turnings.</li> </ol>	<ol style="list-style-type: none"> <li>1. While scrapping, never use metallic substances since they will discolour the rhizomes.</li> <li>2. Deep scraping may be avoided to prevent damage of oil cells which are just below the outer skin.</li> <li>3. Do not injure the rhizomes during harvesting as it causes physiological ageing.</li> </ol>

### 13. Tulsi

Botanical Name: *Ocimum tenuiflorum* L.

Family: Lamiaceae

**Leaf Collection: After 3 month of planting.**

#### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<ol style="list-style-type: none"><li>1. The crop can be harvested after 90-95 days of planting and subsequent harvests are taken approximately once in three months.</li><li>2. The leaves of Tulsi should not be collected at milky stage.</li><li>3. The leaves should be collected when 80% of plant gets flowered and inflorescence gets turned golden in colour.</li><li>4. The crop should be cut at 15-20 cm above the ground level. The harvesting is done in such a way that most of the tender shoots are cut leaving the woody stem portions for regeneration.</li><li>5. At least 30% leaves should be left on plant for photosynthesis.</li></ol>	<ol style="list-style-type: none"><li>1. During first harvesting period i.e. 90-95 days after planting(DAP) don't cut down the whole plant.</li></ol>

### 14. Hadjod

Botanical Name: *Cissus quadrangularis* L.

Family: Vitaceae

**Stem Collection: Throughout the year.**

#### **Do's& Don'ts for harvesting & post harvesting management**

<b>Do's</b>	<b>Don'ts</b>
<ol style="list-style-type: none"><li>1. Flowering and fruiting time May-June, but <i>Cissus</i> stems and roots can be harvested throughout the year.</li><li>2. Stems are cut 11 months after sowing.</li><li>3. Give manure of dry cow dung and bone meal after each harvest. Make a heap of both near the root area. It is a perennial crop so it will regenerate from its roots.</li><li>4. Harvested stems are cut between the nodes and dried in the shade to preserve the active ingredients.</li></ol>	<ol style="list-style-type: none"><li>1. While harvesting don't collect immature parts of the plant as it will not give the desired weight and medicinal value.</li><li>2. Don't disturb the active root zone while harvesting the stem.</li></ol>

### 15. Neem Pata

Botanical Name: *Azadirachta indica* A.Juss.,

Family: Meliaceae

**Leaf collection: Throughout the year.**

#### Do's & Don'ts for harvesting & post harvesting management

Do's	Don'ts
<ol style="list-style-type: none"><li>1. Neem leaves are available all year round, since the neem plant is evergreen, but neem leaves should be harvested before flowering which is February–March in South India and March–April in North India.</li><li>2. Vigorous neem tree can be pruned as they respond very well to being cut back by putting out lots of new shoots and neem leaves can be invariably harvested from those pruned brunches.</li></ol>	<ol style="list-style-type: none"><li>1. Don't cut the branches or the whole tree for harvesting as it decline treepopulation and the resource availability in the wild.</li></ol>

### 16. Debdaru

Botanical Name: *Polyalthia longifolia* Sonn.

Family: Annonaceae

**Bark Collection: April - July**

#### Do's & Don'ts for harvesting & post harvesting management

Do's	Don'ts
<ol style="list-style-type: none"><li>1. Bark is harvested after 5-10 years of planting.</li><li>2. Bark should be harvested during the month of April-July.</li><li>3. Bark should be collected from branches of main trunk.</li><li>4. Strip the bark longitudinally and not from all over the circumference of trunk/ branches.</li><li>5. Few plants should be left for further regeneration purpose.</li><li>6. Bark of the tree should be dried in sun shine</li></ol>	

### 17. Nigundi

Botanical Name: *Vitex negundo* L.

Family: Lamiaceae

**Leaf collection: June- December**

#### Do's & Don'ts for harvesting & post harvesting management

Do's	Don'ts
<ol style="list-style-type: none"><li>1. Harvesting can be done 7-8 months after</li></ol>	<ol style="list-style-type: none"><li>1. Don't dry the harvested leaves under sun, as it</li></ol>



planting though flowering occurs between June and December and fruiting from September to February. 2. Volatile oil yield is higher for flowering plants, so the leaves should be collected when plants started flowering. Every 3-5 months thereafter leaves can be harvested. 3. While harvesting the leaves, this shrub should be pruned up to 1 m height. 4. Harvested leaves are air dried in shade.	causes loss of volatile oil.
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### 18. Patal

Botanical Name: *Trichosanthes dioica* Roxb.

Family: Cucurbitaceae

**Leaf Collection: Throughout the year (Preferably after rains)**

**Do's & Don'ts for harvesting & post harvesting management**

Do's	Don'ts
1. It is a perennial climber, which flowers during rainy season and since then leaves of this climber can be harvested throughout the year. 2. Individual leaves should be harvested without damaging the vines. 3. At least some leaves should be left on plant for photosynthesis.	

### 19. Jam

Botanical Name: *Syzygium cumini* (L.) Skeels.

Family: Myrtaceae

**Seed Collection: June- July**

**Do's & Don'ts for harvesting & post harvesting management**

Do's	Don'ts
1. <i>Syzygium scumini</i> trees start flowering from March to April and seed should be harvested during June- July from fully ripen seeds. 2. The fruits cannot remain on the tree in the ripe stage and start dropping to the ground immediately after ripening. It is by shaking the tree and collecting the fruits by holding a big piece of cloth or canvas under the tree. 3. The fruit is oblong, ovoid, when it turns into pink to shining crimson black it should be harvested.	

<p>4. Peel is removed from the seed by fermentation methods, where the selected ripe fruits are harvested, and allowed for fermentation in non-metallic containers at room temperature for two to three days.</p> <p>5. Then the seeds should be sun dried for 7-10 days, then the outer skin have to be peel off and inside berry would be more like a pistachio.</p>	
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## 20. Alkusi

Botanical Name: *Mucuna pruriens* (L.) DC.

Family: Fabaceae

**Fruit Collection: October- February**

**Do's& Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<p>1. Harvesting of velvet bean should be done during October- February.</p> <p>2. Pods can be harvested as soon as they start turning from green to dark brown or black, which indicate the maturity for picking.</p> <p>3. Pods should be harvested by using hand gloves as it causes severe itching when touched.</p> <p>4. The harvested pods from the field are dried in the sunlight for 4-7 days.</p> <p>5. The seeds are further dried in shade to reach approximately 7-8% moisture in the seeds.</p> <p>6. The seeds are normally stored in gunny bags and then covered with polythene to protect from absorption of atmospheric moisture.</p>	<p>1. Don't harvest the immature pods which are green in colour.</p>

## 21. Telakuchi

Botanical Name: *Coccinia grandis* (L.) Voigt

Family: Cucurbitaceae

**Leaf Collection: After September onward.**

**Do's& Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<p>1. It is a perennial climber, it is in flower from Aug to September and since then leaves of this climber can be harvested throughout the year.</p>	

<p>2. Individual leaves should be harvested without damaging the vines.</p> <p>3. At least some leaves should be left on plant for photosynthesis.</p>	
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## 22. Bhringaraj

Botanical Name: *Eclipta prostrata* (L.) L.

Family: Asteraceae

**Leaf Collection: August - September**

**Do's& Don'ts for harvesting & post harvesting management**

Do's	Don'ts
<p>1. It is in flower in August. The best time and stage for harvesting is 90 days after transplanting or at early flowering stage.</p> <p>2. Plants are harvested when they reach a height average of 30-40 cm, with manual cutting of the whole plant.</p> <p>3. Once the plant material is harvested, it is dried under direct sun.</p> <p>4. Before storage humidity must be reduced to 10-12 % to avoid fermentation.</p>	<p>1. Don't harvest the leaves before 90 days, as it results in low foliage yield.</p>

## 23. GANDHAKI

Botanical Name: *Homalomenaaromatica* Schott.

Family : Araceae

**Do's& Don'ts for harvesting & post harvesting management of Gandhaki**

SLN	Do's	SLN	Don'ts
1	The ideal time for rhizome collection is December to February because of less moisture content and retarded vegetative growth.	1	Do not harvest immature Gandhaki.
2	Choose rhizome more than 15 cm long for harvesting.	2	Do not injure the rhizomes during harvesting as it causes physiological ageing.
3	During harvesting, the field should neither be too wet nor too dry.	3	Do not take rotten and damaged Gandhaki from the field.
4	Apply a light sprinkler irrigation so as to soften the soil clods.		

5	Eliminate vegetative stems before harvesting as it causes mechanical barrier for harvesting.		
6	Remove and clean unwanted leaves, stalks with leaf sheath and roots etc from rhizome after harvesting.		
7	Cut rhizomes into 2.5-3 cm pieces and dry by using deamed fire and smoke. When about 50% drying takes place, take out and sundry till a rattling sound on handling is obtained.		
8	Drying of rhizome by heat is more preferred than sun drying as it assures storage viability.		
9	During storage, an inhibitor such as chloroprotham (CIPC) to be used to prevent sprouting.		
10	For storage, use clean gunny bags by spraying malathion @ 0.01% to protect from insect pest infestation.		