



## A Review Of Ancient Science Of Plant Life-*Vrikshayurveda*

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*Vrikshayurveda, mainly deals with various species of trees and their healthy growth and productivity. The text mentions many species of plants, including herbs, shrubs, and trees. In this text, various topics of plants life are described with special reference to procuring, preserving and treatment of seeds and planting materials, preparation of pits for planting, selection of soil, method of irrigation and ways to locate groundwater, nourishment and fertilizers, plant diseases and plants protection, laying out of gardens and orchids, creation of agricultural and horticultural wonders. In Vrikshayurveda, some important suggestions have been described for enhancing plant growth and for protecting them. Kunap jalam has been recommended for stimulating growth and development of plants.*

**Key words** -Vrikshayurveda, Ayurveda, Kunap jalam,

### Introduction

*Vrikshayurveda* deals an ancient science of plant life. *Vrikshayurveda* means *Ayurveda* of plants and dealing with every aspect related to the life of plants. It discuss various topics connected with the science of plant life such as procuring, preserving and treating off seeds before planting, selection of soil ph, nourishments and fertilizers, plant diseases and plant protection from internal and external diseases etc<sup>1</sup>.

1. Soil - Three types of soil, arid, marshy and ordinary are described in *Vrikshayurveda*.

**A. Jangla Desa (Arid Land)** - It about in thin dry and rough sands as well as gravels which give rise to mirages. It is surrounded by trees of *Khejdi, Pilu, Kakubh, Rohitak, Palas, Simspa, Babul, Khadir, Asana, Sala, Sallaki, Tinisa, Badar, Tinduk, Aswath, Dhava, Karir, Vata* etc. The tender branches of these trees are being swayed by the force of dry wind.

**B. Anupa Desa (Marshy Land)**- It contains deep forests of trees like *Kadli, Tamala, Narikela*. It is located generally at the bank of rivers and sea and mostly cold wind blows region. The area is surrounded by trees of *Kadli, Tamala, Kathal, Chandan, Supari, Narikela, Hintala, Kadamba, Kamal, Bhringraj, Satpatra* etc.. The forest wave with the gentle breeze.

**C. Sadharan Desa (Ordinary land)** - The land should be known as ordinary land which contains the trees, herbs, and shrubs of both (arid & marshy) type of land. This land is good as all kind of trees grow on it without falling. Mostly *Nimb, Tinduk, Ashok, Punnag, Champaka, Priyangu, Dadima* etc. grow on an ordinary type of land. Land colors are black, white, pale, dark, red and yellow and sweet, sour, salty pungent, bitter and astringent are the taste of land.

**2. Suitable soil for planting** - Bluish like sapphire, soft like a parrot's feather, white like conch, jasmine, lotuses, or the moon, and yellow like heated gold or blooming *Champaka* is the land recommended for planting. Land, which is even, has accessibility to water and is covered with green trees, is good for growing all kind of trees.

**3. Unsuitable soil for planting** -Soil with poisonous element, abundance of stones, anthills, holes, and gravel and having no accessibility to water are unfit for growing plants.

**4. Types of planting** - *Vanaspati, druma, lata* and *gulma* are the four types of plants. They grow from seed, stalk or bulb thus the planting is of three kinds.

- Plants grow from seeds- *Jambu, Champaka, Punnaga, Nagakesar, Tamarind, Kapittha, Badar, Bilva, Priyangu, Panasa, Amra, Madhuka, Karmarda* etc.
- Plants grow from stalks - *Tambuli, Sinduvvara, Tagara* etc.
- Plants grow from bulbs – *Kumkuma, Ardrak, Rasona, Alukanda* etc.
- Plants grow from seeds as well as from bulbs – *Ela, Padama, Utpala* etc.
- Plant grow from seeds as well as from stalks – *Patala, Dadima, Plaksa, Karvira, Vata, Mallika, Udumbara* etc.

**5. Method of planting** -Farming of *Urad and Tila* should be done before planting for better result. Else it naturally cooled ash, *kunap* water (liquid manure) should be sprinkled and the pits should be filled with good earth.

- The pits should be prepared well in advance the length, breadth and depth of the pits should be a forearm measure uniformly, they should be properly dried filled with cow bones, ash cow dung and cow urine.
- The Seed is extracted from dried fruits, which become ripe in the natural course and season and after that sprinkled. Large seeds should be sown singly but smaller ones should be sown in multiples. The seed of *Naranga* should be sown in a slanting position with hand, sowing seeds for *Makanda, Dadima, Kusmanda* and *Alambuka* is good but planting is even better.
- The stalk should be eighteen *Angula*, neither too tender nor too hard, half of it should be smeared with plenty of cow dung and then should be planted with three fourth part in the pit and should be sprinkled with water mixed with soft sandy mud.
- The branches of *Dadima* and *Karvira* should be bent and planted applying enough cow dung at the root. They should be watered regularly for two month, after the leaves start growing they should be cut in the middle.
- Bulbs should be planted in pits measuring one forearm-length, breadth, and depth and filled with mud mixed with thick sand.
- Small trees should be transplanted by daytime at the proper directions when they are one forearm tall. The roots should be smeared with honey, lotus fiber, ghee and *Vidanga* and then planted in proper pits along with the earth.
- Big tree should be similarly transplanted with their roots covered during evening. The distance between two plants is fourteen, sixteen or twenty forearm lengths. These distance result in excellent yield of tree. If planted at farther distance there is a danger of strong wind.
- Distance between two bushes should be four or five forearms lengths. *Supari* etc. are planted carefully at a distance of two or three forearm lengths.
- *Tuta, Dadima, Bakula* etc. should be planted in the month of *Sravana* (middle time of rainy season), *Amra, Lakuca* etc. should be planted in the month of *bhadrapada* (when rains are receding).

**6. Plants disease** - Two type of plants disease are described in *Vrikshayurveda*.

**A. Internal diseases** - These occur due to imbalance of *Doshas (Vata, Pitta, Kapha)* and further divided into three types.

1.*Vataj* - *Vataj* disease occur due to dry land and the symptoms are thin, weak zigzag stem, hard fruits, tumors etc.

2.*Pittaj* - *Pittaj* disease occur when tree watered with acidic and salty water. Yellowish leaves unhealthy flowering and fruiting are the symptoms of it.

3.*Kaphaj* - *Kaphaj* disease occur when tree watered with sweet and cold water normally in the winter and spring season. Late flowering and fruiting, small pale leaves etc. are the symptoms of it.

**B. External diseases** - These occur due to worms, insects and unfavorable environment. Weakness of affected part, dry and broken leaves etc. are the symptoms of it.

### **7. Treatments of Plant diseases** -

**A. Treatment of Internal diseases** -

1.*Vataj* - Sprinkling *Kunap* (liquid manure prepare from parts of carcasses) on tree suffering from imbalance of *Vata*. Fumigation(smoking) by burning animal fat, ghee, hemp and cow's horn also used to treat *Vata* disorders.

2.*Pittaj* - *Pittaj* disease should treat with cool and sweet substances. When watered by the decoction of milk, honey, *yastimadhu* and *madhuka*, trees suffering from *Pitta* type of diseases get cured. Watered with the decoction of fruits, *Triphla*, ghee and honey, the trees are freed of all *Pitta* type of diseases.

3.*Kaphaj* - The diseases of the kapha type can be overcome with bitter, strong and astringent decoctions. The paste of white mustard should be deposited at the root and the trees should be watered with a mixture of sesame and ashes to treat *Kaphaj* disorder. Earth around the roots of the trees should be removed and fresh, dry earth should be replaced for curing kapha diseases.

**B. Treatment of External diseases** -

- To remove insects both from the root and branches of the trees, should water the tree with cold water for seven days.
- The worm can be overcome by the paste of milk, *kunap* water and cow dung mixed with water and also by smearing the roots with the mixture of white mustard, *Vaca* and *Ativisa*.
- The worms accumulated on trees can be treated quickly by smoking the trees with the mixture of mustard, *Vidanga*, *Vaca* and water mixed with beef, horn of a buffalo, flesh of pigeon and the powder of *Bhallataka*.
- To destroy the worm, insects etc. anointing with *Vidanga* mixed with ghee, watering for seven days with salt water and applying ointment made out of beef, mustard and sesame.
- The insect on the leaves can be destroyed by sprinkling the powder of ashes and brick-dust.
- Use of foliar and soil application of oil to trees to protect from frost and termites.
- Tree suffering from damage due to frost or scorching heat should be externally covered, sprinkling with *kunap* water and milk is also advisable
- The broken trees should be smeared with the paste of bark of *plaksa* and *udumbra* mixed with ghee, honey and the broken part should be firmly tied with the rope of rice stalk, fresh soil should then be filled in the basin around the tree.

- If the branches are burnt they should be cut off and the particular spot should be sprinkled with water, grape and crystalline sugar.
- If the branches fall of the particular spot should be anointed with the mixture of honey, ghee and sprinkled over by milk and water so that the tree will have its branches reaching the sky.

### 8.Nourishment and fertilizers –

*Kunap* water – *Kunap* preparation involves boiling flesh, fat and marrow of animals such as deer, pig etc. In winter, placing it in the earthen pot and adding milk, powder of sesame oil cake, decoction of pulses, ghee and hot water. Now the pot put in a warm place for two weeks the resulted fermented liquid manure is known as *kunap* water.

Other nutritive substances - Fat , ash , brick powder , cow horn, lotus mud marrow ,goat , buffalo and cow dung , milk , honey etc.

### 9. Tree plantation based on *Vastu* principle -

- *Nyogrodh* to the east of the house fulfill all wishes, similarly *udumbra* to the south and *pipala* to the west are auspicious. *Plaksha* is desirable to the north, nonconformity with these (directions) should be avoided.
- Avoid planting *Ashwatha* to the east, *Plaksha* to the south *Nyogrodh* to the west and *Udumbra* to the north of the house.
- Shadow of no trees of any kind should fall on the house, even a gold yielding tree should not be planted at the entrance of the house.
- The house where *Badari*, *Kadali*, *Dadima* and *Beejpurak* are grown, does not prosper .
- *Eranda*, *Kachnar*, *Slesmatak*, *Arjuna* and *Karanja* must not be grown in the vicinity of the house of a happy man.
- Planting of *Nili* and *Haridra* will always meet with loss of progeny and prosperity.
- Thorny plants in the vicinity cause danger from enemies. *Kshirini* plants planted close by result in loss of wealth although fruit yielding it's better to avoid them as they cause loss of progeny. Even their wood should be avoided in the construction of the house.

**Discussion** - The traditional agricultural knowledge as expressed *Vrikshayurveda* is extremely scientific specially reference to synthetic organic fertilizer, use of natural liquid manure like *kunap jalam*. *Kunap jalam* affected plant height, inflorescence and leaf length. P.K.Mishra et al.,2006 have reported that *Kunap jalam* showed significant and profound effect on growth and development in rice plants<sup>2</sup>.

Table No.1 Plants mentioned in review of *Vrikshayurveda*.

S.No	Sanskrit Name	Latin Name
1.	<i>Aamra</i>	<i>Mangifera indica</i> Linn.

2.	<i>Adrak</i>	<i>Zingiber officinale</i> Roscoe
3.	<i>Agura</i>	<i>Aquilaria agallocha</i> Roxb.
4.	<i>Aralu</i>	<i>Ailanthus excelsa</i> Roxb.
5.	<i>Arjuna</i>	<i>Terminalia arjuna</i> W.& A.
6	<i>Asavkarna</i>	<i>Dipterocarpus turbinatus</i> Gaertn.
7.	<i>Ativisha</i>	<i>Aconitum heterophyllum</i> Wall.
8.	<i>Babul</i>	<i>Acacia Arabica</i> Willd.
9.	<i>Bhallatak</i>	<i>Semecarpus anacardium</i> Linn.F.
10.	<i>Bijak</i>	<i>Pterocarpus marsupium</i> Roxb.
11.	<i>Bilva</i>	<i>Aegle marmelos</i> Corr.
12.	<i>Champaka</i>	<i>Michelia champaca</i> Linn.
13.	<i>Dadim</i>	<i>Punica granatum</i> Linn.
14.	<i>Dhav</i>	<i>Anogeissus latifolia</i> Wall.
15.	<i>Ela</i>	<i>Elettaria cardamomum</i> Maton.
16.	<i>Erand</i>	<i>Ricinus communis</i> Linn.
17.	<i>Gokshur</i>	<i>Tribulus terrestris</i> Linn.
18.	<i>Gular</i>	<i>Ficus glomerata</i> Roxb.
19.	<i>Haritaki</i>	<i>Terminalia chebula</i> Retz.
20.	<i>Kamal</i>	<i>Nelumbo nucifera</i> Willd.
21.	<i>Karir</i>	<i>Capparis decidua</i> (forssk.) Edgew.
22.	<i>Kharjur</i>	<i>Phoenix sylvestris</i> Roxb.
23.	<i>Kumkum</i>	<i>Crocus sativus</i> Linn.
24.	<i>Kumud</i>	<i>Nymphaea nouchali</i> Willd.
25.	<i>Madhuk</i>	<i>Madhuka indica</i> J.F.Gmel.
26.	<i>Naagkesar</i>	<i>Mesua ferrea</i> Linn.
27.	<i>Narikel</i>	<i>Cocus nucifera</i> Linn.
28.	<i>Palas</i>	<i>Butea monosperma</i> Roxb.
29.	<i>Parijaat</i>	<i>Nyctanthes arbor-tristis</i> Linn.
30.	<i>Pipal</i>	<i>Ficus religiosa</i> Linn.

31.	<i>Pilu</i>	<i>Salvadora persica</i> Linn.
32.	<i>Plaksh</i>	<i>Ficus lacor</i> Roxb.
33.	<i>Priyangu</i>	<i>Callicarpa macrophylla</i> Vahl.
34.	<i>Punnag</i>	<i>Colophyllum inophyllum</i> Linn.
35.	<i>Rason</i>	<i>Allium sativum</i> Linn.
36.	<i>Saptarn</i>	<i>Alstonia scholaris</i> R.Br.
37.	<i>Sallki</i>	<i>Boswellia serrata</i> Roxb.
38.	<i>Salmali</i>	<i>Bombax ceiba</i> L.
39.	<i>Sarj</i>	<i>Vateria indica</i> Linn.
40.	<i>Sarson</i>	<i>Brassica campestris var.saranso</i> Prain
41.	<i>Shami</i>	<i>Prosopis cinerari</i> (L.) Druce
42.	<i>Shaagwan</i>	<i>Tectona grandis</i> Linn.
43.	<i>Shaal</i>	<i>Shorea robusta</i> Gaertn.f.
44.	<i>Shigru</i>	<i>Moringa oleifera</i> Gaertn.
45.	<i>Shinsapa</i>	<i>Dalbergia sissoo</i> Roxb.
46.	<i>Shirish</i>	<i>Albizzia lebeck</i> Benth.
47.	<i>Supari</i>	<i>Areca catechu</i> Linn.
48.	<i>Tinish</i>	<i>Ougenia oojeinensis</i> Benth.
49.	<i>Tinduk</i>	<i>Diospyros peregrina</i> (Gaertn.) Gurke
50.	<i>Vata</i>	<i>Ficus bengalensis</i> Linn.
51.	<i>Vidanga</i>	<i>Embelia ribes</i> Burn.

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