

# Cultivation Techniques as described in the Vedas

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## Abstract

‘*Bharatha Desham*’ most popularly recognized and addressed as India is a spiritual land. Also, it is the birthplace of almost all branches of sciences and arts. The science and technology used by our sages and seers to a greater extent serve as references to the modern scientists of the present generation. Bharath due to its rich culture and heritage was the most prosperous and developed country. There was no branch of sciences or arts unknown to them. They were very intellectual and knowledgeable people with great skill and talent. They have artfully weaved science and spirituality together with all their wisdom and intelligence. These rituals and traditions that we uphold in daily life and on special occasions are always supported by scientific justifications that, at times, go beyond the capabilities of so-called modern scientists. In the present article, I wish to bring out some important agriculture and farming aspects deliberated in the Vedas and in the *Samskrita Vangmayam* are discussed here.

## Introduction

Sanskrit literature is a treasure house of knowledge - an encyclopedia for all the different branches of sciences and arts. This sacred and divine language has the roots for many scientific and social concepts which are very much essential for the survival, peaceful and prosperous life of all living creatures. The ancient Sanskrit scholars were well equipped with the knowledge of life sciences as well. The glimpses of which can be found even in Vedas.

It is interesting to note that the Vedic agricultural system was enriched and was supported by numerous references to different stages of cultivation, ploughing, sowing, harvesting, trashing and presentation of agricultural production etc., Different type of farmers, agricultural implements of Vedic literature give us a clear idea of developed

agronomy. Since the primary requirement of any being is food. Man started to think about production because without production consumption is impossible. *Rgveda* (RV) and *Atharvaveda* (AV) are the Vedas which have two entire Vedic hymns on agriculture. There are several Veda mantra references on land farming, different agricultural implements, irrigation, farmers, fertilizer, and crops etc., which demonstrate that the agricultural techniques are well existed during the Vedic period. Also, there are several references on the subject of Agriculture and Botany in the *Samskrita Vangmayam* texts such as Ramayana, Mahabharata, Bhagavatam, Vriskha-Ayurveda, Bṛhat Saṃhita, Upavana vinoda, Charaka Saṃhita, Manusmriti, Sayana Bhashyam, Krishi Pradhana Parashar, Arthashastra. In the field of Botany and Agriculture our great Indian sages, who are

scientists, had tremendous vision, which can be witnessed by the world today.

### Previous works

Boddupalli (2021) published a comprehensive research article on agricultural terminology, tools, seasons, crops, favorable crop for each season, number of crops possible for each season and discussed that are revealed in the Vedic texts. Muralidharan (2023) brought an article titled, 'Agriculture Implements in the Vedic Literature', where about ten implements are discussed and compared with the modern agriculture implements.

### Cultivation Techniques - Crop cultivation during Vedic period

From the time of Vedic period, Bharath was an agriculture based economy. In *Rgveda* (10-34-13) advises land farming as the best means of gaining wealth. In Atharvaveda परिकीर्तिताः । The king Pruthu Vainya, a scion of Vaivasvatha Manu invented cultivation of crops and people used to take these crops as the means of their living. Thus, cultivation was accepted as the best rural profession. According to Yajurveda, land or agricultural field is the primary need for cultivation and it is the best place for sowing seed. In Vedic period also one of the duties of the king was to look after the progress of agriculture. In *Rgveda* there are so many hymns invoking Gods to shower their blessings so that we can overcome obstacles in the process of cultivation.

The *Parjanya Sukta* of *Rgveda* (5-83) describes the importance of Lord Parjanya and how people pray to the Lord to shower his blessings not only for abundance of rainfall

and also to protect the crop and the earth from all evils.

यस्य व्रते पृथिवी नन्नमीति यस्य व्रते शफवज्जर्भुरीति ।  
यस्य व्रत ओषधीर्विश्वरूपाः स नः पर्जन्य महि शर्म  
यच्छ ॥ – RV 5-83-5

Meaning: O' Parjanya Deva, at your command the earth remains fertile and all living beings are nourished.

वि वृक्षान् हन्त्युत हन्ति रक्षसो विश्वं विभाय भुवनं  
महावधात् ।

उतानागा ईषते वृष्ण्यावतो यत्पर्जन्यः स्तनयन्  
हन्ति दुष्कृतः ॥ – RV 5-83-2

Meaning: Lord Parjanya has the power to crush that which is unwanted on this earth and to destroy the demonic forces; all creation fears his stupendous might. Even those who are good shy away as Lord Parjanya annihilates the wicked through his raging storms.

In the *Sita Suktam* of *Rgveda* (4-57), it discusses about the devotion of farmers seeking the blessings of Goddess Sita to protect all of us and shower Her blessings for abundant harvest.

अर्वाची सुभगे भव सीते वन्दामहे त्वा ।

यथा नः सुभगाससि यथा नः सुफलाससि ॥ – RV 4-57-6

Meaning: O' Devi Sita, turn towards us and be gracious, we extol and worship you. (The name Sita is a synonymous name for *Prithivi* or mother earth. The Sita Devi mentioned in the *Rgveda* is much earlier than Ramayana Sita). You become favorable to us (by showing your blessings), so that you become the source of abundant harvest.

इन्द्रः सीतां निगृह्णातु तां पूषानु यच्छतु ।

सा नः पयस्वती दुहामुत्तरामुत्तरां समाम् ॥ – RV 4-57-7

Meaning: May Lord Indra take hold of the furrows while we plough and may *Pushan* sustain Her (i.e., the furrows). May She

(Mother Earth) who is full of milk, yield us abundant crops year after year.

The *Taittirīya Saṃhitā* (TS 5-1-7(3)) clearly mentions that there were two harvests (*sasya*) a year. The winter crop was ripe by the month of *Chaitra* (March-April) according to the KB (19-3). The *Kāṭhaka Saṃhitā* describes the deep plowing for the rich production of paddy and barley.

तस्माद् द्विस्संवत्सरस्य सस्यम् पच्यते ॥ - TS 5-1-7(3)  
Since rain is most essential for agriculture. Cloud is praised as personified deity. Agriculture depends not only on water but also on all the five primal elements. For production of crops all these pañcamahābhūtas are most essential in different forms. Earth or land or soil is the primary need for sowing seeds. Water supplies the essential sap for growing the plants, in the form of rainfall or irrigation from river etc. Without heat (*tejas*) growth is impossible. Air (*Vāyu*) is essential for fertility. Maruts are praised as grinder of soil (*pipiṣvatī*). Without space crops cannot take shape. So agriculture depends on the entire natural phenomenon. The *Śatapatha Brāhmaṇa* says - *sarvade vatyā vai kṛṣiḥ*.

To denote the agricultural field or cornfield the term *kṣetra* is mostly used in the Vedic literature. The lord of field '*Kṣetrasya pati*' is actually the presiding deity of field, praised in the Vedas for good crops. Different types of agricultural lands are mentioned in the Vedas: cornfield full of ripened corns (*pakvam kṣetrāt kāmādughā ma eṣā*), barren land, pasture-less land (*agavyūti kṣetram, khila or khilyā* i.e. waste land (*khile gā viṣṭhitā iva, urvarā*) or fertile land (*apnavatīṣu urvarāsn iṣṭanī*) etc. Indra is treated as the possessor of thousands of fertile lands (*taṃ naḥ sahasrabharam urvarāsānī*). The Ṛgveda also

records that due to the blazing of fire the fertile or productive land are changed in waster or uncultivable land (*uta khilyā urvarānām bhavantī*).

Different types of farmers are recorded in the Vedas and they are named according to their works viz. *kārṣivana* 'cultivator', *kināśa* 'farmer', *sīrapati* 'ploughmen', *vapa* 'sower', *dhānyakṛt* 'sower of paddy seeds' and *iḍavā* 'carrier of ripen corns or grains to a granary'. The Vedic terms *kārṣivana* and *kināśa*, the linguistic basis of later word *kiṣāṇa*, remind us the motto of Indian agricultural society – '*jay jawān jai kisān*'. The Atharvaveda records that the gods ploughed a cornfield to produce this barley, where the ploughman is Indra and the Maruts are the cultivators who give rich gifts. *Kārṣivana* or cultivators are also known as *annavid* (*nikhananto agre kārṣivanā unnavido*). Farmers are used to toil the land with ox for the production of sweet beverage (*śrameṇa anaḍvān kīlālaṃ kināśascābhi gacchataḥ*). For refreshment a ploughman is most essential (*irāyai kināśanī*). The expert sower of paddy seeds is known as *dhānyakṛt* (*vapanto brjamiva dhānyākṛtaḥ*). According to the *Śatapatha Brāhmaṇa*, *Gandharvas* were also competent cultivators possessing winnow and barley (*gandharvā āsuh sūrpaṃ yavamān kṛṣir advālavān dhānāntarvān*).

In the Vedas ploughing is recorded as an auspicious mark of happiness indicating prosperity. *Śuna* (prosperity or happiness) and *sīra* (plough) are two deified objects related with agriculture (*śunāsīrāvīmāṃ vācam juṣethām*). Following the above two mantras, depict a real picture of tilling a land with the bullocks, happily by a farmer. All the agricultural objects like plough, ox, ploughman, the binding rope, the goad, etc. are

the mark of prosperity. Again, as a symbol of prosperity, *śuna* and *sŚra* are conjointly praised.

Here we find that the ploughman is tilling the land happily with the sharpened ploughshares and praying to cloud for sufficient rain. The Atharvaveda records a beautiful mantra describing a well-shaped, lance-pointed and sharpened plough with a handle (*lāṅgalaṃ pavīravai suśīmaṃ somasatsaru*).

Mainly two agricultural seasons are noticed in the Vedas - Kharif (July to October) and Rabi (November to March/April) as two principle seasonal crops (*dviḥ samvatsarasya sasyaṃ pacate*). Generally, most of the agricultural crops take three months' time for complete production and hence at least four seasonal harvests are mentioned in the Taittirīya Saṃhitā....These are the time of ripen crops like barely for summer, medicinal herbs for the rainy season, paddy in autumn, and beans and sesamum in winter. According to the *Kauśītaki* Brāhmaṇa, after one day of *caitra amāvasyā* (i.e. *caitra śukla pratipadā*), the winter crops are ready for harvesting.

In this context agricultural implements may be discussed in brief. Though we cannot compare the agricultural implements of Vedic period with the modern advanced and scientific implements of agriculture but old and rough implements like wooden plough with a sharpened ploughshare for tilling the agriculture land with bullocks is still the base of rural economy. To indicate a plough following terms are used in the Vedas: *lāṅgala*, *sīra*. *Phāla* and *stega* denote ploughshare which actually tills the soil; tilled by a ploughshare. The term *īsa* means the plough-stilt or the long wooden stich

connected with the plough; Yuga means a yoke and varatrā denotes a rope for binding the bulls with the yoke and plough. Handle of a plough is known as traru in the Vedas. For controlling the yoked oxen, two implements are used – *aṣṭrā* and *tottra* to denote a goad. *Sṛṇi* and *dātra* 'sickle' (cf. *dātāram* in Santali language) are used for reaping the harvest (lavana). *Khanitra* (shovel) is also used in the Vedas for digging the soil. The Vedas record the use of *śūrpa* for winnowing the ocns like paddy, barley, etc. and *titaṃ* for clearing the flour made of barley (*saktumiva titaunā punantaḥ*). The two terms *sīra* and *laya* are used conjointly for two functions furrowing and harrowing a field respectively (*sīrañca me layaśca me*).

On irrigation, fertilizers, prevention from natural calamities etc. are as revealed in the Vedas. Though the agriculture mainly depends on adequate rainfall (*kṛṣiśca me vṛṣṭiśca me*) but as a substitute the Vedic farmers take the help of man-made irrigation system for watering the cornfield. The *Ṛgveda* (VII.49.2) describes four types of irrigated water (1) rain (*divyāḥ*), (2) from well (*khanirtimā*), natural (*svayamjāḥ*) and (4) from those rives which are mixed with sea (*samudrārthāḥ*). Artificial irrigation could be guessed from the Vedic terms 'khanitrimā āpah' from irrigation from well and hardam kuly for irrigation from canal.

For growing the yielding capacity, manures or fertilizers are also used in the agricultural field. Mostly cow dung is used as manure and it is known to the Vedic seers as *karīṣa*, *śakan*, *śakṛt*, etc. They know that the use of adequate cow dung in an agricultural field results to a rich harvest (*karīṣinīm phalavatīm svadhām, nityapuṣṭām karīṣinīm*)

Vedic seers are also conscious about the controlling method of natural calamities. The Atharvaveda records that the evils like moles, rats, birds, insects, excessive rain and draught could damage the crops. The same could be prevented by some spells (*hataṃ tardam samaṅkam ākhum aśvinā chintam... tarda hai, pataṅga hai jabhya hā upakvasa*)

In crop production, harvesting is an important work as if the farmer is not able to collect the ripen corns in time surely he has to face a severe loss. The farmers plough the fields, scatter the good seed on fertile land which is fed and watered by natural phenomena but the ripen corn is cut or reaped by farmers with cutters like sickle etc. as cleared in one of the mantra of *Ṛgveda* which means that.. After reaping the ripen corn, they bound into bundles and beaten out or threshed onto the floor of granary (*khale na parṣān prati hanmi*).

In agriculture, a farmer will overwhelm when he finds the production from three types of cornfields – *urvarā* (fertile), *iriṇa* (barren land) and *śaspya* (marshy land), corn from cultivable land (*kr̥ṣṭapacye aśane dhānye*). The *Yajurveda* records twelve types of food-grains in the following manner... These twelve corns are: *vr̥thi* (paddy, *Oryza sativa*), *yava* (barley, *Hordeum vulgare*), *māsa* (a kind of bean, *Vigna mungo*), *tila* (*Sesamum indicum*), *mudga* (a kind of bean, *Vigna radiata*), *khalva* (chick-pea, *Cicer arietinum*), *priyaṅgu* (panic seed, *Panicum italicum*), *aṇu* (Proso millet, *Panicum miliaceum*), *śyāmāka* (a kind of millet, *Echinochloa frumentacea*), *nīvāra* (wild rice, *Oryza rufipogon*), *godhūma* (wheat, *Triticum aestivum*), and *masūra* (a kind of lentil, *Vicia hirsuta*). It is very interesting to note that most of these cultivated grains are

known as *dhānya* in the *Bṛhadāraṇyaka Upaniṣad* (6-3-13) as all these grains are most essential for sustaining life. According to this *Upaniṣad* there are ten cultivated grains: rice, barley, sesamum, beans, millet, panic seeds, wheat, lentils, pulses and vetches.

Apart from cultivation preservation of food grains also is an important factor which was well known to the people of Vedic period. The term *khala* is used in the Vedas for ‘threshing floor’ and *khalapā* is a granary made of bamboo mats. The terms – *ūrdara*, *stevi* and *kr̥dara* according to Vedas give the meaning of granary or treasure house e.g. ‘*tām ūudaram na pr̥natā yavena*’ ‘as a granary filled with barley’, ‘*nirgā ūpe yavarn iva sthivibhyaḥ*’ as men bring barley from granaries:, ‘*samidho aṅjan kr̥daram matīnām*’ ‘decking the treasure house or prayers’, etc.

In brief, it may be said that the above information gives us a glimpse of Vedic agricultural system and also that since ages, the agriculture has been the base of rural economy because the rural people could maintain their livelihood by engaging themselves in different kinds of agricultural work. Hence, the Vedic agricultural system is the pioneer of the modern agricultural system in Bharath to provide adequate food to each and every people of this country.

After the Vedic period in the great Epics of Mahabharata, Bhagavata and other Epics written by our sages there are descriptions of different important concepts related to the plants, their cultivation, classification, techniques, categorization etc.

### Shanti Parva of Mahabharata

In Shanti Parva of Mahabharata, there is a description given by the great sage Veda Vyasa as to why trees are called as पादपाः and also in detail how the trees drink water in the given śloka:

वक्त्रेणोत्पलनालेन यथोर्ध्वं जलमाददेत्।  
तथा पवनसंयुक्तः पादैः प्रति पादपाः ॥

As one draws water up with mouth or through a lotus stalk, the plants which are endowed with air pressure drinks with its feet. This also includes the description of osmosis which says that due to rapid evaporation of water from leaves, during transpiration, a tension is created and transmitted to the xylem of the roots, causing the water to cross the cell wall and rise upwards. Osmosis is the spontaneous passage or diffusion of water or other solvents through a semipermeable membrane. This study was mentioned in Mahabharata in 3000 BC, but the world recognizes Wilhelm Pfeffer - a German plant physiologist of 1877 to be the first person who thoroughly studied and described 'Osmosis'.

In another śloka of Shanti Parva, which describes about photosynthesis is:

तेन तज्जलमादत्तं जरयतत्यग्निम।रुतौ।  
आहारपरिणामाच्च स्नेहो वृद्धिश्च जायते॥

The water which is drawn by the roots reacts with अग्नि i.e., sunlight and मरुत् i.e., air and this combination becomes आहारम् i.e., food which makes the tree to prosper. Further Vyasa Bhagavan describes that the trees have sight from the following śloka in Shanti parva:

वल्ली वेष्टयते वृक्षं सर्वतश्चैव गच्छति।  
नाप्यदृष्टेश्च मार्गो अस्ति तस्मात् पश्यति पादपाः॥

When we observe the creepers they move about the tree trunks covering it all around. Without sight there is no path for a

living creature. Hence we can say that the creeper can see.

The below śloka from Shanti Parva of Mahabharata describes about the plants that they respond to smell and gases:

पुण्यापुण्यैस्तथा गन्धैर्धूपैश्च विविधैरपि।  
अरोगाः पुष्पिताः समिति तस्माज्जिग्रन्ति पादपाः॥

When covered with incense and smoke, the trees become disease free and flower and fructify in plenty. Hence they respond to gasses.

This is the śloka from Shanti parva of Mahabharata describes the hearing ability of the trees.

वाय्वग्न्यानिनिष्पेषैः फलं पुष्पों विशीर्यते।  
श्रोत्रेण गृह्यते शब्दस्तेन शृण्वन्ति पादपाः ॥

By the sound of wind, fire and lightning, the fruit and flowers perish. Sound is perceived by ear, hence trees hear. Continuing with the senses of vision, smell and hearing, Shanti Parva of Mahabharata describes the sense of touch of trees by this following śloka:

ऊष्मतो म्लायते वर्णो त्वक्फलं पुष्पमेव वा।  
म्लायते शीर्यते चालू स्पर्शस्तेनात्र विद्यते ॥

The Sun rays reduce the colours of barks, leaves and flowers of trees. Hence they also fade and perish due to the heat of the Sun, which proves that the trees have the sense of touch.

## Vṛkṣāyurveda

Vṛkṣāyurveda is another important book which gives more details about the flora and the insentient living creatures on the earth. The care and precautions needs to be taken for the protection of plants are also provided in this book. The slokas 271 to 273 describe about the classification of pants which read as follows:

वनस्पतिद्रुमलता गुल्माः पादपजातयः।  
 बीजात्काण्डात्तथा कन्दात्तज्जन्म त्रिविधं विदुः ॥  
 ते वनस्पतयः प्रोक्ताः विना पुष्पैः फलन्ति ये ।  
 द्रुमाश्च ते निगदिताः सहपुष्पैः फलन्ति ये ॥  
 प्रसरन्ति प्रतानैर्यास्ता लता परिकीर्तिताः ।  
 बहुस्तम्बा विटपिनो ये ते गुल्माः परिकीर्तिताः ॥

The Vṛkṣāyurveda classified plants into four categories:

1. Herbs: These are the plants that bear fruits without flowers i.e., Vanaspati.
2. Trees: Trees are those which bear fruits after flowering. drumaH
3. Creepers: Creepers are the plants that develop tendrils i.e., Latha.
4. Shrubs: The bushy plants with many branches are called shrubs - gulmaH.

Apart from detailed descriptions about plants, Vṛkṣāyurveda also describes the various problems faced by the trees and plants. Here is an example given in the below śloka:

कीटजग्धे अग्निसंप्लुष्टे वातभग्ने अशनिपते।  
 वाँक्षच्छेदापचारादि-पीडिते अपि पृथक्क्रिया।  
 कीटरोगाण्वादिबाधे अग्निसम्प्लुष्टोक्त  
 वाताशनिपाताद्याद्यातेकुठारादिना छेदे च वृक्षस्यरोगः  
 भवति।  
 एकैकस्यापितदनुसृता चिकित्सा विधेया॥

When eaten by insects, burnt by fire, broken by strong winds, hit by lightning and injured by cuts, trees are affected and those parts are to be separated and should be treated accordingly.

### Upavana Vinodam

Another important book that gives more details about plants, their problems and treatment along with the details of cultivating seedless fruits and vegetables is *Upavana Vinodam* which was written during the 13<sup>th</sup> century A.D.

#### a) Treatment of trees:

उन्निद्रता मत्स्यसगन्धिता च प्रवालहानिः  
 सपिपीलिकत्वम् ।  
 त्वग्भ्रानाद् - वारिकृतादजीर्णत तरोर्भवेत्तत्र  
 चिकित्सनीयम् ॥

If a tree has symptoms of being always pale, smell of fish, devoid of leaves, full of ants, devoid of bark at some places and inefficiency to digest water, such type of trees require treatment.

#### b) Tridoshas of trees:

नराणामिव वाँक्षाणां वातपित्तकफाद्गदाः।  
 सम्भवन्ति निरूप्यातः कुर्यात्तद्दोषनाशनम् ॥

Trees are like human beings, and are prone to get diseases through the vitiations of vata, pitta and kapha which are considered as three humors that are to be diagnosed and treated to cure; the disease.

#### c) Kapha natured trees:

The trees of kapha i.e., phlegmatic nature have their branches and leaves glossy, flowers and fruits are well shaped and of good appearance, the trunks are symmetrical and all parts are covered with creepers.

#### d) Vata natured trees:

Thin and tall, short and shining, not dull with a little vigour and not bearing fruits and flowers, such trees are vata type of trees.

#### e) Seedless fruits:

When a paste prepared of Madhuyasti, sugar, kushtam, madhupushpam, together applied to the root of a tree, produces seedless fruits.

#### f) Seedless Vegetables:

If the seeds of ground, brinjal, potato and such other plants are treated with animal fat and then sown in purified ground (i.e., prepared ground and water sprinkled over them) the fruits that grow out of them become big and seedless.

**g) Pesticides:**

Germes are destroyed by the application of the following substances made into a paste with the urine of cows with vidanga and musta, the bark of karanja, armavadha, arishta and saptaparna.

**Krishi Parashara**

Krishi Parashara is another book in Sanskrit literature that is completely dedicated to agriculture. The given ślokas gives us the information about the fine time for sowing the seed.

Sowing the seed in vaishaka i.e., during the month of May is stated to be the best, in Jyestha i.e., during the month of June sowing the seeds would yield medium results, in Ashadha i.e., during July the result would be bad and in Shravana i.e., during August it would be the worst.

It is said that the hot season i.e., from April to May is excellent for sowing seeds and transplantation. Sowing seeds in Shravanam is said to be bad and in Bhadrapada is said to be the worst.

The end of Jyestha masa and the beginning of Ashadha masa is considered to be the menstruation period and the seeds must not be sown during this period. By following this procedure the farmer would be saved from regret.

**Up-gradation and Seed Collection**

All sorts of seeds should be procured in Magha or Phalguna i.e., during February or March and should then be dried well in the sun. The seeds should not be sown directly.

**Weeding of the field**

Even a well grown crop does not yield full returns if grass is not weeded out. The crop from which the grass is weeded out is shravana i.e. August and Bhadrapada i.e. September, doubles its yield later.

**Water Retention**

A wise farmer constructs small bunds for retaining water during the month of Ashadha i.e. July or Shravana i.e. August. If such bunds are not constructed, seeds will not germinate. If there is scarcity of rainfall, an attentive farmer constructs such type of bunds in the sun sign of cancer i.e., during the month of June itself. If the construction of bunds is postponed to bhadrapada i.e., September, the crop is reduced to half the quantity. If the same is done in Ashwina i.e. October, there is no scope for returns. At low lands, transplantation and manuring should not be done. Only weeding of grass is to be done.

**Draining of water**

Water should be drain out from the field in the month of Bhadrapada (September) to keep the crop free from disease. The water which is sufficient only to wet the roots should be retained. But, if the crops are allowed with large quantities of water during the month of Bhadrapada (September), the crops would be damaged by various harmful factors that would deprive the farmer of a good harvest.

**Rain Forecast**

The ants emerging from the ant hill carrying their eggs and a sudden croaking of frogs are indications of sudden rains. Also, the water birds drying their wings in the hot Sun and crickets chirping in the sky also signify sudden rains.



## Management of Agriculture

“Farms yield gold if properly maintained but, the same would lead to poverty if neglected.” These are the words of the great sage Parashara who was well versed in the sacred science of agriculture.

It is also said by the scholars that “the management of one’s harem may be entrusted to one’s father, the management of kitchen can be entrusted to one’s mother, similarly management of cattle can be entrusted to someone equal in status but, farm should never be left to the management of anyone else but to be taken care personally.

In a similar manner, it is said by the sages that Agriculture, cattle, business, women and royal families if left unattended even for a short while, perish within no time.

An agriculturalist always looks after the welfare of his cattle, visits his farm daily, has knowledge of the seasons, is careful about seeds and is industrious is rewarded with the harvest of all kinds and never perishes.

*Br̥hat Sam̥hita* is another important book in the Sanskrit literature written by great scholar Varāhamihira. The complete work of Varāhamihira can be considered as an encyclopedia for many agricultural concepts and also for understanding various concept of Astrophysics and their relativity to the living creatures on the earth. A comprehensive work on the flora of *Br̥hat Sam̥hitā* is published in this issue of vEda vaaNee (Boddupalli and Boddupalli, 2023). A few concepts are mentioned below:

## Grafting

The process of grafting should be done in the spring season (February and March) for

those plants which have not branched and in the rainy season (August -September) for those that have large branches with proper direction. The direction of the tree that is cut off should be kept up in the process of grafting.

## Identification of groundwater

In one of the ślokas, Varāhamihira explains that the trees which are short and wise with long hanging branches and glossy leaves indicate the presence of ground water nearby. Whereas trees which are hollow and dry with pale leaves indicate non-existence of ground water nearby. Moreover, if there is an anthill covered by *kusha* grass to the northeast of the mountain-Ebony tree, then there will be inexhaustible water at a depth of 22½ cubits between water and the anthill. Also, the appearance of a snake of the colour of lotus calya at a depth of 5 cubits from a surface level, followed by layers of red earth and ruby, indicate the presence of water

Another indication of underground water according to Varāhamihira is ... if in a grassless place a patch of ground is seen covered with grass or in a grassy plot, a patch is seen devoid of it, a vein of water or treasure is to be declared to exist there.

There are many more such great scriptures like Artshastra, Manusmriti etc., which give us the most valuable knowledge not only in the field of agriculture but all the branches of sciences. In this article, only a few of the ślokas are provided from such great literature.

## Conclusion

From the above information, it is evident that right from the Vedic period till date agriculture has always been an integral

part of every civilization. The fact remains that good farming yields a good crop. A good crop not only gives monetary benefits to the farmers but also helps in maintaining the good health of the citizens. Thus, the concept of a healthy mind residing in a healthy body was well followed since ages in Bharath. Because of this perfection in taking care of minutest details with utmost care, Bharath was the most prosperous and developed country which grabbed the attention of many other countries. Most of the countries tried to take with them the knowledge which was the main reason for the prosperity of our country. But they were not successful in doing so, hence they tried to capture Bharath and make it a part of their kingdom. This is the well-known fact because history reveals that Bharath is the only country which has faced many numbers of foreign invasions. Hence, the need of the hour is that we all must understand that all our ancient Bharatiya scholars were always working for the benefit of all living creatures

स्वस्ति प्रजाभ्यः परिपालयन्ताम् ।

न्यायेन मार्गेण महीं महीशाम् ।

गो ब्राह्मणेभ्यः शुभमस्तु नित्यम् ।

लोकाः समस्ताः सुखिनो भवन्तु ॥

“Let the subjects be nourished and governed by the rulers, who follow the path of justice. Let the cattle and the righteous people (ब्राह्मणाः) have goodness and let all the people be happy”.

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