

## Traditional quality control parameters for medicinal plants to be used in Sowa-Rigpa and Ayurveda medicine

Tashi Stobgais

National Institute of Sowa-Rigpa (NISR) Leh, U.T.Ladakh Pin-194101

Date of Submission: 10-04-2025

Date of Acceptance: 20-04-2025

### ABSTRACT:

Sowa-Rigpa is recognized and promoted as a traditional medical system by Government of India. Along with spread of Buddhism, Sowa-Rigpa also spread to other neighboring countries. It is interesting to note that Sowa-Rigpa shares similarity with the principles or philosophy of Ayurveda since most of the literature in Sowa-Rigpa (approximately more than 75%) is adaptive from the most famous treatise of Ayurveda, i.e., AshtangaHridaya in one or other form. Many (more than 75%) of the commonly used herbs used in Ayurveda (Indian origin) viz., Triphala, Ashoka, Ashwagandha, Guggulu, Haridra etc. are also frequently used for treatment in Sowa-Rigpa system of medicine.

Sowa-Rigpa and Ayurveda classical texts have offered certain guidelines for optimal utilization and retaining the potency of medicinal plants. It is absolutely essential to understand the name of the plant, its shape, color and other characteristics of root, stem, branches, leaf, flower and fruit. The fundamental knowledge of taste, potency, post-digestive taste, and quality of each and every plant helps in its proper therapeutic uses. While collecting and processing the herbs, there are seven essential features to be taken care of to ensure the efficacy of medicine. (K.S.Dhiman et.al. 2020)<sup>11</sup>

**Key words:** Sowa-Rigpa and Ayurveda, Three humours, five elements, taste, potency, seven essential principles of processing medicinal plants.

### INTRODUCTION

Sowa-Rigpa and Ayurveda is one of the most ancient systems of medicine. It is well a documented authentic system based on ethic, philosophy and spirituality. This unique system of medicine served mankind uninterruptedly for centuries. Today has showed its relevance to the world of technophile with rise of demand and appreciation from all the corner of the world. The rise in the demand of this herbal-based medicine is good news not only to the practitioners, but also to the both system itself for the preservation and promotion of this centuries old tradition. I should

say that this is the result of hard work and unselfish dedication of the practitioner of this tradition. At the same time the practitioner of this system had a great responsibility to preserve, promote and disseminate for the benefit of the humankind. Therefore, it is indispensable to have a deeper study and research on the ancient manuscripts of the great physicians, who had spent their whole life experimenting and documenting their finding.

Sowa-Rigpa is based on the principles of Jung-wa-nga (English-five elements, Sanskrit-panchmahabhuta) and nes-pa-sum (English-three humors, Sanskrit-tridosha). All animate and inanimate phenomena of this universe are composed of Jung-wa-nga; namely sa, chu, mai, rlung and nam-kha (English-earth, water, fire, air and space; Sanskrit-dharti, jal, agni, vayu and akashrespectively)(Drungtso, 2007)<sup>3</sup>. The sciences of physiology, pathology and pharmacology of this medical system are established on these theories, which mean our body is composed of these five cosmos physical elements. When the ratio of this element become imbalance in own body, result disorder. The medicine and diet use for the treatment of disorders are also composed of five basic elements. In the body the elements are present in the form of three humours and seven bodily constituents and three excretions (rGyud-zhi/Four Tantra's. 2011)<sup>1</sup>. This medicine system has been popularly practiced throughout the central and Southeast Asian region of Tibet, Mongolia, Bhutan, Nepal, China and the Himalayan region of India. It is originated Bhagwan Buddha form India and enriched in Tibet by the Tibetan scholars, but the history of this system of medicine has various conflicting account of about its origin. Some scholars believe that it is originated from India, some say from China and others consider it to have originated Tibet itself. The majority of the theories, principles and practiced of Sowa Rigpa are similar to Indian Ayurveda science. The fundamental principles of Sowa Rigpa is based on Jung-wa-nga (English-five elements, Sanskrit-panchmahabhuta) and nes-pa-sum (English-three humors, Sanskrit-tridosha), Luszung-bdun (English-seven body

constitutions, Sanskrit-Saptadhatu) and do's and don'ts, dietary guidelines, pulse examination etc. which are common in Sowa Rigpa and Ayurved and clearly indicates its close proximity with India.



“This Human body is composed of five elements. Even the Diseases to be healed are also caused by the five elements.

And the medicines too have the nature of five elements.

Body, disease and remedies are all connected to the same five elements.”

(rGyud-zhi/FourTantra's. 2011)<sup>1</sup>

The characteristics and responsibilities of three humours				
Three Humours (Tridosha)	Element (Panchmahabhuta)	Characterized	Responsible	Organs
rLung (Bhoti) Vata (Sanskrit) Wind (English)	rLung vayu Wind or Air	Coarse Light Cold Subtle Hard Mobile	Respiration, physical and mental activities, expulsion of urine and faeces	Clarity of sense organs
mKhris-pa (Bhoti) Pitta (Sanskrit) Bile (English)	Mai Agni Fire	Oily Sharp Hot Light Fetid Purgative Fluidity	Hunger, thirst, digestion and assimilation, promotes bodily heat, body complexion	Provides courage and determination
Bad-kan (Bhoti) Kha-pha (Sanskrit) Phlegm (English)	Sa and Chu Dharti and Jal Earth and water	Oily Cool Heavy Blunt Smooth Firm Sticky	Firmness of body, Stability mind, Induces sleep, connects bodily joints, Lubricates the body	Generates tolerance

“This Human body is composed of five elements. Even the Diseases to be healed are also caused by the five elements.

And the medicines too have the nature of five elements.

Body, disease and remedies are all connected to the same five elements.”

Sowa-Rigpa and Ayurveda classical texts offered certain guiding principles for optimal utilization and retaining the potency of medicinal plants. It is absolutely essential to understand clearly the name of a plant, its shapes, color and

other destinies characteristic of root, stem, branches, leaf, flower and fruit. The fundamental knowledge of taste, potency, post digestive taste and quality of each and every plants in also essential(Gyatso, 1994)<sup>2</sup>. While collecting and processing the herbs there are seven essential principles to be follow to maintain the efficacy of medicines and while preparing or combining the medicine. The Sowa-Rigpa pharmacology is based on the theories of six testes ( ro-druk) eight potencies ( nuspa-rgyad) three post digestive taste (zu-rjes sum) seventeen attributes (yonten-bcho-

bdun) and its interdependent on five elements etc. (Dummer, 2001)<sup>4</sup>

1. Formation of six primary tastes from five Cosmo-physical elements.
2. Eight potencies from the six primary tastes and their functions.
3. Compounding of medicine based on the tastes potencies and post digestive tastes.

#### Tastes

1. Sweet
2. Sour
3. Saliva
4. Bitter
5. Acrid
6. Astringent

Generally sweet, sour and acrid taste alleviator rLung. Bitter, sweet and astringent taste alleviator rKhris-pa. Acrid, sour and saliva taste alleviator Bad-kan. The basic principle is to choose the taste which will rectify the imbalance of three humours.

#### Eight Potencies

1. Heavy
2. Unctuous
3. Cool
4. Dull
5. Light
6. Coarse
7. Acrid
8. Sharp

The first four potencies alleviate rLung and rKhris-pa and latter four alleviate Bad-Kan.

3) **Three Post Digestive Tastes:** During digestion the conversion of six tastes in to three post digestive taste in define as three post digestive tastes. It is the taste which emerges after the digestion and assimilation of food materials with the help of three post digestive heat of stomach sweet, sour, and saliva are identified as three post digestive tastes. Sweet post digestive taste alleviate Bad-Kan and rLung. Bitter alleviate Bad-Kan and rKhris pa. The combination of taste, potency and post digestive taste of herbs bring a therapeutic

4. Compounding of hot and cold nature medicines.

1. **Six primary tastes:** The sensation which is perceived on over tongue is defined as taste. (Ro) six types of tastes are sweet, sour, saliva, bitter, acrid and astringent. Formation of six tastes from five Cosmo elements are as following: (rGyud-zhi/Four Tantra's. 2011)<sup>1</sup>

#### Five Elements

- The predominance of Earth + Water
- The predominance of Fire + Earth
- The predominance of Water + Fire
- The predominance of Water + Air
- The predominance of Fire + Air
- The predominance of Earth + Air

2) **Eight Potencies:** The origin of eight potencies from six tastes. The eight potencies of herbs are heavy, unctuous, cool, dull, light, coarse, acrid and sharp. The formation of eight potencies from six taste are as follows: (rGyud-zhi/Four Tantra's. 2011)<sup>1</sup>

#### Six Tastes

- Salvia + Astringent + Sweet
- Salvia + Sour + Sweet
- Astringent + Bitter + Sweet
- Bitter + Astringent + Sweet
- Sour + Acrid + Bitter
- Sour + Acrid + Bitter
- Acrid + Sour + Salvia
- Acrid + Sour + Salvia

effective the body. (rGyud-zhi/FourTantra's. 2011)<sup>1</sup>

4) **Seventeen Attributes:** Generally refer to the action of the taste or the dual action of taste and potency is defined as attributes. Herbs which indicating the predominance of different elements possess different attributes. To enumerate there are seventeen attributes, these seventeen attributes are antagonistic in their action when assigned to twenty characteristic of three action. (rGyud-zhi/Four Tantra's. 2011)<sup>1</sup>

**Seventeen Attributes**

1. Smooth
2. Heavy
3. Warm
4. Oily
5. Stability
6. Cold
7. Blunt
8. Cool
9. Flexible
10. Fluidity
11. Dry
12. Parch
13. Hot
14. Light
15. Sharp
16. Coarse
17. Mobile

**Twenty Characteristic of three Humours**

- Coarse
- Light
- Cold
- Subtle & hard
- Mobile
- Oily
- Sharp
- Hot
- Light
- Malodorous
- Moisture
- Oily
- Cool
- Heavy
- Blunt
- Smooth & sticky
- Stability

In order to get the fullest effect of therapeutic medicinal plants there are traditional medical texts provided in certain preparatory processing guidelines called the seven essential principles of processing medicinal plants. They are: (1) Right habitat, (2) Right time of collection, (3) Method of drying process, (4) The timely utilization of plants, (5) Removal of poison, (6) Smoothing the potency of the medicine and (7) Right combination of medicinal ingredients (Tsultim and Dakpa 2001)<sup>5</sup>.

1. Right Habitat: The habitat or the growing sites of the medicinal plants should be clean and fragile with free from pollution, wastes, and garbage. Plants should be growing abundantly in their natural sites. The cool warm potency should be in acquiescence with the inherent cool warm potency of herbs or plants. For instance, the cool potency herbs grow on the site of mountain facing north is more affected to hot disorders whereas the warm potency herbs grown on mountain facing south is more effected to cold disorder. The natural sites of plant is blessed by Buddha and high spiritual practitioners, whose innate power affect the herbs and give them more power to eliminate disorders.
2. Right time of collection: The collection of medicinal plants at specific times is a very important as considered by the Sowa-Rigpa medicine for the effectiveness of medicine of different ailments. The various parts of the plants such as root, stem, branch, leaf etc. are collected in a specific period of time when

their potency in its supreme and prime. The root, branch and stem should be collected during late phase of autumn, when all other parts of the herbs falls and dry. The leaf, latex and shoot should be collected in the late phased of summer or rainy season, while, flower, fruit and other aril parts should pick up during early autumn after maturation. The bark, cortex and resin are collect and extract when shoots sprouts in the middle or the late phase of spring. Plants that useas emetic should collect during late phase of spring. The power of fire and air elements which are the stronger influence on sprouting of seedling resulting in a specific plant that has acquired an ascending effect. Likewise, the plant which is use for purgative need to collect in phase of late autumn because the powers of earth and water elements are predominant and it is stronger at root. These specific plants have descending power of effect. Generally the collection of plants should initiate on an auspicious date of Lunar calendar and traditionally it is mandatory to begin the collection of herbsby reciting mantras and prayers present in the version of the Medicine Buddha Mantra “ tayatha om bhaikhaze bhaikhze, mahabhaikhaze bhaikhaze razaya, samud ghate svaha”

3. Method of drying the herbs process: It is very important to have proper drying process according to the nature of medicinal plants in order to have required medicinal effects. The collected herb should clean and wash before drying, if needed the stem, branches and

roots should be chopped into pieces immediately after collection and drying properly to maintain its potency. The cool potency herbs can be dried in the sun and nearby fire. Likewise, warm potency herbs should not expose to cool breeze. Cool potency herbs should not expose to fire and the sun. The medicinal plants should be free from smoke, moisture, insects, fire and contamination substances. If the drying processes will be followed systematically the crude drugs will retain their potency and will be the superior quality.

4. The timely utilization of plants: It is unwise to keep the collected medicine for many years in the storage. Generally all kinds of medicinal substance have its own time of utilization. The medicinal substance derived from the herbs should not be exceeding one year of storage, particularly the leaf and flowers. After one year the herbs lose its therapeutic potency. It is very important to replace the dried herbs with fresh stock of herbs every year. Indeed herbs should be used within the same year of collection. However, there is a special method to maintain the therapeutic potency and to keep herbs longer duration of utilization. The concentrated decoction of herbs or plants can be preserve for more than a year without losing its potency.
5. Removal of poison: The each plant has coarse potency in its parts of morphology characteristics, such as root, stem, branch, leaf etc. The coarse potency of medicinal plant impairs the digestive heat and affects the therapeutic benefit of that particular disorder. It is necessary to remove the coarse potency of collected medicinal plant to minimize the side effect and soothing potency of the medicine and restore the digestive heat. The medicine is more effective for specific disorder with removable of coarse potency. The example that possess coarse potency such as the back of root, pith of stem, node of a branch, petiole of a leaf, sepal of a flower and apocarps and endocarp of a fruit has coarse potency.
6. Smoothing the potency of the medicine: the various plants or ingredients are compounded into many forms such as decoction, powder, pill, paste, medicinal butter, medicinal ash, concentrated decoction and medicinal wine. In this preparatory procedure various medicinal plants are added to minimize the side effects of the ingredients.

7. Right combinations of medicinal ingredients: This refers to the blending of herbs and ingredients depending upon their active taste, qualities and post digestive taste. However, there are several exceptional cases where the effects of the medicinal substances do not depend upon their taste, post digestive taste or the quality, but rather depends upon their smell, inherent remedy, class similarity, colour resemblance, shape analogue, auspiciousness and being blessed by the prayers of Bodhisattvas or enlightened beings.

Sowa-Rigpa physicians of the past and present strictly adhere to these seven essential principles. Thus, the plants used in Sowa-Rigpa medicine undergo great care right from the beginning of collection until they are finally compounded into medicine. All together these seven principles form a part of the traditional quality control parameters for medicinal plants to be used in Sowa-Rigpa medicine. It can be perceived to be more close or having similarity with Ayurvedic philosophy/ principles of India since many of texts of Sowa Rigpa (approximately more than 75%) are taken from one of the most famous treatise of Ayurveda i.e. “Ashtanga Hridya” in one or other form. Many (more than 75%) medicines used in Ayurveda (Indian origin) viz. triphala (Bras-bu-sum), Ashwagandha (Ba-tu), Coraka (Ica-ba), Satavari (Nya-shing), Gokşura (Gdze-ma) etc. are also frequently used in Sowa Rigpa system of Medicine for treatment purpose.

Botanical Name: *Angelica glauca* Edgew.

Family: Apiaceae

Sowa-Rigpa Name: Ica-ba

Sanskrit Name: Caṇḍa, Coraka

Ayurvedic Name: Coraka

Part (s) used: Root

Botanical description: An herbaceous plant which have a very distinctive inflorescence. Upper leaves large boat shaped encircling the umbel. Lower leaves with lanceolate leaflets with sharp toothed. Flower whitish borne in a large umbel inflorescence. Fruit strongly compressed with wide lateral leaves and conspicuous dorsal leaves.

Sowa-Rigpa uses: It cures renal diseases, anaemia, debility, indigestion, bad-kan and rLung combine



disorder, accumulation of yellow serum in the joint and stomach disorder(Drungtso, 2007)<sup>3</sup>.

Ayurvedic uses: It cures epilepsy, asthma, hiccough, fever, itching, skin disease, schizophrenia, wound, blood impurities, poor appetite, headache, rhinitis and disease of children. Krimi, Kuṣṭha, Koṭha, Vraṇa, Raktadoṣa, Piṭṭika, Unmāda, Apasmāra, Jvara, Viṣaroga, Hikkā, Śvāsa, ŚiraĀṣṭla, Pratiśyāya, Bālaroga.

Botanical Name: *Asparagus racemosus* Willd.

Family: Asparagaceae

Sowa-Rigpa Name: Nya-shing

Sanskrit Name: Satavari, Vari, Narayani

Ayurvedic Name: Satavari

Part (s) used: Tuberous root

Botanical description: Creeper, Shrub; Stem with curved spines. Leaves acicular cladodes.

Flower green with purple anthers. Fruit globular. Rootlet many.

Sowa-Rigpa uses: It improves physical strength, kidney diseases, skin eruption, itching, chronic pulmonary disorder and promotes vitality(Gurmetand Stobgais 2016)<sup>9</sup>

Ayurvedic uses: It is effective for brain diseases, vata disorder, and loss of appetite, colic, gulma, chronic colitis, haemorrhoids, peptic and duodenal ulcer.

Stanyakṣaya, Artavakṣaya, Kṣaya, Parināmaśula, Arisa, Atisāra, Gulma, Viṣarpa, Amlapitta, Naktāndhya, Stanyadoṣa, Vātajajvara, Svarabheda, Vātarakta, Sutikāroga.

Botanical Name: *Tribulusterrestris* L.

Family: Zygophyllaceae

Sowa-Rigpa Name: Gdze-ma(Gurmet, et al., 2004)<sup>10</sup>

Sanskrit Name: Trikaṇṭaka, Svadamstra

Ayurvedic Name: Gokṣura

Part (s) used: Fruit

Botanical description: An annual herb. Stem branched, slender, decumbent, and hairy. Leaves pinnate compound, leaflets 4-12 ovate to obovate. Flowers solitary, yellow in long raceme. Calyx ovate to linear. Fruits of 5 stiff achene fused together, each achene triangular.

Sowa-Rigpa uses: It cures renal and waist diseases due to cold, rLung (vata) disorder, psoriasis, dropsy of the initial stage, join pain and lymph fluid disorder.

Ayurvedic uses: Useful for neural debility, painful condition and vata disorder, low appetite, piles, helminthiasis, heart diseases, cough, asthma, preventing abortion, vaginal disorders, impotency, post-natal discharges, urinary calculi, dysuria and cystitis.

Kasa, Svasa, Sularoga, Hrdroga, Vataroga, Mutrakrcchra, Asmari, Prameha, Arsa, Daurbalya.

Botanical Name: *Withaniasomnifera*(L.) Dunal

Family: Solanaceae

Sowa-Rigpa Name: Ba-tu

Sanskrit Name: Asvagandh, Vajigandha, Hayagndha

Ayurvedic name: Asvagandh

Part (s) used: Root

Botanical description: An erect shrub. Root fleshy, whitish brown. Leaves simple, ovate. Flower

greenish or lucid yellow born in axillary umbellate cymes. Berries globose, orange red when ripe enclosed in a persistent calyx. Seed yellow, reniform.

Sowa-Rigpa uses: It cures cold disorder, rheumatic fever for pregnant women. It root is highly beneficial in improving the sperm count of patients suffering from seminal inadequacies.

Ayurvedic uses: Aphrodisiac, nervine sedative senile debility, rheumatism nervous exhaustion, brain fag loss of memory, muscular energy viger.

Ksaya, Daurbalya, Vataroga, Sotha, Klaihya

Botanical Name: *Terminaliachebula* Retz.

Family: Combretaceae

Sowa-Rigpa Name: Aa-ru-ra

Sanskrit Name: Haritaki, Abhaya, kayastha, Siva

Ayurvedic Name: Haritaki

Part (s) used: Fruit

Botanical description: A tall deciduous tree. Bark thick, longitudinal furrows. Wood hard, bulky.

Leaves ovate, alternate, entire. Inflorescence spike. Flowers dull

yellowish. Fruit ovoid, 5-ribbed.

Sowa-Rigpa uses: It is an excellent blood purifier and good health tonic.

Ayurvedic uses: It is beneficial for wound, ulcer, inflammation, skin diseases, leprosy, stomatitis, hyperacidity, eye diseases, tumour, itching and rheumatoid arthritis.(K.S.Dhiman et.al. 2020)<sup>11</sup>

Vibandha, Aruci, Udavarta, Gulma, Udararoga, Arsa, Padu, Sotha,

Jirnajvara, Gambhirajvara, Visamajvara, Prameha, Siroroga, Kasa, Tamakasvasa, Hrdroga.

Botanical Name: Terminaliabelirica(Gaertn.)  
Roxb.  
Family: Combretaceae  
Sowa-Rigpa Name: Ba-ru-ra  
Sanskrit Name: Bibhitaki, Aksa, Aksaka  
Ayurvedic Name: Bibhitaki  
Part (s) used: Fruit

Botanical description: A tall deciduous tree. Bark brown colour. Leaves thick, alternate, clustered towards end of the branches. Inflorescence spadix. Flower solitary. Fruit globular. Seed coat hard, taste like walnut.

Sowa-Rigpa uses: It cures bad-kan (kha-pha) and mKhris pa (pitta) disorder, dries excess serum accumulation and heals skin diseases.

Ayurvedic uses: It is effective for bronchitis, pharyngitis, dyspepsia, heart diseases, lungs fever, eye diseases, splenomegaly, urinary bladder diseases and dysentery.

Svarabheda, Netraroga, Kasa, Chardi, Krmiroga, Vibandha.

Botanical Name: Phyllanthusemblica L.

Syn. EmblicaofficinalisGaertn.

Family: Phyllanthaceae

Sowa-Rigpa Name: Sku-ru-ra

Sanskrit Name: Amalaki, Dhatri

Ayurvedic Name: Amalaki

Part (s) used: Fruit

Botanical description: A deciduous tree. Stem erect, branched. Bark dark brown. Leaves bi-pinnately multi-foliate, leaflets narrow-elliptic. Inflorescence spike. Flowers uni-sexual. Ovary six chambered. Fruits in cluster, fleshy. Matured fruits pale red. (Gyal2006)<sup>6</sup>

Sowa-Rigpa uses: It cures bilious fever, blood infections, polyuria, hair loss, combined disorder of bad-kan (Kha-pha) and mKhris pa (Pitta).

Ayurvedic uses: It is used for treating diabetes, bronchitis, headache, ophthalmic disorders, dyspepsia, hyperacidity, diarrhoea, haemorrhages, cardiac disorder and dryness of hair.

Amlapitta, Raktapitta, Prameha, Daha, Kustha, Grahani, Vibandha, Visamajvara, Gulma, Trsna, Kamala, Asmari.



Botanical Name: *Asparagus racemosus*  
Sowa-Rigpa Name: Nya-shing  
Ayurvedic Name: Satavari

Botanical Name: *Tribulusterrestris*  
Sowa-Rigpa Name: Gdze-ma  
Ayurvedic Name: Gokshura

Botanical Name: *Withaniasomnifera*  
Sowa-Rigpa Name: Ba-tu  
Ayurvedic name: Asvagandh

Botanical Name: *Angelica glauca*  
Sowa-Rigpa Name: lCa-ba  
Ayurvedic Name: Coraka



Botanical Name: *Terminaliachebula*  
Sowa-Rigpa Name: Aa-ru-ra  
Ayurvedic Name: Haritaki

Botanical Name: *Terminaliabelirica*  
Sowa-Rigpa Name: Ba-ru-ra  
Ayurvedic Name: Bibhitaki

Botanical Name: *Phyllanthusemblica*  
Sowa-Rigpa Name: Sku-ru-ra  
Ayurvedic Name: Amalaki

### REFERENCES

- [1]. rGyud-Zhi, Four Tantra's. 2011. Sorig literary research Dept. Men-Tsee-Khang, Dharamsala H.P
- [2]. Gyatso, D. S. 1994. BenduryaNyonpo, Men-Tsee-Khang, Dharamsala H.P
- [3]. Drungtso, T.T. 2007. Basic concept of Tibetan medicine, Drungtso publications
- [4]. Dummer, T. 2001. Tibetan medicine & other holistic health care system, Paljor publications.
- [5]. Tsultim, L. and Dakpa, T. 2001. Fundamental of Tibetan Medicine, Men-Tsee-Khang, H.P
- [6]. Gyal, Y. 2006. Tibetan Medical Dietary vol-I, Men-Tsee-Khang, Dharamsala H.P
- [7]. The Basic Tantra and the Explanatory Tantra from the Secret Quintessential Instructions on the Eight Branches of the Ambrosia Essence Tantra, 2008. Men-Tsee-Khang, Dharamsala H.P
- [8]. Drungtso, T.T. 2005. Tibetan English Dictionary of Tibetan medicine and Astrology. Drungtso Publications.
- [9]. Gurmet, P. and Stobgais, T. 2016. A Hand Book on Medicinal Plants of Himalayas Used in Sowa-Rigpa, NRIS, Leh
- [10]. Gurmet, P., Chaurasiya, O.P. and Ballabh, B. 2004. Studies on some Amchi Medicinal Plants Growing along Indus River of Ladakh Himalaya, Bulletin of Medico-Ethno-Botanical Research, CCRAS, New Delhi.
- [11]. K.S.Dhiman et.al. 2020. Select flora of medicinal importance in Sowa-Rigpa and Ayurveda, CCRAS, New Delhi.
- [12]. Database on medicinal plants used in Ayurveda, Vol-1-7, CCRAS, New Delhi-2002.
- [13]. Healing herbs of Himalaya (A pictorial and herbal guide) Department of AYUSH, Ministry of health and family welfare, Govt. of India, New Delhi-2008.
- [14]. Ayurvedic Pharmacopoeia of India, Part-1 Vol. I-V Department of AYUSH, Ministry of health and family welfare, Govt. of India, New Delhi-2004.