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REVIEW ARTICLE

A Comprehensive Review on Śākavarga-group of Vegetables from Classical Texts of Ayurveda

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ABSTRACT

Aim: To have a comprehensive review on classification, good collection practices, number, importance, adverse effects, possible botanical identity, and different indications of classical vegetables from 15 different classical texts and lexicons and to present them in a systemic manner.

Background: Vegetables are an integral part of healthy diet since the Vedic era. For the past few decades, there is a growing interest in assessing the role of vegetables for their health benefits. In various classical texts of Ayurveda, all the vegetables are detailed under a single group termed as śākavarga where the properties and indication of individual plant were described. Authors of classical texts of Ayurveda described the nutritional as well as therapeutic value of all the vegetables in their respective texts. These information have not been critically reviewed and published in a compiled format. A systematic review regarding the identification and use of these classical vegetables is the need of the time.

Review results: Analysis of data reveals that about 308 śākadravya (vegetables) are described in classical texts. Among them, 156 patraśāka (leafy vegetables), 71 phalaśāka (fruit vegetables), 50 kandaśāka (tuber/root), 30 puṣpaśāka (flower vegetables), 10 nālaśāka (stem/aerial parts), and one type of saṃsvedaja śāka (mushrooms) are described.

Conclusion: Vegetables described under śākavarga in classical texts of Ayurveda can be further studied to understand the mechanism of action to establish their dietetic importance.

Clinical significance: These vegetables are indicated in 42 different disease conditions where they can be used as pathya (wholesome diet). Some contraindications and precautions to be taken during collection and preparations of the śākadravya are also explained in many of the classical texts.

Keywords: Āhāra, Nutraceuticals, Pathya, Śākavarga, Vegetables.

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INTRODUCTION

There is an increasing interest in assessing the clinical efficacy of dietary supplements, naturally occurring compounds, and nutraceuticals intended for improving health and reducing disease conditions, particularly over the past decade.[1] But, correlation between food and optimal health is not a novel concept. Though the understanding of relationships between foods, physiological function, and disease has progressed in recent years, imprints of these can be traced from ancient literature. According to Ayurveda, apart from clothing and shelter, food is considered as basic necessity and essential factor for the maintenance of life.[2] One can come across a number of references regarding importance of āhāradravya (dietary articles) in the available literature related to Ayurveda.[3] Further, all these dietary articles have been categorized under different groups, such as śūkadhānya (group of awned grains), śimbidhānya (group of legumes), śākavarga (group of vegetables), māṃsavarga (group of meat of different animals), dugdhavarga (group of milks) along with their properties and indications in different disease conditions.[4]

Among the different food articles, vegetables are the cheapest available sources of carbohydrates, proteins, vitamins, and minerals.[5,6] Research of the past 20 years has shown that use of vegetables not only prevents malnutrition but also helps in maintaining optimum health through a host of chemical components that are still being identified, tested, and measured.[7]

The knowledge about the healing features of vegetables has been well preserved in the form of ethnobotanical tradition in the ancient classical literatures. In Ayurveda, all the vegetables are explained under the broad heading of śākavarga and further this group is subclassified as patra (leaves), puṣpa (flowers), phala (fruits), nāla (stem), kanda (tubers), and saṃsvedaja (mushrooms) based on the different parts used. These classical vegetables have a proven nutritive value in terms of different properties and particular indications in comparison to that of exotic vegetables.

The current available information on the vegetables mentioned in classical texts of Ayurveda is only the tip of the iceberg. Recent literature review shows that health benefits of vegetables mentioned in classical texts of Ayurveda are not documented systematically, not reviewed critically, and not disseminated scientifically. Due to a lack of understanding regarding their identification and usage, the knowledge of benefits of śākavarga (group of vegetables) remains scattered and most unexplored. A critical review on the vegetables mentioned in ancient classical literature can provide a lot of information regarding their benefits in health care management. Therefore, an attempt has been made in this study to compile classical vegetables mentioned in different texts of Ayurveda and present them in systematic manner.

MATERIALS AND METHODS

Available saṃhitā, i.e., Carakasaṃhitā[4] (100 BC–4 AD), Suśrutasaṃhitā (1000 BC–2 AD),[8] Aṣtāngasaṃgraha (6th century),[9] Aṣtāngahṛdaya (7th century),[10] and 11 different nighaṇṭu, i.e., Dhanvantari Nighaṇṭu (10th–13th century),[11] Śoḍhala Nighaṇṭu (12th century),[12] Mādhava Dravyaguṇa (13th century),[13] Madanapāla Nighaṇṭu (1374 AD),[14] Kaiyadeva Nighaṇṭu (1425 AD),[15] Bhāvaprakāśa Nighaṇṭu (16th century),[16] Rāja Nighaṇṭu (17th century),[17] Priya Nighaṇṭu (1983 AD),[18] Guṇaratnamālā (16th century),[19] Dravyaguṇa Saṃgraha (11th century),[20] Dravyaguṇa śataśloki (17th century)[21] were referred. The definition, classification, good collection practices, number, importance, best śāka, adverse effects, possible botanical identity, and different indications of classical vegetables were compiled and presented in a systemic manner.

RESULTS AND DISCUSSION

Definition

Śivakoṣa specifies that all the green vegetables like mūlaka, śigru, etc., are considered as śāka.[22] Vācaspatyam defines śāka as that which is preferred as food[23] and Macquarie dictionary defines vegetable as any herbaceous plant, annual, biennial, or perennial, whose fruit, seeds, leaves, stems, roots, or tubers are used for food.[24]

Classification

Śākadravya has been classified into different groups depending upon their parts used. Caraka classified the vegetables into patra (leaves), kanda (tuber), and phala (fruit). However, he described puṣpa (flowers), nāla (stem) under these groups without mentioning any category.[4] Classification of śākavarga dravya according to different classical texts is presented in Table 1.

Good Collection Practices

One should use vegetables that are ideal in nature. After the collection it should be washed properly and used accordingly. Vegetables that are very old and infested by worms and insects should be avoided.[18] Leafy vegetables which are rough, very old, infested, grown in unhealthy places, and unreasonable should be avoided. All types of tubers which are young, unseasonal, very old, diseased, eaten by worms and insects, which do not grow well should be rejected.[8]

Number

The number of śākadravya in 4 saṃhita and 11 nighaṇṭu grantha is provided in Table 2. About 308 vegetables are described in classical texts, out of which 156 patraśāka, 71 phalaśāka, 50 kandaśāka, 30 puṣpaśāka, 10 nālaśāka, and 1 type of saṃsvedaja śāka are described along with their varieties, properties, and indication in different disease conditions. There are certain śākadravya which are mentioned under different groups. Vegetables like ālukī, guñjā, kadalī, karīra, mūlaka, paṭola, rāja kṣavaka, sarṣapa, śigru, and vāsā are mentioned in more than one group. It has been observed that maximum numbers of vegetables were recorded in saṃhitā period and the number of śākadravya decreased during the medieval period (Table 2). Many vegetables that were used during saṃhitā period (2nd–7th century AD) were disappeared

Table 1: Classification of śākavarga in various classical texts of Ayurveda

Sl. no.	*Saṃhita/Nighaṇṭu*	*Types*	*Name of the group of vegetables*
1	Madanapāla Nighaṇṭu[14] Kaiyadeva Nighaṇṭu[15]	4	Puṣpa (flowers), patra (leaves), kanda (tuber), phala (fruit)
2	Rāja Nighaṇṭu[17]	4	Patra (leaves), mūla (roots), kanda (tuber), phala (fruit)
3	Suśrutasaṃhitā,[8] Aṣtāngasaṃgraha,[9] Aṣtāngahṛdaya[10]	5	Puṣpa (flowers), patra (leaves), phala (fruit), nāla (stem) and kanda (tuber)
4	Bhāvaprakāśa[16] Mādhava Dravyaguṇa[13] Priya Nighaṇṭu[18]	6	Patra (leaves), puṣpa (flowers), phala (fruit), nāla (stem), kanda (tuber), and saṃsvedaja (mushrooms)
5	Amarakośa,[25] Bhojana kutūhala[26]	10	Mūla (roots), patra (leaves), karīra (young sprouts), agra (young twigs), phala (fruit), kanda (tuber), adhirūḍhaka (sprouts), twak (rind), puṣpa (flowers), kavaka (mushrooms)

Table 2: Total number of śākadravya (vegetables) mentioned in classical texts of Ayurveda

Sl. no.	*Samhita/Nighaṇṭu*	*Patra*	*Puṣpa*	*Phala*	*Nāla*	*Kanda*	*Total*
1	Carakasaṃhitā[4]	71	7	15	2	23	118
2	Suśrutasaṃhitā[8]	71	20	20	1	21	133
3	Aṣṭāngasaṃgraha[9]	90	9	25	–	26	150
4	Aṣṭāngahṛdaya[10]	88	4	25		27	144
5	Dhanvantari Nighaṇṭu[11]	5	–	1	–	5	11
6	Śoḍhala Nighaṇṭu[12]	26	1	18	–	6	51
7	Mādhava Dravyaguṇa[13]	54	1	19	1	17	92
8	Madanapāla Nighaṇṭu[14]	27	1	24	1	8	61
9	Kaiyadeva Nighaṇṭu[15]	55	1	26	–	20	102
10	Bhāvaprakāśa Nighaṇṭu[16]	27	4	20	1	17	68
11	Rāja Nighaṇṭu[17]	59	–	21	2	23	105
12	Priya Nighaṇṭu[18]	17	8	19	2	9	55
13	Guṇaratnamālā[19]	41	2	27	5	12	87
14	Dravyaguṇasaṃgraha[20]	25	15	8	4	16	68
15	Dravyaguṇa śataślokī[21]	27	2	14	1	7	51

and some new vegetables are added to the list during nighaṇṭu period (8th–20th century AD). This may be due to the predominance of availability and usage.

Importance

Fresh vegetables are considered as important ingredients of a healthy food. Use of different types of vegetables provides essential vitamins, minerals, and other essential nutrients required for the maintenance of health.[18]

Best Vegetables

Jīvantī (*Leptadenia reticulata* W. &A.),[4] Kūṣmāṇḍa (*Benincasa cerifera* Savi.),[10] and Sūraṇa (*Amorphophallus campanulatus* Blume.)[16] are considered as best among patra śāka (leafy vegetables), phalaśāka (fruit vegetables), and kandaśāka (tubers) respectively. Excess use of Sarṣapa (*Brassica campestris* Linn.) is not ideal for health.[4]

Adverse Effects

Authors of some classical texts have discouraged the use of vegetables by citing their probable harmful effects. All the vegetables are considered as harmful to the eyesight, and reduce the sexual potency, mental power, and strength.[18] Naturally, fresh fruits and vegetables may not contain bacteria, parasites, and the viruses that cause food-borne illness, but if they are not washed properly and have come in contact with soil, contaminated water, wild or domestic animals, or improperly composted manure, they can cause some diseases. Contamination can also occur during transport and storage.

Various chemicals like pesticides, insecticides, herbicides, and fungicides used during the production of vegetables may play an important role in survival and growth of microbes, viz., *Pseudomonas, Salmonella, E. coli*, and other coliforms on vegetables affect their shelf-life and public health safety.[27] Indiscriminate use of pesticides, insecticides, or other synthetic compounds also leads to contamination of water and food sources including vegetables.[28] So, there is a great need of effective intervention strategies for control of infectious organisms in the vegetables.[29] Therefore, it is always recommended that vegetables should be washed thoroughly and treated with food grade chemicals to reduce the microbial load on them.[30] Thorough washing followed by boiling and/or cooking processes is also quite effective in reducing the pesticide and insecticide residues.[31]

Śāka as a Causative Factor of Various Diseases

Fresh vegetables are an important part of a healthy diet. However, there are some vegetables mentioned in classics which may be the cause for some diseases, if not administered properly. Different vegetables and diseases caused by them are listed in Table 3.

Methods of Preparation

To consume vegetables as diet, classical texts recommend certain methods of preparation. According to Caraka, vegetables should be first boiled in water, the water is to be discarded, and used along with oil. Specifically, in Priyanighaṇṭu it is mentioned that vārtāka, when fried in burning coal and used, is dīpana and laghu for digestion. When it is boiled along with lavaṇa, marīca, and hiṅgu, it acts as vāta and kaphahara.

It is reported that antinutrients are natural compounds that interfere with the absorption of nutrients, hence, are known to reduce nutrients availability to animals and humans.[32] Different studies show that the presence of antinutrient components in green leafy

Table 3: Śāka as a causative factor for various diseases as noted in the classical texts of Ayurveda

Sl. no.	*Śāka*	*Botanical name and family*	*Reported diseases*	*Reference*
1	Bāluka	–	Mandāgni (Reduced digestive capacity)	17
2	Biṃbī	*Coccinia indica* W. and A. (Cucurbitaceae)	Vibandha (Constipation), Ādhmāna (Flatulence with gurgling sound), Amedhya (Diminished memory), Chardi (Emesis)	14-16
3	Ervāruka	*Cucumis utilissimus* Roxb. (Cucurbitaceae)	Vātaprakopa (Vitiates vāta)	17
4	Kadalī (Raw)	*Musa sapientum* Linn. (Musaceae)	Āmavāta (Arthritis)	20
5	Kālinda	*Citrulus vulgaris* Schard. (Cucurbitaceae)	Dṛṣṭighna (Reduces eyesight)	19
6	Kharbūja	*Cucumis melo* Linn. (Cucurbitaceae)	Raktapitta (Bleeding disorder), Mūtrakṛcchra (Dysuria)	19
7	Karīra	*Capparis aphylla* Roth. (Capparidaceae)	Ādhmāna (Flatulence with gurgling sound)	9
8	Śamī	*Prosopis spicigera* Linn. (Mimosaceae)	Keśa vināśana (Hair loss)	18
9	Śigru bīja	*Moringa pterygosperma* Gaertn. (Moringaceae)	Avṛṣya (Not good for seminal parameters)	15
10	Śigru puṣpa		Snāyu śotha (Edema)	16
11	Udumbara	*Ficus racemosa* Linn. (Moraceae)	Vibandha(Constipation), Ādhmāna (Flatulence with gurgling sound)	19

vegetables impairs efficient utilization of calcium, zinc, iron, and copper by the formation of insoluble complexes with the mineral elements.[33] Common antinutrients found in vegetables include tannin, hydrocyanic acid, saponins, oxalates, phytates, and polyphenols.[34] Various processing methods, such as soaking, boiling, and frying may help in detoxification of antinutrients and lowers food toxicity.[35]

It is also reported that cooking induces significant changes in chemical composition, affecting the bioavailability and content of chemopreventive compounds in vegetables. Cooking methods were reported to affect the contents of nutrient and health-promoting compounds, such as vitamin C, carotenoids, polyphenols, and glucosinolates.[36]

Botanical Sources of Śāka

Identification of all the herbs used as śāka (classical vegetables) through their scientific names is the need of the time. In this article, an attempt has been made for finding out botanical equivalents of śākadravya with the help of commentaries,[37] textbooks of medicinal plants,[38,39] and from web-based search engines (Table 4).

Patra Śāka (Leafy Vegetables)

Among the 156 patra śāka mentioned in different classical texts, 137 species of 60 families have been identified botanically. Botanical identities of remaining 19 śāka are not established till date. Highest number of patra śāka are from Fabaceae (13) followed by Amaranthaceae (10).

Puṣpa Śāka (Flower)

Under the heading of puṣpa śāka, out of 30 plants, 25 species of 19 families have been botanically identified till date. Remaining five are yet to be botanically identified. Among the identified, six species belongs to Fabaceae family, followed by three species of Leguminoseae.

Phala Śāka (Fruit)

Out of 71 phala śāka, 46 plants of 16 different families are identified botanically. Botanical identification of 25 vegetables needs to be confirmed. Maximum number of sāka (21) among the identified phala śāka belong to the family Cucurbitaceae, followed by Leguminoseae (4), Solanaceae (3), and Malvaceae (3).

Nāla Śāka (Stem)

Stems of 10 plants are reported for their use as vegetable (nāla śāka). Among them, eight have been identified botanically, and remaining two are yet to be identified. Among the identified nāla śāka, three belong to Nymphaeaceae family followed by Cruciferae (2).

Kanda Śāka (Tubers/Roots)

Tuber/root of 50 plants is reported to be used as vegetable. Among them, 39 species of 17 different families are identified botanically. Remaining 18 are not yet botanically identified. Majority of kanda śāka belong to Nymphaeaceae (4) followed by Liliaceae (3) family (Table 4).

Indications of *Śāka* in Disease Conditions

The knowledge about the healing capacity of vegetables has been well explained in classical texts. Like other auṣadha dravya (medicinal plants), śāka dravya have been reported for their medicinal value for the management and prevention of certain diseases. Maximum vegetables are indicated in raktapitta (bleeding disorder), jvara (fever), śvāsa (dyspnea/asthma), kuṣṭha (skin disease),

Table 4: Botanical identification of vegetables mentioned in classical texts of Ayurveda

Sl. no.	*Classical name*	*Botanical name*
Patra śāka		
1	Ajagandhā[9]	*Thymus serpyllum* Linn. (Labiatae)
2	Ākhuparṇī[9]	*Ipomoea reniformis* Choisy. (Convolvulaceae)
3	Aṃbaṣṭha[15]	*Hibiscus cannabinus* Linn. (Malvaceae)
4	Ārāma gholikā[17]	-
5	Arjaka[8-10]	*Ocimum basillicum* Linn. (Labiatae)
6	Arkapuṣpī[8]	*Holostemma rheedianum* Spreng. (Asclepiadaceae)
7	Aśvattha pallava[4,8,9]	*Ficus religiosa* Linn. (Moraceae)
8	Aśvabalā[4,8,9]	*Medicago sativa* Linn (Fabaceae)
9	Avalguja[4,8-10,15]	*Psoralea corylifolia* Linn. (Papilionaceae)
10	Balā[4,9]	*Sida cordifolia* Linn. (Malvaceae)
11	Bhaṇḍī[4,9]	*Albizia lebbeck* (Linn.) Willd. (Mimosaceae)
12	Bhaṅgā[19]	*Cannabis sativa* Linn. Cannabinaceae
13	Bhṛṅgāhva[17]	–
14	Bhūstṛṇa[8-10]	*Cymbopogon citratus* (DC) Stapf (Graminae)
15	Bilvapatra[4,8,9]	*Aegle marmelos* Corr. (Rutaceae)
16	Brāhmi[13,15]	*Bacopa monnieri* (Linn.) Pennell (Scrophulariaceae)
17	Bṛhat loṇi[16]	*Portulaca oleraceae* Linn. (Portulaceae)
18	Chagalāntrī[8]	*Argyreia speciosa* Sweet. (Convolvulaceae)
19	Cakramarda[4,8-10,15]	*Cassia tora* Linn. Caesalpiniaceae
20	Caṇaka śāka[14-16,18-20]	*Cicer arietinum* Linn. (Papilionaceae)
21	Cañcukī[4,10,15,16,19]	*Corchorus fascicularis* Lam. (Tiliaceae)
22	Cāngeri[9,10,14,17]	*Oxalis corniculata* Linn. (Oxalidaceae)
23	Cillī[14,17]	*Chenopodium album* Linn. (Chenopodiaceae)
24	Cirabilva[9,10,13,20]	*Holoptelia integrifolia* Planch. (Ulmaceae)
25	Citraka[4,8,9]	*Plumbago zeylanica* Linn.(Plumbaginaceae)
26	Cūḍāla[15]	–
27	Cukrikā[16,17,19,20]	*Rumex vesicarius* Linn. (Polygonaceae)
28	Cuñcu[8]	–
29	Droṇapuṣpī[4,8,10,12,15,16,19]	*Leucas cephalotes* Spreng. (Labiateae)
30	ḍuḍūraka[8]	–
31	Ainduka[4,20]	–
32	Ganḍīra[4,8]	*Cayratia carnosa* (Wall.) Gagnep. (Vitaceae)
33	Gavedhuka[9,10]	*Coix lacryma-jobi* Linn. (Gramineae)
34	Gholī[17]	–
35	Ghoṭī[19]	–
36	Gojihvā[4,8-10,15,16,19]	*Launaea asplenifolia* Hook f. (Asteraceae)
37	Gaurasuvarṇa[17]	–
38	Guḍucī[4,8-10,16,19]	*Tinospora cordifolia* (Willd) Miers ex Hook f and Jhoms. (Menispermaceae)
39	Guñjā[15]	*Abrus precatorius* Linn. (Fabaceae)
40	Haṃsapadi[17]	*Adiantum lunulatum* Burm. (Polypodiaceae)
41	Harimantha[8]	–
42	Hilamocikā[13,15,16,18-20]	*Enhydra fluctuans* lour (Compositae)
43	Jalapippalī[10,15]	*Lippia nodiflora* Mich. (Verebenaceae)
44	Jalavetasa[15]	*Salix tetrasperma* Roxb. (Salicaceae)
45	Jātuka[8,10]	–
46	Jīvaka[2]	*Microstylis musifera* Ridley (Orchidaceae)
47	Jīvantī[4,8-10,13,14,16-21]	*Leptadenia reticulata* W and A (Asclepiadaceae)
48	Jyotiśmati[15]	*Celastrus paniculatus* Willd. (Celastraceae)
49	Kākajanghā[4,13,15]	*Peristrophe bicalyculata* Nees. (Acanthaceae)
50	Kākamāchī[4,9,13,15,20]	*Solanum nigrum* Linn. (Solanaceae)
51	Kākanāsa[15]	*Pentatropis capensis* (Linn. f.) Bullock (Asclepiadaceae)
52	Kālaśāka[4,8-10,13-15,19,20]	*Corchorus capsularis* Linn. (Tiliacae)
53	Kālamāla[8,10]	–
54	Kalaṃba[7,9,10,13,16,18-20]	*Ipomoea aquatica* Forsk. (Convolvulaceae)
55	Kalāya śāka[4,8,10,13-16,20]	*Lathyrus sativus* Linn. (Papilionaceae)

(Cont'd…)

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Sl. no.	Classical name	Botanical name
56	Kañcaṭa[13,19,20]	*Commelina benghalensis* Linn. (Commelinaceae)
57	Karkaśa[9,10]	–
58	Kāsamarda[8-10,13,15,16,19]	*Cassia occidentalis* Linn. (Leguminoseae)
59	Kaṭhillaka[4,9,10,15]	*Trianthema portulacastrum* Linn. (Ficoidaceae)
60	Kaṭukikā[8]	–
61	Kharapuṣpa[8]	–
62	Kirātatikta/vanatiktaka[8]	*Swertia chirata* (Buch-Ham) (Gentianaceae)
63	Kulahala[8]	–
64	Kumārjīvaka[4,9]	*Amaranthus caudatus* Linn. (Amaranthaceae)
65	Kuntalī[8,9,15]	–
66	Kuranṭhikā[8,15]	*Celosia argentea* Linn. (Amaranthaceae)
67	Kurūṭaka[9,10]	*Corchorus species* (Malvaceae)
68	Kusuṃbha/laṭvāka[4,8-10,13,17]	*Carthamus tinctorius* Linn. (Compositae)
69	Kuṭheraka[4,9,10]	*Orthosiphon pallidus* Royle ex Benth. (Lamiaceae)
70	Kuṭiñjara[4,8-10,15]	*Digera muricata* (L.) Mart. (Amaranthaceae)
71	Lāṅgalakī[8,9]	–
72	Loṇī[4,8-10,14-16,18,19]	*Portulaca quadrifida* Linn. (Portulaceae)
73	Lottāka[4]	*Eriobotrya japonica* Lindl. (Rosaceae)
74	Mahāvāṣpa[15]	–
75	Maṇḍūkaparṇī[4,8-10,15]	*Centella asiatica (Linn)* Gaertn. (Umbelliferae)
76	Māriṣa[13,15,16,18-20]	*Amaranthus blitum* L. (Amaranthaceae)
77	Māṣaka[10]	–
78	Māṣaparṇa[13]	*Vigna radiata* (Linn.) Hepper (Papilionaceae)
79	Matsyākṣī[15]	*Alternanthera sessilis* (Linn.) R. Br. (Amaranthaceae)
80	Meṣaśṛngi[15]	*Gymnema sylvestrae* R. Br (Asclepiadaceae)
81	Methikā[13,19]	*Trigonella foenumgraecum* Linn. (Leguminoseae)
82	Mūlaka patra[16,18,19]	*Raphanus sativus* Linn. (Cruciferae)
83	Mūlapoti[17]	–
84	Nāḍīka[4,10,13,19,20]	*Corchorus olitorius* Linn. (Tilliaceae)
85	Nadīmāṣaka[4,9]	–
86	Nīli[15,19]	*Colocasia antiquorum* Schott. (Araceae)
87	Nyagrodha pallava[4,8,9]	*Ficus benghalensis* Linn. (Moraceae)
88	Padma pallava[4]	*Nelumbo nucifera* Gaertn (Nymphaeaceae)
89	Pālaṅkyā[4,8-10,14-18]	*Spinacia oleracea* Linn. (Chenopodiaceae)
90	Pārīṣa[8,9]	*Thespesia populanea* (L.) Sol. ex Correa. (Malvaceae)
91	Parṇāsa[9]	–
92	Parpaṭa[4,8-10,19,20]	*Oldenlandia corymbosa* Linn. (Rubiaceae)
93	Parvaṇi[4,9]	–
94	Pāṭhā[9,10]	*Cissampelos pareira* Linn. (Menispermaceae)
95	Paṭola patra[13,16,20]	*Trichosanthes dioica* Roxb. (Cucurbitaceae)
96	Patra gobhi[18]	*Brassica oleracea* Linn. (Capitata)
97	Paṭṭaśāka[16]	*Corchorus olitorius* Linn. (Tiliaceae)
98	Pattūra[4,8-10]	*Celosia argentea* Linn. (Amaranthaceae)
99	Phaṇijjhaka[4,9,10]	–
100	Phanjī[4,8,15,17]	*Rivea hypocrateriformis* (Desr.) Choisy (Convolvulaceae)
101	Phoga[14]	–
102	Pīluparṇikā[4,9]	*Maerua arenaria* Hook. f. & Th. (Capparaceae)
103	Piṇyākī[13]	–
104	Plakṣa[4,8,9]	*Ficus lacor* Buch. Ham. (Moraceae)
105	Pūtihā[18]	*Mentha spicata* Linn. (Lamiaceae)
106	Punarnavā[8-10,13,15]	*Boerhaavia diffusa* Linn. (Nyctaginaceae)
107	Rājakṣavaka[17]	*Euphorbia microphylla* Heyne. (Euphorbiaceae)
108	Rājaśākinī[17]	–
109	Rājikā[4,8,10,13,17-19]	*Brassica juncea* Linn. (Cruciferae)
110	Rāsnā[10]	*Pluchea lanceolata* C. B. Clarke. (Compositae)
111	Saptalā[8-10]	*Acacia concinna* (Willd.)DC. (Mimosaceae)
112	Sarpākṣī[15]	–

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Sl. no.	*Classical name*	*Botanical name*
113	Sarṣapa[4,8-10,13-20]	*Brassica campestris* Linn. (Cruciferae)
114	Satīna[8-10,13,18-20]	*Pisum sativum* Linn. (Papilionaceae)
115	Sehuṇḍa[16,19]	*Euphorbia nerifolia* Linn. (Euphorbiaceae)
116	Śālakalyāṇī[4,9]	–
117	Śāṛṅgeṣṭā[9,10]	*Cardiospermum helicacabum* Linn. (Sapindaceae)
118	Śatapuṣpā[17,19]	*Anethum sowa* Kurz. (Umbelliferae)
119	Śigru[4,8,9,18,21]	*Moringa pterygosperma* Gaertn. (Moringaceae)
120	Śitivāra[14,16,19]	*Celosia argentea* Linn. (Amaranthaceae)
121	Śalayama[18]	*Brassica rapa* Linn. (Brassicaceae)
122	Śoli[17]	–
123	Śreyasī[8]	–
124	Sugandhaka[8]	–
125	Sūkṣmapatra[14]	–
126	Sumukha[8-10]	–
127	Sunisaṇṇaka[8,10,13,15,20]	*Marsilea minuta* Linn. (Marseliaceae)
128	Surasa[8-10]	–
129	Suṣeṇa[14]	–
130	Suvarcalā[4,8-10,15,20]	*Malva rotundifolia* Linn. (Malvaceae)
131	Tāmbūla[8]	*Piper betel* Linn. (Piperaceae)
132	Taṇḍulīya[4,8-10,13-16,19,20]	*Amaranthus spinosus* Linn. (Amaranthaceae)
133	Tanika[9]	–
134	Tarkārī[8-10]	*Clerodendrum phlomidis* Linn.f. (Verbenaceae)
135	Taruṇī[8]	–
136	Tilaparṇī[4,8-10,14,15]	*Gynandropsis pentaphylla* DC. (Capparidaceae)
137	Triparṇikā[8,9,17]	–
138	Tripuṭa[18,19]	–
139	Udumbara pallava[4,8,9]	*Ficus racemosa* Linn. (Moraceae)
140	Upodikā[4,8,9,13,15,18,20]	*Basella rubra* Linn. (Basellaceae)
141	Varṣābhū[9,17]	*Trianthema portulacastrum* Linn. (Aizoaceae)
142	Varuṇa[8-10]	*Crataeva nurvala* Buch.-Ham. (Capparidaceae)
143	Vāsā[4,8-10,19]	*Adhatoda vasica* Nees. (Acanthaceae)
144	Vāstuka[13,15,16,18-20]	*Chenopodium album* Linn. (Chenopodiaceae)
145	Vaṭa[4,8,9]	*Ficus benghalensis* Linn. (Moraceae)
146	Veganāma[8]	*Physalis minima* Linn. (Solanaceae)
147	Vetasa[8]	*Salix caprea* Linn. (Salicaceae)
148	Viṣamuṣṭi[8,15]	–
149	Vṛkadhūmaka[4,9]	–
150	Vṛkṣādanī[8,9]	*Loranthus falcatus* Linn. f. (Loranthaceae)
151	Vṛkṣaka[9]	–
152	Vyāghrāṭaka[15]	–
153	Yātuka[4]	–
154	Yavaśāka[4,9,10]	
155	Yūthikā[8]	*Jasminum auriculatum* Vahl. (Oleaceae)
156	Jhunju[8]	–
Puṣpa śāka		
1	Agastya[8,16,18,19]	*Sesbania grandiflora* Linn. (Fabaceae)
2	Arka[8]	*Calotropis procera* (Ait) R. Br. (Asclepiadaceae)
3	Asana[8]	*Pterocarpus marsupium* Roxb. (Leguminosae)
4	Bakula[8]	*Mimusops elengi* Linn. (Sapotaceae)
5	Campaka[8]	*Michelia champaka* Linn. (Magnoliaceae)
6	Guñjā[15]	*Abrus precatorius* Linn. (Fabaceae)
7	Kadalī[16,18,19]	*Musa sapientum* Linn. (Musaceae)
8	Kāñcanāra[9,18]	*Bauhinia variegata* Linn. (Fabaceae)
9	Karbudāra[4,8,9]	*Bauhinia variegata* Linn. (Fabaceae)
10	Karīra[8-10,14]	*Capparis aphylla* Roth.(Capparidaceae)
11	Kiṃśuka[8,9]	*Butea monosperma* (Lam.) Kuntze. (Fabaceae)
12	Kovidāra[4,8,9]	*Bauhinia purpurea* Linn. (Fabaceae)

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Sl. no.	*Classical name*	*Botanical name*
13	Kumuda puṣpa[8,9,18]	*Nymphaea alba* Linn. (Nymphaeaceae)
14	Kuṭaja[8]	*Holarrhena antidysenterica* Wall. (Apocynaceae)
15	Lodhra[9]	*Symplocos racemosa* Roxb. (Styraceae)
16	Madhūka puṣpa[8]	*Madhuca indica* J. F. Gmel. (Sapotaceae)
17	Mālatī puṣpa[8]	*Jasminum grandiflorum* Linn. (Oleaceae)
18	Muṣkaka[8]	*Schrebera swientenioides* Roxb. (Oleaceae)
19	Nāgakesara[8]	*Mesua ferrea* Linn. (Guttiferae)
20	Nimba[4,8-10,20]	*Azadirachta indica* A. Juss. (Meliaceae)
21	Parvapuṣpi[4,9]	–
22	Pāṭala[8]	*Stereospermum suaveolens* DC. (Bignoniaceae)
23	Puṣpa gobhi[18]	*Brassica oleracea* L. (Brassicaceae)
24	Rakta candana[8]	*Pterocarpus santalinus* Linn. F. (Leguminosae)
25	Shālmalī[4,8,9,16-19]	*Bombax malabaricum* DC (Bombacaceae)
26	Śaṇa[4,8,9]	*Crotalaria juncea* Linn. (Fabaceae)
27	Śigru[16,18]	*Moringa pterygosperma* Gaertn.(Moringaceae)
28	Sindhuvāra[8]	*Vitex negundo* Linn. (Verbinaceae)
29	Urūbaka[8]	*Ricinus communis* Linn.(Euphorbiaceae)
30	Vāsā[8]	*Adhatoda vasica* Nees. (Acanthaceae)
Phala śāka		
	Śāka	*Botanical name*
1	Alābu[4,8,10,13,15,16,20]	*Lagenaria vulgaris* Ser. (Cucurbitaceae)
2	Aṅkaloḍya[4]	*Euryale ferox* Salisb. (Nymphaceae)
3	Araṇya karkaṭī[12]	–
4	Bāluka[15]	–
5	Bhallātaka[8,9]	*Semecarpus anacardium* Linn. (Anacardaceae)
6	Bhiṇḍikā[18]	*Hibiscus esculenta* Linn. (Malvaceae)
7	Bimbī[9,13-16,18,19]	*Coccinia indica* W. and A. (Cucurbitaceae)
8	Bṛhatī[8-10,13,20]	*Solanum indicum* Linn. (Solanaceae)
9	Cīnāka[10,15]	–
10	Cīnākarkaṭī[12]	–
11	Ciciṇḍa[13,14,16,18,19]	*Trichosanthes anguina* Linn. (Cucurbitaceae)
12	Cirbhiṭa[4,9,14,15,19]	*Cucumis momordica* Roxb. (Cucurbitaceae)
13	Devadālī[15]	*Luffa echinata* Roxb. (Cucurbitaceae)
14	Dhārā koṣātaki[17]	–
15	Dhātrīphala[19]	*Phyllanthus emblica* L. (Euphorbiaceae)
16	ḍiṇḍiśa[14,16,18,20]	*Citrullus vulgaris* Schrad. (Cucurbitaceae)
17	ḍoḍikā[14,16,19,20]	*Capparis horrida* F. (Capparidaceae)
18	Eraṇḍa[4,8,9,19]	*Ricinus communis* Linn. (Euphorbiaceae)
19	Gopa śiṃbī[18]	*Cyamopsis tetragonaloba* Linn.(Leguminoseae)
20	Grīṣma sundaraka[13,19,20]	(Cucurbitaceae)
21	Hasti koṣātakī[18]	–
22	Kadalī phala[19]	*Musa sapientum* Linn. (Musaceae)
23	Kākāṇḍola[15]	–
24	Kālinda[9,10,13-15,19]	*Citrullus vulgaris* Schrad. (Cucurbitaceae)
25	Kaṇṭakārī[8-10,16,19]	*Solanum xanthocarpum* Schrad. (Solanaceae)
26	Kapikacchu[15,19]	*Mucuna pruriens* DC (Leguminoseae)
27	Kāravellaka[4,8-10,13-16,19,20]	*Momordica charantia* Linn. (Cucurbitaceae)
28	Karcharī[18]	*Cucumis species* (Cucurbitaceae)
29	Karkāru[9]	–
30	Karkaśa[4,9,10]	–
31	Karkaṭi[8-10,13-16,19]	*Cucumis utilissimus* Roxb. (Cucurbitaceae)
32	Karkoṭakī[4,8-10,13-16,18-20]	*Momordica dioica* Roxb. (Cucurbitaceae)
33	Kārpāsa[19]	*Gossypium herbaceum* Linn. (Malvaceae)
34	Kaṭutumbī[15,16]	*Lagenaria vulgaris* Ser. (Cucurbitaceae)
35	Kharbūja[9,19]	*Cucumis melo* Linn. (Cucurbitaceae)
36	Kolaśiṃbī[13,14,16]	*Canavalia gladiata* (Jacq.) DC. (Fabaceae)
37	Koṣātakī[8-10,13-15,18]	*Luffa acutangula* (Linn) Roxb. (Cucurbitaceae)

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Sl. no.	*Classical name*	*Botanical name*
38	Kulaka[10,11]	–
39	Kūṣmāṇḍa[4,8-10,13-16,18-20]	*Benincasa cerifera* Savi. (Cucurbitaceae)
40	Kūṣmāṇḍī[8-10,15,16,19,20]	*Cucurbita pepo* Linn. (Cucurbitaceae)
41	Madhuśigru[8]	–
42	Mahākoṣātakī[15,16,18,19]	*Luffa aegyptica* Mill ex Hook. f. (Cucurbitaceae)
43	Māṣa śiṃbī[18]	*Vigna unguiculata* Linn. (Leguminoseae)
44	Nandī[9,10]	*Ficus retusa* Linn. (Moraceae)
45	Niṣpāva[4,9]	*Dolichos lablab* Linn. (Papilionaceae)
46	Paṭola[4,8-10,13-16,18,19]	*Trichosanthes dioica* Roxb. (Cucurbitaceae)
47	Phāṃphaṭa[15]	–
48	Piṇḍāra[16]	*Randia uliginosa* DC. (Rubiaceae)
49	Pīta kuṣmāṇḍa[12,18]	*Cucurbita maxima* Duchesne. ex Lam. (Cucurbitaceae)
50	Rāja kośātakī[13,15,16,19]	*Luffa acutangula* Roxb. (Cucurbitaceae)
51	Rāja paṭolī[12]	–
52	Rājakṣavaka[4,8-10,13,19,20]	*Euphorbia microphylla* Heyne.(Euphorbiaceae)
53	Rakta vṛntāka[18]	*Lycopersicon esculentum* Mill. (Solanaceae)
54	Śamī phala[18]	*Prosopis spicigera* Linn. (Mimosaceae)
55	Śelu[9]	*Cordia myxa* Roxb. (Boraginaceae)
56	Śigru[4,8-10,14-18]	*Moringa pterygosperma* Gaertn. (Moringaceae)
57	Śiṃbī[15,16,18,19]	*Dolichos lablab* Linn. (Leguminoseae)
58	Śīrṇavṛnta[8-10,13-15,20]	*Cucumis melo* Linn. (Cucurbitaceae)
59	Śleṣmātaka[8,15]	*Cordia myxa* Roxb. (Boraginaceae)
60	Śreyasī[4]	–
61	Tikta karkaṭī[10]	–
62	Tikta biṃbī[12]	–
63	Tikta koṣatakī[12]	–
64	Tikta paṭola[12]	–
65	Tiṇḍiśa[9,10]	*Hibiscus ficulnens* Linn. (Malvaceae)
66	Trapusa[4,8-10,13-15,19,20]	*Cucumis sativus* Linn. (Cucurbitaceae)
67	Tumba[9,14]	–
68	Udumbara phala[19]	*Ficus racemosa* Linn. (Moraceae)
69	Vallī[14]	–
70	Vāluka[14]	–
71	Vṛntāka[4,8-10,13-16,18-20]	*Solanum melongena* Linn. (Solanaceae)
Nala śākas		
1	Ālukī nāla[18]	*Colocasia esculenta* (Linn.) Schott. (Araceae)
2	Asthiśṛṅkhalā[14,19]	*Vitis quadrangularis* Wall. (Vitaceae)
3	Kadalī nāla[19]	*Musa sapientum* Linn. (Musaceae)
4	Mṛṇāla (kamala)[4,9,10,13,20]	*Nymphaea species* (Nymphaeaceae)
5	Kumuda nāla[4,9,10,13,20]	*Nymphaea alba* Linn. (Nymphaeaceae)
6	Mūlaka nāla[19]	*Raphanus sativus* Linn. (Cruciferae)
7	Paṭola nāla[17]	*Trichosanthes dioica* Roxb. (Cucurbitaceae)
8	Sarṣapa nāla[16,19]	*Brassica campestris* L. (Cruciferae)
9	Utpala nāla[4]	*Nymphaea species* (Nymphaeaceae)
10	Veṇu karīra[8-10,13,17,19,20]	*Bambusa bambos* (L.) Voss. (Poaceae)
Mūla/kanda śāka		
1	Āluka[4,9,10,13,16,18-20]	*Dioscorea species* (Dioscoreaceae)
2	Ālukī[16,18,19]	*Colocasia antiquorum* Schott (Araceae)
3	Amlikā kanda[4,13]	–
4	Bhū kanda[9]	–
5	Caṇḍāla kanda[17]	–
6	Dhariṇī kanda[17]	–
7	Gṛñjana[9,10,14-19]	*Daucus carota* L. (Umbeliferae)
8	Gucchāvha kanda[17]	–
9	Hastikarṇa[16,17]	*Leea macrophylla* Hom.(Vitaceae)
10	Hastyāluka[17]	–
11	Kadalī kanda[13,16,19,20]	*Musa sapientum* Linn. (Musaceae)

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Sl. no.	Classical name	Botanical name
12	Kāsālu[17]	*Dioscorea anguina* Roxb. (Dioscoreaceae)
13	Kaseru[4,9,10,13,16,18-20]	*Scirpus kysoor* Roxb. (Cyperaceae)
14	Kāṣṭhālu[17]	–
15	Kelūṭa[4,9,10]	–
16	Kemuka[4,8-10,16,18]	*Costus speciosus* (koeing) (Zingiberaceae)
17	Kola kanda[17]	*Urginea indica* (Roxb.) Kunth. (Liliaceae)
18	Kṣiravidārī[17]	*Ipomoea digitata* Linn. (Convolvulaceae)
19	Lakṣmaṇā kanda[4,9,10,17]	*Ipomoea marginata* (Desr.) Verdc. (Convolvulaceae)
20	Madhvālu[17]	–
21	Mahiṣī kanda[17]	–
22	Mākandī[17]	–
23	Mālākanda[17]	–
24	Mānakanda[13,14,16,20]	*Alocasia indica* (Roxb.) Schott. (Araceae)
25	Mūlaka[8-10,13-20]	*Raphanus sativus* Linn. (Cruciferae)
26	Mukhālu[17]	–
27	Muñjātaka[4,9,10,13]	*Eulophia campestris* Wall. (Orchidaceae)
28	Muśalī[13,14,17]	*Curculigo orchioides* Gaertn. (Amarylliadaceae)
29	Nīlālu[17]	–
30	Palāṇḍu[8-10,14,17]	*Allium cepa* Linn. (Liliaceae)
31	Pānīyālu[17]	–
32	Phoṇḍālu[17]	–
33	Piṇḍālu[9,14,17]	*Dioscorea globosa* Roxb. (Dioscoreaceae)
34	Raktālu[17]	*Ipomoea batatas* (Linn) Lam. (Convolvulaceae)
35	Rasona[8-10,14,17]	*Allium sativum* Linn. (Liliaceae)
36	Śālūka[16,18,19]	*Nelumbo nucifera* Gaertn. (Nymphaeaceae)
37	Śankhāluka[17]	–
38	Śatāvari[8-10,13,20]	*Asparagus racemosus* Willd. (Liliaceae)
39	Śṛngavera[9,10,11,18]	*Zingiber officinale* Roscoe. (Zingiberaceae)
40	Śṛngāṭaka[4,10,14,17]	*Trapa bispinosa* Roxb. (Trapaceae)
41	Śweta muśalī[15]	*Asparagus adscendens* Roxb. (Liliaceae)
42	Sūraṇa[10,13,14,16-20]	*Amorphophallus campanulatus* Blume. (Araceae)
43	Surendra kanda[8,13]	–
44	Tarūṭa[4,9]	–
45	Utpala[4,8-10,13]	*Nymphaea alba* Linn. (Nymphaeaceae)
46	Vajrākhya[20]	–
47	Vajravallī[15]	*Cisssus quadrangularis* Linn.(Vitaceae)
48	Varāhī kanda[13,14,16,17,20]	*Dioscorea bulbifera* Linn. (Dioscoreaceae)
49	Vidārī kanda[4,9,10,13,17,20]	*Pueraria tuberosa* DC. (Fabaceae)
50	Viṣṇukanda[17]	–
Samsvedaja śāka		
1	Chatraka[4,8-10,13-16,18,19]	Agaricus species (Agaricaceae)

and kāsa (cough). These vegetables can be used as pathya (wholesome diet) in various disorders. This, if followed strictly, may help to prevent as well as manage various diseases easily. Vegetables indicated for the prevention and management of diabetes,[40] cardiovascular diseases,[41] skin disorders,[42] respiratory diseases,[43] and gastrointestinal diseases[44] in the classical texts of Ayurveda have been reported. Different indications of śākavarga dravya are given in Table 5.

CONCLUSION

Classical texts of Ayurveda detail different vegetables under the heading of Śākavarga. A systematic review of classical vegetables provides a lot of information regarding their identification and usage. Moreover, all the classical vegetables are described along with their properties and indication in different disease conditions. These vegetables can be used as pathya in particular disease conditions and may help to prevent many disorders. Vegetables must be collected from hygienic sources, used after thorough washing, and should be consumed following classical guidelines. Further, the vegetables described under śākavarga in classical texts of Ayurveda needs to be compiled and studied to identify the active principles, to examine the long-term beneficial effects, and to understand the mechanism of action to establish their dietetic importance.

Table 5: Indications of Śākadravya (vegetables) in various disease conditions as reported in classical texts of Ayurveda

Sl. no.	*Indications*	*Number of vegetables*
1	Raktapitta (Bleeding disorder)	53
2	Jvara (Fever)	41
3	Śvāsa (Dyspnea/asthma)	38
4	Kuṣṭha (Skin disease)	35
5	Kāsa (Cough)	34
6	Hṛdroga (Heart disease), Kṛmi (Helminthiasis/worm infestation)	33
7	Prameha (Urinary disorders or diabetes)	29
8	Aruci (Tastelessness)	24
9	Viṣa (Poison)	17
10	Arśa (Hemorrhoids), Śotha (Edema)	16
11	Vraṇa (Ulcer)	15
12	Atisāra (Diarrhea)	14
13	Gulma (Abdominal lump)	12
14	Dāha (Burning sensation), Kaṇḍu (Itching), Paṇḍu (Anemia)	10
15	Kṣaya (Phthisis), Mūtra vikāra (Urinary diseases)	9
16	Aśmarī (Calculus)	7
17	Plīhā roga (Splenic disease)	6
18	Cardi (Emesis), Grahaṇi (Malabsorption syndrome), Śūla (Colic pain)	5
19	Ādhmāna (Flatulence with gurgling sound), Kāmalā (Jaundice), Madātyaya (Alcoholism), Udara (Diseases of abdomen/enlargement of abdomen)	4
20	Bhrama (Vertigo), Hikkā (Hiccup), Netraroga (Eye disorder), Tvak-doṣa (Skin disorder), Upadaṃśa (Syphilis/Soft chancre), Vibandha (Constipation)	3
21	Ajīrṇa (Dyspepsia), Pradara (Menorrhagia), Tṛṣṇa (Excessive thirst)	2
22	Naktāndhya (Night blindness), Udāvarta (Condition in which there is upward movement of vāyu), Vāk doṣa (Disorder of speech), Vātarakta (Gout), Visarpa (Erysipelas)	1

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हिन्दी सारांश

आयुर्वेद ग्रन्थों से शाकद्रव्यों का एक विस्तृत अध्ययन

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लक्ष्यः प्रस्तुत लेख में उपलब्ध १५ आयुर्वेद ग्रन्थों में से शाकद्रव्यों का वर्गीकरण, उचित संग्रह विधि, संख्या, महत्व, प्रतिकूल परिणाम, वानस्पतिक पहचान और उपयोग का संकलन किया गया है।

परिप्रेक्ष्यः प्राचीन काल से शाकद्रव्य आहार का एक अभिन्न अंग रहा है। पिछले कुछ दशकों से शाकद्रव्यों के स्वास्थ लाभ के मूल्यांकन से अभिरुची बढ रही है। आयुर्वेद ग्रन्थों में विशेषतः शाकद्रव्यों का समावेश उनके गुण और कर्म के साथ शाकवर्ग के अन्तर्गत किया गया है। लेकिन इन शाकद्रव्यों का अभिज्ञान और उपयोग का व्यवस्थित संकलन उपलब्ध नहीं है।

परिणामः आयुर्वेद ग्रन्थों में ३१८ शाकद्रव्यों का वर्णन किया गया है। उनमें १५६ पत्रशाक, ७१ फल शाक, ५० कन्दशाक, ३० पुष्पशाक, १० नालशाक और एक संस्वेदज शाक संमिलित है। संकलित आयुर्वेद ग्रन्थों में शाकद्रव्यों का प्रतिकूल परिणाम और संग्रहकालीन उपायों का भी वर्णन किया गया है।

निष्कर्षः आयुर्वेद ग्रन्थों में वर्णित शाकद्रव्यों के क्रियाविधि और आहारीय महत्व समझने हेतु अध्ययन कर सकते है।

चिकित्सकीय महत्वः विविध शाकद्रव्य ४२ विभिन्न व्याधियों में पथ्य के रूप में निर्दिष्ट है। चिकित्सा के साथ शाकद्रव्यों का उपयोग निर्दिष्ट व्याधियों में पथ्य के रूप में किया जा सकता है।