



(RESEARCH ARTICLE)



## Unlocking therapeutic potential of Shimbi Dhanya for Human Wellness

Barinderjit Kaur, Mehak Saini and Rohit Johari \*

Department of Dravyaguna, Dayanand Ayurvedic College, Jalandhar, Punjab, India.

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### Abstract

Ayurveda is the science of life that aims to maintain health in a healthy person and cure the diseased person. Food (*ahara*) is the foremost among these three pillars of ayurveda (*Trisutra*) for obtaining longevity of life. Among various ancient literature available including Bhavprakash in 16th century has mentioned *shimbidhanya* (pulses) in Dhanyavargah (group of grains). *Shimbidhanya varga* (group of legumes and pulses) includes mudga, masha, rajamasha, Kulatthah etc. *Shimbidhanya* (pulses) are also known as *vaidala* (dicotyledons) and this category of pulses are the main source of proteins for vegetarians. This present study aims to evaluate the enlisted *shimbidhanya* (pulses) for their ayurvedic properties in relation to phytoconstituents and therapeutic uses and their role in longevity of life.

**Keywords:** Dhanyavarga; Shimbidhanya; Ayurveda; Bhavprakash Nighantu

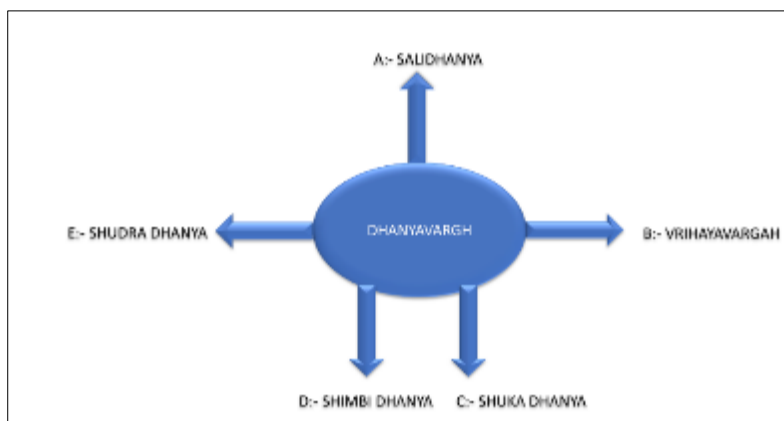
### 1. Introduction

“स्वस्थस्यस्वास्थ्यरक्षणं आतुरस्यरोगप्रशमनं च ||<sup>1</sup>(Charak sutra30/2)

Ayurveda means ‘The Science of Life’ which relates the life of the individual to that universe. The goal of ayurveda is to maintain the health of a healthy individual and to cure the disease of illness. Food (*Ahara*) is the foremost among these three pillars of ayurveda (*Trisutra*) as per Ayurvedic classics<sup>2,3</sup>, Nidra and Abhramcharya being the other two. Food has also been considered as medicine since ancient times and *pathyaaharais* the best healer than medicine<sup>4</sup>. Prevention is better than cures *Acharyas* has mentioned “*Matrashi Sayat*” (balanced diet) is responsible for maintaining healthy life.

In *Bhavprakash Nighnatu*, *Dhanya varga*<sup>4</sup> (classification of grains) has been given extreme importance as they are part of our regular diet. *Dhanya varga* is further divided into 5 sub types of *Dhanya* as follows-

\* Corresponding author: Rohit Johari



**Table 1** Classification of *Dhanya Varga*-

Dhanya varga	Dravya (grains) included
Sali dhanya (rice paddy)	Raktasali(Rice)
Vrihi dhanya (a type of rice that matures during the varsha ritu / rainy deason)	Sastika Sali (variety of rice)
Shuka Dhanya (awned grains)	Yava, Godhuma
Shimbi Dhanya (Pulses)	Mudga, Masa, Rajamash, Nispava, Adhaki, Chanak, Kalaya, Triputa, Kulattha, Tila, Atasi, Tuvari, Sarsapa, Rajika
Kshudra Dhanya (Millets)	Kangu, Cibaka

In all these types of *Dhanya* (grains), *Shimbi dhanya* (pulses) holds a special place as it is our staple food and an excellent source of proteins for vegetarian population. *Shimbidhanya*, being the principal ingredient of Indian cooking maintain the balance of *doshas* and *dhatu*s which is crucial for promoting longevity and overall well-being.

**Table 2** Introduction of Herbs of *Shimbi Dhanya* (Pulses)-<sup>5</sup>

S.No	Name	Botanical Name	Family
1.	<i>Mudga</i>	<i>Phaseolus radiatus</i> Linn.	Fabaceae
2.	<i>Masa</i>	<i>Phaseolus mungo</i> Linn.	Fabaceae
3.	<i>Rajamasa</i>	<i>Vigna catiang</i> Walp.	Fabaceae
4.	<i>Nispava</i>	<i>Dollchos lablab</i> Linn.	Fabaceae
5.	<i>Makusthaka</i>	<i>Phaseolus acontifolia</i>	Leguminosae
6.	<i>Masura</i>	<i>Lens cullinaris</i> Medic.	Fabaceae
7.	<i>Adhaki</i>	<i>Cajanus indicus</i> Spreng	Fabaceae
8.	<i>Canaka</i>	<i>Cicer arietinum</i> Linn.	Fabaceae
9.	<i>Kalaya</i>	<i>Pisum sativum</i> Linn.	Fabaceae
10.	<i>Triputa</i>	<i>Lathyrus sativus</i> Linn.	Fabaceae
11.	<i>Kulattha</i>	<i>Dolichos biflorus</i> Linn.	Fabaceae
12.	<i>Tila</i>	<i>Sesamum indicum</i> Linn.	Pedaliaceae
13.	<i>Atasi</i>	<i>Linum usitatissimum</i> Linn.	Linaceae

14.	<i>Turvi</i>	<i>Eruca sativa</i> Mill.	Cruciferae
15.	<i>Sarsapa</i>	<i>Brassica campestris</i> Linn.	Cruciferae
16.	<i>Rajika</i>	<i>Brassica juncea</i> Linn.	Cruciferae

**Table 3** Ayurvedic properties of herbs enlisted in *Shimbi Dhanya varga* (group of pulses)<sup>5</sup>

S.no	Name	Properties	Doshganta
1.	<i>Mudga</i>	<i>Ruksha</i> (dry)	<i>kapha pitta nashak, alpa vatkarak</i>
2.	<i>Masa</i>	<i>Guru</i> (heavy), <i>Snigdha</i> (unctous)	<i>vat nashak, kapha pitta karak</i>
3.	<i>Rajamasa</i>	<i>Guru</i> (heavy), <i>Rukksha</i> (dry)	<i>vatkarak</i>
4.	<i>Nispava</i>	<i>Ruksha</i> (dry), <i>Guru</i> (heavy)	<i>pittavardak, kaphanashak, vata vibandkarak</i>
5.	<i>Makusthaka</i>	<i>Laghu</i> (light)	<i>vatkarak, kapha pitta nashak</i>
6.	<i>Masura</i>	<i>Laghu</i> (light), <i>Ruksha</i> (dry)	<i>vatkarak, kapha pitta nashak</i>
7.	<i>Adhaki</i>	<i>Ruksha</i> (dry), <i>Laghu</i> (light)	<i>vatkarak, kapha pitta nashak</i>
8.	<i>Canaka</i>	<i>Ruksha</i> (dry), <i>Laghu</i> (light), <i>shita</i> (cold)	<i>vatkarak, kapha pitta nashak</i>
9.	<i>Kalaya</i>	<i>Ruksha</i> (dry), <i>shita</i> (cold)	<i>kapha pitta nashak, vatvardak</i>
10.	<i>Tripata</i>	<i>Ruksha</i> (dry), <i>Sheetal</i> (cold)	<i>vata kopakkapha pitta nashak</i>
11.	<i>Kulattha</i>	<i>Laghu</i> (light), <i>Ushna</i> (hot)	<i>vata kapha nashak</i>
12.	<i>Tila</i>	<i>Guru</i> (heavy), <i>Snigdha</i> (unctous), <i>Ushna</i> (hot)	<i>tridoshanashak</i>
13.	<i>Atasi</i>	<i>Snigdha</i> (unctous), <i>Guru</i> (heavy)	<i>tridoshanashak</i>
14.	<i>Turvi</i>	<i>Laghu</i> (light), <i>Teekshna</i> (sharp), <i>Ushna</i> (hot)	<i>kapha nashak</i>
15.	<i>Sarsapa</i>	<i>Snigdha</i> (unctous), <i>Teekshna</i> (sharp), <i>Ushna</i> (hot)	<i>rakta pitta vardhak, kaphavatanashak</i>
16.	<i>Rajika</i>	<i>Teekshna</i> (sharp), <i>Ushan</i> (hot), <i>Kinchit- ruksha</i> (mild dry)	<i>rakta pitta karak, kaphavatanashak</i>

**Table 4** Phytochemical Assay of Herbs of *Shimbi Dhanya* (group of Pulses)<sup>6</sup>

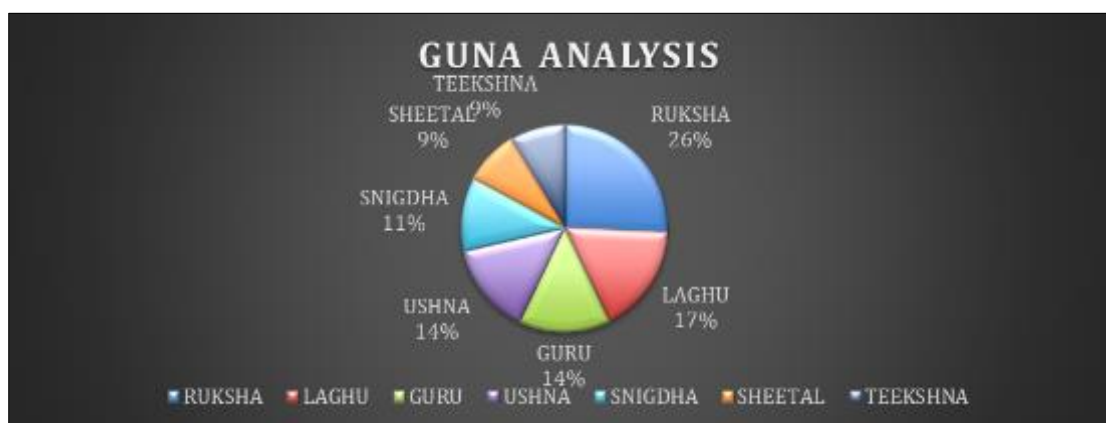
S.No.	Name	Phytoconstituents	Therapeutic Properties
1	<i>Mudga</i>	Carotene, Thiamine, Riboflavin, Niacin, VitaminC.	Antioxidant, Anti-inflammatory
2.	<i>Masa</i>	Phytin, Carotene, Thiamine, Riboflavin, Niacin	
3.	<i>Rajamasa</i>	Carotene, Thiamine, Riboflavin, Niacin	
4.	<i>Nispava</i>	Phosphorus, Iron, Nicotinic Acid	Anti-lipidemic
5	<i>Makusthaka</i>	Phytin P, Carotene, Thiamine, Riboflavin, Niacin, Vitamin C	Antioxidant, Anti-inflammatory, Antibacterial
6.	<i>Masura</i>	Indolyl Acrylic Acid, Lenticin, Tricetin, Luteolin	
7	<i>Adhaki</i>	Oxalis Acid, Isoleucine, Lysine	
8.	<i>Canaka</i>	Oxalis Acid, Acetic Acid, Isoflavone	Hepatoprotective, Anti-hyperglycemic
9.	<i>Kalaya</i>	Protein, Vitamins, Amino Acid, Mineral, Carotene	Anti-tumour and Anti-Cancerous Properties
10.	<i>Tripata</i>	Spermidine, Spermine, Cyanin, Glucose, Mannose, Leucine, Isoleucine	Antioxidant, Anti-hyperglycemic action
11.	<i>Kulattha</i>	Alkolids, Flavanoids, Phenols, Tannins, Saponins, Terpenoids	Anti-lithiatic Activity
12.	<i>Tila</i>	Neutral Lipids, Glycolipids, Arginine, Cysteine	Antioxidant
13.	<i>Atasi</i>	Carotene, Thiamine, Riboflavin, Niacin	Anti-Bacterial
14.	<i>Turvi</i>	Crude Fiber, Isothiocyanates	Anti-cancerous and Antioxidant action
15.	<i>Sarsapa</i>	Palitic, Stearic, Oleic, Linoleic, Erucic Acid	Antioxidant, Anti-cancerous Effect
16.	<i>Rajika</i>	Polyphenols, Flavonoids, Tannins	Anti -cancerous action

**Table 5** Therapeutic Uses of *Shimbi Dhanya* (group of pulses)<sup>6</sup>

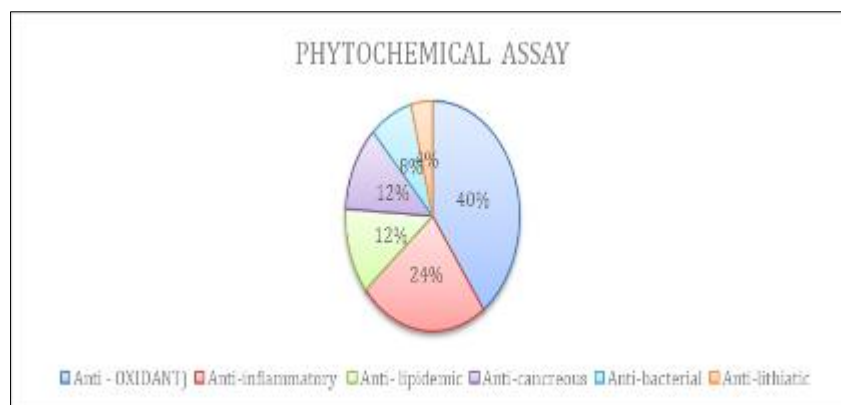
S.NO	Name	Therapeutic Uses
1.	<i>Mudga</i>	<i>Netrya</i> (Beneficial to eyes) <i>Javarghana</i> (Anti-pyretic)
2.	<i>Masa</i>	<i>Sramsana</i> (Laxative), <i>Shukarjannan</i> (Spermatogenic), <i>Brimhana</i> (Strength promoting), <i>Dugdhvardhak</i> (Galactagogue), <i>Santarpana</i> (Nutritious)
3.	<i>Rajamasa</i>	<i>Santarpana</i> (Nutritious), <i>Stanya</i> (Galactagogue)
4.	<i>Nispava</i>	<i>Stanya</i> (Galactagogue) <i>Shothenashak</i> (Decreases oedema)
5.	<i>Makusthaka</i>	<i>Grahi</i> (Anti-diarrheals), <i>Javarnahak</i> (Anti-pyretic)
6.	<i>Masura</i>	<i>Grahi</i> (anti-diarrheals), <i>Javarnahak</i> (Anti-pyretic) <i>Rakta vikara nashak</i> (useful in blood disorders)
7.	<i>Adhaki</i>	<i>Varnya</i> (Improves complexion) <i>Rakta vikarnashak</i> (useful in blood disorder)
8.	<i>Canaka</i>	<i>Javarghana</i> (Anti-pyretic)
9.	<i>Kalaya</i>	--
10.	<i>Tripata</i>	<i>Grahi</i> (anti-diarrheals), <i>Khanjavat, pangutva</i> (causes lameness of one leg or both the legs)
11.	<i>Kulattha</i>	<i>Hikka</i> (Hiccups), <i>Kasa</i> (Cough) <i>Shwasa</i> (Dyspnoea) <i>Ashmari</i> (Renal calculi), <i>Krimi nashak</i> (Anthelmintic)

12.	<i>Tila</i>	<i>Balya</i> (Strength promoting), <i>Stanya</i> (Galactagogue) <i>Vrana</i> (Promotes wound healing)
13.	<i>Atasi</i>	<i>Drikshukraghni</i> (not beneficial to vision and sperm)
14.	<i>Tuvari</i>	<i>Kushta</i> (Cures disorder of skin), <i>Kandu</i> (Cures allergic skin infections), <i>KrimiNasahak</i> (Anthelmintic),
15.	<i>Sarsapa</i>	<i>Kushta</i> (Cures skin disorders), <i>Kandu</i> (Cures allergic skin infections), <i>KrimiNasahak</i> (Anthelmintic), <i>Agnivardhak</i> (Increases digestive capacity)
16.	<i>Rajika</i>	<i>Kushta</i> (Cures skin disorders), <i>Kandu</i> (Cures allergic skin infections), <i>KrimiNasahak</i> (Anthelmintic), <i>Agnivardhak</i> (Increases digestive capacity)

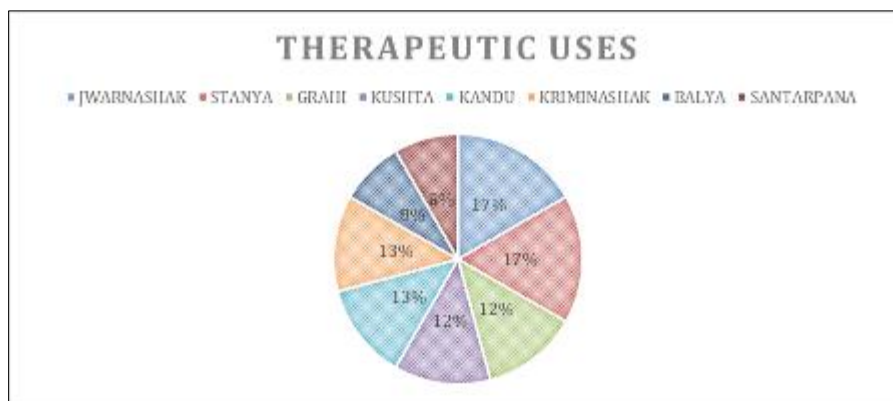
## 2. Result And Observation



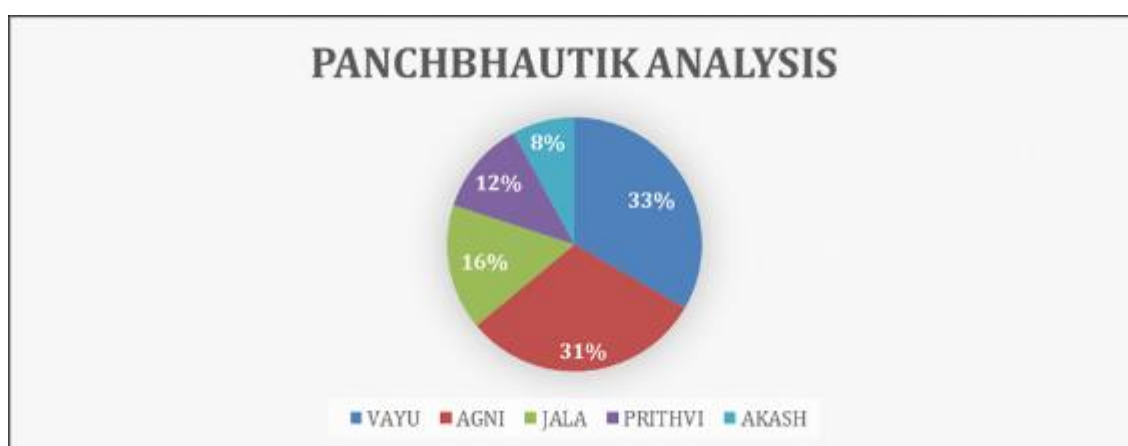
**Figure 1** Ayurvedic Properties of *Shimbi Dhanya* (group of Pulses)



**Figure 2** Phytochemical assay of *Shimbi Dhanya* (group of Pulses)



**Figure 3** Therapeutic Uses of *Shimbi Dhanya*(group of Pulses)



**Figure 4** Panchbhoutik Analysis of enlisted herbs of *Shimbi Dhanya* (group of pulses)

### 3. Discussion

The term “pulse” is used by the United Nations Food and Agricultural Organization (FAO) which is reserved for crops harvesting solely for the dry seed. *Shimbi dhanya* (group of Pulses) are pod bearing or leguminous plants. They are also called as *vaidalas* (dicotyledons). These are *madhur* and *kashaya* in *rasa* (sweet and astringent in taste) and *katu* (pungent) in *vipaka*<sup>7</sup>.

From the above observation, it is analyzed that the grains included in *shimbi dhanya* (group of pulses) dominates not only in *ruksha guna* (dryness) by 26%, followed by *laghu guna* (lightness) by 17% and *ushna guna* (hotness) by 14% but also rich in *guru guna* (heaviness) by 14% followed by *snigdha guna* (unctuous) by 11%, and *sheeta guna* (coldness) by 9%. The above data implies balancing nature of group of pulses which is beneficial for health and wellness. From the above data of phytochemical analysis, it is evaluated that the grains possess antioxidant property (40%), anti-inflammatory characteristics (24%) antilipidemic and anti-cancerous actions (both 12-12%). Besides this, the grains are found rich in antibacterial properties (8%) and antilithiatic action (4%) which signifies grains not only being useful in treating various diseases but also useful in maintaining health and wisdom. Moreover, legumes contain a number of phytoconstituents including enzyme inhibitors, lectins, oligosaccharides, and phenolic compound that plays a vital role in human metabolism. As legumes are rich in anti-oxidants they are considered as *Ajasrika Rasayan* (recommended to consume on daily basis). Therefore group of *Shimbi Dhanya* (group of pulses) play a pivotal role in the prevention of chronic diseases such as cancer, hypertension, heart diseases which are aggravated by excessive oxidative stress in human body.

Also, data derived from therapeutic uses of *shimbi dhanya* (group of pulses) implies characteristics of grains as *stanyajanana* (galactagogue), *grahi* (anti diarrhoeals), *balya* and *santarpan* (strength and rejuvenator). Moreover, these

are found in alleviating varieties of diseases including *jwara* (pyrexia), *kushta* (skin disorders) and *kandu* (allergic reactions).

Furthur, among *shimbi dhanya*, *Mudga* is narrated *shreshtha* (best) by the virtue of its *laghu* (easily digestible) property whereas *Masha* is considered *nikrushtha* (inferior) as it is *guru* (difficult to digest), but is indicated in healthy individuals doing strenuous physical activity. *Rajamash* and *Chanak* grains are rich sources of protein and due to low glycemic index; they are indicated in *sthoulya* (obesity) and associated disorders. The unsaturated fatty acid present in *Tila* lowers the cholesterol metabolism thus contributing growth and development of body. Mainly a classical preparation like "*Yusha Kalpana*" (soup preparation) is prepared from *shimbi dhanya varga* (group of pulses).

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#### 4. Conclusion

*Shimbi Dhanya* (pulses) enlisted above by ancient saints should be consumed daily in the form of diet for not only maintaining the health in healthy individual but also for prevention of diseases which in-turn helps in sustaining longevity of life. In this continuation *Mudga* is considered to be the best among *shimbidhanya*. It is light in nature thus easily digestible and ideal for various illnesses and is useful in pregnancy. Whereas, according to *Charak samhita*, *Masha* is considered "*माषः श्लेष्मपित्तजननाम्*" It increases kapha & pitta and is heavy in nature thus difficult to digest. It can cause flatulence. But it is rich in antioxidants.

As seen from above data, *Shimbi Dhanya* (group of pulses) helps in balancing three *doshas* viz; *vata*, *pitta* and *kapha* and *sapta dhatus* viz; *rasa*, *rakta*, *mamsa*, *meda*, *asthi*, *majja* and *shukra*. The pulses are *balya* and *santarpana* (help in promoting strength, body building), *deepan* and *pachan* (stimulate digestive capacity), *stanyajanana* (regulation of prolactin hormone). *Shimbi Dhanya* (pulses) have antioxidant, anti-inflammatory, anti-bacterial, anti-lithiatic properties. These also possess anti-hyperglycaemic, anti-cancerous activity and are beneficial in prevention of diseases like Diabetes mellitus, hypertension, carcinoma, cardiovascular diseases, obesity, skin diseases etc. Thus, regular consumption of *Shimbi Dhanya* (pulses) in the daily diet as prescribed by ancient acharyas shows preventive and curative effects.

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#### Compliance with ethical standards

##### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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