

The among underutilised legume crops, **Horse gram** is of *immense medicinal value* in treating the day-to-day ailments and meeting the nutritional requirements which other conventional legume crops may fail to provide.

Moreover, the amount of land available for fodder production has been diminishing and consequently the livestock is put to a huge hardship due to lack of total feed and fodder.

A net shortfall of **35.6% green fodder**, **10.95% dry crop residue**s and **44% concentrate feed** ingredients exists right now. The development of high-quality fodder is especially crucial to cattle because feed accounts for 60-70 % of the cost of milk production. This is where the role of underutilised legumes is important to support lack of quality fodder particularly, where other fodder crops may fail to sustain.

Legume that prevent Cancer, destroy Kidney Stone and many more....

Horse gram

Previously, only *tribal people* used to consume sprouted seeds for excellent nutritional benefits.

Due to risen health consciousness sprouts and dal have become common among the urban class people as well.

Considering ethnomedicinal value, as mentioned in classical Indian texts like Charaka Samhita and Sushruta Samhita the seeds of horse gram are traditionally used for medicine preparations to treat urinary stones ("gahot" meaning to destroy kidney stones, abnormal menstrual cycles, piles, worms, obesity, tooth calculus, extracts phlegm, common cold, throat infection, fever and is known to generate body heat suitable during winter days. The seed extract is known to cure gastritis, excessive postpartum bleeding, rheumatism, coronary heart disease, diabetes etc..

Source: Legume Research, Volume 46 Issue 2 (February 2023): 127-133



An underutilized nutraceutical pulse crop: a review https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4397296/ NLM USA.gov

Greatly protects one from getting heart attack https://pubmed.ncbi.nlm.nih.gov/27091200/
NLM USA.gov



Origin, morphology and genetic diversity

Horse gram

Based on various pre-historic cultivation evidences, **Horse gram** is native to tropical southern Asia and has been found in archaeological **sites in India, since 2500 BC**. It was probably first domesticated in India. The crop is now placed in genus Macrotyloma by Verdecourt in 1982 and known as **Macrotyloma uniflorum** (Fabaceae) but it was formerly known as "Dolichos biflorus Linn".

While Horse gram (*M. uniflorum*) is widely distributed in Asia, Africa and Australia, its close relatives, i.e., *M. ciliatum* are common in Asia and Africa, *M. axillare* in Australia and other species under genus Macrotyloma are sparsely distributed in Africa (Dikshit et al., 2013).

It is a self-pollinated annual herb; bears trifoliate leaves of 2.5-5.0 cm, produces light yellow flowers and can attain a height of 30-35 cm. The crop duration is 120-150 days. Each pod contains five to seven seeds of 3-6 mm length with light red to brown or mottled colour.





Take care of your Health



Rich in polyphenols. flavonoids, proteins and low fat healthier for heart

KEEPS HEART HEAITHY:

According to established medical science, oxidative damage caused by free radicals plays a causative role in ageing and leads to diseases including several heart diseases. Raw horse gram is particularly rich in polyphenols, flavonoids and proteins, the major antioxidants. It is also low in fat and high in carbohydrate content, making it healthier for the heart. Recommendations for plant-based dietary patterns have traditionally centered on replacing animal-source foods with plant-based whole foods such as legumes and nuts. From American Heart Association



Horse gram seeds have the ability to reduce high blood sugar

INSULINE RESISTANCE

Scientists from the Indian Institute of Chemical Technology have found that unprocessed, raw horse gram seeds have the ability to reduce high blood sugar following a meal, by slowing down carbohydrate digestion and reducing insulin resistance by inhibiting protein-tyrosine phosphatase 18. This makes it an extra diabetic-friendly food.



Provide immediate relief and help manage breathing problems

ASTHAMA RELIEF

A common Avurvedic prescription for asthmatic patients is to consume the paste of boiled horse gram and pepper, which aids in reducing cough, cold and congestion. Although not a cure for asthma, it has been known to provide immediate relief and help manage breathing problems

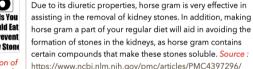


BOOST ENERGY & IMMUNITY:

Rich in iron and Vitamin C, horse gram has the power to increase hemoglobin levels and act as an immunity booster. A superabundance of proteins helps to maintain muscle strength and muscle mass.

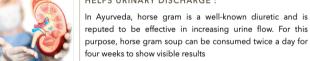


Avoiding the formation of kidnevs stones by use of Horse gram on regular diet



HELPS URINARY DISCHARGE:

REMOVE KIDNEY STONE :





Well known diuretic Horse aram effective in increasing urine flow

Foods rich nutrients helps

optimize the immune system's

Horse gram have anti-ulcer activity due to the presence of phytosterol esters

HEAL ULCERS:

Lipids in horse gram have been shown to have anti-ulcer activity due to the presence of phytosterol esters. Researchers from the "Department of Surgery at Royal Free and University College Medical School, London" found that horse gram is highly beneficial in healing peptic and mouth ulcers.



Horse gram a Truly effective leaume for body weight loss (obesity) and fat loss naturally

REDUCED OBESITY:

Horse gram being a excellent source of rich protein and fibre play a key role in weight management. Emerging scientific evidence suggests that a diet rich in high-quality protein is a beneficial dietary strategy to prevent and/or treat obesity. Source :https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC6179508/

Major nutrients in different milled fractions of Horse Gram (Percent of dry matter)

Data source use QR

Constituent	Cotyledon*	Embryonic axe*	Seed coat*
Moisture	5.8 ± 0.31 b	$8.4 \pm 0.21a$	$3.9 \pm 0.05c$
Protein	$22.6 \pm 1.23a$	18.6 ± 0.90 b	$9.1 \pm 0.35c$
Fat	1.8 ± 0.06 b	$2.6 \pm 0.04a$	$0.6 \pm 0.02c$
Ash	$2.9 \pm 0.02b$	$2.2 \pm 0.04 b$	$3.8 \pm 0.05a$
Crude fiber	$1.6 \pm 0.02c$	11.2 ± 0.26 b	$21.8 \pm 1.6a$
Total carbohydrate ^a	$66.9 \pm 2.6b$	68.2 ± 1.9 b	$82.6 \pm 1.1a$
Soluble sugars	$6.4 \pm 0.15a$	4.8 ± 0.19 b	$0.96 \pm 0.06 \mathrm{c}$
Reducing sugar (mg/100 g)	$538.3 \pm 16.2a$	$211.7 \pm 6.3b$	$108.6 \pm 5.1c$
Non reducing sugar	$5.86 \pm 0.15a$	4.6 ± 0.08 b	$0.85 \pm 0.03c$
Dietary fiber	16.7 ± 0.27 c	$22.6 \pm 0.18b$	$36.4 \pm 0.90a$
Soluble	1.32 ± 0.04 b	$3.1 \pm 0.04a$	$3.9 \pm 0.05a$
Insoluble	$15.38 \pm 0.16c$	19.5 ± 0.28 b	$32.5 \pm 1.1a$



Where to get natural horse gram beans





Delicious Horse gram Culinary





More you need to know

Recently, a collaborative project between the "Indian Agricultural Research Institute" (IARI) and the "United States Department of Agriculture" (USDA) germplasm conservation of horse gram started in 1970 s and they are being maintained by NBPGR (National Bureau for Plant Genetic Resources). The project identified several specific traits of interest, such as yellow mosaic resistance of M. axillare and also the potential of M. axillare, M. daltonii and M. africanum as valuable leguminous forage crop. Research initiatives such as ICAR's.

Apart from a few organizations like GRIN (Germplasm Resources Information Network), KARI (Kenya Agricultural Research Institute) and Australian Tropical Crops and Forage Genetic Resources Centre, global efforts to conserve germplasm of horse gram are very much lacking and the crop remains ignored by the researchers as well.

Where to get









Use QR to reach us

