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## ASHWAGANDHA: A PHYTO DRUG

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### ABSTRACT

Ashwagandha play key role in Ayurveda, a form of alternative medicine based on Indian principles of natural healing. It has been used for over 3,000 years to relieve stress, increase energy level and improve concentration. Ashwagandha is Sanskrit for smell of the horse, which refers to both its unique smell and ability to increase strength. Its botanical name is *Withania somnifera*, and it's also known by several other names, including Indian Ginseng and Winter cherry. The Ashwagandha plant is a small shrub with yellow flowers that's native to India and North Africa. Extracts or powder from the plant's root or leaves are used to treat a variety of conditions. Many of its health benefits are attributed to its high concentration of withanolides, which have been shown to fight inflammation and tumor growth.

### KEYWORD

Herbs, Tomentose branch, Cambium, Companion cells

### INTRODUCTION

Ashwagandha, known commonly as *Withania somnifera*, Indian ginseng, poison gooseberry, or winter cherry, is a plant in the Solanaceae or nightshade family. Several other species in the genus *Withania* are morphologically similar. Although thought to be useful as a medicinal herb in Ayurveda and sold in many countries as a dietary supplement, there is insufficient scientific evidence it is safe or effective for treating any disease.[1]

Vernacular name are- Sanskrit, Ashvagandha, Ashvakandika, Balada, Balaja, Gandhapatri, Vajigandha, Vajikari, Vajiini, Palashaparni, Hindi, Asgandh, English, Winter cherry, Italian, Falso Alchechengi, Japanese, Ashwagandha, Aasoganda.[2]

## BIOLOGICAL SOURCE

It consists of the dried roots and stem bases of Ashwagandha.

## FAMILY

It belonging to the family of Solanaceae or nightshade family.

## GEOGRAPHICAL SOURCE

Ashwagandha is widely distributed from southern Europe to India and Africa.

## MORPHOLOGICAL CHARACTERS

This species is a short, tender perennial shrub growing 35–75 cm (14–30 in) tall. Tomentose branches extend radially from a central stem. Leaves are dull green, elliptic, usually up to 10–12 cm (4 to 5 in) long. The flowers are small, green and bell-shaped. The ripe fruit is orange-red.[3]

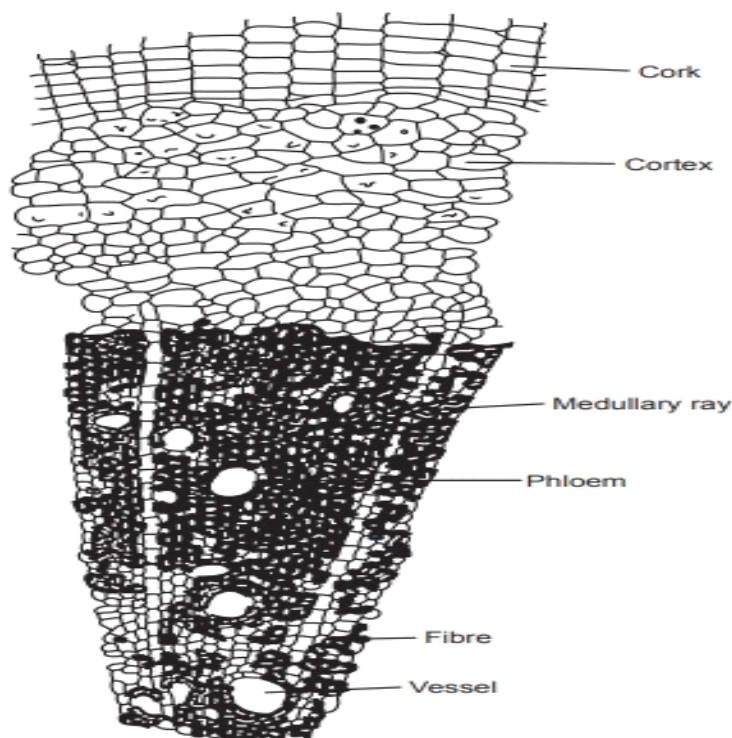


Morphological view of Ashwagandha

## MICROSCOPY CHARACTERS

T.S. of root shows cork exfoliated or crushed, when present isodiametric and nonlignified, cork cambium of two to four diffused rows of cells, secondary cortex about twenty layers of compact parenchymatous cells, phloem consists of sieve tubes, phloem parenchyma, companion cells, cambium shows four to five rows of tangentially elongated cells, secondary

xylem hard forming a closed vascular ring separated by multiseriate medullary rays and a few xylem parenchyma.[4]



Histological view of Ashwagandha

## CHEMICAL CONSTITUENTS

The biologically active chemical constituents of Ashwagandha include-

- Alkaloids (isopelletierine, anaferine, cuseohygrine, anahygrine, etc.)
- Steroidal lactones (withanolides, withaferins)
- Sитоindosides
- Acylsterylglucosides in Ashwagandha are anti-stress agents.
- Many of its constituents support immunomodulatory actions. The aerial parts of Ashwagandha yielded 5-dehydroxy withanolide-R and withasomniferin-A.[5]

## CULTIVATION AND COLLECTION OF ASHWAGANDHA

Ashwagandha grows well in sandy loamy or light red soil, having pH 7.5-8.0 with good drainage. It can be cultivated between 600-1200 m altitude. The semi-tropical areas receiving 500-750 mm rainfall are suitable for cultivation of this rained crop. The crop requires dry season during its growing period. Late winter rains are conducive for the proper development of the plant roots.[6]

Ashwagandha is usually grown in fields which are not well covered by the irrigation systems. The field on which food crops cannot be taken profitably for the above reason may be used for Ashwagandha cultivation. The soil of the field selected for Ashwagandha cultivation is

well pulverized by ploughing, disking and/or harrowing. The field may be then levelled by the application pata.

The crop can be sown either by broad casting or in lines. Live to line method is preferred as it in creases root production and also helps in performing intercultural practices properly. The seeds are usually sown about 1-3 cm deep in June- July in nursery. A light shower after shower after sowing ensures good germination. About 500-750 gm seeds are sufficient for 1 ha. field.[6]

The seedling after 25-35 days after sowing can be transplanted in the field marinating 60 x 60 cm. Spacing between the plants & the rows. It may be noted that since 'Asagnadh' is a rainy season Kharif crop, the time of sowing is decided by date of arrival of monsoon in that area.[6]

The seeds sown by broadcasting or in the line in furrows should be thinned out by hand at 25-30 days after sowing to maintain a plant population of about 30-60 plants per square meter (about 3.5 to 6 lakh plants/hectare). The plant density to be used may depend on the nature and fertility of the soil.

On an average yield from one hectare land under commercial cultivation is approx 3- 5 quintals of dried roots and 50-75 kg seeds.[6]

## THERAPEUTIC VALUE

- It is used to reduce cortisol level.
- It can boost testosterone and increase fertility in men.
- It is used for maintenance of cholesterol and triglycerides.
- It should be used to increase muscle mass and strength.
- It is also used to reduce blood sugar level.[7]

## SIDE EFFECTS

- Nausea
- Vomiting
- Diarrhea
- Bloating
- Skin reactions[7]

## CONCLUSION

In this review literature we are discussed about the Ashwagandha. It is broadly used in medical field. These are consist of following chemical constituents and each and every constituents are play various therapeutic value.

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