YELLOW SHATAVARI

Commercial Cultivation & Contract Farming

QUEEN OF HERBS

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Agroventures Pvt Ltd
Farmer's e-Buddy

INTRODUCTION:

Satavar or Shatavari (Asparagus gonoclados) is a plant of the Liliaceae family with medicinal properties. It is also known as 'Shatavar', 'Shatavari', 'Satmool', 'ಹಳದಿ ಶತಾವರಿ', పసుపు శతావరి, and மஞ்சள் சதாவரி. This plant grows all over India, Sri Lanka, and the entire Himalayan region. This plant is found in all types of forests and plains. In Ayurveda, it is considered the 'Queen of Medicines'. Its lumps or tubers are used. Asparagus is self-generated in the forest. Since it also has medicinal value, it is also commercially produced. Its plant is one meter to two meters tall in a thorny vine-like form with many branches. Its roots are in the form of bunches. The leaves of its viney bush are thin and needle-like. Its fruit is round like a pea and turns red when ripe.

KNOWING SHATAVARI FARMING:

- There are two different types of shatavari, one is white colored and the other one is yellow in color. The medicinal benefits of these two have not much difference but the yellow shatavari gives a spectrum benefit.
- The price value of yellow shatavari is much higher than white one. Yellow shatavari is mostly found in the upper parts of the Himalayas and Nepal. White shatavari is commonly found in southern parts of Asia, Africa, Sri Lanka, and some parts of Australia.
- The sustainability of these herbs has become very crucial and important at this point in time and so it has been declared as an endangered species in its natural vegetation.
- To maintain sustainability one should harvest the natural resources (biotic)to a minimum quantity and leave the fruits, seeds, flowers, or regenerating parts of the particular plant there itself and allow regeneration.

MEDICINAL USES:

- Shatavari roots are used mainly as galactagogue which stimulates the secretion of breast milk.
- It is applied in improving the lost body weight and also known as an aphrodisiac.
- The root is useful in treating the ailments like dysentery, tuberculosis and diabetes.
- Commonly, it supports to maintain the health by giving immunity to diseases.
- It is considered as very good energy provider to the weak body system.

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SOIL REQUIREMENT:

Generally, Shatavari can be cultivated in different types of soil, such as black soil, medium black, red loam, clayey soil, rocky soil, and light soil having a pH value of 7-8, electrical conductivity - 0.15, organic carbon 0.79% and Phosphorus should be 7.3 kg/acre.

CLIMATE AND IRRIGATION:

This crop can grow well under different agro-climatic conditions. Asparagus is tolerant to drought as well as low temperatures. It can be cultivated at 10° to 45° temperature and 25°-35° temperature is considered optimal for the development of plants and roots. It can be easily grown upto 1400 m above sea level in sub-tropical and sub-temperate agro-climatic zones.

AGE OF CROP:

Asparagus is generally a crop of 18 months, which is considered optimal time for the full growth of its roots, but for some reason, it can be removed even if it is delayed. It is also cultivated for 3-4 years in the southern part of India.

LAND PREPARATION:

Asparagus cultivation requires good land preparation, as its economical part is underground, to make the land well-pulverized. Plough the land 1.5 feet deep and spread organic manure in a good quantity, and make the soil fine, loose and friable by mixing soil and manure.

MANURES AND FERTILIZERS:

Organic manures and fertilizers should be used in asparagus cultivation, organic fertilizers such as-

- **Vermicompost-** provides a dressing element and nutrition for the plants,
- **Neem cake-** kills insects present in the soil,
- **Gypsum powder-** helps keep the soil loose and friable,
- **Trichoderma Powder (Fungicide)-** useful in killing harmful fungi present in the soil.

SELECTION OF PLANTING MATERIAL :

Asparagus is propagated by root suckers or seed. In commercial cultivation, preference is given to its root suckers as compared to seeds, due to which the plant grows quickly and its harvesting comes earlier than cultivation by seeds. The plants planted in the soil must have at least 2-3 root suckers.

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PLANTING METHOD:

Asparagus can be planted on flat ground and also by making beds. Asparagus is a bushy and thorny plant, so the most popular way to plant it is to plant it on flat ground, which can save the cost of making beds. Shatavari roots are planted at a distance of 2 ft x 2 ft. i.e. the distance from plant to plant is 2 feet and the distance between two rows is 2 feet. Accordingly, 12,000 plants are planted in one acre.

By another way, make a 2 feet wide bed in soil whose height is up to 1 foot. The use of plastic mulching sheets to cover the top of beds in asparagus cultivation can reduce the cost of weeding. Along with this, the use of drip irrigation can save a lot of water and other expenses. 15-25% increase in production has also been seen by using these methods.

PLANTING TIME:

Yellow Shatavari can be planted throughout the year, provided adequate irrigation and proper drainage facilities are available. However, planting during the onset of the monsoon is generally preferred to ensure better establishment and early growth.

PLANT TREATMENT-

Before planting roots suckers or saplings must be treated. Take 10 liters of water in a vessel, and mix 2 liters of cow urine add 100 grams of Trichoderma powder in it. Keep asparagus roots in the solution for 5 to 10 minutes, take them out and plant them in the soil. Bury the roots of the saplings in the ground at a fixed distance and place. Irrigate immediately after planting in the entire field.

IRRIGATION:

Irrigation should be applied regularly at an interval of 4-6 days for one month and thereafter irrigation should be done at weekly intervals. Do not allow water to stagnate in the field during or after irrigation. Drain the rainwater out of the field as soon as possible. But keep in mind that the roots of the plant must have moisture at all times. The water holding capacity of soil and the requirement of watering may change according to the season.

WEEDING:

Weeding should be done regularly during the initial period of growth. While removing weeds, it should be kept in mind that the growing roots of plant must not be harmed in any way. About 6-8 hand weedings are required to keep the crop free from weeds. The first weeding should be done 60-80 days after sowing and the second weeding should be done after one month, but if the weeds have already grown and it seems that the crop is getting affected, then one weeding can be done even before that. Along with this, hoeing should also be done from time to time for good air circulation.

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Krasopa

MAJOR DISEASES & CONTROL

During the cultivation of Shatavari, selected diseases and pests are found such as-

- **Root rot-** This disease occurs caused by fungus and due to excessive moisture in the soil.
- **Fungus roots**- The outbreak of this fungus can be seen if stubble of previous crop is present in the soil.
- **Rust on upper leaves-** Due to this disease, brown spots appear on the leaves, due to which the leaves dry up.

Except for these diseases, Shatavari is not affected by other diseases.

HARVESTING & YIELD:

Shatavari crop becomes ready for harvest after 18 months, while digging keep in mind that its roots should not be cut, peeled, or left in the soil. By scientific methods of cultivation, farmers in many states of India are currently producing 5 to 7 kg of roots per plant. Generally, assuming the yield of Shatavari yields 1 to 2 kg fresh wet roots per plant, about 12000 to 14000 kg (12-14 tons) wet roots are obtained per acre.

After peeling and drying, the dry root weight remains up to 30-35 percent. In this way, at least 2500 to 3000 kg of dry roots are obtained in one acre having Rs.250 to Rs.450 per kg price in the market.

POST HARVEST TECHNIQUES:

Shatavari roots are taken out from the ground, washed with clean water and then its upper skin is removed. To remove the peel, the roots are boiled with water for 10-15 minutes and the peel is removed from it. After removing the peel from the roots, they are kept to dry in a shady place where there is movement of air.

Generally, Shatavari roots get completely dry in 4-5 days. After drying the roots, they are packed in clean sacks for taking to the market.

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TOTAL COST PER ACRE (18 Months)

PARTICULARS	WORK	1st YEAR	2nd YEAR
Land Preparation	Ploughing, levelling, etc	5,000	-
Fertilizer	Organic Fertilizers, Pesticide & Growth Booster	20,000	-
Planting Material	12000 Plants @ Rs.8/- per plant	96,000	-
Sowing	Labour cost for sowing plants	5,000	-
Irrigation	Labour and Electricity required for Iriigation	5,000	5,000
Mulching	Removing weeds Machanically/ Manually	15,000	-
Harvesting	Digging, Boiling, Piiling & Drying	-	85,000
Packing	Bags for packing harvested material	-	5,000
Transportaion	Transportation of Plants/Fertilizer and Harvested Material	15,000	25,000
Maintanance	Labour for fertigation, pest & disease management and General care	15,000	10,000
Total Expenses		**176,000**	**130,000**
Total Cost (1.5 Years)		**Rs.306,000/-**	

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TOTAL OUTPUT PER ACRE (18 Months)

PRODUCTION	AMOUNT
Net Yield (Dry Shatavari Roots)	2800 Kilograms
Buyback Rate (Per Kg)	Rs.400 per kg
Total Output	**Rs.1,120,000/- (Eleven Lakh Twenty Thousand Rupees)**
Total Cost Per Acre	Rs.306,000/-
Net Profit (1.5 Year)	**Rs.814,000/- (Eight Lakh Fourteen Thousand Rupees)**

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IMPORTANT NOTE:

1. The per acre cost of cultivation and expected output mentioned in the table above are approximate values derived from our practical experience and supported by data from select top government institutions. These figures are provided for reference and understanding. Please note that actual output may vary based on several factors such as season, geographical location, climatic conditions, soil fertility, and crop management practices.

2. For specific crops, we recommend the use of mulching sheets and drip irrigation systems for the cultivation of this crop. These practices help conserve water and reduce weeding costs. While it is possible to achieve good production without using mulching and drip irrigation, the cost of weeding will likely increase considerably. In such cases, farmers may opt for mechanical methods to manage weeds. A standard estimate for weeding cost has already been included in the calculations, but it may vary depending on the season and local conditions.

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CROP CULTIVATION GUIDE

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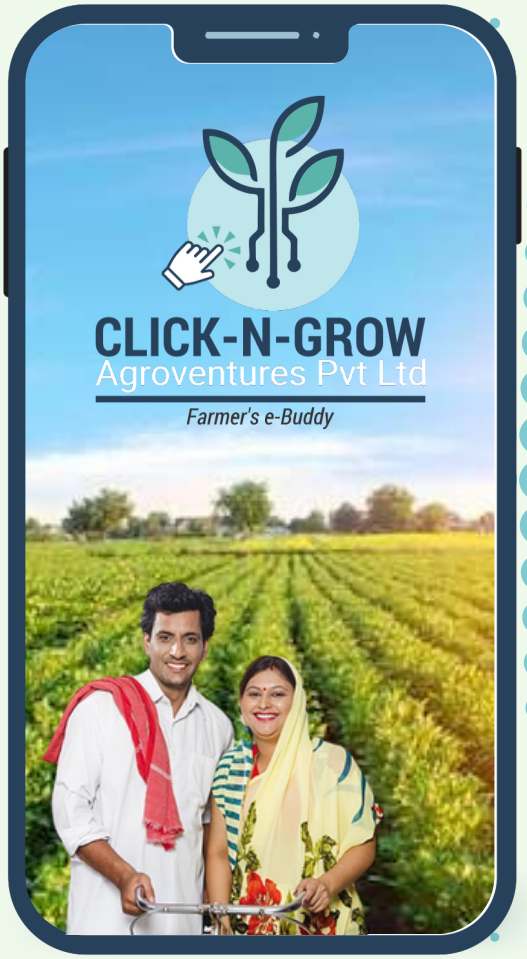

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INTERLINKED FARM SOLUTIONS AT ONE PLACE

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