

# “SAFED MUSLI”

**Commercial Cultivation & Contract Farming**

**DIVINE MEDICINE**



## INTRODUCTION

Safed Musli can be cultivated successfully all over India (except in the colder regions). Safed Musli (*Chlorophytum borivilianum*) is known as Safedi or Dholi Musli, which is a plant of the Liliaceae family. It has the ability to remove the weakness in the human being. Safed Musli is an important chemical and an effective aphrodisiac medicinal plant. It is also used for the treatment of cough, asthma, piles, skin diseases, jaundice, urinary diseases, leucorrhoea, etc. However, the major use for which it is most promoted is that - to treat impotence and increase sexual power and strength. It has also proved to be very effective in the treatment of diabetes.

## MEDICINAL USES

1. Safed Musli is a natural medicine, which provides energy to the body.
2. Consumption of vitamins, minerals and antioxidants found in it improves health.
3. It is helpful in increasing strength, removing sexual problems and enhancing physical capacity.
4. Its use can increase the body's immunity, which helps in fighting diseases.
5. Safed Musli is also called "Shukravardhak" in Ayurvedic medicine, which protects sexual health.

## SOIL REQUIREMENT

Selection of suitable soil is important for Safed Musli for good growth and development of crop. Following are the soil conditions suitable for Safed Musli-

**Loam Soil:** It is considered to be the best soil for plants, because it has stability and suitability. Loam soil should be high in lime and well drained.

**Soil pH:** Soil pH for Safed Musli should generally be 6.0-7.0. Soil with good buffering capacity.

**Good Drainage:** Soil should be well drained, so that water does not stagnate and plants can be protected from root rot.



## CLIMATE REQUIREMENT-

There can be different climatic and weather conditions for growing Safed Musli. It is a wild plant which can be grown in different terrains due to the diversity of Indian

weather and climate. This plant can be easily grown in Central India, South India, Eastern India, as well as in Western India along with Uttarakhand, Himalayan region and upper regions of Jammu and Kashmir.

**Temperature:** The suitable temperature for the cultivation of Safed Musli is 20-30 degree Celsius. It can grow well even in high temperature areas, but it should be protected from very cold places.

**Rainfall:** Rainfall should be between 600-1000 mm. It is accustomed to rainfall, so safe rainfall from time to time is also important.

**Light:** Safed Musli likes good sunlight, so there should be abundant direct sunlight in the field.

## PREPARATION OF FIELD

Safed Musli is an 8-9 month crop. It is planted in monsoon and harvested in February-March. For good yield, the fields must be deeply ploughed in summer. If possible, sow dhaincha, sunhemp, guarfali for green manuring. Field preparation for the cultivation of Safed Musli is important, as it grows inside the ground, so it is necessary to make the land friable. Plough the land 1.5 feet deep, spread a good amount of organic manure in it, then mix the soil and manure. And make the soil fine, loose and friable. Make 2 feet wide beds whose height is up to 1 foot. Using plastic mulching sheets to cover the top of the beds as it can reduce the cost of weeding. Along with this, the use of drip irrigation systems for irrigation, also saves a lot of water and other expenses. 15-25% increase in production has also been seen using these practices.



## MANURES AND FERTILIZERS

Organic manures and organic fertilizers are used in the cultivation of Safed Musli. After deep ploughing and levelling of the field, add farm yard manure and get it plough with rotavator for good mixing. After this apply water to the field. When the soil starts to appear dry from above, then make the soil loose by running the rotavator. Farmers can also use compost instead of farm yard manure. At the time of germination of plants, 20 kg of organic nitrogen has to be applied per hectare.

## SEED TREATMENT AND PLANTING

Seed is required at the rate of 300 kg seed or 30000 tubers per acre. Before sowing, the seeds are treated organically. Tubers are treated by immersing them in cow urine and water (1:10) for 10 to 15 minutes. Pits are made for sowing. The depth of the pit should be of the length of the tubers. Plant the seeds/ tubers in these pits and cover them with soil lightly.

## VARIETIES OF SAFE MUSLI

Many varieties of Safed Musli are found in the country. **AK-01, AK-02, AK-03, MDB 14, RC-5, RC-15, CTI-2 and CTI-17** varieties are good in terms of production and quality. Peeling this variety is easy. In these varieties, the thickness of the roots or tubers is uniform from top to bottom. Many tubers (2-50) are found together in the form of clusters.



## METHOD OF SOWING

After preparing the field, beds 1 to 1.5 feet wide and 1 feet high from the ground are made. As soon as the rainy season starts (around May 15 to July 15), holes are made in these beds with the help of stick, keeping a distance of  $6 \times 6$  inches from row to row and plant to plant at 1 inch depth. Before sowing if there is no rain, irrigate the field. In each hole, one crowned finger or tuber is planted. If the finger is very small then planting can be done by joining 2-3 fingers



but some part of the crown should remain attached to all the fingers. If the seeds are large (more than 5 grams) then the distance of  $6 \times 6$  inches can be increased. The finger should be placed straight in the ground i.e. the crown part is on top and the end of the finger is on the bottom. After planting, soil should be poured on it by hand or the hole should be closed from above. In this process, usually one person keeps making holes with the wood and the other keeps planting the fingers.

**Growth and development of plants:** After a few days of sowing, the plant starts growing and leaves start appearing in it. Meanwhile, flowers and seeds appear and in the months of October-November, the leaves automatically dry up and fall and the tubers of the plant remain underground.



## IRRIGATION AND WEEDING

Muesli is planted in the rainy season. If there is regular rainfall, irrigation is not required. During irregular monsoons, give one irrigation in 10-12 days. After October, light irrigation should be applied for every 20-21 days. Maintain moisture in the field till the crop is uprooted. Due to water logging or excessive irrigation, root rot can occur. To prevent root rot, further irrigation is stopped and stagnant water is drained out of the field. After transplanting, irrigate through drip or open water channels. It starts growing within 7 to 10 days after sowing.

## DISEASES AND CONTROL

There can be an outbreak of Fusarium fungus on the plants. For its treatment Trichoderma viride can be used. The use of neem cake has been found best for termite protection. As a safety measure, cow urine solution must be sprayed on the crop at least once in 15 days. Similarly, by spraying cow urine or neem oil mixed with water at regular intervals, the crop remains completely free from diseases or insect worms.





## HARVESTING

The most appropriate time to dig Musli from the ground is after November. Do not remove it from the ground until the musli peel becomes hard and its white color changes to dark brown. The time for uprooting Musli is till the end of February. After digging it is used for two purposes:

- To keep or sell as seeds
- Peel it, dry it and sell it

To keep them as seeds, keep the tubers in the shade for 1-2 days after digging so that the excess moisture gets reduced, then treat them with anti-fungal medicine and keep them in sand pits, cold air, and cold chambers.

To dry and sell, the fingers are separated and peeled with the help of a knife or peeler and kept in the sun for 5-6 days. Once dried properly, it is packed in bags and sent to the market.

## STORAGE FOR SEED OR PLANTING MATERIAL

If Musli is to be used as planting material, then it should be dug in the month of March itself. At this time, after digging the musli from the ground, some part of it is processed (peeled and dried). While some part is kept for use in the next season as seed (planting material) or for sale.

## YIELD

If 2.5 quintal seeds per acre is used, then about 15 to 17 quintals of wet musli will be obtained. The farmer should expect to produce an average of 1.5 to 1.7 tonnes of wet root per acre. About 80% weight is reduced by peeling and drying them, in this way up to 300-500 kg of dry root per acre could be obtained from one acre.

## GRADING

**"A" Category** – Long, thick, hard, and white. It sticks to the teeth when pressed. Usually, its price in the market is Rs.1000-1200 per kg can be found.

**"B" category** - Musli of this category is somewhat better than "C" category musli and lighter than the "A" category. its price in the market is Rs.500-800 per kg upto can be found.

**"C" category** - Often selected from the "B" category or rejected from the "A" category, It is usually very small in size, thin and brown-black in color. The average rate of muesli of this category in the market is 200 to 300 rupees. per kg.



## SUBSIDY BY GOVERNMENT OF INDIA

The market for safed musli is estimated to increase further by about Rs 900 crore. Given this, the National Medicinal Plants Board (NMPB) has announced a 20-30 percent subsidy to the farmers on the cultivation of Safed Musli.

## TOTAL COST PER ACRE

PARTICULARS	WORK	EXPENSES
<b>Land Preparation</b>	Ploughing, levelling,etc.	5,000
<b>Organic fertilizers</b>	Organic insecticides, growth boosters, etc.	20,000
<b>Planting Material</b>	300 kg tubers @ Rs.500/- per kg	150,000
<b>Sowing</b>	Sowing roots on bed	5,000
<b>Weeding</b>	Removing Unwanted Weeds	25,000
<b>Harvesting</b>	Digging out mature roots	5,000
<b>Post-harvest Expenses</b>	Peeling, drying and packaging	30,000
<b>Other Expenses</b>	Packing, Transport, Fertigation, Electricity etc	10,000
<b>Total Expenditure (6 months)</b>		<b>Rs.250,000/-</b>

## TOTAL INCOME PER ACRE

PRODUCTION	WEIGHT (KG)	BUY BACK PRICE (PER KG)	TOTAL INCOME (RS.)
Net Yield (Dry Roots)	400 kg	Rs.1200/-	480,000/-
Seed for next season (wet roots)	150 kg	Rs.400/-	60,000/-
<b>Total income</b>			<b>540,000/-</b>
Total expenditure (6 months)			250,000/-
<b>Net Profit/ Income (6 months)</b>			<b>290,000/-</b>



## 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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