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# Safed Musli (*Chlorophytum borivilianum*) Cultivation in India

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Safed Musli (*Chlorophytum borivilianum*) is a tuber crop belonging to the family *Liliaceae*. It is partly a herb with sub-erect lanceolate leaves. There are about 256 species of *Chlorophytum* and 17 among them are found in India. Among these, *Chlorophytum borivilianum* has good market both indigenously and globally. It is an annual crop capable of giving good returns to farmers under irrigated conditions. Safed Musli is found growing in thick forests in its natural form. The roots of safed musli is reported to contain 2-15% saponin, which has the medicinal property of enhancing vitality and immunity to human beings. It also helps in correcting gynaecological disorders. There are many other therapeutic uses of safed musli where dried tubers are used as a curative for pre-natal and post-natal illness, arthritis, restorative and a health tonic etc. Because of its medicinal property, safed musli is known as divya aushadhi and ayurvedic anori. Safed musli is naturally grown in the hilly areas of Gujarat, Rajasthan and Madhya Pradesh.

## Climate and Soil

Safed Musli can be grown in hot and subtropical climate. Normally the agro climatic conditions suitable for potato, onion and garlic are also suitable for safed musli crop. Well drained soils with rich mineral content is ideal for this crop. Hard and acidic soils are to be avoided.

## Propagation

Fingers or tubers are commonly used as planting material. Before planting, the fingers are separated in such a way that each finger has a portion of crown disk attached to it. Seeds can also be used for planting, but for good results fingers are preferred. Tissue culture plantlets can also be used for planting.

## Planting

Being a *Kharif* crop, sowing starts with the onset of monsoon. Planting of fingers is done in beds or ridges depending on the slope and drainage of the soil. Generally fingers are planted at a distance of 35 to 40 cm. About 80,000 fingers weighing 10-12 q are required for planting in one hectare.

## Irrigation

For good growth and better development apply irrigation at the interval of 20-22 days. In rainy season, irrigation is not required but in the absence of rains irrigation is required at proper intervals. Depending upon climate and soil irrigations may vary.

## Manuring

Vermicomposting, well decomposed organic manure and FYM are the major sources of organic manure. 30 to 35 t/ha of organic manure is applied to take care of the major and micronutrient requirements of the crop and also soil conditioning, biological activity enhancement etc.

## Weed Control

Do frequent weeding, hoeing and earthing up and keep field weed free till 3 months. One post-emergence weeding is done and two weeding are done to keep the field weed free. If any deficiency is seen in growth of plant then immediate required spray should be given.

## Plant Protection

Diseases like leaf spot, anthracnose and wilt affect this crop. Spraying of neem or chrysanthemum or tobacco extracts (up to permitted levels) or application of *Trichoderma* etc., are adopted under organic growing. Plant extracts and biological agents are also used for pest control.

## Harvesting

Three to four months after planting, the leaves start yellowing. Subsequently they become dry and fall off and get detached from the tuber/disc. The moisture level in the soil should be maintained for another two to three months. After this, the skin of tubers mature and it turns dark brown. At this stage the tubers and fingers are dug out.

## Yield

On an average the crop gives a yield of 40-50 q of wet musli tubers per ha. After peeling and drying nearly 20% dry musli (8-10 q) is finally obtained.

## Processing

After digging out the musli tubers from the soil, they are thoroughly washed in fresh water. The large and healthy fingers are separated from the tubers and the small ones are kept aside to be used as planting material for the next season. The large fingers are taken for processing. The outer brown skin is peeled off with a stainless steel knife and sun dried for three to four days. Dried fingers are packed in polythene bags and sent to the market.