

Storage of Fleshy Roots of *Chlorophytum* Spp. (Sefed Musli) Liliaceae, on large scale

Nandkishor S. Zade

Department of Biotechnology
S. R.R. Lahoti Science College, Morshi- 444905
Dist -Amravati (Maharashtra),India

ABSTRACT

Chlorophytum Spp. (Safed musli) (Liliaceae), is a medicinal plant which is mostly growing in the hilly areas of Melghat forest (M.S.) Plants are used by the tribals as crude drug for general health and are exported for manufacturing medicines.

The object of this study was to find out the suitable conditions of storage for sprouting of fleshy roots of *Chlorophytum tuberosum* (Roxb) Baker and *C. borivilianum* Sant. on large scale. Keeping this in view a few laboratory studies has been taken up as under.

The present study reveal that maximum sprouting was observed in case of 20 % Keoline treatment, followed by spread of keoline powder. Further, study also confirm that Fungicides-Thiram doses were found best in reducing the rotting of tubers in storage. The method of separation of Fleshy roots safed musli is also discussed.

Key Words : Storage, Fleshy roots of *Chlorophytum* Spp.

Introduction & Review of Literature :-

The Melghat tract on Amravati division covering in areas of about 2200 Sq. Km. is a terrain of Satpura ranges covered by a forest of fairly good status. (Dhore and Joshi,) 1986 Several herbaceous Medicinal plants are growing in the shade of other plants. (Mahabale, 1987, Zade, 1997) Due to over exploitation for commercial purposes, causing threat to their existence.

The Safed Musli:- (*Chlorophytum* Spp. is mostly growing in the hilly areas of Melghat forest Plants are used by the tribals as crude drug for general health and are exported for manufacturing medicine (Zade, 1997,2001) The object of this study was to find out the suitable conditions of storage for sprouting of fleshy roots and saving drying of stem disc. If the stem disc dries up then the sprouting of fleshy root is affected. The other object is to find out suitable method of separation of Safed musli fleshy roots, and identifying a suitable antitransparent for storage fleshy roots for sowing purposes.

Materials and Methods :-

Wild varieties of Safed musli *Chlorophytum tuberosum* (Roxb) Baker, and *C. borivilianum* Sant. were collected from Satpura ranges of Melghat forest area of Maharashtra. Thus were collected in the field and evaluated for further generation. Till sowing, the stem disc of separated

fleshy roots dries up. Hence suitable method is required to be developed to store them. View few laboratory studies has been taken up. Under different conditions.

- i) The fleshy roots were separated from the bunches with the help of blade. It must be ensured that some part of the crown disc remains intact with all the fingers which are to be used for sowing. Various treatments were given, e.g. water mixed with sand.
- ii) To identify antitranspirants fleshy roots were dipped in 20 % keoline, Mustard oil etc. and.
- iii) To findout to suitable fungicides, for controlling rotting of tubers, they were treated with Carbandazin, Monoacazab, Copper oxychloride, Thiram, Captan etc.

Observations :-

Table1 :- Effect of Antitranspirants on Storage of separated fleshy roots

S. No	Treatment	No. of fleshy roots	Sprouted after	
			15 Days	30 Days
1	Control (Kept open at room temp)	25	01	10
2	Distilled water	25	00	14
3	Dip. In Mustard Oil	25	00	00
4	Packed in polythene bags	25	00	14
5	10 % Keoline	25	00	18
6	20 % Keoline	25	00	22

Tubers of *Chlorophytum* were treated with different fungicides separately and stored in polythene bags at room temperature till June, when the tubers germinated in situ.

Table 2 :- Showing Fungicides and their doses

Treatments	Doses
1) Control (Kept open at room temp)	---
2) Carbandazin	1 and 2 g/ Kg
3) Manocazab	2.5 and 4 g/Kg
4) Copper oxychloride	2.5 and 4 g/Kg
5) Thiram	3 and 4 g/Kg
6) Captan	2.5 and 4 g /Kg



Fig.1 Fleshy roots of *Chlorophytum borivilianum* (With mixed sand)



Fig.2 Fleshy roots of *Chlorophytum borivilianum* (Sprouted After)

RESULTS AND CONCLUSIONS

It was observed from the experiment that the maximum sprouting was noted in storage of fleshy roots treated with Water mixed sand, and Kept in the polythene bags. In another experiment the Fleshy roots. were separated from the bunches with the help of sharp blade. It must be ensured that some part of the disc remains intact with all the fingers which are to be used for sowing. The various treatments were given as mentioned. The observations indicate that the

incubation of blade separated among fleshy roots at 20 C was the best all the treatments. In general the blade method of separation of fleshy roots appeared better than hand separation;

To identify a suitable antitranspirant for storage of fleshy roots for sowing purposes. The cleaned fleshy roots bunches treated by dipping them in different media. After treatment they were kept at room temperature. Then they were packed in the polythene bags. The observations recorded after 15 - 30 days of treatment. The maximum sprouting was observed in case of 20 % Keoline treatment followed by spread of Keoline powder

To find out the suitable fungicide for controlling the tuber rot *Chlorophytum* Spp. in storage. Observations revealed, that the out of five fungicides used. Thiram and captan fungicide doses were found best in reducing the rotting of tubers in storage. While Carbandazin enhanced the germination of un-rotted tubers in storage, followed by Thiram and captan. However Carbandazin was poor in controlling the rotting of tubers in storage.

REFERENCES

- 1) **(Anonymous 1987)** Red data book of Indian Plants, Eds. Nair and Sastry, B.S.I, Vol.1, Calcutta,
- 2) **Dhore M.A. and Joshi P. A. 1986** "Flora of Melghat Tiger Reserve" Directorate of Project Tiger, Melghat.
- 3) **Mahabale T.S. 1987.** "Flora of Vidarbha In Maharashtra State Gazetters Botany-IV,ed. Choudhari K.K. .
- 4) **Zade N.S. 1997** Conservation and cultivation of Wild varieties of *Chlorophytum* Spp.(Safed musli) Liliaceae. Proc.84 Ind. Sc. Cong. Part-III(Abstract)pp-120
- 5) **Zade N.S. 2001** "Evaluation and multiplication of Germplasm of Safed musli, *Chlorophytum borivillianum* sant proc. 86 Ind. Sc. Cong. Part-III(Abstract)pp-45