

Efficacy of Carbendazim against *Fusarium Solani* Causing Tuber-Rot of Safed Musli

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Abstract:

*In order to know the efficacy of Carbendazim for the preliminary management of *Fusarium solani*, a causal organism of tuber rot of safed musli the present study was carried out. Carbendazim @ 3.0 % was proved to be the best in reducing the growth of the fungus.*

Key words: Tuber rot, fungicide treatment, crop yield.

Introduction:

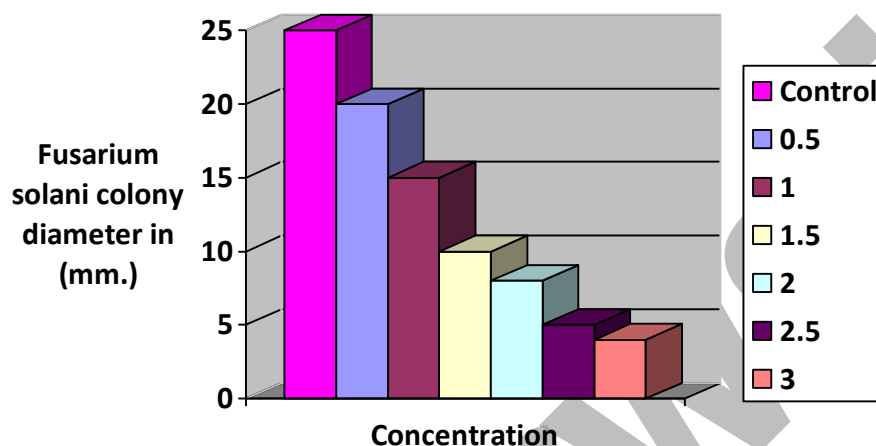
Safed musli (*Chlorophytum borivilianum*) is a herb belongs to the family Liliaceae. In India it is considered as a valuable medicinal herb. The roots are rich in alkaloids, proteins, Vitamins, minerals carbohydrates, saponins and steroids of various therapeutic values as total rejuvenator, antioxidant and immuno modulator (Singh and Chauhan, 2003). This species has low rate of Regeneration and prone to attack by many diseases, among them the tuber rot and crown rot are more prevalent. Since the cultivation expenses are very high, it is mandatory to get disease free product (Kothari and Singh, 2001) Hence, in the present study to overcome the problem of tuber rot attempt have been made using fungicide treatment (Raghvendra et.al., 2005)

Materials and methods:

The infected tubers of safed musli were collected from the field. Tuber rot causing fungus i.e. *Fusarium solani* was isolated from the rotted tubers and maintained in the laboratory as per the method given by Aneja (1993) for further studies. In order to find out an effective treatment to manage the incidence of *Fusarium solani* in tubers and to improve its yield, in the present study the fungicide carbendazim of different concentrations were amended to Potato Dextrose Agar medium. Then uniform culture discs of 5 mm. diameter were prepared from the eight days old actively growing colonies of *Fusarium solani* and were individually plated on the poisoned medium and plates were incubated for a period of one week under 12/12 h alternate cycles of near ultraviolet light and darkness at $22\pm 2^{\circ}\text{C}$ according to the procedure of (Anonymous, 1996). On eighth day of incubation the diameter of the fungus was recorded based on the average of three replicates. While measuring, four different

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sectors of each colony were considered to get consistent data. In this case also the cultures grown on PDA plates unamended with chemicals were served as controls.



Results and discussion:

Data indicated in fig. provides the details of the colony growth of the causal organism *Fusarium solani* which was treated with carbendazim. Carbendazim @ 3% indicated the reduced growth of the fungus i.e. *Fusarium solani*. Same results were obtained by Raghvendra et. al, as in case of tuber rot of safed musli caused by *Fusarium solani*.

References:

- 1) Aneja K.R. (1993): 'Experiments in microbiology and plant pathology', tissue culture and mushroom cultivation, Wish Prakashan, New Age International Pvt. Ltd.
- 2) Anonymous, (1996): 'International Rules of Seed Testing Association', Seed science Technology., 29:335
- 3) Kothari S. K. and Singh Kamla, (2003): 'Production technique for the cultivation of Safed musli (*Chlorophytum boriviliannm*)', J Hort Sci. Biotech 78;261-264.
- 4) Raghvendra V.B., LOkesh S.T., Vasant Kumar and Shetty H.S. (2005): 'Compatibility of phyton with common fungicides and their role on the yield of safed musli', World Journal of Agricultural Sciences 1 (1):62-64.

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- 5) Singh Aparabal and H.S Chauhan (2003): 'Safed musli (*Chlorophytum borivilanum*): distribution, biodiversity and cultivation', Journal of Medicinal and Aromatic Plant Sciences 25; 712-719.

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