

## Evaluation of Gypsum as a Carrier in the Formulation of *Trichoderma viride*

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At present there is considerable pressure from public and environment scientists to go for biocontrol agents, to prevent the environmental pollution caused by pesticides. Use of *Trichoderma viride* Pers.exfr. was reported to be effective in reducing the propagules of seed as well as soil-borne pathogens (Papavizas, 1984). Ramakrishnan *et al.* (1994) developed a talc-based product of *T.viride*. Jeyarajan *et al.* (1994) reported that the talc-based *T. viride* when used for seed treatment @ 4 g/kg seed reduced the root rot of pulses and oilseeds. The cost of the talc powder is Rs.10/kg which has a major share in the production cost of *Trichoderma* product.

The present study was undertaken to identify an efficient and cheap carrier material for *Trichoderma* product. The materials used were

population was estimated by serial dilution technique and plating on potato dextrose agar medium supplemented with streptomycin sulphate.

The results revealed that gypsum was the best carrier for survival of *T.viride* when compared with others carriers, but thirty times cheaper than talc powder (Table 1). A suitable carrier material needs to be inexpensive and easily available (Gaind and Gaur, 1990). Harman (1991) reviewed various methods of seed treatment and found that solid matrix priming of tomato seeds along with *Trichoderma harzianum* Rifai increased the plant stand by 80% in *Pythium* - infested soil. Gypsum is inexpensive and easily available and hence it can be used for *Trichoderma* product preparation. The efficacy of gypsum - based *Trichoderma* for

Table 1. Survival of *Trichoderma* on various carriers

Carrier	Population of <i>Trichoderma</i> ( $10^7$ cfu/g) (Days after storage)					Cost of carrier/100 kg (Rs).
	0	30	60	90	120	
Talc	29.2	21.4	14.8	11.8	8.5	1000
Gypsum	28.6	22.0	16.0	12.5	9.0	35
Lignite	28.2	18.5	11.4	7.6	5.5	200
Kaolin	29.0	17.5	9.2	8.0	5.4	500
Peat	28.5	16.5	10.0	8.5	6.2	200
C.D. (P=0.05)	0.60	1.10	0.40	0.50	0.3	

talc, lignite, kaolin, peat and gypsum. *T. viride* was grown in yeast - molasses medium for 10 days. The homogenised broth culture was mixed with carriers, air-dried and packed in polythene bags. The treatments were replicated four times.

A sample of one g of the product was drawn from each carrier just before packing as well as on 30, 60, 90 and 120 days of storage and

controlling root rot disease needs to be further investigated in the field.

KEY WORDS: *Trichoderma viride*, formulation, gypsum

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