

Practical 10

SEED TREATMENT

Seed treatment with bio control agent and / or fungicides will not only control seed borne diseases but also soil borne diseases. This is the cheap and most economical method of plant disease control. Seed treatment can be done both in dry and wet states. The details pertaining to the fungicidal seed treatment are furnished in exercise no. 9 of this manual.

The seed treatment with bio-control agents can be done in two ways i.e. wet and dry treatments.

Wet treatment

1. Grow *Trichoderma viride* or *T harzianum* bio control fungi in Petri plates on PDA medium for 15 days for abundant conidial production.
2. Harvest the conidia from well sporulated agar culture plates with the help of a cotton swab into a clean beaker.
3. Prepare 1 ml of spore suspension of 10^6 to 10^8 load with the help of a Haemocytometer in a test tube.
4. Weigh 4 grams of seed and add to it 1 ml of spore suspension having stickers like Carboxy methyl cellulose 1 per cent to smooth surfaced seeds for 30 minutes. Seeds with rough surface do not require a sticker and treat the seeds before sowing.

Dry treatment

- Weigh 4 grams of *Trichoderma* talc formulation.
- Weigh 1 kilogram of seed to be treated.
- Add 4 grams of *Trichoderma* formulation to 1 kg seed and thoroughly mix them and use before sowing.

This treatment can be combined with fungicidal seed treatment provided the biocontrol agent and fungicide are compatible. The fungicide such as metalaxyl, carbendazim and mancozeb are compatible with bio control agents like *T viride*, *T harzianum* etc.

Note: Before combining fungicides with bio-control agents it is mandatory to know the sensitivity of bio-control agents with test fungicides.

Advantages: Combined treatment of seeds have a synergistic effect in controlling seed and soil borne diseases of crops.

Seed treatment with bio-control agents also promotes the seedling vigour, population stand under field conditions.