



Technical paper

Saprophytic fungi in peat

Saprophytic fungi are a group of fungi that break down dead plant matter. They are an essential part of the soil ecosystem, and without them plant litter including leaves and stems would decompose very slowly.

Saprophytic fungi are present in all soil systems, and usually they form dense populations. They are also present in peat soils, but at lower levels, and under the physical and chemical conditions of peat bogs their activity is slower and they are not able to fully break down the plant parts.

Large amounts of research have been carried out on saprophytic fungi as they can have some positive effects on plant growth. They break down complex organic molecules in the soil, releasing plant-available nutrients including nitrogen and phosphorus. Some have even been shown to suppress other fungi - plant pathogens - by displacing them in the plant root zone. Some of these are now commercially available as microbial fungicides.

Saprophytic fungi are not pathogens, and do not harm plant growth

There are a couple of common types of saprophytic fungi found in peat. These are species of the genus *Trichoderma* and *Peziza*.

Trichoderma

Trichoderma belong to a group of saprophytic fungi which inhibit the growth of plant pathogenic fungi. As *Trichoderma* prevent attacks from plant pathogens during cultivation, they are commonly used in several commercial fungicides. *Trichoderma can be a beneficial source of natural protection to plants.*

Spores of *Trichoderma* can be naturally found in peat, and under certain conditions, when the moisture, temperature and pH are right, the spores can germinate and *Trichoderma* fungi start to grow. Presence of *Trichoderma* is usually not visible to the human eye. In some conditions, e.g. when water condenses between the peat bale and the plastic wrapping, *Trichoderma* can be seen as a white growth on the surface of peat (Picture 1).



Picture 1. White spots of *Trichoderma* mould on the surface of peat.

Peziza

Another non-harmful but common saprophytic fungi found in peat is *Peziza ostracoderma*, commonly called cinnamon or peat mould. Like all saprophytic fungi, it lives on dead and decaying organic material such as peat. It is never found on living plants and does not have any pathogenic effects on plants. Cinnamon mould can be seen as yellow/orange powdery like growth on the surface of peat (Picture 2).



Picture 2. Peziza Ostracoderma is the yellow dust like mould on the surface of peat.

What to do if you see fungi growing in your peat?

1. **Peat is safe to use, and the fungi is not harmful to plants.** The issue is purely visual. Moreover, do not try to kill the fungi with fungicides.
2. If you see fungi in your peat, open the bag or bale and mix thoroughly. This will break up the fungal growth, and it will disappear from sight.
3. Like any microbes, saprophytic fungi need nutrients to grow. In some circumstances, the fungi may take up some of the available nitrogen that was added to the peat as a fertilizer. To counteract this, add sufficient fertilizer to the peat to prevent any plant nutrient deficiencies. Monitor your plants as they grow, and where necessary apply more fertilizer.
4. Once the peat is used for cultivation, the fungus will disappear and should not reappear.



5. If you are concerned about the fungal growth reappearing during cultivation, where possible allow the surface of the substrate to dry out periodically, and reduce the relative humidity of the growing area.

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