JIFFY PRODUCTS INTERNATIONAL BV
P.O. Box 199, 3330 AD Zwijndrecht
Lindtsedijk 20A, 3336 LE Zwijndrecht
The Netherlands
www.jiffygroup.com

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Mold in Substrates

If you work with substrates (especially when fresh peat is used), you probably have seen an unappealing mold growing on it. It doesn't matter if it was on the surface of a pot or inside a closed bale, that mold is often not well accepted by growers that tend to assume it might be pathogenic for their plants.

Peat is a very special material because it has been accumulating over thousands of years without decomposing. For that, it requires very specific conditions of low oxygen, pH and hardly any mineral nutrients, limiting the growth of any micro-organisms degrading the cellulose and lignin from the peat. Since there are hardly any superior plants in the bogs, we do not have the plant pathogens that would attack them and only saprophytic feeding on dead material can survive.

It's not like peat is sterile, it's just that it has reduced populations of micro-organisms and its effects take time to show. However, once the peat is aerated and fertilized with the right pH and nutrients, those organisms finally have the conditions to multiply.

One of the most commonly seen species is *Trichoderma sp.*, a fungus from a beneficial genus commonly used in natural plant protection products that take advantage of the inhibitive competition it imposes upon other micro-organisms once installed in the root ecosystem.
Also very common is the amber colored Cinnamon mold (*Peziza sp.*), which like the previous one is also a saprophytic fungus feeding in dead material and has no pathogenic character whatsoever.

Although growers can use substrate that already has mold growing in it without any problems, we do not want it to continue to develop during cultivation because consumers might be put off by the aesthetical nuisance. Proper ventilation, strong UV rich solar radiation and wet-dry irrigation cycles are often enough to prevent its development during the cultivation.

We tend to assume the mold we see is the actual fungus, but those are only its reproductive organs. The main body parts, the hyphae, lie deep in the peat and spreads unseen until the conditions are right to reproduce. Mold needs high humidity but never appears if the substrate is regularly irrigated from the top, by sprinklers or hose. Just like rain in the nature, the water droplets would disrupt the spreading of the spores, so you might take advantage of this particular irrigation system to prevent the appearance of mold. Also bear in mind that fungus cannot "eat" twice the same material and once it has completed its growth and reproduction cycle, it cannot grow twice in the same place. That's why old peat normally does not show any mold in it.

Do you want to enrich your substrate with Trichoderma sp.?
In our factories we can add T34 or Trianum G to your substrates or fertilize with DCM's Instant TD6 that has 6 different beneficial strains.

If you want to increase the presence of Bacillus in your substrates, we can add DCM's Vivisol and for the widest assortment of beneficial micro-organisms we can use our own EcoCom.

Miguel Meneses, PM Substrates