

Management of sciarids and phorids fly pests in mushroom cultivation

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The problem

Phorids (*Megaselia halterata*) and sciarids (*Lycoriella auripila*) are two very common pests in mushroom cultivation. Phorids are attracted by the smell of growing mycelium and sciarids by the smell of freshly pasteurised compost. These insects act as vectors of other crop diseases (trichoderma, dry bubble and wet bubble, cowbeb). Their larvae feed on the mycelium and affect mushroom quality and productivity.

The solution

Growers have several tools with which they could prevent or limit the presence of these insects:

- Add filters on air intakes and windows, use sticky traps, UV light traps.
- Coating entrances, floors and walls with paraffin oil.
- Deltamethrin-based pesticides are also available to fight these pests.
- Other biological control methods are based on the use of nematodes that feed on the larvae and eggs of these insects.

Benefits

Applying the recommendations will result in a reduction in fly incidence, which makes mushroom cultivation more profitable.



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Practical recommendations

(1) Cultivation measures:

- Placing screens and filters at access points such as air intakes and windows.
- Avoid adding compost and covering during the middle of the day, as high temperatures make insects more active.
- Placement of sticky traps in the crop.
- Placement of light traps with UV-B light. A simple system is to place UV-B light covered with paraffin oil-coated plastic.
- Coat access points to the crop with paraffin oil: doors, windows, floors and walls.
- It might be advisable to use authorised insecticides around the building where the crops are.
- Growers could use deltamethrin-based insecticides in the cultivation rooms, but safety deadlines must be considered.
- Avoid using peat that has been left outdoors unprotected, as it may contain fly eggs, which will hatch during cultivation.
- As a biological control against these insects, there are products with nematodes that feed on the larvae and eggs.

(2) Workers measures

- These insects can easily stay in the hair. Always wear hats when entering a crop.
- Do not leave doors open. It facilitates the entry of these flies.
- If we have been in a crop with a high density of these insects, it is advisable to change clothes.



About BIOSCHAMP and this Practice Abstract

This practice abstract was elaborated in the **BIOSCHAMP project**, based on the EIP AGRI practice abstract format. © 2024

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Goal: develop an integrated approach to tackle the mushroom cultivation challenges, improving the mushroom sector industrial profitability while reducing the agronomical need for pesticides by 90 %.