Bacterial Diseases

Blotch (*Pseudomonas* spp.)

**Symptoms:**
- Discoloration that leads to lower fresh quality
- Pale yellow at first, then darkens to golden yellow to brown (Figure 1)

**Control:**
- Keep the mushroom cap surface dry.
- Be mindful of amount and timing of watering.
- Create environmental conditions to dry the mushroom pins and mature mushrooms, especially after a watering event.
- Avoid moisture condensation on the mushroom tissue.
- Harvest mushrooms before the caps open and release spores.

Mummy (*Pseudomonas* spp.)

**Symptoms:**
- Stunted growth
- Sometimes mushrooms develop curved stipe with translucent, longitudinal streaks on the side; could be confused with watery stipe caused by stress
- Tissue appears spongy, dry, and leathery (Figure 2)
- First break can be harvested; second-break mushrooms will not grow in the affected area

**Control:**
- Ensure a complete pasteurization during phase II.
- Avoid wet and dense composted substrate.
- Avoid adding high quantities of water to substrate before or at spawning.
Viral Disease

Of all the diseases confronting mushroom growers, none have been the subject of more confusion than viral diseases. Viral diseases can be confused with the effect of poor cultural practices or the bacterial disease mummy. Since no known commercial mushroom strain is resistant to viruses, growers must incorporate preventive measures into the IPM plan and rigorously carry out control measures.

LaFrance Disease

The virus lives in mushroom spores and mycelium (spawn). Infected spores spread the disease to other new crops. Infected mycelium (spawn) may survive in the bed boards or easily spread in bulk phase III facilities. Spores survive many years and can be released during room construction.

Symptoms (Figure 3):
• Portabellas don't size up; lower yield
• Bare areas with few pins and mushrooms
• Premature opening of the veil (small caps)
• Mild yield loss

Severe infection:
• “Drumstick” (small caps, long stems)
• Weak growth in casing that often disappears over time
• Very poor growth in the compost
• Stems discolor quickly when cut
• Significant yield loss

Control:
• Exclude, eradicate, or reduce inoculum.
  • Mushroom spores at spawning
  • Mushrooms should be harvested before they mature and the caps open up releasing spores.
  • Infected mycelium at spawning or casing
• Isolate the crop.
  • Regularly scheduled replacement of filters/filtration
  • Air movement—high positive pressure in spawning and casing areas
• Practice postharvest steaming to eliminate pathogens and mushroom mycelium/spores between crops.
  • Virus-infected mycelium in the tray/bed boards
  • Virus-infected mushrooms and spores left on the bed

Sources


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