

## Why Monitor Yeast & Mold?

- Airborne spores (e.g., powdery mildew genera such as Blumeria, Golovinomyces, Podosphaera; plus Cladosporium, Aspergillus, Fusarium) are major threats to crops and facility hygiene.
- Spores travel invisibly via air currents, dust, and ventilation systems, reducing yields, contaminating products, and creating worker health risks.

## What Sporecount Detects

- Powdery Mildew – including Blumeria (grains), Golovinomyces & Podosphaera (cannabis/hops).
  - Aspergillus / Penicillium – indicators of indoor air quality and common food contaminants.
  - Cladosporium – allergenic and widespread in greenhouse environments.
  - Fusarium – crop pathogens associated with wilt and rot.
  - Basidiospores (e.g., Ganoderma, Coprinus, Russula) – wood/soil decay fungi.
  - Stachybotrys chartarum – “black mold” noted for harmful mycotoxins.
  - Pollen, Dust, Fibers, Debris – non-fungal particulates that impact air quality.
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|----------------------|----------------------|----------------------|
| • Algae              | • Gliomastix         | • Pyricularia        |
| • Alternaria-Like    | • Hyphal             | • Rhizopus           |
| • Animal Skin        | • Insect             | • Rust               |
| • Arthrinium         | • Insulation         | • Scopulariopsis     |
| • Ascomycete         | • Lasiosphaeria      | • Skin               |
| • Bipolaris          | • Mitospores         | • Small Skin         |
| • Bipolaris Type 1   | • Monodictyes Glauca | • Smut               |
| • Bipolaris Type 2   | • Myrothecium        | • Soil               |
| • Bispora            | • Myxomycete         | • Spegazzinia        |
| • Botrytis           | • Nigrospora         | • Spegazzinia Smooth |
| • Brachysporium-Like | • Oidium             | • Spegazzinia Spiny  |
| • Carbon             | • Paecilomyces       | • Stemphylium        |
| • Cercospora         | • Particulate Matter | • Talcum             |
| • Chaetoconis        | • Periconia          | • Tetraploa          |
| • Chaetomium         | • Peronospora        | • Torula             |
| • Chaetomium Long    | • Pestilotiopsis     | • Trichocladium      |
| • Coelomycete        | • Pine               | • Trichoderma        |
| • Curvularia         | • Pithomyces         | • Ulocladium         |
| • Epicoccum          | • Pithomyces Type I  | • Urediniospores     |
| • Exosporium         | • Pithomyces Type II | • Wallemia           |
| • Fibers             | • Pollen             | • Zygomycetes        |
| • Fungal             | • Polythrincium      |                      |
| • Fusicladium        | • Pomegranate        |                      |

## Dormant & Fragile Spores: Why Non-Viable Testing Matters

Not all spores grow in culture, and some are easily damaged.

- Many spores are viable but not culturable — they may stay dormant on lab media but germinate on crops, food, or surfaces.
- Dormant spores in dust can “wake up” when moisture or nutrients are present.
- Fragile spores (e.g., *Stachybotrys* or *Ulocladium*) may not survive sampling/culturing yet are visible microscopically.
- Even dead or dormant spores can trigger allergies/asthma or release mycotoxins affecting crops and workers.

**Sporecount Advantage: Non-viable testing captures viable, dormant, and fragile spores for the earliest possible warning.**

## Powdery Mildew: A Special Case

- Powdery mildew fungi (*Blumeria*, *Golovinomyces*, *Podosphaera*) are among the most damaging pathogens in greenhouses and food crops.
- They are obligate parasites: they require living plant tissue and often fail to grow on artificial media.
- Detached spores are fragile/short-lived and frequently collapse before they can grow on plates.
- Culture tests therefore underestimate powdery mildew risk and can yield false negatives.
  - Airborne conidia ( $\approx 20\text{--}40\ \mu\text{m}$ , hyaline, oval/cylindrical) are readily captured by Sporecount’s system.
  - Non-viable testing is the reliable way to monitor powdery mildew pressure in real time — before visible symptoms.

**Sporecount Advantage: Direct detection of powdery mildew spores enables true early-warning that plate culture misses.**

## Benefits for Growers & Producers

- Early Detection — spot problems before outbreaks.
- Actionable Data — quantitative spore counts guide interventions.
- Crop Protection — reduce yield loss from fungal pathogens.
- Regulatory Compliance — support food safety/cleanroom standards.
- Worker Safety — monitor and mitigate exposure risks.

## How It Works

- Rapid air sampling captures airborne particles onto a slide or medium.
- AI-enhanced microscopy identifies and quantifies target spores and particulates.
- Results arrive as clear reports with trend data to help you anticipate contamination risks and act proactively.

## Contact

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