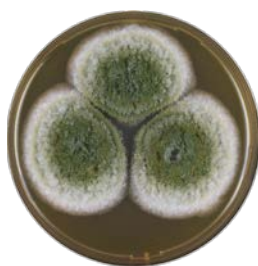




EZ BioResearch

EZ Mold Test Kit (10-pack)

Mold Identification E-book



Introduction

**Description:**

The EZ Mold Test Kit provides a simple and convenient way to check for mold in your indoor environment. It can be used to collect samples from indoor air and household surfaces, including walls, ceilings, bathrooms, basements, HVAC areas, and other locations where mold may be present. The kit is also suitable for educational science projects and basic mold observation, allowing users to culture collected samples and visually observe mold growth over time.

Kit Contents:

Components	Quantity
PDA Plates	10
Cotton Swabs	10 swabs in 5 pouches
Re-sealable Plastic Bags	10

Storage:

The PDA plates are produced in our sterile manufacturing facility and go through our stringent quality control inspection. The PDA plates can be stored at room temperature for 30 days. However, whenever possible, try to store them in a refrigerator. Low temperature will keep the PDA plates fresh, minimizing the loss of the water from the surface of the plates. The PDA plates stored under such conditions have a minimum shelf life of 3 months. **Do not put the PDA plates in a freezer!**

Technical Support: Any question? No worry. You will receive immediate live support with PhD scientists with extensive hands-on experience. Call us at 1-800-637-0262 or email us at support@ezbioresearch.com

Step-by-Step Instruction Guide

Step 1: Label and Prepare Your Plates

Before opening any plates, use a permanent marker to label the **bottom side** of each dish (the side containing the agar gel). Do not label the lid, as lids can accidentally be swapped.

- **Label Details:** Include the **Location, Date/Time**, and a unique **Sample Number** on each dish.
- **The Control Plate:** Designate one unopened plate as your "Control." Keep it permanently sealed and unexposed throughout the entire process. This confirms your kit was sterile before testing.

Step 2: Choose Your Testing Method

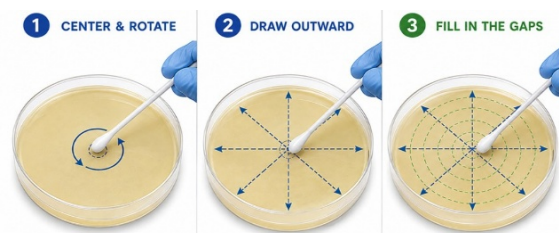
Method A: Air Quality Test

1. **Expose:** Remove the lid and place the open agar dish face-up on a flat, stable surface in the room you wish to test.
2. **Time:** Leave the dish completely undisturbed for exactly **1 hour**.
3. **Secure:** Close the lid. Fasten it using 2–4 small strips of scotch tape on opposite sides.



Method B: Surface Mold Test

1. **Prep:** Moisten a sterile cotton swab with a few drops of distilled water.
2. **Sample:** Firmly wipe the damp swab across the target surface to collect the sample.
3. **Inoculate (EZ Star Spread Technique):**
 1. **CENTER & ROTATE**: Remove the lid and gently touch the swab to the exact center of the agar and rotate it.
 2. **DRAW OUTWARD**: Draw the swab outward from the center to the edge in several directions, mimicking the rays of a star.
 3. **FILL IN THE GAPS**: Fill in the gaps by lightly sweeping the swab between the star lines to ensure an even distribution.
4. **Secure:** Close the lid. Fasten it using 2–4 small strips of scotch tape on opposite sides.



△ Important: Do not wrap tape all the way around the rim. The plate requires minimal airflow to promote mold growth; do not fully seal it.

Step 3: Incubation

1. **Orientation:** Turn the secured plates **upside down** (agar side facing up). This prevents condensation from dripping onto your sample and ruining the culture.
 2. **Enclosure:** Place each individual plate into its own unsealed plastic bag (one plate per bag).
 3. **Environment:** Store the bags in a stable, dark location away from direct sunlight. Maintain a consistent room temperature, ideally between **20–25°C (68–77°F)**.
 4. **Duration:** Incubate the plates for **5 to 7 days**.
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Step 4: Observation and Results

- **Daily Monitoring:** Check the plates every 24 hours for signs of development.
- **Documentation:** Take clear photographs daily through the transparent plastic lid to track progress for your final interpretation.
- **Result Interpretation:** An identification guide to common household mold species is provided. Compare the images with the mold detected on your agar plates to identify the mold species.

Molds can have similar appearances. The most accurate way to identify the mold species is to order a lab test.

⚠ Important: Do not open the lids once incubation has begun. Spores can be hazardous if inhaled a large amount.

Understanding Mold & Using This Guide

What is Mold?

Mold is a type of fungus that grows naturally in the environment and reproduces by releasing microscopic spores that are easily carried through the air. When these spores land on damp surfaces such as wood, drywall, carpeting, insulation, or food, they can develop into visible mold colonies. In nature, molds play an essential role in breaking down organic matter and recycling nutrients. However, excessive indoor mold growth can damage building materials, produce unpleasant odors, and negatively affect indoor air quality.



Some mold species can also produce secondary metabolites known as **mycotoxins**. These naturally occurring compounds help certain molds compete with other microorganisms in their environment. Although not all molds produce mycotoxins, and the presence of mold does not automatically indicate the presence of toxins, prolonged exposure to mycotoxin-producing molds may be associated with adverse health effects in susceptible individuals. Certain mycotoxins have been linked to allergic reactions, irritation of the eyes and respiratory tract, and other health concerns. Because mold growth and mycotoxin production are influenced by factors such as moisture, temperature, and nutrient availability, identifying and controlling indoor mold growth is an important part of maintaining a healthy indoor environment.

Where Indoor Mold Commonly Develops

Look first where moisture persists: bathrooms and kitchens; basements and crawl spaces; window frames with condensation; roof or plumbing leak areas; wet drywall and ceiling tiles; carpet and upholstery after water damage; insulation; HVAC drip pans, filters or damp components; wall cavities; attics; and stored paper or cardboard.



Prevention & Action

Mold growth can be minimized by controlling moisture and maintaining a clean, well-ventilated indoor environment. Reducing indoor humidity to below 50%, repairing water leaks promptly, and ensuring proper ventilation in high-moisture areas such as bathrooms, kitchens, basements, and laundry rooms can significantly reduce the risk of mold growth. Regular cleaning, improving air circulation, and thoroughly drying wet materials within 24–48 hours can also help prevent mold from becoming established.

If mold is discovered, it should be removed as soon as possible to prevent further growth and the spread of airborne spores. Small areas of mold can often be cleaned using appropriate household cleaning products while wearing protective equipment such as gloves, eye protection, and a mask. Porous materials that have been heavily contaminated, including drywall, carpeting, insulation, and ceiling tiles, may need to be removed and replaced because mold can penetrate beneath the surface. During cleanup, the affected area should be isolated when possible to reduce the spread of spores to other parts of the building. Large infestations, extensive water damage, or mold growth associated with HVAC systems should be evaluated and remediated by qualified professionals.

Health Perspective

Mold exposure can cause allergic reactions, asthma symptoms and respiratory irritation. Health effects vary widely with individual sensitivity and exposure. People with asthma, chronic lung disease, significant immune suppression or other health concerns should obtain medical advice before participating in mold cleanup.

Reading a PDA Plate

Observe the colony from the top and, without opening a household test plate, note overall color, texture, margin, growth pattern, relative expansion, and any visible pigment on the underside. A 3–7 day window is useful for comparison because many common molds develop recognizable colony features during this period, but different species and conditions can grow faster or slower.

IMPORTANT LIMITATION

A colony's color or appearance cannot definitively identify a mold species. PDA growth characteristics are useful screening clues only; morphology changes with temperature, inoculum, medium composition, incubation time and mixed growth. Laboratory microscopy or molecular methods may be needed for confirmation.

Cladosporium spp.



Overview

Very common outdoors and frequently detected indoors. It often enters with outdoor air, but persistent indoor growth usually points to a local moisture source.

Detailed Indoor Sources

Window frames and sills with condensation; bathroom ceilings and painted surfaces; HVAC registers and air-handling components; damp wood; fabrics, upholstery and carpeting; wall surfaces near chronic condensation; basements and other cool, humid areas.

Colony Appearance

Colonies commonly become olive-green, gray-green or brown to nearly black, often with a velvety or suede-like surface. Dark pigmentation and a relatively flat, spreading colony are useful clues, but color alone is not diagnostic.

Growth on PDA Plates: Typically 3-7 Days

Typically moderate growth over 3–7 days. Colonies may begin pale gray/olive and deepen to olive-brown as sporulation increases. Surface texture often becomes velvety to powdery. Reverse pigmentation can be dark. Growth rate and color vary substantially among species and incubation conditions.

Allergy Potential

High. Cladosporium is an important aeroallergen and may contribute to allergic rhinitis, eye irritation, cough, wheeze and asthma exacerbation in sensitized people.

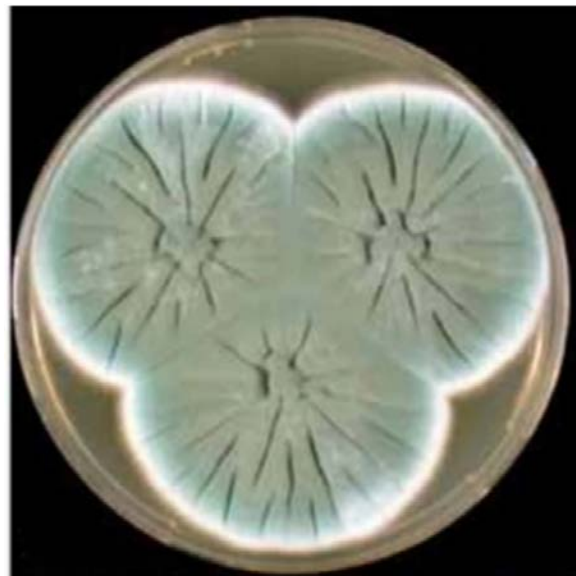
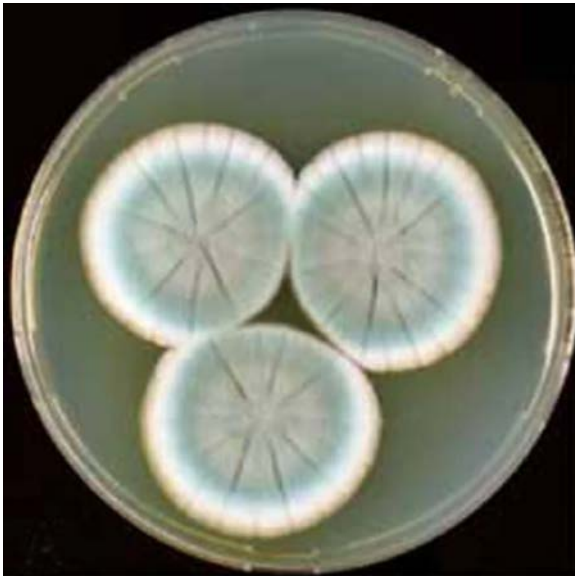
Other Health Hazards

Invasive disease is uncommon and is mainly a concern in unusually susceptible hosts. For most household exposures, allergic and irritant effects are the more relevant concerns.

Homeowner Action

Control condensation and humidity; repair leaks; clean small growth on cleanable hard surfaces with detergent and water and dry completely; replace porous materials that cannot be cleaned and dried.

Penicillium spp.



Overview

A large genus containing many environmental species. *Penicillium* is common in indoor dust and is especially associated with damp materials and spoiled foods.

Detailed Indoor Sources

Water-damaged drywall and wallpaper; carpet and carpet backing; insulation; ceiling materials; upholstered furnishings; stored paper/cardboard; refrigerator or food-storage areas; basements; HVAC dust and damp components.

Appearance

Often blue-green, turquoise or gray-green with a white growing margin. Mature colonies commonly look powdery or granular because of abundant conidia. Some species produce radial grooves or droplets.

Growth on PDA Plates: Typically 3–7-Days

Usually rapid growth over 3–7 days. Colonies can expand broadly and develop blue-green to gray-green sporulation after an initially pale or white phase. Texture is commonly velvety to powdery; the reverse may be pale, yellowish or otherwise pigmented depending on species.

Allergy Potential

High. *Penicillium* spores can provoke allergic rhinitis, conjunctival symptoms and asthma in sensitized individuals.

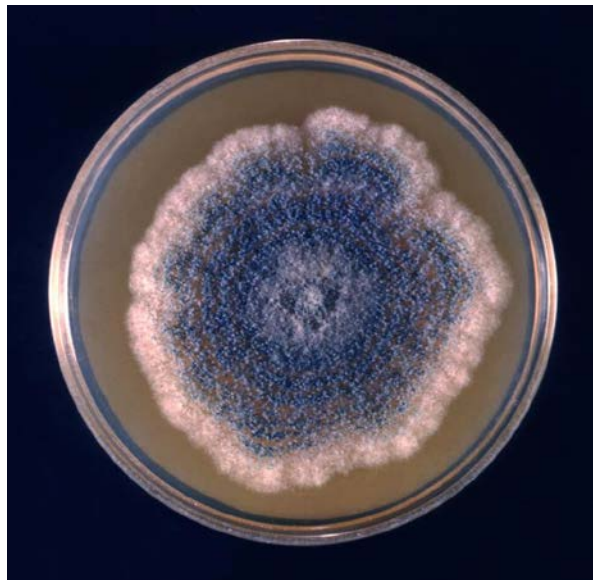
Other Health Hazards

Some species can produce mycotoxins under particular environmental conditions, but the presence of a *Penicillium*-like colony does not establish toxin exposure. Opportunistic infection is uncommon but possible in highly susceptible people.

Homeowner Action

Discard moldy food; correct leaks or condensation; clean hard surfaces; remove porous water-damaged materials when they cannot be fully cleaned and dried.

Aspergillus spp.



Overview

A diverse genus found in soil, dust and decaying organic material. Several *Aspergillus* species are commonly recovered from indoor environments.

Detailed Indoor Sources

House dust; HVAC systems and filters; insulation; ceiling tiles; damp drywall; stored paper and cardboard; basements; attics; kitchens and food-storage areas; areas with construction dust or water damage.

Appearance

Appearance is species-dependent. Colonies may be white, yellow, yellow-green, blue-green, brown or black and may be powdery, granular, velvety or cottony. This variability makes genus-level visual identification difficult.

Growth on PDA Plates: Typically 3–7-Days

Often rapid growth over 3–7 days. Colonies may start white and develop characteristic pigmentation as conidia form. Some species become green, yellow-green or black; surfaces may be granular or powdery. Reverse color is variable.

Allergy Potential

Moderate to high. *Aspergillus* can contribute to allergic rhinitis and asthma and can cause allergic bronchopulmonary disease in susceptible individuals.

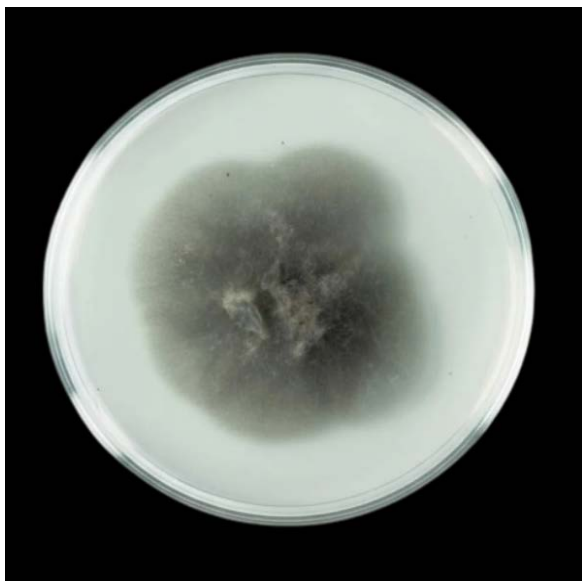
Other Health Hazards

Certain *Aspergillus* species can cause opportunistic infections, especially in people with major immune suppression or significant lung disease. Some species can produce mycotoxins, but colony appearance does not indicate toxin production.

Homeowner Action

Reduce dust and moisture; correct water intrusion; maintain HVAC systems; remove contaminated porous materials when needed; people at high risk for invasive fungal disease should avoid disturbing heavy mold growth.

Alternaria spp.



Overview

A darkly pigmented mold common on plants, soil and outdoor debris. Outdoor spores frequently enter homes, while indoor growth favors persistently damp locations.

Detailed Indoor Sources

Window sills and frames; shower areas; damp bathrooms; sinks and plumbing areas; basements; water-damaged drywall; textiles and carpeting; potted-plant areas; areas around condensation or roof/plumbing leaks.

Appearance

Typically gray, olive-brown to dark brown or blackish. Colonies may be woolly, suede-like or cottony and can develop concentric rings or zonation as they mature.

Growth on PDA Plates: Typically 3–7-Days

Usually moderate to moderately rapid growth over 3–7 days. Colonies may begin gray-white and darken to olive-brown or blackish as pigment and spores develop. A woolly surface and concentric zones may become more apparent with age.

Allergy Potential

High. *Alternaria* is a well-recognized aeroallergen and can be an important trigger for allergic rhinitis and asthma.

Other Health Hazards

Serious infection is uncommon in healthy people. Opportunistic skin or other infections can occur in susceptible hosts, but household concern is generally dominated by allergy and asthma.

Homeowner Action

Address dampness and condensation, especially around windows and bathrooms; clean hard surfaces; remove persistently wet porous materials; improve ventilation.

Stachybotrys chartarum (commonly called toxic black mold)



Overview

A moisture-loving mold strongly associated with chronically wet cellulose-rich building materials. Its presence often signals a significant or prolonged water problem.

Detailed Indoor Sources

Water-damaged drywall/gypsum board; paper backing; ceiling tiles; wallpaper; wood fiber products; wet cardboard; wall cavities after leaks or flooding; basements and areas with chronic seepage. It is less likely to thrive on relatively dry surfaces.

Appearance

Colonies are typically dark green to black and may appear shiny, wet or slimy when actively producing spores. Older or drier colonies can look less glossy.

Growth on PDA Plates: Typically 3–7-Days

Growth may be slower than many common indoor molds. During 3–7 days on PDA, growth can be limited to moderate, with pale-to-dark colonies developing deeper green-black pigmentation as they mature. Appearance is strongly influenced by moisture and medium; absence of rapid growth does not exclude the genus.

Allergy Potential

Can contribute to allergic and irritant respiratory symptoms, although individual sensitivity varies.

Other Health Hazards

Some strains can produce trichothecene mycotoxins under suitable conditions. A visible dark colony or a positive culture does not demonstrate toxin exposure or predict illness. The practical response is to remove mold and correct the water source rather than judge risk by color.

Homeowner Action

Because growth commonly reflects chronic water damage, investigate the moisture source and hidden affected materials. Remove unsalvageable cellulose materials and consider professional remediation for extensive contamination.

Chaetomium spp.



Overview

A cellulose-degrading mold is often associated with materials that have remained wet for an extended period. It can be a useful clue to concealed or chronic moisture damage.

Detailed Indoor Sources

Wet drywall and paper backing; subfloors; wood framing; crawl spaces; basements; ceiling materials; insulation with paper facings; window areas with chronic leakage; wall cavities after plumbing or roof leaks.

Appearance

Young colonies may be white to pale and cottony; with maturation they can become gray, olive, brown or nearly black. Mature colonies may develop darker speckling from fruiting structures.

Growth on PDA Plates: Typically 3–7-Days

Typically moderate growth over 3–7 days. Early colonies can be white and fluffy, then become gray-olive to brown as they mature. Texture may remain cottony or become more compact; darker structures can appear with age.

Allergy Potential

Moderate. Spores and fungal fragments may contribute to allergic or irritant symptoms in sensitized individuals.

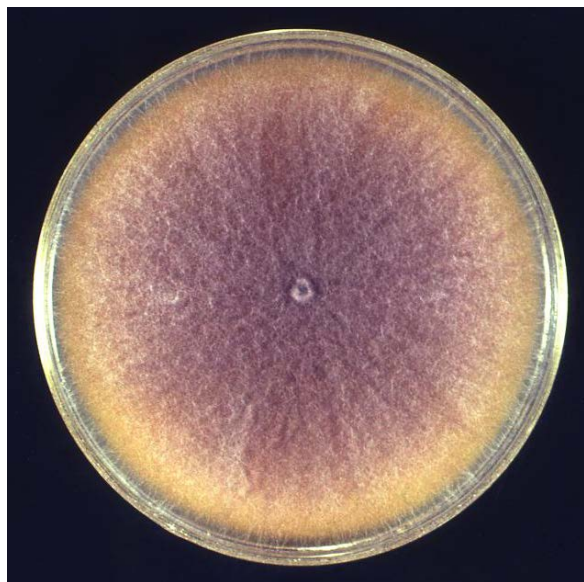
Other Health Hazards

Opportunistic infection is rare but has been reported, mainly in susceptible hosts. Indoor detection is often more useful as evidence of significant moisture damage than as a stand-alone health-risk marker.

Homeowner Action

Inspect for hidden moisture and damaged cellulose materials. Correct leaks, dry the structure, and remove porous materials that are deteriorated or cannot be cleaned adequately.

Fusarium spp.



Overview

Common in soil and on plants and crops. Indoor findings may reflect outdoor entry, houseplants, or growth in very wet materials.

Detailed Indoor Sources

Houseplants and potting soil; humidifiers or water reservoirs if poorly maintained; wet carpeting and textiles; water-damaged wall materials; basements; areas affected by flooding; damp window areas; occasionally HVAC-related moisture sites.

Appearance

Often fast-growing and cottony or woolly. Colonies may be white initially and develop pink, salmon, peach, lavender or violet tones. Pigment may diffuse into the agar in some isolates.

Growth on PDA Plates: Typically 3–7-Days

Usually rapid growth over 3–7 days. A white cottony colony may spread quickly and later develop pink, peach, lavender or violet pigmentation. Reverse pigmentation can be pronounced. Species and medium strongly affect color.

Allergy Potential

Moderate. Airborne *Fusarium* can contribute to allergic respiratory symptoms in sensitized individuals.

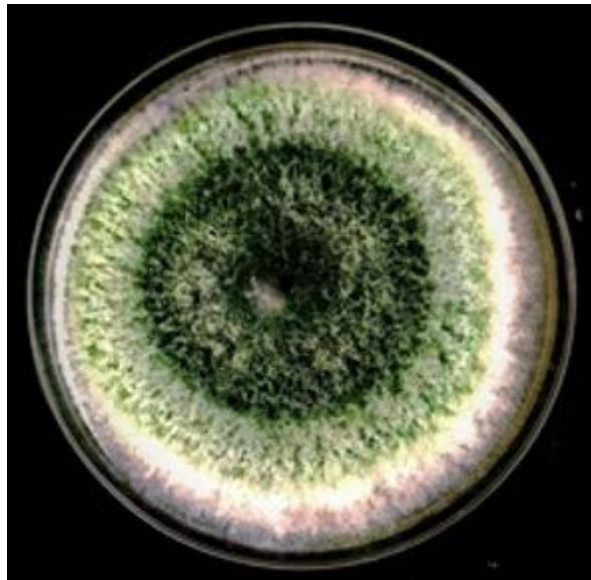
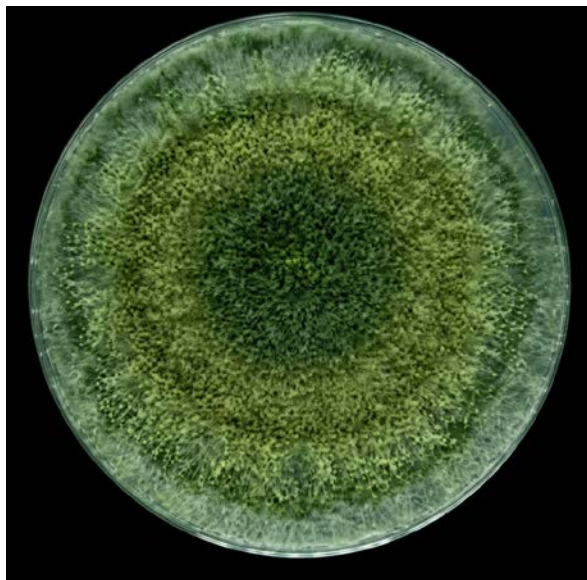
Other Health Hazards

Certain species can cause opportunistic eye, skin or disseminated infections, particularly after trauma or in immuno-compromised people. Some species produce mycotoxins in agricultural settings; an indoor colony does not by itself establish a toxin hazard.

Homeowner Action

Correct standing water or persistent wetness; maintain humidifiers properly; remove heavily contaminated porous materials; use care when handling moldy plant material.

Trichoderma spp.



Overview

A fast-growing mold common in soil and decaying plant material. Indoors it is most associated with damp wood and other persistently moist building materials.

Detailed Indoor Sources

Basements and crawl spaces; wet wood framing; damp lumber; water-damaged drywall; insulation; wall cavities; areas near plumbing leaks; HVAC components with persistent condensation; potted-plant materials.

Appearance

Colonies commonly begin white and cottony, then develop vivid green patches or rings as spores form. Growth can be dense and irregular and may overrun slower-growing colonies on a culture plate.

Growth on PDA Plates: Typically 3–7-Days

Very rapid growth is typical over 3–7 days. Colonies often spread broadly while initially white, then develop bright to dark green sporulation in patches or concentric areas. Because it can overgrow neighboring colonies, mixed plates should be interpreted cautiously.

Allergy Potential

Low to moderate for the general population, although sensitization and respiratory irritation can occur.

Other Health Hazards

Human infection is rare and mainly reported in severely immunocompromised individuals. In household settings, the key significance is often persistent moisture and rapid colonization of damp materials.

Homeowner Action

Find and correct the moisture source promptly; dry structural wood; clean suitable hard surfaces; remove porous materials that remain moldy or structurally damaged.

Quick Comparison: Eight Common Household Molds

Mold	Typical PDA Color	Texture	Growth Rate	Common Indoor Clues	Allergy Potential
Cladosporium	Olive - brown	Velvety	Moderate	Windows, HVAC systems, fabrics	High
Penicillium	Blue/gray-green	Powdery	Rapid	Carpets, wallpaper, food	High
Aspergillus	Highly variable	Powdery or granular	Rapid	Dust, HVAC systems, insulation	Moderate to high
Alternaria	Olive/dark brown	Woolly	Moderate	Windows, bathrooms	High
Stachybotrys	Dark green/black	Moist/slimy	Slow to moderate	Chronically wet drywall	Variable
Chaetomium	White to olive/brown	Cottony	Moderate	Subfloors, wet drywall	Moderate
Fusarium	White to pink/purple	Cottony	Rapid	Houseplants, wet carpets	Moderate
Trichoderma	White to bright green	Dense and cottony	Very rapid	Damp wood, crawl spaces	Low to moderate

COMPARISON NOTE

These are typical qualitative patterns for educational comparison. Growth rate, pigmentation and texture can differ by species, strain, medium, temperature and mixed-culture conditions.

References & Consumer Disclaimer

Primary homeowner guidance: U.S. Environmental Protection Agency (EPA), A Brief Guide to Mold, Moisture and Your Home; EPA mold cleanup and moisture-control resources; U.S. Centers for Disease Control and Prevention (CDC), Mold Health resources. Colony descriptions are generalized mycological characteristics intended for educational comparison on PDA.

This guide does not provide a medical diagnosis, environmental clearance, or definitive fungal identification. If you have health symptoms, extensive water damage, suspected hidden contamination, or concerns about a high-risk occupant, consult an appropriate healthcare or remediation professional.