FACT SHEET: Mold in Cold Rooms
Prevention and Protection

Mold is the general name for a group of fungi that is commonly found on food (e.g., blue or green Penicillium species that produce penicillin) and damp or wet materials. Mold thrives in warm, damp, and wet environments especially in the presence of organic material and may either be light or dark colored in appearance.

NEED TO KNOW:

1. Maintain indoor relative humidity levels below 60%.
2. Ensure cold storage door latches and gaskets are in good condition.
3. Dry out and clean water-damaged materials, or if heavily damaged, remove and replace.
4. Discard materials that are wet for more than 48 hours since they are likely to produce mold growth.
5. Refer to the Mold Prevention Fact Sheet for more information.

MORE INFO:

HOW DOES MOLD GET INTO A COLD ROOM?

Mold and fungal spores are ubiquitous and flourish where there is water damage, elevated and prolonged humidity, or dampness. Also, cellulose-containing materials sustain mold growth which can contaminate research materials.

HOW DO I KNOW IF A COLD ROOM HAS A MOLD PROBLEM?

- Visible mold on surfaces (see Figure 1).
- Condensation observed on the outside of the door (see Figures 2 and 3).
- Doors that do not shut firmly (e.g., due to loose door handle or defective latch assembly).
- Rusting cans or other metal surfaces in the cold room.
- Musty odor.

Figure 1. Visible mold on cold room ceiling grid and wall.

Figure 2. Visible condensation on cold room door.

Figure 3. Visible condensation on cold room door handle.

HOW CAN MOLD GROWTH BE PREVENTED?

Preventing mold growth in cold rooms is achieved by controlling condensation/moisture and removing materials contributing to mold growth. The following preventive measures need to be taken:

- Ensure cold storage door latches and gaskets are in good condition.
- Place a gauge in cold room to monitor relative humidity (RH). Maintain RH levels below 60%.
- Keep air conditioner drip pans and drain lines clean.
- Use stainless steel shelves instead of wood shelves. Open stainless steel shelves permit air flow throughout the entire storage area.

PROPER STORAGE & CLEANING:

- Keep the door firmly shut to prevent water condensation inside cooler.
- Dispose of all trash (paper towels, tubes, etc.) outside of the cold room.
- If it is necessary to store paper products in a cold room, place them in a closed plastic container.
- Do not use cardboard storage containers (see gold circle in Figure 5).
- Do not store books or cardboard slide holders in the cold room.
- Do not store items on the floor. Store materials only on designated shelves.
- Keep the use of wood, Styrofoam, and other porous materials to a minimum.
- Promptly clean up spilled liquid (e.g., buffers, media). Mold can thrive on any organic medium.
- Routinely clean surfaces (shelves, bench tops, equipment, etc.) inside cold rooms to prevent mold growth (see Figure 6).
- Document cleanings using a log sheet.
- Immediately report water leaks or any other mechanical issues to OEHS at **oehs@tulane.edu**.
- Keep surface(s) clean. Clean cold room monthly (at a minimum). Clean more often if necessary.
- Surfaces may be cleaned with a freshly prepared 1:100 dilution of common household bleach. **NOTE:** Use caution when applying bleach solution to metal surfaces, especially stainless steel, as it may oxidize/ corrode them. If used on a metal surface, wipe off bleach solution with a damp cloth or pad followed by a wipe-down with 70% ethyl alcohol to remove water.
- Sweep, mop floor, and wipe walls with freshly prepared 1:100 dilution of household bleach.
- Clean sink with 1:100 dilution of bleach and rinse quickly.
- Regularly inspect stored items for mold. If item(s) are contaminated, promptly remove/ discard or otherwise decontaminate as above.

ADDITIONAL RESOURCES:

- AIHA: Mold Resource Center; EPA: Mold; Tulane OEHS: Mold Prevention Fact Sheet

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