DAMSON MUSHROOM FARM LTD

Fresh mushroom always







Spawn Production

Tube handling and contamination control in the incubation room

Clean handling and careful monitoring protect the culture from competing organisms and help staff identify problems before they spread. This guide covers receiving, moving, incubating, inspecting, and isolating culture tubes. Use the farm's validated species and strain procedure for exact temperatures, incubation times, media, and acceptance criteria; these vary by mushroom and production system.

Purpose and scope

This guide is for staff working with mushroom cultures or spawn held in tubes in an incubation room. It focuses on handling sealed tubes and maintaining a clean room. Opening tubes, transferring culture, preparing media, and sterilizing equipment are laboratory procedures and must be done only by trained staff in the designated clean work area.

Before handling tubes

- Confirm the room is released for use: cleaning is complete, the room is dry, and environmental readings are within the approved range for the current culture batch.
- Keep incubation separate from dirty returns, waste handling, substrate preparation, and fruiting operations. Limit traffic and keep doors closed while working.
- Wash hands with soap and water, dry them, and wear clean work clothing and gloves as required by the site procedure. Gloves do not replace handwashing.
- Prepare a clean, stable tray or rack. Disinfect the work surface using a product approved for the surface and follow its label for dilution and wet contact time. Never mix cleaning chemicals.
- Bring only the tubes and records needed for the task. Keep cleaning supplies, personal items, food, and drink out of the room.

Receiving and moving culture tubes

1. Check the batch identity, species or strain, date, and tube count against the record before accepting or moving tubes.
2. Inspect the outside of each closed tube for cracks, a loose cap or plug, leakage, condensation that obscures inspection, or visible growth outside the intended culture area. Do not open a suspect tube.
3. Carry tubes upright in a clean, covered rack or tray. Avoid shaking, tipping, crowding, or direct contact between tube closures and hands or surfaces.
4. Keep clean and suspect batches physically separated. Do not place tubes directly on floors, window sills, or unclean benches.
5. If a tube is dropped or its closure is disturbed, keep it closed, mark it for review, and follow the site incident procedure.

Arranging tubes for incubation

- Place tubes in the assigned rack and batch location, with labels visible and closures protected from contact with shelves or neighbouring tubes.
- Leave enough space for inspection and the room's designed air circulation. Do not block vents, sensors, or access routes.

- Record the room, rack or shelf position, batch ID, date placed, and the environmental readings required by the farm log.
- Maintain the validated temperature and other conditions for that species and strain. Do not use a general temperature target from another mushroom as a substitute for the farm's approved procedure.

Routine inspection

Inspect on the schedule set by the production lead. Handle tubes only as much as needed, and use the same inspection route each time so questionable tubes are noticed early.

- Check that tube labels remain legible and closures are secure.
- Look for expected, even culture growth consistent with the batch reference. Compare like with like; normal appearance depends on species, medium, and culture stage.
- Watch for unexpected colours or growth, wet or slimy areas, unusual liquid, growth concentrated around a closure, cracked tubes, or changes that do not match the batch reference.
- Record the inspection date, initials, room readings, and any abnormal observations. Photograph a concern through the closed tube if the site procedure allows it.

Responding to suspected contamination

6. Do not open, sniff, shake, or carry a suspect tube through clean production areas.
7. Keep the tube closed. Place it in a sealed secondary container if safe to do so, label it "HOLD - DO NOT USE," and separate it from accepted cultures according to the site procedure.
8. Notify the supervisor or culture lead promptly. Record the tube ID, batch, location, date, appearance, and any handling incident.
9. Do not discard, sample, or attempt to clean the tube unless the responsible lead directs it under the farm's waste and investigation procedure.
10. If leakage or breakage occurs, restrict access to the affected area and follow the site spill response. Use the specified protective equipment and disinfectant contact time; do not dry-sweep or create aerosols.
11. The lead should assess nearby tubes and surfaces, document the likely scope, and authorize cleaning and return to service before the area is reused.

Cleaning and room discipline

- Follow a written cleaning schedule covering benches, racks, handles, floors, and high-touch points. Clean visible soil first; disinfecting works only when used as directed on a suitably clean surface.
- Use labelled, in-date products at the specified concentration and contact time. Observe ventilation, protective equipment, and compatibility instructions on the product label.
- Use dedicated cleaning tools for the incubation room. Keep them clean, dry, and stored away from culture racks.
- Remove waste in closed containers using the designated route. Do not stage waste beside incubating cultures.
- Log cleaning, room readings, maintenance, access issues, and deviations. Report condensation, pest evidence, leaks, ventilation faults, or unexplained temperature changes immediately.

Quick checklist

- ☐ Room released, clean, dry, and within approved conditions
- ☐ Hands and required clothing/PPE prepared
- ☐ Tubes matched to batch record and inspected while closed
- ☐ Tubes moved in a clean rack and kept upright
- ☐ Suspect tubes isolated, labelled, and reported

- ☐ Locations, readings, inspections, and cleaning entered in the log

Training and records

Only trained, authorized staff should handle production cultures. Supervisors should ensure each worker can identify the correct batch, handle tubes without disturbing closures, recognize deviations against the approved reference, and complete the relevant logs. Review this procedure whenever the culture system, room, disinfectant, or production process changes.

Further reading

- NCAT, Mushroom Cultivation — https://www.ncat.org/publication/mushroom-cultivation/
- University of Florida IFAS Extension, Isolation of Mother Cultures and Preparation of Spawn for Oyster Mushroom Cultivation — https://ask.ifas.ufl.edu/ss663/
- Penn State Extension, Spawn Preparation — https://plantpath.psu.edu/about/facilities/mushroom/cultures-spawn/spawn-preparation
- Cornell Small Farms, Methods of Commercial Mushroom Cultivation — https://smallfarms.cornell.edu/resources/methods-of-commercial-mushroom-cultivation-in-the-northeastern-united-states/2-seven-stages-of-cultivation/

This learning guide supports staff training. The farm's approved production, chemical safety, incident response, and waste procedures take precedence for operational details.

