

Hollister Herbarium Integrated Pest Management Plan

Preventive conservation and pest response plan

Administrative unit	Department of Biology, College of Arts and Sciences
Policy owner	Director and Curator, Hollister Herbarium
Approval authority	Department of Biology and Tennessee Tech
Effective date	June 1, 2026
Review cycle	Review annually and after any infestation or facility change

Purpose and approach

This plan protects specimens from insects, rodents, mold, and related biological damage through prevention, monitoring, identification, documentation, and targeted response. HTTU favors nonchemical prevention and treatment methods that are effective, safe for people and specimens, and consistent with Tennessee Tech environmental health and safety requirements.

Primary risks

Dried plant specimens and paper products are vulnerable to museum pests, including cigarette and drugstore beetles, dermestid beetles, booklice, silverfish, cockroaches, rodents, and incidental insects. High humidity, water intrusion, dust, food, clutter, gaps in the building envelope, and uninspected incoming material increase risk.

Prevention

- Keep food, beverages, live plants, soil, corrugated shipping cardboard, and personal food waste out of collection and specimen-processing areas.
- Maintain routine housekeeping, remove trash promptly, reduce clutter, and clean floors, ledges, cabinet tops, and work surfaces without exposing specimens to liquids or unapproved chemicals.
- Keep cabinets closed and in good repair. Report gaps, leaks, condensation, damaged seals, plumbing concerns, or building-envelope problems.
- Inspect incoming accessions, returns, gifts, packing material, and equipment in a designated area before entry into collection storage.
- Use archival enclosures and avoid animal-based adhesives or other pest-attracting materials when suitable alternatives exist.
- Train staff, students, volunteers, custodial personnel, and contractors to recognize and report evidence of pests.

Monitoring program

Activity	Minimum frequency	Record
Inspect traps and vulnerable areas	Monthly; more often after activity	Date, trap location, pest type, count, life stage, inspector, action.
Visual cabinet and specimen checks	Quarterly by rotating zone	Cabinets checked, frass, holes, cast skins, webbing, live or dead pests, condition.
Facility risk inspection	Twice yearly and after leaks or construction	Doors, windows, pipes, drains, walls, climate, housekeeping, corrective request.
Trend review	Annually	Map of activity, recurring locations, actions completed, unresolved risks.

Trap placement and identification

Number and map sticky blunder traps along walls, near doors, windows, pipes, dark corners, work areas, and other likely entry or harborage points. Traps are monitoring devices, not the sole treatment. Staff should identify captured organisms to the most useful level possible and seek qualified assistance when the identity or risk is uncertain.

Response to suspected activity

1. Do not move suspect material through the collection. Isolate it in a sealed, labeled barrier or designated quarantine area and notify the Director and Curator.
2. Document the location, date, evidence, affected specimens or cabinets, photographs, and nearby trap findings.
3. Inspect adjacent cabinets and trace possible sources, including returns, accessions, cardboard, construction, food, moisture, and building entry points.
4. Choose treatment with collections-care and safety advice. Freezing or anoxic treatment may be used when appropriate to the specimen and approved procedure. Chemical pesticides are not applied directly to collections without qualified conservation and safety review.
5. Clean and monitor the affected area, correct the source, document treatment, and increase inspection frequency until activity has ceased.

Escalation

A live collection pest, repeated captures in one zone, new specimen damage, rodent evidence, or mold growth requires prompt investigation. A widespread infestation, active mold, hazardous pesticide residue, or a condition affecting staff health requires coordination with the Department of Biology and appropriate Tennessee Tech facilities, safety, risk, or environmental health personnel.

Supplies and records

- Numbered monitoring traps and location map.
- Flashlight, magnifier, specimen vials or bags, labels, camera, and pest identification resources.
- Quarantine bags or containers and clean protective work supplies.
- Pest log, inspection forms, treatment record, building work-order record, and annual trend summary.