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## Access Control

- Is access to laboratory/facility controlled?
  - Is access to research space controlled during experiments (i.e. doors are kept closed when work is ongoing)?

## Annual Verification

- Do greenhouse windows have screens?

## Autoclaves

- Are autoclaves used and maintained properly?
  - Are autoclaves used to inactivate biomedical wastes/sharps containers tested for efficacy on schedule (every 40 hrs.)?
  - Is an autoclave use log maintained?
  - Are stainless steel (recommended) or polypropylene or polycarbonate (not high density polyethylene) pans used to autoclave biowaste?
  - Are temperature resistant bags being utilized for autoclaving?
  - Are autoclave(s) used for sterilization (not disinfection) tested for efficacy (initially and every 6 months)?

## Biomedical Waste

- Is Biomedical Waste collection and specimen/agent transport being handled properly?
  - Are experimental organisms rendered biologically inactive by appropriate methods before disposal outside of the greenhouse facility?
- Is there a method available in the facility for decontaminating all wastes (i.e., autoclave, chemical disinfection, incineration, or other validated decontamination method)?

## BioSafety Cabinets

- Are Biosafety Cabinets (BSCs) being used properly?
  - Are Biosafety cabinet(s) (BSCs) neat (not cluttered with excess supplies)?
  - Are Bunsen Burners forbidden in BSC(s)?
  - Is UV light use discouraged in BSC(s)?
  - Is the front grille of BSC(s) clear (unblocked)?
  - Are lab doors closed (not propped open) while BSC(s) are in use?
  - Is cleanup facilitated by using plastic-backed paper toweling on non-perforated work surfaces within biological safety cabinets?
  - Is the catch basin underneath the BSC work surface clean?
  - Is the BSC functioning properly?
- Are BSCs located in such a way as to not compromise function?
  - Is clearance around BCS(s) adequate?
  - Are BSC(s) located away from entrances?
  - Are BSC(s) located away from HVAC supply?
- Are BSC(s) certified annually or labeled as 'not for use with infectious materials' if not certified?

- Does Biosafety Cabinet(s) not in use with infectious materials have a 'not for use with infectious materials' label?
- Do Biosafety Cabinet(s) that are used with infectious materials have current certification(s)

### Chemical Fume Hoods

- Is fume hood compliant?
  - Is storage of items in chemical fume hoods kept to a minimum?
  - Are the fume hood alarms working properly?
  - Are the side panels in place and sealed properly?
  - Is there sufficient visibility through the fume hood sash?
  - Is the fume hood sash at the proper height and closed if not in use?
  - Is the fume hood velocity within range?

### Chemical Safety

- Is an appropriate chemical spill kit available?
- Are proper dating/storage/use/disposal procedures followed for perchloric acid/picric acid?
- Are proper dating/storage/use/disposal procedures followed for peroxide forming compounds?
- Are chemicals stored safely?
  - Are liquid chemicals stored below shoulder height?
  - Are all containers in good condition, no rusted containers or broken bottles?
  - Are all containers properly capped with a tight sealing lid?
  - Are dry and liquid chemicals kept separate?
  - Are flammable solvents only stored in approved fridges or freezers?
  - Are liquids stored in secondary containers (not stored directly on the floor)?
- Are all transfers of liquid nitrogen done in a well-ventilated area?
- Are lab chemicals in use and within expiration dates (not unused or outdated).?
- Is use of Chromic acid for cleaning glassware discouraged?
- Is air quality in the lab acceptable (no particulates or chemical odors)?
- Are all containers of chemicals properly labeled in the lab?
  - Are labels legible and easily read (not deteriorating or falling off)?
  - If the lab is using abbreviations or chemical formulas, do they have an abbreviation sheet posted?
  - Are all chemicals labeled (no unlabeled containers)?
- Are chemicals stored by compatibility?
  - Are organic and inorganic chemicals kept separate?
  - Are acids and bases segregated?
  - Are corrosives separated from metals, flammables, and oxidizers?
  - Are oxidizers separated from metals and flammable chemicals?
  - Are inorganic acids separated by compatibility?
- Are cold rooms being used properly?
  - Is cold room free of excess clutter and cardboard?
  - Is the amount of flammables in the cold room kept to a minimum?

### Compressed Gases

- Are gas cylinders securely transported using a hand truck?
- Are the UF Compressed Gas Rules posted in a prominent location?
- Per the PI or PI's designee, is the regulator connection leak tested after installation and before each use?
- Are cylinders with no regulators capped (even when empty)?
- Are cylinders stored away from heat sources?
- Are contents of cylinders clearly labeled?
- Are hydrostatic tests current (cylinders have not been stored more than 5-10 years)?
- Are compressed gas cylinders adequately secured (even when empty)?
- Are gas cylinders stored by compatibility?
- If the lab has any high hazard gases, is there an emergency plan in place?
- Are highly toxic gasses kept in cabinets vented to the outside (not loose in the open room)?

### Controlled Substances

- If controlled substances are used, is the DEA permit current?
- Are controlled substances stored in a secure location?
- Are outdated or unwanted DEA substances disposed of appropriately?
- Does the lab have an inventory of all in-use controlled substances?
- Have all employees using controlled substances or novel compounds (neurotrophic or addicting) filled out an Employee Questionnaire?
- Is the lab completing a biennial (every 2 years) inventory of all controlled substances?
- Is the lab free of any outdated pharmaceutical products?

### Documentation

- Is the lab's LATCH complete?
  - Is only one component of LATCH incomplete? (If no, all non-compliant aspects will be listed here.)
  - Does the lab have an up to date roster?
  - Have all roster members completed required training?
  - Is the hazard assessment and PPE determination completed in LATCH?
  - Has everyone in the lab or work area read and signed the completed risk assessment?
  - Has the lab specified where SOPs are saved in the Notes section of the risk assessment?
- Is the lab's chemical inventory compliant?
  - Does the lab have a chemical inventory?
  - Is the chemical inventory current?
  - Is the inventory accurate as determined by a check/spot check? (include details in the notes section)
- Are the lab's SOPs free of any issues?
  - Does the lab maintain SOPs that incorporate health & safety?
  - Do all lab personnel have access to all SOPs?
  - Are the SOPs in the required EHS format?
- Does everyone in the lab have access to the SDSs for all chemicals used in the lab?
- Is the UF Laboratory Safety Manual readily accessible?

- Does the lab have Voluntary Use forms for lab members using N95 type respirators voluntarily and they are being used correctly?
- Are all project(s) personnel list(s) current?
- Is the UF Biological Safety Manual readily accessible?
- Are all projects(s) room list(s) current?
- Do EH&S registered project(s) accurately reflect ongoing research activities?
- Does the PI have a FL Department of Business and Professional Regulations medical exemption letter?

### Electrical Safety

- Is access to circuit breaker panel unobstructed?
- Are openings on breaker panel, receptacle boxes, etc. sealed?
- Are Ground Fault Circuit Interrupters (GFCI) used near sinks and wet areas?
- Is the lab only using extension cords temporarily?
- Are extension cords manufactured commercially (not shop made)?
- Are electrical cords undamaged (not frayed)?
- Is the lab free of electrical hazards?
- Do extension cords, power strips, and surge protectors have long enough cords (not inter-connected or Daisy Chained)?
- Are electrical panel covers secure? Are all unused openings in electrical enclosures and fittings appropriately plugged or covered?
- Are power strips UL listed?
- Are all electrical cords routed properly (not running through doors, walls or partitions, under rugs/matts, or above drop ceilings)?
- Are power strips being used only for small electronics?
- Are all power strips either mechanically affixed or resting on a flat surface?

### Emergency

- Is a fully stocked First-Aid kit compliant?
  - Is the first aid kit complete and are all contents within their expiration dates (unexpired)?
  - Is a first aid kit in evidence? (check no if they need a new first aid kit)
  - Is the first aid kit easily accessible/unobstructed?
- Is calcium gluconate available where hydrofluoric acid (HF) is stored or handled?
- Is the overhead emergency shower(s) compliant?
  - Is overhead emergency shower(s) working properly?
  - Is overhead emergency shower(s) tested regularly?
  - Is overhead emergency shower(s) unobstructed?
- Is the emergency eye wash station(s) compliant?
  - Is eyewash station working properly?
  - Is eyewash tested regularly?
  - Does eyewash station does have dust covers?
  - Is eyewash unobstructed?
- Are emergency and disaster recovery plans for man-made or natural disasters in place and reviewed annually?

- Are biological spill kits and spill management procedures compliant?
  - Is a Biological Spill kit available and fully stocked?
  - Is a biological spill SOP readily available?
  - Are the spill and incident management procedures posted?
  - Is the bleach in spill kit unexpired?
  - Are biohazardous materials spills reported and evaluated?
  - Is the biological spill kit kept segregated (in a separate container) from any chemical spill kits?
- If any exposure incidents occurred, were they properly reported/investigated?

### Equipment

- Is laboratory equipment clean?
- Is use of equipment with sharp edges and corners avoided?
- Are vacuum lines protected with liquid disinfectant traps and HEPA filters/ Is the HEPA filter changed as needed?
- Is laboratory equipment safely operated and maintained in accordance with manufacturer instructions?

### Facility Design

- Is Facility Design compliant? Check NO to reveal initial (commissioning) checklist.
  - Are Laboratory doors self-closing and lockable?
  - Is the greenhouse floor composed of gravel or other porous material. At a minimum, impervious (i.e. concrete) walkways are recommended.

### Fire Safety

- Are fire extinguishers compliant?
  - Have fire extinguishers been checked monthly by Fire Safety?
  - Is fire extinguisher unobstructed?
  - Is a Fire Extinguisher located near or in the lab?
- Are large metal drums of flammable liquids reported in the inventory and risk assessment?
- Are flammable liquids stored in approved containers?
- Is no more than 10 gallons of flammable liquids stored in the open (outside of a flammables cabinet or safety can)?
- Are vents on flammable storage cabinets sealed?
- Are sprinkler heads clear (i.e. at least 18 inch clearance)?
- If the lab has any propane gas, is the quantity less than 2x 1lb cylinders loose in the lab with another 2x 1lb cylinders in a flammables cabinet?
- Is the lab free of any gasoline and/or any gasoline containers?
- Are all ceiling tiles in place in the lab?

### General Safety

- Is lab space being utilized safely?
- Are workspaces un-crowded?
- Are benches and shelves never overloaded?
- Are chairs appropriate for laboratory environment?

- Are chairs non-porous and cleanable?
- Are chairs undamaged?
- Do chairs have a 5-star base?
- Are vacuum pumps (with a belt/pulley) equipped with a belt guard?
- Is there no food for human consumption stored in lab fridges/freezers?
- Are walkways clear of obstructions?
- Is food consumption or storage, smoking, drinking, handling of contacts, or applying cosmetics prohibited within the laboratory work area?
- Are work surfaces and benches free of clutter to reduce risk of spills and accidents?
- Per the PI or PI's designee, are lab rooms all closed and locked when no personnel are in the lab?
- Is mouth pipetting prohibited; Are mechanical pipetting devices used?
- Is water conserved as much as possible?
- Are lab appliances properly labeled?
- Do all older style vacuum pumps have oil traps inline of their exhaust?

### Hazardous Waste

- Is the current SAA sheet posted?
- Is the current SAA waste manager listed?
- Are SAA waste totals under the limit?
- Is waste properly segregated?
- Is waste compatible with the container?
- Are waste containers in good condition?
- Is waste stored at or near the point of generation?
- Is waste under the control of the generator?
- Are waste containers closed?
- Is the SAA free of spills and leaks?
- Are hazardous waste containers labeled using the updated format?
  - Are the waste hazards associated with the waste clearly indicated?
  - For waste mixtures: are all contents listed with associated percentages totaling 100%?
  - Are Principal Investigator, Building & Room information entered?
  - Are hazardous waste containers marked with the words "Hazardous Waste"?
- Is all waste identified (no unknown present)?
- Per the PI or PI's designee, is hazardous waste being properly disposed of through EH&S (not poured down sinks)?
- Is all waste being stored in the SAA (not in additional points throughout the lab)?
- Is the monthly SAA self-audit up to date and available?

### Pest Management

- Is an effective integrated pest management program in place?
- Is a program implemented to control undesired species (i.e. weed, rodent, or arthropod pests and pathogens), by methods appropriate to the organisms and in accordance with applicable state and Federal Laws?

### Personal Protective Equipment

- Is PPE (e.g. gloves, safety glasses/goggles, lab coats, thermal protection, etc.) available (stored clean and in good repair) and worn for the activity being conducted?
- Is PPE stored in a manner to prevent damage or contamination?
- Are full coverage shoes with good sole grips worn in the lab?
- Are cryogenic materials handled with the proper PPE?
- Is the lab using the appropriate gloves for their work (have they consulted the glove compatibility reference chart)?
- Are gloves being used and disposed of properly?
  - Are used gloves being disposed of with other contaminated laboratory waste?
  - Are disposable gloves prohibited from being washed or reused?
  - Are gloves being removed and hands being washed when work with hazardous materials has been completed and before leaving the laboratory?
  - Are gloves being changed when contaminated, integrity has been compromised, or when otherwise necessary?
- Are respirator wearers trained, fit tested and enrolled in the respiratory protection program and/or Biopath as appropriate?
- Are laser specific safety glasses or goggles available if the lab is working with lasers?
- Is hearing protection worn for high noise areas (e.g. sonicators, grinders)?
- Has a noise survey been conducted to determine the need for using hearing protection?
- Are protective laboratory coats, gowns, or uniforms worn to prevent contamination of personal clothing and are they removed before leaving for non-laboratory areas (i.e. cafeteria, library, administrative offices)?
- Is protective clothing disposed of appropriately, or laundered at the institution? Is laboratory clothing prohibited from being taken home?
- Are eye and face protection compliant?
  - Are Eye and face protection (goggles, mask, face shield, or other splatter guard) used for anticipated splashes or sprays of infectious or other hazardous materials when the materials must be handled outside the containment device?
  - Are lab personnel aware that contact lenses should not be worn in the labs, and that if contact lenses are worn they must be accompanied by goggles?
  - Is eye and face protection disposed of with other contaminated laboratory waste or decontaminated before reuse?
- Is appropriate clothing and PPE worn in the greenhouse?
- Is PPE removed before exiting the greenhouse and decontaminated prior to laundering or disposal?
- Is eye and face protection compliant?
  - Is eye and face protection disposed of with other contaminated laboratory waste or decontaminated before reuse?
- Based on risk assessment, are eye and face protection (goggles, mask, face shield, or other splatter guard) used for anticipated splashes or sprays of infectious or other hazardous materials when the microorganisms must be handled outside the BSC or containment device? Do persons who wear contact lenses in laboratories also wear eye protection?



## Practices

- Are non-research animals or plants prohibited in the laboratory?
- Are soap and paper towels available at wash station?
- If experiments involving other organisms that require a containment level lower than the designated PBSL# are conducted in the greenhouse concurrently with experiments that require the designated PBSL# is all work conducted in accordance with the designated PBSL# practices?
- Are arthropods and other motile macroorganisms housed in appropriate cages? If macroorganisms (i.e. flying arthropods or nematodes) are released within the greenhouse, are precautions taken to minimize escape from the greenhouse facility? When appropriate to the organism, are experiments conducted within cages designed to contain the motile organisms?
- Are experimental plants, microorganisms, or small animals well identified with sturdy markers or labels that will hold up in a greenhouse environment?
- Is a record kept of experiments currently in progress in the greenhouse facility? Move to documentation section
- Is a record kept of experimental plants, microorganisms, or small animals that are brought into or removed from the greenhouse facility? Move to documentation section
- Are effective measures taken to prevent the excursion of transgenic materials outside of the greenhouse or growth chamber?

## Sharps

- Are sharps handled and disposed of properly?
  - Are non-disposable sharps placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving?
  - Are containers of contaminated needles, sharp equipment, and broken glass decontaminated before disposal, and disposed of according to any local, state, and federal regulations?
  - Are sharps containers conveniently located to the work being performed?
  - Are sharps containers not overfilled?
  - Are sharps properly segregated (gloves, paper towels or other 'soft' items are never in the sharps containers)?
  - Are needles not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal?
  - Is broken glassware being handled properly (removed using mechanical means such as a brush and dustpan, tongs, or forcep)? Is plastic ware substituted for glassware whenever possible?
  - Are safety devices being chosen for sharps being used with infectious material/rDNA?
  - Are sharps generated in the BSC being collected into sharps containers within (not outside) BSC?

## Signs and Postings

- Are the Notice Board (NB) with Emergency Call list and hazard warning labels compliant?
  - Is the Notice Board posted at the lab entrance?
  - Is the notice board legible? (check no if they need a new NB)
  - Are the hazard stickers on the NB complete (none need to be added)?
  - Does the NB have a current emergency call list (ELC)? (check no if they need a new ECL sticker)
  - Does the emergency call list have two names with afterhours phone numbers?
  - Does the lab have signage identifying the lasers present in the lab?

- If the NB has a privacy ECL, is it updated?
- Is warning signage posted to alert entrants what PPE is required?
- Is Laboratory (Biosafety) Signage compliant?
  - Does all laboratory equipment have the appropriate hazard stickers?

### Training

- Prior to entering the research environment are personnel required to read and follow instructions, practices and procedures? Are all procedures performed in accordance with accepted practices that are appropriate to the experimental organism?
- Are records for annual training sessions, and staff attendance at the training sessions in evidence and complete?
  - Is Hazardous Waste training complete for all personnel including the in-person training session for the hazardous waste manager?
  - Is Biomedical Waste training complete for all personnel?
  - Are personnel receiving lab/facility-specific training annually and/or when changes in procedures occur?
  - If the lab staff ships biological materials or Dangerous Goods is training certification for shipping biological materials/dangerous goods current?
  - Are personnel trained initially and annually in spill handling?