Biosafety Level 2 – Plants Inspection Report (5/2017)

Oklahoma State University
Institutional Biosafety Committee
223 Scott Hall
Stillwater, OK 74078

Lab Director:	Inspected By:	
Lab Location (Bldg/Rm Nos.):	Department:	Inspection Type: ☐Initial ☐Annual ☐3 yr Renewal
Lab Safety Officer:	College/Department Safety Officer:	Inspection Date:

List of Agents that will be Used/Stored in Lab
(Check all applicable agent categories and list agents by category):

☐Recombinant DNA:
☐Bacterial:
☐Viral:
☐Fungal:
☐Parasitic:
☐Toxin:
☐Prion:
☐Other:

Agents/toxins are a risk to:

☐Humans
☐Animals
☐Plants

Biosafety Level 2 - Plants (BSL-2P): Designed to provide a greater level of containment for experiments involving plants and certain associated organisms in which there is a recognized possibility of survival, transmission, or dissemination of recombinant or synthetic nucleic acid molecule containing organism, but the consequence of such an inadvertent release has predictably minimal biological impact

BSL	AGENTS	PRACTICES	SAFETY EQUIPMENT	FACILITIES
2P	• Agents associated with human and/or animal disease • Use of plants with microbes or insects containing r(s)NA molecules • Plants modified by r(s)NA molecules that are noxious weeks	BSL-2 & BSL-1 greenhouse practices plus: • Activity log • Signage • Greenhouse practices manual • Specific training	**Primary Barriers:** Class I or II BSC used as required **PPE:** Lab coat, gloves, and face protection as needed	BSL-1 greenhouse plus: •Autoclave available •Greenhouse floor is composed of impervious material •Windows and other openings must be screened

IBC Disposition:

☐Approved for Work at: .....☐BSL-2P
☐Provisionally Approved for Work at:.....☐BSL-2P

Comments:

IBC Chair Signature:	Date:	Biological Safety Officer Signature:	Date:

INSPECTION CHECKLIST					
Verbal Inspection		**YES**	**NO**	**N/A**	**Comments**
1.1	Greenhouse access limited/restricted when work with cultures/specimens is in progress				
1.2	Doors are kept shut at all times and are locked when personnel are not present.				
1.3	Select agent labs: access is restricted to SRA cleared personnel when lab is hot and when SATs are present; non-SRA cleared personnel are escorted				
1.4	Non-project personnel are escorted				
1.5	Minimum requirements to enter and work in lab are established and enforced.				
1.6	Personnel at risk of acquiring infections or for whom infections may have serious consequences are denied access to lab				
1.7	All personnel are advised of potential hazards prior to entering and working in the lab				
1.8	Lab personnel receive appropriate training on standard operating procedures, potential hazards, precautions to prevent exposures, and exposure evaluation procedures				
1.9	Lab personnel have read and follow biosafety procedures and practices				
1.10	Lab personnel are trained in the opening of packages containing biohazards				
1.11	Personnel are trained on how to contain, decontaminate, and clean spills				
1.12	All lab employees have attended chemical hygiene or hazard communication training				
1.13	Lab personnel receive annual refresher training and/or additional training as necessary				
1.14	Lab personnel have been offered appropriate immunizations for agents and materials handled or potentially present in laboratory (e.g., Hepatitis B vaccine, Influenza vaccine, etc.)				
1.15	Baseline and periodic serum samples are collected/stored as dictated by risk assessment				
1.16	Protective laboratory clothing such as a lab coats, solid-front or wrap-around gown, scrub suits or coveralls is worn when handling recombinant/infectious materials				
1.17	Eye and face protection (e.g., goggles, mask, face shield, or other splatter guard) is used for anticipated splashes or sprays of biohazardous materials				
1.18	Persons who wear contact lenses in the laboratory also wear eye protection				
1.19	Eye and face protection is disposed of as biohazardous waste or decontaminated before reuse				
1.20	Personnel using respirators are enrolled in Respiratory Protection Program				
1.21	Gloves are worn if hands are at risk of contact with infectious materials, infected animals, or contaminated surfaces				
1.22	Gloves are not worn outside of the lab or when touching “clean” surfaces (e.g., telephones, keyboards, elevator buttons, etc.)				
1.23	Lab personnel wash hands after handling biohazardous materials, after removing gloves, and before leaving the lab				
1.24	PPE is changed when contaminated, when the integrity is compromised, or at the completion of work				

Verbal Inspection		YES	NO	N/A	Comments
1.25	Disposable PPE, including gloves, is not reused and is disposed of as biohazardous waste				
1.26	Protective clothing is either discarded appropriately in the lab or laundered on-site				
1.27	Soiled/used lab clothing is autoclaved or chemically disinfected before laundering				
1.28	All PPE is removed and left in lab before leaving				
1.29	No eating, drinking, smoking, handling contact lenses, applying cosmetics, or storing human food in lab				
1.30	Mechanical pipetting devices are used (i.e., no mouth pipetting)				
1.31	Sharps handling policies and practices in place				
1.32	Plasticware is substituted for glassware whenever possible				
1.33	Broken glassware is only handled by mechanical means				
1.34	Needle/syringe use is kept to absolute minimum.				
1.35	Only needle-locking syringes or syringes with permanently affixed needles are used for injection or aspiration of infectious materials				
1.36	Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated prior to disposal				
1.37	Sharps containers are decontaminated (e.g., autoclaved or appropriate chemical treatment) prior to disposal or reprocessing				
1.38	Lab maintains a needlestick injury log				
1.39	Procedures minimize splashes/aerosols				
1.40	Spills, accidents, and inadvertent releases are immediately reported to the lab director and the BSO				
1.41	Work surfaces including those in the BSC are decontaminated at the completion of work and after any spill or splash of viable material				
1.42	Lab equipment is decontaminated on routine basis and prior to sending it for repair/maintenance or packaging it for shipment				
1.43	A method for decontaminating lab waste (e.g., autoclave) is available in the building				
1.44	Materials decontaminated outside of lab are transported in durable, leak-proof, closed containers (e.g., plastic bags transported in tray or pan with a leakproof bottom)				
1.45	Materials to be removed from the facility for decontamination are packed in accordance with applicable local, state, and federal regulations				
1.46	Cultures, stocks, and regulated wastes are decontaminated by an approved method (*e.g*., autoclaving) before disposal				
1.47	Cultures, tissues, specimens, and infectious wastes are kept in covered, leak-proof containers during collection, handling, processing, storage, transport, and shipment.				
1.48	There are written procedures in place for offsite transportation of biohazards				
1.49	Written procedures are in place for handling leaking or damaged packages containing biohazards				
1.50	Animals and plants not associated with the work are not permitted in the greenhouse				
1.51	An insect and rodent control program is in effect				

Verbal Inspection		YES	NO	N/A	Comments
1.52	A Class II BSC or equivalent is used for procedures that have the potential to create aerosols or splashes and for work w/ high concentrations (>10^8 cfu/ml) or large volumes (>1 liter) of infectious agent				
1.53	All procedures are performed in accordance with accepted greenhouse practices				
1.54	Experimental organism (e.g., transgenic plants, microbes, etc.) are rendered biologically inactive by an appropriate method (e.g., autoclaving or chemical treatment) before disposal				
1.55	Materials decontaminated outside of the facility are transported in durable, leak-proof, closed containers (e.g., plastic bags transported in tray or pan with a leak-proof bottom)				
1.56	A program which controls undesirable species (e.g., weeds, arthropods, and pathogens) is in effect				
1.57	Gravel (if present) is treated periodically to eliminate or inactivate potentially entrapped organisms				
1.58	Experiments that require a containment level lower than BSL-2P are also conducted in accordance with BSL-2P practices				
1.59	Materials containing experimental microorganisms, which are brought into or removed from the greenhouse in a viable or intact state, are transferred in a closed non-breakable container				
Visual Inspection		**YES**	**NO**	**N/A**	**Comments**
2.1	Greenhouse is located away from public areas				
2.2	Greenhouse has lockable doors for access control				
2.3	Biohazard signage including a biohazard symbol, the biosafety level, required PPE, required lab exit procedures, and emergency contact information is posted at all lab entrances				
2.4	Emergency contact information (including the Biosafety Officer's contact information) is posted in a conspicuous location				
2.5	Researcher has prepared a greenhouse practices manual and manual is available in the facility; manual must include contingency plans for release of organisms in use				
2.6	A record is kept of all experimental plants, microorganisms, and/or arthropods that are brought into or removed from the greenhouse				
2.7	A record is kept of all experiments currently in progress in the greenhouse				
2.8	SDSs are available for any biohazards used in the lab				
2.9	Training of personnel is adequately documented				
2.10	Spill clean-up procedures are developed and posted				
2.11	Greenhouse floor is composed to impervious material (e.g., concrete, gravel, etc.)				
2.12	Windows and other openings in the walls and roof are screened to exclude small flying animals (e.g., arthropods, birds, etc.)				
2.13	If intake fans are used, measure are taken to minimize the ingress of arthropods				
2.14	Greenhouse has adequate lighting				
2.15	Greenhouse is designed to be easily cleaned (e.g., no carpets/rugs, spaces between cabinets/equipment are accessible, etc.)				

2.16	Bench tops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and disinfectants.				
2.17	No fabric upholstered/covered furniture or chairs				
2.18	Greenhouse has a sink for hand washing				
2.19	BSC is tested and certified at least annually				
2.20	BSC is not located near doors, windows that can be opened, or heavy traffic areas				
2.21	The front grill of the BSC not blocked or covered and cabinet is free of clutter				
2.22	Vacuum lines are protected with liquid disinfectant traps or are HEPA filtered.				
2.23	Sharps containers are labeled, conveniently located, and puncture resistant				
2.24	Containers for non-disposable sharps are hard-walled and leak proof				
2.25	Effective disinfectants are available for all agents in use				
2.26	Refrigerators and freezers containing biohazards are labeled with a biohazard symbol				
2.27	All equipment that may be contaminated is labeled with a biohazard symbol				
2.28	All containers holding biohazardous materials are labeled with a biohazard symbol				
2.29	All biohazard waste receptacles are closed/covered when not in use or waste is autoclaved daily				
2.30	An eyewash station is readily available				

INSPECTION FINDINGS

Code M = Minor Deficiency Code S = Significant Deficiency

Checklist Number	Code	Deficiencies	Required Corrective Actions	Suspense