

**BIOSAFETY LABORATORY AUDIT**  
**Department of Biological Safety**  
**University of Kentucky**

Date:

Auditor:

Designed for Transgenic and/or  
 Infectious Agent Plant Science  
 Laboratories

**I. Pre-Audit Information**

Comments

Name of PI:

Laboratory Location and Room Number:

Name/Type of Agent:

Agent Characteristics:

Route(s) of Exposure:

Quantity of Agent:

Concentration:

Biosafety Level:

NIH Guideline Category:

Are toxins of biological origin, such as  
 conotoxin, tetrodotoxin, or ricin, used in this  
 research?

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Personnel have received training for hazardous  
 materials?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Personnel have received training for biological  
 safety?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Additional Comments:

**II. Interview with Designated Laboratory Representative**

Comments

**Laboratory Information**

Laboratory Representative:

Number of persons conducting work?

Who is the designated lab supervisor?

What experience does researcher have working  
 with agent?

**Laboratory Personnel Training**

Personnel have experience with proposed  
 research?

Pass	Fail	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are personnel made aware of CHP and ECP?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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How is proficiency of lab personnel measured  
 after training?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Documentation that personnel receive appropriate immunizations for the agent to be manipulated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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### PPE Usage

	Pass	Fail	N/A	
Do personnel wash hands after removing gloves, after working with potentially hazardous material, and before leaving the lab?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate PPE is utilized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PPE is not worn outside of lab?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Disposable gloves are not washed or reused?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### Incident Response

	Pass	Fail	N/A	
Spills and accidents reported to the lab supervisor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spill response completed by trained personnel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lab supervisor familiar with accident reporting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<a href="http://ehs.uky.edu/ehs/ohs/accident.html">http://ehs.uky.edu/ehs/ohs/accident.html</a>

### Export Controls

	Pass	Fail	N/A	
Are hazardous materials or biological hazards shipped?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is PI or Lab supervisor aware of Export Controls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<a href="http://ehs.uky.edu/ehs/hmm/dot/welcome.html">http://ehs.uky.edu/ehs/hmm/dot/welcome.html</a>
DOT/IATA Training completed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### Work Practices

	Pass	Fail	N/A	
Lab doors closed at all times?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Eating, drinking, smoking, handling contact lenses, and applying cosmetics prohibited in the lab?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are work surfaces decontaminated when work is completed for the day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are work surfaces decontaminated after a spill?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do lab personnel flush eyewash regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Potentially infectious materials centrifuged properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Plastic substituted for glass when possible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Policies for safe handling of all types of sharps are implemented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### BSC Specific

	Pass	Fail	N/A	
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Biological Safety Cabinet(s) used whenever procedures with potential for creating infectious aerosols or splashes are conducted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BSC is properly cleaned on a routine basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
UV lights used properly (sash down, BSC empty)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Waste Disposal**

	Pass	Fail	N/A	
Are all potentially biohazardous materials and materials that have been contaminated with these materials properly decontaminated before disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lab personnel are familiar with procedures for disposal of sharps containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the lab operate an autoclave?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Location?				
Are appropriate autoclave bags used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
What color are autoclave bags?				
Does the lab utilize an appropriate leak-proof container for transport of waste to the autoclave facility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the lab maintain control of unautoclaved waste until the cycle has begun?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Comments: \_\_\_\_\_

**III. Facilities Overview**

Comments

	YES	NO	N/A	
Separate desk space and break area available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Food stored outside lab in designated area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access to laboratory restricted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access doors properly labeled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Emergency response guide located on/near lab door?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Emergency numbers posted beside phone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
No eating, drinking, smoking, handling contact lenses, or applying cosmetics observed in the lab?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Comments: \_\_\_\_\_

**IV. Safety Manual Documentation**

Comments

	YES	NO	N/A	
Is safety manual available and signed within the past year?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a current Chemical Hygiene Plan (CHP) in manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Is all training documented in lab safety manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is laboratory specific safety training documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a copy of the approved protocol in the lab safety manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Written biohazard disposal procedures in lab safety manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NIH Guidelines hardcopy or bookmarked on laboratory computer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<a href="http://oba.od.nih.gov/rdna/nih_guidelines_ob_a.html">http://oba.od.nih.gov/rdna/nih_guidelines_ob_a.html</a>
CDC BMBL hardcopy or bookmarked on laboratory computer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<a href="http://www.cdc.gov/biosafety/publications/bmbl5/index.htm">http://www.cdc.gov/biosafety/publications/bmbl5/index.htm</a>
A Practical Guide to Plant Containment hardcopy or bookmarked on laboratory computer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<a href="http://www.isb.vt.edu/Containment-guide.aspx">http://www.isb.vt.edu/Containment-guide.aspx</a>

Additional Comments:

### V. General Laboratory Inspection

Comments

	YES	NO	N/A	
Are eyewash and shower available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the eyewash and shower tested?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire extinguishers present and inspected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
First-aid kit readily available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Folding step stool available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sink for hand washing in each lab?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Liquid hand soap available at each hand washing sink?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Paper towels available at all sinks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Proper broken glass disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Broken glass is handled by mechanical means (broom and dustpan available)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Proper sharps disposal available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lab is easily cleaned and decontaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lab chairs covered with non-porous surface?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Good housekeeping?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is proper disinfectant available for use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chemical spill supplies available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate PPE is available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vacuum line(s) in a protected place?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Liquid traps on vacuum lines?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Filter present at end of vacuum line?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Biohazard labels present on all applicable equipment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All refrigerators/freezers/microwaves labeled "no food or drink"?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate secondary containment for transport and storage of potentially infectious materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<a href="http://ehs.uky.edu/ehs/biosafety/sec-containment.html">http://ehs.uky.edu/ehs/biosafety/sec-containment.html</a>
Are gas cylinders secured and capped?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Animals and plants unassociated with laboratory work are absent from area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Comments:

## VI. Plant Material Containment

Comments

### Germination/Growth

Where will seeds, tissue cultures, plant materials be grown?

Where will seeds, tissue cultures, plant materials be stored?

Will stored seeds, tissue cultures, plant materials be secure (i.e. locked)?

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments:

### Transport/Handling

Seeds, tissue culture, plant materials etc. transported appropriately (i.e. secondary containment)?

Seeds, tissue culture, plant materials etc. handled outside of confined space?

When handled outside of confined space, how are transgenic plant materials handled (i.e. on white paper and tray on lab bench)?

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments:

<http://ehs.uky.edu/ehs/docs/pdf/transgenic.pdf>

### Labeling & Segregation of Plant Material

Are transgenic seeds and/or plants labeled? If yes, how?

Are transgenic and non-transgenic plants grown in the same location?

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments:

If transgenic & non-transgenic plants are grown in same location, all work must be completed as the biosafety level of the approved transgenic plant work.

### Prevention of Release/Dissemination

How is the release of transgenic seed prevented?

...use of shoe covers?

...use of sticky mats?

...use of dedicated lab coat/gown?

Will plants be allowed to grow to sexual maturity?

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How is the dissemination of genetic material prevented?

Covering/removing flower and seed heads?

Harvest of plant before sexual maturity?

Utilization of male sterile lines?

Containment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments:

**Plant Specific Laboratory**

	YES	NO	N/A
Laboratory area free of cracks, irregular surfaces, or obvious places where seeds may become trapped or lost?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laboratory area free of water drains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If no, do drains flow into a special waste trap?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are water drains screened with appropriate size screen for material being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are disposal methods/devitalization of collected seeds/material clearly outlined in SOP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


Additional Comments:

**Growth Chamber**

	YES	NO	N/A
Does research involve the use of Growth Chambers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Growth Chamber locked when not in use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Growth Chamber free from water drains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If no, do drains flow into special waste trap?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are water drains screened with appropriate size screen for material being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


Additional Comments:

**Greenhouse**

	YES	NO	N/A
Does research involve the use of a Greenhouse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the Greenhouse accessible to authorized personnel only?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Greenhouse manager aware that this research involves use of regulated transgenic materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Greenhouse locked when not in use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Greenhouse have a double door entry system or head-house?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Greenhouse free from water drains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If no, do drains flow into special waste trap?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are water drains screened with the appropriate size screen for material being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


Additional Comments: