



Accreditation to Improve Restoration

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Workshop: How to Complete the Nursery Evaluation Form



What is AIR?



<https://airnursery.ucdavis.edu>

- A voluntary, audit-based accreditation program with the goal of producing nursery stock free of soilborne *Phytophthora* by implementing Best Management Practices (BMPs) in California native restoration nurseries.
 - “Start Clean, Stay Clean”
- Producing *Phytophthora*-free nursery stock is crucial to prevent introduction to habitat restoration sites from restoration plantings.
- *Phytophthora* has not been detected in nurseries that have successfully implemented the AIR Program’s BMPs.

Nursery Accreditation Process

1. Complete a Nursery Evaluation Form (NEF)

- Basic Nursery Information
- 12 aspects of nursery production including:
 - Layout
 - Sanitation
 - Propagule collection and treatment
 - Media
 - Propagation and Production
 - Testing and Recordkeeping

2. Onsite Accreditation Visit 2 Part

A. Site Evaluation

- ❖ AIR Evaluators Review NEF
- ❖ Walkthrough nursery to document layout, infrastructure, and practices and confirm information on NEF
- ❖ Clarify any questions from NEF
- ❖ Note areas for improvement before accreditation

B. Plant Testing

- ❖ Conduct Leachate Testing
- ❖ Provide hands-on demonstration of bench leachate testing for *Phytophthora*
 - Accredited nurseries expected to perform regular testing
- ❖ Results will be posted to NEF

3. Re-evaluation and Accreditation

- A. Address issues with noncompliance or recommended improvements from visit
- B. Confirm changes to achieve BMP compliance
- C. Accreditation
 - Lasts 2 years from accreditation date

Accreditation Takes Time!

It will take the average nursery several months to become AIR Accreditable

Basic Principles – Six Rules of Thumb

“Start Clean Stay Clean”

Rule	Rating
1a) Clean + Clean =	
1b) Clean + Clean = <i>(Minor Departure from BMPs)</i>	
2) Clean + Contaminated =	
3) Contaminated + Contaminated =	

**Contaminated plants stay contaminated*

(Swiecki et al. 2021)

Basic Principles – Six Rules of Thumb

“Start Clean Stay Clean”

Rule
4) If unsure, assume it's contaminated
5) The ground is always contaminated
6) Contamination spreads with water splash



(Swiecki et al. 2021)

Important Definitions

Batch

- A group of plants with a common risk profile
- Generally, a group of plants of a single species with a common source of propagative material that is started at the same time using the same potting media
- Usually spatially grouped on nursery benches



Important Definitions

Block

- A spatially-grouped array of plants on a bench, normally from a given batch
- Common risk profile



Photo Credit: Tedmund Swiecki

Important Definitions

Disinfectant

- Materials that can directly kill exposed propagules of Phytophthora or other plant pathogens
- Bleach, alcohol, quaternary ammonium compounds, peroxides, etc.
 - *Note: Fungicides suppress disease but do not eradicate pathogens*



Important Definitions

Infected

- A plant internally colonized by a pathogen



Infested

- Containing or superficially contaminated with propagules of a pathogen.

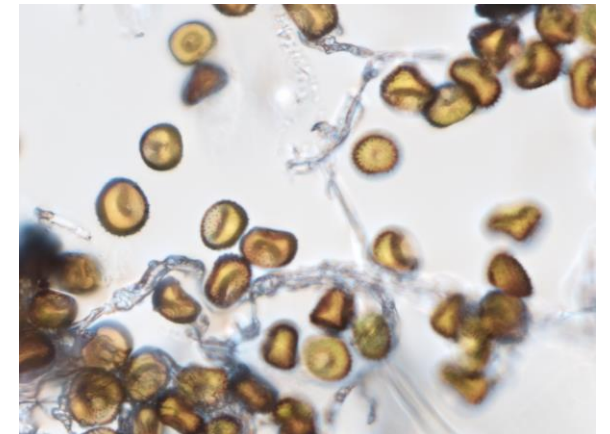


Important Definitions

For more Definitions and Standards visit airnursery.ucdavis.edu, under the Resources for Nurseries Tab

Propagule

- Living portions of a plant, fungus, oomycete, etc. that can serve to reproduce that organism.
 - Plants: Seeds, cuttings, divisions, bulbs, corms, tubers, etc.
 - Fungi and oomycetes: mycelium, spores, survival structures



Important Definitions

For more Definitions and Standards visit airnursery.ucdavis.edu, under the Resources for Nurseries Tab

Phytosanitary

- i. Free of plant pathogens
- ii. As an adjective, used to describe techniques or practices that prevent materials from being infected or infested with plant pathogens

Phytosanitary Tier

- A group of plant propagule types that have a similar risk of being contaminated or infected by *Phytophthora* or other pathogens.



Phytosanitary Tiers

For more information on Phytosanitary Tiers and Phytosanitary Collection Practices visit:
airnursery.ucdavis.edu, under the Resources for Nurseries Tab

Phytosanitary Tier	Definition
Tier 1a	<ul style="list-style-type: none">➤ Seed collected above splash height from upland plants not subject to inundation
Tier 1b	<ul style="list-style-type: none">➤ Shoot tip cuttings (from above splash zone or produced entirely during the dry season if lower)
Tier 2	<ul style="list-style-type: none">➤ Soil-contact propagules that can be completely cleaned of soil<ul style="list-style-type: none">➤ Low stem cuttings➤ Seed or cuttings collected from plant parts subject to inundation or splash from soil or water
Tier 3	<ul style="list-style-type: none">➤ Soil-contact propagules that cannot be completely cleaned of soil and do not tolerate surface sterilization
Tier 4	<ul style="list-style-type: none">➤ Non-BMP nursery plants➤ Highest overall likelihood of being infected or infested➤ Any propagule type

BMPs: Important Standards

Height of Container Bottoms Off Ground

- ❖ Minimum of 2.5ft (76cm)
- ❖ Height of 3ft (91cm) preferred for greater protection



BMPs: Important Standards

Between Clean & Contaminated Areas

- ❖ Minimum of 10ft (3m) between clean and potentially contaminated areas
- ❖ Distance may be reduced with use of adequate barriers



BMPs: Important Standards

Aisle Width

- ❖ Recommend 3.2-5 ft (1-1.5m) of distance between benches or blocks
- ❖ Minimizes splash contamination



BMPs: Important Standards

Between
Containers/Racks on
Benches

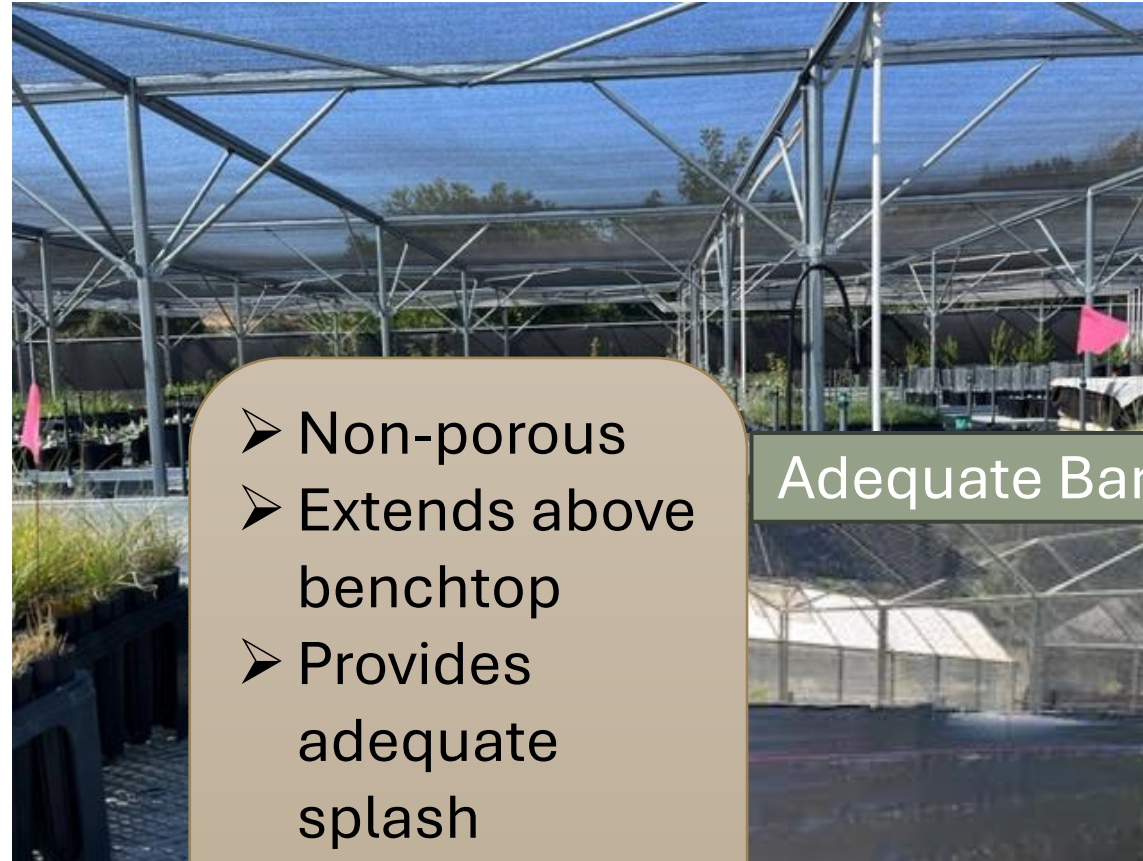
- ❖ Minimum 3ft (1m) to 6.5ft (2m) quarantine/plant destruction zone around positive detection



BMPs: Important Standards

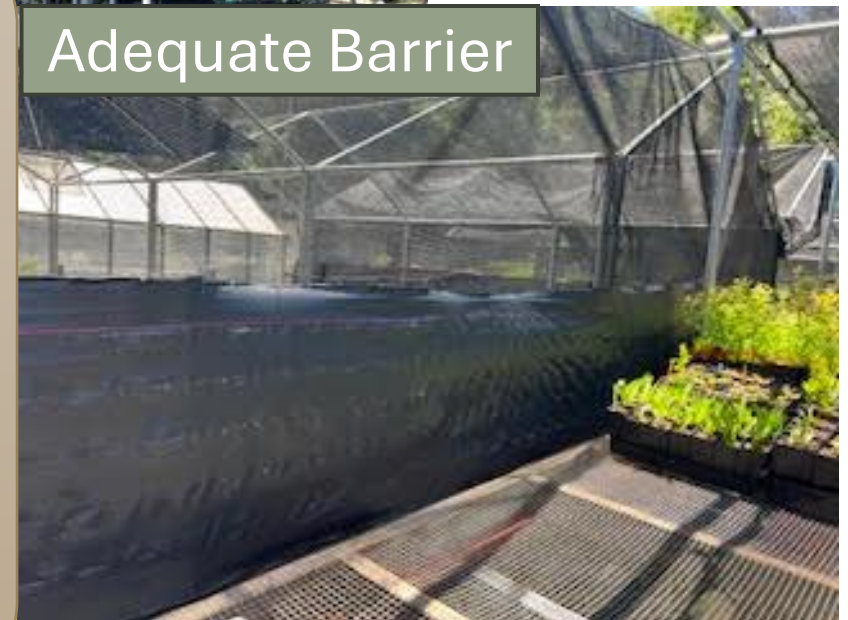
Between Containers/Racks on Benches

- ❖ Minimum 3ft (1m) to 6.5ft (2m) quarantine/plant destruction zone around positive detection
- ❖ Adequate separation between blocks reduces chance of cross contamination and plant loss



- Non-porous
- Extends above benchtop
- Provides adequate splash protection between benches

Adequate Barrier



BMPs: Important Standards

Full list of BMPs available online at airnursery.ucdavis.edu, under the Resources for Nurseries tab

Heat Treated Potting Media

- Temperature of the coolest portion of the treated soil must maintain a temperature of at least 140°F (60°C) for at least 30 min.
 - Lethal to most plant pathogenic fungi and oomycetes
 - Does not kill all microorganisms

Note: This standard also applies to heat treated containers etc.



Introducing the Nursery Evaluation Form

The Nursery Evaluation Form (NEF)

- Basic Nursery Information
- 12 aspects of nursery production including:
 - Layout
 - Sanitation
 - Propagule collection and treatment
 - Media
 - Propagation and Production
 - Testing and Recordkeeping

Nursery Tab: Basic Information and Signatures for Certification

Nursery Evaluation Form for Systems Approach to Clean Production

Nursery data and certifications

Blue = Evaluator input Yellow = Nursery input

Nursery data

Nursery:	Nursery name
Filename:	
Evaluation objective:	Accreditation
Evaluation objectives notes:	

Fill in nursery name here only. It will post to the other pages. ←

Evaluation conducted under AIR nursery accreditation program

Site evaluations

Date:				
Evaluators:				
Nursery staff participating:				

Nursery information	Initial evaluation	updated:	updated:	updated:
Date:				
Completed/updated by:				

Complete the changed conditions page whenever the form is updated

Portion(s) of nursery included in evaluation: ←

Is the accreditation for the whole nursery or a BMP production area?

Area				
Plant blocks evaluated				
Date started in clean production				
Previous area history before start of clean (BMP)				

Blue Cells – editable by AIR Evaluators only
Yellow Cells – for nursery to fill in

Introducing the Nursery Evaluation Form

Page 1: Nursery Environment

- Contamination sources
- Mitigations for potential contamination sources
- Nursery entry access, signage, and decontamination

Entirely filled by AIR Evaluators

1. Nursery environment and entry			
<i>Evaluation: note potential for contamination, effectiveness of mi</i>			
Contamination sources beyond nursery (under worst case conditions):	Select	Risk rating	Notes
flowing water	▼	▼	
mud flows	▼	▼	
blowing soil or debris	▼	▼	
splash from roads or vegetation	▼	▼	
animals	▼	▼	
other	▼	▼	
Mitigations for above:			
drainage	▼	▼	
barriers to control splash, water, or mud flow	▼	▼	
fencing	▼	▼	
other	▼	▼	
Entry into nursery			
Unauthorized access restricted by gates, fencing, signage, etc.	▼	▼	
Signage at access points for decontamination requirements / procedures	▼	▼	
Cleaning/decontamination of vehicles and equipment entering	▼	▼	
Evaluation: additional notes			

No information necessary!

Note: Blue cells will tell you exactly what evaluators will look for during site evaluations!

Introducing the Nursery Evaluation Form

Page 4: Sanitizing Protocols

- Part 1: What are your sanitizing protocols?
- Part 2: How do you use those protocols? On what items/circumstances?

Instructions:

1. Name to your protocol and assign a number
 - ❖ Ex: 70% alcohol spray
2. For each item, let us know your sanitation protocol by listing the associated number

4. Sanitizing protocols for surfaces, containers, equipment, wearables					
<i>Heat treatment of potting media is covered under section 7-Media</i>					
<i>Nursery – Provide details of sanitizing protocols used (see 4.3 for example situations); use separate lines for different variations, or attach equivalent documentation</i>					
equivalent documentation attached <input type="text"/>					
4.1. Chemical treatment protocols (including cleaning with detergents)					
Protocol name	Treatment duration	Chemical name and % active	Dilution / concentration as		
4.3. Application of sanitizing protocols to specific items					
<i>Nursery – Indicate sanitizing protocol(s) used, by protocol number in table above or other documentation. Note schedule or frequency if applicable</i>					
Items treated	Protocol number	Nursery: schedule, other notes	Risk rating:	Evaluation: notes	
Reused items					
Reused containers	<input type="text"/>		<input type="text"/>		
4.2. Heat treatment protocols (other)					
Reused container racks & crates	<input type="text"/>		<input type="text"/>		
Reused flats/trays	<input type="text"/>		<input type="text"/>		
Reused plant stakes	<input type="text"/>		<input type="text"/>		
Nursery surfaces					
benches and attached hardware	<input type="text"/>		<input type="text"/>		
barriers	<input type="text"/>		<input type="text"/>		
Bins for heat-treated potting med	<input type="text"/>		<input type="text"/>		
Shelving/storage for new or sanitized containers, etc.	<input type="text"/>		<input type="text"/>		
propagation tables	<input type="text"/>		<input type="text"/>		
carts	<input type="text"/>		<input type="text"/>		
Irrigation hardware					
nozzles, wands	<input type="text"/>		<input type="text"/>		
hoses	<input type="text"/>		<input type="text"/>		
sprinklers	<input type="text"/>		<input type="text"/>		
drip emitters	<input type="text"/>		<input type="text"/>		
drip lines	<input type="text"/>		<input type="text"/>		
Tools and wearables					
hand tools	<input type="text"/>		<input type="text"/>		
reusable rubber/plastic gloves	<input type="text"/>		<input type="text"/>		
cloth / leather gloves	<input type="text"/>		<input type="text"/>		
aprons / coveralls	<input type="text"/>		<input type="text"/>		
footwear	<input type="text"/>		<input type="text"/>		

Note: This page refers to containers and other items only!

We will ask about media heat treatment later, on page 7

Introducing the Nursery Evaluation Form

Page 5: Sanitation Practices

- How do you keep the nursery clean?
- How do you ensure sanitized items remain contamination free?
- Part I: General Practices
- Part II: Specifically, hand and glove sanitation → prevent cross contamination

Tip: Sanitizing protocols tab refers to *how you start clean*.
Sanitation Practices tab refers to *how you stay clean*

5. General phytosanitary practices within nursery				
<i>Note: various phytosanitary practices listed here represent some of the common practices used to minimize contamination. If your nursery uses alternative practices to accomplish a given objective (e.g., avoiding spread of contamination on footwear and clothes), describe in the "Notes-Nursery" column.</i>				
Cleaning/sanitizing supplies	In use	Notes - Nursery	Risk rating:	Notes - evaluation
decontamination stations (disinfectant, supplies, instructions) at entrances to clean areas	▼		▼	
materials/equipment available in clean area to sanitize items (incl. gloves or hands) that could become contaminated	▼		▼	
Footwear/clothing				
footwear sanitized on entry	▼		▼	
footwear dedicated for use in clean area (sanitize at least daily)	▼		▼	
clothing worn in clean areas of the nursery free of contamination				
5.1. Hand and glove sanitation				<i>Evaluation: note if improvements needed</i>
Practices used	In use	Notes - Nursery	Risk rating:	Notes - evaluation
plants and other clean materials handled only with clean hands or gloves (washed or new disposables)	▼		▼	
dedicated gloves for highly contaminated operations	▼		▼	
Hand washing stations in clean areas:				
water	▼		▼	
soap / cleaner	▼		▼	
sanitizer (quat or alcohol based)	▼		▼	
Glove types used in clean areas:		<i>List use situations</i>		
reusable plastic	▼		▼	
disposable plastic	▼		▼	
washable fabric/leather	▼		▼	
Evaluation: additional notes				

Introducing the Nursery Evaluation Form

Page 6: Propagules

- **Relates to Phytosanitary Tiers present in nursery (tab 2)**
- **Part I: Collection – what are the field conditions and contamination mitigations in the field?**
- **Part II: Processing – How do you clean propagules and prevent contamination?**

Instructions:

1. Select option from drop-down menu
2. Add details if necessary

6.2. Propagule processing practices				
Processing area	Nursery	Nursery: details, notes	Risk rating:	Evaluation: notes
Entry signage	▼		▼	
Entry sanitation-footwear	▼		▼	
Entry sanitation-hands/gloves	▼		▼	
Entry sanitation-clothes free of potential contamination	▼		▼	
Area use restricted to trained designated personnel	▼		▼	
nonporous, cleanable surfaces	▼		▼	
working surfaces clean	▼		▼	
floor clean	▼		▼	
sanitation supplies available	▼		▼	
Processing practices				
clean gloves and clothes used	▼		▼	
posted sanitation protocols	▼		▼	
discard or sanitize any propagules that contact contaminated surfaces or materials	▼		▼	
seed cleaned to remove debris before storage and stratification	▼		▼	
propagules inspected regularly (note time interval)	▼		▼	
propagules inspected at planting/sticking	▼		▼	
discard propagules that develop symptoms in storage	▼		▼	
Evaluation: additional notes				

Introducing the Nursery Evaluation Form

Page 8: Propagation Practices

- **Part I: How do you keep the propagation area clean?**
- **Part II: How do you prevent cross contamination during propagation?**
 - *Here we are assessing one-way flow*
 - **Basically, if used in a kitchen would these practices prevent illness? Do you wash your knife between cutting the poultry and salad greens?**

1. Select option from drop-down menu
2. Add details if necessary

8. Clean propagation practices				
8.1. Propagation areas				
Potting / propagation areas	Nursery	Nursery: details, notes	Risk rating:	Evaluation: check, notes
Entry signage	▼		▼	
Entry sanitation station	▼		▼	
Posted sanitation protocols	▼		▼	
Nonporous, cleanable surfaces	▼		▼	
Working surfaces cleaned before use	▼		▼	
Floor kept clean	▼		▼	
Sanitation supplies available	▼		▼	
Carts / trays clean before use	▼		▼	
Clean gloves used	▼		▼	
Clean clothing required	▼		▼	
8.2. Planting /transplanting operations				
Practices	Nursery	Nursery: details, notes	Risk rating:	Evaluation: check, notes
Use only new or cleaned and sanitized pots/flats/containers (list protocol on sheet 4)	▼		▼	
filling of flats and containers under clean conditions - describe	▼		▼	
dedicated clean tools for filling	▼		▼	
flats/ containers are filled immediately before use	▼		▼	
if filled flats/ containers stored before use – describe where / how	▼		▼	
dedicated clean tools for planting / transplanting	▼		▼	

Introducing the Nursery Evaluation Form

Page 9: Production Practices

Here we move from the propagation bench to the growing area

- **Part 1: Is the production area set up to prevent Phytophthora contamination?**
- **Part 2: Do working practices prevent contamination?**
- **Part 3: What chemical applications are used during production?**

Instructions:

1. Select option from drop-down menu
2. Add details if necessary

Nursery Evaluation Form for Systems Approach to Clean Nursery Production				Version 3.1
Nursery name	Evaluator page summary			
Last evaluation:	0	Risk rating:	Notes	
9. Clean production and maintenance				
9.1. Growing areas				
Entry into clean growing area	Nursery	Nursery: details, notes	Risk rating:	Evaluation: check, notes
Entry controlled access	▼		▼	
Entry signage	▼		▼	
Entry sanitation/ decontamination station	▼		▼	
Posted sanitation protocols	▼		▼	
Surfaces in clean growing area				
path surface material(s):	▼		▼	
under bench surface material(s):	▼		▼	
area under benches free of vegetation	▼		▼	
area under benches with good drainage	▼		▼	
all plants on benches	▼		▼	
minimum height of bench bottoms above ground surface	▼		▼	
bench surface material(s):	▼		▼	
bench surfaces prevent water flow along bench top	▼		▼	
bench surfaces nonporous, cleanable	▼		▼	
benches without wide edges to catch debris	▼		▼	
clean and sanitize benches before use for different set of plants or other clean items	▼		▼	

i. Infrastructure and benches

Introducing the Nursery Evaluation Form

Page 9: Production Practices

Here we move from the propagation bench to the growing area

- **Part 1: Is the production area set up to prevent Phytophthora contamination?**
- **Part 2: Do working practices prevent contamination?**
- **Part 3: What chemical applications are used during production?**

Instructions:

1. Select option from drop-down menu
2. Add details if necessary

9.2. Irrigation equipment and practices

Irrigation equipment	Nursery	Nursery: details, notes	Risk rating:	Evaluation: check, notes
irrigation wands, nozzles, hose ends hung at least 3 ft (0.9 m) above ground	▼		▼	
sanitize irrigation wands, hose ends, and hoses suspended over plants after contact with the ground or contaminated surfaces	▼		▼	
hose / wand sanitation supplies available	▼		▼	
Posted sanitation protocols for hoses / wands	▼		▼	
drip irrigation equipment sanitized before use on different plants - note protocol in 4. Sanitation protocols	▼		▼	
sanitizing of fixed irrigation equipment - note protocol in 4. Sanitation protocols	▼		▼	
Irrigation practices				
irrigation applied/scheduled to minimize leaf wetness period	▼			
use low water pressure and small droplet sizes to minimize splash	▼			
avoid excessive irrigation or stressing plants with inadequate water	▼			
clean and sanitize benches before use for different set of plants or other clean items	▼			

- i. Infrastructure and benches
- ii. Irrigation

Introducing the Nursery Evaluation Form

Page 9: Production Practices

Here we move from the propagation bench to the growing area

- **Part 1: Is the production area set up to prevent Phytophthora contamination?**
- **Part 2: Do working practices prevent contamination?**
- **Part 3: What chemical applications are used during production?**

Instructions:

1. Select option from drop-down menu
2. Add details if necessary

9.3. Working practices in clean production area

Handling nursery stock	Nursery	Nursery: details, notes	Risk rating:	Evaluation: check, notes
clean gloves / hands / tools when switching between blocks	▼		▼	
clean and sanitize tools, fingers, etc., between plants if probing soil/roots of multiple containers	▼		▼	
clean and sanitize hands, tools periodically when handling many plants successively	▼		▼	
pruning or pinching with clean hands and tools	▼		▼	
sanitize hands/tools periodically when pruning or pinching: describe practices	▼		▼	
minimize unnecessary handling, rearranging, and moving of plants	▼		▼	
stock never placed on the ground or unsanitized surfaces	▼			
plants potentially contaminated though improper handling discarded or moved to a quarantine area	▼			
Tools and equipment				
tools / equipment assigned for exclusive use in the clean areas	▼			
tools / equipment cleaned/sanitized before entering clean areas (describe)	▼			
store tools clean, sanitize before use	▼			

- i. Infrastructure and benches
- ii. Irrigation
- iii. Cultural Practice

Introducing the Nursery Evaluation Form

Page 9: Production Practices

Here we move from the propagation bench to the growing area

- Part 1: Is the production area set up to prevent **Phytophthora** contamination?
- Part 2: Do working practices prevent contamination?
- Part 3: What chemical applications are used during production?

Instructions:

1. Select option from drop-down menu
2. Add details if necessary

9.4. Fertilizers, amendments, and pesticides applied during production				
Material storage and handling	Nursery	Nursery: details, notes	Risk rating:	Evaluation: check, notes
materials storage area clean, elevated, free from splash	<input checked="" type="checkbox"/>		▼	
materials labeled and in closed containers	▼		▼	
clean mixing / handling area	▼		▼	
clean sanitized application equipment, hands, clothes	▼		▼	
resanitize equipment, hands, clothes if contact with ground or other potential contamination	▼		▼	
discard or heat treat potentially contaminated materials	▼		▼	
Material use				
Are "fungicides" active against <i>Phytophthora</i> , including any phosphite (phosphonate) fertilizers, applied to growing plants (or their potting media) in clean area?	▼		▼	
Are "fungicides" active against <i>Phytophthora</i> , including any phosphite (phosphonate) fertilizer, used anywhere else in nursery? (if yes, explain where/when used)	▼		▼	
Are biological control agents (e.g. <i>Trichoderma</i> species) active against <i>Phytophthora</i> being used in the clean area? (if yes, explain where/when used)	▼		▼	
organic fertilizers/amendments tested, treated, or documented to be free of <i>Phytophthora</i> and other pathogens	▼		▼	
signs indicate pesticide and fertilizer restrictions on contracted plants (if applicable)	▼		▼	
all chemical and pesticide use logged: location of records	▼		▼	
Evaluation: additional notes				

- i. Infrastructure and benches
- ii. Irrigation
- iii. Cultural Practice
- iv. Chemical applications
 - ❖ Fungicide use is neither recommended nor acceptable

Introducing the Nursery Evaluation Form

Page 10: Monitoring, Inspecting, and Testing

Plant Health Plan

- **Part I: What is your plan for identifying, inspecting, and removing symptomatic plants**
 - **How do you keep records?**
- **Part II: In the event that *Phytophthora* is detected, how will you respond?**
 - **It is crucial to have a contingency plan ready ahead of time**

1. Select option from drop-down menu
2. Add details if necessary

10. Monitoring, evaluation, and testing						
Diagnosing <i>Phytophthora</i> or other disease/pest issues in symptomatic plants	Nursery	Protocol attached or described here	Nursery: details, notes	Risk rating	Evaluation: check, notes	
visually inspect all plants regularly for poor plant growth or appearance						
plants inspected for problems at intervals no longer than every:						
remove suspected diseased plants when problems are seen	Protocols if <i>Phytophthora</i> is detected					
prevent splash	Nursery	Protocol attached or described here	Nursery: details, notes	Risk rating	Evaluation: check, notes	
removing symptomatic plants						
culls and containers						
waste containment						
maintain cull records						
possible spread						
maintain cull records						
describe records						
plants adjacent to						
radius) quarantine						
procedures for suspect plants						
Quality assurance/quality control testing for <i>Phytophthora</i>	Nursery	Protocol attached or described here	Nursery: details, notes	Risk rating	Evaluation: check, notes	
How are plants selected for QA/QC testing?						
What is the timing / frequency of QA/QC testing?						
Routine QA/QC monitoring is conducted with bench level baiting						
Routine QA/QC monitoring is conducted using other method(s) - describe						
Evaluation: additional notes						

Introducing the Nursery Evaluation Form

Page 11: Recordkeeping

- Keeping detailed records is crucial for QC, especially in the event of *Phytophthora* contamination
 - Backtrack to discover source of contamination and prevent further spread.
 - Identify potentially contaminated batches
- Recordkeeping resources and templates upcoming on airnursery.ucdavis.edu

1. Select option from drop-down menu
2. Add details if necessary

11. Record keeping				
<i>Indicate whether records are maintained and location of records (e.g., if attached).</i>				
Records - all dated	Nursery	Nursery: details, notes	Evaluator rating	Evaluation: check, notes
Propagation materials				
collection locations or sources	▼		▼	
propagule types	▼		▼	
storage dates, locations, temp	▼		▼	
treatment (dips, heat treatment)	▼		▼	
Containers				
use of either new or used containers	▼		▼	
sanitizing treatment records for recycled containers (e.g., time, temperature logs)	▼		▼	
Potting media				
source(s)	▼		▼	
additions / amendments	▼		▼	
treatment time, temperature, date, method	▼		▼	
Water				
plumbing system maintenance	▼		▼	
changes / exceptions	▼		▼	
wellhead evaluation (if applicable)	▼		▼	
Sanitation practices				
Mixing/testing/refreshing disinfectant solutions	▼		▼	
sanitation logs	▼		▼	
protocols	▼		▼	
Plant batches				
plant batches are labeled for identification	▼		▼	
full list of inputs, handling and practices by batch	▼		▼	
Monitoring & testing				
plant evaluation dates, results	▼		▼	
culls / suspect plants by date and area	▼		▼	
test procedures and results	▼		▼	
follow-up related to detections	▼		▼	
Worker training				
training records (topics, when, by whom)	▼		▼	
Other - list				
	▼		▼	

Introducing the Nursery Evaluation Form

Other Pages

- **Attachments:**
 - Page 12
 - Add any supplementary materials such as nursery layout, records, etc.

- **Changed Conditions:**
 - Used for reaccreditation
 - Include a record of updates so evaluators can review changes

Instructions:

1. Add any applicable details

Nursery Evaluation Form for Systems Approach to Clean Nursery Production				Version 3.1	
Nursery name		Evaluator page summary			
Last evaluation:	0	Risk rating:	Notes		
11. Attachments, links and other supplementary materials					
<i>Information requested on other pages that is being supplied in other formats can be pasted on this page or additional pages.</i>					
<i>If supplying information via online links, list links below.</i>					
<i>If supplying information via other formats (e.g., text documents), list document file names below and indicate date emailed and to whom.</i>					
<i>Please note which section number applies (e.g., section 10)</i>					

Nursery Evaluation Form for Systems Approach to Clean Nursery Production				Version 3.1		
Nursery name						
Last evaluation:	0					
Changes made by the nursery since the last evaluation						
<i>Use this page to note any changes to nursery practices or materials used that may result in changes to the information that was submitted for the last evaluation.</i>						
<i>Such changes could include changes in sanitation practices, heat treatment protocols, nursery layout, etc.</i>						
<i>In the table below, briefly describe each substantive change, indicate the date that each change was made, and note which page(s) of this form have been updated to reflect the change.</i>						
Date	Changes made	Evaluation form pages affected (list sheet numbers)	Noted by:	Evaluator review date	Evaluator notes	Evaluator:

Introducing the Nursery Evaluation Form

Evaluation Summary

- After and AIR Evaluator has reviewed the NEF and conducted a site visit, we will return an evaluation summary.
- Each page of NEF rated for BMP compliance, on the GYOR scale
 - Orange and Red ratings are out of BMP compliance and not creditable
 - Page summarizes ratings from each tab in one place

Address notes and re-evaluate

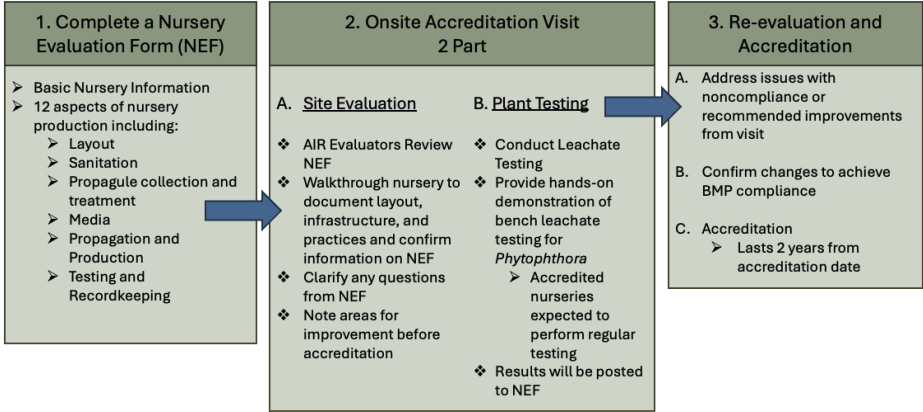
Overall evaluation for portions of nursery covered in this form			
Evaluator	Date	Overall risk score	Overall evaluation notes

Overall risk scores and notes from other pages are posted here automatically.

Page	Overall risk score	Overall evaluation notes
1 Nsy Env		
2 Nsy layout		
3 Water supply		
4 Sanitizing protocols		
5 Sanitation practices		
6 Propagules		
7 Media		
8 Prop practices		
9 Production practices		
10 Monitor inspect test		
11 Records		
12 Attachments		

Overall evaluation summary is here, with date of site visit

Evaluation rating and notes per page



Introducing the Nursery Evaluation Form

Nursery Certification Last Step

- The AIR Team will email an Evaluation Summary with a link to the NEF
- Accreditate once the nursery has reached BMP compliance
- The main AIR Evaluator will sign your certification here, on the Nursery Tab

Instructions:

1. Review notes from Eval Summary Page
2. Add your e-signature to the yellow certification field so finalize your accreditation

Certifications			
Nursery:	Nursery name		
I certify that the nursery information provided in this evaluation and supplementary materials is true, accurate, and complete to the best of my knowledge. I affirm that I have personal knowledge sufficient to make this certification. I understand that supplying false information may result in suspension or refusal of accreditation or cancellation of orders for contracted plant material related to this evaluation. I affirm that I possess all necessary authorization to make this certification on behalf of the owners of this nursery.			
Certified by:			
name		title / position	
email		date	
Evaluating organization:			
I certify that the site evaluation information provided in this checklist is based on my observations, experience, and representations made to me during this evaluation, and is true, accurate, and complete to the best of my knowledge.			
Certified by:			
name		title/position	
email		date	

Sign Here

Note: The accreditation date listed here may be different from the site visit date on your evaluation summary

Accreditation Date

Concluding remarks

- Completing the NEF is the first step to participate in the AIR program
- NEF goal: Compile BMPs implemented by the nursery so AIR evaluators can review and provide further guidance on next steps:
 - Review NEF and provide suggestions before visit
 - Schedule in-person nursery audit
- If you have any questions reach out to the AIR team members:
 - Dean Watson dcwatson@ucdavis.edu
 - Ted Swiecki phytosphere@phytosphere.com
 - Johanna Del Castillo jdelcastillo@ucdavis.edu



Acknowledgements



<https://airnursery.ucdavis.edu/>



Questions?

